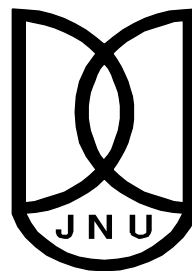# Migration in the Field of Nursing from India to Australia: A Study of Professionals and Students

**Thesis Submitted to Jawaharlal Nehru University
for the Award of the Degree of**

DOCTOR OF PHILOSOPHY

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DECLARATION

I, Kavita, declare that this thesis entitled **"Migration in the Field of Nursing from India to Australia: A Study of Professionals and Students"** submitted by me for the award of the degree of **Doctor of Philosophy** of Jawaharlal Nehru University, is my bonafide work. I further declare that the thesis has not been submitted for any other degree of this university or any other university.

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CERTIFICATE

We recommend that this thesis be placed before the examiners for evaluation.

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Contents

List of Abbreviations

ANM	Auxiliary Nurse-Midwifery
GNM	General Nursing & Midwifery
HPPD	Hours per patient day
HCF	Human Capital Formation
INC	Indian Nursing Council
MODL	Migration Occupations in Demand List
MODE	Migration Oriented Demand for Education
MOE	Migration Oriented Skills
MDG	Millennium Development Goals
PHC	Primary Health Centres
SNC	State level Nursing Councils
SDG	Sustainable Development Goals
DoHA	The Department of Health and Ageing
IMR	The infant mortality rate
WHO	World health Organization

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Chapter 1 : Introduction and Philosophy

The highest education is that which does not merely give us information but makes our life in harmony with all existence.

Rabindranath Tagore

1.1 Philosophy of Migration

Migration is not a new concept that has arrived recently; it has been there since ages. The Great economic disparity in the world, where wealthier nations enjoy a higher standard of living, is an undeniable cause of emigration from poor nations. Even the foundation of some countries (Australia, Canada, the USA) are based on the shoulders of emigrants. Every year more and more number of skilled personnel and students have been migrating from developing countries to affluent developed countries. Reasons for migration are broadly categorized into push and pull factors. These factors mare country specific depending upon economic, social and political reasons, but if people are voluntarily migrating to foreign countries, surely they have better to offer. The case of health professional's migration is interesting to note here. India despite the shortage of nurses[1] has been witnessing significant migration of nurses every year. Though there are cases of migration in others skills professions also like the IT industry. But majority of them are migrating on temporary basis plus India produces the maximum graduates worldwide in such a sector (The Economic Times, 2018)[2]. Moreover the requirement of

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[1]A new improved health indicator termed as "SDG composite threshold" had been made covering 12 selected health indicators over a range of services including non-communicable diseases (WHO, 2016). This composite threshold value of the SDG was determined to be 4.45 doctors, nurses and midwives per 1000 population. The latest available (2016) value of composite threshold for India is 2.894 (2.094 nurses per 1000 and 0.8 physicians per 1000 population) lagging much behind than the prescribed value of 4.45. Accordingly India witnesses a shortfall of 1.556 health personnel per 1000 population. This shortfall has serious limitations when coupled with low health indicators.

[2]Report shows that India produced maximum graduates (78 million) worldwide in 2016, of which 2.6 million were from STEM (Science, Technology, Engineering and Mathematics). This number outstrips the US in terms of STEM graduates produced annually by a margin of over 2.5 million.

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these skills is not as vital as the requirement of nurses who provide lifesaving services. Though the numbers of migrating nurses represent a very small proportion of total nurses, but given the high extent of nurse shortage, even a loss of handful of nurses is detrimental for the country. On the other side, developed countries are facing a shortage of nurses because of ageing population, increases in chronic diseases, and more health care services demand because of longer life expectancy and crisis in attraction and retention of nurses.

To solve these problems, these countries have started recruiting nurses from developing countries like India, Bangladesh, Pakistan, Ukraine etc. Nurses from developing countries accept these offers in view of better salary and working conditions, better career prospects and climate. If developed countries can attract nurses from developing countries and meet their demand, countries sending nurses may also stop or limit emigration as quick fix to the problem of shortage of health workers. Migration of these nurses from poorer nations creates a vicious cycle in their healthcare system. The undesirable work conditions and low compensation spur health professional emigration to more developed countries. This further aggravates the problem by increasing workload and deleterious work conditions than before, which further prompts more nurses to migrate away from the home country. Here, limiting, if not stopping the migrating nurses will increase the nurse availability and will also de-motivate the nurses from accepting lucrative offers that are the result of the policies adopted by developed countries to attract nurses from developing countries. Sooner nurses and students will realize the limited option of migration and would compel them to compete for the jobs available domestically which eventually increase the competition in labor market. In education market few of those who only intend to migrate may not invest in nursing education. Thus, only those individual with no intention to migrate will invest in nursing education. In the job market more competition will attract best and bright minds thereby bringing more efficiency. Simultaneously government can concentrate to absorb the demand for education by increasing capacity of existing educational institutes and setting up new

educational institutions. However, job market cannot be left alone and government should work on improving conditions responsible for emigration like low remuneration, poor working conditions with low career prospects. Improvements in working condition will retain some proportion of the nurses who intend to migrate. It is also empirically tested that an improvement in working conditions leads to reduction in the amount of migration (Kingma, 2006).

However, achieving this will not be an easy task for government given the fiscal constraint that government faces in developing countries. Even if we leave aside the problem of feasibility of such a project, the most crucial point in adopting such an approach is the human rights. Every individual which includes skilled labour and students possesses some rights. Human rights give a worker, the right to work at a place of his choice irrespective of his citizenship. Limiting emigration in this regard will restrain the right of an individual. The importance of human right for any society can be understood easily when we look at the possible consequences of violating these rights. Rawls in his book *"the Law of People"* says that human rights are very crucial for a *decent hierarchical society* (Rawls, 1999). All members secure human rights in these societies. (Secondly) Furthermore, a *decent consultation hierarchy* means a political system takes the fundamental interests of all persons into account through consultation from the representatives of all the groups in the society. The basic structure of decent hierarchical society is the decent system of social cooperation. In decent hierarchical society, its members (member) must have the right to life (to the means of subsistence and security)[3]. Moreover, the other rights of liberty, frees human beings from forced occupation. In case of migration, subsistence and security of labour is very important. A Study done by Kingma shows the poor salary, working condition and the harassment at work, all add up to the insecurity of the job (Kingma, 2006). If one doesn't allow them to opt for better

[3]According to Rawls this is one of the rights among other rights these decent hierarchical societies comprised of. These are right to liberty (freedom from slavery, serfdom, and forced occupation, liberty of conscience to ensure freedom of religion and thought) and to formal equality as expressed by the rules of natural justice (that the similar cases be treated similarly).Violation of these rights deviate these societies from a decent system of political and social cooperation.

opportunity it will breach their subsistence and security. Moreover, limiting emigration abroad and forcing them to work in home country, violates their right of liberty which prevents them from forced occupation. There are even questions raised on the citizenship of a person. Joseph Carens sees citizenship and privileges enjoyed by a person born in a country, are as arbitrary as characteristics like color, gender and other genetic endowments (Carens, 1987).

As there always two sides to a coin, any right does not come alone. The other side of the coin is moral duties and obligations which are also very important. If a nation provides its citizens some rights, then citizens must respond with fulfilling their duties and obligations. Duties and obligation on the part of nurses comes in the form of staying back in the country and serving the nation. Similar to the "corporate social responsibility" (CSR) scheme launched by government where big corporate houses contribute some part of their revenue for the society, an individual social responsibility (ISR) can also be applied in the case of nurses. As a part of moral obligation toward society nurses can choose to stay back willingly and contribute to the health sector by providing their services. But the obligation part is not applicable to nurses only, government bears equal responsibility towards the nation. Government of any nation has to play an important role of being the representative and effective agent of the people. Similar to the *"tragedy of commons"* unless an agent is given a responsibility for maintaining an asset of any kind and bears losses for not doing so, a territory cannot be preserved for perpetuity. A country's form and wealth of its people are defined by the kind of political culture, religious culture, philosophical and oral tradition (Rawls, 1999). It is of no doubt that government plays a crucial role in defining its political culture, religious culture, philosophical and oral tradition. For example country like Japan which is not a resource rich country is doing well, while countries which are rich in resources are having serious difficulties (eg. Argentina). Sen argues that it was government failure that aggravated the famine in the four states (Bengal, Uthopia, Sahel and Bangladesh). Sen in his study concluded "famines are economic disasters not just food crises". In case of nursing where demand for nursing is higher, the government is unable to meet the demand, thus more number of private institutes have been set up to meet this demand for education. As majority of nurses are educated from these private nursing institutes where they study at

their own expense or fees are being paid from their own pocket, expecting them to stay back given the poor salary and working condition in the country seems unethical.

There are major ethical issues arising for developed countries for recruiting labour from developing countries already experiencing a nursing shortages. However, the scarcity of health workers is faced by both developing nations and developed nations (nation). Here both the countries are burdened by unfavorable conditions in the health sector in terms of availability of health workers. On the one hand, India has low per capita income, poor health statistics and poor working conditions. But on the other hand, with factors like aging population with more life expectancy, demanding more health services and hence more nurses developed countries too have unfavorable conditions. Therefore it becomes difficult to propose a solution given the challenges that, both the nurse sending and nurse receiving countries are facing. Here Rawl's concept of well ordered society is useful to understand. *Well ordered* societies are the societies having political and cultural traditions, the human capital know how and material technological resources. He further adds that it is the duty of (relatively) *well ordered* societies' people to assist burdened societies and uplift them to attain a society of *well ordered* peoples. Given the shortages in both countries, India has more challenges in producing nurses due to bottlenecks in domains like infrastructure, employment opportunities, and supply of education. However, Australia facing the challenges of ageing and retirement has created a niche in supplying education. In fact education is the second ranked commodity in export for Australia[4]. Applying Rawls definition we can think of Australia as relatively less burdened society than India. Therefore, the duty of assistance falls on the shoulder of Australia. Stop taking nurses from India is not the solution here. Given the high salary structure with better working conditions and infrastructure, some nurses will always migrate. Australia with a strong education sector may assist India in developing and strengthening its education market. While India being a source of skilled labour may facilitate migration on the temporary or circular base. Meanwhile both countries can work upon the challenging area to rectify the given problems in the sector. Thus, both the

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[4] Export of education includes international student expenditure on tuition fees and living expenses.

countries may assist each other in every possible way and not take advantages of the shortcomings that a country is facing.

1.2 Introduction to the Study and Statement of Problem

The importance of human capital as one of the determinant of progress and economic growth has long been recognised. Education and health are considered to be the two basic pillars for any economy's development. Without skilled and sufficient workforce, development agendas cannot be pushed further. In health care sector human resources are very crucial in determining the health status of the country. But for decades the shortage of nurses has been a continuing serious concern around the world. The scarcity of health workers negatively affects the health economy of a country. After the end of Millennium Development goals (MDGs)[5] in 2000, United Nation assembly initiated Sustainable Development goals (SDGs) to combat poverty, disease and environmental issues. Health being the primary concern area appears in the form of goal 3 of SDGs. The goal targets healthy lives for all and promote wellbeing for all. Achieving the target of universal health care with shortage of nurses is not compatible. Moreover, the extent of shortage across each country countries is not precisely known. Absence of global norm for health worker density makes the situation even worse. It is widely accepted that there is "no single global norm or standard for health worker

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[5]The United Nations Millennium Declaration marked year 2000 with an action plan called "The Millennium Development Goals" (MDGs) consisting time bound targets to be completed for the next fifteen years. It laid down eight targets under the broad categories: poverty, education, health (particularly child mortality and maternal health, HIV/AIDS, Malaria and other disease), gender discrimination, environmental sustainability and development through global partnership. As the MDGs reached their deadline in December 2015, and still much more has left to do, United Nations further adopted a new document. This document was titled "Transforming our world: the 2030 Agenda for Sustainable Development". This document contains comprehensive set of global Sustainable Development Goals (SDGs). While MDGs focused on limited number of goals, SDGs are more inclusive having total 17 goals where every goal has specific targets giving rise to total 169 targets. SDGs have similar time bound limits as MDGs, a span of fifteen years starting from the year 2016 up to the year 2030. The underlying key difference between the two frameworks is that, unlike the MDGs, SDGs are aimed at applying equally to all countries, therefore include developed countries also.

density" (WHO, 2006). Determination of the optimal health workforce requires a thorough analysis of a number of factors. These factors include supply, demand, productivity and the priority to prevention, treatment, and rehabilitation in health sector through national health policies (Buchan & Aiken, 2008). Given the complexity of all these factors it becomes nearly impossible to determine the exact value for health professionals (required) which can be applied to every county universally. However, WHO in 2016 tried to overcome this limitation through sustainable development goals (SDGs). A new improved health indicator termed as "SDG composite threshold" had been made, covering 12 selected health indicators over a range of services[6,] including non-communicable diseases (Rao, Shahrawat, & Bhatnagar, 2016). This composite threshold value of the SDG was determined to be 4.45 doctors, nurses and midwives per 1000 population[7]. The latest available (2016) value of composite threshold for India is 2.894 (2.094 nurses per 1000 and 0.8 physicians per 1000 population) lagging much behind than the prescribed value of 4.45. Accordingly India witnessed a shortfall of 1.556 health personnel per 1000 population.

This shortfall has serious limitations when coupled with low health indicators in India. The problem aggravates more, when the existing workforce already in shortage migrates to developed countries. The next section throws light on this shortage of nurses and migration.

1.2.1 Shortage and Migration: A Vicious Circle

In response to the globalization and supply-demand dynamics between developing and developed countries, migration of nurses has grown significantly. It has been observed that nurses typically migrate from south to north regions of the world for better opportunities. Within European Union countries like Ireland, Switzerland,

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[6] SDG composite index threshold is based on the skilled health workers needed to achieve high coverage (80% or above) for 12 selected health indicators. These 12 indicators are: skilled birth attendance, family planning, antenatal care coverage, DTP3 (diphtheria–tetanus–pertussis) immunization, potable water, tobacco smoking, sanitation, antiretroviral therapy, tuberculosis treatment, cataract surgery, diabetes, and hypertension treatment

[7] The International Labor Organization (ILO) has launched an alternative approach called staff related access (SRA) deficit, using Thailand as normative benchmark for its better health outcome. This approach is based on the difference between the national density of health professionals and the Thailand benchmark which is 1 health professionals per 313 populations (2004). Thailand has been used as a normative benchmark.

Slovenia, and the United Kingdom[8], foreign trained workforce comprises of 22.5 % to 36.8% of their current workforce (Aluttis, Bishaw, & Frank, 2014). However, the pattern of migration from south to north was not always the case. Earlier nurse migration was characterized by North-North or South-South phenomenon. For example Irish nurses used to migrate to the United Kingdom, the United States received nurses from Canada, Palau received nurses from Fiji. Directional flow of nurses may change over time, Ireland for example, used to export nurses to the United Kingdom, but now imports nurses from Philippines, Australia, India, South Africa, and the United States. However, migration from south to north gained more media and policy attention rapidly as the pace of international recruitment from developing countries to industrialized countries took off. Countries like China, India, and the Philippines are considered as top suppliers of nurses. While United Kingdom, Canada, Australia and the United States are among the top countries receiving nurses. During the last two decades, those born in China tripled, reached almost to 450,000 and the number of Indian has more than quadrupled to almost 400,000. China and India are now the third and fourth contributor of overseas born population in Australia respectively after the United Kingdom contributing over 1.2 million, and New Zealand around 600,000 (DIBP, 2017).

The reasons behind migration are categorised into push factors and pull factors (Lee, 1966). Push factors are factors that pushes labour to migrate to other countries for better opportunities either for monetary or non-monetary or both. While pull factors are factors in a host country responsible for attracting labour from other parts of the world. These may include better salary, better working conditions, better social and political conditions. Among these factors monetary gain is viewed as a more responsible factor for migration. Apart from the pull factors, factors like skills portability, recognition of qualifications, social networks and active recruitment process boost the high skilled migration (Dussault, Fronteira, & Cabral, 2009). Therefore, industrialized countries mainly North America (the USA and Canada), the UK, Ireland and Australia are preferred destinations for Indian nurses.

Every year a significant number of nurses and doctors from developing countries

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[8] Now the United Kingdom is out of European Union. It took exit from EU in July 2016. This study was done in 2011 when the UK was a part of EU. However data can still be referred to highlight the stock of foreign trained medical doctors.

migrate to developed countries for better opportunities there. Both physicians and nurses constitute a major proportion of this health professional's migrant group. A Study by Kingma shows that a significant number of nurses migrate (majority of them being women) every year in search for better remuneration and working conditions, better career prospects, a better quality of life with personal safety, and sometimes even for novelty and adventure (Kingma, 2006).

From India a significant number of nurses migrate to the Persian Gulf, United States, the United Kingdom, Canada, Australia and Switzerland. The number of nurses available in India is 2.09 nurses per 1000 population. While (see illustration in figure 1.1 below). The figure shows the number of nurses available per 1000 of population in countries where majority of Indian nurses goes or migrates. It is clear from the data that developed countries have relatively better availability of nurses in comparison to countries supplying nurses to them. In fact, these countries are having more number of nurses than the prescribed value through SDGs. Then the question arises as to what determines this flow of migration and why do these countries accept our nurses? The reasons cited for this mainly include ageing of the nursing workforce, ageing population, increases in chronic diseases, longer life expectancy which leads to more consumer demand for health services, crisis in attraction and retention of nurses, inadequate workforce planning or inability to attract people into a service like nursing and furthermore many other nurses mostly female, wish to work only part-time. It can be seen in the literature that health workers shortages in the European OECD countries are being filled by workers from abroad. In the USA if no action is taken, the projected shortage of registered nurses will reach 808,416 (29 %) in the year 2020 (HRSA, 2002). In Australia, a shortage of 85,000 nurses is predicted by 2025 (Health Workforce Australia, 2014). So as a quick fix solution to the problem, developed nations have started recruiting professionals from abroad. More prospects of migration have other repercussions as well, for example, less academically rigorous private nursing schools have surged in response to more migration opportunities. In fact, many reputed Indian hospitals are involved more in a kind of 'Business Process Outsourcing' (BPO) to recruit and train Indian nurses for taking the examinations that the developed countries conduct for the entry of foreign nurses into their territories as professionals (Khadria,

2006).

India's health system is characterized by weak health system with poor infrastructure, low salary packages, poor opportunities for career growth and a non conducive environment for work. All these factors together tend to give nurses dissatisfaction in terms of both economic and non economic. This dissatisfaction exacerbates the rate of migration to abroad leading to a further surge in the nurse shortage. A Higher rate of emigration motivates other nurses for migration. The study therefore is an attempt to understand the nurse migration from India. The present study does not focus on reasons for nurse migration as there is already a vast literature that exists on the topic. The study focuses on what macro factors cause migration between two countries. The literature on reasons to see migration either explain it through migration theories or push or pull factors, but none explain it through what those conditions are that drive some countries to attract foreign labour in their country. This study is an attempt to explain the macro picture of migration taking education and labour market of both home and host countries into consideration. As it is very complex to study all the countries where nurse migration has been taking place and to carry out an in depth analysis to understand migration as a focal point, the study focus on Australia as a destination for Indian nurses. Though Australia is not the top country receiving Indian nurses but the history of Australia's migration makes it an interesting case to study. The country is known as a country of immigrants and practicing multiculturalism in the state. The number of Indians increased in Australia during the colonial rule when British authorities used to send labour there mainly for manual work (mostly camel rider and farm labour arrived). Currently India is the top supplier of highly skilled labour to Australia. This journey from camel rider to highly skilled labour, demands an in-depth analysis of Australia's economic structure and the policies adopted to attract labour. Moreover, current evolution of Australia as a study destination gives another reason to study Australia. In 2016, education was the second best export for Australian economy. Foreign students are a $20 billion business for Australia. Last year 61,000 Indian students enrolled in the country, making Australia the second-most popular destination for Indians behind America (2016).

The thesis therefore aims to undertake a detailed study to understand trends and patterns

of Indians migrating to Australia with particular reference to migration of nurses.

Figure 1.1: Nurses per 1000 Population
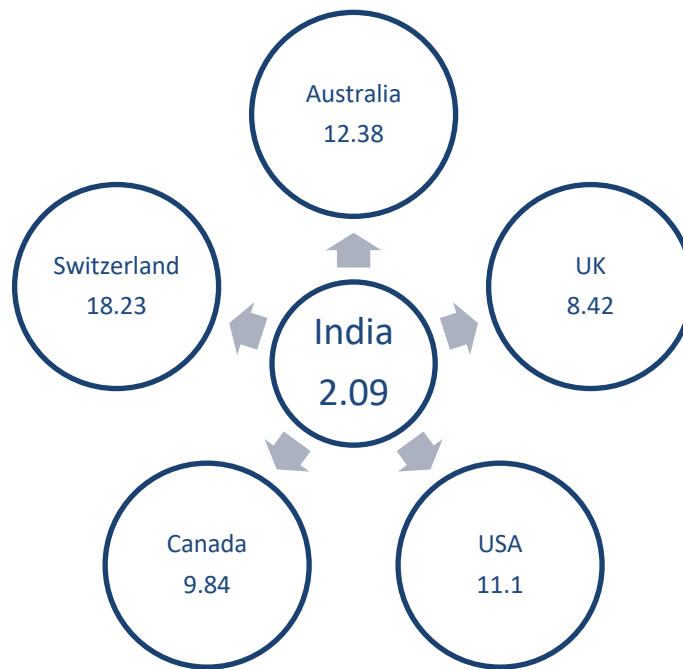
Source: Based on World Bank Data

*For the USA and Canada the data is for 2015 and for India, Australia, the UK and Switzerland data is for 2016.

In light of discussion above, this thesis attempts to answer the following research questions.

1. What is supply and distribution of nursing manpower in India?

2. Explain migration of nurses from India with special reference to Australia.

3. Explain how interrelation between education market, labour market and migration policies facilitate migration flows?

4. Explain the role of migration policies in determining the migration flow in the field of nursing from India to Australia?

5. Do prospects of migration lead to more human capital formation in the source country? Explain this in context of nursing field in India?

The thesis has total eight chapters including introduction. Chapter 2 is literature review and theoretical understanding. This chapter is divided into two parts where the first part provides literature on the interaction between education, migration, labour market integration and policies. This literature reflects the existing studies related to macro picture on migration.

Chapter 3 provides the theoretical framework of the study. The chapter sees how migration may have an impact on human capital accumulation through Becker, Schultz and Mincer concept of human capital formation. The chapter provides the methodology of the study. Apart from the analysis of existing literature and secondary data, the study also includes a primary survey on nurses across different states in India. The chapter provides details on the survey conducted and it's designing.

Chapter 4 discusses the evolution of nursing as a profession in India. It also states the current system of nursing education in India. The chapter provides the availability and production of nurses in India based on secondary data. As the skills in nursing makes an individual a nurse, the production of nurses is measured through the institutions providing nursing education. This chapter reflects the interstate diversity in terms of nurse availability and highlights the striking difference between the states. The chapter also highlights the divide between rural- urban in nurse availability and the marked difference in male-female participation in the field of nursing.

Chapter 5 introduces the Australian and Indian economy briefly through their important features like development indicators, health indicators etc. The chapter discusses demography of both India and Australia and its role in facilitating migration. The chapter discusses the global nurse migration scenario and migration of nurses from India. The chapter highlights the immigration policies adopted by Australia in attracting labour from developing countries. This also includes the mechanism through which the migration takes place between the two countries. This approach has been named as *Need Support Approach* suggesting the driving force behind migration of workers.

Chapter 6 explains the factors responsible for labour demand in a country and with particular references to the determinants of demand for nurses. The chapter focuses on how demand for labour generated in country is linked to interrelation between domestic and foreign market for nursing services. A macro picture of interrelation between commodity market, labour market and education market in facilitating migration is taken up in the chapter. This chapter explicitly analyzes the role of immigration policies adopted by Australia to attract labour from other countries and India's emigration policies on migration of its skilled labour.

Chapter 7 theoretically discusses the linkage of migration and skill formation. There is a vast literature on migration that reflects that migration may not always lead to brain drain. There is a possibility of gain in terms of human capital accumulation in the light of migration. The chapter attempts to see this while focusing on migration oriented demand for education (MODE). The chapter discusses the determinants for MODE and supply of MODE. As the focal point of the study is nurse migration, the chapter attempts to see the linkage of nurse migration from India to associated skill formation in the field of nursing.

The thesis ends with chapter 8 which includes the conclusion of the study and some policy recommendations.

Chapter 2 : Literature Review

2.1. Introduction

Nursing has gone from a marginal profession with few recruits at the time of independence in 1947 to a recognised profession today[1]. However, it still occupies a luminal space (Nair & Healey, 2006). Efforts to institutionalize nursing began during the British Raj. In the last 70 years, the Indian state and society have responded to many requirements and demands in the field of nursing education, in keeping with international and regional developments. The liberalization and globalization policies adopted in India since the 1990s have had an impact on the sector as well.

By the time India gained independence, some progress had been made in institutionalized nursing care. The political situation, fuelled by a sense of nationalism was favourable for new developments especially in terms of institutions for medical care. Social and gender attitudes towards nursing and nurses, however, remained unchanged (Nair & Healey, 2006). The literature review is divided into two sections. First section deals with the effects of migration possibilities on the demand for education for migration purpose and human capital formation in the labour sending country. Second section deals with the interaction between education, labour market integration and policies related to migration. Encouraging immigration policies were found not to be completely detrimental to labour sending countries since such policies may enhance the human capital form.

2.2 Migration and Human Capital Formation (HCF)

Similar to availability of physical and financial capitals, human capital is also considered as one of the major determinants of economic growth. It is also widely accepted that the lack of these capital may hamper growth the country. The era of globalization is marked with the factor mobility[9] not only financial and physical capital but labour is also mobile. This mobility of labour may affects the process of domestic

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[9]Though land cannot be mobile, but foreign direct investment gives foreign companies to access land and other infrastructure. This can be seen as indirect mobility, where not land but producer moves to the land where end result is same.

accumulation of human capital in several ways. As per the studies on "Brain Drain" migration of skilled labor is seen as exodus of skillful, talented and entrepreneurial labour. This negatively impacts the home country's growth and development prospects. Scholars have showed that the selective immigration policies in developed countries favoring highly skilled workers enhance the extent of brain drain(Faini, 2007; Sapir, 2000). This new twist in the immigration policies is in response to the global shortages of the skilled workers which has become a source of serious concern in labour sending countries. This loss of skilled workers expected to hamper the domestic stock of cumulated human capital.

Contrary to this literature, researchers have diverted their attention from "brain drain" to "brain grain". There is plethora of research on possible positive effect of skilled migration on the origin country. The existing literature shows four different channels through which a beneficial brain drain may operate: a) the large inflow of remittances sent by skilled migrants raise economic welfare b) skilled labour migration through network effects favour technology transfer, trade and foreign direct investments which enhance growth c) Through return migration and circular migration technical knowledge and expertise also get transferred in host country through spillover effect d) Selective immigration policies adopted by host countries to attract high skilled individuals, may raises private returns to education (due to reduced supply) which in turn induces additional investment in education at home thus human capital formation in the source country. Similar point made to this in literature is more prospects to migration lead to more investment in migration oriented skills thus more HCF.

This thesis tries to look at the one of the positive impact of migration on human capital formation through investment in migration oriented skills. This stand of literature goes back to Mountford (1997) who first suggested that migration prospects create incentives to invest more in education as not all become successful in migrating (or will choose not to) after invest in education, increase in human capital might be expected as the migration process continues(Mountford, 1997).

In literature on migration and human capital formation reveals debate on migration and its impact on employment opportunities, wages and human capital formation is not new. If migration alters the supply of labour, it is expected that wages

will change in response, and wages are nothing but simply the return from investment in education. Return from any investment determines how much an individual wants to invest given its cost. However return (or wages) to education and cost it entails are skill specific in our case. Some skills are in more demand in labour market pays off higher wages than others. More demand for specific skills comes from the commodity market where persons having specific skills required to meet the changing demand and technology in the commodity market. Demand for education cannot be isolated from the rest of the economy as both labour market and commodity market have roles to play in determining demand for education (Binod Kumar Khadria, 1982). Many studies theoretical in nature have been done to see the impact of migration on human capital formation in the source country. Study by Vidal explicitly theorizes the question of how emigration affects the human capital formation and economic growth given the uncertainty of migration by using overlapping generations (OLG) models (Vidal, 1998). Assuming labour as homogeneous in a two period model, study reveals that labour emigration provides incentive for human capital formation and hence can be seen as constructive for economic growth in the source country. In fact, barriers to migrate to high wage countries discourage human capital formation in low wage countries. On the other hand, presence of job opportunities in the neighboring technologically advanced countries creates incentives to human capital formation in the home country.

Incorporating the heterogeneity of labour and information asymmetry, Stark (1995) tried to see the path of labour migration (Stark, 1995). His study too concluded that migration is conducive to the formation of human capital. Stark again worked on migration and human capital formation in 2001 with Wang. This time he tried to see migration as a substitute for subsidies provided by government to attain socially desirable level of human capital. Analysis suggests that a controlled and restrictive migration policy can be welfare enhancing for non-migrants. Individuals under invest in human capital formation when their productivity not only fostered by their own level but also by the average level of human capital in economy either closed or migration not allowed. But a well controlled migration policy will mitigate the tendency to under invest in human capital and can bring the required optimum level of human capital in the society.

Santos and Vinay tried to see the impact of immigration policy adopted in the host countries on source countries' human capital. They used change in the ratio of temporary to permanent visa as a parameter to assess immigration policy. In case of autarky, low educational productivity does not fully compensates opportunity cost of education therefore create less incentives for acquiring training. This stagnates the growth of the country. However, in case of open economy educational productivity is positive; investment in education becomes worthy and guarantees growth of the country through enhanced productivity of labour. When the country is open and there is only provision of permanent visas, country will invest more in human capital for higher private return on education. This is based on the assumption that permanent visa gives opportunity to "combine" one's personal labour input with more advanced technology prevailing in the destination country in the following period. As not all natives get success in acquiring visas and some forced to stay back, country will experience more growth on account of them. In case of both temporary and permanent visas, an increase in temporary visas, discourages the education with lower chances of getting permanent visas. On the other hand more temporary visas, bring back migrants with accumulated knowledge from host country. A greater absolute number of migrants have a larger positive impact on knowledge diffusion. Thus, these two counteracting forces produce ambiguity about the optimal share of temporary visas (Santos & Postel-Vinay, 2004).

Empirical studies on migration and its impact on development show mixed result. Another study using cross section data for 37 developing countries support the view that emigration has positive impact on the source country's growth rate through creating beneficial brain drain (Beine, Docquier, & Rapoport, 2001). Stark et al (2007) looked into relationship between migration and human capital formation in 49 Polish region using cross-section data. They did not find migration prospects working in Poland as an incentive for human capital formation.

Recent study on migration and human capital accumulation by Levent Eraydın explores two major issues: the relationship between migration and relative poverty and the relationship between migration and human capital formation (Eraydın, 2012). Based on regression analyses study suggested that relatively poverty impinges positively on inclinations to migrate. They showed that the possibility of a beneficial "brain gain" can

be rejected on the base of the available data. Studies not only reject the positive impact of migration on source country but have also put the possibility of hampering impact of migration. Migration may have detrimental effect on development of sending country through changing the composition of human capital in sending countries (Di Maria & Stryszowski, 2009). Economic incentives drive agents to accumulate skills. But possibility of migration has distortionary impact on incentives to accumulate skills appropriate for their origin country. That not only slows down but also hinders economic development of the sending country. More the country close to the technological frontier less will be the distortionary impact of the migration. However, government intervention in the form of encouragement of domestically required skills can provide a remedy in such situation.

We explore the mechanisms creating a brain drain out of a poor sending region and identify channels of how those left behind in the poor region may experience a counteracting brain gain via higher propensities to acquire human capital induced by the equilibrium affects on wages. Moreover, we indicate how regional and national economic shocks affect educational decisions and interregional migration.

2.3 Interaction between Education, Migration, Labour Market Integration and Policies

This paper focuses on the links between the education, migration and the labour market, in particular on the consequences of the labour demand in foreign country and migration of labour from home country and the role of education market in supplying those skills.

Literature on interaction between migration and labour market is vast but not macro approach on interaction between migration, education and labour market of both home and host country. Moreover studies are mainly based on the effects of migration on host and home countries, but not on how migration develops between two countries. Basically studies focus on post migration impact on various domains either on home country or on host country or both. These domains include labour market, education market, policies regarding migration. Thus, the existing literature focus on linkage explicitly either between migration and education market or migration and labour market.

