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DEVELOPMENT, ENVIRONMENT AND MIGRATION

Analysis of Linkages and Consequences



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Palacký University, Olomouc
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AND MIGRATION**

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Olomouc 2008

Reviewed: Assoc. Prof. Dušan Drbohlav



This project is co-financed by European Social Fund and state budget of the Czech Republic.

Monography is published as part of the project OP RLZ "Innovation of the study program International Development Studies".

First Edition

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Francois Gemenne, Tadeusz Siwek, 2008

Cover Photo © Robert Stojanov, 2008.
Main street in Kampala, Uganda in February 2007

ISBN 978-80-244-1966-4

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Content

Authors	5
The List of Tables and Figures	9

Introduction

1. Development, Environment and Migration Discourses	15
(Robert Stojanov)	

Section I.

International Migration and Development in Contemporary Globalized World

2. International Migration in the Age of Economic Globalization	25
(Robert Stojanov, Tadeusz Siwek)	
3. Causes of Migration and the Development Studies – Brief Theoretical Overview	41
(Robert Stojanov)	
4. International Migration and Development Links – Introduction	63
(Robert Stojanov)	
5. Remittances, Development Assistance, Return of Migrants and Development	69
(Jiří Novosák, Robert Stojanov)	
6. Skilled Migration, Brain Drain, Brain Gain and Developing Regions	93
(Jiří Novosák, Robert Stojanov)	
7. The Panorama and Drama of International Migration and Development in the Philippines	105
(Jeremaiah M. Opiniano)	

Section II.
Environmentally-induced Migration

8. Environmental Factors of Migration	123
(Robert Stojanov)	
9. The Estimation and Prediction of the Number of Environmental Migrants	145
(Robert Stojanov)	
10. Climate Change and Forced Displacements in the South Pacific Ocean	155
(Francois Gemenne)	
11. Environmental Migration in China	167
(Robert Stojanov)	

Conclusion

12. Towards the Future Research and Policy Implications	195
(Robert Stojanov)	
References	201
Index	219

The List of Tables and Figures

Tables

2. *International Migration in the Age of Economic Globalization*
 - 2.1 Estimated number of international migrants at mid-year¹ in the world and percentage share of international migrants in the population (1960–2005)
 - 2.2 Estimated number of international migrants at mid-year in selected countries and percentage share of international migrants in the population (in 2000 and 2005)
 - 2.3 International migrants as a percentage of population (in 1960 and 2005)
 - 2.4 Estimated number of international migrants at mid-year and percentage share of international migrants in the population in selected countries of the Persian Gulf (in 1960, 1990, 2005)
 - 2.5 Estimated number of international migrants at mid-year and share of global migrant stock (in 1960, 1990, 2005)
 - 2.6 Estimated number of population and international migrants as a percentage of the population in regions
5. *Remittances, Development Assistance, Return of Migrants and Development*
 - 5.1 Changes in total volume of selected financial flows to developing countries
 - 5.2 Distribution of workers' remittances, compensation of employees, and migrant transfers according to division of countries based on income (selected years)
 - 5.3 Distribution of workers' remittances, compensation of employees, and migrant transfers according to the geographical regions (selected years)
 - 5.4 Unrecorded remittances as a percentage of total remittances in selected remittance-receiving countries
 - 5.5 Estimated percentage proportion of unrecorded remittances based on econometric modeling. Selected remittance-receiving countries 1985–2000.
 - 5.6 Remittance types classified by senders and recipients

-
- 5.7 Share of primary reasons to remit by Mexican migrants and average amount of funds regularly (monthly) remitted by migrants expressed the particular primary reasons
 - 5.8 The amount of official remittances in Great Lakes Region – DR Congo, Rwanda, Burundi – in 2004
 - 5.9 Possible positive and negative impact of remittances
6. *Skilled Migration, Brain Drain, Brain Gain and Developing Regions*
 - 6.1 Total and skilled emigration rates for groups of countries according to their population size
 - 6.2 Selected indicators of skilled migration according to regions
 - 6.3 Total Losses Due to High-Skill Emigration vs Remittances
7. *The Panorama and Drama of International Migration and Development in the Philippines*
 - 7.1 Stock estimates on overseas Filipinos (multiple years)
 - 7.2 Total deployment of new-hire temporary contract workers by gender (1995, 2000, 2005)
 - 7.3 Registered Filipino emigrants by sex (1985 to 2005)
 - 7.4 Top ten countries of destination of registered emigrants (1988–2005) and temporary contract workers from Philippine (1998–2002)
 - 7.5 Countries with the most number of irregular migrants from Philippine
 - 7.6 Deployed newly-hired temporary contract workers by gender and occupational category (1992–2005)
 - 7.7 Overseas Filipinos' remittances coursed through the formal banking system
 - 7.8 Top twenty countries receiving remittance inflows
11. *Environmental Migration in China*
 - 11.1 Annual consumption and use of key resources and consumer products in China and United States
 - 11.2 Contemporary environmental „hot spots”
 - 11.3 Prospective environmental „hot spots”
 - 11.4 Water utilization of the Yangtze River in 1980 and 1997
 - 11.5 Summary arguments favor against dam
 - 11.6 The inundated land and displaced population in the Three Gorges area by county (1992)
 - 11.7 A comparison of land use in the place of origin and resettlement site
 - 11.8 Change in household income (in yuan) by household production category
 - 11.9 Migrant employment among 29 displacees by sector in the resettlement site (workdays/year) – Changling town

