# OVERSEAS MIGRATION IN PAKISTAN: TOWARDS AN OPPORTUNITY FOR PROVIDING BETTER JOBS TO YOUTH



*By*

**Muhammad Mobeen Ashraf Awan**
**PIDE2019FMPHILENV03**

**Supervisor**

**Dr. Shujaat Farooq**

**PIDE School of Economics**
**Pakistan Institute of Development Economics, Islamabad**
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## <u>CERTIFICATE</u>

This is to certify that this thesis entitled: **"Overseas Migration in Pakistan: Towards an Opportunity for Providing Better Jobs to Youth"** submitted by **Mr. Muhammad Mobeen Ashraf Awan** is accepted in its present form by the School of Economics, Pakistan Institute of Development Economics (PIDE), Islamabad as satisfying the requirements for partial fulfillment of the degree in Master of Philosophy in Environmental Economics.

Supervisor:             <u>Dr. Shujaat Farooq</u>             Signature: _____

External Examiner:      <u>Dr. Muhammad Rafiq</u>          Signature: _____

Head,
PIDE School of Economics:  <u>Dr. Shujaat Farooq</u>        Signature: _____

## Author's Declaration

I **Muhammad Mobeen Ashraf Awan** hereby state that my M. Phil thesis titled **Overseas Migration in Pakistan: Towards an Opportunity for Providing Better Jobs to Youth** is my own work and has not been submitted previously by me for taking any degree from Pakistan Institute of Development Economics or anywhere else in the country/world.

At any time if my statement is found to be incorrect even after my graduation the university has the right to withdraw my M. Phil degree.

Date: _14-April-2022_

Signature of Student

Muhammad Mobeen Ashraf Awan
Name of Student

## *Dedication*

*This work is dedicated*

*To*

*My Mother*

*&*

*My Father*

*All I have and will accomplish is only possible due to their love and sacrifices*

# Acknowledgements

# Abstract

Overseas labor migration provides job opportunities abroad. The objectives of this dissertation are to evaluate the effect of overseas migration on the burden of the rising bulge of labor force across the districts, and to generate evidence stating that migrant remittances decrease environmental poverty. This study inquires whether or not Pakistan is losing its overseas migration share in the Gulf labor markets. Two chapters have been developed to analyze several benefits and loopholes of labor migration of Pakistan, based on Pakistan Social Living Standards Measurement Survey datasets, Bureau of Emigration & Overseas Employment datasets, policy documents of Pakistan and other competitors, and interviews conducted with stakeholders. These discussions are presented in chapters four and five. Other chapters include a general introduction, literature review, data and methodology and conclusion. For the process of gathering evidence to prove the negative effect of migrant remittances on environmental poverty, this dissertation first developed environmental poverty index and then used Propensity Score Matching (PSM). The PSM technique covers the selection biasness issue and estimates the impact on selected indicators by comparing the treated group with the control group. For examining the district-wise share in increasing labor force and overseas migrations, this study linked the data of labor force with overseas labor migration, and used GIS mapping for high, medium, and low labor force and labor migration districts. For understanding whether Pakistan is losing its overseas migration share in the Gulf market as compared to the other competitors or not this study reviews policies of Pakistan and other competitors and conduct in-depth interviews with few overseas Pakistani workers, overseas employment promoters, and experts. The study identifies the negative impact of migrant remittances on environmental poverty. It was observed that during 2010-2019 Gujrat was the high migrant district and Karachi was the high labor force district. The study found that Bangladesh and Philippines have huge share of labor migration towards Gulf and Pakistan losing labor migration share in the Gulf. This study concluded that there are many loopholes that have contributed to the downfall of Pakistan labor migration.

Keywords: Environmental Poverty, Labor Force, Overseas Migration

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# List of Abbreviations

| | |
|---|---|
| ATT | Average Treatment on the Treated |
| BEOE | Bureau of Emigration & Overseas Employment |
| DEPI | District environmental poverty index |
| EP | Environmental poverty |
| GIS | Geographic information system |
| GCC | Gulf Cooperation Council |
| ILO | International Labor Organization |
| LF | Labor force |
| MEPI | Multidimensional environmental poverty index |
| MPI | Multidimensional Poverty Index |
| NELM | New economic theory of labor migration |
| OEP | Overseas employment promoters |
| PSM | Propensity score matching |
| PBS | Pakistan Bureau of Statistics |
| PSLM | Pakistan Social and Living Standards Measurement |
| PDHS | Pakistan Demographic and Health Survey |
| PSUs | Primary sample units |
| SDGs | Sustainable Development Goals |
| UNPF | United Nations Population Fund |
| UNICEF | United Nations International Children's Emergency Fund |
| UNPF | United Nations Population Fund |
| UN | United Nations |
| WAP | Working age population |
| WB | World Bank |

# Chapter 1

# Introduction

## 1.1 Background

Migration is an economic process which has an impact on those who migrate, those who stay behind, and the locations where they migrate. The term "international migration" means the movement of people from one country to another (Sattar, 2009)[1]. The transfer of funds made to families in hometowns by international migrants is known as remittance, which is different from other external capital inflow like foreign direct investment, foreign loans and aids (Ahmad et al., 2013). Migration contributes through regular inflows of remittances in poverty reduction, socio-economic improvements of the concerned households and communities (Abdus & Zafar, 2005).

Labor migrations provide youth with better work opportunities abroad. Young people are also motivated to migrate due to lack of employment opportunities in their own labor markets. Better incentives, job opportunities, and gap in labor income in various countries, have encouraged international migration (Christiaensen et al., 2019). Skillset of migrant workers also affects the pattern of migration among youth, highly skilled migrants relocate permanently, while low skilled migrants may relocate temporarily (Kerr et al., 2016). Though some government policies may oppose, a rapid increase is observed in migration to countries where growth in the labor force is comparatively slower, but have a labor market with greater capacity to absorb more people (Johnston, 1991).

The 2030 agenda for sustainable development recognizes the contribution of migration to sustainable development. Out of seventeen Sustainable Development Goals (SDGs), eleven contain targets and indicators relevant to migration or mobility (UN, 2019). The estimated number of international migrants has increased over the past five decades. The total estimated number of people's lives in a country other than their country of birth is 272 million in 2019, was 119 million more than in 1990 when it was 153 million, and over three times the estimated number in 84 million in 1970, 52 percent of international migrants were male, 48 percent were female, 74 percent of all

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[1] International Organization of migration (IOM) defines labor migration as the movement of people from one country to another for the purpose of employment

international migrants were of working age. People mostly migrate towards the high-income countries. In 2017, the ratio of migrant workers residing in high-income countries to migrant workers residing in low-income countries was quite high; approximately, 69 percent migrant workers lived in high-income countries, 29 percent in middle-income countries, and only 3.4 percent in low income countries (McAuliffe & Khadria, 2019). There has been a great fluctuation in the international remittances in the past few years. In 2018, international remittances increased to USD 689 billion the major countries who received remittances were China (USD 67.4 billion), India (USD 78.6 billion), and Mexico (USD 35.7 billion), and the countries that contributed significantly to sending remittances were from the Gulf, including United Arab Emirates (USD 44.4 billion) and Saudi Arabia (USD 36.1 billion) (McAuliffe & Khadria, 2019).

There is evidence that migration and worker's remittances help to lower poverty both in depth and severity (Adams Jr & Page, 2005). United Nations agencies involved in migration policy considerably favor the viewpoint that migration can reduce poverty. While international migration can be a positive experience for migrant workers, many suffer poor working and living conditions, including low wages, unsafe working environments, a virtual absence of social protection (Artiles, 2008). Remittances help improve people's wellbeing and social wellbeing in the area of origin (Sadaf et al., 2010). Labor migration and remittances helps the family of the labor migrant who live in the home country along with that from those remittance's families of the labor migrants improve sanitation, water and other environmental poverty indicators (Démurger, 2015). Moreover, received remittances also indicated a noticeable betterment for families in terms of education and health (Adams Jr & Cuecuecha, 2013). As per several studies, a gradual remittance inflow leads to sustainable growth, enhanced welfare, and a better standard of life for the poor (Qayyum et al., 2008).

International migration has many policy and management challenges and opportunities for the government and all stakeholders. Therefore, migration management is a necessity for national, regional, and international levels along with dialogues between the various stakeholders (Migration, 2004). Well managed migration helps a country in many ways, including the amplified migration of workers. To maximize the potential of migration, well planned and organized migration management are necessary and migration management practices become part of migration policy if they work well.

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## 1.2  The Case of Pakistan

Pakistan has a labor surplus and is one of the world's top ten labor sending country (Mughal, 2013). Due to massive infrastructural development in certain countries, Pakistani's migrated to the Middle East/Gulf countries are unskilled or skilled construction workers working on a short-term contract (Aqeel, 2015). According to the Pakistan Demographic and Health Survey (PDHS) 2017/18, 29 percent individuals have migrated overseas. Labor migrants from Pakistan earned as much as three times more in some countries than labors in Pakistan, as qualification is not an obstacle in professional life in numerous countries (Bank, 2018).

In accordance with Labor Force Survey, the civilian labor force[2] of Pakistan in 2013/14 was 60.10 million, which escalated to 68.75 million by 2018/19, and the unemployment rate of Pakistan in 2013/14 was 6.0 percent, which rose to 6.9 percent by 2018/19. In Figure 1 increasing trend of Civilian labor force of Pakistan from 2013/14 to 2018/19 is placed.
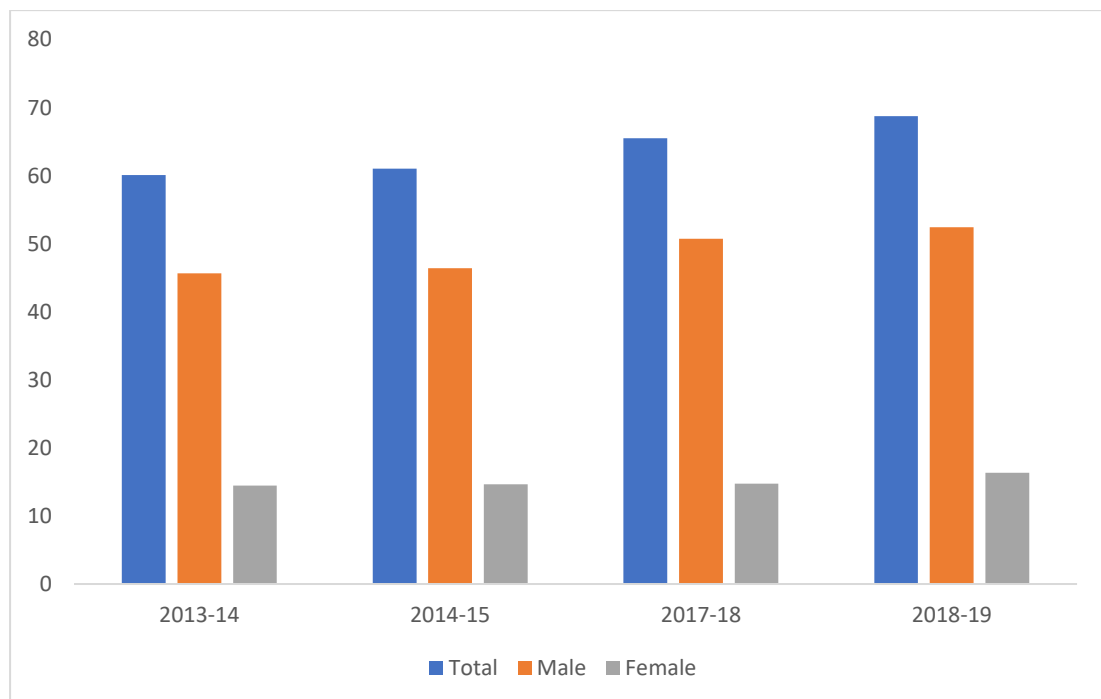


**Source**: Labor Force Surveys (2013-14), (2014-15), (2017-18), (2018-19)

*Figure 1*: Civilian Labor Force of Pakistan

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[2] Civilian Labor Force is the sum of civilian employment and civilian unemployment. These individuals are civilians (not members of the armed services) who are age 16 years or older and are not in institutions such as prisons, mental hospitals, or nursing homes.

The number of labor migrants increased from 200,000 in 2006 to over 900,000 in 2015. Out of the several reasons triggering this increase, the two major reasons are the increase in labor force in the domestic country, and fewer jobs opportunities and economic challenges in the home country (Bank, 2018). The labor migration of Pakistan to the Gulf states shows that it assisted in reducing the burden of domestic labor force, as 5 percent of total labor force worked abroad, according to some estimates (Gazdar, 2003). International migration decreases unemployment in the home country, which contributes to the encouragement of international migration in Pakistan (Hunzai, 2010).

Between 1971 a huge number of Pakistani workers were placed in the overseas labor market. Gulf countries are a feasible destination for the low income Pakistani workers who want good employment opportunity abroad (Arif, Farooq, & Iqbal, 2020) 96 percent of those workers are employed in GCC countries, including Saudi Arabia (50%), United Arab Emirates (33%), Oman (8%), Bahrain (1.7%), Kuwait (2.2%) and Qatar (1.4%) (Nadeem, 2019). According to the recent data, there are more than two million Pakistani workers in the Middle East (Wang, Aslam, & Studies, 2021). The Gulf countries are oil rich countries that's why it gives great opportunities to the Pakistani labor force specially the low skilled construction workers (Hunzai, 2010). However, years of service and residency in GCC countries does not get rewarded in the form of citizenship. The highly skilled workers and businessmen in these countries, effortlessly, afford the expense of living with their families, but most of the low-skilled workers find it difficult. Pakistani government does not allow women under 35 to migrate as labor migrant that's why in Gulf most of the female migrant workers are from Philippines (Ahmed, 2019).

Pakistan received limited migrant remittances during the sixties, and grew gradually after 1970, leading to remittances of approximately 136 million dollars in 1973 (Ali, 2020). Migrant remittances increased and reached to $4 billion in 2004. Due to increase in overseas migration, migrant remittances increase in Pakistan till 2016. In 2015 Pakistan received a huge share of total migrant remittances of South Asia it was approximately 16.37 percent (Imran et al., 2019). An all-time high migrant remittance of 23.120 billion dollars came into Pakistan in fiscal year 2020, as foreign employees were able to send money home after nations across the world began to ease the COVID 19 lockdown. The increased migrant remittance is considered as an important source of

foreign exchange in Pakistan, after exports (Kock & Sun, 2011). In Figure 2 Pakistan personal remittances received and exports of goods and services is placed.
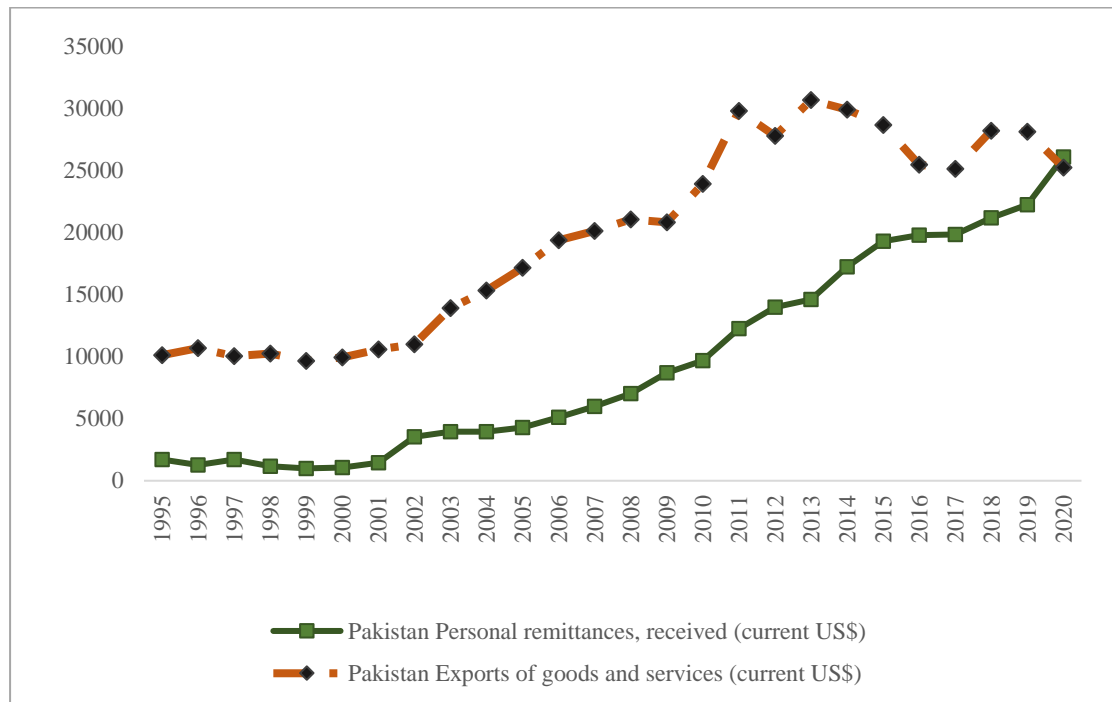
*Figure 2:* Pakistan Remittances Received and Exports of Goods and Services

Due to migrant remittances the level of poverty is also decreased in Pakistan (Bank, 2018). It was observed that there was a significant drop in poverty in households that received migrant remittances as compared to the households that did not receive remittances (Iqbal, 2013). Therefore, it can be concluded that a decline in migration remittances may act as a major contributor to the increase of poverty in Pakistan (Faridi & Mehmood, 2014). Foreign remittances have had a much stronger impact on poverty reduction and inequality reduction than domestic remittances (Anwar et al., 2012). Along with the labor migration, return migration of Pakistan is also important, as those returnees are equipped with the high skills and experience that can be beneficial for the development of country. Migrant remittances also assisted Pakistan in reducing unemployment, and raising the living standards of recipient households (Iqbal & Sattar, 2010).

## 1.3  Problem Statement

There is convincing evidence that Pakistan has entered the demographic bonus phase, fertility rate decline in Pakistan which began in the late 1980s or early 1990s proceeded

rapidly during the last two decades (Arif & Chaudhry, 2008). The number of people reaching working age is multiplying at a faster rate than the total population, and a huge number of young people entering the labor market. Comparatively, the growth of labor force in Pakistan from 2000 to 2009 is higher than other regional countries, which allows a greater number of labor force to enter into the labor market every year. The labor force growth rate was 3.5 precent, the youth labor force growth rate was 3.9 percent, and the regional growth rate was 2.7 percent. (Robalino & Cho, 2012). The requirement to produce enough employment to hire new young entrants poses a challenge, there can be an increase in the stock of unemployed if employment opportunities are insufficient to absorb them productively.