The studies focus on migration and education see migration act as an incentive to invest more in education for better returns. Similar to education (Becker, 1964; John R Walsh, 1935; Majumdar, 1984).Economists view migration as an investment decision (Sjaastad, 1962). If the net expected benefits gained by migrating abroad turns out to be greater than the expected income in the home country, a person decides to migrate. But the decision of migration is not a random decision solely based on cost and benefit analysis. As individuals differ from each other by their innate and demographic characteristics migration become a conscious decision. A person who decide to migrate, take decision to invest in education accordingly. Some may decide to leave/complete the education and migrate and some may choose to continue education further in expectation of more returns in the future with more acquired skills. These migrated labour have been increasingly playing important role in the composition of the labour force all around the world. Labour primarily moves in two streams unskilled and skilled labour as per the demand in foreign countries. Unlike unskilled labour, demand for skilled labour is sector specific. For instance over supply of unskilled labour can absorbed in any sector or high demand for unskilled labour can be absorbed by any unskilled labour from any part of world. But for skilled labour employer has to match the skill requirement from the labour available. Countries in demand for skill labour mainly manage migration through tailored migration policies which may help them overcome temporary shocks in labour demand. Literature shows that skilled migration helps in rectifying skill shortages. For sending countries, migration also may release unemployment pressure, transfer financial resources home and contribute to future labour skills development through gains in human capital. Studies even show migration prospects increases the average level of human capital for the non migrant in the country (Tani, 2017). Some studies look into the aspect of individuals intends to migrate for the purpose of study with intention of permanent settlement. These migrants termed as international students in literature and process of their migration as student mobility. Some studies named it educational migration.

Migration has always been an intrinsic part of the human development. Migration plays a central role in both global and local social, economic and political domain. In

these domains education has a very important role to play being a supplier of skilled labour force.

Chapter 3 : Theoretical Framework

3.1. Introduction

In 1921, there were 2,795,000 Indians abroad, including those born in India or of Indian extraction. They represent less than 1 per cent of the population at that time (318,942,480). Majority of them were Hindu (more than four-fifths) and about half of the remainder were Mohammedans. It is interesting to note that there were only 2 Indians in Australia in 1921, and today India is the second country providing immigrants to Australia after China.

Thus the thesis seeks to understand the migration between India and Australia dealing with many questions; the trend and pattern and composition of migrants from India to Australia. As the focus of the thesis is nursing filed, thus it see the migration relation between India and Australia in nursing field.

The theoretical understanding of the thesis starts with seminal work of Schultz, Becker and Mincer on human capital. Human capital is represented by the aggregation of investments in activities, such as education, health, on-the-job training and migration that enhance an individual's productivity in the labour market[10]. The importance of human capital as one of the determinant of progress and economic growth has long been recognised. The origin of the idea of human capital goes back to Adam Smith who, in the Wealth of Nations, suggested that investment in physical capital through expenditure on machines might have parallels in investment in human capital through expenditures on education and training. He was the first classical economist to include human capital in his fourth definition of capital.

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[10]Human capital is defined in the Oxford English Dictionary as "the skills the labour force possesses and is regarded as a resource or asset."

Smith noted:

"The acquisition of ... talents during ... education, study, or apprenticeship, costs a real expense, which is capital in [a] person. Those talents [are] part of his fortune [and] likewise that of society" (Smith, 1976).

Smith sees human capital worthy not only for the individual itself but also for the society. However the concept of human capital was first formally used by Irving Fisher in 1897. But in 1950's it became serious part of economists' lingua franca with the seminal work of Mincer, Schultz (1961) and Becker[11] (1964, 1975). The authors in their writing reaffirmed the role of human capital in augmenting economic growth of a country. Human capital is also an important concept for explaining earning differential in economies. Both of them received Nobel prizes for their contribution to the advancement of the concept of human capital. Nobel Laureate Sen (2000) assigned special role to education in his capability approach to the study of "Development as Freedom. Walsh applied the concept of capital to human before Mincer, Schultz and Becker in 1935 but he did not use the term "human capital" for that. In his paper he tried to see money spent in acquiring training can be seen in similar motive as capital investment made in a profit-seeking market, to create factories, machinery etc (John R Walsh, 1935)**.**

Schultz in his theory of investment in human capital (1961) explains that economists have shied away from the explicit analysis of investment in human capital and the role of human capital in economic growth. Despite the fact that people are an important part of the wealth of nation, economists have not stressed in the simple truth that people invest in them. For instance J.S Mill insisted that people of a country should not be looked upon as wealth because wealth existed only for the sake of people. Schultz in disagreement with J.S Mill, proposed that people do invest in them which may enlarge the range of choice available to them. Shultz saw Mill's view as it is the only mere thought of investment in human beings which is offensive to some among us. According to Schultz human's beliefs and values inhibit us from looking upon human beings as

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[11]Mincer (J. Mincer, 1958, 1962; J. A. Mincer, 1974), (Schult, 1962; Schultz, 1961) and (Becker, 1964, 1975)

capital goods. Hence to treat human beings as wealth that can be augmented by investment runs counter deeply held values Schultz says.

Human capital to Schultz was the acquisition of all useful skills and knowledge i.e. is part of deliberate investment. Rather than defining human capital formally Schultz defines human capital by examples like direct expenditures on education, health, and internal migration to take advantage of better job opportunities earnings foregone by mature students attending school and by workers acquiring on–the–job training are equally clear examples. However, economy does not hold count on as they do not enter any national accounts. Even leisure time taken to improve knowledge and skills are not recorded. Nevertheless, Schultz sees such investment accountable for rise in real earnings per worker. Thus, difference in earnings in any economy can be explained on the basis of human capital. For e.g. difference in wages even after allowance is made for the effects of differences in unemployment, age, city size and region between non white urban males and white males where former earn much than the later correspond to difference in education.

Schultz does not rule out the possibility of difficulty in measurement of human investment mainly because of difficulty in distinguishing between expenditure for consumption and for investment persisting in human capital. Shultz says as expenditure incurred in human capital posses partly consumption and partly investment which makes measurement of capital formation by expenditures less useful for human investment than for investment in physical goods. An alternative method that can be used for estimating human investment namely by its yield rather than by its cost.

Despite this difficulty of measurement still many insights can be gained by examining categories of investment which would lead to improve human capabilities:

– Health facilities and services including stamina, vigour, and vitality;
– On the job training including old style apprenticeship
– Formally organized education at the three levels, primary, secondary, and higher education
– Study programme for adults (extension programes including agriculture)

– Migration of individuals and families to adjust to changing job opportunities.

Thus migration according to Schultz is a kind of investment done in order to improve human capabilities and thus earning. Young men and women move more readily than older workers. This is because young people having more years ahead of them than older people hence can expect a higher return on their investment in migration than older people.

Becker's view: Becker's (1964) contribution to the theory of human capital has been a path breaking one. He provided a theoretical and empirical analysis of human capital formation with special reference to education by invoking calculational rationality of human agents. He defined investments in human capital as activities that influence future monetary income through embedding the resources in people. Becker suggests that schooling, on the job training, medical care, vitamin consumption and gathering information about the economic system are the ways to invest. All these earning improve the physical and mental abilities of people and thereby raise real income prospects. Becker in his model incorporated the socio-psychological factors and made a demand supply model to determine the rate of return from investment in human capital. The model mathematically explains the relationship between education and earnings and explains income differences in terms of demand and supply factors.

The basic essence of Becker's theory suggests that earning are gross of the return on human capital, some people may earn more than others simply because they invest more in themselves. And since abler person tend to invest more than others, the distribution of earning could be very unequal and skewed, even though the ability were symmetrically and not too unequally distributed. Becker paid special attention to specific kind of human capital i.e. on the job training. Becker argues that learning, both on and off the job appears to have same effects as do education, training and other human capital investment. Some investment in human capital does not affect earnings because costs are paid and returns are collected by firms or industries

So the basic essence that can be drawn from the human capital theory is that it is a well-established part of standard economic theory. Human capital theory considers

education relevant in so far as education creates skills and helps to acquire knowledge that serves as an investment in the productivity of the human being as an economic production factor, that is, as a worker. Thus, education is important because it allows workers to be more productive, thereby being able to earn a higher wage. By regarding skills and knowledge as an investment in one's labour productivity, economists can estimate the economic returns to education for different educational levels, types of education, etc. In the recent literature most of researchers have accepted Schultz view thought viewing the capacity of human being as knowledge and skills embedded in an individual (Beach, 2009). Similar to his thought, a few researchers show that the human capital can be closely linked to knowledge, skills, education, and abilities (Garavan, Morley, Gunnigle, & Collins, 2001; Youndt & Snell, 2004). Literature conceptualizes human capital as 'knowledge, competency, attitude and behavior embedded in an individual' (Rastogi, 2002).

The screening hypothesis was put forth by Michael Spence (1973) who offered a much better explanation for the existence of sheepskin effects in the sense that it appears to be a move that rational firms will take. As there is presence of information asymmetry in the labour market in the sense that job seekers are aware of their productivity but employers find it out only after hiring. Thus employers hire workers on the basis of minimum required level of education to screen the applicants to ensure that applicant has some basic level of ability required for the job. The job offered may not be necessarily require the skills picked up in the education process but screening on the basis of education done because it reflects the basic ability that such candidate successfully complete the specific training required for the job. In other words, productivity is innate and the workers with the inherent ability to work better are the ones who flourish in school. Those who do well in school have the self-discipline, the ability to accept and follow orders and the team spirit necessary in the workplace. Hence such candidates are more adaptable and trainable for the workplace requirement. This is well supported in the present scenario as prevalence of training or probationary period reaffirms the weak link between the skill attained in the college and the demand of the job. So education acts as a signal to employers that the worker with the higher educational attainment is the better worker.

If education and innate productivity are related, then it would pay for employers to reward college graduates with higher pay. Whether education does impart skills is immaterial as education is a signal to employers about workers' productivity. Schooling is still a credential but at least it reveals information relevant to the employing firm. Education can serve as a screen only if two conditions hold (Reynolds, 1991).

Firstly, the costs to the individual of attaining the certificates must be inversely related to the productivity of the worker. A less productive worker must not find that the benefits of obtaining the certificates (higher pay) are greater than the costs of obtaining the certificate (slow learners, inability to adapt to the schooling environment, etc.) so that only productive workers will seek higher education. This is essential for a signalling equilibrium. The second condition is that there must not be cheaper or more accurate signals around. If there are, firms will switch to a better screening device.

If the screening hypothesis is true, it would pay for society to find a cheaper alternative than education to use as a screen for productivity. As the model developed by Spence involves two groups of agents: employers and job seekers, but they assign conditional probabilities on the basis of past experience in hiring. The conditional factor used is the signal, i.e. the education level of the job seeker. All the job seekers are assumed to have two levels of productivity: high and low. As the model follows the neoclassical market assumptions, workers are paid their marginal products. Thus, a high productivity worker has high marginal product paid a high wage and low productivity worker paid a low wage.

The phenomenon of migration is diverse and multifaceted characterized by increasing diversity in terms of emerging new forms and types of migration motivated by various socioeconomic and cultural contexts. This diversity is reflected not only in empirical analyses but also in different theories and models of migration. Migration is such a field which is not surrounded by one subject boundary instead can be studied by many discipline like demography, sociology, economics, geography and political science. This complexity and diversity increases the intricacy of contemporary migration research and hence scholars strive to provide theory and justification that can be applied to explain all kinds of migration. So far, a plethora of theories have been proposed since

Ravenstein's Laws of Migration[12] (Ravenstein, 1885) to explain the international migration employing varying concepts, assumptions, frames and levels of analysis (Arango, 2000). But given the heterogeneity and complexity of migration phenomenon along with the difficulty of separating migration from other socio-economic and political processes, none has been successful to erect a comprehensive migration theory that explains the causes and consequences for all forms of migration (De Haas H, 2007; Massey et al., 1993) theories..

At present, the neoclassical theory is the oldest and most influential theory to explain labour migration in the process of economic development (Harris & Todaro, 1970; Lewis, 1954; Sjaastad, 1962). The theory is based on the basic tenets like rational choice, utility maximisation, expected net returns, factor mobility and wage differentials (Arango, 2000). Central argument of the neoclassical approach concentrates on wages and see expected income gain as the main driver of international migration. Neoclassical theory explains phenomenon of migration at macro and micro level. This theory is highly applicable to migration of nurses. The literature suggests that economic reasons drive the nurses to migrate to foreign country. At micro level neoclassical theory explains migration using human capital approach. Theory at this level focuses on differentials in wages and employment conditions between countries and conceives migration as an individual decision for his or her income maximization (Messey, 1993).

3.2. Designing Survey and Methodology

This section details out the research methodology for the present study. It explains the research objectives and a suitable methodology to achieve those objectives. The

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[12]The oldest concept in understanding migration emanates from the earliest work produced by nineteenth century geographer Ravenstein in which he formulated "laws of migration". (Ravenstein,1885; 1889). Ravenstein explain the dynamics of migration as an inseparable part of development where the most essential motivation of migration is of economic nature, with the flow of migrants observed mainly from rural to urban areas. (Given Ravenstein's disciplinary and professional background (he worked as a cartographer at the British War Office), his 'laws' have been most appreciated by geographers)

objectives of this study are divided into four parts. First part deals with the nursing as field in India. Second objective is to see the migration of nurses from India to Australia its trend, composition and pattern. The third part is to identify and explore the human capital formation in nursing field due to prospects of high migration. The fourth objective is to analyze and discuss the role of education, labour market and migration policies in the process of migration between home and host country. The aim is to see the interrelation of education market, labor market and migration policies in facilitating the migration nursing.

The first two objectives will be completed with the help of secondary data available, various government report of India and Australia, data extracted from surveys already done and data published in research papers in various journals, magazines and institutions. Newspapers are also being used for some relevant information. For third objective various reports were analyzed and a survey was done to obtain survey in research is defined as a systematic gathering of information, from a sample of respondents for the purpose understanding and/or predicting some aspect of behavior of population of interest (Tull and Albaum). Here, researcher is concerned with the art and science of asking questions and/or observing behavior to obtain information (Kumar, 1992).

3.2.1 Instrumentation

Survey method is the most extensively used technique for data collection. Therefore in order to efficiently use the survey method a questionnaire was developed. The questionnaire was intricately designed to gauge the decision to invest in nursing education for the migration purpose. Not only has this survey listed questions on many aspects. The questionnaire was divided into three parts. In Part A, the respondents were asked questions on basic information like sex, age place of birth and place of birth. In Part B deals with educational details where respondents were asked about qualification, institution, cost of education, fees paid and source of funding. Part C is the last part asking details about job/internship and migration domain

3.2.2 Data Collection

The study aimed at employees or trainee/interns working in the nursing field either in private or hospitals in India or abroad. For the data collection, hospitals, nursing institutes and individuals in nursing field were selected randomly from different states/UT in India. Some of the hospitals, nursing institutes and individuals were very helpful and distributed the questionnaire to nurses/ students working/enrolled. However, as the working nurses were reluctant to give data an assurance was given to them that the data provided by them will be used only for academic research. Information was finally gathered through questionnaire and telephonic interviews were also held in order to substantiate the data gathered. Indian Nursing Council (INC) was also approached to gather information on nursing at national level. The website of INC has not displayed any data on nursing and no publication of their annual report. Despite the duty mentioned in their act (INC Act Section 15A) to provide data they did not provide the data nor responded on the application made. Therefore RTI was filed for data but they rejected RTI quoting the reason as this will divert the resources of institution. Again as a last resort first appeal was made to president of the institution, but no success achieved to gather information about the nurses.

3.2.3 Objectives of the study

The thesis discusses the evolution of nursing as a profession in India. It analyse the current system of nursing education in India. It provides the availability and production of nurses in India based on secondary data. As the skills in nursing makes an individual a nurse, the production of nurses is measured through the institutions providing nursing education. The objective is to analyze the interstate diversity in terms of nurse availability, distribution of nurses in rural- urban area and male female participation in nursing. A migration policy analysis of India and Australia will be done to see its role in facilitating migration. The chapter discusses the global nurse migration scenario and migration of nurses from India. The chapter highlights the immigration policies adopted by Australia in attracting labour from developing countries. This also includes the mechanism through which the migration takes place between the two countries. This approach has been named as *Need Support Approach* suggesting the driving force behind migration of workers.

Chapter 6 explains the factors responsible for labour demand in a country and with particular references to the determinants of demand for nurses. The chapter focuses on how demand for labour generated in country is linked to interrelation between domestic and foreign market for nursing services. A macro picture of interrelation between commodity market, labour market and education market in facilitating migration is taken up in the chapter. This chapter explicitly analyzes the role of immigration policies adopted by Australia to attract labour from other countries and India's emigration policies on migration of its skilled labour.

Chapter 7 theoretically discusses the linkage of migration and skill formation. There is a vast literature on migration that reflects that migration may not always lead to brain drain. There is a possibility of gain in terms of human capital accumulation in the light of migration. The chapter attempts to see this while focusing on migration oriented demand for education (MODE). The chapter discusses the determinants for MODE and supply of MODE. As the focal point of the study is nurse migration, the chapter attempts to see the linkage of nurse migration from India to associated skill formation in the field of nursing.

The thesis ends with chapter 8 which includes the conclusion of the study and some policy recommendations.

Chapter 4 Nurses in India: An Assessment of Availability and Distribution

4.1. Introduction

The word 'Nursing', is derived from the Latin root, nutrio meaning nurture or to care.Nursing as a profession is considered to be one of the most respectful professions strongly surrounded by the elements of humanity. It is a diversified field with distinctive traditions, skills, knowledge and values of the discipline.Nurses and midwives contribute a significant role in delivering essential health services and strengthening the health system of any country. There are adequate evidences on contribution of nurses and midwifery workforce to health improvements in terms of better patient satisfaction, decrease in patient morbidity and mortality. Nurses and midwifery not only contribute to patient well being but also take part in steady financial systems as they reduce the frequency of hospital readmissions, shortens patient stay period, and other hospital-related conditions like hospital-acquired infections (WHO, 2016a).

Nursing as a profession has not evolved overnight, it has been a long journey for the nursing having started point as an undefined household chore to the status of a profession. This development of nursing in India reflects the country's history and complex socio-cultural composition. Traditionally need for female nurses to work outside of the home and requirement of profession to touch strangers (including men) and to deal with their bodily fluids considered to be impure in Hindu and Muslim cosmology. Thisstigmatizednursing as a low status profession (Evans, Razia, & Cook, 2013). Though nursing as a profession is still seen as a low status profession in India. However, British missionaries attempted during colonial times, to redefine nursing and efforts were made to make it a respectable profession. Nursing schools and hospitals were established where poor women or widows recruited from predominantly Christian communities (as Hindu and Muslim communities were reluctant to send their women to these establishments). From then nursing has seen many transitions as a profession where developments have been done to uplift the sector. With the increasing migration of nurses to the other

developed countries, nursing is now seen as a door to work overseas carrying opportunity to migrate for the entire family. This has promoted men to enter into the profession.

This chapter is an attempt to see history of nurse profession in India, education system in nursing and availability of nurses at national level and distribution of nurses across states. The section 2 deals with the overview of nursing profession its origin and transition. Section 3 discusses nursing education system in India with details on courses and the relevant authorities. The availability of nurses and nursing institutes at national level in details is given in section 4. This section also includes the nurses and institutions capacity to take students state wise. The analysis in the chapter reflects the wide interstate disparities in terms of nurses and nursing institutions distribution. Section 5 concludes the chapter in the end.

4.2 Overview of Nursing Profession

Florence Nightingale titled as a "Lady of the Lamp" considered as a pioneer of nursing profession. Born in Florence, Italy in 1820, Florence Nightingale began her illustrious nursing career as a nurse within the Crimean War that took place in the mid 1850's, tending to injured soldiers on the battlefield. During this time, deaths from injuries were commonplace, due to the lack of general hygiene and the huge amount of fatal infections that resulted from these wounds.

Upon encountering this, Nightingale asked for and received aid from the British government that allowed for much better hygiene throughout the battlefield and nearby hospital. It was due to this that the rate of death from infections dropped drastically in but a short period of time. Throughout the rest of her life, Nightingale advocated for sanitary living conditions for patients, as well as providing similar designs to be implemented within hospitals, an ideal that has spread throughout the entirety of the nursing profession throughout the following year. Thus one can divide history of nursing into two main phases in terms of pre Nightingale and post- Nightingale period (Raghavachari, 1990).

4.2.1 Pre Nightingale Period
This period can be divided into four distinct phases:

4.2.1.1Ancient period- During this period medicine and nursing considered to be supernatural in nature. People used to believe that diseases are due to evil spirits and are outcome of various sins. During ancient time people were not that aware of diseases as natural phenomenon. They attributed diseases as a punishment to human misdemeanor.

4.2.1.2 Early Christen period – In this period nursing was considered to be a part of religious practice. The service to sick, poor and needy was considered to be godly thing. 'Hospes' places providing nurturance and palliative care were set up to care for sick poor in (Nutting & Dock, 1935).

4.2.1.3 Middle Age–This period (600 to 1500AD) witnessed the dominance of superstition therefore no scientific progress had been made in the period. This brought a halt in the growth of nursing profession however, following wars (crusades), there was emergent requirement of nurses to take care of the wounded soldiers. This also made nursing a highly disciplined activity.

4.2.1.4 Renaissance and after–This period (1550 to 1880 A.D)witnessed much modernization and reformation almost in every domain. Now 'State' owned the power of the Church thereby the religious believes were no more dominant. This had led to disintegrate the nexus between nursing and religion.

Now state hired persons for the role of nurses in hospitals. These hired personnel lacked the kind of religious belief and devotion which saints hold in earlier period. This declined the standard of nursing maintained by earlier religious institutions. All these factors contributed to mark this period as "dark ages of nursing".

4.2.2 Post Nightingale Period

After a dark period of nursing where nursing lost its glory, there were continuous efforts to revive and rejuvenate nursing by establishing catholic and protestant orders. Nevertheless, significant efforts by Florence Nightingale restored the prestigious status of nursing. The time when she entered in nursing, it was considered as a menial low paid profession full of immoral workers. However, her service as a nurse in Crimean war (1853-1856) made so much repairment to the loss of status in the field of nursing. She and her team contributed to health sector in an immense way by reducing mortality from as high as 40 per cent to 2.2 percent. When she came back to England, she started a

nursing school in unity with religion, dedication and discipline. Her thought was to establish such kind of nursing schools where a standard nursing training could be provided. She was successful in achieving so and extended the Nightingale model of nursing throughout the world.

4.3 Nursing Education in India

In India origin of nursing goes back to Vedic times.The chief sources of knowledge of the Aryan culture and medicine are the four Vedas (*Rig, Sama, Yajusa, and Atharva Veda*). Both Charaka and Sushruta veda gave great importance to care. These Veda is full of hymns and prayerswere indicative ways and means to protect people against manykinds of diseases and natural disasters. Not only physical health but these Vedas gave immense importance to mental health and stability. Traditional medicine is based on Ayurveda.In India origin of nursing as a profession goes back to 1664 when East India Company started a hospital for soldiers in a house at Fort St. George, Madras. The first sisters were sent from St Thomas' Hospital, London to this military hospital. In 1865, Florence Nightingale who considered as a pioneer of nursing profession laid down some suggestions on a system of nursing for hospitals in India. Graduates were sent out from the Nightingale School of Nurses at St Thomas' Hospital, England to start similar schools in India. St Stephens Hospital at Delhi was the first one to begin training the Indian women as nurses in 1867 (see Wilkinson 1958). The very first formalized nursing service in India started in 1905 when a group of missionaries serving in India set up the Missionary Medical Association[13] (MMA) a forum for supporting each other professionally and spiritually.In the year 1911, South India Examining Board and the North India Examining Board in 1912 were created in light of increasing demand for adequately trained nurses. Mid India Board of Examination (MIBE) was established in 1934.However it was not regulated for registration. State-wise councils started developing from 1935 onwards. With the opening of nursing schools, nursing as a profession attained a higher social and economic status than it had previously known. In order to assess the health condition of India, a committee was set up under the

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[13] In 1926, it was renamed as the Christian Medical Association of India (CMAI).

chairmanship of Sir Joseph Bhore in 1943. The committee reviewed the health status and made several suggestions and recommendations to thereof the British India.

On 15th August 1947 India became independent and had its own government. Efforts were initiated to start new nursing schools and colleges. The planning process gave nursing immense importance. At that time there were only 7000 registered nurses and the ratio of nurses to the total population was 1:40000 (Bhore Committee Report).There was an immense need of public health and sanitary measures. Requirement of nurses were in particular vital given the low nurse to patient ratio. The Central Government granted an approval to the Bhore Committee's[14] recommendations by starting two colleges of Nursing in Delhi (1946) and Vellore (1947). This provided university degree level courses. With the efforts of Professor S. Radhakrishnan (the then Chairman of University Education Commission), Nursing education in the country was integrated into the system of higher education. To maintain the quality of nursing education Indian nursing council (INC) act was passed by the parliament in 1947. The expedient of the act was to constitute a nursing council so that a uniform standard of nursing education can be retained. Nursing as a profession was then governed through the national Indian Nursing Council (INC) and State level Nursing Councils (SNCs). The INC is responsible for several functions, it act as an advisory to the State Nursing Councils, Examining Boards, State Governments and Central Government on all matters related to the nursing with an aim to establish a uniform standard of training for nurses midwives and health visitors. It inspects nursing institutions to ensure a uniform standard of nursing, recognize qualifications for registration and employment in India and abroad, issue license to the qualified nurses, approval for registration/renewal of Indian and Foreign Nurses possessing foreign qualification, recognizes institutions/organisations/universities imparting education in nursing, specifies minimum quality criteria for educational institutions, recognise degree/diploma/certificate awarded by Foreign Universities/ Institutions on reciprocal basis, prescribes syllabi for national nursing education. Apart from regulating education and research in nursing, it is also responsible for prescribing the code of conduct and ethics. However, there are several

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[14]In 1943 a Committee was set up, headed by Sir Joseph Bhore, one of the members of the Viceroy's Executive Council, to assess the conditions of health then prevailing in British India.

challenges INC has to face in regulating the nursing profession, including its limited ability to push for required health professional and academic development.

Currently there are six levels of nursing education in India (Table 4.1). Auxiliary nurse-midwifery (ANM) is the most basic level of nursing education, and nurses trained under this course are mainly responsible for the community outreach services such as vaccinations and typically located at primary health centres (PHC).In India nurses are mostly trained in general nurse-midwifery (GNM) course serving over wide range from primary healthcare service (PHCs) to tertiary hospitals. Nurses having degree in university level courses (B.SC, M.Sc, M.Phil and PhD) constitute a smaller proportion of the nursing workforce.

Table 4.1: Nursing Education in India

Nursing Programme	Eligibility for Admission	Duration	Qualification
Auxiliary Nurse & Midwifery (ANM)	10 + 2 in any stream	2 years	Diploma
General Nursing & Midwifery(GNM)	10+2 class passed preferably Science (PCB) & English with 40% marks	3 and 1/2 years	Diploma
B. Sc (Basic)	10+2 class passed with Science (PCB) & English with 45% marks	4years	Degree
B.Sc (Post Basic)	10+2 or an equivalent examination recognized by the university for this purpose. A certificate in GNM and registered as R.N.R.M. with the State Nurses Registration Council	Regular: 2 yrs Distance: 3 yrs	Degree
M.Sc	Registered Nurse and Registered midwife of equivalent with any State Nursing Registration Council The Minimum education requirements B.Sc. Nursing/B.Sc. Hons. Nursing/Post Basic B.Sc. Nursing with minimum of 55% marks or passed from institution recognized by INC.	M. Sc. 2 Years	Degree
M.Phil	M.Sc Nursing recognised by INC with at least 60% marks in aggregate.	1 year (Full time) 2 years (part time)	Degree
PhD	Candidates holding M.Sc degree with minimum 55% aggregate marks in Nursing Speciality will also be eligible for Ph. D admission in College of Nursing.	3-5 years	Degree

Source: Indian Nursing Council

In India people practicing in health sector without requisite qualifications is a major challenge. In this regard nurses are not an exception. For example, 58.4% of individuals working as nurses in 2012 did not have the necessary qualification(Rao et al., 2016). There was another study which estimated that 67.1% of nurses and midwives were educated only up to the secondary level while even to be qualified in basic nursing qualification i.e. ANM one should have a post-secondary two-year training course in 2001(Anand & Fan, 2016). These figures are aggregate figures for India but there are clear inequalities in the number of nursing personnel among states.

4.4 Distribution of Nurses in India

This section examines the availability of health workers in India. The first section sees the density of health workers in India. This section highlights the difference in the distribution of total health workers across different states in India. The second section examines the nurses and midwives distribution state wise. This section also highlights the marked difference between the male female participation in the field of nursing.

4.4.1 Density of Health Workers in India

In India, there is enormous variation in density of health workers across states (see figure 4.1). For instance, among states, Bihar with 8.07% of the national population had only 4.42% (Bihar with a density of 110.2 per lakh[15]) of the country's health workers, whereas Chandigarh with 0.09% (Chandigarh with a density of 683.7 per lakh) of the national population had 0.30% of the country's health workers. It is interesting to note that for nurses density there is almost 12 fold differential between Bihar with lowest density of workers (20.9 nurses per lakh population) and Chandigarh with highest density of nurses (246.5 nurses per lakh population).

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[15]The numerical expression "lakh" used in India is equal to 100000.

Figure 4.1: Density of Health workers in India (2001 Census Data)
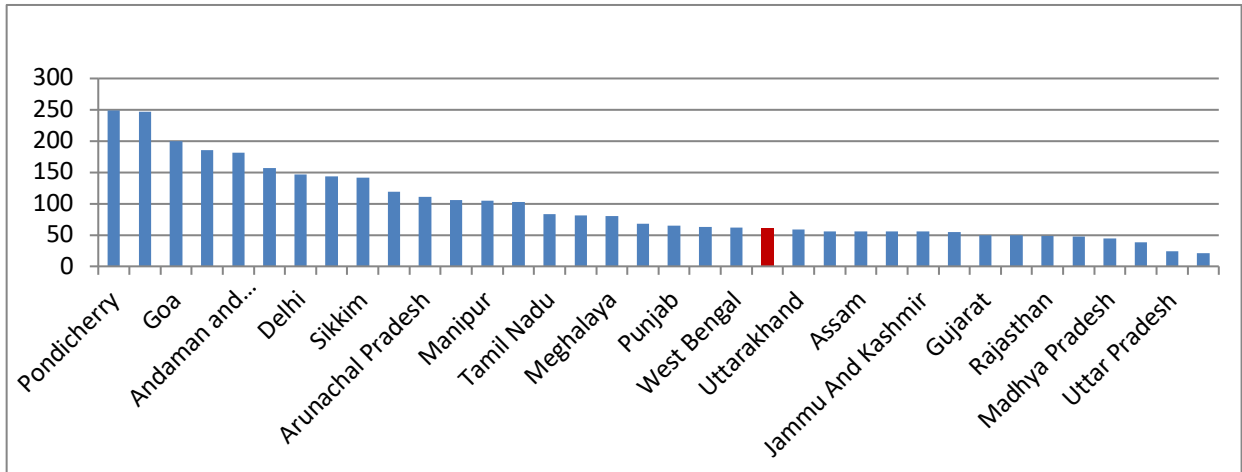
Source: Based on (Anand & Fan, 2016)

Census data (2001) indicates considerable variation across states in the densities of qualified all health workers. Here *density* of health workers in a given area is the absolute number of health workers divided by the population size expressed in lakh in this study. Data indicates that states in north-central and north-eastern India have lower densities as compared to the national average (9.1 per 10,000 populations). Similarly, the densities of qualified[16] nurses and midwives varied across states. Kerala (18.5 per 10 000) had the highest density of nurses and midwives in India, which was almost 46 times higher than for Bihar (0.4 per 10 000 and Uttar Pradesh (0.5 per 10 000) the states found to be the states with lowest density. The highest density of qualified allopathic doctors was in Maharashtra (8.7 per 10 000); in comparison, states like Bihar (0.3 per 10 000) and Himachal Pradesh (0.1 per 10 000) had among the lowest densities of qualified doctors. Data reveals that national density of allopathic doctors is 3.4 per 10,000 and density of nurses and midwives is 3.2 per 10,000. While, World Health Organization (WHO) benchmark for combined density of allopathic doctors, nurses and midwives is 22.8 workers per 10 000 population for achieving 80% of deliveries attended by skilled personnel. This indicates that India faces an overall shortage of health workers. Kerala with total health worker is 31.6 the only state in India to achieve that WHO benchmark. However, as this threshold focuses on the single health service

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[16]Nurses and midwives having higher secondary education combined with any technical education in medicine, or possessed a diploma/certificate are considered to be qualified.