Figures

2. *International Migration in the Age of Economic Globalization*
 - 2.1 The 20 countries or areas with the highest numbers of international migrants (in 2005)
3. *Causes of Migration and the Development Studies – Brief Theoretical Overview*
 - 3.1 Forced vs. voluntary migration
5. *Remittances, Development Assistance, Return of Migrants and Development*
 - 5.1 The total volume of remittances (1990–2006)
6. *Skilled Migration, Brain Drain, Brain Gain and Developing Regions*
 - 6.1 Net brain gain mechanism
8. *Environmental Factors of Migration*
 - 8.1 Model of sea-level rise in Bangladesh
9. *The Estimation and Prediction of the Number of Environmental Migrants*
 - 9.1 Interconnections between the major factors that can have influence, or reinforce environmental degradation, resulting in increased risk of environmental migration.
 - 9.2 Schematic illustration of the different stages in the development of a migration out of a region suffering from insufficient food availability.
10. *Climate Change and Forced Displacements in the South Pacific Ocean*
 - 10.1 Climate change and externalities
 - 10.2 Climate change and externalities, including displacements
11. *Environmental Migration in China*
 - 11.1 Population density in China (2002)

INTRODUCTION

Chapter One

Development, Environment and Migration Discourses

Robert Stojanov

Migration is a catalyst for change and development in a world that is undergoing constant transformation. Migration processes are as old as mankind. People have moved from place to place throughout the ages, overcoming geographical distance on various levels. Migration flows represent one of the most important dynamic features of the contemporary world. The Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat (UNPD) estimated the number of international migrants¹ in 2005 at nearly 191 million, marking a rise from 176 million in 2000. International migrants comprise 3.0 per cent of the global population (UNPD, 2005). During the last decades there also has been a dramatic increase in the number of global institutions shaping the level and pattern of international migration (POKU, GRAHAM, 2000: 2). Development has always influenced migration and vice versa. The development paradigm incorporates a clear idea of progress, the notion that things are getting better. This is beyond dispute; living conditions have improved for vast and increasing numbers of the world's population over the last six decades in terms of their capacity to feed themselves, their life expectancy,

¹ Since the 1970s the definition of international migrants has changed a bit and present version is simpler. Originally, according to the United Nations Recommendations on International Migration Statistics adopted in 1976, international migrants are characterized as “*persons who, having been continuously present in the country of origin for more than a year, leave it to remain in the country of destination for more than a year*” (United Nations, 1980 in IOM, 2003: 295). First revision of mentioned UN Recommendation (UNITED NATIONS, 1998: 17–18; compare with IOM, 2003: 296) defines international migrants as *persons who change their country of usual residence* dividing the term into two following categories: long-term migrants and short-term migrants. A long-term migrant is defined as a *person who moves to a country other than that of his or her usual residence for a period of at least a year (12 months)*. So that the country of destination effectively becomes his or her new country of usual residence. In fact, the term international migrant is usually used as the synonym for long-term migrant. The term short-term migrant is defined as a *person who moves to a country other than that of his or her usual residence for a period of at least 3 months but less than a year (12 months)* except in cases where the movement to that country is for purposes of recreation, holiday, visits to friends and relatives, business, medical treatment or religious pilgrimage. For purposes of international migration statistics, the country of usual residence of short-term migrants is considered to be the country of destination during the period they spend in it. These definitions does not mention of the citizenship or nationality of the migrants involved (IOM, 2003: 295) as well as a legality or illegality of migrant's residence in country of destination.

their standard of health, their level of education, etc. However, for a large number of others in developing world in particular, living conditions have hardly changed during the time and, in some areas, have actually deteriorated (see SKELDON, 1997: 1).