According to the government's annual plan 2020-21 Pakistan has the 9th largest labor force in the world and it is increasing very speedily. Consequently, the share of the working-age population particularly the youth is rising, the share of youth in the total labor force also rises, it is imperative to utilize the youth labor force productively to benefit from the demographic gift (Robalino & Cho, 2012). In Pakistan, only 1.5 million labor force out of the total 68 million have any form of government support, and the rest are not privileged and previously a large number of labor force was working in the garment and textile industries, however, most of the garment and textile industries have shut down or work with very less labor force now (Khan, 2020). Furthermore, the government privatized the state-run enterprises that were in loss, which gave a push to the unemployment in the country. According to the Labor Force Survey 2017-18 due to worse condition of Pakistan's economy jobs from the Pakistan labor market also decrease gradually.

Unemployment of country has been increased, but rate of unemployment in educated group is higher as compared to uneducated group along with that the unemployment rate in youth is much higher than the adults. During 2020, there were 5.8 million unemployed people, but the number of jobless individuals reached 6.65 million by 2021. As stated by the Labor force survey, unemployment is highest among the 15-year to 29-year age bracket, which indicated that youth struggles to enter in the labor market, but due to high unemployment rates, they suffer by opting for jobs that are under-qualified and below their level of education and skills.

Almost 65 percent household of Pakistan don't have clean fuel for the cooking, lighting and heating along with that around 20 percent households don't have good toilet facility and around 50 percent don't have proper place to clean their hands with the soap and water (GoP, 2020). According to Pakistan Social and Living Standards Measurement (PSLM) 2018-19 in Pakistan more than 55 million people have lack of environmental services. The deprivation of sanitation services are creating problems in both rural and urban areas (Ikhlaq, Ahmad, & Kalim, 2018). UNICEF states that around 20 to 40 percent of patients admitted in the hospital are due to water-borne diseases, such as cholera, diarrhea, hepatitis, giardiasis, cryptosporidiosis and Guinea worm diseases. In Pakistan, 33 percent patient die and 10,000 people die every year from kidney disease due to drinking dirty water only in Karachi (Khan & Javed, 2007).

## 1.4 Research Questions

The present study revolves around the following research questions.

- Has overseas migration contributed to reduce environmental poverty or not?
- Is overseas migration helpful in lowering the burden of rising bulge of labor force across the districts or not?
- Whether Pakistan is losing its overseas migration share in the Gulf market or not?

## 1.5 Contribution of Study

The purpose of this dissertation is to elevate understanding about the absorption of labor force in overseas labor markets and to emphasize the importance of the labor migration and its benefits. This research linked environmental poverty to migrant remittances for generating evidence that states the negative impact of migrant remittances on environmental poverty in home country. In the past decades, population and labor force has increased especially the young labor force. A rise in labor force creates both challenges and opportunities, which can be beneficial if utilized properly, and problematic otherwise. This research illustrated the role of handling the increasing number of the labor force to reduce environmental poverty. Overseas migration is very important in every economy. However, it is of greater benefit to developing economies as workers from developing economies migrate more frequently for better opportunities as compared to workers from developed economies. This dissertation investigates whether overseas migration lowers the burden of the rising bulge of labor force across the districts or not. By analyzing the different challenges, opportunities, and obstacles

in the entire process of migration, migration policies, and strategies loopholes, this research offers further clarity which can be beneficial for the policy makers to expedite their comprehension regarding implementation of policies.

## 1.6 Organization of the Study

This document is organized into six chapters with each chapter comprising appropriate sections is organized as follows. Chapter one consists of introduction of the study, it has six sub-sections that provide detail on the problem statement, research questions, and the contribution of the study. Chapter two presents a comprehensive literature review on environmental poverty, demographic transition, labor force, migration and remittances which were both theoretical and empirical along with migration in Pakistan. Chapter three describes the data and the methodology employed in the study. Chapter four consists of results of multidimensional environmental poverty, impact of migration on multidimensional environmental poverty and described the high, medium and low migrant districts along with high, medium and low labor force districts. Chapter five presents the migration trends and policies of Pakistan and regional competitors. This is followed by chapter sixth which presents the conclusion and policy recommendations.

# Chapter 2

# Literature Review

## 2.1 Introduction

This chapter provides comprehensive background knowledge by discussing the main finding from existing literature and it has nine sub sections. First section begins with introduction, second section is theoretical perspective of migration. Third section provide empirical perspective of migration. Fourth section is migration in Pakistan. Fifth section is the brief review of available literature on demographic bulge and labor force. Sixth section is labor force in Pakistan. Seventh section is note on environmental poverty. Eighth section is conceptual framework and most important ninth section is research gap.

## 2.2 Theoretical Perspective of Migration

International migration act as a source for development for the labor sending countries, as well as a mean for redistribution of both between and within country welfare. The Harris-Todaro model (1970) thoroughly focused on the relationship of welfare, migration and used a stable framework consisting of risk averse individuals (Harris & Todaro, 1970), however (Borjas, 1989) applied an altered version of Harris-Todaro model of internal migration for international migration. Assuming migration as an investment in human capital, the Neo-Classical model was modified and updated by adding further cost and risks of migration in order to explain migration selectivity (Bauer & Zimmermann, 1998). The Neo-Classical migration theory and the Harris and Todaro models argued geographical differences in expected income and wages as major drivers for migration. Marxist analyzed the structure of migration in context of permanent as well as temporary migration.

The New Economic of Labor Migration (NELM) theory explains the relevance of remittances with poor households in sending areas. The New Economics of Labor Migration (NELM) theory argues migration research unit is not at the individual level but rather at higher levels, especially at the household unit (Stark & Taylor, 1991). The NELM identifies remittance as a determinant of labor migration (Gubert, 2002). Migration is a family strategy, immigrants often keep in touch with their families, especially with remittances. Therefore, migration and remittances change the structure

of household income (Nguyen et al., 2011) and household level is most common level when analyzing poverty (De Haan & Yaqub, 2010). Several studies support the NELM hypothesis that remittances is the most effective remedy for the underprivileged households, as remittances ensure the wellbeing of families that remain settled in the home countries (Gubert, 2002). Along with consumption, savings, and investment behaviors, remittances also improve living conditions, housing, and sanitation (Adams Jr & Cuecuecha, 2013). Several experts have agreed on the conclusion that remittances can help reduce poverty in households by improving household income (Zhu & Luo, 2010).

According to Network theory migrant networks are a series of interpersonal connections that allow migrants, prior migrants, and non-migrants, with the help of various aspects like friendship or common community origin. These networks offer ease in increasing the possibility of international movement, as they can reduce costs and uncertainties of movement, and raise the anticipated returns to migration (Gurak & Caces, 1992). Dual labor market theory and the world systems theory normally disregard decision processes that on micro level. Instead, these theories emphasis on forces that function at advanced levels of aggregation. The dual labor market theory relates immigration to the structural necessities of recent industrial economies (Piore, 1979). On the other hand, world systems theory implies that economic globalization and penetrating markets across borders promotes immigration as a reflex (Wallerstein, 1974).

Institutional theory argues that disparities between the supply of and demand for entry visas into core receiving societies create a lucrative niche for entrepreneurs to provide licit and illicit entry services, and that the exploitation that results from this disparity will also prompt humanitarian organizations to intervene on immigrant's behalf. The establishment and growth of institutions dedicated to facilitating immigration constitutes another form of social infra-structure that persists over time and increases the volume of international population movements (Massey et al., 1993).

## 2.3  Empirical Perspective of Migration

International migrant workers play an important role in the growth of their home countries by investing a share of their earnings in the form of remittances (Russell, 1986). Migrants do not always travel with their families because of numerous reasons,

leaving them behind in the home country (Démurger, 2015). To comprehensively evaluate the effects of migration, it is important to understand its impact on the remaining family members (Lu, 2013). Labor migration is the economic benefit of the family in the home country by the transfer of funds. Remittances can ease liquidity and budget constraints and thus improve long term welfare of households (Démurger, 2015).

There a several goals that have been established for the 2030 Sustainable Development Agenda, which include clean water and sanitation, and immigrants contribute to these goals through remittances. A major section of the literature focuses on how remittances are spent by the recipient's households. As per the observations, most of the migrant's families spend a huge amount of their remittance income on home construction and improvements. In the short term, remittances may help families with health care and nourishment, as well as fill in for the lack of official health insurance (Démurger, 2015). According to World Economic Forum, the condition of scarcity and nutrition deficit conditions in countless families can be catered well, if the inflow of remittances remain constant. Since the usage of remittances varies from class to class, in rural households, remittances are used for the basic subsistence needs (Nwandu, 2020).

Globalization has tremendously boosted the migration of worker in the last few decades (Brezis, 2016). Population pressures can be eased by taking into account emigration (Artiles & Research, 2008). The regions that are noticeably developed, offer higher wages, and have a lower unemployment rate, are more appealing to migrants (Artiles & Research, 2008). Workers are encouraged to switch jobs, divisions, and countries to maximize the benefit they receive from new economic opportunities (Testaverde, Moroz, Hollweg, & Schmillen, 2017). Migration is considered as an essential human prerogative for the accomplishment of enhanced living standards (Bacci, 2018). The characteristics of the receiving country, the competence of existing workers, and the capabilities of the migrants, are some of crucial factors of immigration that affect the labor market. The effects of these factors may vary if the increase in labor supply is followed by a modification in the economy and labor demand (Ruhs & Vargas-Silva, 2015).

## 2.4  Migration in Pakistan

The existing literature on migration in Pakistan discusses the economic reasons for migration, identifying the individual migration factors and consequences of remittances but international migration is very difficult process because due to the overseas migration all socio economic and demographic factors gather (Black et al., 2011). A few research have shown how migration decisions are made, who migrates and the relevance of remittances in the development of human capital (Gioli et al., 2014).

**Table 1:** Pakistani Workers Emigrant (in 000s) (Country Wise 1971-2020)

| Years | K. S. A | U. A. E | U. K | U.S. A |
|-------|---------|---------|------|--------|
| 1971-2010 | 274 | 1595 | 11 | 3 |
| 2011 | 222 | 156 | 0.31 | 0.18 |
| 2012 | 358 | 183 | 0.18 | 0.16 |
| 2013 | 270 | 273 | 0.16 | 0.23 |
| 2014 | 312 | 350 | 0.25 | 0.35 |
| 2015 | 522 | 327 | 0.26 | 0.35 |
| 2016 | 462 | 296 | 0.35 | 0.29 |
| 2017 | 143 | 275 | 0.34 | 0.23 |
| 2018 | 100 | 209 | 0.59 | 0.34 |
| 2019 | 332 | 211 | 0.9 | 0.51 |
| 2020 | 136 | 54 | 0.8 | 0.25 |

**Source**: Bureau of Emigration & Overseas Employment (BEOE), 2021

Table 1 above provides the details of country wise Pakistani workers emigrant. After the mid of 1970s, the prices of oil escalated drastically, followed by an economic boom, which had a major influence on Middle East region by generating temporary and

circular labor migration. During that period, Pakistan made an exceptional effort of encouraging its workers to migrate to Middle East and other areas, like the United Kingdom, Europe, and North America, to avail the favorable job opportunities (Arif & Amjad, 2014).

According to the official statistics, during the last four decades, around eight million labor migrants migrated from Pakistan. All of the oil exporting countries are main destination for the Pakistani labor migrants including Saudi Arabia, Oman, Bahrain, Kuwait, United Arab Emirates and Qatar (Arif et al., 2020). People who move for employment in non-OECD nations are from lower-income families, who leave their families behind (Aqeel, 2015). Figure 3 provides the details placement of Pakistanis in overseas markets.
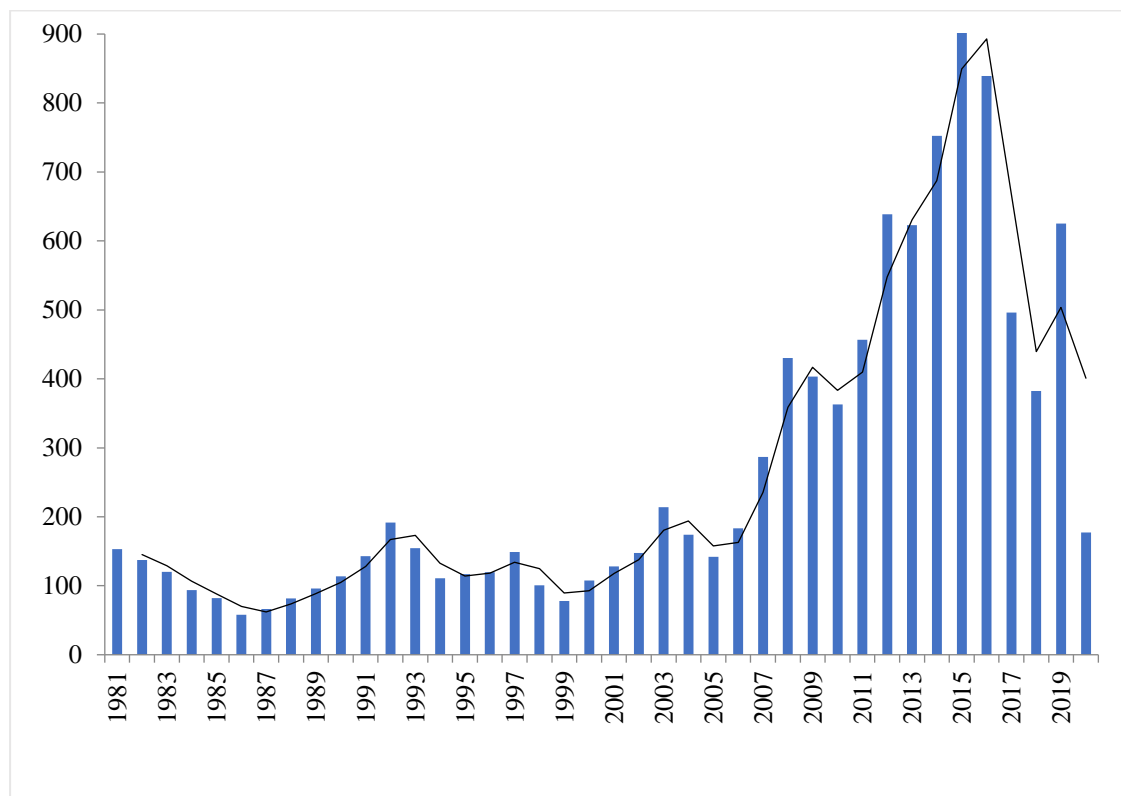


**Source**: Bureau of Emigration &Overseas Employment (BEOE), 2020

*Figure 3:* Placement of Pakistanis in Overseas Market (In 000s), 1981-2020

However, Saudi Arabia and United Arab Emirates are the GCC countries that hold the most significant share of Pakistani labor migrants (Khan, 2020). According to World Bank, the number of immigrant workers in Pakistan looking for opportunities abroad has increased considerably from 200,000 in 2006 to more than 900,000 in 2015 and

dropped to less than 500,000 in 2017. The number can be expected to escalate if the illegally migrated individuals are brought into consideration. The annual count of Pakistan's labor force has exceeded to an estimate of 4 million over the same period.

## 2.5  A Note on Demographic Bulge and Labor Force

The past three centuries have transformed the world in various aspects, but one of the most important changes is demographic transition (Canning, 2011). Demographic transition is shift in the birth and death rates from high and fluctuating levels to low and relatively stable ones, due to the demographic transition, a decrease was observed in the elder population in some cases, whereas in other cases, a decrease was observed in the younger population (Lee & Reher, 2011). Those babies who are born during the very high fertility years, grow and become a part of the labor force after a few years. Good policies are required before demographic transition, for creating better jobs to youth in the demographic transition phase (Nayab, 2007).

For the past nine years, worldwide unemployment has been relatively stable, but decreasing global economic growth means that as the work force grows, not enough new jobs are being created to absorb new entrants into the labor market (Gomis et al., 2020). The youth bulge is a common reality in many developing countries and least developed countries. The demographic bonus will converted into the labor market and economic bonus if the youth will find productive opportunities (Sparreboom & Shahnaz, 2007). If majority of the working age population does not find any opportunity, this youth bulge will turn into economic burden, labor market burden, and demographic bomb.

Both developed and developing countries are experiencing changes in their age structures; the timing of the changes may vary, but every country has risen in labor force population at some point (Mason, 2005). Along with that ratio of male population in the overall labor force is greater than the women (Burk & Montes, 2018) however, as the fertility rate declines, women are entering the labor force, free of child-rearing duties and able to accommodate the rising number of workers entering the labor force, thereby reaping the 'dividends' of the shifting age-structure (Nayab, 2007).

## 2.6  Labor Force in Pakistan

Pakistan has had a constant high rate of population increase since its inception. According to the World Bank, Pakistan will be world's fifth biggest country by 2050.

Pakistan's population is growing at a pace of 1.94 percent each year. However, with such a high rate of growth, a huge number of youthful workers is adding each year (Go, 2019). Pakistan has become the second youngest country in South Asia due to the observed drop in fertility levels. According to United Nations, the rapid rise in population of Pakistan may lead to a population of 50 million young people in 2050. UNICEF states that the estimated population of youth, aged between 15 to 24 years, makes a total of 36 percent of Pakistan's labor force, which is expected to go up to 50 percent by 2050. Fertility rates are still high, so population is expected to increase even after 2050. Table 2 provides the details of Increase in Working Age Population (WAP) (15+) and Labor Force (15+) by Province.