(skilled birth attendance) considering only on maternal and newborn health. WHO in 2016 tried to overcome this limitation through sustainable development goals (SDGs). A new improved health indicator termed as "SDG composite threshold" had been made covering 12 selected health indicators over a range of services[17], including non-communicable diseases (WHO, 2016b). This composite threshold value of the SDG was determined to be 44.5 doctors, nurses and midwives per 1000 population[18]. This implies not a single state in India achieve that benchmark. This highlights that shortage of providers of clinical care is a feature of almost every Indian state.

4.4.2 State Wise Distribution of Nurses and Midwives Availability of Nurses

This section examines interstate differences in nurse's availability in India across its 35 states and union territories (hereafter referred to as "states"). Availability is examined through state wise concentration of health workers, where the concentration of health workers is defined as: the number of health workers in a state divided by the total number of health workers in the country, expressed as a percentage. For each health worker category, the concentration across the country's 35 states adds up to 100% by definition. This process does not take population into account; but that will be discussed in the section later. However, it is important to see concentration of health workers particularly nurses given their low availability in the country. For example, it is of interesting to note that BIMARU[19] states have total 17.73% of total nurses while Maharashtra alone has 15.81 % of total nurses in the country.

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[17] SDG composite index threshold is based on the skilled health workers needed to achieve high coverage (80% or above) for 12 selected health indicators. These 12 indicators are: skilled birth attendance, family planning, antenatal care coverage, DTP3 (diphtheria–tetanus–pertussis) immunization, potable water, tobacco smoking, sanitation, antiretroviral therapy, tuberculosis treatment, cataract surgery, diabetes, and hypertension treatment.

[18] The International Labor Organization (ILO) has launched an alternative approach called staff related access (SRA) deficit, using Thailand as normative benchmark for its better health outcome. This approach is based on the difference between the national density of health professionals and the Thailand benchmark which is 1 health professionals per 313 populations (2004). Thailand has been used as a normative benchmark.

[19] BIMARU has a resemblance to a Hindi word "Bimar" which means sick. This term was coined by demographer Ashish Bose in one of his paper in mid 1980s. It is an acronym used for Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh.

Figure 4.2: Statewise Concentration of Nurses & Midwives (%) 2001 Census Data
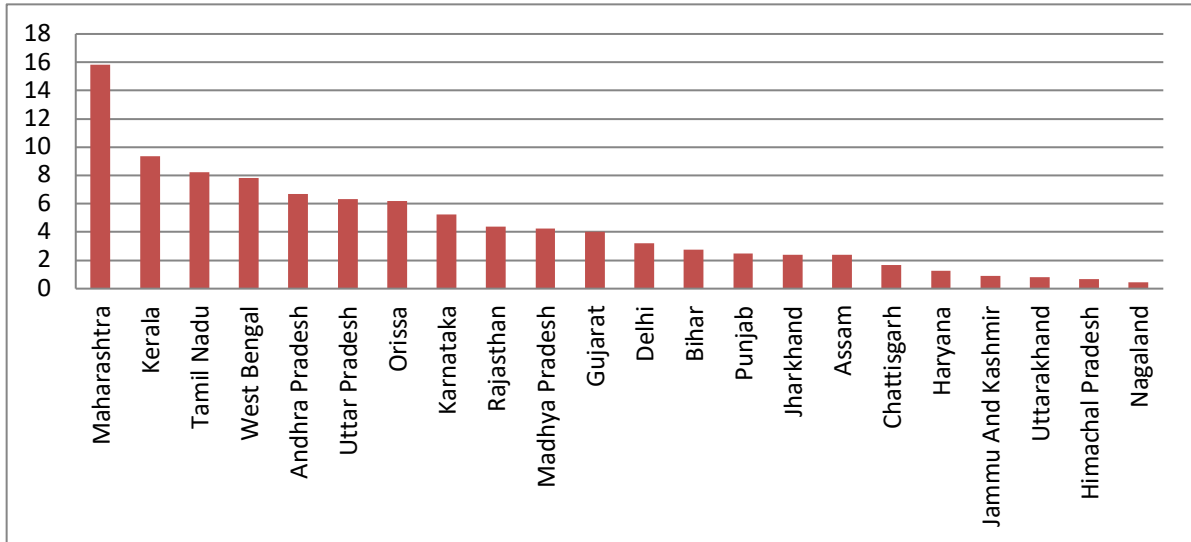
Source: Based on(Anand & Fan, 2016)

The top 5 states in descending order in terms of concentration of all nurses are; Maharashtra (15.81%), Kerala (9.36%), Tamil Nadu (8.22%), West Bengal (7.81%) and Andhra Pradesh (6.71%). While on the other hand states with lowest number of nurses are Nagaland (0.45 %), Himachal Pradesh (0.66 %), Uttarakhand (0.79 %), Jammu and Kashmir (0.89 %) and Haryana (1.28%).

Figure 4.3: State Wise Concentration and population of Nurses and Midwives (%) 2001 Census Data
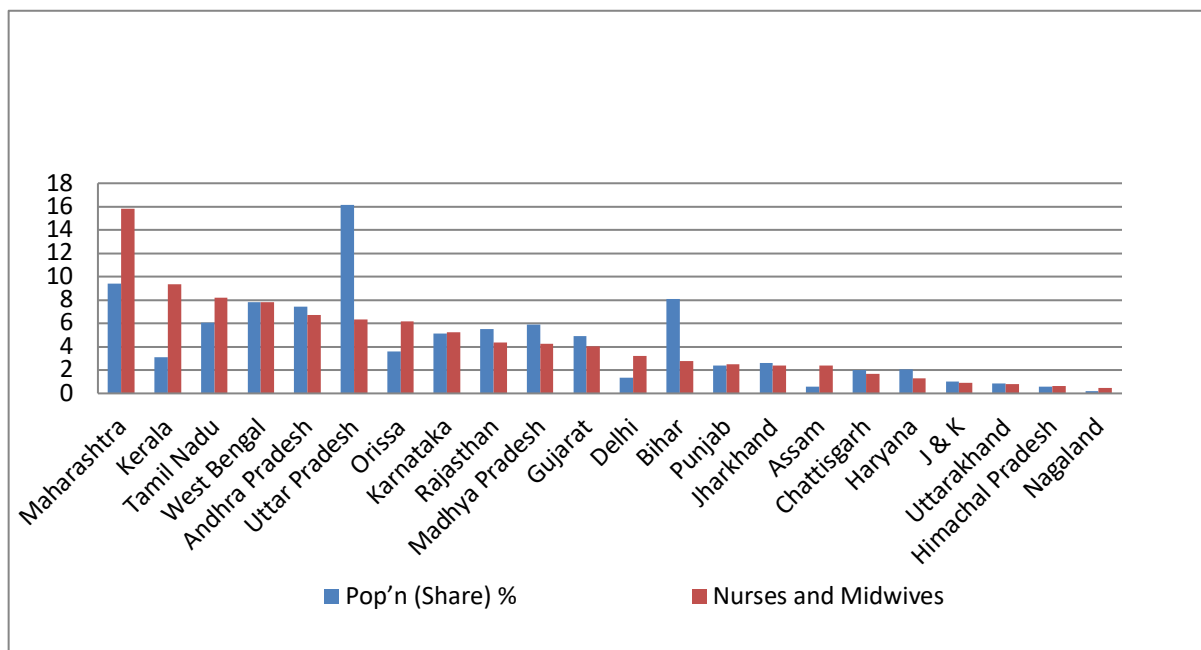
Source: Based on (Anand & Fan, 2016)

Figure 4.3 illustrates the concentration of nurses by state with respect to each state's population share in the national total, i.e. the concentration of population in the state. Significant variations in the nurses have been observed. In Uttar Pradesh, the concentration of nurses (6.35%) was less than half the share of the state in the national population, i.e. the state's population concentration (16.16%). In Maharashtra, the concentration of nurses (15.81%) was substantially higher than the state's population concentration (9.42%). Kerala (9.36%) and Orissa (6.17%) had a significantly high concentration of nurses relative to their population share with 3.10% and 3.58% respectively.

It is expected that state population share has correlation with the concentrations of health workers. Across states the Pearson correlation coefficient[20] between concentration of all health workers and population concentration was estimated to be 0.9060. But the variation in health worker density across states weakens this correlation.

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[20]It is a measure of the linear correlation between two variables X and Y.

Figure 4.4 State Wise number of registered Nurses in India (2017)
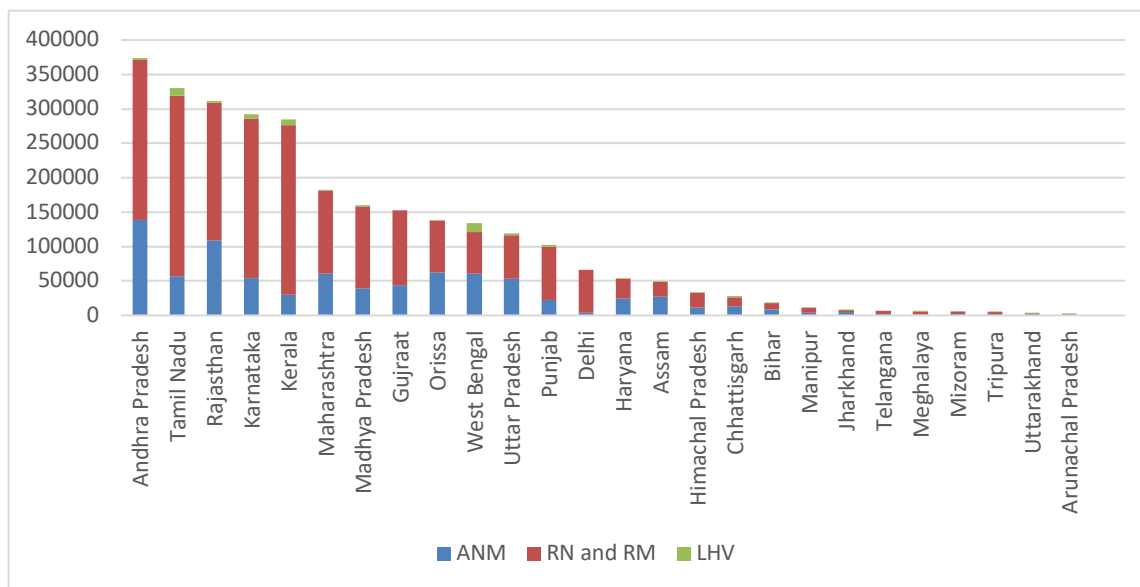
Source: Indian Nursing Council

Figure 4.4 illustrates the number of nurses (including ANM, RN, RM and LHV) state wise. Significant variations in the nurses have been observed. The top 5 states in descending order in terms of all nurses are; Andhra Pradesh (12.98%), Tamil Nadu (11.48%), Rajasthan (10.83%), Karnataka (10.16%) and Kerala (9.90%). It can be seen that the four south Indian states have almost 45% of countries nurses. While on the other hand states like Bihar, Manipur, Jharkhand, Telangana, Meghalaya, Mizoram, Tripura and Uttarakhand have less than 1% of total nurses. It is interesting to note that Telangana despite being part of south India lags in terms of nurse availability.

4.4.3 Distribution of Nurses by Area and Gender

The data available confirm the skewed distribution of the workforce in rural and urban area. For all health workers in the country, the ratio of urban density (428.3) to rural density (113.7) was 3.8. This Ratio of urban density to rural density for nurses is greater than unity for every state indicating skewed distribution favouring urban area in each state. The ratio was highest in Bihar (7.9), and among the lowest in Kerala (1.7). Nursing is a profession mainly considered for females, this is easy to see as all states have ratio higher than 50 percent. Interestingly Mizoram (93.2 percent) & Kerala (92.5

percent) having the highest number of females in nursing profession(see table 4.2). Bihar also has higher number of females in nursing profession (91 percent), while Jammu & Kashmir (65 percent), Uttarakhand (69.1 per cent) and Rajasthan (69.9 percent) are having lowest number of females but still lag in terms of balanced gender distribution.

Table 4.2: Distribution of Nurses by Region and Sex (2001 Census)

State	Ratio of Urban Density to Rural density of Nurses	Percentage of female nurses
Bihar	7.9	91
Madhya Pradesh	6.3	82.4
Rajasthan	4.6	69.9
Uttar Pradesh	5	70.9
Kerala	1.2	92.5
Jammu & Kashmir	2.3	65
Uttarakhand	2.9	69.1
Andaman & Nicobar Is.	1.2	87.8
All India	4	83.4

Source: Based on(Anand & Fan, 2016)

4.5 Production of Nurses

The production capacity measured by total number of seat in nursing institutes is indicative of the total production capacity for nurses and midwives. Data shows that productive capacity in India has grown over time in India. In the decade spanning 2005 and 2015the number of institutions offering A.N.M, G.N.M, B.Sc (Nursing) and M.Sc (Nursing) have increased manifolds (see table 4.3). The highest growth is found in B.Sc (nursing) and M.Sc (Nursing) courses which is because of low base of both the courses in the year 2000. This reflects the preference for the degree courses in nursing.

Table 4.3 Total Number of Nursing Institutes

Course	2000	2005	2010	2015
A.N.M	298	360	676	1921
G.N.M	285	983	2083	2958
B.Sc (Nursing)	30	377	1326	1690
M.Sc (Nursing)	10	59	315	577

Source: Indian Nursing Council

Table 4.4: State Wise Distribution of Nursing Institutions and the Admission Capacity

		Institutions			Seats		
		as on 31st October, 2015	as on 31st October, 2016	as on 31st October, 2017	as on 31st October, 2015	as on 31st October, 2016	as on 31st October, 2017
ANM	Govt	427	290	284	11974	8579	8878
	Pvt	2493	1696	1625	709044	48440	46385
	Total	2920	1986	1909	82878	57019	55263
GNM	Govt	399	297	327	15775	13040	15060
	Pvt	4054	2826	2888	163064	112722	114866
	Total	4453	3123	3215	178839	125762	129926
B.Sc (N)	Govt	158	134	143	8652	7241	7830
	Pvt	2372	1697	1793	116583	84565	88645
	Total	2530	1831	1936	125235	91806	96475
M.Sc(N)	Govt	63	53	61	1246	1026	1245
	Pvt	766	584	582	14226	11364	11372
	Total	829	637	643	15472	12390	12617
P.B.B.S C (N)	Govt	60	43	47	1915	1425	1535
	Pvt	1083	737	728	33820	23440	22880
	Total	1143	780	775	35735	24865	24415
Post basic diploma	Govt	83	87	84	1240	1375	1285
	Pvt	257	224	208	3470	3355	2846
	Total	340	311	292	4710	4730	4131
All Courses	Total	12215	8668	8770	442869	316572	322827
	Pvt	11025	7764	7824	1040207	283886	286994
	Govt	1190	904	946	40802	32686	35833
	% Pvt	90.3	89.6	89.2	234.9	89.7	88.9
	%Govt	9.7	10.4	10.8	9.2	10.3	11.1

Source: Based on Indian Nursing Council data

In 2015, there were total 12,215 nursing institutions (both public and private) having 4,42,869 seats (all nursing-related courses given in table 4.4). However, the number of institutes in 2017 decreased to 8770 (both public and private) with total seats 3,22,827. It is clear from the table that majority of nursing institutions are in private hands. In 2015, 90.3% of institutions were private while government institutes were only 9.7% of total institutes. The number of private institutes decreased by 1.4% and government institutes increased by1.4 %. Most number of the institutes offer course GNM, B.Sc (Nursing) and ANM. This reflects the demand for lower demand for post basic nursing, M.Sc, M.phil and PhD in nursing.

Study shows that in India approximately 80% of outpatient visits and 60% of hospitalization episodes were provided by the private sector. Even for education in nursing, private players have taken over. Infact growth in production capacity of the health workforce has largely been driven by the growth in the number of private sector institutions. Figure 4.5 illustrates the distribution of seats in public and private institutions. Annexure 1 provides a state wise further breakdown of seats based on government and private nursing colleges. More number of private institutions in nursing education reflects about cost of education. Nursing education provided by government institutes is highly subsidized thus lower fee, while the cost of private medical education is several magnitudes higher (WHO, 2017). In the health sector most of the health expenditure is through out of pocket expenditure. Thus, similar to health facilities and health education, individuals have to borne the expenditure.

Figure 4.5: Admission Capacity of Public and Private Nursing Institutes
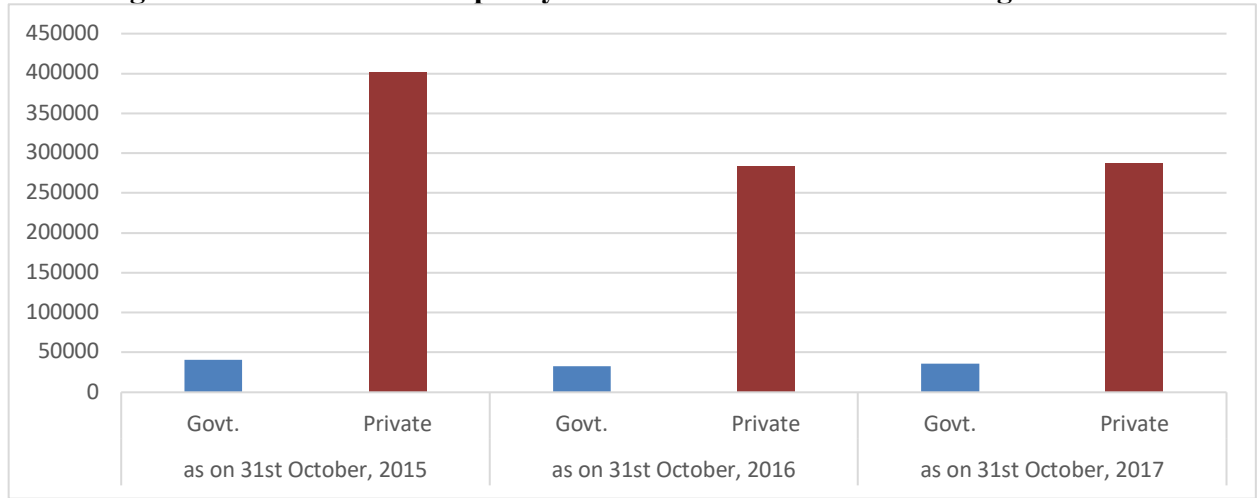
Source: Based on Indian Nursing Council Data

4.5 Conclusion

India has experienced tremendous growth in its capacity to produce health workers. The production capacityfor nurses and midwives has grown over time in India. Nevertheless, country is still struggling in terms of availability of health professionals. This composite threshold value recommended through SDGs was determined to be 4.45 doctors, nurses and midwives per 1000 population[21].The latest available (2016) value of composite threshold for India is 2.894 (2.094 nurses per 1000 and 0.8 physicians per 1000 population). This implies not a single state in India achieve that benchmark. This highlights that shortage of providers of clinical care is a feature of almost every Indian state. This figure is an average figure for India. The problem becomes even more serious when availability of nurses is seen state wise. Significant variations in the nurses have been observed. The top 5 states in descending order in terms of all nurses are; Andhra Pradesh, Tamil Nadu, Rajasthan, Karnataka and Kerala.

The nursing field receives females in significant proportion as compared to males. There is not a even a single state having balanced intake of male female in field of nursing. Mizoram (93.2 percent) & Kerala (92.5 percent) having the highest number

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[21] The International Labor Organization (ILO) has launched an alternative approach called staff related access (SRA) deficit, using Thailand as normative benchmark for its better health outcome. This approach is based on the difference between the national density of health professionals and the Thailand benchmark which is 1 health professionals per 313 populations (2004). Thailand has been used as a normative benchmark.

of females in nursing profession. Bihar also has higher number of females in nursing profession (91 percent), while Jammu & Kashmir (65 percent), Uttarakhand (69.1 per cent) and Rajasthan (69.9 percent) are having lowest number of females but still lag in terms of balanced gender distribution.

The data also confirm the skewed distribution of the workforce in rural and urban area. For all health workers in the country, the ratio of urban density (428.3) to rural density (113.7) was 3.8. This Ratio of urban density to rural density for nurses is greater than unity for every state indicating skewed distribution favouring urban area in each state.

The important feature of nursing sector is the dominant role of private players. It the majority of nursing institutions are in private hands. In 2015, 90.3% of institutions were private while government institutes were only 9.7% of total institutes. Most number of the institutes offer course GNM, B.Sc (Nursing) and ANM. This reflects the demand for lower demand for post basic nursing, M.Sc, M.phil and PhD in nursing.

Chapter 5 : An analysis of Migration of Nurses from India to Australia

The political problem of mankind is to combine three things: Economic Efficiency, Social Justice, and Individual Liberty.

J.M. Keynes

5.1. Introduction

Australia discovered by explorers in the southern ocean has a long interesting history to explore. The country is known as country of immigrants practicing multiculturalism. The number of Indians in the country increased during the colonial period when British authorities used to send labour mainly for manual work (mostly camel rider and farm labour arrived). Currently India is the top supplier of highly skilled labour to Australia. This journey of India as a supplier of unskilled labourer to highly skilled labourer demand an in-depth analysis of Australia's economic structure and the policies adopted to attract labour. The chapter therefore aims to undertake a detailed study to understand the causes, trends and patterns of Indians migrating to Australia with particular reference to migration of nurse.

Given the shortages of health professionals in developed countries, they are recruiting health professionals from other countries. These other countries are mainly developing countries already taking the brunt of low density of health professionals with poor health indicators. Poor conditions in developing country pushing labour to go for countries having better offer for them. But is there a part which also explains the deliberative efforts by these developed countries to pull health professionals from developing countries? Because presence of such kind of pull factors strengthen the movement of professionals from one region to the other. It is well established that the Australian health sector has benefited greatly from increased migration of nurses over the last few decades. In light of continued shortage with ageing of population and worker in the health sector, migration of nurses is also expected to grow and supplements the

nursing workforce. Therefore, chapter tries to see the immigration policies adopted by Australia and its subsequent effect on the immigration of nurses.

Including introduction there are six sections in the chapter. Section 2, introduces Australia and Indian economy through their main and important feature like development indicators, health indicators etc. Section 3 discusses the demography of both India and Australia and its role in facilitating migration. Migration of nurses as a global scenario and nurse migration from India is discussed in section 4. Section 5 discusses the immigration policies adopted by Australia in attracting labour from developing countries. This section also explains a mechanism through which the migration takes place between two countries. This approach has been named as *Need Support Approach* suggesting the driving force behind migration of workers. Section 6 concludes the chapter in the end.

5. 2. An Introduction to Australian and Indian Economy

Australia's official name is **"Commonwealth of Australia"**[22]. The name Australia originates from the Latin words *terra Australia incognita*, meaning "unknown southern land". This name is in expectation of discovery of land by explorers in the southern ocean. The Tropic of Capricorn runs through the northern part of the country. Australia is located between the Indian and the Pacific Oceans with neighbors being Indonesia, Timor Leste (East Timor) and Papua New Guinea. Australia is the smallest continent in the world and only continent made up of a single country. Australia is the sixth largest country in terms of area after Russia, Canada, China, the United States of America. India is about half the size of Australia. India is approximately 3,287,263 sq km, while Australia's area is 7,741,220 sq km. The distance between two countries is7,802 km or 4,848 miles[23].

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[22]"Land Down Under" is another name for Australia as it lies entirely in the Southern Hemisphere, down under the equator (The Embassy of Australia, 1996).

[23] This is the shortest distance by air travel (bird fly) between Australia and India.

Figure 5.1: India and Australia on Globe
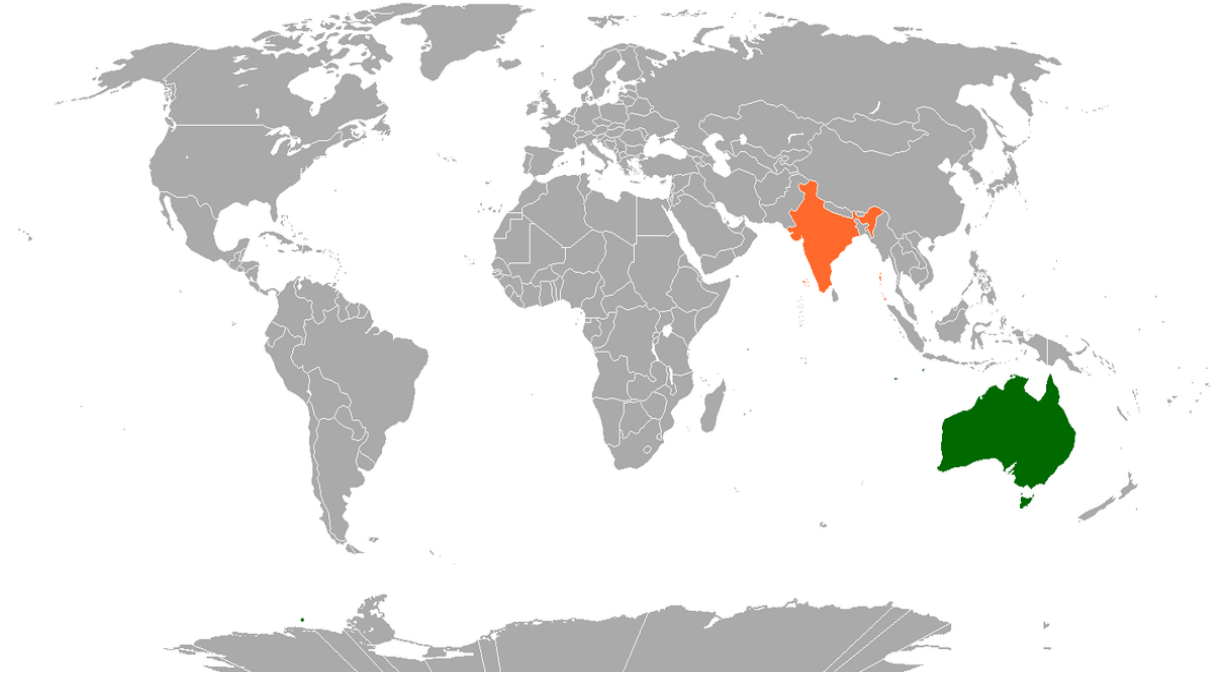
The Australian economy has experienced continuous and stable growth and features low unemployment, low inflation, very low public debt, and a strong financial system. Services sector is the largest part of the Australian economy, accounting for about 70% of GDP and more than 75% of employment. Australia's major exports include natural resources (iron & aluminum ores, coal, crude petroleum and gold), education (includes international student expenditure on tuition fees and living expenses) and wheat. Australia's imports include travel services (excluding education), passenger motor vehicle, refined and crude petroleum.

Australia has big health sector spending 9.4% as a proportion of GDP on health was slightly higher than the OECD average of 9.3%. Australia's health expenditure per person ($5,060) was higher than the OECD average ($4,561) (Note: spending has been converted to Australian dollars using GDP purchasing-power parities). In 2013, Australia had 3.4 practising physicians per 1,000 population, up from 2.5 in 2000, which was slightly above the OECD average (3.3) (OECD 2015b). In 2016 Australia had 12.6 nurses per 1,000 population up from 10.1 in 2000. The availability of nurses per thousand is

almost three times higher than the prescribed benchmark of 4.45 nurses and doctors per 1000 population[24].

India has been developing into an open-market economy. India took major step in this regard in early 1990s by adopting economic reform including economic liberalization, industrial deregulation, privatization of state-owned enterprises, and reduced controls on foreign trade and investment. These reforms had accelerated the country's growth, which averaged under 7% per year since 1997. India's half of the half of the work force is in agriculture, but services are the major source of economic growth, accounting for nearly two-thirds of India's output, with less than one-third of its labor force. India has capitalized on its large educated English-speaking population to become a major exporter of information technology services, business outsourcing services, and software workers. With young English speaking population and low dependency ratio with increasing integration into the global economy, future prospect for India's growth are considered to be positive. However, in comparison to Australia, India has many long-term challenges including poverty, poor health status, corruption, inadequate transport and agricultural infrastructure, inadequate availability of quality basic and higher education, and accommodating rural-to-urban migration. For instance the Gross Domestic Product per capita in Australia (49,755 US $) is 29 times higher than for India (1,710 US $) in 2016.

India's GDP per Capita is very low and is currently equivalent to 17 percent of the world's average. The infant mortality rate (IMR) for India is 34.6 (per 1,000 live births) while for Australia it is 3.1(per 1,000 live births). The unemployment rate for India is 3.5% while for Australia it is 5.7%, but given the much higher population of India tan Australia, India has more number of unemployed people. India has only 2.9 nurses per thousand populations. The value of human development index which focus on people and their opportunities and choices reveals that Australia with HDI value 0.939

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[24]A new improved health indicator termed as "SDG composite threshold" had been made covering 12 selected health indicators over a range of services[24], including non-communicable diseases (WHO, 2016b). This composite threshold value of the SDG was determined to be 4.45 doctors, nurses and midwives per 1000 population.

for 2015 falls into the category of high development while India with 0.624 lies in medium development category (see table 5.1).

Table 5.1:A comparison of key macroeconomic indicators of Australia and India

Indicator	Australia	India
GDP (Current US$ Million)	1323421.07 (2017)	2597491.16 (2017)
GDP per capita (Current US$)	49755 $ (2016)	1710 US $ (2016)
Population (Thousand)	24,598.93	1,339,180.13 (2015)
Unemployment (% of total labor force)	5.7(2017)	3.5 (2015)
GDP growth (annual)	2.8 (2016)	7% (2016)
HDI	0.939 (2015)	0.625 (2015)
Expenditure on Health (% of GDP)	9.5 % (2015)	3.9 % (2015)
Life Expectancy	82.5 years (2016)	69 years (2016)
Nurses and midwives (per 1,000 people)	12.38 (2015)	2.09 (2016)

Source: World Bank Data (various years)

5.3. Demographic factors leading to migration

Australia's total population (28,414 thousand) in 2015 was less than 2% of India's population (1,309,054 thousand). There are striking feature in the composition of population between two countries. In 2015, India had 47 % working age population[25] while Australia has 32% in the same cohort. On the other hand Australia has more dependent people than India. It was estimated that in 2015, Australia had 15% of population aged above 64 years, while India had only 6%. This is up from 1950 when the proportion of aged population was 8% for Australia and 3% for India (see figure 5.2 & 5.3). It can be seen from the figure that proportion of population aged above 64 years has been increasing for Australia.

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[25] This chapter is focused on skilled migration; therefore it is assumed that it will take at least 25 years to complete education before entering labour market. Thus, people aged between 25 to 64 years are considered as working population.