Both *international migration and development* are usually surveyed independently, and much research has focused separately on issues such as the integration of migrants into host societies and internal factors in local development, even though many studies and reports have shown a clear relationship between these phenomena. Similarly, ADAMS, PAGE (2005: 1645) note that despite the ever-increasing volume of official international remittances, very little attention has been devoted to analyzing the impact of these financial transfers on poverty in developing countries, except for a few local case studies. The linkages between international *remittances* sent home by migrant workers, and *poverty alleviation* in a broad range of developing regions, are under-researched. On the other hand, RUSSELL (2003) argues that even though the broad discussion frequently suggests that the subject of migration and development is 'new' or has been neglected or marginalized up to now – and it is true that the salience of migration and development in multilateral organizations and international agendas has grown dramatically in recent years – this should not obscure the fact that there is a body of literature on various aspects of the subject that goes back at least a decade or two. As we move forward in policy discussion and new research directions, we should not lose sight of the findings of previous studies (such as in remittances issue, circulation migration or transnationalism concepts, etc.), lest we 'reinvent the wheel' (for more details see RUSSELL, 2003).

Migration can play a key role in development and poverty reduction. It has clear benefits that could be enhanced and disadvantages that could be minimized. Despite this, many of the issues surrounding migration are complex and sensitive. The introduction of people from one culture into another tends to generate suspicion, fear and even downright xenophobia (UNFPA, 2006: 5). For these reasons the subject of migration and development has remained high on the international agenda in recent years. It has become a prominent topic of debate within the European Union and in the work of international organizations, and the United Nations General Assembly again discussed migration in its 58th Session (RUSSELL, 2003) with reference to the controversial or relatively ineffective official development assistance (ODA) provided during the last six decades.

Since the 1990s, governments have addressed international migration at various UN conferences. The 1994 International Conference on Population and Development (ICPD) stands out among these. By the time the tenth anniversary of the ICPD rolled around in 2004, the Programme of Action still constituted one of the leading and most comprehensive global governmental agreements ever established on international migration and development. As key commitments, governments agreed to address the root causes of migration, especially those related to poverty, and to seek to make the option of remaining

in one's country viable for all people. Since then, the global community has rallied around the Millennium Development Goals (MDGs) (UNFPA, 2006: 2).

However, it still remains unclear what precisely the phrase 'international migration and development' means. In this regard, OPINIANO (2004: 3) divides the literature dealing the issue into two main schools of thought. One school of thought sees migration and development as the totality of the international migration issue from within – encompassing issues such as the rights of migrants, immigration, remittances, labour migration regulations, irregular migration, criminality and migration in host countries, brain drain, and a host of other issues. The other school of thought views migration and development as part of a much broader picture, examining the linkages between international migration and development across many other aspects of human society. Migration and development, in this respect, connotes themes such as: migrants as a development resource, the place of migration in national development plans, the role of migration in poverty reduction, migration transition for countries, remittances and economic development, migration and globalization, etc.

According to the annual report of the United Nations Populations Fund, "migration is a barometer of changing social, economic and political circumstances, at the national and international levels" (UNFPA, 1993: 15). However, the report does not refer to environmental conditions which contribute to migration. In television newscasts we can see people sitting on the roofs of their houses trying to escape the rising waters; people beside their ruined houses after earthquakes; people who have had to leave their houses and fields due to cyclones or tornados. Some authors argue that such people are also refugees, but this is not a definition accepted by international law. Nevertheless, it is very interesting that millions of people who have to leave their habitats due to slow-onset reasons such as, water deficiency, droughts or land degradation are only rarely seen on television or in newspapers.

However, massive population displacements triggered by natural disasters have recently made headlines all around the world. The tsunami that hit the coasts of South-East Asia at the end of 2004, or hurricane Katrina, which flooded the city of New Orleans, have forced thousands to flee and re-locate, sometimes with very low expectations of return. These brutal emergency evacuations attracted a considerable amount of media attention. By contrast, slow-induced migrations such as those triggered by desertification are less likely to draw media attention. These flows, despite sharing many characteristics with brutal displacements, have a far less powerful visual and emotional impact. Nevertheless, they affect more people and more regions of the world, deeply transforming many societies (GEMENNE, 2006b).

The discourse of *migration and the environment* is inseparably linked with a host of other issues, however this publication sets out to reflect 'only' the phenomenon of *environmental migration* – that is, the impact of environmental degradation, natural hazards, resource depletion and environmental change (including climate change) on human migration processes. As is the case with the previously mentioned issue of development-migration linkages, the issue of environmental migration is also heavily under-researched, although the topic is

mentioned relatively frequently in the information media, scholarly symposiums and also in political agendas, including national elections (as was the case in the Czech Republic last year).