**Table 2**: Increase in WAP and LF (15+) by Province, 2001-02 and 2017-18

| Province/region | Population (15+) (million) | | Labor force (15+) (million) | | Increase (%) 2001/02 to 2017/18 | |
|---|---|---|---|---|---|---|
| | 2001/02 | 2017/18 | 2001/02 | 2017/18 | Population (15+) | Labor force |
| Punjab | 48 | 70 | 25 | 40 | 46.8 | 51.4 |
| Sindh | 19 | 29 | 9 | 15 | 53.6 | 61.5 |
| KP | 11 | 18 | 5 | 8 | 61.5 | 59.6 |
| Baluchistan | 3 | 5 | 2 | 3 | 50.0 | 47.1 |

**Source:** PBS (2012), PBS (2019)

Young people can benefit the country tremendously with the help of a good provision of education; unfortunately, young labor force in Pakistan does not find good jobs and has limited opportunities (Ahmad & Azim, 2010). According to the labor Force Survey 2017-18, Pakistan has a total labor force of 65.5 million people, with an unemployment rate of 5.8%. The greatest percentage of unemployment (11.56%) is among those aged 20 to 24 showing young unemployment. Pakistan is one of the youngest countries in the world, with more than 60 percent of the population under 30 and tried to enter in

the labor market. According to estimates of the International Labor Organization (ILO), unemployment between the ages of 15 and 24 in Pakistan is 10.8 percent this is higher than other countries in the region like India, Bangladesh and Nepal and the plethora of people attaining working age is most likely to rise from the current four million to around five million by 2035. In spite of all the talk about youth bulge and reaped demographic dividend the unemployment rate is the highest for the young new entrants in the labor force (Haque, 2021). In Figure 4 Pakistan unemployment rate by age is placed.
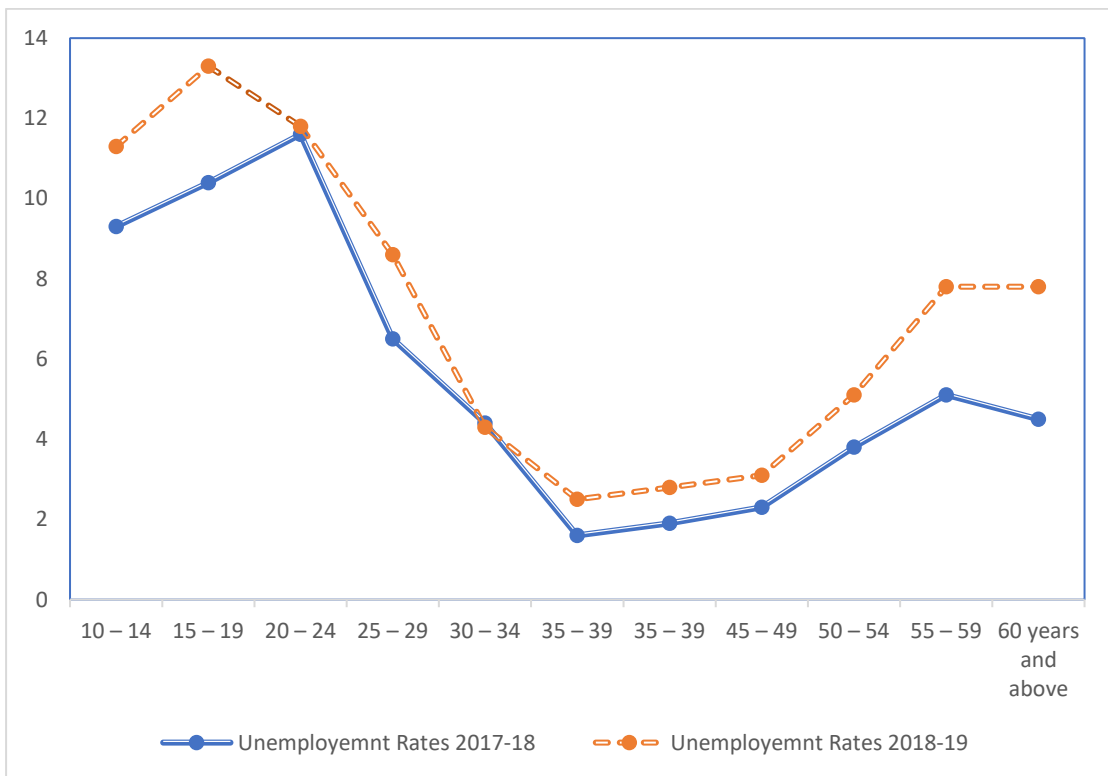


**Source**: Labor Force Survey 2018-19

*Figure 4:* Pakistan Unemployment Rate- By Age, 2017-18 and 2018-19

## 2.7 A Note on Environmental Poverty

Factors including the inability of households to buy environmental services like good sanitation and filtered water, define environmental poverty; the existence of environmental poverty makes households vulnerable to environmental damages (Nawaz & Iqbal, 2021). When environmental indicators are incorporated in multidimensional poverty measurements, it gives a hint of the relation of poverty and quality of environment and how it leads to sustainable development, it also facilitates the formation of social policies by including factors of environmental protection (de

Alba & Salama, 2018). This study is theoretically done by using the Amartya Sen's Capability (ASC) approach. The ASC approach describes that poverty is a multidimensional concept in nature (Sen, 1999). A single aspect cannot justify poverty, as poverty itself contains multiple aspects (Ravallion, 2011).
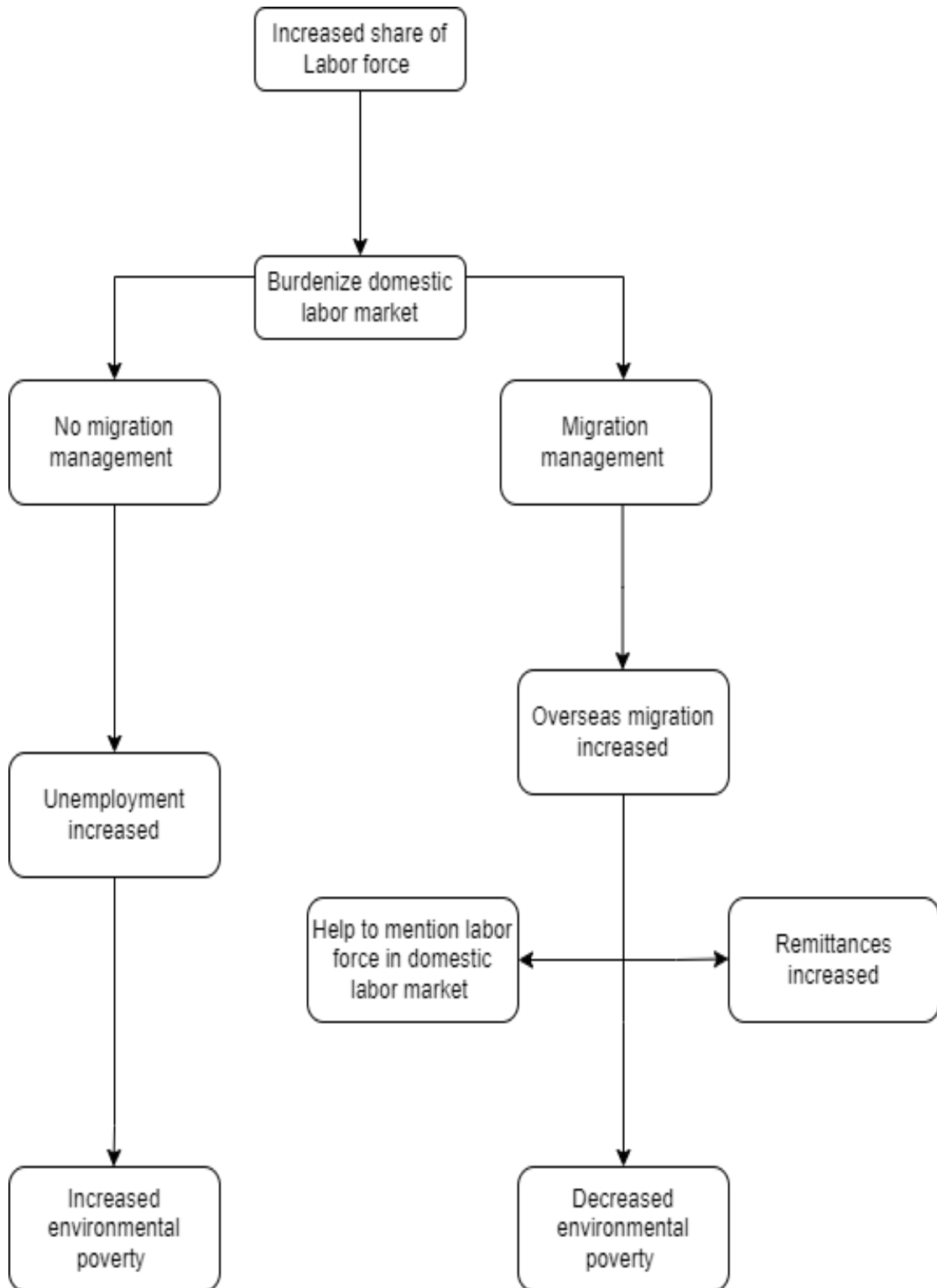
The recent literature has been significantly focusing on the relationship among deprivations, and on various methodologies to verify the indicators that aid multidimensional indices (Nolan & Whelan, 2011). The two main identification approaches that are used in literature are intersection approach and union approach. In intersection approach, the condition is that the persons should be poor in every dimension. If this condition is fulfilled, the person is qualified to be considered as multidimensionally poor. Using intersection approach may often result into too much constriction, as it generates low estimates of poverty. In multidimensional context, the union approach considers individuals as poor if they are deprived in a single dimension. However, this approach is mostly considered as too inclusive, which may result into exaggerated poverty estimates (Sabina & Foster, 2007).

The Alkire & Santos (2010), concept of multidimensional poverty is broadly acknowledged by the current socio-economic literature (Saleem & Khan, 2018), because, WHO and UNICEF (2019) published information about the global access to clean water shows that, in 2017, over 785 million people were deprived of basic water services and over 884 million people had no access to safe drinking water. In 2020, according to WHO, the basic sanitation services were immensely lacking, which affected 1.7 billion people, and 494 million people out of these still defecate in places such as open water bodies, or street gutters. Moreover, it is believed that more than 10% of the world's population is consuming food that is irrigated by wastewater. The evidence suggests that the major reason for morbidity and mortality in many developing countries is the lack of access to safe drinking water, improved sanitation, and cooking fuel (Spears, 2013).

Remittances can be invested in hygiene services (Fayissa & Nsiah, 2010). Remittances are an important way for migrants to support water security, especially in rural communities with low levels of water, sanitation and hygiene provision, where access to water is essential for production (Lahiri, 2009). Remittance receiving households expand their current dwelling units by adding extra rooms. In both urban and rural

regions on average one room was added to the housing unit, and the availability of gas, water, and sewerage for those families increased modestly (Arif, 2009).

## 2.8 Conceptual Framework

```
                    ┌──────────────────┐
                    │ Increased share of│
                    │   Labor force     │
                    └──────────────────┘
                              │
                              ▼
                    ┌──────────────────┐
          ┌─────────│ Burdenize domestic│─────────┐
          │         │  labor market     │         │
          │         └──────────────────┘         │
          ▼                                        ▼
  ┌──────────────┐                        ┌──────────────┐
  │ No migration │                        │  Migration   │
  │ management   │                        │ management   │
  └──────────────┘                        └──────────────┘
          │                                        │
          ▼                                        ▼
  ┌──────────────┐                        ┌──────────────┐
  │ Unemployment │                        │Overseas migration│
  │  increased   │                        │   increased   │
  └──────────────┘                        └──────────────┘
          │                                        │
          │              ┌────────────────┐     ┌──────────────┐
          │              │Help to mention │◄───►│ Remittances  │
          │              │labor force in  │     │  increased   │
          │              │domestic labor  │     └──────────────┘
          │              │market          │
          │              └────────────────┘
          ▼                                        ▼
  ┌──────────────┐                        ┌──────────────┐
  │  Increased   │                        │  Decreased   │
  │environmental │                        │environmental │
  │  poverty     │                        │  poverty     │
  └──────────────┘                        └──────────────┘
```

**Source:** Author's formulation

## 2.9  Research Gap

The manifestation of labor migration and poverty of different countries around the globe can be attained in plenty of literatures. The evidence, however, lacks in aspects of handling the increasing number of the labor force and managing the migration; this study will assist in filling this research gap using a novel methodology. For generating evidence, this research constructed an index at district level, named as Multidimensional Environmental Poverty Index (MEPI) and then used Propensity Score Matching (PSM) technique for calculating the impact of migrant remittances on environmental poverty. In Pakistan impact of migrant remittances on the income of household has been measured through PSM technique (Mirza et al., 2014), however the impact of migrant remittances on environmental poverty in Pakistan is not yet been analyzed by using PSM technique. As stated by (Dehejia & Wahba, 2002), the convenience of Propensity Score Matching (with lower bias) increases when the data meets three important conditions. First, the sample for both the treatment and control groups should be drawn from the same geographical location. The second condition is that the collection of data must be done using the same questionnaire. Third, the data set should include a large set of variables related to the treatment and consequence variables. Since the data used in this study satisfies all above conditions, PSM is clearly a more suitable option for our analysis.

For analyzing overseas migration and burden of rising bulge of labor force across the districts this study used Pakistan Social Living Standards Measurement Survey to measure the labor force stock across the districts and to calculate the growth of labor force from 2010 to 2020. This research linked the Bureau of Emigration and Overseas Pakistanis (BEOE) district wise overseas migration (2010-2019) datasets to PSLM district-wise labor force (2010-2019) datasets for examining the district wise share of increasing labor force and overseas migrations. To identify the low, medium and high migrant districts and low, medium and high labor force districts GIS mapping used.

To understand the Pakistani share of migration to Gulf countries as compared to the other competitors this study analyzed who lose the share and who gain the share and identified the reasons behind the losing of share and review the migration policies behind the gaining of share and conducted in-depth interviews with few overseas Pakistani workers, overseas employment promoters, and experts from the Ministry of

19

Overseas Pakistanis and Human Resource Development. The information gathered during these interviews covers factors like desired skills of workers and problem faced by the workers and all stakeholders etc.

This research is highly crucial for Pakistan because, due to the demographic changes in Pakistan, a huge number of young labor force is ready to step into the labor market, is facing unemployment problem which may be an obstacle in their professional life. Thus, the employment of young people in overseas labor markets helps improve the overall employment situation. After exports, migrant remittances are the biggest source of foreign exchange in Pakistan. Therefore, the current research will investigate the migration management to help the government to design a policy that could lead to decreasing environmental poverty and increasing remittances in Pakistan through the promotion of migration.

# Chapter 3

# Data and Methodology

## 3.1 Introduction

The aim of the present study is to generate evidence that overseas migration contributes to reduce environmental poverty, analyze that overseas migration helpful in lowering the burden of rising bulge of labor force across the districts or not? whether Pakistan is losing its overseas migration share in the Gulf market as compared to the other competitors or not?

This present chapter highlights the methodological framework and data description to accomplish the above-mentioned research questions of the study. Section 3.2 highlights the design of data collection required to accomplish above mentioned objectives and explains the utilized dataset by the study including sample size. The last section discusses the detailed methodology against each objective.

## 3.2 Data Description

The following types of information are required to accomplish the three objectives of this study:

- The information related to environmental poverty indicators, like sanitation, dwelling, water, and energy are required to estimate the contribution of overseas migration to the reduction of environmental poverty.
- District level overseas migration and district level labor force related information are required to analyze the extent of help obtained from overseas migration to lower the burden of rising bulge of labor force across the districts.
- The information related to the migration share in the Gulf markets and information related to skillsets of Pakistani workers in Gulf labor markets is required to analyze whether Pakistan is losing its share in the Gulf market as compared to the other competitors or not?

Single datasets are insufficient to gather the required information; several datasets from various primary and secondary data sources were collected to complete this study. The secondary data source to collect the information related to environmental poverty indicators of household is Pakistan Social Living Standards Measurement Survey

(2019/20), and secondary data source to collect the information related to stock of labor force are Pakistan Social Living Standards Measurement Survey (2010/11), (2014/15), and (2019/20). Pakistan Social Living Standards Measurement Survey has been conducted since 1963, at different intervals and with different names. PSLM survey is representative at national, provincial, and district levels. PSLM provides information on social and economic indicators in the alternate years. The PSLM survey is one of the main mechanisms for monitoring the implementation of the development projects and tracking of the MDGs. Two staged stratified sampling design was employed for this survey. The questionnaire of PSLM survey covers comprehensive information on employment along with many indicators that can help in measuring environmental poverty at district level, it also covers questions related to the migrant remittances received by their remaining households. Table 3 provides the details of province wise sample size.

**Table 3**: Province Wise Sample Size

| Province | 2010/11 | 2014/15 | 2019/20 |
|----------|---------|---------|---------|
| Punjab | 32972 | 36571 | 89010 |
| Sindh | 19728 | 18735 | 43680 |
| Khyber Pakhtunkhwa | 12552 | 13082 | 30900 |
| Baluchistan | 12236 | 10247 | 23490 |
| Total | 77488 | 78635 | 187080 |

*Source:* PSLM Survey 2010/11, 2014/15 and 2019/20

However, one key objective of this study is to understand that overseas migration helpful in lowering the burden of rising bulge of labor force across the districts or not? The above mentioned "Pakistan Social and Living Standards Measurement (PSLM)" datasets cannot fully cope this objective. Keeping in view the data limitation, the study has used Bureau of Emigration and Overseas Pakistanis (BEOE) district-wise overseas migration (2010-2019) datasets along with PSLM district-wise labor force (2010-11, 2014-15 and 2019-20) datasets.

To analyze whether Pakistan is losing its migration share in the Gulf market as compared to the other competitors or not, this study has compared the migration policies and strategies of Pakistan and other competitors and conducted in-depth interviews with experts from Ministry of Overseas Pakistanis and Human Resource Development, overseas employment promotors and labor migrants.

Following were the domain of the questions that had been brought under discussion in the interviews.

- What are the key issues of labor migration?
- Are training institutes play their role to train the labor force according to the demand of international countries?
- What kind of problems migrants faced during migration process?
- Does government facilitate migrants in proper way especially in case of in case of any complaint.
- What is the role of government in between the overseas employment promoters and migrant workers?
- How to improve migration process to increase the labor migration?
- Does Pakistani embassies in foreign countries help if the migrant workers are in any trouble.
- Does government support and facilitate overseas promoters.
- Is it easy for overseas promoters to find right person for right job to send abroad?
- What kind of difficulties overseas promoters find during this whole process and according to their point of view how to overcome to those problems?
- Is it easy or difficult to deal with foreign sponsors and is government provide any facilitation platform, if the sponsor lies or cheat?

## 3.3 Methodological Framework

The below sub-sections explain briefed details over the measurement of indicators and detailed methodology in the line of research questions of the study.

### 3.3.1 Analysis of Multidimensional Environmental Poverty

Migrant remittances are used for improving health, housing, sanitation, and water facilities. To measure EP at district level, the study used micro cross sectional datasets

of Pakistan Social Living Standards Measurement Survey (2019/20) and construct the environmental poverty index by using Alkire-Foster method (Alkire et al., 2017)[3] however, our index focused the environmental indicators. The index measures district environmental poverty by taking into account four dimensions, dwelling, water, sanitation and energy. Seven indicators are used to quantify the four dimensions. Dwelling is determined using, roof, wall, floor. Sanitation is measured using one indicator location of toilet facility. For measure water poverty one indicator, safe drinking water is used. For measuring energy poverty two indicators, lightning fuel and cooking fuel used. By thoroughly evaluating and understanding the literature, this study applied similar weights for every dimension and used equal weights for every indicator present in each dimension (Alkire & Foster, 2011; Iqbal & Nawaz, 2017 ; Nawaz & Iqbal, 2016). The details on the definition for each of the indicator are given in Table 4. It is worth mentioning that index is prepared at the district level.