Figure 5.2: Population of Australia
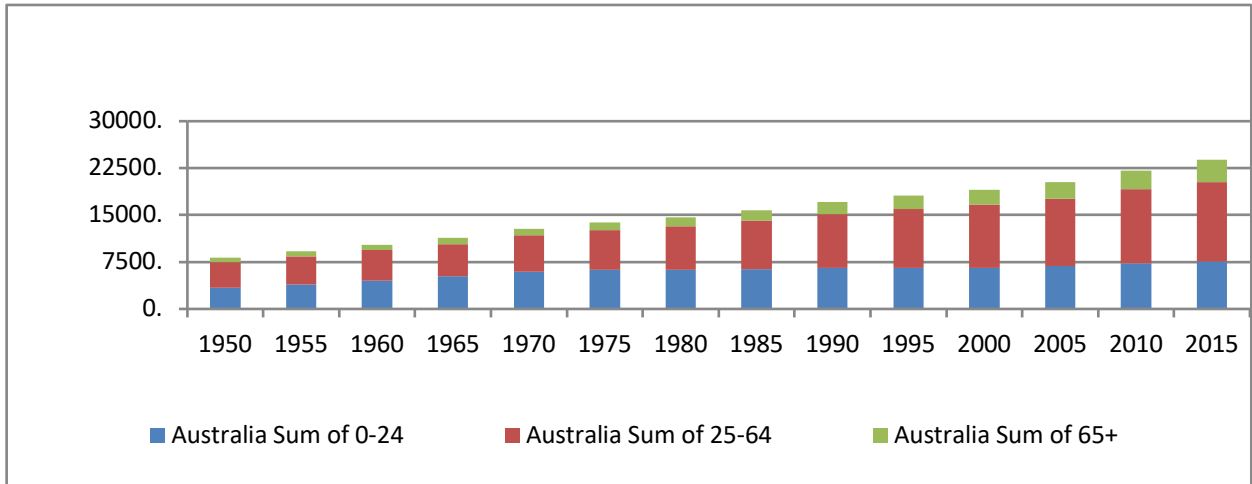
Source: United Nation Population Division, Department of Economic and Social Affair

India having low mortality rate and life expectancy of 69 years (Australia's life expectancy is 82.5) is expected to reach 1.48 billion by 2030, with one of the youngest populations in the world. It is projected that labour force supply will reach a massive 706 million by 2030. With such robust growth in the supply of young population in the bracket of workforce, current pace of increasing job opportunities will benot be sufficient to meet the projected labour supply

Figure5.3: Population of India
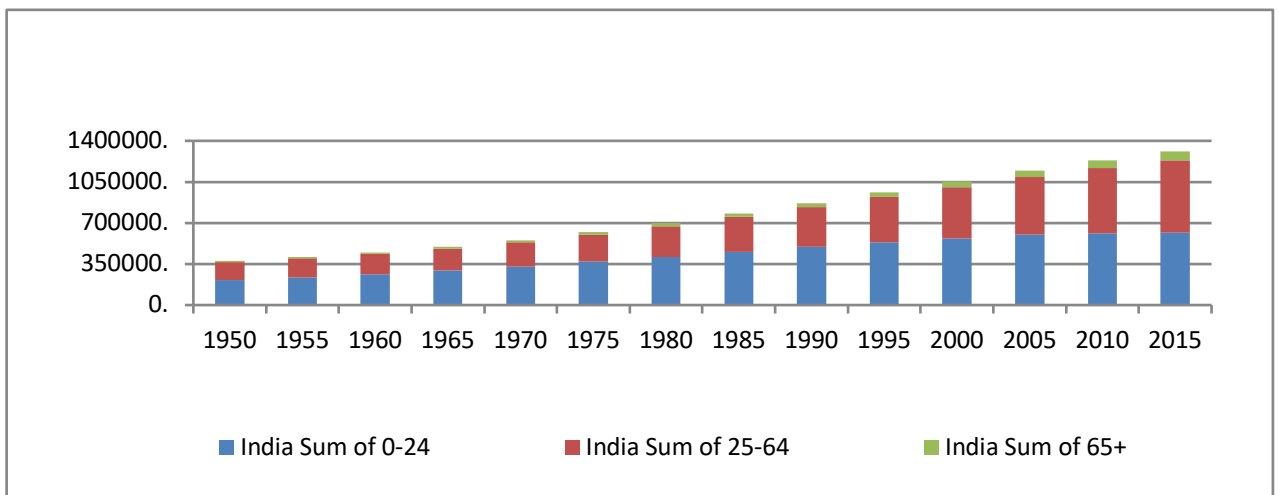
Source: United Nation Population Division, Department of Economic and Social Affair

5.4. Worldwide Nurse Migration

In the U.S, share of foreign born nurses have steadily increased, from 9 percent of RNs in 1980 to 14 percent in 2010 (Cortés & Pan, 2014). It is estimated that overseas nurses constitute 10 per cent of nurses (67,345) in the UK, followed by nurses from EU constituting 5.5% (38,024)[26] (NMC, 2017) . Word wide migration typically marked from low and middle income countries like Sub-Saharan Africa, English-speaking Caribbean nations, Philippines, India and china to high income countries like the USA, the UK, Ireland, Canada, Australia and New Zealand. The U.S receives nurses mainly from Canada, China, Cuba, England, Germany, Haiti, Jamaica, India, Ireland, Japan, Mexico, the Philippines, South Korea, Thailand, and Trinidad and Tobago. Together, these countries account for 70 percent of all foreign-born nurses in the United States from 1980 to 2010. However, emigration flow from south to north is not always the case, earlier nurse migration characterized by as North–North or South–South phenomenon. For example Irish nurses used to migrate to United Kingdom, The United States received nurses from Canada, Palau received nurses from Fiji. It is also the possible that directional flow of nurses may change over time, Ireland for example, it used to exports nurses to the United Kingdom, but now imports nurses from Philippines, Australia, India, South Africa, and the United States.

It is estimates that the employment of registered nurses will grow 19 percent from 2012 to 2022 (a total 526,900 nurses) (U.S. Bureau of Labor Statistics, 2010). It is projected that in the USA over 1 million registered nurses will be needed by 2022 (Oslund, 2016). Shortage of medical health professionals in these countries is seen as a main driver of this phenomenon. (WHO, 2006).The factors attributed to the shortages are, ageing and growth of the U.S population, aging of nurses (Moreover, thousands of RNs are likely to retire in the next decade (in 2010 close to 30 percent of native-born nurses were 55 years of age or older), patient demographics, expansion in insurance scheme, insufficient staffing, an expected shortage of primary care physicians and technological advances(Cox, Willis, & Coustasse, 2014). The UK draws heavily on

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[26] This is total number of effective nurse practitioners on the 31 March 2017, broken down by the origin of their registration.

Phillipines, India, Australia, South Africa and simultaneously supply nurses to Australia, New Zealand, Canada, the USA and Ireland. In 2010-11, the UK supplied almost 52,000 to other OECD countries where the UK ranked third in terms of numbers of the most common nationalities of foreign born nurses, behind the Philippines and India OECD (2015). It is interested to note that the UK provides fund to countries in South Africa for AIDS care but simultaneously drawing nurses who can provide that care.

Migration from south to north gained more media and policy attention rapidly as the pace of international recruitment from developing countries to industrialized countries took off. Among developing countries Philippines, India and China are considered as a top supplier of nurses.

For example less academically rigorous private nursing schools have surged in response to more migration opportunities. In fact, many reputed Indian hospitals are involved more in a kind of 'business process outsourcing' (BPO) to recruit and train Indian nurses for taking the examinations in developed countries for the entry of foreign nurses into their territories as professionals (Khadria, 2006).In literature shortage of health professionals has been seen as a main driver of migration flow of nurses from south to north. However, the source countries also have been experiencing the shortages in health professionals. Moreover, these countries have poor health indicators too. A comparison of health indicators between nurse sending and receiving countries and their respective health indicators indicates that there is immediate need of health interventions in sending countries (see table 5.2). The probability of dying between 15 and 60 years male/female (per 1000 population) is higher for countries sending nurses than those receiving them. Take India, for instance, the probability dying between 15 and 60 years is 239 for male and 158 for female, whereas this figure the UK is 88 and 55 for male and female respectively. The availability of nurses is 1 per 1000 population for India and 8.6 for United Kingdom. Similar comparison can be seen for other south and north countries. It is interesting to note that countries having low availability of nurses with poor health indicators are supporting health sector of those countries having better health indicators and with more availability of nurses as compared to them.

Table 5.2: Health Indicators of Nurse Sending and Receiving Countries

Country	Life Expectancy at Birth- 2016	Probability of Dying between 15 and 60 Years Male/Female (Per 1 000 Population) (2014)	Total Expenditure on Health Per Capita $ (2015)	Nurses/1000 Population
Nurse Sending Countries				
China	76	103/76	426	2.34 (2015)
Philippines	69	255/136	127	0.24 (2015)
India	69	239/158	63	2.09(2016)
Ghana	63	261/222	80	0.926 (2010)
Zimbabwe	61	385/288	94	1.17 (2014)
Malawi	63	362/290	34	0.2 (2010)
Swaziland	58	515/496	232	1.602 (2009)
Nurse Receiving Countries				
Switzerland	83	66/40	9818	18.23 (2015)
Australia	83	78/45	4,934	12.38 (2015)
Canada	82	81/52	4,508	9.84 (2015)
New Zealand	82	80/52	3,554	11.15(2016)
United Kingdom	81	88/55	4356	8.42 (2016)
United States	79	128/76	9536	11.1 (2015)

Source: World Bank (various years)

The nurse emigrating countries characterized by weak health system comprised of poor infrastructure, low salary packages, poor opportunities for career growth and a non-conducive environment for work tend to give their health professionals a dissatisfaction both in terms of economic and non economic. This dissatisfaction exacerbates the rate of migration to abroad leading to a surge in the health workers shortage further. Higher rate of emigration initiate more nurses who are left to migrate in search of better opportunities in foreign countries. Migration is also seen as path-dependent where aspirant planning to migrate tries move to the countries having community from their home land (Pedersen, Pytlikova, & Smith, 2008a). More and

more scope of migration creates incentives to invest in human capital in lieu of better returns in the future (Stark, 1995).

5.4.1 Nurse Migration from India

In the post independence period nurse migration primarily began with the migration of nurses from Kerala to Gulf countries. It was estimated that over 60,000 registered Indian nurses work in the Gulf countries. Not only migrants in high skilled streams, Gulf countries receive migrants in all streams skilled, semi skilled and unskilled (Khadria, 2001). The migration process of Indian nurses to Gulf started in mid-1970s. Girls particularly from Kerala migrated to Gulf for higher wages. This process continued for two decades. However, the trend has changed with consideration of Gulf as an intermediate to migrate to the West (Percot, 2006). In effect, as a part of the step-by-step strategy, nurses first migrate to metropolises, then to countries in the Persian Gulf, and further towards the West (Nair & Rajan, 2017).

India is an overpopulated large country with the potential to supply English speaking workers in many different fields to developed countries (Khadria, 2006). Despite the shortages of health professionals India has been exporting a significant number of health professionals to developed countries like the United States of America (USA), United Kingdom (UK), Canada, Australia and the Middle Eastern nations. Most OECD countries have been experiencing population ageing which generally increases the demand for health workers and simultaneously reduce the supply of health workforce with the ageing of the medical and nursing workforce. In response to this shortage most countries in OECD countries have strengthen their drive to overcome these shortages through the recruitment of health personnel from developing countries. Reports suggest that countries such as the US and the UK and Australia have been trying to recruit health professional on target basis, particularly from developing countries such as the Philippines and India. The latest OECD figures (2007) show that both immigrant doctors and nurses account for growing shares of health professionals working in OECD countries. In 2000-01 foreign-born nurses accounted for 11 percent which increased to 14 percent in 2010-11 across 22 OECD countries.

India is the major supplier of nurses to OECD countries after Philippines. The share of nurses from these countries has been further grown over the past decade. It is

estimated that 33147 nurses from India were working in OECD countries in 2016. Immigrant workers across OECD countries vary in the proportion of health personnel born abroad in 2010-11. The United States receives the highest number of migrant nurses in absolute terms. As high as 38% of Kerala´s nurses work in the US, 30% in the UK, 15% in Australia, and 12% in the Gulf (Lum, 2012). In the United States, 9 percent of the internationally educated nursing workforce is from India (Spetz, Gates, & Jones, 2014).

Although immigration of nurses have been increasing to other destination countries like Ireland, Australia, New Zealand and Switzerland. Currently, Kerala continues to be the leading supplier of nurses among all the states in India. The official figure of nurse outflow is not available; however, some of the best hospitals in India are experiencing mass resignations for the purpose of migrating abroad (David, 2005). Another report says 20% of current Indian nursing school graduates go abroad (Xu, 2003). This mass exodus of nurses inspired some of the hospitals to engage in "business process outsourcing" (BPO). These hospitals recruit and prepare nurses for foreign nurse examination. This gives immense opportunities to Indian recruiting agencies to operate in business of sending nurses abroad. New Delhi, Bangalore and Kochi have emerged as the three main recruiting hubs. Delhi-based agencies mushroomed in 2003 tend to focus on the U.S. market, while those in Kochi and Bangalore are mainly facilitating migration of nurses to other destinations like the Gulf countries, Australia, New Zealand, Singapore, Ireland, and the United Kingdom. In Delhi[27], over half the migrating nurses are from the south of the country(Khadria, 2007).

5.4.2 Indian Nurses in Australia

In Australia nursing is the largest health profession which constitute over half of the total Australian healthcare workforce (Ohr, Parker, Jeong, & Joyce, 2010). In 2015, Australia's total population has 33 per cent of people aged over 50 years (United Nation Population Division). There were total 43,980 nurses in the aged care, where 47.4 per cent of nurses are over 50 years. This workforce is also ageing as about 2 in 5 nurses and midwives were aged 50 and over in 2015 (39.0%) ("Nursing and midwifery workforce,"

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[27] Indian recruiting agencies that partner with the U.S. recruiters include large group such as Max Health Staff Western International University (Mody Private group), Escorts Heart Institute, the Apollo Hospitals, and Jaipur Golden Hospital (Khadria, 2007).

2015). It was predicted that Australia will experience a shortfall of about 85,000 nurses by 2025(Health Workforce Australia, 2014).

The reasons behind this shortages are seen to be low entry and low retention due to retirement; a lack of recognition and/or job satisfaction; job reorientation. Many developed countries including Australia is facing an ageing population, 13.5 per cent of Australians were 64 years old and older (ABS, 2010). There were over 360,000 nurses and midwives registered in Australia in 2015. Of this total, over 305,000 were employed in nursing or midwifery, working an average of 33.5 hours per week. Among those employed, 9 in every 10 nurses and midwives were women; 2 in every 5 were aged 50 or over (39.0%). Their average age was 44.4 years. The age structure of nursing workforce has undergone a major change. In 1986 census, 23.3% of nurses were aged under 25 years and 17.5% aged over 45 years which decreased to 7.7% for nurses under 25 years and 30.3% were over 45 years. This reflects the move to university-based training as well as the decline in the number of students undertaking nursing education.

The ageing of population together with increases in chronic diseases and longer life expectancy, is creating more consumer demand for health care and requires comprehensive involvement of different health professionals, especially nurses(Ohr et al., 2010; Stankiewicz & Margaret O'Connor, 2014). Report by AIHW states without a substantiate action shortage trend cannot be reversed (AIHW 2003).

The problem of shortage is further exacerbated by increasing workloads and patient ratios coupled with increase in nurses working part time[28](Holland et al 2012; Ohr et al 2009). The proportion in part-time work increased from 41.2% to 44.1% between 1990 and 1999.To compensate the loss of services with the shift to part-time work, greater numbers of nurses are required. The ageing workforce in health sector is the result of the expansion of the nursing workforce which had occurred during the 1970s and 1980s (The Australian Nursing Council Inc (ANCI). Those nurses are now in their 40s and 50s. It is estimated that over the next 10 to 15 years, 30% of the workforce will be

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[28]Nurses working less than 35 hours per week are considered to be working as part time.

contemplate retirement. As many of these nurses are approaching retirement, they may switch to part-time work.

To meet the growing demand for health professionals, Australia has been receiving a significant number of overseas born doctors and nurses. In 2011, more than half of General Practitioners (56%) and just under half of specialists (47%) were born overseas, up from 46% and 37% respectively in 2001. In comparison,one third (33%) of nurses in Australia were born overseas in 2011, compared with one quarter (25%) in 2001. Proportion of nurses born overseas who were recent arrivals also increased, from 9% in 2001 to 19% in 2011.

The latest data available i.e. 2015, of all employed nurses[29], 8703 (2.8%) received their initial nursing and midwifery qualification in India, following England (14,421 or 4.7%). Philippines considered a major player in the exports of nurses in global market surpassed by India, where it supplied with 6447 nurses (2.1 %). Moreover, the nurses from India have the lowest average age i.e. 36.5 years and the lowest proportion aged (5.8%) of 50 and over. However, Malaysia represents nurse and midwives with the highest average age (55.7 years) and the highest proportion aged 50 and over (74.5%) (see table 5.3).

Traditionally, the United Kingdom was the major source of Australia's overseas born doctors and nurses. In 2001, one in five (20%) GPs and over a quarter (29%) of specialists who were born overseas were from the UK, which by 2011 reduced to 13% and 22% for GPs and specialists respectively. However, for the same period share from India increased from 9% and 7% for GPs and specialists respectively to 12% of GPs and specialists. Similarly, the proportion of overseas born nurses from the UK decreased from around one third (36%) to about one quarter (26%) between 2001 and 2011. The proportion of overseas born nurses from India increased from 2% in 2001 to 8% in 2011, one of the largest proportional increases over this period (Australian Bureau of Statistics, 2013).

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[29] This is the data capturing employed nurses and midwives by their country of first nursing qualification for 2015 in Australia.

Table 5.3: Employed Nurses and Midwives: Country of first nursing qualification, Selected characteristics, 2015

Country of initial nursing qualification	Number	Proportion in Total
Australia	244421	79.589
England	14421	4.695803
India	8703	2.833893
New Zealand	7146	2.326899
Philippines	6447	2.099289
Ireland	2318	0.754793
Scotland	2240	0.729395
Other	2183	0.710834
South Africa	2075	0.675667
Other Europe	1683	0.548023
Other Asia	1413	0.460105
China	1360	0.442847
Zimbabwe	1355	0.441219
Canada	606	0.197327
United States of America	592	0.192769
Other Africa	262	0.085313
Malaysia	192	0.06252
Middle East	156	0.050797
South America	89	0.02898
Sri Lanka	88	0.028655
Oceania	49	0.015956
Not stated/inadequately described	6428	2.093102
Completed midwife survey/question	2877	0.936816
Total	307104	100

Source:(*Nursing and Midwifery Workforce*, 2015)

The table 5.3 shows that the number of employed nurses and midwives by the country of first nursing qualification. Thus, it does not include the individual of Indian origin who have obtained their nursing education in Australia. The table 4 below shows the migrant professionals in Australia who have obtained degree in their respective qualification. It can be seen that nursing profession shows that 29% nurses were migrant professionals up from 2001 where migrant nurses constituted 24%. A comparison of both table shows that nurses whose first qualification was from not from Australia comprises 20% of total nurses (table 5.3) while table 5.4 shows that in 2011, 29% of nurses were migrant professionals.

Table 5.4: Degree-Qualified Migrant Professionals in Australia in Key Fields

Occupation	2011 (%)	2001 (%)
Engineering	62	48
Computing	57	48
Medicine	48	46
Commerce/Business	43	36
Accountancy	53	36
Nursing	29	24
Education	24	20

Source: Hawthorne (2014)

The increasing shortages of nursing workforce have drawn attention of Australian government in recent years. As a quick solution to the problem Australia has been relying on recruitment of international medical graduates. In the late 1990s, Australia introduced policies to encourage international medical graduates to work in Australia. The next section will see those policies in details.

5.5. Australia's Policy Perspectives on International Nurse Recruitment

Given the shortages of health professionals in developed countries, they are recruiting health professionals from other countries. These other countries are mainly developing countries already taking the brunt of low density of health professionals with poor health indicators. The poor conditions in their own country pushing them to go for countries having better offer for them. But is there a part which also explains the deliberative efforts by these developed countries to pull health professionals from developing countries? Because presence of such kind of pull factors strengthen the movement of professionals from one region to the other. It is well established that the Australian health sector has benefited from increased migration of nurses over the last few decades. In light of continued shortage with ageing of population and worker in the health sector, migration of nurses is also expected to grow and supplements the nursing workforce. This section therefore tries to see the immigration policies adopted by Australia and its subsequent effect on the immigration of nurses.

The Department of Immigration and Multicultural Affairs maintains the Migration Occupations in Demand List (MODL). As at May 2001, the list contained six nursing categories: nurse managers; nurse educators and researchers; registered nurses;

registered midwives; registered mental health nurses; and registered developmental disability nurses.

5.5.1 Post War Resettlement

'Commonwealth of Australia' established itself as a federated self-governing member of the British Empire, after Australia's six colonies came together. Commonwealth then started taking the responsibility for immigration policy, though the States continued to administer their own immigration programs. Through the Immigration Restriction Act 1901 Australia eliminated non-European migration. This formally implemented as 'White Australia Policy' was accepted by most of the communities. The said policy included the 'Dictation Test', which was a kind of tool to control certain intakes by requiring them to pass a written test in a European language, with which they were not necessarily familiar.

During early 19 century, a small number of Indians as convicts were transported by the British colonial government. Others arrived to work as labourers in agriculture, hawkers and goldfields in Victoria in 1843. They mainly belonged to Sikhs and Muslims community hailing from the Punjab region in northwest India. Woolgoolga, a town 500 kilometers north of Sydney, became an early center of Sikh migration to Australia. However, general population of Australia did not support recruitment of Indian labourers on a large scale.

Nevertheless, as both India and Australia were British colonies, British took Indians to Australia. British took Indians not only to Australia but also to South Africa, Mauritius, Trinidad & Tobago, Fiji. By 1901 there was almost 1800 Indian born population in Victoria. The introduction of the White Australia Policy further restricted immigration from India. Thus in the post war period there were very few Indians in the Australia.

During 1950 and 1960s migration was the national priority by Australian government. The first Minister for Immigration, Arthur Calwell, declared that Australia

must "populate or persish"[30]. This stance was based on the belief that Australia lacks enough people in defense for itself against enemies in the northern region which were more populated (Betts, 1988). In 1947 with population of Australia standing at 7,579,358 people, mass immigration program resulted in settling more than 1 million migrants in Australia over next 15 years. The Revised Migration Act 1958 abolished this controversial Dictation Test and introduces a simpler system of entry permits.

Following relaxed restrictive immigration policies during this period, and simultaneously India's independence, lead to a number of Anglo-Indians and India-born British citizens immigrating to Australia. There 1,954 Indian settlers arrived during 1945-1947 which almost got doubled next year (3,786). However, the number of Indian settlers started declining then until 1964 when only 800 Indians arrived.

5.5.2 A New Emphasis for Immigration Policy 1966–1977

However situations changed in the early 1970s. Rapid population growth led to cut in migration target under the New Labor government led by Gough Whitlam. Government directed Department to reduce the planned migration quota from 170,000 to 140,000 in 1971. With economic downturn of 1974, concern over rising unemployment increased which led to further cuts in planed intake of migration. But in late 1975 with the change in government led by Malcolm Fraser, there was restoration of migration program as a national priority. During this period the earlier changes were reversed and to reflect its multiculturism, the Department of Immigration was renamed as the "Department of Immigration and Ethnic Affairs". All the functions related to migrant settlement was handed over to The 'Ethnic Affairs' wing of the new department. With the relaxation of Australia's restrictive immigration policies from 1965, more number of Indians arrived. The number of Indian settler increased from 1,196 in 1965 to 2048 in 1975. These arrivals also include doctors, teachers and engineers who initially accepted work in regional Victoria.

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[30]The Federal Department of Immigration was formally established by Australia's new Prime Minister Ben Chifley who sworn into office on 13th July 1945. Ben Chifley with the newly appointed Minister for Immigration Arthur Calwell, an initiative called 'populate or perish' was championed.

5.5.3 Development of Population and economy was the major focus (1978-1995)

The major focus of Australian economy during this period was making Australia a better place for migrants. Total population passed 15 million during 1978–1984.A range of measures were implemented by the Settlement Services Branch to improve the services for migrants. These services included more relaxed criteria for family reunion, made migrants selection relatively more steady in approach. Additional educational support was provided to migrant children. In addition to this, for migrants to access social services better most state capitals various migration centres were established, with multilingual officers for any assistance required. By 1981 Australia's population reached 15 million. There was focus to attract migrants who would be a gain to Australia's economy. Similar immigration policies continued in 1983 when the Labor government led by Bob Hawke came to power.

The end of the 1980s was the welcome period for migrants. Economy became is a Major Focus of Immigration Policy particularly after 1985. To facilitate short-term entry of executives and specialists the 'Skills Transfer Scheme', was introduced. Migrants not only could access welfare programe specifically targeted to them but also other Australia's welfare programs on health and education universal for all. Between 1984 and 1986, the Department processed visas of 1.3 million people entering Australia over the span of only two years. Though there were rising concerns from trade union related to competition brought by migrants in labour market. Persons living in Australia temporarily (even including illegals) based on humanitarian grounds were now able to appeal to courts to gain permanent residence[31]. However, during that time majorities of voters did not support the favours to migrants or commitment to multiculturalism as showed by opinion polls (Betts 1999). There were also increasing concerns over ageing population and declining fertility rates. To meet the growing challenges, complexity and scope of the Migration Programme, Department refined its functions and processes. The focus was again on attracting migrants with skills, business expertise and capital. Earlier

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[31]Courts proved to be responsive to such appeals based on rights drawn in part from international agreements, including the International Covenant on Civil and Political Rights (of which Australia was a signatory). This made the Immigration Department realized that a now court has much control over the migration selection criteria (R. Birrell, 1992).

placed quota of 84,000 for the Migration Programme was increased to 115,000 in 1986–87. This was done given the economic contribution by entrepreneurial and skilled migrants, there was surge in the number of skilled migration during the 1980s under the support of Hawke government (Reich, 2016). In 1988, Report of the Committee to Advise on Australia's Immigration Policies (CAAIP) recommended reforms. The major reform included the division of the Migration Program into three streams – 'Family', 'Skill' and 'Humanitarian'. Moreover, migration regulations that codified the requirements for visas were introduced.

Ageing population and declining fertility also influenced the planning of the Migration Program. There were expansions of opportunities aimed for business migrants and young applicants with English skills, work experience or university education. The planned Migration Program reached a peak of 145,000 for 1989–90 which reduced to 126,000 in 1990-91. By 1990-91 visas under this category peaked at 35,000 and became the largest component of the migration program. New arrangements for students entry processed to develop an export oriented industry new arrangements. The planning level of Migration Program (1992–93) was further reduced to 80,000. Labour market and English proficiency were two main issues that shaped the migration program. To sponsor limited numbers of 'Business Skills' migrants, two new visa classes were introduced to provide for State and Territory Governments. Now focus of the Department of Immigration and Ethnic Affairs was to balance the entry of bona fide visitors/migrants and control of entrants not meeting the requirements of immigration law.

The number of Indian migrants increased in this period. There were total 907 arrivals from India which increased to 3,908 in 1994-95. Period 1985-95 witnessed a remarkable growth in the arrival of Indians where average arrivals were 3,463 per year.

However, recession during 1980s and 1990s made economic conditions less favorable to migration, posing threats to jobs and may turn to be a burden on treasury. In response to this major policy changes took place. Administrative measures had been put into place for the feasibility of migration control measures in late 1990s. Because of a tightening labour market, there were substantial cut in overall admissions in the 1990s. Occupations listed in the 'Priority Occupations List' used in the selection off points tested migrants, reduced from eleven occupations to four. Australia reduced its intake of

permanent migrants by half from 120,000 per year to around 60,000 between 1990 and 1995. All entry on permanent visas dropped sharply to 80,000 in 1998-99 from 124,700 in 1988-89.Even social security benefits were halted by Labor on the payment of social security benefits in 1994, for the first six months of residence for all migrants excepting entrants under humanitarian categories.

5.5.4 Migration Planning Becomes More Focused on Labour Market Issues 1996 2000

This period was dedicated to fulfill the labour market demands in Australia. There were reductions in the planned Migration (non-Humanitarian) Program from 82,500 to 74,000, accompanied by increase in the skilled intake from 29 per cent in 1995–96 to about 38 per cent in 1996–97. More emphasis was given to the Skill stream. To strengthen the skill category into Australia, 52 per cent of Migration (Non-Humanitarian) Program were in the Skill stream. This involved the creation of a new 'Skilled-Australian Linked' category.

Reduction in the intake of permanents that persisted between 1990 and 1995 was even extended for two years in 1996 by Coalition government with the Labor support. In 2000 this halt was also applied to New Zealanders. The Department of Social Security, put user pays basis fees on migrants services, adult Migrant English training courses. Finally, the strong commitment to multicultural activities waned which was seen as a mark of Labour Government in 1980s ended.

The 'Employer Nomination Scheme' and Business Skills categories were amended to increase Australia's competitiveness for these migrants in an environment of globalisation of the workforce. With the changes in policy in year 2000, overseas students who have studied in Australia could obtain permanent residency. Visa issues for students, visitors, working holiday makers and long-term skilled business entry were increased by approximately 10 per cent. In 2001-02, the highest numbers of skill visas around 54 per cent (45,500) were placed in the Migration (non-Humanitarian) category. Changes in the immigration policies have not only changed the quantity but also the quality. There were huge changes in the skill composition of migrants by 2011. Out of total engineering residents, 62 percent of residents were overseas born, compared to 53 percent of accountants, 57 percent of information technology (IT) professionals, 29

percent of nurses and 47 percent of doctors. During these last two decades those born in China increased more than tripled, reached almost to 450,000 and the number of Indian has more than quadrupled to almost 400,000. In 2013, China and India were the third and fourth contributor of overseas born population in Australia respectively after the United Kingdom contributing over 1.2 million, and New Zealand around 600,000 (ABS Migration, Australia).

A total of 128,550 skilled category permanents arrived in 2014-15, including 48,250 migrants who were employer-sponsored, 28,850 were state or territory nominated arrivals and 43,990 independent migrants. More arrival on temporary basis (up to 74 percent) is the most striking feature of migrant pattern that Australia is recently witnessing. In 2013-2014, a total of 38,130 permanents skilled migrants entered as primary Applicants[32] (Pas), whereas the number of 457 Visa temporary migrants directly sponsored to pre-arranged work was 108,870 (Hawthrone 2013) . Increase in the temporary workers in the last decade is the greatest change for the Australian economy in the first five postwar decades where Australia avoid temporary migrants and emphasized permanent settlement (Hugo, Rudd and Harris 2001, Birrell 1998, Hawthorne and Richardson 2006).During this period the number of Indians increased but the increase was more towards skill category. In 1996-97 almost 65% (2098) arrivals were in skill category which increased to 85% (32,884) in 2016-17 (see figure 5.3).

Figure 5.3: Indian settler in Australia by streams

Source: Australian Bureau Statistics

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[32]Here partners and children who are typically counted within "the migration unit "are excluded.

During 2001-05, total of 14233 nurses including both degree and diploma arrived and this number increased to 26348 for the period 2006-11, reflecting an increase by 85% in the arrivals.

The detailed analysis of Australian immigration policies clearly explains the need of the economy and resultant adaption and changes in the immigration policy. It is true that India has many factors that motivate or push nurses to migrate to other countries. But it is also true that Australia need this support from other developing countries to run its economy. We have seen through the policy analysis that any need in the Australian labour market was supported through the change in the immigration policies. Thus in case of Australia their own need of the economy pushing them to adopt pull factors to get support from the other countries. Now those countries which have those push factor respond to such labour needs and support them providing labour. On the other hand developing countries they have their own need which is being supported by developed country. This we may call *need support* approach, where i is any country that need support from other countries in providing labour. Here in the first case i is Australia that need labour and developing countries are providing support to its economy. The requirement of Australia for labour has gone through a number of transitions. To protect its economy from the strong neighbor countries during 1950s Australia's immigration policies were determined to pool migrants irrespective of what skills they possess. There was a hoarding at Australia house in London displaying a ship having written that £10 takes you there (Australia) with no fee for children at all (DIBP, 2017).When Australia attained enough level of population the focus shifted to skilled population when more number of skilled migrants arrived. But during this time only courses like hairdressing and cooking became back door to gain permanent citizenship in Australia. This resulted into the situation of skill mismatch where the skills supplied by migrants were not matched by demand in the labour market. This again called for changes in the immigration policies where migrants with specific skills (those needed in the market) were given priorities in visa approval. Here developing countries play the role of supporting actors, where their own pushing conditions (lower salary, lack of job opportunity poor working conditions, social and political environment) make them to support the need of developed country. The other side of i need support approach takes

developing countries at the side of need and developed countries at the side of support. It is true that developing countries have are struggling with many needs in the economy and labour in these countries find it very difficult to cope up with the situation. In such scenario opportunities provided by developed countries like job opportunities, higher salaries, better working conditionswork as a support to need to need of labour in developing country. Therefore, the approach *need support* is a mutual approach that explains the movement of labour from one country to the other taking the conditions in host country beyond the pull factors.