Migration due to the depletion of natural resources (water, land, etc.), or due to climate change causing drought and desertification, is a historical human phenomenon. Some observers emphasize that civilizations have declined and fallen due to climate-related reasons throughout history, nevertheless the scale of the recent threat is set to outstrip all historical projections and contexts. Debate about the possibilities of predicting the effects of this threat is becoming more frequent in both science and humanitarian activities.

Although there are close and multifaceted relations between the above-mentioned topics, it is rather obvious that this book cannot cover all relations between international migration and development on one hand, and environment and migration on the other hand.² Several topics are purposely omitted by the authors while others are mentioned only briefly. These include, among others, theoretical aspects of forced/voluntary migration; specific topics connected with refugees/asylum seekers or illegal migrants; integration of migrants as well as other aspects of migration policies; several theoretical concepts such as the theory of migration networks; general internal migration issue and others). Limited space and effort to keep the logical structure and coherency of the book are natural reasons of this decision.

The prime aim of the following chapters is to highlight selected links between international migration and development on one hand, and environment and migration on the other hand. In this way authors aspire to prompt a wide-ranging debate in slowly booming *development studies* in Central-East Europe, and simultaneously to draw attention to interesting linkages between the issues, which are frequently misinterpreted in medias or/and by policymakers, eventually they are subject to wrongful presumptions. Some of the misjudgements have mythical character, such as that extreme poverty and impoverishment are prime causes of international migration and their eradication dramatically reduce international migration flows from developing countries to development regions; that skilled migration has only negative consequences known as brain drain; that remittances are used solely for consumption without positive development impact on economy of developing-sending countries; that the programmes and projects realized within the frame of Official Development Assistance (ODA) is an effective tool “in the fight” against the international migration as well as migration and development politics can manage, control and bring to stop the migration flows to developed countries; and that hundreds of millions environmental migrants (refugees) from developing countries will flood and destroy our civilization (for details about some mentioned myths see DE HAAS, 2005).

² The linkages between migration and development are surveyed mainly in the international context. However, some examples are given also in the perspective of internal migration, especially when suitable to illustrate selected issues. In the context of environmentally-induced migration the distinction between internal and international migration is not relevant.

Compared to the migration-development nexus which started to be very important in development studies and policy, the linkages between migration and environment are definitely under-researched in world science, notably on the empiric level (excluding a few small regional studies). Moreover note that the benefits from international migration can represent potential alternative resources (and in many cases more efficient source) or suitable supplement to another development strategies and development interventions what are such as ODA, Foreign Direct Investment (FDI) or trade liberalization. In the context we must express that the both issues are only marginally surveyed in the Czech Republic as well as in other states of the Central-East European region (perhaps except Chernobyl catastrophe issue). Therefore, the publication wants to, at least partially, remove this gap contributing to fundamental understanding the basic linkages within the mentioned issues and challenge towards improving the scholar-public discussion and research on the fields in the Czech Republic and others states of the region.

The book is firstly determined to development studies' scholars and students in the Czech Republic and whole Central-East Europe where is still entire lack of scholar literature in the subject field. Further expected interested persons are scholars and students from human geography, migration studies, environmental studies, economy, politics and international relations, and others. Next one target group which could be interested in the publication are scholar-public from development, environmental and migration (refugees, asylum-seekers) organizations, politicians and people from decision-making sphere which can influence creation or formation the national and international migration and development policy and their coherency.

The present book is divided into two thematic parts: development and migration linkages within selected trends of international migration in the contemporary globalized world and introduction to migration theories, and environmentally-induced migration issue. The publication consists of twelve thematic chapters, including open and conclusion chapters, and three regional case studies. Each of the parts is focused on developing regions. The analytical work in this publication centres around primary and secondary sources of data and information, concretely selected statistics from relevant organizations or banks, author's own researched data, document-based research of key selected papers, studies, reports, selected books and other relevant publications, specialized websites, including selected electronic newspapers or databases in case of demand for 'fresh' information. Among the methods used are comparative and analytical methods, compilation, desktop analysis and field survey, internet search, personal or electronic consultation and discussion (internet calling and email correspondence) with the scholars on the issues. The analytical part of the research is focused on the searching of relations and potential impacts (costs and benefits) of international migration on development, especially, economic poor countries, and impacts of environmental changes (natural or human-induced) on human migration (displacement, resettlement).