**Table 4**: Indicators used in Multidimensional Environmental Poverty Index

| Dimension | Indicator | Deprive if | Weight |
|---|---|---|---|
| Sanitation | Location of toilet facility | % Of households that do not have use improved toilet due to non-availability | 1/8 |
| Dwelling | Roof | % Of households, who live in a house where roof is made of wood or similar material | 1/12 |
| | Wall | % Of households, who live in a house where wall is made of wood, mud or similar material | 1/12 |
| | Floor | % Of households, who live in a house where floor is made of dirt, sand, or dung | 1/12 |
| Water | Access to safe water | % Of households that don't not have access to an adequate amount of safe water | 1/8 |
| Energy | Lightning fuel | % Of households that don't not have access to electricity | 1/4 |
| | Cooking fuel | % Of households that uses dung, wood or charcoal to cook | 1/4 |

*Source:* Author's formulation

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[3] See details at website http://www.ophi.org.uk/research/multidimensional-poverty/alkire-foster-method/

Due to lack of availability of ES related data in PSLM questionnaire, the selection of indicators and dimensions is limited. The household environmental index of India was measured by (Dehury & Mohanty, 2017) using similar dimensions. The development of several kinds of multidimensional poverty indices was done in multiple studies by incorporating Alkire-Foster methodology (Alkire & Foster, 2011; Iqbal & Nawaz, 2017 ; Nawaz & Iqbal, 2016). Recently, Alkire-Foster methodology was used in a number of studies to construct the multidimensional energy poverty index using household data for many countries (Ahmed & Gasparatos, 2020; Crentsil, Asuman, & Fenny, 2019; Mahmood & Shah, 2017), and construct provincial environmental poverty for the Pakistan (Nawaz & Iqbal, 2021) these studies provide an effective basis to construct district level multidimensional environmental poverty index for Pakistan using survey data.

We calculated deprivation score of each district by using the formula: $c = \sum_1^9 w_i\ INDi$ where $IND_I = 1$ the district is deprived in indicator i and $IND_i = 0$ otherwise $w_i$ is the weight assigned to each indicator i with $\sum_1^9 w_i\ IND_i = 1$. $k = 0.3$ was used to identify multidimensional environmental poverty at district levels. A district is poor if its deprivation score is equal or greater than $k$ but before that we assigned weight to each indicator.

Based on this analysis, we calculated the Multidimensional environmental poverty index (MEPI) at district level, which is

$$\text{EPI} = \left[H = \left(\frac{q}{n}\right)\right] * \left[A = \frac{\sum_{I=1}^{N} CI(K)}{Q}\right]$$

Here MEPI is multidirectional environmental poverty index and H is the of districts who is multiple deprived also known as headcount ratio $\left[H = \left(\frac{q}{n}\right)\right]$ q is those districts which have environmental poverty, and the total number of districts are n. A capture the intensity of their deprivation and defined as

$$\left[A = \frac{\sum_{i=1}^{n} ci(k)}{q}\right]$$

where $c_i = k$ is the deprivation score of districts $i$.

### 3.3.2 Impact of Migration on Environmental Poverty

Several methods, including double difference (DD) method, paired observations, and logistic regression analysis, are used to study and do analysis of the welfare impact;

however, due to some significant features of Propensity Score Matching (PSM) method, it was preferred over the other methods. The logistic regression analysis, for example, neglects the problem of selection bias's and distinctively categorizes the economic and socio-demographic aspects of the 'receiver' and 'non-receiver' families. On the other hand, the double difference and paired observation methods need the before and after invention data of the household. Paired observation technique was unsuitable for this study as it often applies to one variable and assumes a negligible impact on the other variables, which is too ideal. The DD method is an approach that is non-experimental and considers the welfare changes over time are estimated relative to the outcome observed for a pre-intervention baseline. Due to insufficient data, the PSM method is used in this study for impact evaluation. The absence of before and after data related to remittance-receiving families makes regression based standard difference-in-difference (DID) models unsuitable for evaluation. The employment of DID models can generate biased results in this study. The PSM technique covers the selection biasness issue and estimates the impact on selected welfare indicators by comparing the treated group with the control group. The technique is helpful to establish a comparable counterfactual group from households who have not received the migrant remittances and those who receives migrant remittances from abroad (Chukwuone et al., 2007).

The propensity score is defined as below:

$P (D = 1|Y) = P(Y)$……. eq 1

Bias is defined as the difference between the beneficiary and non-beneficiary, formally

$Bias = E (YI \mid D = 1) - E (Y0 \mid D = 0)$ ……… eq 2

$E (YI \mid D = 1)$: represent expected outcome from those who receives migrant remittances from abroad (beneficiary group).

$E (Y0 \mid D = 0)$ : represent expected outcome from those who do not receives migrant remittances from abroad (non- beneficiary group).

The beneficiary households matched to non-beneficiary households on basis of propensity scores:

$P (Yi) = probe (Di = 1| Yi) = E (D| Yi)$

Where:

$P(Y_i) = F(h(Y_i))$

$F(h(Y_i))$ can have a normal or logistic cumulative distribution.

$D_i = 1$ if the household has a beneficiary and
0 otherwise.

Y is a vector of pre-treatment characteristics.

The propensity scores were calculated through logistic regression, and then the Average Treatment on the Treated (ATT) effect estimated by three different methods: Nearest Neighbour Matching; Kernel Matching; Stratification Matching.

$ATT = E(X_{1i} - X_{0i} | D_i = 1$

$= E(ATE | D_i = 1)$

$= E(E(X_{1i} - X_{0i} | D_i = 1) p(Y_i))$

$= E\{E(X_{1i} | D_i = 1, p(Y_i))\} - E\{E(X_{0i} | D_i = o, p(Y_i))\} D_i = 1)\}$

Where:

$X_{1i}$ is the potential outcome if household is treated, and

$X_{0i}$ is the potential outcome if household is not treated

The methodology of Propensity Score Matching (PSM) method has been applied to the Pakistan Social Living Standards Measurement Survey (2019/20) dataset to analyze the impact of the migrant remittances on environmental poverty. Since environmental poverty is a multi-dimensional phenomenon, therefore the impact has been estimated on seven indicators which are main material of the floor, main material of the roof, main material of the wall, access of safe water, location of toilet facility, lightning fuel, cooking fuel. Since the dependent variable is dichotomous in nature with two outcomes: received migrant remittances or did not receive migrant remittances, therefore, the Binary Logistic Regression has been applied to estimate the determinants of receiving remittances whereas the 'not-receiver' group serves as the reference category.

### 3.3.3 Role of Migration on Rising Bulge of Labor Force

Analyzing overseas migration and burden of rising bulge of labor force across the districts which is our second research question. This study covers the periods from

2010-2011, 2014-2015 and 2019-2020 and used Pakistan Social Living Standards Measurement Survey (PSLM) to measure the labor force stock across the districts and to calculate the growth of labor force stock from 2010 to 2020. In Pakistan Social Living Standards Measurement Survey (PSLM) 2010-11, 2014-15 and 2019-20 questionnaires, questions regarding the labor force have been asked. This study also used Data of Bureau of Emigration and Overseas Pakistanis (BEOE) district-wise overseas migration 2010-2020 and to calculate the growth of overseas migration from 2010 to 2020.

This research linked the Bureau of Emigration and Overseas Pakistanis (BEOE) district wise overseas migration 2010-2019 to Pakistan Social Living Standards Measurement Survey (PSLM) district wise labor force stock 2010-2019 for examining the district wise share of increasing labor force stock and overseas migrations stock, geographic information system mapping used to understand the high, medium and low migrant districts and high, medium and low labor force districts.

### 3.3.4 Analysis of Migration Issues and Opportunities

The Gulf countries are the main destinations of labor migrants from Pakistan and all over the world. The third research question includes understanding the Pakistani share of migration to Gulf countries, this study finds out the main competitors of Pakistan who gives similar sort of skill, semi-skilled and low skilled workers. Moreover, this study reviews policy documents and strategies of Pakistan and other competitors, in order to identify the reasons behind gain of share in the past few decades and the loss of share in the past few decades.

This research conducted in-depth interviews with few overseas Pakistani workers, overseas employment promoters, and experts from the Ministry of Overseas Pakistanis and Human Resource Development[4]. The obstacles in Pakistan migration were critically evaluated through the conducted interviews, and these interviews also helped in gauging opportunities. All the interviewed stakeholders actively participated in the migration process. The conducted in-depth interviews and analysis of published reports and documents have assisted in establishing an analytical perspective of Pakistani migration.

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[4] http://ophrd.gov.pk/

Apart from the policy documents and reports, international migration data is also important to understand the actual situation of any specific country. Thus, this study also linked the migration data to understand that which policies increase the migration and which policies reduce the migration. The results extracted from the conducted interviews and published reports and policy documents are encoded in chapter five. Moreover, this chapter also includes details of all in-depth analyses, the initiative taken by government of Pakistan and other governments and what are the challenges of Pakistan labor migration.

# Chapter 4

## Environmental Poverty and the Growing Labor Force

### 4.1 The Multidimensional Environmental Poverty Index (MEPI)

Poverty measurements in the multidimensional scale has been used to analyze poverty into more depth and it is very helpful for policy discussion. The Multidimensional environmental poverty index (MEPI) is the product of two measures, multidimensional headcount ratio (H) and intensity of poverty (A). The multidimensional headcount ratio (H) is the proportion of multidimensional poor to the total population. The intensity of poverty (A) is the average weight of deprivation experienced by the multidimensional poor at a time (Nawaz & Iqbal, 2021).

**Table 5**: Multidimensional Environmental Poverty Index

| District | EP Headcount ratio (H) | Average Intensity (A) | Environmental Poverty Index (EPI=H*A) |
|----------|------------------------|------------------------|----------------------------------------|
| Punjab | 52.67 | 41.99 | 22.12 |
| Sindh | 50.36 | 54.16 | 27.28 |
| Kp | 78.90 | 46.65 | 36.81 |
| Baluchistan | 83.17 | 61.24 | 50.94 |

**Source:** Author's estimates from PSLM 2019-20

Since we have used EP Headcount ratio (H) and Average Intensity (A) in Multidimensional Environmental poverty (MEPI) index, the province wise statistics EP Headcount ratio (H) and Average Intensity (A) is placed in Table 5. The district level details of the EP Headcount ratio (H), Average Intensity (A) Multidimensional Environmental Poverty (MEPI) index along with district ranking is placed in Annex 1 that shows district MEPI values is very low in Lahore district 0.02 and a very high in the Tharparkar district 0.72. We also found that the districts Sujawal, South Waziristan, Umer kot, Kalat, Bajur, Ziarat, Washuk and Kharan have higher value of MEPI and indicating that in those districts environmental poverty is very high, while districts

Islamabad, Rawalpindi, Peshawar, Attock, Faisalabad, Gujranwala and Gujrat were found in better condition.

## 4.2 Impact of Migration on Environmental Poverty

It was mentioned in the methodology that dependent variable migrant remittances are binary in nature and have two outcomes received remittances or not received remittances, to check the various socio demographic factors on migrant remittances, i.e., impact of household characteristics and regional characteristics, logistic regression model has been applied. The results of the logistic model for propensity scores to find the effect of remittances are presented in Table 6. We also analyze the impact of migrant remittances on environmental poverty. The results of the impact of migrant remittances on environmental poverty are presented in Table 7. For propensity score, received migrant remittances is treatment and 1 is assigned to those households who received migrant remittances and 0 is assigned to those household who don't received migrant remittances, x list or explanatory variables are sex of household head, age of household head, education of household head categories and regional characteristics including the provincial and regional dummies. Previously (Khan, Khan, & Hussain, 2021) utilized similar covariates in order to find the impact of remittances on PSLM 2011-12 datasets. The Logistic regression is used to estimate the prosperity score and from that prosperity score the average treatment on treated effect will be estimated by using the three matching techniques i.e., Nearest neighbor matching, Kernel matching and stratification matching.

The results in Table 6 show all variables are highly significant at 1% level. Sex of household head coefficient identifies that those households who are headed by the females are high remittances receiving households as compared to those who are headed by the males. Education of all categories enhances the probability of remittances which is a standard result in the literature on the returns to education. Higher household size enhances the probability of members of the households to be migrants. The cross-province comparison shows that remittances are higher in Khyber-Pakhtunkhwa (KPK) as compared to the Punjab while remittances in Sindh and Baluchistan are comparatively lower as compared to the Punjab. This finding is justified by the fact that we have higher migrant networks in Khyber-Pakhtunkhwa (KPK) and Punjab.

**Table 6**: Logistic Model for Propensity Scores to find the Effect of Remittances

| Covariate | Coefficients | Standard Error |
|---|---|---|
| Sex of head (male = 1) | -2.361*** | 0.0121 |
| Age of head (years) | 0.030*** | 0.0003 |
| Education of head (Illiterate as reference) | | |
| Below primary | 0.083*** | 0.027 |
| Below Middle | 0.380 *** | 0.015 |
| Middle | 0.515 *** | 0.016 |
| Matric | 0.613 *** | 0.014 |
| Inter | 0.590 *** | 0.023 |
| Graduation and above | 0.321 *** | 0.022 |
| Household size | 0.067 *** | 0.001 |
| Province (Punjab as Reference) | | |
| Sindh | -2.101 *** | 0.034 |
| KP | 1.026*** | 0.010 |
| Baluchistan | -2.304*** | 0.055 |
| Region (Rural=1) | 0.267 *** | 0.012 |
| Constant | -3.283*** | 0.023 |
| LR chi2 | 87014.6 | |
| Log likelihood | -160695.8 | |
| Prob > chi2 | 0.0000 | |
| Pseudo R2 | 0.213 | |
| Number of observations | 869263 | |

**Source:** Authors estimates from PSLM 2019-20 [***significance at 1%]

The present dissertation has used headcount of Multidimensional Environmental Poverty Index (MEPI) at cut-off of 30 percent to capture impact of migrant remittances. The results given in the Table 7 below. In this table standard error (bootstrapped), t-

values (bootstrapped), the number of matching cases treated and size of the control group is also given, the results shows that migrant remittances has a significant negative impact on environmental poverty as the households who received migrant remittances are less deprived by 4.1 percent NN method, 2.7 percent for the Kernel method and 4.6 percent for Stratification method while comparing these households with those who have not received migrant remittances but have similar socio-demographic and economic profile. Overall, the affect ranges from 2.7 percent to 4.6 percent. Those results give the evidence that migrant remittances decrease the environmental poverty.

**Table 7:** ATT Effect of Migrant Remittances on MEPI (at K = 0.30)

|  | NN method | Kernel method | Stratification method |
|---|---|---|---|
| ATT | **-0.041** | **-0.027** | **-0.046** |
| N. treated | 54690 | 54690 | 54665 |
| N. control | 255910 | 812737 | 813670 |
| St.error bootstrap | 0.0019 | 0.0024 | 0.0032 |
| t-stat | -21.388 | -10.939 | -14.119 |

**Source:** Author's estimates from PSLM 2019-20

The quality of analysis based on propensity score matching, crucially dependent upon the authenticity of the assumptions of common support and conditional independence. The tests for such assumptions can be seen in Figures 5 to 7. In Figure 5 the conditions of common support appear to be mostly satisfied. In Figure 6 and Table 8 the overlapping of propensity scores of both non-recipient and recipient families is adequate. Moreover, after the matching, the reduction in the biases is substantial. The bias that is left is lower than 10% in all estimations, as suggested by (Rosenbaum & Rubin, 1985). The characteristics of the constructed groups of remittances receiving households and non-remittances receiving households can therefore be considered comparable.
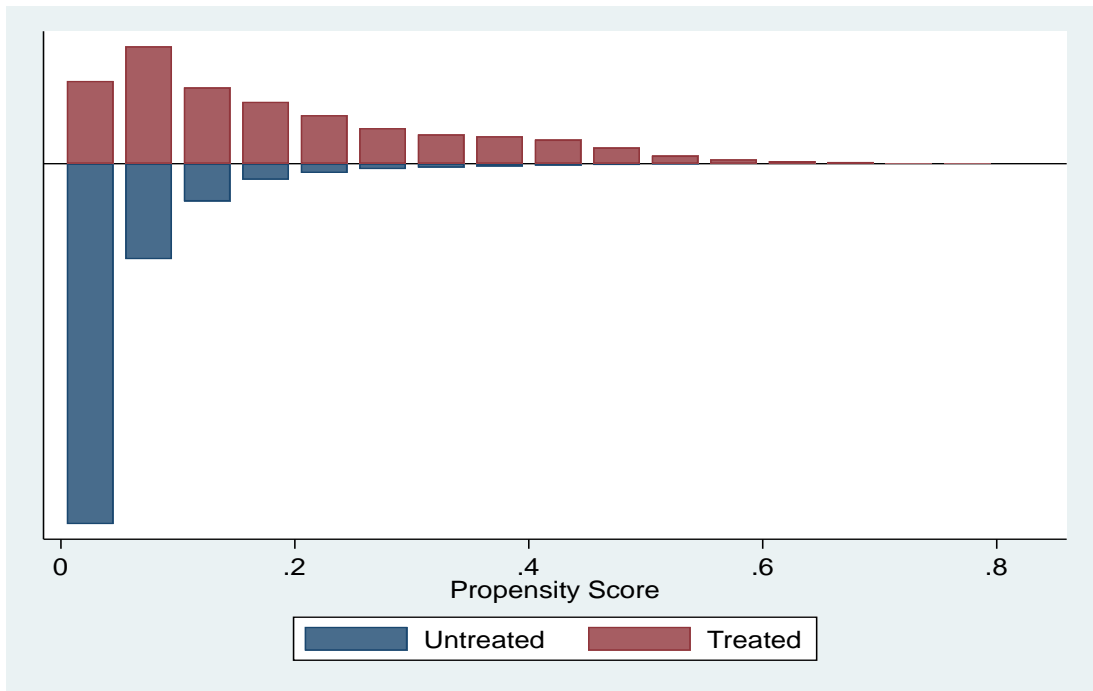
**Source:** Author's estimates from PSLM 2019-20