Figure5.4: Need-Support Approach (Australia-India)
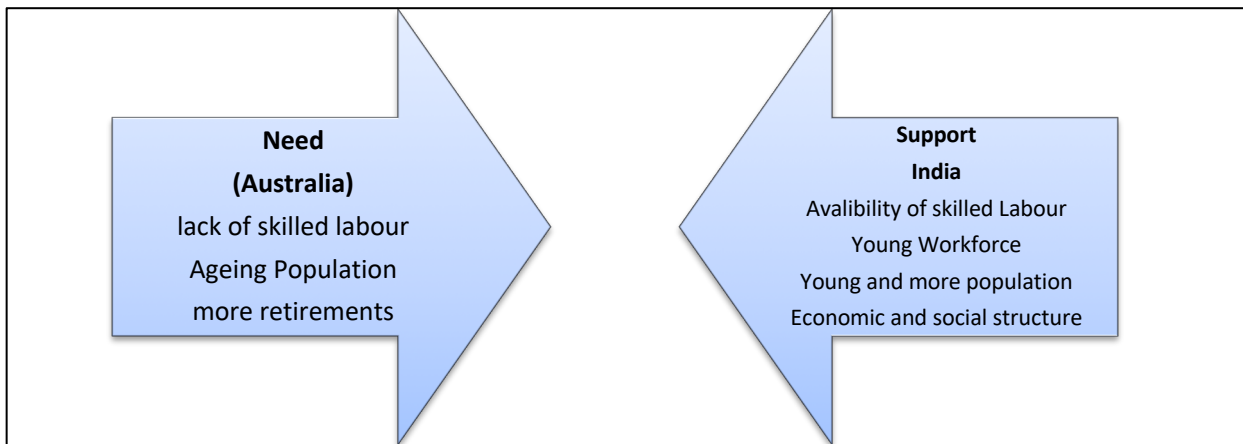
Here, left arrow depicts the need of the Australian economy. Australia's need is supported by countries sending labour to them (see figure 5.4).in our case it is India sending nurses to Australia. The flip side of approach takes any developing country on the need side.These needs can be seen in the form of lower salary, lack of job opportunities, poor working conditions and political & social structure (for instance India has diverse state with many caste, sometimes politics and social structure defined by these boundaries not by the welfare of the general society). See figure 5.5

Figure 5.5: Need-Support Approach (India-Australia)

Need
(India)
Lower salary
Lack of job opportunities
Poor working conditions
Political & social structure

Suppor
(Australia)
Higher salary
Job opprortunities
Better Working Conditions
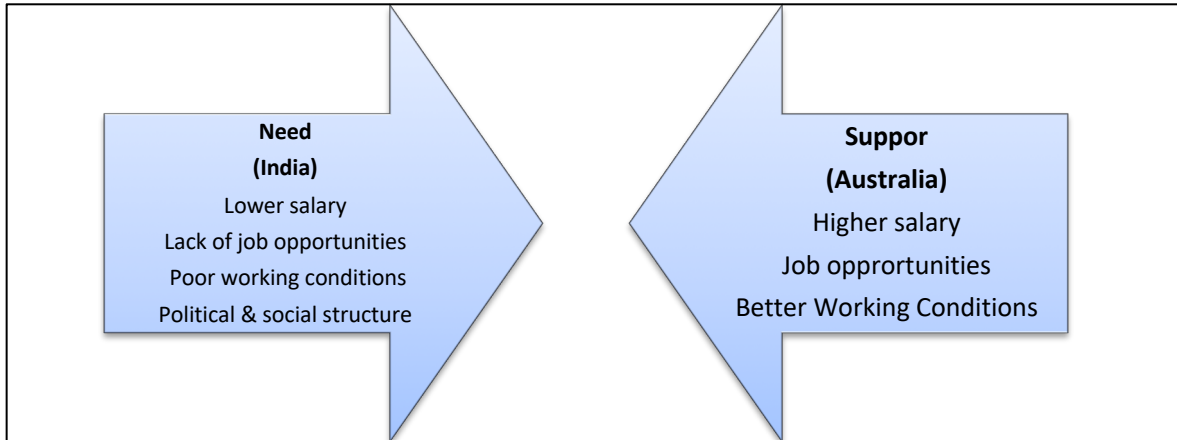
5.6 Conclusion

Theoretical and empirical studies both have recognized skilled immigration as a driver of economic growth. Therefore, it becomes imperative to focuses attention on policies that manage the skilled migrant intake. Australia's immigration policy having started from white Australian Policy in 1901 have now converged toward so-called hybrid systems where supply-driven independent migration and demand-driven employer sponsored migration play significant roles. The policy analysis suggests that rates of employment amongst skilled migrants category increased significantly by 29% in 1995-96 to 68% in 2017-18. During this period the number of Indians increased but the increase was more towards skill category. In 1996-97 almost 65% (2098) arrivals were in skill category which increased to 85% (32,884) in 2016-17.

From the source country's perspective all these changes in migration policies are opportunities for skilled migrants to apply for jobs in Australia. Given the scarcity of jobs in their country, poor working conditions and bleak chances of career growth particulary in nurse sector in India, nurses support their needs by providing them their skills while getting a better job with a higher salary in return. This system where migration is the need of both the countries is named as *need support approach*. The requirement of Australia for labour has gone through a number of transitions. To protect its economy from the strong neighbor countries during 1950s Australia's immigration policies were determined to pool migrants irrespective of what skills they possess. There was a hoarding at Australia house in London displaying a ship having written that £10 takes

you there (Australia) with no fee for children at all (DIBP, 2017). When Australia attained enough level of population the focus shifted to skilled population when more number of skilled migrants arrived. But during this time only courses like hairdressing and cooking became back door to gain permanent citizenship in Australia. This resulted into the situation of skill mismatch where the skills supplied by migrants were not matched by demand in the labour market. This again called for changes in the immigration policies where migrants with specific skills (those needed in the market) were given priorities in visa approval. Here developing countries play the role of supporting actors, where their own pushing conditions (lower salary, lack of job opportunity poor working conditions, social and political environment) make them to support the need of developed country. The other side ofneed support approach takes developing countries at the side of need and developed countries at the side of support. It is true that developing countries have are struggling with many needs in the economy and labour in these countries find it very difficult to cope up with the situation. In such scenario opportunities provided by developed countries like job opportunities, higher salaries, better working conditions work as a support to need to need of labour in developing country. Therefore the approach *need support* is a mutual approach that explains the movement of labour from one country to the other taking the conditions in host country beyond the pull factors.

Chapter 6 : Education, Migration and Labour Market Integration

6.1 Introduction

Over the recent decades opening of borders have shortens the distance between countries in every domain like cultural, economic, political and social. Markets for goods and services, labour and capital have become integrated with more and more sectors joining the global economy. This transition is mainly driven by factors like lower tariff barriers hence diminishing transaction and trade costs due; technological development which made transport and mode of communication cheaper; and the digital revolution which significantly decreased the costs of both processing and transmitting information (OECD 2006). These developments have not only strengthens the trade links between the countries but have also made travel cheaper thus inducing people to short- and long-term mobility and migration. In 1960, about 100 million people were international migrants, by the year 2000 the number had increased to 155 million which further increased to 244 million in 2015(Castles *et al.* 2014; UN DESA 2016). But migration is not a self generated and perpetuated phenomenon. Demand and requirement of the host country's economy is a major factor responsible for migration. Migration theories mainly explain migration from the gain/motive of migrant and as natural consequences of globalization and capitalism.But theories have not taken need of the host country as a major determinant of migration flows. The demand for goods and services and structure of economy play very important role in determining the kind of labour required in the country. In such situation the education market, labour market, goods and services market facilitate the migration flow. These markets do not work independent to each other but linkages between these markets govern the flow between two countries. For instance requirement of skilled labour can be drawn from the pool of students looking for better education options. Indeed many western states have increasingly sought to attract international students, as part of a strategy to fulfill demand in the labour market. Stronger the linkages between two countries stronger will be the migration flow from one country to the other. Immigration polices play facilitating role to establish these linkages.

This chapter is an effort to see the inter-relation between need and demand for nurses in host country and education market and labour market of both home and host country in determining migration of nurses. The chapter also sees the role of immigration policies of host country and emigration policy of home country in facilitating the migration flow of nurses from India to Australia.

The second sections deals with the factors responsible for labour demand in a country are discussed. As the focal point of the study is nurse migration this section also includes the determinants of demand for nurses. The third section explains how this demand for labour generated in country is linked to interrelation between domestic and foreign market for nursing services. The role of migration policies in facilitating labour migration is discussed in section four. This section explicitly analyzesthe role of immigration policies adopted by Australia to attract labour from other countries and India's emigration policies on migration of its skilled labour.

6.2 Economy and Skilled Labour Demand

The migration pattern between a developing country and developed country is a complex scenario where factors are intertwined. Migration of skilled labour from developing to developed country raised the basic questions like: what determines the flow of the migration? What kind of skills are to be emigrated? Do education market and labour market have any role to play in facilitating migration? How migration policies are being made? All these questions need thorough examinations of each education market; labour market. Literature mainly explains migration on the basis migration theories developed by researchers in various streams like economics, geography and sociology. These theories mainly based on the level they focus on; micro level, meso-level and macro level. Theories that explain migration through micro-level explain migration taking individuals and household as basis. Migration is seen as a strategy to lead a better life either through monetary or non monetary gain from individual/family perspective. Meso-level migration theories explain migration taking intermediate level as decision unit i.e. social networks. These networks may provide prospect migrants the necessary information which help them in settling into a foreign country and even help in finding jobs also. Macro-level theories focus on decisions from an aggregate level. Migration

systems, groups of countries and communities connected by migration play crucial role in migration flows. Theories also see income differential and employment opportunities as major determinants of migration flows. However Lee's work on migration as a consequences of push and pull factors in the home and host countries respectively has also been used extensively in further studies.

But the important point here is that these theories try to explain the given pattern, ways and routes of migration by fitting them in a given structure but do not explain what determine the flow of migration prior to the structure of their economies. What create those conditions that create demand for migrants and migration to take place? The next section deals these questions.

6.2.1 Demand for Nurses

In economics, labour is seen as one of the factor of production other being land and capital. So to produce goods[33], factor of production are combined in a certain way using input. Thus, the demand for labour is determined by the amount and type of commodities produced. However, labour is not a homogenous factor of production. Broadly labour can be divided into two categories; skilled labour and unskilled labour[34]. Even within the category of skilled labour possession of different kind of skills makes one labour distinct from the other. For instance a mechanical engineer is different from a jewellary maker. Even with the labour having same skills one can distinguish on the basis of experience and expertise one holds. The requirement of skilled or unskilled labour depends on the kind of goods or services to be produced. In general, greater amount of unskilled labour are required for production of goods and services in the primary sector, while more skilled labour are required for the production of goods in secondary and tertiary sector. A worker acquires skill by investing in education and training and thus a skilled worker can be seen as a produced factor of production. The unskilled labour or ordinary labour is a natural factor of production which simply comes from the population growth (Binod Kumar Khadria, 1982). Demand for labour, either skilled or unskilled, in

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[33] Here production of goods is not only physical items but also include services like haircutting, patient care by nurses etc.
[34] Apart from skilled and unskilled labour, semi skilled labour may also included but to keep the discussion simplicity that category of labour is excluded for the time being.

any sector (primary, secondary or tertiary) driven by the quantity of goods and services to be produced. But only demand for goods and service is not sufficient to determine the total demand for labour. The production process by which input are transformed into output is another factor crucial for the determination of quantity of labour demanded in the economy. Our focus of study is nursing services thus we will look at the total demand for nurses. Directdemand for nurses comes from three domain;private demand from individuals, private hospitals/nursing homes and government hospitals/nursing homes including various health schemes run by government[35]. Lately health sector have been experiencing increase in demand for nurses mainly because of factors like; ageing population, increases in chronic diseases, longer life expectancy and crisis in attraction and retention of nurses. The second factor which impacts demand for nurses in home and foreign countries is the process of production. By the process of production of output we mean how nurses are being utilized for the production of basic health services. In some cases the nurses are employed to provide basic treatment and in some other cases they do simple assistance and clerical work. Some hospitals fully equipped with equipment with advanced technology, increases productivity of nurses thus less number of nurses can deliver the required services.

6.2.1.1 Production Function and Technology

Production function explains how inputs are transformed into output using given factors of production. Mathematically production function can be expressed as below:

$Y = f (K, L, T)$

Where;
Y= Output
K= Capital
L = Labour
T= Technology

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[35]Though hospitals either private or government estimate their demand for nurses on the basis of population, but here we are not taking the endogeneity of demand from all three sectors. The purpose of the study is to see the determinants of demand for nurses for which we are seeing only sources of demand from where nurse demand generates.

In case of our study output (Y) is nursing services and labour is the nurses. Capital in case of health services is vast including land, hospitals, laboratories, ambulances etc. and technology is the kind of medical apparatus and tools used.

In the production function the kind of labour which is nurses in our case and technology play very important role in the delivery of health services, which in turn determine the demand for nurses. Both these factors are discussed below;

6.2.1.2 Labour Productivity

Productivity is the measure of effective use of resources within an organization, firm, industry or nation. The classical definition of labour productivity is the number of output units produced per unit of labour. More productive labour means more output can be produced using same level of labour *ceteris peribus*. From the macroeconomic point of view, more productive labour facilitates better implementation of technological innovations, increases capital earnings and hence facilitates development. Labour productivity augmentation leads to lower unit costs of production and decreases marginal cost of production, enabling firms to trade higher quality commodities at lower prices. Labour productivity can be enhanced through acquiring more skills, experience, learning by doing, better health, good climatic conditions and advanced technology[36] and many others. It can be seen that output per worker in the United States is about 10 times higher than it is in India and more than 50 times higher than in the Democratic Republic of Congo (DRC)(Todaro & Smith, 2011). In field of nursing productivity is very important. As if the nurse workforce is more productive than lower number of nurse may do the same work, which in turn reduces the demand for nurses. However, measuring nurse productivity is near to impossible task. Traditionally productivity in hospital nursing units can be measured by hours per patient day (HPPD). This can be simply obtained by dividing total working hours of nurse divide by total number of days patients admitted in the hospital.

$$HPPD = Total\ Hours\ /Patient\ Days$$

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[36] Here increase in output solely by technological advancement is not taken only those cases are considered where improvement in labour productivity as a result of technological progress increases the output.

There are serious limitations while measuring a nurse productivity using this measure. Apart from difficulty to get data to such disaggregate level, there are other problems like lower value of HPPD reflect more productivity of a nurse. But if a patient has serious disease then numbers of days in the hospital will be more even if the best care is given to him. Along with nurse care other factors also play crucial role in cure of a disease like doctor's treatment, hospital's quality, environment, availability of drugs and patient's mental and physical strength to fight diseases. Thus the endogeneity of all these factors together make measuring nurse productivity very complex.

Another proxy that can used to measure nurse productivity can be obtained by salary of nurses. However, salaries of workers differ state by state, kind of hospitals (private or government), area (rural or urban). Same nurse may get more salary in a private hospital in metro city in India as compared to private hospital in a village even requiring more working hours than the former. However,in absence of other measure income per worker is often used as a measure of productivity. But in nursing sectorgross national income (GNI) is not available. Using expenditure in place of income nurses productivity can be calculated. But only total health expenditure in health sector is available. With the available data only output per worker in health sector can be calculated.

Figure6.1:Outper per worker in the Health Sector
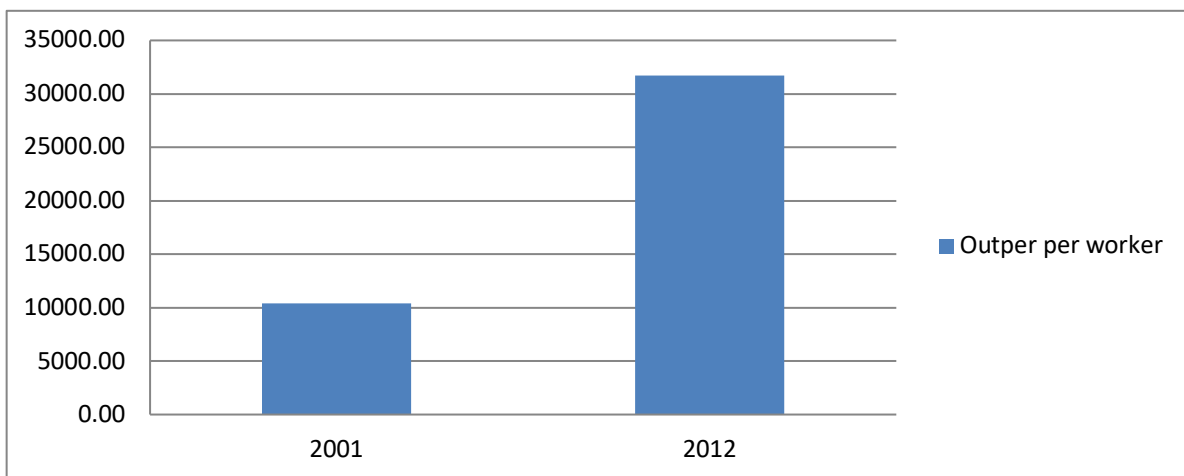
Source: Author's own calculations using World Bank Data

This labour productivity reflects productivity of all health workers including doctors, nurses, midwives, health visitors and all others. So here productivity for labor is average productivity for each labour irrespective of their skill in the health sector. Though it can be seen that the productivity of labour has increased over time (see figure 6.1).

6.2.1.3 Technology

Technology used in production can be defined as the purposeful application of information in the design, production process, and utilization of goods and services[37]. The role of technology is also explained in neoclassical growth models; Solow- Swan explains that the long-run growth rate of output is based on rate of population growth and the rate of technological progress. These models consider both these variables as exogenous variables. However, the endogenous growth model extends the neoclassical model by treating technical progress as endogenous variable. The endogenous growth models have been developed by Arrow, Romer and Lucas, among other economists. In endogenous growth theory, the rate of growth of technology positively related to the rate of growth of capital in the economy.

Technological improvement increases marginal efficiency of capital, as with advancement in technology new advanced method of production arrives. For instance innovation more advanced operating system in existing computers improves the efficiency of existing computers. Thus using same level of capital more output can be delivered. Sometimes, arrival of more advanced technology make existing machines obsolete (for e.g. typewrites replaced by computer). Schumpeter referred to that as "creative destruction", which he sees as an important and inevitable part of capitalism (Schumpeter, 1994).

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[37]In a market, firms supply goods and services expected by the firms and consumers. For e.g. engineers developed driverless cars/gearless cars for those who find it difficult to drive cars /cars having gears (sometimes it's ironical as human themselves are inventing those goods which are replacing them only). Lately successful invention of artificial intelligence (IA) Sophia has proved IA's future bright. Even in case of services, online shopping and online coaching have made position in the market.

In field of nursing technology plays very important role in determining the stock of output delivered. With the advancement in technology healthcare is getting influenced every day. Nurses can now use online charting systems, maintain and update health records online, schedule care and more. Earlier nurses have to write patient information manually but technology in nursing has made it easier to keep patient information efficiently recorded and stored.However, technology and labour productivity are not independent to each other. Technological advancement increases labour productivity at the same. For e.g. earlier driving test for learners manually on paper was a time taking process with the possibility of errors but its replacement with the online test made it less tiresome, less time consuming and error free. Technological improvements or innovations cannot happen arbitrarily. Technological progress developed out of research and development (R&D) activities, where more skillful and productive labour are required. Therefore a two way relationship can be seen where productivity of labour promotes technology and improved technology further augments labour productivity. Technological advancement is impossible without human capital engaged in the activities of R&D. However, other associated factors are equally important in technological progress like expenditure on R&D activities, existing stock of human capital in the economy, policies and economic environment regarding R&D activities etc.

6.3 Linkages between domestic and foreign market for nursing services

In nursing sector demand for nurses drawn by population's demand for health services and units (hospitals, primary healthcare centers, community health centers, dispenciers) providing those health service. Those engaged in the health/hospital services demand medical professional by giving signals in the labour market. These signals can be seen in the form of vacancy advertisement in the nursing area, offering higher wages to attract more nurses. When a country's labour market falls short to supply sufficient labour (even after increase in wages) then country looks for labour in the other countries. Thus, foreign country passes signals to attract labour from other countries. This linkage of demand for labour in foreign country and labour market of home country can be seen in figure 2 where box 1 shows the demand for labour (nurses) which depends on demand for final goods and service which is nursing services in our case. Box 2 represents signals in the labour market in form of increasing wage and easier entry norms to supply those skills.

These signals translated in education and labour market as represented by box 3 and box 4.

Required labour will be drawn from the labour market for those created vacancies. If the existing stock of labour in the country is not sufficient to fulfill the demand[38], being supplier of skills, role of educational institutions become vital. On the demand side, individual interested in new job opportunities in the labour market will demand skills. As educational institutes supply skilled labour in continuum, newly skilled labour will be absorbed in the labour market. Thus box 2 representing demand for labour has linkages with the education market also (box 4). However, if the skills are in much shortage institutions try to supply skills either through expansion in the existing institutes or establishing new institutes. As imparting skills is a time taking process there may be shortages of skills at least in short run. However, in long run education institutes will supply those skills and skilled labour will be available in the economy. Thus equilibrium would be attained according to domestic forces of demand for skills and supply of skills (see the dashed line separating two economies from each other). But the era of globalization and reduced cost of transport, countries from different part of the world are open to each other. Demand for labour can be fulfilled by drawing labour from another country. This is represented by linkage between labour market of one country (box 3) and labour market of another country (box 3A).

Thus, signals generated for labour demand in one country will transferred to other country's market. This leads to migration of labour from home country to another country. Labour from home country migrate to foreign country for better salary and better working conditions. This is particularly true for nurses, as nurses in India migrate because of the low salary, poor and hard working conditions, low career prospects and less respect in the society. This movement is represented in the diagram through linkages between demand for labour in a country (Box 2) with the labour market of another country (Box 3A). when the economies are open, individual not only apply for jobs but may also apply for education abroad in view of quality education, better employment

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[38] Assuming even after increase in the wages available stock of labour within the economy is not sufficient to support the demand.

opportunities in own country with foreign degree or permanent settlement in the host country after completion of education. We have seen the literature where prospects of migration lead to investment in particular skills that increase the chances of migration. Thus, if an individual finds it difficult to get employment in its own country which is generally true in case of developing countries it will lead to investment in skills as per the demand in labour market of foreign country. The individual may invest in those skills either in home country or in foreign country where the demand for labour persist or even to some another country. Thus, education market of home country not only supplies skills to its own country but also to foreign country. This is represented in the diagram through link between education market of home country (box 4) and labour market of foreign country (box 3A). Sometimes government in foreign country makes policies to attract student to study in their country in view of contribution to economy by students through tuition fee, living expenses, or as a potential source of skilled labour after completing education. Therefore, opening labour market borders by a country not only integrates labour markets with other countries but automatically integrates its education market. This is represented in the diagram through linkages between Box 2 (representing demand for labour) and Box 4A representing education market of another country.

Figure6.2:Linkages between Domestic and Foreign Market for Nursing Services
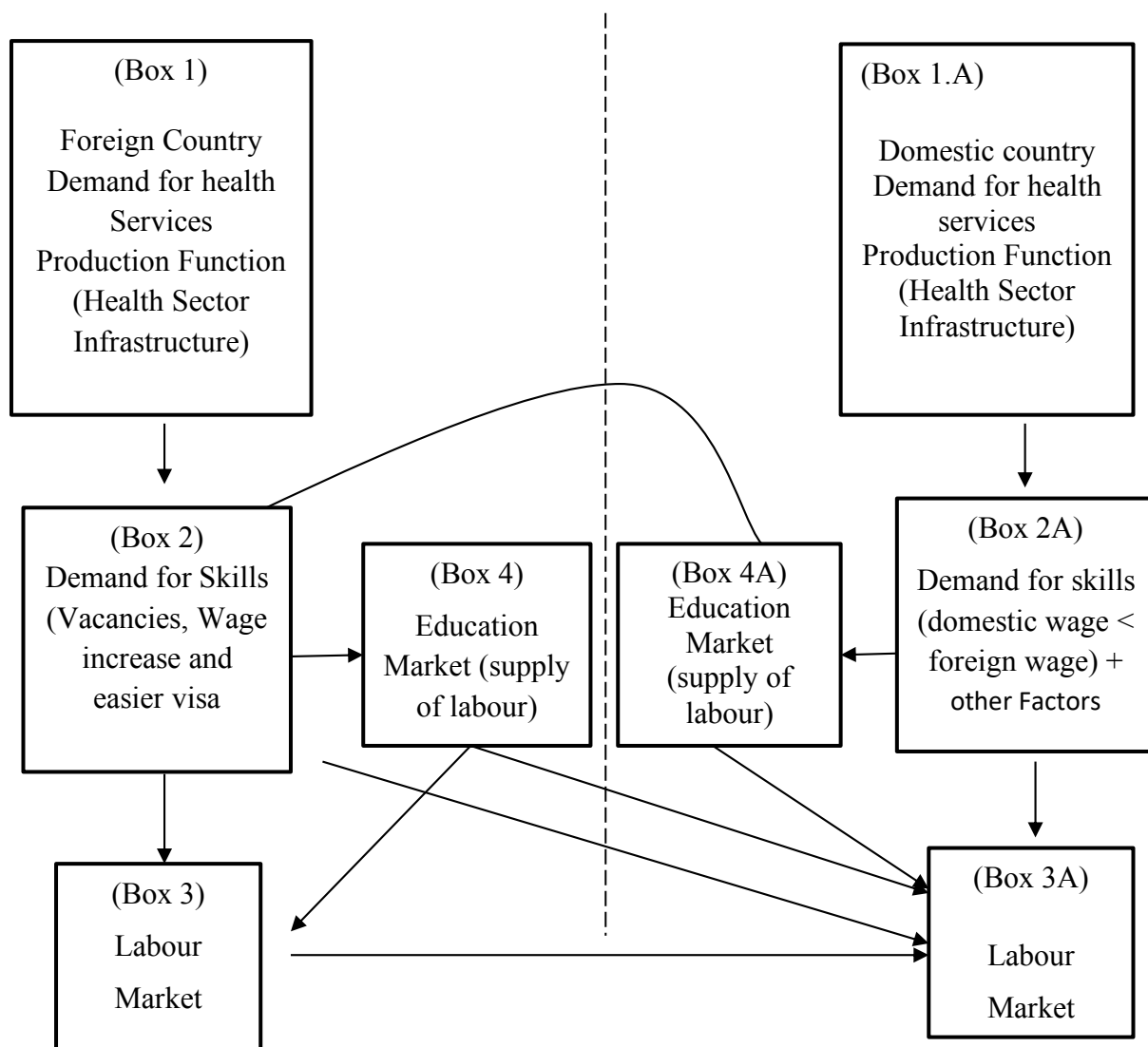
Source: Author's own illustration

Thus the open economy integrates both labour market and education market of two countries. This integration occurs with the movement of labour and students from one country to the other. The volume of the movement i.e. the number of migrants depend, to a large extent on emigration and immigration policies of home and host

countries respectively. The next section will look into integration of labour market and education market of India and Australia.

6.4 Immigration Policies of Australia

Immigration is a defining feature of Australia's economic and social life. From championing "populate or perish", to attracting migrants from different parts of the world through tailored immigeraton policy, immigration policies have shaped the country's status, and influenced its development. In this regard policies meant to attract skilled labour play very important role, particulary policies in context of overseas students, which considered as a potential source of skilled labour. Overseas students have played crucial role in shaping Australia's economy. The session therefore tries to look at the policies adopted by Australia to attract labour and students from other countries and attempt to see the nexus between education market and labour market of countries involved in student mobility. Given the vast changes in Australia's immigration policies, these policies in relation to student mobility can be divided into three phases:

1. A period of support (1950-1980)

2. 'From aid to trade' (1980-2005)

3. Period of Skill mismatch (2005 onwards)

6.4.1 A period of support (1950-1980): Under the Colombo Plan[39], Australia provided stipends to foreign students through a foreign aid program. These students, having gained their degrees and been exposed to Australian values, culture, and society, would take their newly acquired knowledge and skills back home and contribute to the growth and development of their country.

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[39]Colombo plan was introduced in the meeting of Commonwealth Foreign Ministers held in Colombo, Ceylon (Sri Lanka was earlier named as Ceylon), in January 1950. It is considered as a centrepiece of the Australian foreign policy, aimed at strengthening relationships with Asia. This was initiated by Australia and Sri Lanka to provide assistance to developing countries in South and Southeast Asia. The Colombo Plan played a major role in improving stability in the region. Original signatories were Australia, Canada, Ceylon, India, New Zealand, Pakistan, United Kingdom, Malaya and North Borneo, but later the membership expanded to 25 countries.

This assistance given to overseas students during the 1950s and 1960s helped to add an additional source of effective demand for Australian university education. The period of the 1960s proved to be a period when expansion of the universities was as at its highest, growth that could not have occurred without the substantial intervention of the Commonwealth Government. Growth in student enrolments in the late 1950s and early 1960s reached up above ten per cent per annum.By 1985, some 20,000 students had been trained under the Colombo Plan.

6.4.2 'From aid to trade' (1980-2005): This period saw a shift in the approach of policies towards education. Under Colombo plan many students were allotted scholarships for their education. But this period shifted focus from aid and adopted a market-based approach where education was sold to students who were ready and able to pay. Having paid for their education, foreign students were generally not permitted under the migration laws to remain in Australia after completing their studies. But as soon as the policy makers realized the challenges Australian economy was going through like ageing population and skill mismatch/gaps in the domestic workforce, retaining skilled personnels became a crucial aspect of the migration program. The migration program was tailored to ensure that 'the overall objectives of the skilled migration program are met in terms of economic benefits to Australia' (MIA 2005). During this phase overseas students emerged as savers to Australian economy struggling with increasing skills shortages and an ageing population.

In the late 1990s, overseas students were permitted to allow for permanent residency in Australia after completing their education. This had led to a surge in the number of international students coming to Australia. All these changes in the migration program not only made Australia a famous study destination but also addressed key challenges like skill mismatch and ageing population. Apart from offering permanent citizenship to students, policy makers brought significant changes in the immigration program during this period which include: Significant policy changes since 1999 include:

First: given the shortages of certain skills in the economy Migration Occupations in Demand List (MODL) was introduced. MODL is one of the vital features of the skilled migration points system. It contained list of occupations which are deemed to be in

shortage in the economy. Those applicants with occupations from MODL receive extra points in the new selection test applicable from May 1999.

The MODL was reviewed and updated to accommodate the existing and emerging skill shortages in the economy. Moreover, MODL in case of ICT (information and communication technology) industry was reviewed every six months given the expected technological advancements/changes in the industry. The new point test attracted young migrants with strong English skills to highly demanded sectors like IT (information and technology) and accounting. The success of new point system made immigration department to increase 5000 places for migrants in the skilled category. This strengthens the number of international students enrolling in courses in accordance with the occupations listed in the MODL. For the first time, under the Skilled–Independent (and Skilled–Australian sponsored) visa categories of the General Skilled Migration (GSM), international students with Australian qualification in key skill areas particularly ICT qualifications were eligible to apply for permanent residency without leaving Australia. These students were exempted from usual requirement of work experience in their nominated line of work. These changes to both GSM and the student visa program built an explicit link between studying and obtaining permanent residency in Australia. In 2002–03 more than half of skilled migrants with qualification from an Australian university accepted into Australia as permanent residents. Reviewing the economy's need, the MODL was updated in 2003, where health professionals were added while ICT specializations listed and accountants were reduced (Hugo, 2004; Koleth, 2010).

Second: In 2005, Skilled Occupations List (SOL), was used as a part of the Australian points system for immigration. The change include that one applying under skilled migration stream in Australia must nominate an occupation from the SOL.The opportunity of overseas education with the prospect of permanent residency drove explosion in number of international students. In a series of further policy and legislative changes, MODL was expanded to include additional trade occupations which are in short supply including cooking and hairdressing (B. Birrell, Hawthorne, & Richardson, 2006). The MODL now contains 28 occupations, compared with 14 occupations in February 2003, 15 occupations in February 2002, and 22 occupations in February 2001(Koleth,

2010). These numbers were not only greater in the vocational education and training sector (VET), where skill shortages were listed but also in courses like nursing, accountancy and engineering where university qualifications were required. Data from Australian Education International shows that after the addition of the new occupations to the MODL there were total 66,086 enrolments in the VET which got doubled after two years later in 2007. By 2009 it had almost doubled again and international education services contributed $18.6 billion to the economy and became Australia's largest service export industry.

Courses in services like hospitality, cooking, hairdressing quickly became a back door to gain permanent residency in Australian residency (O'Malley, 2010). All this created a nexus between unregulated training colleges and fast permanent residency. This scheme, providing a stream of source of young skilled migrants trained locally, was a huge success(Reich, 2016).

During this boom India experienced a dramatic change in its rank as a source for international students. In a span of just three years, between 2002 and 2005, India rose from ninth position to second in terms of supplying students, only leading behind China. The number of Indian students increased a six-fold from 20,500 in 2004 to 120,000 in 2009. India has remained on its position since, despite the rapid fall in the new enrolments from India in 2009–10 (Australian Education International).For Australia it was a win-win situation with overseas students as a supply of young and skilled workers who had paid for their own education. ("Australian Visa Bureau," 2018)

6.4.3. Period of Skill mismatch (2005 onwards): From 2005 onwards, students found it difficult to get job with the degree they hold. They were employment but not for their chosen occupation. This lead to a situation of skill mismatch in labour market where the skill demanded by the economy were not supplied by the labour in the market. Moreover there were accumulated applications for permanent residency (B. Birrell & Rapson., 2005; Christopher & Hayes, 2008). The Minister for Immigration announced a 'profound shift in the migration policy where people already in Australia on temporary visa were given preference. They had been offered almost one third (36, 000 permanent visas) of the places in the skilled migration program. This change was mainly driven by skilled workers and students majority of them coming from the UK, China.