*Figure 5:* Common Support of Propensity Scores
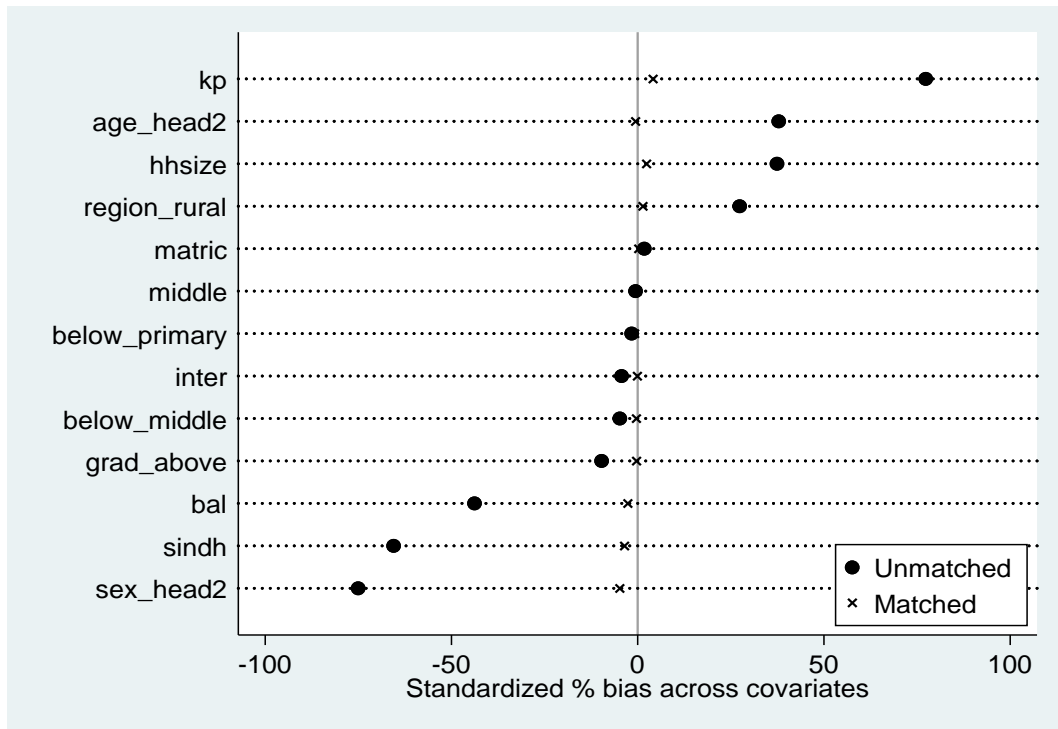


**Source:** Author's estimates from PSLM 2019-20

*Figure 6:* Standardize Difference Between Matched and Unmatched Variables

**Table 8:** Biasness between Unmatched and Matched Variables (Post Estimation)

| Variable | Unmatched Matched | Mean Treated | Control | Bias% | Reduce bias% |
|---|---|---|---|---|---|
| Sex of head (male = 1) | U | 0.67148 | 0.94747 | -75.1 | |
| | M | 0.67148 | 0.68927 | -4.8 | 93.6 |
| Age of head (years) | U | 50.673 | 45.369 | 37.9 | |
| | M | 50.673 | 50.758 | -0.6 | 98.4 |
| Education of head (Illiterate as reference) | | | | | |
| Below primary | U | 0.02975 | 0.03257 | -1.6 | |
| | M | 0.02975 | 0.03126 | -0.9 | 46.5 |
| Below Middle | U | 0.11956 | 0.13562 | -4.8 | |
| | M | 0.11956 | 0.12086 | -0.4 | 92 |
| Middle | U | 0.10219 | 0.10397 | -0.6 | |
| | M | 0.10219 | 0.10275 | -0.2 | 68.9 |
| Matric | U | 0.14646 | 0.14032 | 1.8 | |
| | M | 0.14646 | 0.14562 | 0.2 | 86.3 |
| Inter | U | 0.04703 | 0.05664 | -4.3 | |
| | M | 0.04703 | 0.04731 | -0.1 | 97 |
| Graduation and above | U | 0.0512 | 0.07473 | -9.7 | |
| | M | 0.0512 | 0.05205 | -0.4 | 96.4 |
| Household size | U | 8.1163 | 6.5688 | 37.4 | |
| | M | 8.1163 | 8.019 | 2.4 | 93.7 |
| Sindh | U | 0.0164 | 0.21598 | -65.5 | |
| | M | 0.0164 | 0.02729 | -3.6 | 94.5 |
| KP | U | 0.53761 | 0.1906 | 77.3 | |
| | M | 0.53761 | 0.51929 | 4.1 | 94.7 |
| Baluchistan | U | 0.00614 | 0.10365 | -43.8 | |
| | M | 0.00614 | 0.01211 | -2.7 | 93.9 |
| Region (Rural=1) | U | 0.81598 | 0.69982 | 27.4 | |
| | M | 0.81598 | 0.81016 | 1.4 | 95 |

**Source:** Author's estimates from PSLM 2019-20

In Figure 7, the Standardized Percentage Bias across Covariates as well as the percentage of drop in bias after balancing the covariates among the treated and non-treated households can be viewed. The standardized percent bias is reducing down to zero.
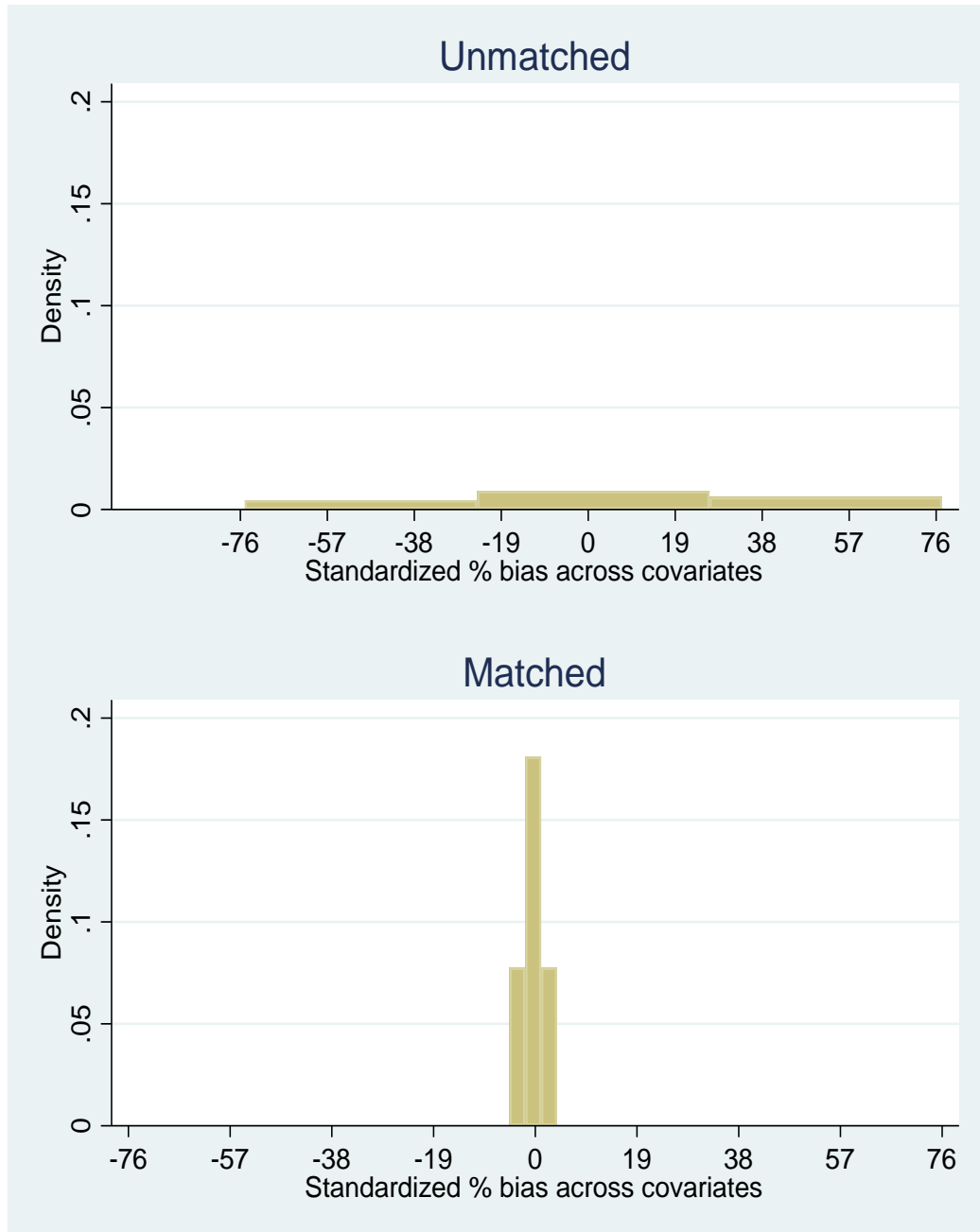


**Source:** Author's estimates from PSLM 2019-20

*Figure 7*: Standardized Percentage Bias Across Covariates

## 4.3 Labor Force and Overseas Migration

At district level the 10 years period under study is divided into one subgroup 2010-11 to 2019-20. Table 8 provides the details of provincial labor force stock and stock of overseas migrants. Overseas migration helps to reduce the burden of labor migration a province level brief discussion on it is relevant here. In year 2006 the labor force stock was 30 million in Punjab to 2 million in Baluchistan however the stock of overseas migration at that time were 252 thousand in Punjab to 7 thousand in Baluchistan. In 2018 labor force stock of Punjab were 41 million in Punjab to 3 million in Baluchistan and stock of overseas migration at that time were 499 thousand in Punjab to 8 thousand in Baluchistan. It is clearly identified that overseas migration help to reduce burden of labor force in domestic labor market.

**Table 8:** Labor Force Stock and Stock of Overseas Migrants

| | Labor force stock (in millions) | | | | Stock of overseas migrants (in 000) | | | |
|---|---|---|---|---|---|---|---|---|
| Year | 2006 | 2010 | 2014 | 2018 | 2006 | 2010 | 2014 | 2018 |
| Overall | 50 | 57 | 61 | 68 | 416 | 724 | 1472 | 880 |
| Punjab | 30 | 34 | 36 | 41 | 252 | 416 | 862 | 499 |
| Sindh | 11 | 14 | 14 | 15 | 35 | 72 | 207 | 99 |
| KP | 5 | 6 | 6 | 8 | 122 | 228 | 388 | 275 |
| Baluchistan | 2 | 2 | 3 | 3 | 7 | 8 | 15 | 8 |

**Source:** Source: LFS, 2005/06 and 2017/18; BEOE (2019)

The detail of increase in new entrants in labor force stock, number of workers placed abroad and workers as % of new entrants at district level reported in Annexure Table 2 which shows that there is great variation in the districts from 2010 to 2019, in district Jhelum the number of workers placed abroad is much higher 79 thousand and new entrants in labor force during that period is 20 thousand a ratio of 395 percent. The ratio is very low in Islamabad only 21 percent where number of workers placed abroad is 52 thousand, new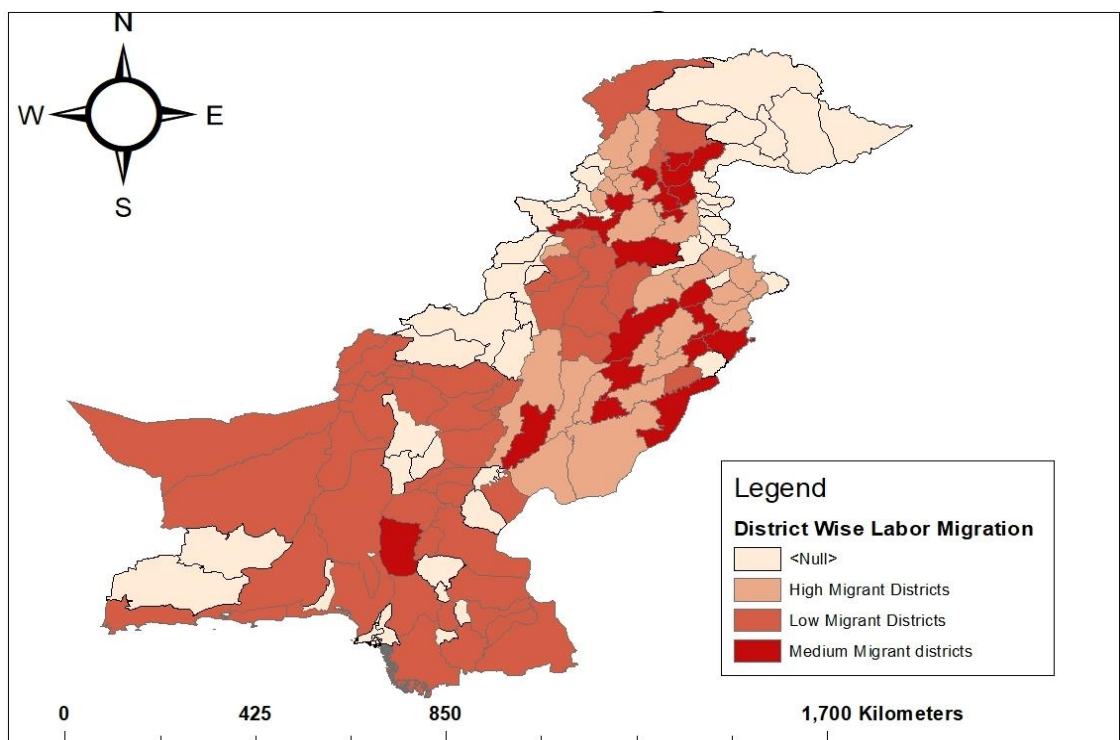 entrants in labor force during that period is 244 thousand. The number of workers placed abroad is much higher in district Vehari 69 thousand and new

entrants in labor force during that period is 83 thousand a ratio of 82 percent. The ratio is very low in Rahimyar Khan only 23 percent where number of workers placed abroad is 97 thousand and new entrants in labor force during that period is 415 thousand. In Deraa Ghazi Khan the number of workers placed abroad is much higher 179 thousand and new entrants in labor force during that period is 196 thousand a ratio of 92 percent. The ratio is very low in Layyah only 22 percent where number of workers placed abroad is 41 thousand and new entrants in labor force during that period is 189 thousand. In district Khushab the number of workers placed abroad is 33 thousand and new entrants in labor force during that period is 43 thousand a ratio of 78 percent. The ratio is very low in Jhang only 11.11 percent where number of workers placed abroad is 50 thousand and new entrants in labor force during that period is 456 thousand. In the district Narowal the number of workers placed abroad is 88 thousand and new entrants in labor force during that period is 38 thousand a ratio of 231 percent. The ratio is very low in Lahore only 13 percent where number of workers placed abroad is 203 thousand and new entrants in labor force during that period is 1588 thousand.

In the district Ghotki the number of workers placed abroad is 19 thousand and new entrants in labor force during that period is 118 thousand a ratio of 15 percent. The ratio is very low in Tharparkar only 1 percent where number of workers placed abroad is 2 thousand and new entrants in labor force during that period is 162 thousand. In district Karachi the number of workers placed abroad is 353 thousand and new entrants in labor force during that period is 2498 thousand a ratio of 14.13 percent.

In the district Swat the number of workers placed abroad is 187 thousand and new entrants in labor force during that period is 62 thousand a ratio of 299.56 percent. The ratio is very low in Kohistan is only 2 percent where number of workers placed abroad is 6 thousand and new entrants in labor force during that period is 242 thousand. In district Charsadda the ratio of workers as % of new entrants is 67 percent. In district Bannu the ratio of workers as % of new entrants is 65 percent. In district Kohat the number of workers placed abroad is 58 thousand and new entrants in labor force during that period is 90 thousand a ratio of 65 percent. The ratio is very low in Peshawar only 18 percent where number of workers placed abroad is 104 thousand and new entrants in labor force during that period is 592 thousand. In Figure 8 district wise labor force participation 2019-20 is placed and in Figure 9 district wise labor migration 2019-20 is placed.
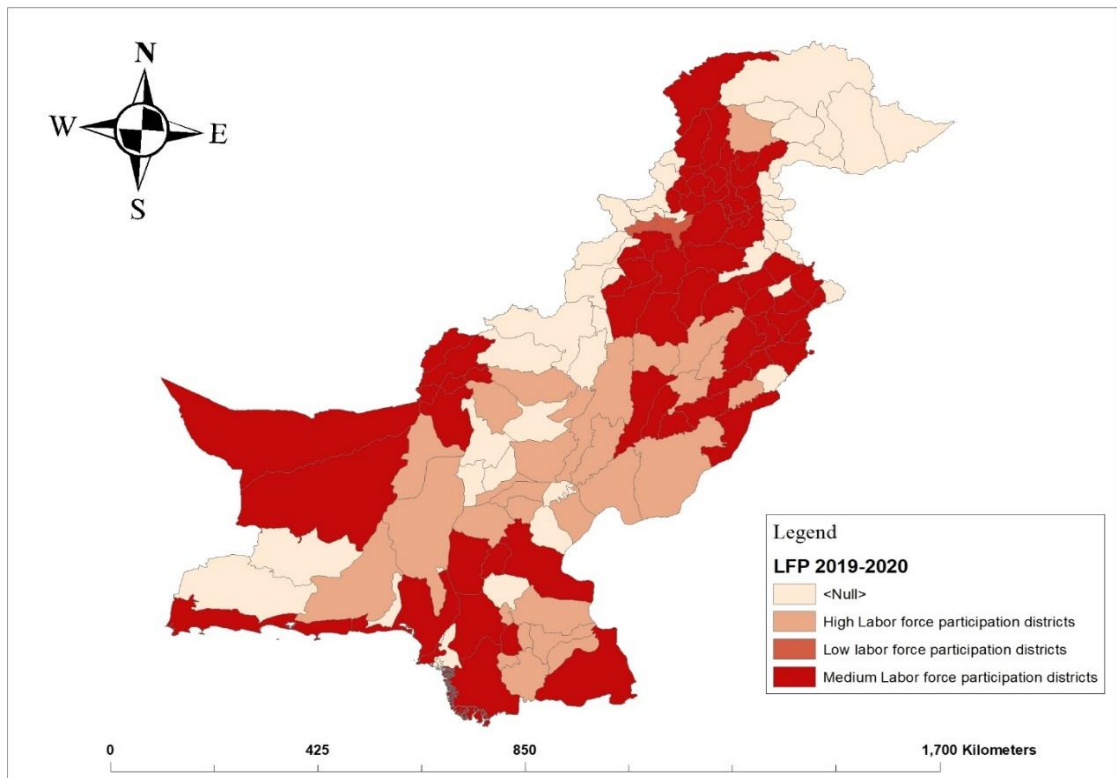
**Source**: Author's estimates from PSLM 2019-20

*Figure 8:* Labor Force Participation 2019-20



**Source**: Author's estimates from BEOE 2019-20

*Figure 9:* District Wise Labor Migration 2019-20

In the district Khuzdar the number of workers placed abroad is much higher 6 thousand and new entrants in labor force during that period is 14 thousand a ratio of 46 percent. In the district Dera Bugti, the number of workers placed abroad is 256 hundred and new entrants in labor force during that period is 33 thousand a ratio of 0.76 percent. The ratio is very low in Killa Abdullah only 0.46 percent where number of workers placed abroad is less than one thousand and new entrants in labor force during that period is 163 thousand. So, it is cleared that overseas migration helped to reduce the burden of labor force in all districts, in some districts it reduced more in some districts reduced less, but it's reduced during the mentioned period.

# Chapter 5

## Overseas Migration of Pakistan and its Competitors Towards Gulf

### 5.1 Introduction

This chapter reviewed the importance of migration towards Gulf from Asian countries, taking into account the fact that most of the temporary migrants migrate toward Gulf, and analyzed the polices of Pakistan and other main competitors. Moreover, this chapter also covered the main policies and strategies behind gaining of share in the last few decades and the causes behind loosing of share in the last few decades and conducting in-depth interviews with experts from Ministry of Overseas Pakistanis and Human Resource Development, overseas promotors, and labor migrants. Section 5.2 highlights the overview and importance of migration towards Gulf. Section 5.3 discusses policies and strategies of Pakistan and regional competitors. Section 5.4 critically reviews the Pakistan labor migration.