Then, in 2008 the newly elected Labor Government in view of global financial crisis and recession, announced that now skilled migration program through employer and government sponsored migration would focus on specific skill needs of the economy. Thereafter there was 14 percent cut in the skilled migration program and priority was given to migrants sponsored by employer (Department of Immigration and Citizenship, 2009). The focus of the policy was on giving higher quality education to attract international students to Australia rather than future employment for them. Such shift in policy aimed to dismantle the perceived link between international education and permanent residence. This analysis follows from the project investigating the mismatch between Australian international university graduate and skill shortages(Blackmore, Farrell, Devlin & Arber, 2010).

Now applicants sponsored by an Australian employer or state were given priority. By this means, only those applicants will be absorbed whom skills are demanded in the economy rather than the skills they supply. Thus, the new migration program was seen as more demand driven than supply driven. There was cancellation of 20,000 offshore GSM visa applications lodged before 1 September 2007[40] to address the problem of a backlog of skilled visa applications. In 2007 the level of English language proficiency was raised and there was no exemption from relevant work experience for former overseas students(Gribble & Blackmore, 2012). However, Australia is not the only country changing migration policies as per the requirement of economy. Countries like United Kingdom (UK) and Canada also adopted similar policy that also encourages transition from temporary to permanent status or "two step migration"(B. Birrell et al., 2006; O'Malley, 2010).

Knight in his paper critiqued the skilled migration programe stating "Instead of driving an increase in particular skills which Australia needed, the scheme … ended up driving migration per se"[41]. Australia has now faded its strong appeal as a destination for study with the shift in the migration policy from being labour-driven supply side to employer-driven demand side. This has major implications for international students in

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[40]Chris Evans, Minister for Immigration and Citizenship, 'Migration Reforms to Deliver Australia's Skills Needs' (Media Release, 8 February 2010).

[41]The arrangement is described further in Michael Knight, 'Strategic Review of the Student Visa Program 2011' (Report to the Australian Government, June 2011). Available at: www.border.gov.au/ReportsandPublications/Documents/reviews-and-inquiries/2011-knight-review.pdf.

engineering, nursing and accountancy. With the reversal of migration policy government sought to ensure both the on-going success of the Australian international education sector and address Australia's economic needs. There was a cutback by 20 per cent in the planned level of permanent skilled migration by 2009. Requirement like better English language skills and a test of skills to ensure job readiness were also introduced (Koleth, 2010). The government rationale behind this was to fulfill the skills required by the Australian economy, rather than the skills that applicants possess. By the beginning of 2009, the rising flood of onshore skilled visa applications with failure of private colleges in providing education to international students, arbitrary attacks on Indian students and the appreciation of Australian dollar after the Global Financial Crisis of 2008–09 resulted in the severing of link between Australia's international education and skilled migration(Gribble & Blackmore, 2012).

However there was continued shortage in the professional fields like engineering, nursing and accountancy. Government then introduced a major overhaul of skilled migration program in 2010. MODL was withdrawn with immediate effect. By its withdrawal students would no longer get benefit of bonus points while applying for permanent citizenship despite the presence of their occupation in MODL. Later in the same year, a new Skilled Occupation List (SOL) was announced to be applicable from July 2010. The new SOL halved the number of occupations eligible earlier in the previous SOL. Importantly, occupation of cook and hairdresser were dropped off from the list. There was an instance of shortage of accountants in Australia despite awarding visas to more than 40,000 accountants over the previous five years.

In May 2011, a new Skilled Migrant Selection Model (skill select) commenced based on a two-stage process where one has to mandatorily register an online expression of interest (EOI), if wish to apply for independent migration sponsored by state or territory. Successful candidates within 60 days have to make an application for a visa. According to DIAC, picking up selective skills, this skill select program will not only contribute to the select best and brightest migrants but will also streamline the process ("SkillSelect," n.d.). From July 2011, a new points test commenced that gave greater weight to skilled work experience and English language ability.

The effect of priority processing is that those without an employer or government sponsor are always being pushed to the back of the queue as new applications from sponsored applicants are processed first. All these steps took a toll on the number of international students. Universities and colleges had been facing a major decline in the number of applications from international students (Das & Collins, 2015; Maslen, 2011). From July 2012, international students can now test the labour market and acquire work experience[42], but without a direct route to permanent residency. International students wishing to migrate permanently now require employer sponsorship or can transition to a four-year 457 visa. The processing priorities were applicable on application having sponsorship[43].

The Migration Programme is set to be amend annually to achieve a range of economic and social outcomes. For the 2017-18, total places available capped at 190,000, unchanged from 2016-17. As per the program applicants coming to Australia have been categorized in the following way:

Skilled – Through this category Australia aimed to improve the productive capacity of the economy and fill skill shortages in the labour market. Given its vital role, majority of visas are offered in this category (128,550 places in 2017-18).

Family – This category enables Australians to reunite with family members from overseas and predominately made up of Partner visas and provides them with pathways to citizenship. A total of 57,400 visas are allotted in this category in 2017-18.

Special Eligibility –Visa in this category are allotted in those special circumstances that do not fit into the other streams. This may include those who are

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[42]In order to enhance quality and competitiveness of the student visa program Government appointed the Hon Michael Knight AO in 2011 (DIAC, 2011b). Under his leadership 41 recommendations42 made by his team were fully adopted by the Federal Government. These recommendations include; for university study visas should be cheaper, easier and faster to obtain, to make study attractive in Australia opportunity of post degree work should be allowed, a two-year visa work for an undergraduate degree, a three-year work visa for a master's degree and a four-year work visa for a PhD with many other kinds of recommendations.
[43]Since 1 July 2012 for the following visas (with higher priority listed first):

1. Sponsorship from Regional Sponsored Migration Scheme (RSMS) program,
2. Sponsorship from Employer Nomination Scheme (ENS) program,
3. Nomination by a state or territory government agency (for an occupation listed on agency's State Migration Plan)
4. People who have selected an occupation on the Skilled Occupation List (SOL)- Schedule 1 in effect from 1 July 2012
5. All other applications

permanent residents and returning to the country after a period. This is the stream where only 565 visas are places in 2017-18.

Apart from the above three categories at least 3,485 Child places are be available outside the managed Migration Programme in 2017-18.

Australia – A popular destination for Indian Students

Indian students find it easy to transfer to the Australian education system due to the similarity in our 10+2+3 education structures. Students can choose from a wide variety of Australian universities and education institutions to suit their specific needs and goals. Each higher education institution has its own strengths and areas of specialisation. This provides students with a wide choice of study options and access to the latest research in their chosen field.

Australia is the second most popular destination for Indian students after the United States. Australia's popularity has been growing with each year. Data reveals that Australia received 799, 371international students 631,971, of these 87,615 were Indians (see figure 6.3).

Figure 6.3 Indian and Chinese Students in Australia
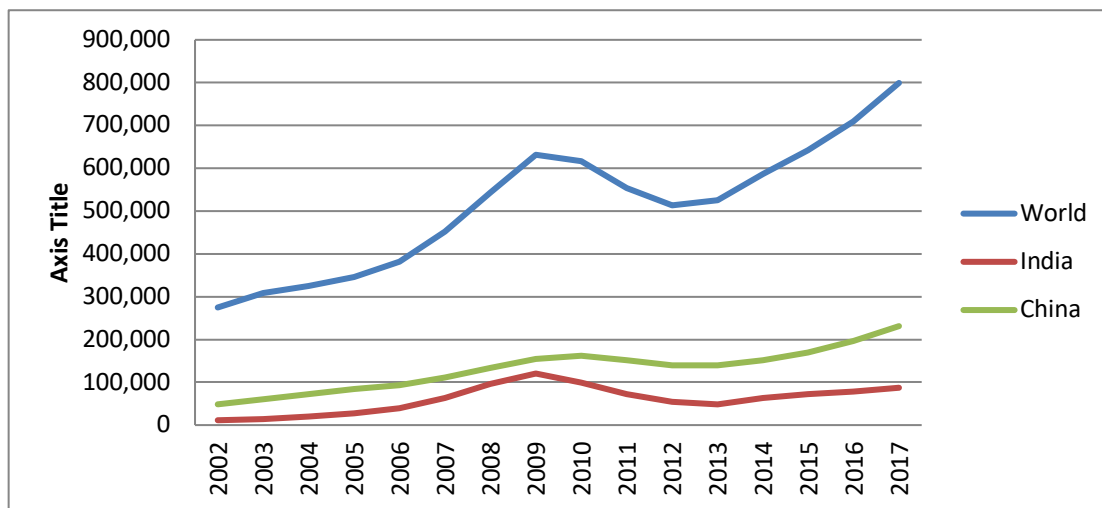
Source: Australian Higher Education

The most popular courses amongst Indian students are Business, Information Technology, Engineering, Science and Hospitality. Though enrolments in higher

education sector remain high, vocational education sector is becoming popular with the Indian students (see figure 6.4)

Figure 6.4 Indian Students in Australia
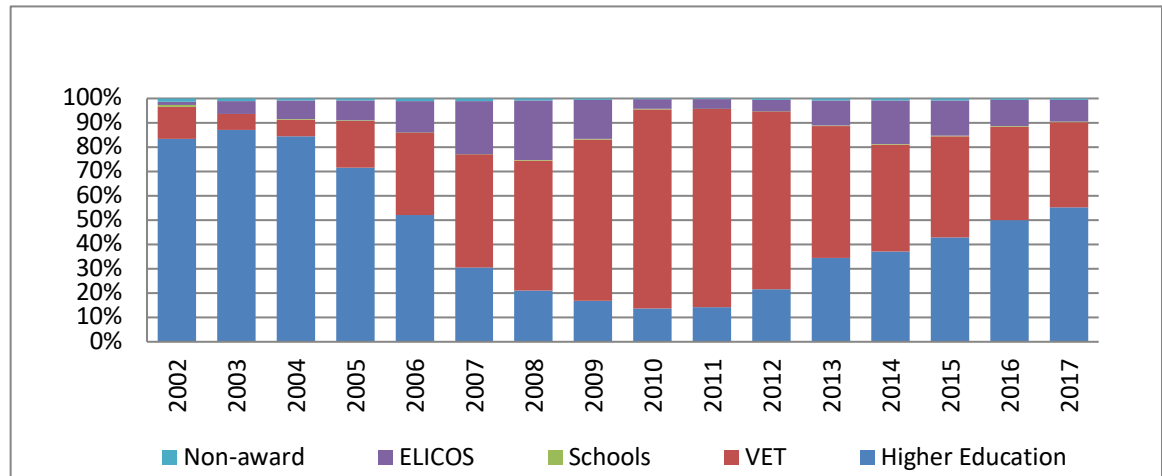
Source: Australian Higher Education

6.5 India's Emigration policies

India's policy on emigration tries to protect people intend to migrate, no matters those carry skills required in India's labour market. For e.g. every year government allows a number of nurses and doctors to leave the country on both temporary and permanent visa despite the shortage of health professionals in India. Though a considerate migration policy may facilitate the flow of migration either emigration or immigration. However, in India policy on migration has not been given a due importance and attention. During the times of British colonial rule in India, British government aimed to encourage labour migration from India. This was in response to the abolishment of slavery system in Britain[44] and other colonial powers such as France, the Netherlands, and Portugal. These countries needed labour to work particularly on their rubber and sugar plantations. India for that matter had solution in the form of cheap and plentiful labour. In order to meet the demand, a system of temporary labor migration from the Indian subcontinent was set up by British government (Naujoks, 2009). Prevalence of

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[44]Slavery system was abolished throughout the British Empire with the Slavery Abolition Act 1833. Following the suite the French colonies and the U.S. abolished slavery in 1848 and 1865 respectively.

poverty and unemployment in India pushed Indian labour to leave the country. By 1878, Indians were working in Australia, Guyana, Trinidad, Natal (South Africa), Suriname, and Fiji. From 1834 to the 1945, Britain made almost 2 million Indian indentured workers transported to 19 colonies including Fiji, Mauritius, Ceylon, Trinidad, Guyana, Malaysia, Uganda, Kenya and South Africa[45]. System of indentured labour during nineteenth century called a huge political debate(Tinker, 1974). In response Government of British India brought a law in 1837 to regulate and maintain indentured labour emigration from Calcutta, Madras and Bombay. At the same time demand for labor from various powerful colonies put pressure on the government to allow emigration. Therefore, government allowed emigration from Calcutta, Madras and Bombay to other British colonies through the next law of 1855 (Tinker, 1974).

The British India enacted the Emigration Act of 1922 to govern the migration of Indians to foreign countries. The principle function of the Act was to regulate the emigration and employment of the low skilled agricultural workers. The major drawback of the Act includes silence on the emigration of skilled people having technical or professional qualifications (Khadria, Kumar, Sarkar, & Sharma, 2008; Sasikumar& Hussain, 2008). Therefore as such there was no significant policy regime for the facilitation of permanent migration of skilled and professional expertise from India particularly after 1950s when permanent migration surged (Sasikumar& Hussain, 2008). Even in the post-independence period migration policy has not been given due consideration and the earlier policy continued in similar manner until 1983 when the Emigeration Act, 1983 was enacted (Khadria et al., 2008).

The Act was enacted in order to attain effective regulation of recruitment of both semi-skilled and unskilled labour abroad. The Act covers all the Indian citizens intend to migrate for taking up employment whether or not under an agreement or other arrangements and with or without the assistance of a recruiting agent or the employer.

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[45]Following the abolition of slavery, there was huge requirement of labour as the newly free men and women were reluctant to work for the low wages offered by British colonies in the West Indies. This compelled Britain to bring labour from its colonies to meet the demand for labour. Indentured labour system, was a system of bonded labour where labour were recruited to work on sugar, rubber, cotton, coffee and tea plantations, and rail construction projects in British colonies in West Indies, Africa and South East Asia.

The Section 22 of the Act states that one must obtain emigration clearances from the Office of the Protector of Emigrants of MOIA. To ensure that the promised job in foreign land is not discriminatory and exploitative in nature, The Protector of Emigrants, while granting the emigration clearance, is required to examine the employment contracts thoroughly. Even the provisions for travel, wages, working and living conditions for labours detailed in their respective contract are examined in view of safety and security for labour. However, in order to facilitate free movement many categories have been made where people belonging to them are exempted from the requirement of obtaining emigration clearance. They are placed under emigration clearance not required category (ECNR category). Currently except for 17 countries[46] emigration clearance is not required for other countries. Emigration clearance required for these 17 countries has been done in recognition of absence of strict laws regulating the entry and employment of foreign nationals in these countries. These countries also do not provide any avenues for grievance redresses.

In recent years considerable efforts have been done to liberalise the emigration clearance system and bringing more and more migrants under ECNR category. Similarly the number of countries where emigration clearance is not required has been increased from 53 to 174. Skilled personnel like professional degree holders (doctors, nurses, engineers, teachers, lecturers, scientists and other professional degree holder) are exempted from taking clearance. Even those having educational qualification of 10th standard are exempted from emigration clearance.

In India the absence of concrete policy of emigration may be attributed to people's right to move to any country they wish. It can be seen widely that rather than emigration policies most of the countries have immigration policies therefore, have control and can monitor the inflow of people from across the borders (Khadria et al., 2008).

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[46] These 18 countries are: Afganistan, Bahrain, Iraq, Indonesia, Kingdom of saudi Arabia, Kuwait, Jordan, Libiya, Lebanon, Malaysia, Oman, Qatar, Sudan, Syria, Thailand, UAE and Yemen. However in 2004 Indian government put a ban on working in Iraq after the abduction of three Indian truck drivers. However, for purposes other than employment no emigration clearance is required even to these ECR countries.

6.6 Conclusion

Human capital, knowledge and creativity are considered to be keys of economic development even more than natural resources (Williams, 2009). Recognition of skilledlabour as a driver of economic growth attracted focuses of policymakers of various countries on skilled immigration. Australia's case is particularly important in such scenario. It is interesting to note that in 1921 there were only two Indians in Australia and now India stands as a top supplier of permanent migrants to Australia followed by china and the U.K[47]. The analysis of chapter on how migration flow from India to Australia takes place revealed many important points. First of immigration policies are not responsible for migratory moves from India to Australia. It is the needs of Australian economy that generate those policies which in turn facilitate the migratory flows not determine them. When Australia faces the challenge to protect the economy from strong neighbouring countries after world war two, it relied mainly on migrants adopting populate or perish policy. Those countries where the push factors were strong enough supported the need of foreign countries by providing them required migrants. However, 1960s onwards when Australian economy had had enough population to support country, Australian government emphasized on skill requirement in the country. These migration policies responded in many ways to the labour market needs for skills and recently to a national requirement for skills like nursing and accountancy.

Recent migration policies in Australia have converged toward so-called hybrid systems from 2005 onwards in which both independent individual apply creating a stream of supply-driven independent migration and those sponsored by employer as per the demand in labour market creating demand-driven employer sponsored migration. The rationale behind such steps was to ensure that migration program should deliver the skill required by the Australian economy not the skills possessed by applicants Among these migration stream skill stream accounts for around 70% of Australia's migrant intake, contribute to country's GDP in a number of ways. They offset Australia's ageing population, improve labour force participation and productivity, and help businesses to source skills that are difficult to develop at short notice. On the other side labour

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[47] Data by DIBP for 2017 reveals that India (3, 89,000), China (2, 83,000) and U.K (17,000) were top three countries of origin for permanent migrants to Australia.

migrating from India facilitated by the emigeration policy. Though there is absence of concrete emigeration policy in India taking account of skills emigerating from India. This may be attributed to the individual's right to migrate to other country on his wish. India already having push factors like low salaries, hard working conditions, poor career prospects if further prohibits labour from emigerating it will be double burden for Indian citizens.

The supply of labour from one country to the other does not happen simply, labour and education market both has crucial role to play. Here labour market can be seen market with finished product in the form of labour completed their degrees with or without. On the other hand education market can be seen as production process where skilled labour is being produced on a continuation basis. These two market supply labour when the other country generate demand for them. In case of nurse migration the need of nurses in Australia reflected by signals generated in the form of easy visa norms for migrants having nursing education. The visa processing process designed to favour applicants having skills in the generated demand list as per the requirement of the Australian economy, reduced processing times and permitting higher numbers of visas granted in any year. These changes and priority processing arrangements address the needs of industry by targeting skills in demand across a number of sectors, while ensuring that the Skilled Migration Programme is responsive to the current economic climate and the needs of the Australian economy

There are studies that proposed that India should adopt a holistic migration policy incorporating immigration policies of the destination countries and its own immigration policy (Collits 2008, Saikumar). But as it has already been discussed that role of policies is to facilitate or limit (or even stop migration in some cases) migration flow, but the origin and extent of migration lies factors responsible for them. The chapter categorise these factor as need-support factors, where need factors are factor of a host country which require foreign labour and support factors are factors whose adequacy make labour to leave their own country and support the need of foreign country. Therefore, if the migratory flows are bringing any kind of negative impact either in home and host country or both then the solution may lie in need-support approach.

Chapter 7 : Migration and Skill Formation

"The most valuable of all capital is that invested in human beings."

Alfred Marshall

7.1 Introduction

Opportunity to work in advanced country offering higher remuneration brings incentive for individuals in less developed countries to accumulate skills either through formal education or training. The literature on migration as an incentive to invest in human capital is divided mainly into two strands; theoretical studies and empirical studies. Theoretical studies apply the concept of human capital formation in anticipation of migration into model. However, empirical studies give mixed result, where in some countries more chances of migration leads to skill whereas in some countries chances of migration play no role in accumulation of human capital. This relation between migration and its impact on human capital is complex and involves many factors. The first complexity arises from the heterogeneity of skills. Incentives created by possession of skills for migration are not general in nature. Incentives created in one sector may not be true for other sector. The other factors like demand, transferability, recognition and employability of these skills in a foreign country are also giving rise to complex relation between prospects of migration and skill formation in a country.

Skill formation can be seen as a part of human capital accumulation. Schultz gave investment categories which lead to improve human capabilities. These investments include; health facilities, on the job training, formal education, adult education and migration. All these investment increase human capabilities but investment like formal education and on the job training enhance human capabilities by imparting skills in a person. On may look upon these investments as a way to augment human capital.

In this chapter we are trying to see the impact of migration on skill formation. Individuals invest in themselves to acquire skills and get wages by offering these skills in labour market.

The amount of wages depends very much on the kind of skills a person possesses. In neo classical economics labour are paid according to the marginal products of labour. Investment in skills enhances persons' productivity and there by its marginal product. Now employers have to offer higher wages to compensate for higher marginal products[48]. Hence, higher investment in skills formation is rewarded with higher wages. Though generally motive of migration are considered to be monetary but there can be non monetary motivations like better environmental conditions and climate (Osborne, 2003; Zavodny, 1997). So to increase return to labour one has to invest in skills. Sometimes people particularly in developing countries invest in education in view of better wages and working conditions abroad. Thus, one motive to invest in skill formation could be migration.Of those invested in skills in view of migration not all get successful in emigrating, some may wait for the next turn to apply abroad, others may drop the idea of emigration after some unsuccessful attempts. As only handful of those invested in skill formation actually migrate, average level of human capital through skill formation increases the stock of in the source country. However, those individuals who are investing in human capital solely for the purpose of migration may only invest in skills carrying higher chances of migration. This is possible when individual invested in skills required in foreign country which may or may not demanded in the home country. Even literature supports this view and lay down the possibility of stagnant economic growth in presence of migration opportunities (Di Maria & Stryszowski, 2009).

This chapter is an attempt to see the link between migration and human capital accumulation. It is nearly impossible to give a general answer that's a fit for all,as the answer could be country specific depending on many factors like geographic, demographic, health, education, economic and immigration policies etc. The chapter therefore takes the case of nurse migration which found to be the key source for nurse emigration and tries to see whether higher prospects of nurse migration lead to more investment in nursing.

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[48]Here we are assuming that there is enough demand for newly acquired advanced skills in labor market.

Chapter begins with the relation between migration and human capital formation. Section 3 theoretically discusses the linkage of migration and skill formation. Section 4 takes the migration of nurses from India and associated skill formation in the field of nursing. Chapter ends with the last section 5 with a case study on Kerala.

7.2 Migration and Human Capital Formation

The study of impact of migration on human capital formation is incomplete without taking education market, labour market and commodity market into the picture. If a person wants to migrate, he or she migrates either due to push factor in home country or pull factors in host country (Lee, 1966). According to neoclassical economics, migrations are typically marked by monetary gains; where labour migrate when they expect higher wages in the country. Literature shows that there are three kind of cost associated with migration: out of pocket expenditure while moving which is simply direct cost, indirect cost (income forgone duringtravelling, searching for, and learning a new job) and psychic cost of changed environment after migration (Sjaastad, 1962). Thus total cost would be the addition of these three costs. As the person takes decision a priori moving to a different country, his decision depends the cost and benefit from net expected increase in income after migration and cost of living abroad. He may calculate cost of living on the basis of knowledge in the public domain (newspaper, electronic media, and information on internet) and personal domain (through networks of family members or friends' already migrated). If he expects benefits to be higher than the cost, he would take the decision to migrate[49]. These gains (mainly monetary gains) depend to a large extent, on educational background of the migrant and transferability of skills in labour market of the host country. However, it has long been recognized that educational attainment may not solely explain differences in earnings (Becker, 1964; Wolfie & Smith, 1956). There are other factors like mental ability and family background positively correlated with education and with a separate and positive influence on earnings and inclusion of these variables into educational attainment biases the education coefficient upward in explaining role of education on earning (Taubman & Wales, 1975).

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[49]The individual ex ante expects returns to be positive. But this may not be true ex post. As may be his psychic cost turns out to be more than the higher salary after migration. For example his financial gain may not be able to compensate for the loss of friends and family networks that was available in the home country.

Sometimes individual migrate to acquire skills in the host country that are highly recognizedand have a high return in both host and home country. In addition to this, possibility of migration not only has impact on individual education investment but may also affect the educational attainment of their children or family member. For instances availability of credit in the form remittances may help them to go to school or for further education. Migrations not only have consequences on educational decision of migrants and their descendants but also for those who do not migrate, in both host and host country.As migration of skilled labour or even migration of unskilled labour alters the labour base of the home country this may change the incentives to invest in certain types of skills for those who are left behind. Even with more and more arrival of immigrants every year a country may witness slower growth in salaries in that particular sector, which can crowd out investment by natives in those skills. In addition, externalities created by migrants may also influence investment decision in education of nonmigrants in the home country. Such externality can be positive or negative thus may encourage or discourage population to invest in education or not, depending upon the experience of migrants in the destination country. An overall better living standard of migrant may encourage people who are left behind to invest more in education in order to migrate, while migrants with not so good experience may discourage educational investment for migration purpose. Thus, decision of migration and education are intertwined in many ways.

The next section takes the issue of migration oriented education (MOE) which is taken as education attained for the purpose of migration. It may or may not be true that this education will lead them to migrate actually. But the focus of the study is to see how prospects of migration alter the investment in education.

7.2.1 Demand and Supply System in migration oriented Education (MOE)

A person's decision to migrate depends on his beliefs (subjective probability) to get a reward. This reward may be economic or social. Sometimes only capital gain is not the only objective; individual may migrate to reside in more comforting climate or for

more social security. Constraints like bounded rationality[50] or subjective expectations make such belief to be partly based on facts. This may produce a favourable or unfavourable attitude towards intention to migrate. However, in given circumstances if he decides to migrate, the next decision he must make on is investment in education. Human capital or skill formation[51] for through the process of education depends on investment made in two complementary domains; students and institutions. Here student can invest their time and money for their own education and investment by institutions (or society) to provide them with that education[52]. The following section discusses the demand for MOE from student's domain and supply of education from institution's domain.

7.2.1.1 Demand for migration oriented Education

Aggregate Demand for education would be the summation of demand by each individual in the society, or education demanded by parents for their wards. Simply demand for education can be measured through enrolment ratio. However, enrolment ratio is the realised amount of education which may deviate from actual demand as not all who demands education enroll in institution either due to financial constraints or any other personal reasons. Other measure like the average number of grades completed can be used in such scenario. But this mode of measurement also has serious limitation as drop out from the system either due to any personal reasons or supply constraint in education[53] , will not let the enrolled person to complete the degree.

Deriving total aggregate demand for education is not an easy task specifically MOE demand out of total demand for education. Not every demand for migration oriented education materialises into actual investment in migration oriented skills given the constraint faced by individual. Thus concept of potential demand and actual demand

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[50]Herbert Simon proposed bounded rationality that challenges the notion of human rationality. Rationality is considered to be bounded because there are limits to human thinking capacity, available set of information, and finite amount of time to make a decision (Simon, 1982).

[51] Human capital is a wider term and knowledge of skills is one of the ways to build human capital. Here we are using them as substitute to reflect the fact that we are taking that part of human capital which is being augmented through investment in skills.

[52] See for more, Investment in Education and Social Choice (1983) by Tapas Majumdar.

[53]Here supply of education also plays very important role in determining the demand for education. May be a person enrolled in college had full desire to complete the course but any kind of problem like delay in exams did not let him to complete the degree. Or as there is not any higher education institute in the proximity one does not demand education after completing school.

arises, where potential demand can be seen as total demand for MOE from individuals who have successfully completed education at preceding level. Actual demand is how many out of those actually invested in education for the purpose of migration. Potential demand can be derived based on the individuals demand function for MOE. But actual demand is difficult to derive as sometimes individual may decide to migrate during the time of acquiring education[54] only or individual is not sure that he is investing in migration oriented skills/education for migration purpose only; sometimes he just invests in education in expectation for higher return in home country only. But later on if any opportunity to migrate abroad comes he utilizes it.

Therefore this chapter looks at the total potential demand for MOE. The aggregate demand for such education would be summation of individual demand for MOE as written below:

$$TMOE = \sum_{i=1}^{n} TMOEi$$

TMOE= Total Potential Demand for MOE

When the individual decides to invest in MOE, he based his decision on the returns he expects after migration. This gain after migration depends upon many factors. The next section thus tries to look for the factors responsible for demand for education specifically for migration purpose:

7.2.1.1.1 Expected Earnings: Rate of return to investment in education is a fundamental economic parameter that is often used to assess whether investment in education should be made or not. Under standard conditions, it is profitable for an individual to make investment in education if the marginal internal rate of return exceeds the opportunity cost of education. However, expected income gain from migration would not be same for everyone where difference arises from credentials and skills each worker possesses and the specific structure of the destined labour market. Where specific

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[54]Individual may have invested in education for the purpose of migration but did not migrate either no opportunity available or returns are not high as expected or other cost like psychic cost or moving coast are higher, or any other personal issues. But here person demanded education for migration but later on it did not get materialise.

structure may include probability of finding employment in the host country, policies related to foreign labour or average salary structure of the country[55]. (Hirshleifer, 1970)

Given the cost of education a person's decision to invest in education depends upon expected earnings in the future with the opted education. Assuming cost of education to be given, return he expects in the future (employed in a foreign country) depends upon the factors prevailing in the host country. For e.g. labour market situation in foreign country (if the sole purpose is to migrate only), economic conditions and immigration policies in the host country.

7.2.1.1.2 Probability of emigration: Individual investment in education in expectation of migration to foreign countries. Mere having a degree in skills which demanded in foreign country will not always results into emigration. There are many factors involved for migration to take place. The next discusses look these factors.

7.2.1.1.2.1 Individual Ability: Cognitive and non-cognitive abilities are relevant for economic success**.** Generally individuals with a degree from a reputed institute are being offered higherwages and their chances to migrate are also higher[56]. This may be because admissions in such reputed institutes require either entrance examination or viva or both.There are limited numbers of seats in the institutions so only handfuls of those who are able enough to qualify get selected. Thus these individual are more able to clear interviews or screening test conducted by employer. Similar to education innate ability and other personal characteristics are important in determining earnings. But as innate and other personal characteristics are considered to be positively affect earnings. A study reveals that omission of certain types of mental ability and various personal characteristics biases education coefficients upward by up to 35 percent (Taubman & Wales, 1975).

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[55]See Hirshleifer (1970), Mincer (1974), and Urzua (2008) for more on rate of return approach.

[56]In India there is provision of campus recruitment where a company visits an institution to offer job for students. These companies can be domestic or international. They hold test and interview as their screening process. Students are requires to join after they complete their course. This campus recruitment process generally takes place in campus of higher reputed institute like IIT, IIM, JNU or University of Delhi. A student of Computer Science programme at Indian Institute of Technology (IIT) had received a 2 crore per annum offer from Google.

7.2.1.1.2.2 Policies in home countries and host countries: Migration policies of both home andhost countries play crucial role in determining the flows, composition and consequences of international migration. Not only policies but degrees of international cooperation also have roles to play in facilitating migration flow. Countries often engage in bilateral or regional cooperation to harmonize international movements in the absence of multilateral framework and a rule based global structure for the governance of international migration (Khadria, 2001).

Home country's policies play very important role in determining the emigration flows in the country. Presence of restrictive policy regarding emigration in source country make chances of migration low, which creates less incentive for investment in education for migration perspective. Similarly, restrictive immigration policies in host country impose barriers to investment in MOE by those who intend to migrate.

Policies are not made independent of economic and social conditions of any country; they are generally based on current situation and targets to be achieved in future. While managing international migration flows of migrant workers, governments makes policies considering different types of migrants like highly skilled workers, dependants of migrant workers, migrants in irregular situation, and refugees and asylum seekers. For example, in case of India, shortages of health professionals in home country would promote government to adopt restrictive policies towards emigration of nurses, while shortages in host countries may promote nurse immigration through adopting certain policies.

7.2.1.1.2.3 Situation of global economy: Era of globalization where boundaries are no more restrictive towards laboursmovement has fully incorporated international migration into the system. It is not surprising that any shocks to the global economic system such as global downturn orglobal financial crisis impacts migration. A financial crisis and an economic recession reduce the number of jobs available for migrants. This lowers theprobability of finding a job and will therefore depress the intention to migrate.

7.2.1.1.3 Cost of investment: Cost of investment plays very important role in determining the level of education a person wants to seek. As in the case of normal goods

one can expect a negative relationship between the investment in education and cost of education. But unlike the normal goods person here cannot buy less quantity of goods when the prices increases or vice a versa. Here with the given price he has to either buy or leave the option. For example one cannot leave the degree of Bachelor of Technology (B.Tech) after completing just two years of the programme. So decision to invest in education is like discrete case of choosing a continuous education.

Cost of education has two components: direct cost and indirect cost. Direct cost is simply the explicit cost which refers to the fee paid to the institution (i.e. tuition fees, examination fees, library fees, laboratory fees, etc.), and expenses on the stationary items etc. It includes is cost of maintenance also which includes expenses incurred on transport, clothing and other sundry expenses (Kumar, 2004).