### 5.2 Overview and Importance of Migration Towards Gulf

The discovery of oil in GCC countries, in 1970, and their high oil income motivated them to work on development of their infrastructure, for which they needed skilled and unskilled workers. This increased the demand of foreign workers, and Gulf countries began providing a countless job opportunity to different countries as their local population was low and need was high; also, their locals did not have the required skills. The number of migrants moving towards Gulf countries from the Asian labor rich countries is higher than the number of workers migrating from nearby Arab countries. Labors of Asian countries migrate towards the Gulf because they are poor, and their local economies did not create enough jobs for them, they migrate towards the Gulf for better job opportunity and send back remittances to their home country. According to research, 90 percent of private jobs in the Gulf are occupied by the migrants, and migrants mostly work in the private sector work as the opportunities for foreign workers in private sector are better than public sector. The male natives in Gulf countries are mostly inclined towards public sector jobs due to the high facilities that follow. On the other hand, employment is not a preference for the female natives because of their cultural norms; however, recent modernization policies in some of the Gulf countries have indicated a noticeable increase in female participation in the labor force.

Normally, most of the migrants from Asian countries towards the Gulf are male, but the recent modernization polices are expected to open new doors for countless opportunities for females in the coming future. Migration towards the Gulf has a great effect on both labor sending Asian countries and GCC countries, but the Asian labor sending countries benefit more because of remittances. Some of the GCC countries also protect migrant worker's rights and give them legal protection which is also beneficial for the migrant labor force.

**Table 9**: Arab and Asian Countries Migration Towards Saudi Arabia (in 000s)

| Emigrant Countries | 1990 | 1995 | 2000 | 2005 | 2010 | 2015 | 2019 |
|---|---|---|---|---|---|---|---|
| Egypt | 357 | 366 | 376 | 465 | 603 | 770 | 938 |
| Sudan | 178 | 183 | 188 | 232 | 301 | 385 | 469 |
| Yemen | 286 | 293 | 301 | 372 | 482 | 616 | 750 |
| Bangladesh | 479 | 491 | 504 | 623 | 808 | 1022 | 1246 |
| Pakistan | 556 | 570 | 586 | 724 | 938 | 1187 | 1447 |
| Philippines | 239 | 245 | 252 | 311 | 404 | 516 | 628 |
| India | 906 | 929 | 978 | 1216 | 1579 | 2003 | 2440 |

**Source**: United Nations Department of Economic and Social Affairs, 2019

Migration of Asian and Arab countries towards Saudi Arabia are briefly discussed and Table 9 reports the Arab and Asian migration towards Saudi Arabia from 1990 to 2019. The table also shows that Arab countries, including Egypt, Sudan, and Yemen, have low migration towards Saudi Arabia as compared to the Asian countries like Bangladesh, Pakistan, Philippines, and India. In 2019 migration count varied from different countries 1,246 thousand Bangladesh, 1,447 thousand Pakistan, 628 thousand Philippines, 2,440 thousand India, 938 thousand in Egypt, 469 thousand Sudan, and 750 thousand Yemen migrant workers migrated. From 1990 to 2015, a similar trend of more highly increasing migration from Asian countries to Saudi Arabia has been observed, in comparison to Arab countries to Saudi Arabia.

Asian and Arab countries migration towards United Arab Amirites briefly discusses here. Table 10 reports the Arab and Asian migration towards United Arab Amirites from 1990 to 2019 and shows Arab countries including Egypt Sudan and Yemen have low migration towards United Arab Amirites as compared to the Asian countries Bangladesh, Pakistan, Philippines and India. In 2019, the numbers of migrants were as follows: 1,079 thousand Bangladesh, 981 thousand Pakistan, 556 thousand Philippines, 3,419 thousand India, 886 thousand Egypt, 131 thousand Sudan, and 202 thousand Yemen. Same increasing trend of migration from Asian countries towards United Arab Emirates is observed in the time period 1990 to 2015, and a decreasing trend of migration is observed from Arab countries towards United Arab Emirates.

**Table 10**: Arab and Asian Countries Migration Towards U.A.E (in 000s)

| Emigrant Countries | 1990 | 1995 | 2000 | 2005 | 2010 | 2015 | 2019 |
|---|---|---|---|---|---|---|---|
| **Egypt** | 165 | 207 | 261 | 341 | 755 | 825 | 886 |
| **Sudan** | 32 | 42 | 54 | 55 | 111 | 122 | 131 |
| **Yemen** | 44 | 57 | 72 | 82 | 172 | 188 | 202 |
| **Bangladesh** | 154 | 219 | 297 | 408 | 919 | 1004 | 1079 |
| **Pakistan** | 158 | 225 | 305 | 383 | 836 | 913 | 981 |
| **Philippines** | 60 | 91 | 128 | 202 | 474 | 518 | 556 |
| **India** | 458 | 667 | 915 | 1286 | 2913 | 3184 | 3419 |

**Source**: United Nations Department of Economic and Social Affairs, 2019

Table 11 reports the national and foreign population in the GCC Countries from 1975 to 2018 and shows in 1975 foreign population is just 9.7 percent and national population is 90.3 percent but the GCC countries wanted to develop their infrastructure after discovering oil, which required skilled and unskilled workers so due to that therefore, after 1975, there national population decreased and foreign population increased; using numbers, it can be identified as 36.6 percent foreign population and 63.4 percent national population in 1990, and 42.7 percent foreign population and 57.3 percent national population in 2010. In GCC countries, in 2018, the nationals were 48.1 percent and foreign population was 51.9 percent, which indicated that their total national

population were less than the foreign population. The total population of non-nationals is much higher than the nationals in most of the GCC countries because their education systems are not advanced. Thus, in order to fulfill their required demand, they were compelled to accept skilled labor force from other countries, as well as unskilled workers because their own nationals mostly remain against performing low-skilled work.

**Table 11**: National and Foreign Population in the GCC from 1975 to 2018

| Year | Numbers | | | Percentage | |
|---|---|---|---|---|---|
| | Total | National | Foreign | National | Foreign |
| **1975** | 9,731 | 8,790 | 941 | 90.30% | 9.70% |
| **1990** | 22,523 | 14,281 | 8,241 | 63.40% | 36.60% |
| **2010** | 41,094 | 23,536 | 17,557 | 57.30% | 42.70% |
| **2018** | 56,076 | 26,954 | 29,122 | 48.10% | 51.90% |

**Source**: Gulf migration.org

## 5.3 Review of Overseas Migration Policies

Migration has a significant importance in the development of countries. It is essential to fulfill the gaps in the domestic labor market, especially, after the invention of new transportation ways. Some countries are resource-rich countries, but they have less labor force. On the other hand, some countries do not have enough natural resources, but they have a high labor force, and this labor force can draw incredible opportunities to these countries. Most of the Asian countries are developing countries, which obstructs their efforts of creating more jobs for their people. As a result, their people opt for migrating to different resource-rich countries for better opportunities and high wages and to generate maximum remittances for the benefit of their home country.

GCC countries are the most preferred and convenient migrating-locations for international migrants, particularly for the migrants from the Asian countries. Many workers from Bangladesh, India, Pakistan and Philippines migrated towards the GCC countries. Largest recipient's countries of labor migrants from Asia are United Arab Emirates and Kingdome of Saudi Arabia. A large number of labor migrants are male, however, the demand for female workers also increased in recent years. Migrant

workers are usually a combination of both skilled and unskilled workers, but the demand remains high for skilled workers. The policies of labor-sending countries reflect their interest in increasing their labor migration, but the policies of labor-receiving countries are not attractive for the migrants, as a rise in the foreign population brings a rise in the unemployment of domestic labor too. Hence, they favor protecting their domestic labors by indirectly discouraging foreign workers.

According to the recent data migration towards the Gulf from the Asian countries have both increasing and decreasing trend but there is a consistent increase in the labor migration of the Filipino workers towards the Gulf. Along with the GCC labor market, Philippine is the major country that has affected the global labor market in the past few years. The great increase in the Filipino migrant workers abroad is due to the policies they adopted. Along with the government policies, there is a great culture of migration among the youth from past few years which helps to increase the labor migration of Philippine. According to a survey conducted in 2002[5] one in five adult respondents said they would like to migrate. This culture of migration was not just restricted to adults but had spread its roots to children and young people. According to the survey carried out in 2003, 47 percent of children, aged between 10 to 12, wish to migrate in the future. The outcome of those surveys can be witnessed in 2009 to 2015, and the development in this sector has been further fruitful with the help of government migration policies which assisted in increasing the labor migration share of the Philippines.

Philippine's labor migration policy has few main aspects; it strengthened the protection and facilitation of labor migration. Law (RA 8042)[6] gave protection to the overseas Filipino workers but did not promote overseas labor migration. However, after 2000, government realized the great importance of international labor migration and focused on improving their labor migration. In 2005, the Philippine Overseas Employment Administration took action against the recruitment agencies for misusing the visas. The year 2006 and 2007 was the time when Philippines's exclusive subject was to increase the share of skilled and technical workers in 2007 Saudi Arabia wanted to hire nurses for their hospital, the Philippine identified the demand for nurses and capture the opportunity and due to that in 2007 the employment of Filipino nurses is increased,

[5] F. Cai, "The labour export policy: a case study of the Philippines".
[6] https://www.poea.gov.ph

Ministry of Health (MOH) Saudi Arabia[7] increased the salaries of Filipino nurses exclusively in 2008 due to their quality of work. During 2009, the government made a policy to ensure the quality of labor migration that only the medical specialists who passed the licensing exam of the Saudi Commission for Health Specialties would be allowed to go to Saudi Arabia.

Figure 10 shows the trend of labor migration of Asian countries towards Kuwait and identified that labor migrants from most of the Asian countries decreased, while the numbers of Bangladeshi and Philippines workers migrating has seen increase till 2015.
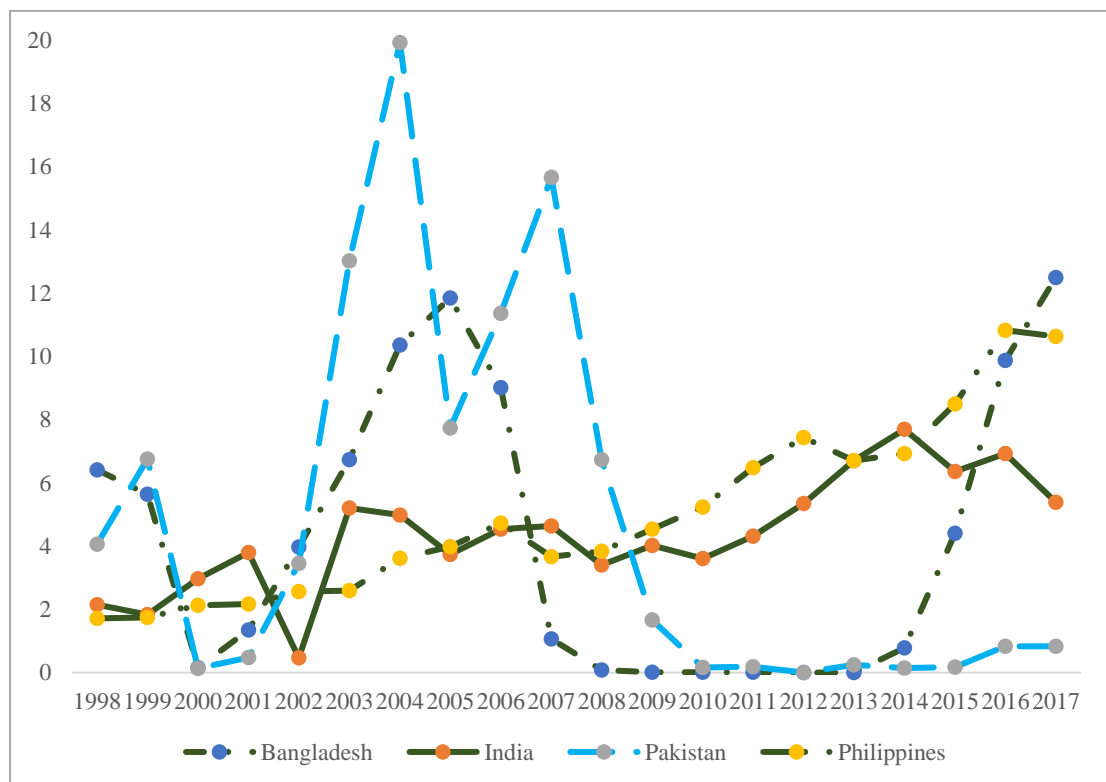


**Source**: UN ESCAP/Labor migration outflow database

*Figure 10:* Labor Migration Towards Kuwait

Act of 1995 was amended by Republic Act 10022[8] on 08 July 2010. Philippines maintained a constant association with all GCC country governments and recognized the sectors that would have an encouraging future for Filipino workers. POEA identified few sectors for Filipino workers in 2010, like healthcare sector, construction, energy, communication, manufacturing, education, and shipping; they were also trying

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[7] https://www.moh.gov.sa
[8] https://www.lawphil.net

to provide skills to their workers which were required in the international and GCC labor market. They took actions timely against those who submitted fake skills competency certificates. In 2016 the Philippines introduced revised rules on recruitment and placement of land based OFWs and improve the licensing of recruitment agencies along with focusing on the protection of Filipino workers abroad.

Bangladesh has big share of labor migration towards Gulf. The government of Bangladesh issued the immigration ordinance in 1982, which stated that only those who have valid travel document are allowed to migrate (Sec. 7/3/a)[9]. The foreign employer or a recruiting agent recognized by the government have the authority for selecting a person for migration (Sec. 7/3/b). The ordinance also gives authority to the government to send a workforce of specific profession abroad according to the requirements (Sec. 8/1). In addition to that, there were many other benefits of this ordinance. On 11 April 1983, the government set four Special Courts in each of the divisions of the country (Dhaka, Chittagong, Khulna, and Rajshahi)[10] after the demand of the Labor and Manpower Ministry. Moreover, on 25 March 1985, assistant directors of district employment and manpower offices were authorized to lodge complaints to the Special Courts.

In 2001, a new Ministry of Expatriates Welfare Overseas Employment was established with the goals of creating work opportunities abroad, exploring the new markets, prioritizing the welfare of the workers. The ministry was responsible for implementing the new Emigration Ordinance of 1982. Bangladeshi government authorities realized the role of migration and labor migration in the development of the country and decided to include labor migration in a number of planning documents like Seventh Five Year Plan, National Skills Policy, Climate Change, Displacement Strategy Paper, DELTA planning, and the SDGs implementation planning.

From time to time, since 1981, the government allowed the female workers to migrate; however, the number of female skilled and low-skilled migrant workers was increased by the government in 2003. Bureau of Manpower, Employment and Training (BMET)[11] and Technical Training Centers were provided training to the low skills workers related

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[9] T. Siddiqui, "International labor migration from Bangladesh: A decent work perspective".
[10] Merchants of labor by international labor Office, International Institute for labor Studies, 2006.

[11] http://www.old.bmet.gov.bd

to the use of washing machines, carpet cleaner, iron microwave, etc. Furthermore, the government also increased the deposit money of the recruiting agent who hired the female workers, because women encountered more abuse as compared to men, and the deposit money was like a security bond that ensured the safety of the female workers. Figure 11 shows the trend of labor migration of Asian countries towards Oman and identified that labor migrants from most of the Asian countries decreased, while the numbers of Bangladeshi and Philippines workers migrating has seen increase till 2015.
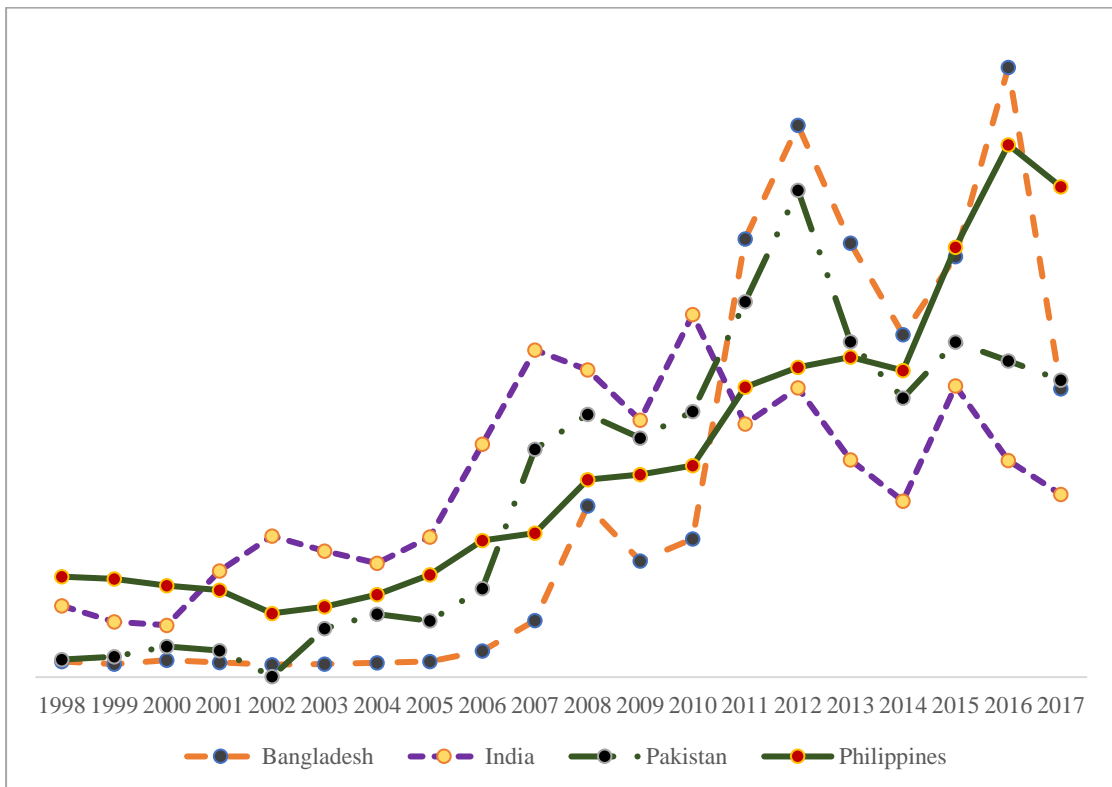


**Source**: UN ESCAP/Labor migration outflow database

*Figure 11:* Labor Migration Towards Oman

The government also introduces the Overseas Employment and Migration act in 2013[12] and it replaces the 1982 ordinance. In the 2013 Act, the government increased facilitation for the migrant workers, especially the female migrant workers, which allowed them to report complaints, regarding any misconduct by the recruitment agent, at any court instead of a special court, according to Article 25 of this act the government has the authority to make agreements and MOU with the receiving country for the welfare of migrant workers although the Bangladesh government did not sign any MOU

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[12] https://www.bpb.de

from 1971 to 1990 to any receiving country, and signed some MOU with host countries including (Qatar 2000), (United Arab Emirates 2007), (Oman 2008). These MOU increased the labor migration for a short time period. The government introduced the Overseas Employment and Migration Act, but the implementation of this act was not very effective. After 2010, Bangladeshi government also set a policy to send more skillfully workers abroad. In order to do so, they increased the training schools, especially in less development areas, and frequent trainings were provided to the people by institutions.

The policies of the Bangladesh government increased the labor migration, including female labor migration, till the year 2017; afterwards, the labor migration decreased due to some major consequences which included women abuse. By the end of 2017, the media highlighted the news of abused female labor returning from Saudi Arabia, which had a negative influence on females and resulted into a decline in female labor migration. From 2012, the labor market of United Arab Emirates closed for Bangladeshi male workers, leading to the crumbling of labor migration of Bangladeshi workers in United Arab Emirates. In general, there was a decrease in both male and female migration in few GCC countries, but after 2019, the spread of coronavirus added up to the reasons of the diminution of migration.

After the 1970 Oil price boom in GCC countries, India was a major country to send workers towards GCC countries[13]. United Arab Emirates and Saudi Arabia are the two main countries that are an appealing destination for migrant workers, and more than 60 percent of Indian workers migrate there. According to sources, labor migration from the Indian poorest states increased, and labor migration from the Indian richer states decreased. Labor migration is an important aspect of India but the focus of government in this area was relatively weak, which has dropped the overall labor migration share of India in the GCC countries.

Indian labor migration policy is mostly for the contract or temporary migration. According to Section 22 of the Emigration Act, 1983, no citizen was allowed to immigrate without the clearance of Protector of Emigrants.[14] The basic purpose of the

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[13] J. Calabrese, "India-Gulf Migration: A Testing Time"

[14] https://www.refworld.org

Emigration Act, 1983[15] was to provide best term and condition of respectable employment possibilities for workers. However, after some years of development of the Emigration Act, 1983, the labor migration increased, but this act did not fulfill the requirements as expected; the relevant authorities did not properly verify the employment contracts, and they were not monitoring the working conditions of migrant workers. Moreover, it became tough for the government to cooperate with the recruitment agents, as they began charging their desired fees and selling free visas at high charges. Figure 12 shows the trend of labor migration of Asian countries towards Saudi Arabia and identified that labor migrants from most of the Asian countries including India decreased, while the numbers of Bangladeshi workers migrating has seen increase.
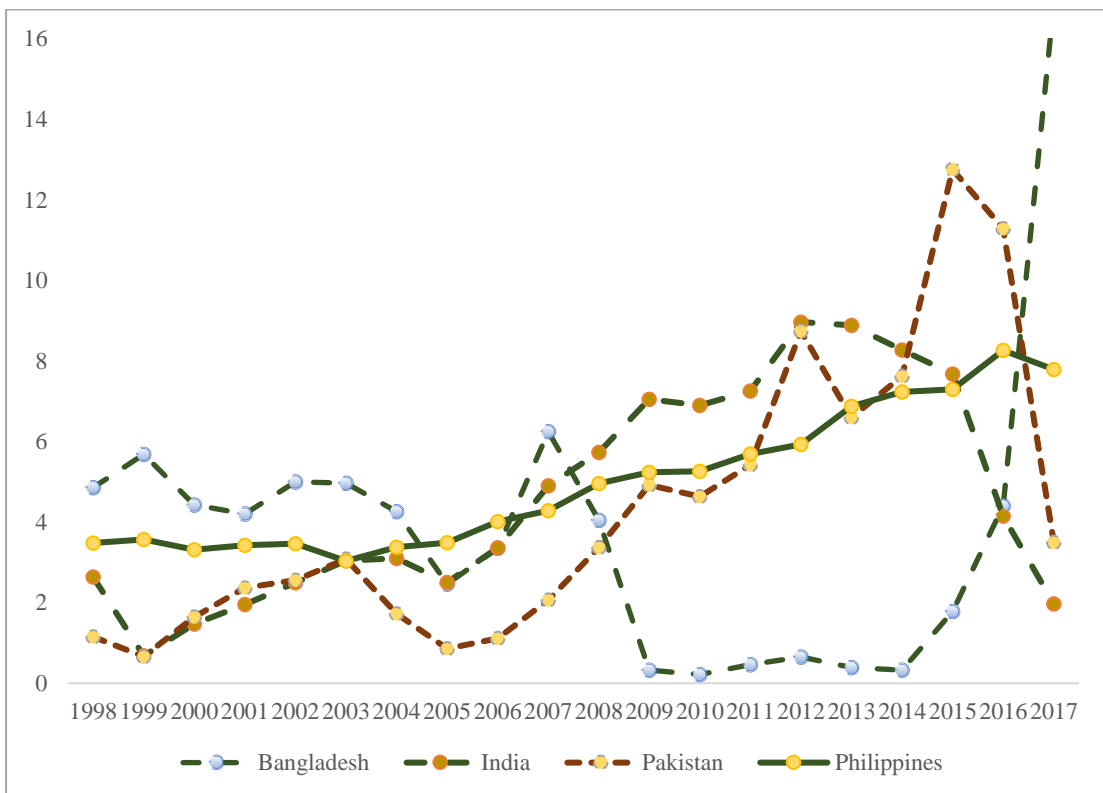


**Source**: UN ESCAP/Labor migration outflow database

*Figure 12:* Labor Migration Towards Saudi Arabia

The government authorities also were not focused on searching new markets and skillset required abroad. Emigration Act, 1983 was not an emphasis on the female migrant workers. In contrast other countries remained observant of opportunities for

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[15] https://legislative.gov.in

women labor migration and benefited tremendously from them. The Indian labor migration further slowed down due to the labor migration policies of Gulf countries towards India[16] the condition was worsened because of economic falloffs and fluctuating oil prices. The change in oil prices in the Gulf and the wages offered in those regions have become a less attractive factor for the Indian workers. Besides, Indian migration workers are less willing to go towards the Gulf because of the increasing work permit renewal fees and taxes.

In May 2015, government of India computerized the whole labor migration system, named as E-migrate, for the betterment of migration. Indian government also set minimum referral wages (MRWs) for Indian labor migrants because the Indian government wanted to increase labor migration, but unfortunately, these measures had a negative impact on recruiters and employers and decreased the labor migration instead. Figure 13 shows the trend of labor migration of Asian countries towards Bahrain and identified that labor migrants from most of the Asian countries including India decreased, while the numbers of Philippines workers migrating has seen minor increase.
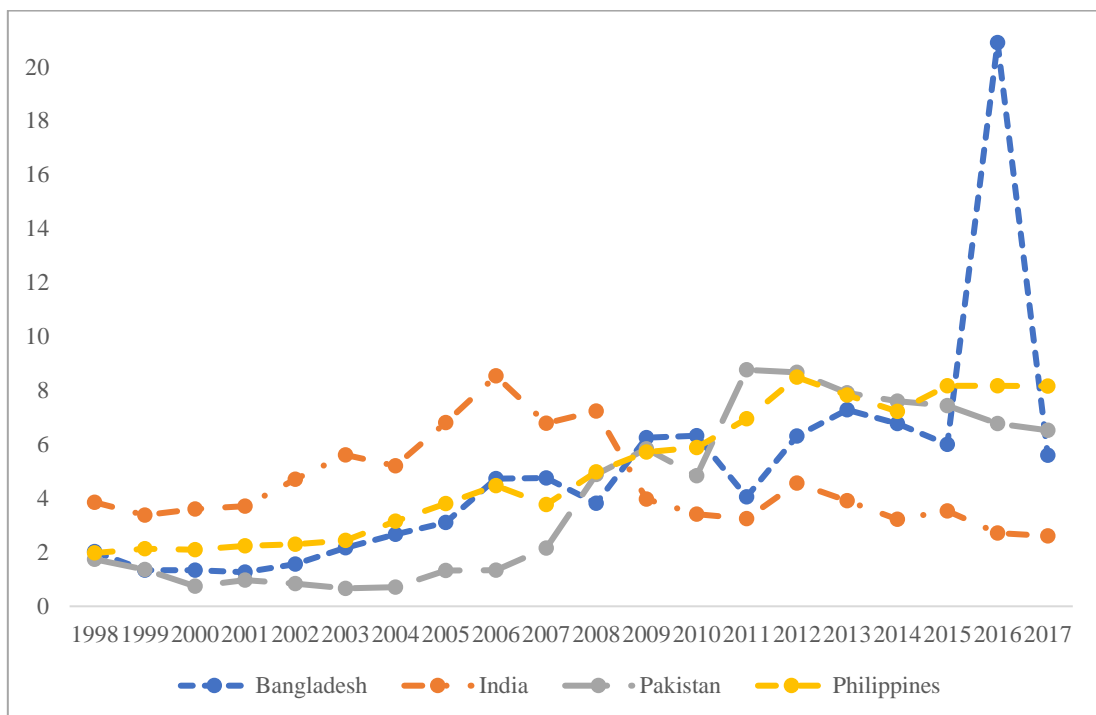


**Source**: UN ESCAP/Labor migration outflow database

*Figure 13:* Labor Migration Towards Bahrain

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[16] https://www.ilo.org

GCC countries are the major destination of Pakistani workers since 1970. Pakistan mostly sends their low or semi-skilled Pakistani workers. They mostly work in the difficult working environment and got low wages. The Emigration Ordinance of 1979 is for the overall labor recruitment of Pakistan. Under the ordinance Bureau of Emigration and Overseas Employment[17] were created as a regulatory body to control facilitate and monitor labor migration and overall migration. After the formulation of the ordinance, it has a major amendment only once in 2012, but it is a fact that the ordinance doesn't fully address the issues of labor migration related to training of migrant workers, the need for female skilled workers, issues faced by the migrant workers in foreign countries and foreign labor markets.

Most of the issues are related to the strategy and policy; the adoption of a good policy or strategy can be highly advantageous in increasing labor migration. Without immigration policy, both skilled and unskilled laborers of the country affected. Till now, there is no labor migration policy. The government tried to draft a migration policy thrice, in 2008, 2014, and 2017 both 2008 and 2014 policies have not been finalized for approvals, and the 2017 policy is still pending for approval. Nowadays, few GCC countries, especially Saudi Arabia and United Arab Emirates discourage labor migration due to their domestic unemployment. Yet, well-formed policies and agreements of some countries have helped them increase their labor force in GCC countries.

Labor migrant mostly comprises individuals who face difficulty in finding suitable jobs in their home country, compelling them to migrate to foreign countries for better job opportunities. In Pakistan, individuals mostly contact the overseas employment promoter or agents. These overseas employment promoters find a job in the overseas market according to experience and qualification of their client. The labor migration has been decreased due to some systematic issues; resolving these types of issues can help boost our labor migration again. Figure 14 shows the trend of labor migration of Asian countries towards United Arab Emirates and identified that labor migrants from all the Asian countries including Pakistan decreased after 2014, while the numbers of Philippines workers migration has seen minor increase after 2015 but again decreased after 2016.

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[17] https://beoe.gov.pk
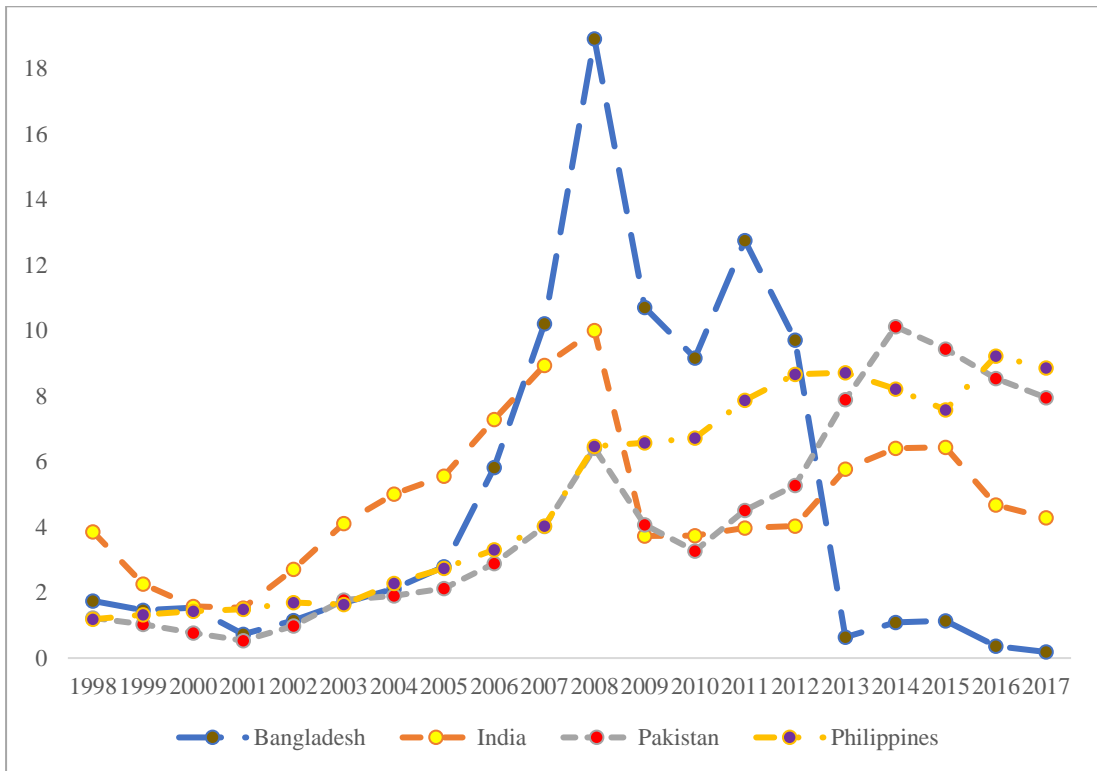
*Figure 14:* Labor Migration Towards UAE

## 5.4  Critical Review of Pakistan Labor Migration

After the domestic labor force of Gulf countries took a rise, these countries discourage overseas labor in order to provide better jobs to their own labor force. This multiplies the pressure of the labor sending countries, as they have a hefty responsibility to send quality and hardworking labor force which is capable of competing their labor force. Several concerns, including the strict Gulf policies, have played a part in decreasing the labor force of Pakistan towards Gulf as compared to other competitors. Experts from Ministry of Overseas Pakistanis and Human Resource Development, overseas employment promotors, and labor migrants discussed the issues of labor migration and suggest the following measures that can be favorable in increasing the labor migration of Pakistan:

- Overseas employment promoters revealed in interviews that employment for our workers for overseas migration can be increased if our government officials visit Gulf countries to encourage and communicate with their officials.

- According to overseas employment promoters, government should also ease the policies towards overseas employment promoters because they assist in encouraging and facilitating the overseas labor migrants and selecting right labor for the right job. They receive an amount of only six thousand for sending one person to international market, which is insufficient. If the government facilitates them and decreases taxes on them, it will push them to encourage potential labor migrants, thus increasing the overseas labor migration.

- Interviews with overseas employment promoters also revealed that there are a few companies in the Gulf region that provide free visas, but their officers of human resources do not provide those free visas to overseas employment promoters without charging fees. Again, the government should take responsibility and communicate with the concerned governments to find a solution with mutual consensus for such barriers, and at the same time the government should have a strict action against those overseas employment promoters who purchase free visas.

- Interviews with labor migrants revealed that if the sponsor of Pakistani labor migrants does not give them the pay that was promised before recruitment, the labor migrants do not have any institution where they can submit their complaints. Approaching the embassy can be problematic as the migrants might not receive their pay, making it difficult for them to repay the loan which they received for visa process. If the government facilitates them, it will improve the quality of labor migration.

- According to labor migrants, the absence of policies has made low-skilled, semi-skilled, and high-skilled Pakistani labors suffer, low-skilled and semi-skilled workers suffer more in the Gulf. The fundamental cause for this suffering is the unawareness of workers about what action to take in case of any trouble. Hence, there is a great need for a policy that helps to increase labor migration and will help to search the new markets and new opportunities.

- Interviews with labor migrants also revealed that in some cases the overseas employment promoter send underqualified labor, not meeting the employer's requirements, and doing injustice to both employee and employer. In case the employer rejects and sends him back to his home country, according to the laws of Pakistan, the overseas employment promoter is bound to give back the whole

amount to the labor migrant. However, if the overseas employment promoter does not give back the amount, there is no special courts where labor migrant may report a complaint about the situation. In many other foreign countries, there are special courts where labor migrants can find help.

- According to experts from Ministry of Overseas Pakistanis and Human Resource Development, the rules and regulation of Gulf countries are quite austere, they fully support their own sponsors, which results into migrant workers suffering. Labor sending country do not hold the capacity to do anything because there is no rule against the situation. This leaves the labor sending countries with the choice of requesting them, which might or might not be accepted by them. They keep the system strict to repel the overseas labor migration to fix the situation of their labor market. Thus, it is necessary to make proper internal check and balance and send our labor force to the sponsors who hold good past reputation.

- Interviews with experts from Ministry of Overseas Pakistanis and Human Resource Development also revealed that if the government increases the quota and share of overseas employment corporation towards Gulf, it will help to increase the labor migration towards the Gulf; in some cases, the overseas employment promoters exploited the laborers due to system errors, but the overseas employment corporation does not involve in such practices because of government institution.

- According to overseas employment promoters, the education quality of Pakistan needs an upgrade, as our high-skilled workers are incapable of competing with high-skilled workers from other foreign countries in the Gulf market. This decreases the demand of our high-skilled workers in the Gulf, as compared to the other competitors. Therefore, there is a great need to improve our educational quality to increase our labor migration in Gulf.

# Chapter 6

## Conclusion & Policy Recommendations

### 6.1 Conclusion

Labor migration management is the management of migration in an effective manner, in order to increase migration and decrease the burden of labor in domestic market. Labor migration management is not debatable in our country; however, it is very important to reflect on this concern because of the rising risks of poverty, vulnerability, burden in domestic labor market, and progressively increasing number of labors. The chapter in this thesis comprises thoroughly researched labor migration issues, challenges and opportunities of the labor migration, and how it leads to decrease in domestic labor market pressure.