The indirect cost is basically the opportunity costs of education. The indirect costs are also referred as imputed cost. Unlike the direct costs of education, the indirect costs are implicit in nature. The indirect cost of education consists of the costs of earnings forgone by the students during the time devoted to acquire education. Students as instead of enrolling in school, college or any other institution could have taken-up a job and made some income. By investing in education the student foregoes the income that he may have otherwise earned. Vocational training in particular done at the expense of a considerable opportunity cost, which individual expects to be compensated by future income. Therefore these investment in skill formation can be viewed as the capital investment.As individuals invest in different skills, income that a student forgoes or opportunity cost are also skill specific. Apart from the skill specific factor there are other facts which one should consider while calculating the imputed value of the opportunity cost of education:

(a) Students may enrol in education and work part time hence not forgone entire potential earnings.

(b) If there is high unemployment, students would not have got any job therefore no loss of earning during the course of acquiring education. This would mean that the students could not have earned anything makes indirect cost equal to zero. However, he might have earned partially if he had taken a low paying job requiring less skill than the

skills possessed by him. But this could be skill specific as there may be no demand for some particular skills but for some other skills there is enough demand to absorb labour.

The decision to invest in education thus involves three components: expected income, probability of emigration and cost of migration (direct cost + indirect cost). Here the expected earnings are weighted by the probability of emigration. If the net earning found to be positive person decides to migrate and if it turns out to be negative he may choose to stay back in the home country itself. Decision to migrate and decision to invest in MOE is complementary. If the person is expecting net economic gain, he will borne the cost and invest in education. However, this cannot be applied uniformly across every individual, as some may still want to migrate either because of social benefit or in expectations of better future in the host country despite having economic loss in the current period. On the other hand, some may still want to migrate despite higher cost because of their personal reasons.

This can be expressed in simple linear relationship as:

$$M_g = I_{Exp} * Prob_{mig} - Cost_{mig} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots \text{Equation 1}$$

Where;

M_g = Expected net gain from migration

I_{Exp} = Expected increase in income in the host country after migration

$Prob_{mig}$ = Probability of Emigration

$Cost_{mig}$ = Total cost of migration (direct cost + indirect cost)

Case 1:   if $I_{Exp} * Prob_{mig} - Cost_{mig} > 0$ or $M_g > 0$ ....……….Equation 2

In migration studies economic incentives have dominated as the primary determinant of the migration. The neoclassical migration theory sees "differences in wages" as the main cause of migration (Hicks 1963 cited Topel and Lalonde, 1997:805). Variations in labour supply and demand in labour-rich and capital-rich countries produce consequent wage differentials (Kurekova, 2011). This wage differential, primarily higher wages in the destination country act as an incentive for individuals to migrate. As possessions of certain skills are prerequisite to migrate individual invest in education in hope to migrate. However, individual bears the cost of education, both direct and indirect

cost. Some scholars have estimated the value of wage differential between 30 % and 40% as necessary differential for migration to take place (Mansoor & Quillin, 2006). Moreover, it is only a necessary condition but not sufficient as the decision to migrate depends not only on the income differential but other economic and non-economic variables also play important role to determine the emigration. However, one should be careful while determining the role of factors in determining the migration as some factors may be discouraging for one group of migrants but may be encouraging for other migrants. But the statistical magnitude of such cost components would have to be very large to reverse the findings of sizeable net social gain from emigration.

Case 2: if I_{Exp}* $Prob_{mig}$-$Cost_{mig} \leq 0$ or $M_g \leq 0$ **..........................**Equation 3

From the equation 2, it is expected that with net loss (or no gain) from migration, it would be rational for an individual not to invest in education for the purpose of migration. However, this cannot be applied uniformly across every individual, as some may still want to migrate either because of social benefit or in expectations of better future in the host country despite having economic loss in the current period. In general, determinants of migration flows can be categorized under main four headings: Economic, Political, Demographic and Environmental factors. In the early studies of migration, Ravenstein expressed his belief that economic motive is the most dominant motive behind migration. He even further added that other factors like bad or oppressive laws, an unattractive climate, heavy taxation, uncongenial social surroundings, and even compulsion (slave trade, transportation) all are responsible for migration flows. But none of these flows can compare in volume with that which arises from the desire inherent in most men to 'better' themselves in material respects" (Ravenstein, 1885).

Even in the recent studies, economic factors received the most attention for migration flows. Though there can be non-economic reasons but literature indicates that non-economic quality of life influences are not a significant driver of immigration. Economic and geographic factors are the chief determinants of immigration to high income countries (Hicks, 1932; Lewer, Pacheco, & Rossouw, 2009; Osborne, 2003; Pedersen, Pytlikova, & Smith, 2008b).

However, in new migration system, "non-economic" migrants have emerged (Luthra et al, 2014). Migrants in the current political world may likely to migrate due to network connectives. Economic factors have undoubtedly enjoyed the most explanatory power, but this may be partly because of quantitative data availability, which can be relatively statistically investigated easily as compared to qualitative data. However, the decision to migrate solely on the basis of economic reasons can be subjective, some even after expecting monetary loss may still prefer to migrate may because of the social ties in the foreign (friend and family already settled there) land. This may even possible individual may expect loss in the initial years after migrating but gain after subsequent years.

7.2.1.2 Supply of education

Aggregate demand for any product cannot be met if there would unlesse enough supply. Given the demand for education, the prominent role of supply of education cannot be disregarded.

Education can be provided by either government or private sector or both together. Both the sectors can provide two kinds of education: Formal Education and Specific skill formation programme. In a market economy, forces of supply and demand determine the quantity of each good produced and its price. Any changes in supply and demand bring changes inthe pricesand change the allocation of the economy's resources. The education service is generally consumed at the time it is produced regardless of how market is controlled using demand and supply. For instance if one misses the admission in a course he has to wait for a whole year (or whatever is the duration for the next session to begin) to get enrolled.

Supply, ownership and distribution of educational institutions play very important role in determining the level of education attained in economy. This is consistent with the classical economics where supply play prominent role in determining the equilibrium level of output. If the training of such kind of education/skills is not provided in the home country then individual may migrate to other country for acquiring those skills. Sometimes individual goes to foreign land for acquiring education as a strategy to settle permanently in the other country. If migrating to other country for the purpose of

education is not possible due to any constraint monetary or non monetary then person may decide not to acquire any skill at all or to invest in other education available in the home country. If there are provisions of certain education/skills which are in high demand then there may be more takers for those kinds of skills.

Government policies play very important role in determining the level of education in the country. Government constantly through its education policies tries to meet the changing dynamics of the population, technological advancement and requirement of manpower in various fields. With acknowledgment of importance of education and corresponding increase in demand for education and government limited capacity to provide education with the given fiscal constraint, private institutions have been allowed for delivery and development of education. Privatization is often proposed as a way to reduce inefficiency persisting in the public funded education institutes or when governments are no longer able to meet the costs of the services. Sometimes privatization is allowed because of the ideology requiring minimalist forms of government or influences from the global market where role of private players have been increasing. For instance some schools and universities recognised by international boards or private universities offer course specifically promising prospects to migrate abroad. Availability of such school/universities fosters the skill accumulation for the purpose of migration.

Generally education is provided in two forms; formal/informal education and specific skill formation programme.

7.2.1.2.1. Formal Education:

Formal education corresponds to a planned, systematic, institutionalized, structured and administered as per the given set of laws and norms. Formal education provided by both public organizations and recognized private bodies[57]. Formal education can be seen as initial level of education designed for children and young people before entering the labour market.

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[57]Many unrecognised private schools/college/institutions function without obtaining the mandatory certificate of recognition from an appropriate authority. The absence of stringent laws especially in developing countries make ways for such possibilities.

7.2.1.2.1 Specific Skill Formation Programme

Specific skill Formation programmes give specialised technical and professional trainings in a particular field by relevant institutions provided they are recognised by the relevant education authorities. For example training provided by polytechnics or technical institutes by government or private institutes.

Vocational education having work-based components leads to labour market-relevant occupation qualifications. It is basically acknowledged as skill-oriented training by the relevant national authorities and/or the labour market. It is also referred to as technical education, as the participant develops expertise in a particular group of techniques, technology or skills.

7.3 Prospects of Migration and Investment in the Field of Nursing in India

Nursing in India has mainly two paths to enter. The first is through 2 year and 3.5 years diploma ANM and GNM respectively. The second is through program offering degree courses as B.Sc, B.Sc Post Basic, M.Sc,M.Phil and Ph.D. Most public sector healthcare facilities recruit staff nurses with GNM diploma. Studies suggest that graduates in B.Sc Nursing working in a hospital often view the degree as a short- term strategy to gain requisite experience to enable overseas migration(Nair & Percot, 2007). Post-registration B.Sc and M.Sc graduates are reported to move predominantly into educational positions in the public and private sectors(Raha, Bennan, & Bhatnagar, 2009). Thus, as in many countries where clinical nursing carries a low status, academic qualifications are valued as a potential route out of clinical practice into higher status and better paid jobs in education (Evans et al., 2013).

The next section therefore takes the field of nursing to see the impact of migration prospects on investment in the field of nursing.

7.3.1 Migration of Nurses

There is a significant pool of nurses trained in India and working overseas. These nurses represent a significant proportion of internationally educated nurses after the Philippines which has emerged as the top supplier of nurses globally. Member countries

of OECD also receive a good number of Indian nurses (33147) in 2016. In the United States, nurses trained in India account for 9% of the internationally educated nursing workforce (Spetz et al., 2014). Other major destination countries for Indian nurses include Australia, Bahrain, Canada, Kuwait, Saudi Arabia, the United Arab Emirates and the United Kingdom.

7.3.2 Nursing Education

India's independence brought the major changes in the economy and thus on the nursing education in the country. As evident in the figure 7.1, at the national level, the number of registered institutions providing nursing education has increased manifolds since 2000. The number of institutions offering degree courses witnessed rise as Bachelor of Science (BSc) (Nursing) increased from 30 in 2000 to 1960 in 2015, and Master of Science (MSc) degree institutions increased from 10 to 577 over the same period. Institutions offering diploma courses too witnessed rise with Auxiliary Nursing and Midwifery (ANM) qualifications rose from 298 to 1921, and those providing General Nursing and Midwifery (GNM) qualifications rose from 285 to 2958 between 2000 and 2015 (Indian Nursing Council data). Growth in production capacity of the health workforce has largely been driven by the growth in the number of private sector institutions; in 2016, the share of the private sector amongst total institutions was 85% for Auxiliary Nursing and Midwifery institutions and above 90% for General Nursing and Midwifery, BSc and MSc institutions (INC data).

Figure 7.1: Growth in Nursing Education Institutes
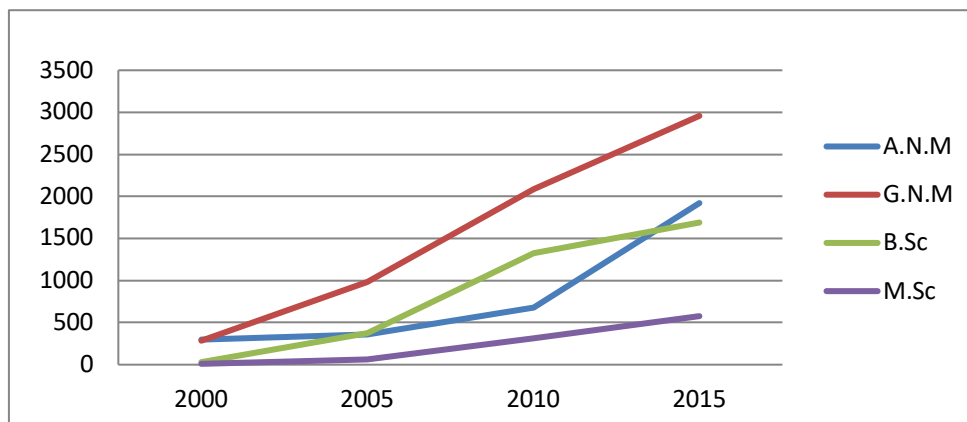
Source: Indian Nursing Council

However, the distribution of these institutions across the country is not uniform: certain states have a large number of institutions, while some have close to none. The next section reflects this feature of nursing sector in India.

7.3.2.1 Interstate disparity

It has been seen (chapter 4 of the thesis) that nurses availability of in India has been concentrated to only few states. The same can be attributed to the supplier of nurses i.e. nursing institution. Figure 2 shows that southern zone has the maximum number of institutes (3176 or 38% of total) in India. This can be clearly seen from the figure depicting zone wise distribution of nursing colleges in India. Nursing institutes are mainly concentrated in southern zone (38%), whereas north eastern zone has least number of country's nursing institutions(only 2%) in 2015.

Figure7.2: Zone wise distribution of Nursing Schools in India
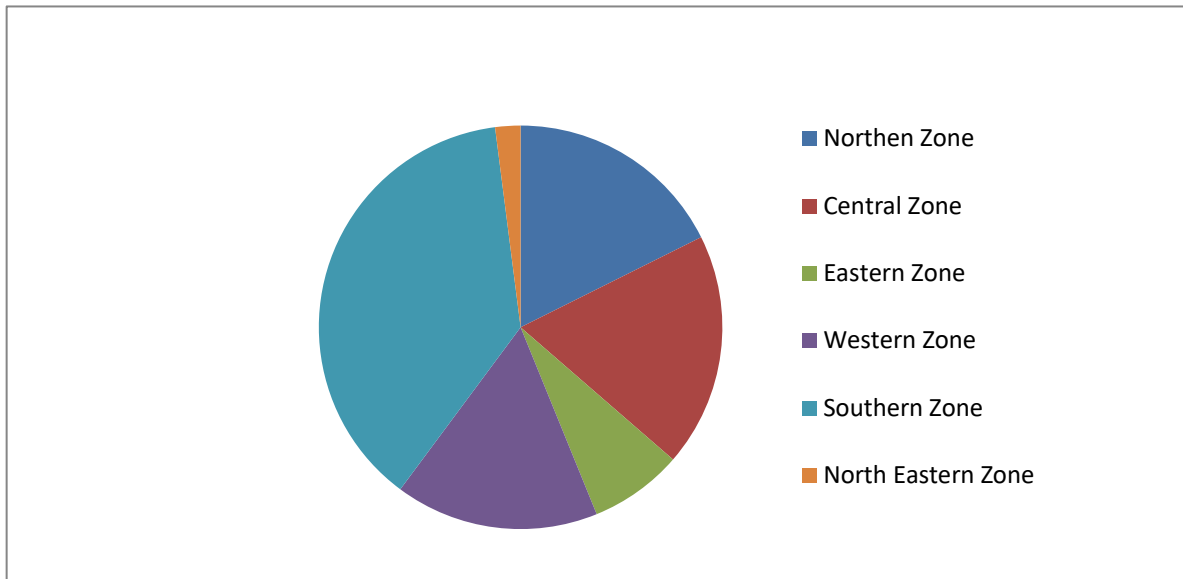
Source: Indian Nursing Council

The statewise break-up of nursing institutions shows Kerala, Tamil Nadu, Karnataka and Andhra Pradesh are four states from south region having highest number of nursing institutions (see table 7.1). Moreover, the region has been producing the maximum number of nurses. However, recent data for 2015 shows Madhya Pradesh, Maharashtra are the states at second and third position respectively after Karnataka in

terms of schoolsin nursing providing diploma courses. The growth in these states is marked particularly after 2010. But Karnataka, Andhra Pradesh and Tamil Nadu have the highest number of providing degree courses. The extent of interstate disparity can be estimated from the fact that there are 20 lakh registered nurses in India of which 18 lakh are in Kerala for 2014-15 (INC). The same country has state like Bihar having only four institutions training nurses in the degree course (INC) and only 9 nursing schools providing diploma courses. Even in metropolis like Delhi have very fewer nursing institutes. West Bengal has both fewer nursing colleges and institutes, while state like Uttar Pradesh and Maharashtra have fewer nursing institutes as compared to nursing colleges. In addition, the number of seats available per state does not correspond to its population and healthcare industry needs. Therefore, while some states with a smaller population have a large number of nursing institutions, there are some large and populous states that have veryfew seats available

Table 7.1: Growth of Nursing Education Institutions in Major States of India*

	2000	2005	2010	2014	2015	2000	2005	2010	2014	2015
	Schools					Colleges				
Karnataka	47	283	526	531	519	6	160	315	334	334
Madhya Pradesh	8	24	69	295	313	1	18	86	124	133
Maharashtra	28	60	109	221	254	3	12	75	95	97
Andhra Pradesh	53	130	244	263	253	1	76	215	230	225
Uttar Pradesh	8	35	114	219	228	0	2	28	56	58
Punjab	12	79	149	215	214	3	16	82	94	101
Tamil Nadu	21	72	169	205	210	7	46	138	169	172
Kerala	42	92	220	210	209	1	12	104	128	126
Rajasthan	3	55	157	173	173	1	4	116	140	152
West Bengal	11	28	49	63	64	1	2	15	18	18
Delhi	8	16	21	18	18	3	5	11	11	11
Bihar	9	13	9	15	16	0	0	0	4	4
All India	285	983	2083	2865	2958	30	377	1326	1641	1690

Source: Indian Nursing Council

*The table includes training institutions providing only GNM and B.Sc for select states.

7.3.2.2 Increasing role of private nursing institutions

Over the last two decades there has been an immense increase in the number of nursing institutions of education. Adoption of economic reforms in India in the 1990s through its liberalisation policies influenced education sector (Nair, 2012). Field of nursing with high prospects of employabilityboth in home and foreign country attracted investment from private sector. The extent of private investment can be seen from the growing number of private institutes in nursing (see table 7.2).

Table 7.2:Number of Nursing Institutions Recognised by INC (31 March 2015)

Course	Government	Seats	Private	Seats	Total	Seats
Schools/diploma	259	10,313	2,699	1,08,093	2,958	1,18,406
Colleges/BSc	117	6,462	1,573	78,480	1,690	84,942
Colleges (PG) M.Sc	43	870	534	10,239	577	11,109
ANM	289	8,719	1,632	46,140	1,921	54,859

Source: Indian Nursing Council

7.4 Primary Survey on Nurses

A survey was conducted to see the reasons for nursing education and migration. The primary survey collected the information on working nurses and students in the nursing field was done. The questionnaire had three levels, basic details, Education and job/internship profile. Questions for each level can be seen from table 7.3.

Table 7.3: Questionnaire for Primary Survey

Profile	Education	Job/Internship
• Current Status • Age • Sex • Place of Birth (State/UT)	• Name of Highest Qualification • Type of Institution (Highest Qualification) • Place of Institution (Mention State/UT) • Cost of education (Nursing Education) • Fees paid for Highest Degree (annual) • Source of funding for Nursing Education	• Type of Workplace/Training • Reason for opting nursing as a career • Salary per month • Have you ever applied for a job in foreign countries • Given an opportunity would you prefer to go abroad for job • Reason for Preferring Job Abroad

7.4.1 Profile of the Surveyed Nurses

Out of the total 201 people surveyed, 162 (81%) were working nurses, 22 (11%) students and remaining 17 (8%) included nursing tutor, trainee and interns. Few of the total respondents were searching for jobs. The maximum numbers of people belonged to the age group of 25-35 years (62%). Also, the survey suggests that most of the professional enter into the field of nursing at an early age, typically below 25 years (19%) and are significant part of the total nursing population. The least proportion of respondents were in the age group of "above 45 years" which corresponds to 3% of the total.

Nursing is considered as a field for females (Egeland & Brown, 1988), even survey reflects thus trend where 130 (65%)respondents were females and 71 people (35%) are males.The survey was conducted to get responses from all over India. But majorty of them were from Kerala (73%). A few participants were working abroad or have returned from abroad after working for some time. The birthplaces of the respondents were: Delhi, Gujarat, Himachal Pradesh, Kerala, Maharashtra, Orissa, Pondicherry, Rajasthan, Tamil Nadu, Telangana.

7.4.2Nursing Education

Out of the 201 respondents, the majority of them had had their highest qualification as B.Sc Nursing and General Nursery and Midwifery (GNM) with 38% (78 people) and 34% (70 people) respectively. Interestingly, B.Sc Nursing and General Nursery and Midwifery (GNM) are the fields considered as most promising qualifications for migrating abroad. Those having M.Sc (Nursing) or M.Phil (Nursing) comprised 24.6% (51 people) of the total respondents.

7.4.2.1Place of Institution

A total of 84 out of 201 people have pursued their education from the state of Kerala. Most of the respondents who were from Kerala had taken their education from Karnataka. The rest have studied in different parts of the country like Tamil Nadu, Telangana, Karnataka, Rajasthan, Chandigarh, Bangalore, Delhi and Jaipur.

7.4.1.2 Cost of Nursing Education

Reponses regarding the cost of education incurred by the people revealed majority of them foundnursing as a costly education (41%) while for other 20%, it was very costly. There were respondents for whom cost was moderate (38%) and rest 21 found cost of nursing education cheap (11%).

When these respondents were asked about the amount they have paid for the education. It was found that 46% paid less than 1 lakh per annum. While 35%paid 1 to 3 lakh per annum. This reflects the affordability of education is very low as 41% says the education is costly while 46% paid less than 1 lakh per annum. About 81% paid less than 3lakh per year there were 17% respondents who paid more than 3 lakh annually. However, only 2 respondents said of having received stipend for their education. For majority of them (68%) financed their own education, while 30% took education loan. This reveals a very important point that even after finding it difficult to finance the education, very few people opted for loan. Moreover, only two respondents received help in financing education through stipend and scholarship. This indicates the poor finance option available in the country.

7.4.3 Work Conditions in Nursing

The section includes the question related to work. As the survey also included those who were studying nursing or those who have completed study but looking jobs, therefore options of training or interns were also given. The section is very crucial section for the study as it deals with the questions on migration related to nursing as a profession.

7.4.3.1 Type of Workplace/Training

There was approximately equal share (46%) of respondent working in private and government hospitals. The others were self employed in their own clinic.

7.4.3.2 Salary in the Nursing Field

The 22% of respondents were earning below 15000 per month. The 25% were working for wages between 15000-25000 per month. There were 16% respondents earning more than 50,000 per month (see figure 7.3)

Figure 7.3: Salary in the Nursing Field
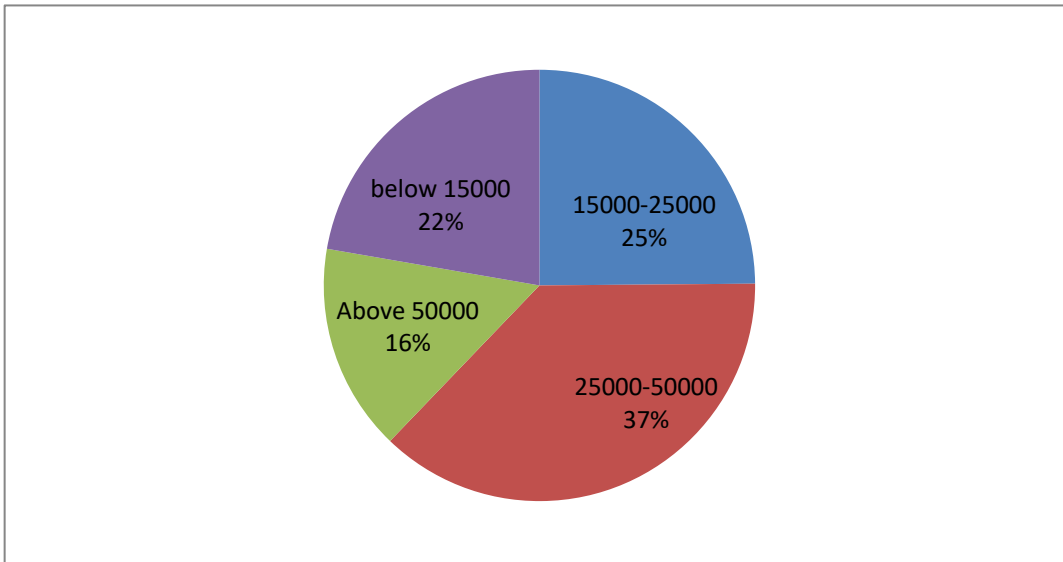
7.4.3.3 Reasons for choosing Nursing as a profession

The most preferred reason for choosing nursing as career was "interest in the nursing field" (46%). While the 69 (31%) respondents said opportunities in the foreign countries made them to opt for nursing The third most important reason was "lack of opportunity in India" (10%). Some respondents (6%) said they have opted nursing for societal respect but lack of respect was one of the challenge they have to face every day (see table 7.4).. During the interaction with the nurses during survey majority of them confirmed their daily challenges and not so good experiences in the field of nursing.

Narrative by one of the respondents:

"After the outbreak of NIEPA virus, there was a huge burden on every staff to cope up with the situation particularly for us (nurses) as we have to work day and night in very regress conditions. However after the successful treatments of all patients, hospital authorities decided to celebrate it by organizing an event where all those who have worked hard were supposed to get certificate of appreciation. We all nurses were looking forward for an appreciation which we hardly get in our career. But surprisingly there were no certificates for us (nurses); even there were certificates for ambulance

drivers. When we went to the higher authorities to enquireon this, she said we will get it soon. But that day never came".

From a nurse working in a government hospital in Kerala

Figure 7.4: Reasons for choosing Nursing as a career
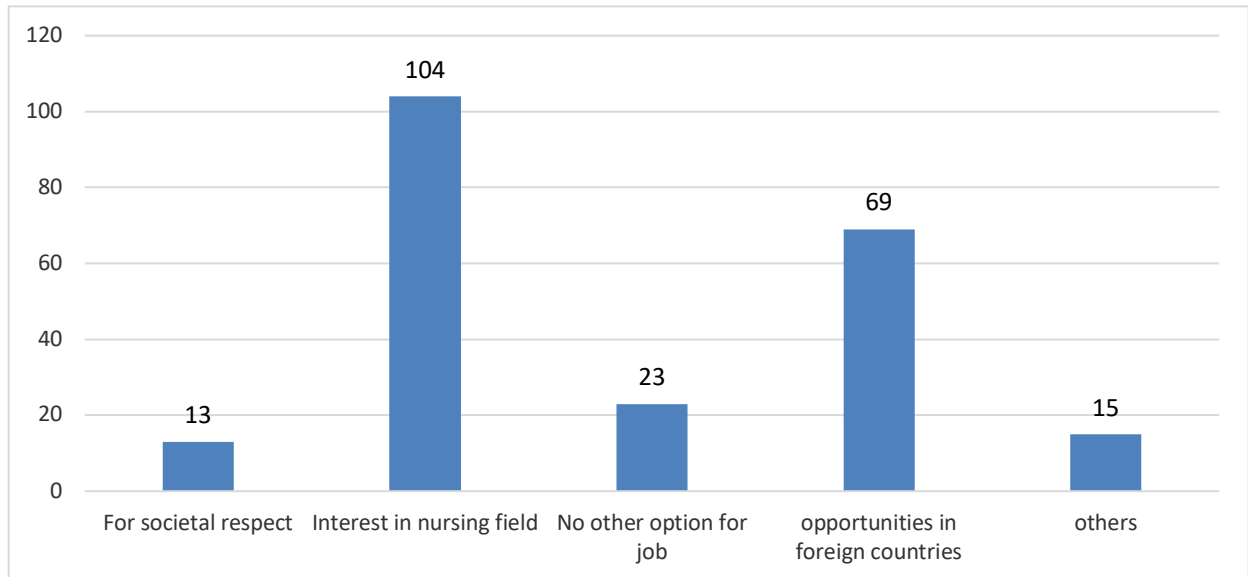
7.4.3.4 Nursing as a opportunity in a foreign country

When asked "whether they have applied ever for a job in foreign countries" most of the respondents (58%) said that they have not applied for job in a foreign country while other 37% had applied. Out of those who applied, 52 (28%) got selected whereas 25 (12%) applied but did not get select. The rest 7 (4%) were wanted to apply but could not do so because of family problems, some were waiting to clear for English proficiency test, some got selected but applying for visa, some are in the process. So these people are also intent to go abroad.

7.4.3.5 Reason for Preferring Job Abroad

The economic reason (better salary abroad) is the most preffered factor for choosing job in a foreign country. In literature also the neoclassical approach sees expected income gain as the main driver of international migration (Lewis, 1954; Ranis

& Fei, 1961; Sjaastad, 1962; Harris & Todaro, 1970;Todaro, 1976). In the survey conducted out of total 85% people who were interested in job abroad,the most preferred reason for preferring job abroad was better salary (46 % respondents chose this reason). The second most important reason was better working conditions in foreign country (chosen by 23%). The lack of opportunities in India was also seen as a thirdimportant factor for choosing job abroad (11%).

Figure 7.5:Reasons for Preferring Job Abroad
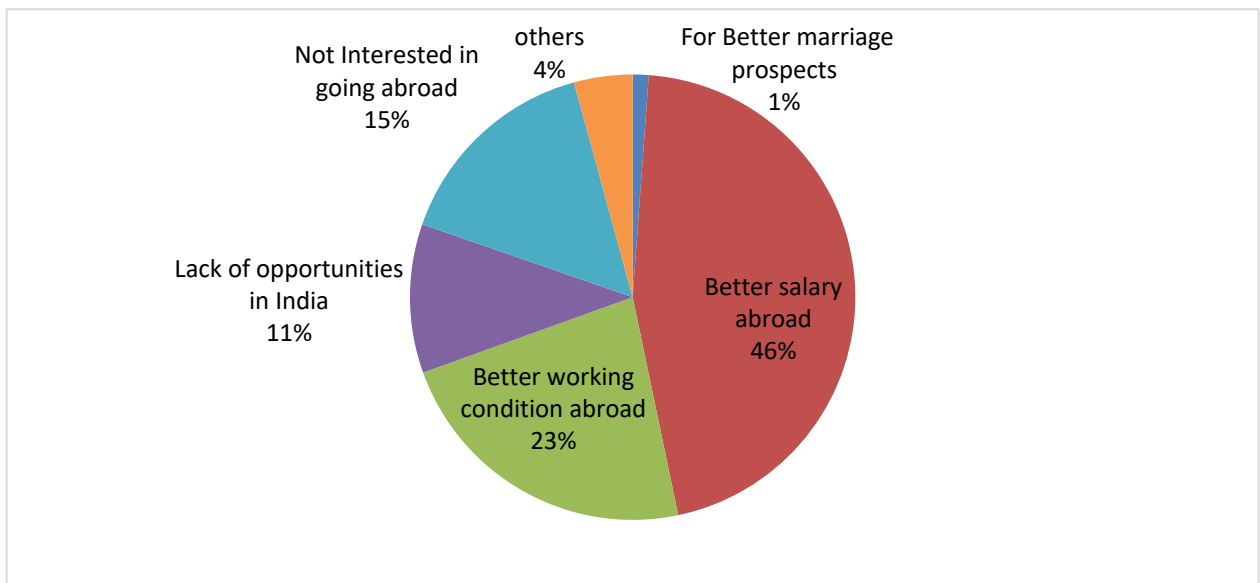
7.5 Nurse Migration and Nurse Education in Kerala: A State of Sisters

In India, Kerala has been a source of nurses for the West and the Middle East since the 1960s. Nurse migration from Kerala gained momentum with the oil boom in the 1970s in the Middle East. Since then Kerala has maintained its position as one of the leading supplier of nurses to the world. There is vast literature on emigration of nurses from Kerala to different parts of the world, but very few on understanding the prospects of migration from Kerala in the field of nursing and resultant human capital formation. This makes Kerala a useful context for investigation the prospects for the migration and its impact on human capital formation.

In Kerala, the number of colleges offering degree courses in nursing rose from just 1 in 2000 to 126 in 2015, and schools offering diplomas rose from 42 to 209 (see table 7.1 above).Similar to national level, Kerala too has majority of nursing seats in the private sector. In Kerala out of total 17600 seats in nursing institutions in Kerala in 2016, around 8.8% were in the government sector, and over 90% were private self-financing institutions.

However, government has been increasing investment in nursing with 18% growth at national level (2012-16), 46% growth was public nursing institutions (46%) as compared to the private sector witnessing 15%. Kerala experienced the same trend between 2012 and 2016, seat count in Kerala rose by 2.7% with the government seat count rose by almost 23% and the private college seat count grew by 1.1%.

The number of seats course wise shows that BSc (Nursing) and General Nursing and Midwifery are the courses with highest numbers of seats representing for 41% and 36%, respectively, of total nursing seats in 2016. Apparently, these are considered as courses strengthen the prospects for employment in foreign countries.

Table 7.4: Public and Private Nursing Institutions in Kerala and India, 2012–2016

Location	Type of Institution	2012	2013	2014	2015	2016
Kerala	Government	1268	1450	1554	1537	1557
		7.40%	7.90%	9.00%	8.80%	8.80%
	Private	15 862	16 907	15 724	16 095	16 043
		92.60%	92.10%	91.00%	91.80%	91.20%
	Total	17 130	18 357	17 278	17 532	17 600
India	Government	22 354	26 447	27 531	30 279	32 686
		8.30%	9.00%	9.20%	9.90%	10.30%
	Private	246 515	268 599	270 330	275 227	283 886
		91.70%	91.00%	90.80%	90.10%	89.70%
	Total	268 869	295 046	297 861	305 506	316 572

Source: Indian Nursing Council

Recent survey affirms the domination of overseas migration of nurses from Kerala. It is estimated that over 38 % of nurses who migrated from Kerala work in the United States of America, 30 % in the United Kingdom, 15% in Australia and 12% in the Middle East (Lum, 2012). Even it has been found that almost as high as 42% of nurses

from Kerala and Punjab had some inclination to migrate overseas, and this was higher than for doctors (32%) (Walton-Roberts et al., 2017). The more recent survey done in 2016indicates that period 2011-16 has witnessed decline in numbers of nurses and nurse assistants emigrating abroad. There is decline not only in absolute number but their proportion in the overall pool of Kerala nurses has also declined. In 2016, 26138 (23.2%) nurses and nurse assistants emigrated in 2016 compared to 30038 (32.80%) in 2011 (see table 7.5).

Table 7.5:Estimates of Emigration Levels for Nurses and Nurse Assistants[58]

Year	Resident Stock of Nurses and Nurse assistants (N)	Migrant Nurses and Nurse Assistants (N)	Net emigration rate (%)[59]
2011	61 613	30 038	32.80%
2013	63 224	26 138	30.80%
2016	68 161	20 622	23.20%

Source: Kerala Migration Survey, 2011, 2013 and 2016.

The distribution of nurse migration from Kerala using data from Kerala Migration Survey (KMS)[60] is shown in Figures 7.6. It represents the percentage of emigrant nurses and nurse assistants in major destination countries (KMS 2016). Majority of all emigrant nurses (57%) resided in Gulf countries in 2016. Within gulf region, Saudi Arabia was the most favored destination country in 2016. However, its share of total migrants declined to 21.5% in 2016 from 32% in 2011. United Arab Emirates (15.3%) and Kuwait (12%) were the second and third largest destination countries, respectively.The data reveals that the number of nurses migrating to the United States has been experiencing a declining trend. The proportion of Indian nurses in the United States was 12.2% in 2011 which decreased to 5.3% in 2013 and further to 6% in 2016. On the other hand the share of nurses migrating to Canada increased from 3.3% in 2013 to 5.5% in 2016. Other

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[58]This analysis is done by Oxford Policy Management and Centre for Development Studies, Thiruvananthapuram.

[59]Net emigration rate = [migrant nurses and nurse assistants / (resident nurses and nurse assistants + migrant nurses and nurse assistants)] x 100.

[60]Kerala Migration Survey (KMS), carried out in the state in 2011, 2013 and 2016 by the Centre for Development Studies,Thiruvananthapuram.

countries (Maldives, Germany, Singapore, Italy, Australia, Ireland, Oman and rest) received Indian nurses in the range of 2–3% of all nurses in 2016.

Figure 7.6: Major Destinations for Indian Nurses
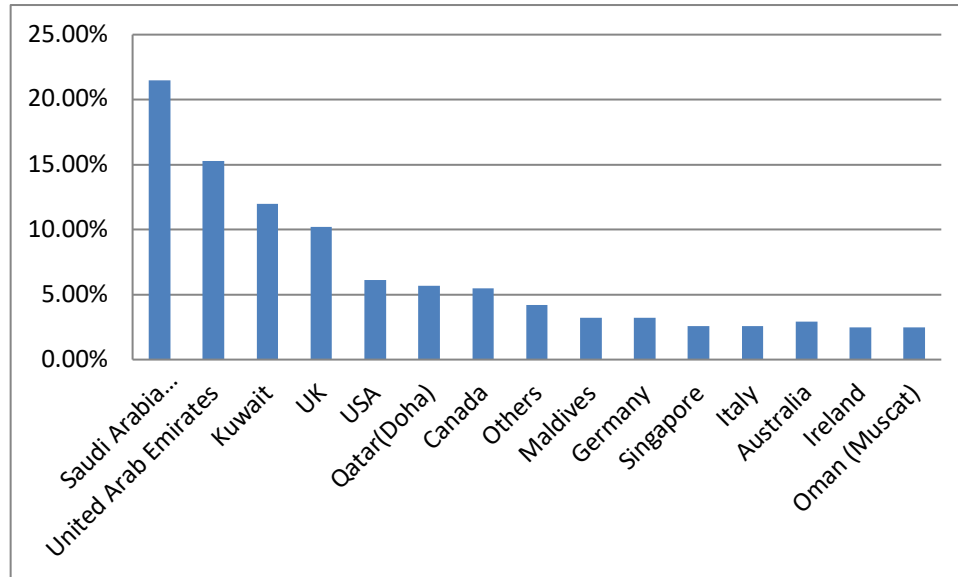
Source: (WHO, 2017)

7.6 Conclusion

The quality of health services provided by a state depends much on the health workers. Data demonstrate that most health systems across the globe face nursing shortages, varying across regions and rural-urban distribution. Although nursing services are an integral part of both preventive and curative aspects of India's health system, the nursing estimates of the country shows that India has been facing a shortage of nurses since independence. Studies show that professional, social and economic reasons are considered to be behind the nursing shortage in India. Similar reasons induce Indian nurses to look for migration opportunities in other countries. The high income countries have discovered India as a new source of well trained, English-speaking nurses to overcome their nursing shortages. This has resulted in mass migration of nurses from India. The study looks at the impact of migration opportunity on the nursing skill formation in India. The migration is seen as a loss of skilled professional to foreign countries but the prospects of migration may also results into skill formation. The study sees that potential migrants are expected to invest in migration oriented skills when the

expected gain is more than the cost associated with it. The gain from nursing education is evident from the fact that significant number of nurses have been migrating from southern region reflects that nursing. More number of nursing institutes (more private institutes) indicates in the southern region that demands for nursing is high as compared to other states. For private institutes it is an opportunity to extract consumer surplus. The result from survey indicates that apart from having interest in nursing field, the migration opportunity to developed countries attracted them in nursing. This draws attention on other factors like lack of job opportunities, harsh working conditions and poor career prospects in the own country contributes to force them to migrate. Hence it is not only nursing that carry opportunity to fly abroad, but also the lack of job opportunities, low salary and poor working conditions that make them to invest in nursing.

Chapter 8 Conclusion

In the health sector, it is widely accepted that there is "no single global norm or standard for health worker density" (WHO, 2006). Determination of the optimal health workforce requires a thorough analysis of a number of factors. These factors include supply, demand, productivity and the priority to prevention, treatment, and rehabilitation in health sector through national health policies. Here demand factors include macroeconomic conditions of the country, demography and epidemiology, and patterns of health services. Supply factors include labour market conditions, availability of salary fund, capacity of education sector to produce health professions etc (Buchan & Aiken, 2008). Given the urgent need of a benchmark, SDGs made a "composite threshold" covering 12 selected health indicators over a range of services, including non-communicable diseases (WHO, 2016b). Using this as a benchmark, shortage of health professionals was estimated. According to The WHO there was a global shortage of 17.3 million health workers in 2013, out of which 9 million shortage were for nurses and midwives and 2.6 million for doctors (WHO, 2016b). The value of composite threshold was determined to be 4.45 doctors, nurses and midwives per 1000 population.

India has relatively lower number of nurses (2.09 per 1000 population) as compared to the average number of nurses in the world (3.14 per 1000). This lag in availability of doctors and nurses indicates the inadequacy in the health providing health services to the society. This figure is for national level but the problem is more severe if one compares the interstate disparity for the availability of nurses.

As per the 2001 census there were 2,069,540 health workers of which 8,19,475 (or 39.6%) were doctors, 6,30, 406 (or 30.5%) were nurses and midwives. The distribution of these nurses is not evenly distributed in the country. There is a huge disparity in nurse distribution across states. Maharashtra, Kerala, Tamil Nadu, West Bengal and Andhra Pradesh are the states having highest number of nurses in India. On the other hand states like Nagaland, Himachal Pradesh, Uttarakhand, Jammu and Kashmir and Haryana have lowest number of nurses among major states in India. In 2017, the top 5 states in descending order in terms of number of nurses are- Andhra Pradesh (12.98%), Tamil Nadu (11.48%), Rajasthan (10.83%), Karnataka (10.16%) and

Kerala (9.90%). It can be seen that the four south Indian states have almost 45% of the countries nurses. While on the other hand states like Bihar, Manipur, Jharkhand, Telangana, Meghalaya, Mizoram, Tripura and Uttarakhand have less than 1% of total nurses. It is interesting to note that Telangana despite being part of south India lags in terms of nurse availability.

The available data (2001 census) confirms the skewed distribution of the workforce in rural and urban area. For all health workers in the country, the ratio of urban density (428.3) to rural density (113.7) was 3.8. This Ratio of urban density to rural density for nurses is greater than unity for every state indicating skewed distribution favouring urban area in each state. The ratio was highest in Bihar (7.9), and lowest in Kerala (1.7). Nursing is a profession mainly considered for females, this is easy to see as all states have ratio higher than 50 percent. Interestingly, Mizoram (93.2 percent) & Kerala (92.5 percent) have the highest number of females in nursing profession. Bihar also has higher number of females in nursing profession (91 percent), while Jammu & Kashmir (65 percent), Uttarakhand (69.1 percent) and Rajasthan (69.9 percent) have lowest number of females but still lag in terms of balanced gender distribution.

The other important feature of the nursing sector in India is the dominant role of private sector. In 2015, 90.3% of institutions were private while government institutions were only 9.7% of the total institutes. The institutes mainly offer courses like ANM, GNM and B.Sc (Nursing). This reflects the lower demand for higher degree courses in nursing which includes post basic nursing, M.Sc, M.phil and PhD in nursing. Study shows that in India approximately 80% of outpatient visits and 60% of hospitalization episodes were provided by the private sector. Even for education in nursing, private players have taken over. In fact, growth in production capacity of the health workforce has largely been driven by the growth in the number of private sector institutions. More number of private institutions in nursing education reflects the cost of education. Nursing education provided by government institutes is highly subsidized thus they have lower fees, while the cost of private medical education is several magnitudes higher (WHO, 2017). In the health sector most of the health expenditure is through out of pocket expenditure. Thus similar to health facilities and health education, individuals have to borne the expenditure.

Even with the marked low and uneven availability of nurses, a significant number of Indian nurses have been migrating to other countries. The migration of nurses started from India or particularly Kerala in 1960s to Middle East. With the oil boom in the Gulf, there was a huge outflow of the number of nurses emigrating from Kerala. This period marked the emergence of Kerala as a major supplier of nurses (Kodoth & Jacob, 2013). The Gulf remained the most preferred location for Indian nurses until 2000. Since then, western countries particularly the United States became the preferred choice destination. However, the U.S government is open to foreign trained nurses but the long immigration process made Indian nurses to look for other destinations too. Countries like The United Kingdom, Australia and Ireland where Indian nursing education is recognized and give Indian nurses opportunity to work as a registered nurse soon became preferred destinations too.

Data shows that developed countries have relatively more number of nurses as compared to the nurses in the countries sending nurses to them. But their economies also have challenges in the form of ageing population, more demand for health services because of aging population and increase in life expectancy and retirement of nurses. In order to meet the nurse shortages, developed countries have started recruiting foreign trained nurses.

In Australia, nursing is the largest health profession which constitutes over half of the total Australian healthcare workforce (Ohr et al., 2010). However, it was predicted that Australia will experience a shortfall of about 85,000 nurses by 2025 (Health Workforce Australia, 2014). The reasons behind the shortages are seen to be, low entry and low retention due to retirement; a lack of recognition and/or job satisfaction; job reorientation. Moreover, Australia's population has 33 per cent of people aged over 50 years in 2015. About 2 in 5 nurses and midwives were aged 50 and above in 2015 (39.0%).There were over 360,000 nurses and midwives registered in Australia in 2015.

The ageing of population together with increases in chronic diseases and longer life expectancy, is creating more consumer demand for health care and requires comprehensive involvement of different health professionals, especially nurses (Ohr et al., 2010; Stankiewicz & Margaret O'Connor, 2014). Report by AIHW states that without a substantiate action, the shortage trend cannot be reversed (AIHW 2003). The problem

of shortage is further exacerbated by increasing workloads and patient ratios coupled with increase in nurses working part time (Holland et al 2012; Ohr et al 2009). The proportion in part-time work increased from 41.2% to 44.1% between 1990 and 1999.To compensate the loss of services with the shift to part-time work, greater number of nurses are required.

To meet the growing demand for health professionals, Australia has been receiving a significant number of overseas born doctors and nurses. In 2011, more than half of General Practitioners (56%) and just under half of specialists (47%) were born overseas, which is a significant increase when compared to the statistics of 46% and 37% respectively in 2001. In comparison, one third (33%) of nurses in Australia were born overseas in 2011, as compared with one quarter (25%) in 2001. The proportion of nurses born overseas who were recent arrivals also increased, from 9% in 2001 to 19% in 2011.

The latest data available i.e. for 2015, of all employed nurses, 8703 (2.8%) received their initial nursing and midwifery qualification in India, following England (14,421 or 4.7%). Philippines is considered a major player in the exports of nurses in global market as it surpassed India, by supplying 6447 nurses (2.1 %). Moreover, the nurses from India have the lowest average age i.e. 36.5 years and the lowest proportion (5.8%) aged 50 and over. However, Malaysia represents nurse and midwives with the highest average age (55.7 years) and the highest proportion aged 50 and over (74.5%).

Traditionally, the United Kingdom was the major source of Australia's overseas born doctors and nurses. In 2001, one in five (20%) GPs and over a quarter (29%) of specialists who were born overseas were from the UK, which by 2011 reduced to 13% and 22% for GPs and specialists respectively. However, for the same period, share from India increased from 9% and 7%, for GPs and specialists respectively, to 12% for both. Similarly, the proportion of overseas born nurses from the UK decreased from around one third (36%) to about one quarter (26%) between 2001 and 2011. The proportion of overseas born nurses from India increased from 2% in 2001 to 8% in 2011, one of the largest proportional increases over this period (Australian Bureau of Statistics, 2013).

Australian immigration policy plays a very important role in determining the flow of health professionals in the country. The recent shift of Australia's policy toward hybrid

system employment amongst GSM and Employer Sponsored skilled migrants increased, statistically significantly by 12 to 14 percentage points (slightly larger effects were estimated for GSMs in isolation). Approximately 5 percentage points of this aggregate effect can be attributed to a shift in emphasis of the system in favour of Employer Sponsored Migration. The remainder of the effect on employment rates can be attributed to changes in the eligibility criteria for GSM category visas, which were designed to achieve a better match between independent GSM characteristics and the needs of Australian employers.

Important reforms implemented to the eligibility criteria for GSM category visas included increasing English language requirements for a broad range of visas (from IELTS 5, vocational, to 6, competent), adapting qualifying occupation lists in response to changing labour market needs, and shifting emphasis of the points based system in favour of experience at the expense of education. We find that controlling for self-reported migrant language skills and age (to proxy experience) helps to explain approximately 3 percentage points of the aggregate effect of the policy on employment rates amongst Skill Stream migrants. Including additional controls including education is found to have a minor impact on the treatment effects that we estimate. This leaves approximately 4 percentage points of the overall effect on employment rates that are attributable to other uncontrolled aspects of policy change which include alterations in qualifying occupations and the imperfect nature of age as a proxy for experience.

The results suggest an interesting interpretation of Australia's 2005 to 2009 shift to a hybrid system of skilled migration. The changes implemented in the policy tightened the conditions for independent skilled migration at the same time as demand-driven employer sponsored migration was being actively promoted by the government. However, our finding of a smaller improvement in the rate of employment as managers or professions amongst GSM and Employer Sponsored migrants as a group, suggests that some migrants with weaker labour market skills may have applied for entry to Australia through the Employer Sponsored migration rather than the GSM category, as a result of the shift in policy. Seen from this perspective, Australia's hybrid system of skilled migration can be understood as selecting the strongest candidates for independent skilled migration and requiring weaker candidates to find a sponsoring employer as a pre-

condition for the granting of a permanent visa. Our estimates suggest that this approach to policy has helped to improve significantly the short-run employment outcomes of skilled migrants.

From the source country's perspective all these changes in migration policies are opportunities for skilled migrants to apply for jobs in Australia. Given the scarcity of jobs in their country, poor working conditions and bleak chances of career growth particularly in nurse sector in India, nurses support their needs by providing them their skills while getting a better job with a higher salary in return. This system where migration is the need of both the countries is named as *need support approach*. The requirement of Australia for labour has gone through a number of transitions. To protect its economy from strong neighbor countries during 1950s, Australia's immigration policies were determined to pool migrants irrespective of what skills they possess. There was a hoarding at Australia house in London displaying a ship having written that £10 takes you there (Australia) with no fee for children at all (DIBP, 2017). When Australia attained enough level of population, the focus shifted to skilled population when more number of skilled migrants arrived. But during this time only courses like hairdressing and cooking became back door to gain permanent citizenship in Australia. This resulted into the situation of skill mismatch where the skills supplied by migrants were not matched by demand in the labour market. This again called for changes in the immigration policies where migrants with specific skills (those needed in the market) were given priorities in visa approval. Here developing countries play the role of supporting actors, where their own pushing conditions (lower salary, lack of job opportunity poor working conditions, social and political environment) make them support the need of the developed country. The other side of need support approach puts the developing countries at the side of need, and puts the developed countries at the side of support. It is true that developing countries are struggling with many needs in the economy and labour in these countries find it very difficult to cope with the situation. In such a scenario, opportunities provided by developed countries like job opportunities, higher salaries, better working conditions, work as a support to the need of labour in developing country. Therefore the approach *need support* is a mutual approach that

explains the movement of labour from one country to the other taking the conditions in host country beyond the pull factors.

The role of immigration policies is to facilitate migration but the policies are not responsible for migratory moves between two countries. It is the needs of the Australian economy that generate those policies, which facilitate the migratory flows and not determine them. When Australia faced the challenge to protect the economy from strong neighbouring countries after world war two, it relied mainly on migrants, adopting populate or perish policy. Those countries where the push factors were strong enough supported the need of foreign countries by providing them with the required migrants. However, from 1960s onwards, when the Australian economy had had enough population to support country, Australian government emphasized on skill requirement in the country. These migration policies responded in many ways to the labour market needs for skills and recently to a national requirement for skills like nursing and accountancy.

Recent migration policies in Australia have converged toward the so-called hybrid systems from 2005 onwards in which both independent individual policies apply, creating a stream of supply-driven independent migration and those sponsored by employer as per the demand in labour market creating demand-driven employer sponsored migration. The rationale behind such steps was to ensure that the migration program should deliver the skill required by the Australian economy not the skills possessed by applicants. Among these migration stream, skill stream accounts for around 70% of Australia's migrant intake, contributing to the country's GDP in a number of ways. They offset Australia's ageing population, improve labour force participation and productivity, and help businesses to source skills that are difficult to develop at short notice. On the other side, labour was migrating from India which was facilitated by the emigration policy. Though there is an absence of a concrete emigration policy in India taking account of skills emigrating from India. This may be attributed to the individual's right to migrate to the other country on his own wish. If India which already has push factors like low salaries, hard working conditions and poor career prospects, further prohibits labour from emigrating, then it will double the burden for Indian citizens.

The supply of labour from one country to the other does not take place randomly. Both labour and education market have a crucial role to play. Labour market can be seen

as market where labour offer their skills, and firms/industries buy those skills by offering wages. Education market is simply the place where the future labour is being produced through education or skill formation. Thus, education market can be seen as a production process where skilled labour is being produced on a constant basis. These two markets, supply labour when the other country generate demand for them. Commodity market has an important role to play in determining the demand for labour market. The kind of goods and services demanded determine the skills required in a labour. For instance to make furniture one needs a carpenter, while the other looking for a haircut needs a barber. The production function too has a role in determining the demand for labour in the economy. Change in the production function because of the technological changes in the economy, influence the type and quantity of labour demanded. When any of these, changes either production function or demand for commodity, there will be changes in the demand for labour. Aftermath of these changes can be seen in the education market. Individuals will start investing in newly demanded education/skills, and institutions (government, private or both) start supplying those skills in the education market if they were not available earlier. The Role of capital market cannot be ignored in facilitating labour supply. Capita market links both demand for and supply of education. As everyone does not hold the capacity to pay for their education, sometimes they take loan from the market. Similarly, institutions supplying education also take loans from the market. However they have to face a very strong competition as they are competing with other business projects. An efficient capital market tends to lower search and transactions costs in the economy. Such markets provides wide array of financial products with varied prices having varying risk and maturity, to borrowers best suited for their needs. Such institutions provide loans in the domain of education to individuals, business houses, and governments. In the absence of such capital markets or not so developed markets, it is the individuals who have to bear the most loss either in the form of costly funds or no funds at all. This is because the other agencies like business houses and government may avail funds from other sources like World Bank, IMF, International Development Association (IDA), but individuals may find it difficult to find other sources of funds. However, government does provide some scholarships and aids to students in need, but those numbers are so limited that only a handful can avail those facilities. This leads to under investment in education.

Thus the demand for goods and services in a commodity market and production function together generates demand for labour in an economy. In nursing sector, demand for nurses are drawn by population's demand for health services and units (hospitals, primary healthcare centers, community health centers, dispensaries) providing those health service. Those engaged in the health/hospital services demand medical professionals, by giving signals in the labour market. These signals can be seen in the form of vacancy advertisement in the nursing area, offering higher wages to attract more nurses. When a country's labour market falls short to the supply of sufficient labour, (even after increase in wages) then the country looks for labour in the other countries. Thus, foreign country passes signals to attract labour from other countries. These signals in the labour market can be seen in the form of increasing wage and easier entry norms to supply those skills. These signals are translated in the education and labour market. Required labour will be drawn from the labour market for those created vacancies. If the existing stock of labour in the country is not sufficient to fulfill the demand, being a supplier of skills, the role of educational institutions becomes vital. On the demand side, individuals interested in new job opportunities in the labour market will demand skills. As educational institutes supply skilled labour in continuum, newly skilled labour will be absorbed in the labour market. However, if the skills are in much shortage, institutions try to supply skills either through expansion in the existing institutes or establishing new institutes. As imparting skills is a time taking process there may be shortages of skills at least in the short run. However, in the long run, education institutions will supply those skills, and skilled labour will be available in the economy. Thus, equilibrium would be attained according to domestic forces of demand for skills and supply of skills. But with globalization and reduced cost of transport, countries from different parts of the world are open to each other. Demand for labour can be fulfilled by drawing labour from another country.

Thus, signals generated for labour demand in one country will be transferred to the other country's market. This leads to migration of labour from home country to another country. Labour from home country migrate to foreign country for better salary and better working conditions. This is particularly true for nurses, as nurses in India migrate because of the low salary, poor and hard working conditions, low career

prospects and less respect in the society. When the economies are open, individuals not only apply for jobs but may also apply for education abroad in view of quality education, better employment opportunities in own country with foreign degree or permanent settlement in the host country after completion of education. We have seen the literature, where prospects of migration lead to investment in particular skills that increase the chances of migration. Thus, if an individual finds it difficult to get employment in its own country which is generally true in case of developing countries, it will lead to investment in skills as per the demand in labour market of foreign country. The individual may invest in those skills either in the home country or in foreign country where the demand for labour persist or even to some another country. Thus education market of home country not only supplies skills to its own country but also to the foreign country. Sometimes, the government in foreign country makes policies to attract student to study in their country in view of contribution to economy by students through tuition fee, living expenses, or as a potential source of skilled labour after completing education. Therefore opening labour market borders by a country not only integrates labour markets with other countries but automatically integrates its education market as well.

This analysis suggests that the role of policies is to facilitate or limit (or even stop migration in some cases) migration flow, but the origin and extent of migration lies in the factors responsible for them. The study categorises these factor as need-support factors, where need factors are basically demand of a country for which foreign labour is required. The support factors are those factors that support or fulfill the need of the foreign country in return of their need. For instance nurse's demand from Australia is fulfilled by the nurses in India, for higher salary and better working conditions. Thus, it would be more appropriate to work on the support or need factors whose adequacy makes labour leave their own country and support the need of the foreign country.

This interrelation of labour market and education market through migration has consequences on the education market of both home and host country. There has been a growing concern about the effects of migration on human capital formation in the home country. The literature indicates the possibility of augmentation in skill formation in the presence of migration opportunities. The thesis tried to look for the determinants for

investment in education for migration purpose. Given two bundles, all rational human beings will choose the bundle carrying more utility. Thus, if a person decides to migrate, there must be returns pecuniary or non pecuniary or both in a foreign country. This gain post migration depends upon the net expected income after migration, the probability of migration and the cost of migration (economic and non economic).

When nursing was seen as an education for the purpose of migration, the relation was not found to be insignificant. The uneven distribution of nurses and nursing institutions in favour of south India which is considered as a hub for nurses, indicates prospects of migration. In the south region, almost 90 % of nursing institutions are in private hands. It reflects the opportunities, big business houses can enjoy. A primary survey was done to have an in depth knowledge of the nursing field and to see the relation, if any, between migration possibility and nursing education.

The survey where most respondents (total 201) were, working female nurses predominantly from Kerala had their degree in General Nursing & Midwifery (GNM) and B. Sc Nursing. These courses are considered as the most demanded courses for the purpose of migration. Moreover, the majority of them choosing nursing as a career was because of interest in the nursing field (46%), while 69 (31%) respondents said opportunities in the foreign countries made them to opt for nursing (see table 7.4). The third most cited reason was, no other opportunity in the country (10%). Some respondents (6%) have said to have opted nursing for societal respect but lack of respect was one of the challenges they face every day.

The economic reason (better salary abroad) is the most chosen factor for choosing job in a foreign country. Out of the total 85% people interested in going abroad, better salary (46%) and better working conditions (23%) abroad were the most important deciding factors for preferring a job abroad. Lack of opportunities in India was also seen as a factor for choosing job abroad (11%). The survey highlights the issue of lack of respect in the society for nurses.

These results lead to draw many important policy conclusions. Firstly, it draws attention in the view of health worker shortage, and poses the question of, what is the real

challenge? Is it the migration or inadequacy on the country that results in this shortage. In countries where health system is already weak with low availability of health staff, emigration of health workers further weakens the health system and exacerbates the shortage of health professionals. However, it may be wrong to conclude that only migration is responsible for the poor health condition of these nurse emigrating countries. WHO estimated that immigrant health workers in the OECD represent only a proportion of health workers required in the developing countries. For instance, Sub Saharan Africa and Southeast Asia, where absolute shortage of health workers is largest, represents only 12 percent and 9 percent respectively of their workers in OECD countries (O'Brien & Gostin, 2011) . Therefore the thesis supports the OECD argument that "migration is neither the main cause nor would its reduction be the solution to worldwide health human resource crisis, however it exacerbates the acuteness of the problems in some countries".

Migration cannot be ignored in particular when prospects of migration bring benefit both to the migrant individuals and their destination country. Migration to a developed country brings bright chances of higher salary, better working condition, career growth and an improved quality of life. The remittances sent back home is the positive side of the migration. So if a well maintained migration is one of the goals to ensure a better life, then managing migration rather than migration itself, may be considered as a challenge.

However, impact of migration on health system capacity should not be overlooked particularly when the countries are facing poor health condition and low availability of health workers. Though, data suggests that emigrated health workers constitute a small proportion of the deficit, a country faces in terms of health professionals. However, given the low density of the health professionals, it should be acknowledged that loss of even a handful of health workers through the route of migration may have an enormous negative impact. It is therefore crucial to work in reducing the instances of migration for the betterment of the home country. It should be noted here that the objective is to eliminate the negative conditions which are responsible for emigration, not to stop individual choice to migrate. The WHO claims that there is "remarkable uniformity" in reasons for the health workers migrating. Countries witnessing medium to high emigration rate have similar push factors in their

origin country like inadequacy of employment opportunities, low remuneration, low prospects of professional growth and skill development, stressful working conditions, high level of corruption, war and crime, political, economic and social conditions. These pushing factors are not only enough to make health professionals move, but presence of pull factors in the developed countries also strengthens the emigration of health professionals. As developed countries are characterized by higher living standard, these pulling actors which mainly include high remuneration, personal security, better working condition, more technologically advanced environment, work with the many other pulling factors. These pulling factors attract health professionals and they move in the hope for a prosperous life for themselves, for their families, better financial condition and quality education for their children. Though it is not only the immigrant who is always on the receiving side but the destination countries are also gaining from such a move. So this situation can be seen as a win-win situation for the migrant as well as the destination country.

Migration is the result of both push and pulls factors, the push factors can be reduced substantially by improving the conditions in the source country. If the presence of borders gives you the right to use the resources, it also gives you the responsibility to take care of it. Therefore, the first priority is to remove the push factors. Adequate infrastructure, improved facilities in hospitals, prospects for career growth: all this will retain the professional who are migrating because of inadequacy in the home country. However, it also true that developing countries cannot compete with the salaries offered in the developed countries. It is also difficult to build the kind of infrastructure that these developed countries have. Hence stemming the tide of nurses leaving their countries is difficult at least in the short period. Though it is true that salaries abroad are quite high in comparison to the salaries offered in developing countries, it is also true that their currency has relatively higher value than developing countries. Therefore expense for the same basket of goods is more for them. Migrating abroad has also some social costs like living far away from their families, no grand celebration of home festivals, adjusting to a different culture and language and different foods habits. All these look very small problems once a person decides to migrate but after the migration all these factors tend to matter. Studies based on empirical data also shows that had the

conditions been better in the home country, they would have stayed employed in the country of their origin (Kingma, 2006).

Data shows countries which are marked by poor working conditions experience emigration of their health professionals for both doctors and nurses. This movement is largely marked from developing to developed countries. This further accentuates the problem of poor health and may widen the health disparity among developing and developed countries. Addressing the problem of nurse migration requires a thorough revision of the health care systems and reasons that push nurses to migrate. The major concerns that lead nurses to migrate include low salary, poor infrastructure, poor workload management and low chances of career growth. Moreover, majority of them being women leave the profession as they are responsible for taking care of their children and elderly parents. However data shows that only a small fraction of the deficit of health professional has been migrating from developing to developed country. But in the presence of an already weak health system, even a loss of a handful workers may bring serious consequences. In fact the problem of loss of workers increases, when such loss, even if few, consists of the finest quality of the health workforce. Even the criterions of the eligibility, developed countries adopt for instance, presence of test, excellent academic records, only filters the finest quality health professionals. Migration rate from one of the top Indian universities are as high as 50 percent per year(Solheim & Marks, 2005). Therefore it becomes imperative to see all the attached strings when dealing with migration. There is no doubt that nurse migration is one of the challenges in front of the health goal SDGs target. But there are other challenges which require immense and immediate attention. Migration may not be seen as a problem in itself but it should be seen as a problem of inadequate facilities that are forcing migration per se. Initiating programs like, setting up quality nurse institutions, both for education and training will boost the supply of nurses in the long run. Self-sufficiency in the production and efficient management of health workforce may solve the problem up to a great extent. The next task is to retain that quality of health workforce in the home countries. This is not an easy task as it requires two things, first, eliminating the pushing factors like low salary, poor infrastructure, low prospects of career growth, less advanced technology in health care etc, second, simultaneously providing them better

opportunities at home. It is true that emigration from developing countries will not stop even after eliminating all the pushing factors. But the objective is to minimize the problem, given the scarcity of choices. Some solutions might be helpful for addressing the problem of migration in the short run, for instance, schemes of mobilization where health workers may spend one or more vacation to the marginalized sections in a country other than home and host country (Khadria, 2012). Special care centres both for children and elders of the family of health staff in the hospitals may help to stop nurses from leaving the profession and even encourage others to join the profession.

These nurse emigrating countries characterized by weak health system comprised of poor infrastructure, low salary packages, poor opportunities for career growth and a non-conducive environment for work tend to give their health professionals a dissatisfaction both in terms of economic and non-economic. This dissatisfaction exacerbates the rate of migration to abroad leading to a further surge in the health workers shortage. Higher rate of emigration initiates more nurses who are left, to migrate in search of better opportunities in foreign countries. Migration is also seen as path-dependent where an aspirant planning to migrate tries to move to the countries having community from their home land (Pedersen et al., 2008a). More and more scope of migration creates incentives to invest in human capital in lieu of better returns in the future (Stark, 1995). So, the question is, can we see health professionals shortage and migration as a vicious circle which intensify and aggravate each other? This next session tries to see migration as a challenge to developing countries facing double sword of poor health system and emigrating health professionals.

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