This dissertation has three research questions, a) Has overseas migration contributed to reduce environmental poverty or not? b) Is overseas migration helpful in lowering the burden of rising bulge of labor force across the districts or not? c) Whether Pakistan is losing its overseas migration share in the Gulf market as compared to the other competitors or not? The study has used various data sources from both primary and secondary data sources. The first research question of this thesis relies on datasets from Pakistan Social Living Standards Measurement Survey (PSLM) (2019/20). The second research question rely on data from Bureau of Emigration and Overseas Pakistanis (BEOE) district wise overseas migration (2010- 2019) data along with PSLM district-wise labor force (2010/11), (2014/15) and (2019/20) datasets. The latter research questions rely on policy documents, reports from relevant competitors and in-depth interviews with various stakeholders including few overseas Pakistani workers, overseas employment promoters, and experts from Ministry of Overseas Pakistanis and Human Resource Development.

The first research question of the study includes construction of Multidimensional Environmental Poverty Index by using Alkire-Foster method (Alkire et al., 2017), and focusing on the environmental indicators. We also found that districts like Sujawal, South Waziristan, Umer kot, Kalat, Bajur, Ziarat, Washuk, and Kharan, have a very high MEPI value, which helped to conclude that poverty is high in these districts, while district Islamabad, Rawalpindi, Peshawar, Attock, Faisalabad, Gujranwala and Gujrat

were found in better condition. The Propensity Score Matching (PSM) technique has been applied to estimate the impact of migration remittances on environmental poverty in Pakistan. The findings reveal that all variables are highly significant and migrant remittances has a significant negative impact on environmental poverty as the households who received migrant remittances are less deprived by 4.1 percent for the Nearest Neighbour Matching method, 2.7 percent for the Kernel Matching method and 4.6 percent for Stratification Matching method while comparing these households with those who have not received migrant remittances.

The second research question of the study analyzed that during 2010-2019 high migrant districts were Attock, Gujrat and Sargodha. Medium migrant districts were Khanewal, Abbottabad and low migrant districts were Killah Abdullah and Deraa Bugti, during 2010-2019 high labor force districts were Karachi and Lahore medium labor force districts were Jhelum, Khushab and low labor force districts were Khuzdar and Gwadar. For district-wise share of labor force and overseas migrations geographic information system mapping was used. It is clearly identified that the districts with higher migration have an exceptional labor force, and it has helped in decreasing the burden of high labor force.

The third research question of the study has incorporated the usage of different reports and policy documents and in-depth interviews with few overseas Pakistani workers, overseas employment promoters, and experts from Ministry of Overseas Pakistanis and Human Resource Development to understand the Pakistani share of migration to Gulf countries as compared to other main competitors Bangladesh, India, Philippines and Sri Lanka. The findings reveal that the Bangladeshi government realized the role of migration and labor migration towards the development of the country and included labor migration in a number of planning documents, i.e., Seventh Five Year Plan, National Skills Policy, Climate Change and Displacement Strategy Paper, DELTA planning, and the SDGs implementation planning. The good policies of the Bangladesh government increased the labor migration including female labor migration till the year 2017 but after that the labor migration decreased in few Gulf countries due to some major consequences which including women abused. In Philippine there is a great culture of migration among the youth from past few years which helps to increase the labor migration of Philippine. In 2016, the Philippines introduced revised rules on recruitment and placement of land based Overseas Filipinos Workers and improved the

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licensing of recruitment agencies along with focusing on the protection of Filipino workers abroad. The policies of Gulf countries have decelerated Indian labor migration. Apart from that, economic slowdowns and fluctuating oil prices have also aggravated the situation. Indian workers were discouraged by the differing oil prices and unattractive wage offers in Gulf; work permit renewal fees and taxes have also gradually increased, bringing a rise in the repulsion. In Pakistan, the labor migration is frequently affected by policy related issues; the lack of immigration policies has negatively influenced the skilled and unskilled laborers of Pakistan. The government of Pakistan, previously, made some efforts to draft migration policies, but the outcome remained unprocessed, resulting in an absence of policies at present. The findings from in-depth interviews reveal that some systematic issues during labor migration process in Pakistan have led to a decrease in labor migration; resolving these issues and providing an effective labor migration policy can improve the migration circumstances.

## 6.2 Policy Recommendations

The findings of present dissertation suggest following recommendations:

- As revealed by this dissertation, that migrant remittances decrease environmental poverty; therefore, the government should focus on those districts where environmental poverty is high and increase migration in these areas.

- As revealed by this dissertation, overseas migration helps to maintain labor force in domestic labor market. The government is greatly responsible for increasing labor migration of those districts where the number of new labor force entrants is high. Moreover, the government must search new overseas labor markets.

- With time, the labor market is rapidly evolving, and to meet the present benchmark, great skills are required. The technicalities in jobs related to fields like artificial intelligence, demands the youth to be actively trained to compete the international labor markets. Government should emphasis on this area to bring Pakistan in the competition.

- There is great need of labor migration policy – any strategy of labor migration would remain unsuccessful without a proper labor migration policy that has been developed by the consensus of all stakeholders, the interviews in this dissertation also showed the importance of labor migration policy.

- Education is very important to compete in any labor market – in this dissertation, overseas promoters revealed the demand of international labor market and discussed the fact that it is challenging to compete in international labor market without training our labor, and without changing our educational system, as per the international curriculum and needs of labor market.

- Responsibility of the government is to communicate with Gulf countries and encourage them to increase employment for our workers. Overseas employment promotors, in this dissertation, also identified the importance of government involvement in this process.

- It is essential for the government to facilitate the migrant workers who encounter troubles abroad, as the unavailability of a rescue option may discourage the migrants and give a negative image of the country, leading to a fall in labor migration; labor migrant pointed out the importance of institution for resolving such type of issues. Therefore, there should an institution that handles complaints from the employees.

- Government should also ease the policies towards overseas employment promoters, support them, as they assist in selecting right labor for the right job and can help to expedite overseas labor migration efficiently; in this dissertation, overseas employment promoters explained the issues which are creating problems for them, such as rigid government policies and low earning, that have forced them to involve in activities that discourage labor migration.

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# Appendices

## Appendix A: Estimate of district-wise environmental poverty index (EPI) values in Pakistan

| District | EP Headcount ratio (H) | Average Intensity (A) | Environmental Poverty Index (EPI=H*A) |
|---|---|---|---|
| Attock | 0.41 | 0.34 | 0.14 |
| Awaran | 1 | 0.65 | 0.65 |
| Badin | 0.81 | 0.61 | 0.49 |
| Bahawalnagar | 0.82 | 0.44 | 0.37 |
| Bahawalpur | 0.70 | 0.41 | 0.29 |
| Bajur | 0.97 | 0.62 | 0.61 |
| Bannu | 0.87 | 0.48 | 0.42 |
| Barkhan | 0.99 | 0.65 | 0.65 |
| Batagram | 0.70 | 0.47 | 0.33 |
| Bhakhar | 0.96 | 0.46 | 0.45 |
| Bunair | 0.90 | 0.47 | 0.42 |
| Chakwal | 0.65 | 0.33 | 0.22 |
| Charsada | 0.77 | 0.42 | 0.32 |
| Chiniot | 0.71 | 0.46 | 0.33 |
| Chitral | 0.95 | 0.48 | 0.46 |
| D. g. khan | 0.83 | 0.53 | 0.44 |
| D. I. Khan | 0.86 | 0.47 | 0.41 |

| District | EP Headcount ratio (H) | Average Intensity (A) | Environmental Poverty Index (EPI=H*A) |
|---|---|---|---|
| Dadu | 0.76 | 0.44 | 0.34 |
| Duki | 1 | 0.59 | 0.59 |
| Faisalabad | 0.29 | 0.39 | 0.11 |
| Ghotki | 0.75 | 0.51 | 0.38 |
| Gujranwala | 0.20 | 0.35 | 0.07 |
| Gujrat | 0.39 | 0.33 | 0.13 |
| Gwadar | 0.98 | 0.47 | 0.46 |
| Hafizabad | 0.38 | 0.41 | 0.15 |
| Hangu | 0.82 | 0.40 | 0.33 |
| Haripur | 0.66 | 0.38 | 0.25 |
| Harnai | 1 | 0.70 | 0.70 |
| Jacobabad | 0.78 | 0.52 | 0.40 |
| Jaffarabad | 0.81 | 0.55 | 0.45 |
| Jamshoro | 0.62 | 0.55 | 0.34 |
| Jehlum | 0.70 | 0.34 | 0.23 |
| Jhang | 0.82 | 0.44 | 0.37 |
| Kachhi/ bolan | 0.94 | 0.74 | 0.70 |
| Kalat | 0.99 | 0.63 | 0.62 |
| Karachi central | 0.07 | 0.37 | 0.02 |
| Karachi east | 0.06 | 0.35 | 0.02 |
| Karachi south | 0.03 | 0.33 | 0.01 |

| District | EP Headcount ratio (H) | Average Intensity (A) | Environmental Poverty Index (EPI=H*A) |
|---|---|---|---|
| Karak | 0.77 | 0.41 | 0.32 |
| Kashmore | 0.93 | 0.49 | 0.46 |
| Kasur | 0.66 | 0.35 | 0.23 |
| Kech/turbat | 0.99 | 0.62 | 0.62 |
| Khairpur | 0.76 | 0.56 | 0.42 |
| Khanewal | 0.76 | 0.41 | 0.31 |
| Kharan | 0.98 | 0.66 | 0.65 |
| Khushab | 0.76 | 0.41 | 0.31 |
| Khyber | 0.96 | 0.53 | 0.52 |
| Kohat | 0.79 | 0.41 | 0.33 |
| Kohistan | 1 | 0.66 | 0.66 |
| Kohlu | 0.96 | 0.50 | 0.48 |
| Kurram | 0.96 | 0.50 | 0.49 |
| Lahore | 0.07 | 0.35 | 0.02 |
| Lakki marwat | 0.87 | 0.46 | 0.40 |
| Larkana | 0.65 | 0.51 | 0.33 |
| Lasbela | 0.68 | 0.55 | 0.37 |
| Layyah | 0.92 | 0.40 | 0.37 |
| Lodhran | 0.76 | 0.39 | 0.30 |
| Loralai | 0.93 | 0.52 | 0.49 |

| District | EP Headcount ratio (H) | Average Intensity (A) | Environmental Poverty Index (EPI=H*A) |
|---|---|---|---|
| Malakand | 0.79 | 0.42 | 0.34 |
| Mandi Baha Uddin | 0.39 | 0.40 | 0.15 |
| Mastung | 0.86 | 0.57 | 0.49 |
| Matiari | 0.68 | 0.54 | 0.36 |
| Mianwali | 0.87 | 0.43 | 0.37 |
| Mir pur khas | 0.76 | 0.55 | 0.42 |
| Mohmand | 0.93 | 0.52 | 0.49 |
| Multan | 0.52 | 0.43 | 0.22 |
| Nankana sahib | 0.41 | 0.35 | 0.14 |
| Narowal | 0.71 | 0.35 | 0.25 |
| Nasirabad/ tambo | 0.93 | 0.63 | 0.59 |
| North Waziristan | 0.97 | 0.57 | 0.55 |
| Nowshera | 0.64 | 0.40 | 0.26 |
| Nowshero feroze | 0.84 | 0.44 | 0.37 |
| Nushki | 0.95 | 0.63 | 0.61 |
| Okara | 0.55 | 0.36 | 0.19 |
| Orakzai | 0.99 | 0.56 | 0.56 |
| Pakpattan | 0.83 | 0.38 | 0.31 |
| Peshawar | 0.44 | 0.41 | 0.18 |
| Pishin | 0.90 | 0.57 | 0.52 |
| Qila Abdullah | 0.98 | 0.67 | 0.66 |

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| District | EP Headcount ratio (H) | Average Intensity (A) | Environmental Poverty Index (EPI=H*A) |
|---|---|---|---|
| Quetta | 0.49 | 0.51 | 0.25 |
| Sahiwal | 0.66 | 0.36 | 0.24 |
| Rajanpur | 0.98 | 0.53 | 0.53 |
| Sanghar | 0.79 | 0.54 | 0.43 |
| Sargodha | 0.48 | 0.41 | 0.20 |
| Shahdadkot | 0.68 | 0.51 | 0.35 |
| Shaheed banazir | 0.79 | 0.55 | 0.43 |
| Shaheed sikandarabad | 0.99 | 0.58 | 0.58 |
| Shangla | 0.97 | 0.50 | 0.49 |
| Sheikhupura | 0.41 | 0.35 | 0.14 |
| Sherani | 1 | 0.76 | 0.76 |
| Shikarpur | 0.78 | 0.55 | 0.43 |
| Sibbi | 0.78 | 0.64 | 0.50 |
| Sohbatpur | 0.88 | 0.58 | 0.51 |
| South waziristan | 0.99 | 0.62 | 0.61 |
| South Waziristan | 0.99 | 0.62 | 0.61 |
| Sujawal | 0.93 | 0.64 | 0.60 |
| Sukkur | 0.60 | 0.48 | 0.29 |
| Swabi | 0.88 | 0.38 | 0.34 |
| Swat | 0.79 | 0.44 | 0.35 |
| T.T. Singh | 0.61 | 0.39 | 0.24 |

| District | EP Headcount ratio (H) | Average Intensity (A) | Environmental Poverty Index (EPI=H*A) |
|---|---|---|---|
| Tando Muhammad k | 0.77 | 0.60 | 0.46 |
| Tank | 0.86 | 0.55 | 0.48 |
| Tharparkar | 0.98 | 0.73 | 0.72 |
| Torgarh | 0.99 | 0.55 | 0.55 |
| Umer kot | 0.96 | 0.59 | 0.57 |
| Upper dir | 0.99 | 0.52 | 0.51 |
| Vehari | 0.77 | 0.47 | 0.37 |
| Washuk | 0.91 | 0.65 | 0.60 |
| Ziarat | 0.98 | 0.73 | 0.72 |

**Appendix B: New entrants in labor force and number of workers placed abroad**

| Districts | New entrants in LF (000) | Number of workers placed abroad (000) | Workers as % of new entrants |
|---|---|---|---|
| | 2010 to 2019 | 2010 to 2019 | 2010 to 2019 |
| Bhakkar | 60 | 23 | 37.71 |
| Muzaffargarh | 289 | 69 | 23.86 |
| Layyah | 189 | 41 | 21.78 |
| Bannu | 110 | 73 | 65.99 |
| Dg Khan | 196 | 179 | 91.74 |

| Districts | New entrants in LF (000) | Number of workers placed abroad (000) | Workers as % of new entrants |
|---|---|---|---|
| | 2010 to 2019 | 2010 to 2019 | 2010 to 2019 |
| Bahawalnagar | 106 | 56 | 52.32 |
| Bahawalpur | 112 | 64 | 57.27 |
| Multan | 295 | 103 | 35.05 |
| RY Khan | 415 | 97 | 23.41 |
| Khanewal | 150 | 67 | 44.86 |
| Vehari | 83 | 69 | 82.82 |
| Khairpur | 199 | 10 | 4.92 |
| Ghotki | 118 | 19 | 15.98 |
| Sukkur | 538 | 16 | 3.13 |
| Mirpur khas | 88 | 10 | 11.42 |
| Sanghar | 214 | 8 | 3.87 |
| Umer Kot | 123 | 2 | 1.88 |
| Tharparkar | 162 | 2 | 1.48 |
| Attock | 72 | 83 | 114.8 |
| Chakwal | 114 | 84 | 74.29 |
| Rawalpindi | 586 | 136 | 23.25 |

| Districts | New entrants in LF (000) | Number of workers placed abroad (000) | Workers as % of new entrants |
|---|---|---|---|
| | 2010 to 2019 | 2010 to 2019 | 2010 to 2019 |
| Nowshera | 124 | 60 | 48.91 |
| Swabi | 143 | 101 | 70.4 |
| Batagram | 42 | 33 | 78.86 |
| Haripur | 92 | 58 | 62.89 |
| Kohistan | 242 | 6 | 2.5 |
| Swat | 62 | 187 | 299.56 |
| Buner | 52 | 62 | 118.62 |
| Shangala | 32 | 29 | 90.88 |
| Lower Dir | 84 | 187 | 222.28 |
| Okara | 95 | 46 | 48.22 |
| Quetta | 444 | 9 | 2.11 |
| Killa Abdullah | 163 | 0.7 | 0.46 |
| Jhang | 456 | 50 | 11.11 |
| Sibbi | 71 | 0.8 | 1.22 |
| Mastung | 49 | 395 | 0.81 |
| Mardan | 191 | 122 | 63.87 |
| Charsadda | 126 | 84 | 67.05 |

| Districts | New entrants in LF (000) | Number of workers placed abroad (000) | Workers as % of new entrants |
|---|---|---|---|
| | 2010 to 2019 | 2010 to 2019 | 2010 to 2019 |
| Shikarpur | 58 | 11 | 18.56 |
| Dera Bugti | 33 | 256 | 0.76 |
| Larkana | 409 | 43 | 10.68 |
| Jacobabad | 161 | 10 | 6.24 |
| Dadu | 116 | 25 | 22.29 |
| Gwadar | 25 | 3 | 12.76 |
| Hyderabad | 490 | 31 | 6.52 |
| Jaffarabad | 99 | 1` | 1.35 |
| Kachhi | 53 | 0.2 | 0.37 |
| Kasur | 195 | 41 | 21.43 |
| Khuzdar | 14 | 6 | 45.7 |
| Nasirabad | 63 | 1 | 1.22 |
| Faisalabad | 668 | 187 | 27.99 |
| Thatta | 89 | 11 | 12.80 |
| Sargodha | 183 | 91 | 49.58 |
| T T Singh | 197 | 88 | 44.73 |
| Badin | 267 | 6 | 2.2 |

| Districts | New entrants in LF (000) | Number of workers placed abroad (000) | Workers as % of new entrants |
|---|---|---|---|
| | 2010 to 2019 | 2010 to 2019 | 2010 to 2019 |
| Gujrat | 73 | 141 | 192.37 |
| Mandi Bahawdin | 97 | 105 | 108.16 |
| Narowal | 38 | 88 | 230.97 |
| Sialkot | 186 | 263 | 141.26 |
| Gujranwala | 428 | 226 | 52.75 |
| Hafizabad | 30 | 50 | 163.87 |
| Sheikhupura | 323 | 129 | 39.87 |
| Lahore | 1,588 | 203 | 12.8 |
| Jhelum | 20 | 79 | 395.34 |
| Kharan | 34 | 2 | 6.24 |
| Khushab | 43 | 33 | 77.99 |
| Kohat | 90 | 58 | 64.63 |
| Karak | 83 | 36 | 42.68 |
| Tank | 57 | 14 | 24.55 |
| Peshawar | 593 | 104 | 17.61 |

| Districts | New entrants in LF (000) | Number of workers placed abroad (000) | Workers as % of new entrants |
|---|---|---|---|
| | 2010 to 2019 | 2010 to 2019 | 2010 to 2019 |
| Islamabad | 244 | 52 | 21.35 |
| Ziarat | 32 | 0.3 | 1.2 |
| Pishin | 118 | 1 | 0.9 |
| Karachi | 2498 | 353 | 14.13 |