The book is structured in the two essential parts. The opening part of the book, divided into six chapters, deals with trends in international migration in

the contemporary era of globalized world with emphasis on quantification of human migration flows between particular regions, and with theoretical approaches to international migration with accent to causes of migration. Human migration represents a more ubiquitous form of globalization than any other of its aspects. People have always been on the move, and they have moved great distances (HELD et al., 2003: 283). It is apparent not only that globalization processes stimulate both internal and international migration processes, but also that human migration can strengthen the potential of globalization. The review of fundamental migration theories is based around three principal views – migration studies as represented by the seminal work of MASSEY (1993) and its updated versions, development studies represented by the works of DE HAAN (1999; 2005), and a brief selection of mixed views on the causes of migration advanced by researchers in other social sciences.

The last four chapters in the first part of the book are focused on linkages between international migration and development. The first chapter examines the general relations between international migration and development, and impact of remittances on economic development, and skilled migration phenomenon connected with challenges of brain drain and brain gain in developing countries are stressed.

The final chapter of the first part reports on a case study of the Philippines observing mentioned issues. For the case study of links between international migration and development, the author compiled sets of multiple-year data on international migration in the Philippines covering various socio-economic and demographic variables, as well as places of origin and countries of destination. The author also surveyed related studies (from economics and sociology/anthropology) to determine the social and economic consequences of international migration in the Philippines.

The second part of this publication turns its attention to environmentally-induced migration, and consists of four chapters. The first two of these chapters present the issue on the general level, analyzing the key issues connected with the phenomenon of environmental migration. Note that this phenomenon was inspired by the hypothesis that there is a significant group of migrants which are involuntarily forced to leave their habitats due to environmental change, natural, human made or combination of both (see e.g. EL-HINNAWI, 1985; MYERS, 1993; HUGO, 1996; LONERGAN, 1998). The first chapter draws the general concept of environmental migration (refugees), including the definition of the phenomenon, explanation of main environmental reasons inducing people to flee from their habitats, typologies of environmental migrants given in scholar literature, and short overview of areas vulnerable to environmentally-induced migration.

The second chapter presents analysis of two main different approaches to the specific discussion about estimation and prediction of environmentally-induced migration extent in the world. The first approach coined especially by Norman Myers, probably the most often cited scholar in the issue of environmentally-induced migration, is based on various environmental, economic, demographic, social and other statistical data. His estimation of 25 million

environmental refugees (migrants) for the first part of the 1990s, as well as prediction of 200 million environmental refugees by 2050, may still be found in many recent reports, articles and studies. The second approach, introduced by Bo R. Döös presents the methodology “how to do the prediction of environmental migration” without specification of any figures.

The remaining two chapters are case studies of two regions, the South Pacific Islands and China. The information synthesized from the above-mentioned sources and other data sources are supplemented with the findings of the private field survey part of the research, conducted in China in October 2004 by one of the authors. The research in China was carried out in the counties of Fengdu, Wushan, Shibao Tower and the surroundings of Zigui, and focused firstly on the human-induced environmental change on social, economic and environmental conditions of the displaced people from the Three Gorges Dam area in the context of environmental migration issues. The author of the case study was limited by unfamiliarity of local language and high political sensitivity of the issue between local population.³ The attention was also given to impacts of environmental change (simultaneous with migrations as well as others which are coming slowly) caused by reservoir construction. The author provides discussion about issue of understanding environmental migration as suitable strategy for sustainable solving environmental problems and high population density in the area.

The methodology of the South Pacific Islands case study dealing with issue of climate change and forced displacement in the South Pacific area is strongly inspired by rational choice theories. It uses similar methods, aiming at applying economic theories to political issues. In particular, the theory of economic externalities, developed by Ronald Coase in the 1980s, is applied to the effects of climate change, including related migration flows. The chapter also draws on theories of migration burden-sharing as set out by THIELEMANN (2003a; 2003b) and BETTS (2004), combining these theories with theories of externalities. The chapter uses the case of Tuvalu as a starting point, and then examines, in an exploratory way, how a global environmental responsibility could be shaped, and how the burden and responsibility of climate change-induced migrations could be shared and allocated.

The mix of theoretical considerations with illustrative case studies has been chosen in order to provide the clearest possible way of explaining the chosen aspects of internal migration. The overall aim of this publication is thus to contribute to our understating of migration in its broader sense.

³ The one reason why author of the chapter could not use translation service due to traditional Chinese aversion to provide unpleasant information about country and culture (in the Czech context also see e.g. PASMÍK, 2006) and fact that author realized the survey in the area without official permission. The displacement of local people in the area was (and still is) very sensitive for local and national government and many contradictory information still exist relating to the displacement and resettlement policy and practice in Three Gorges Dam area. That is why author realized only one short anonymous interview with a local farmer in Wushan with the help of English-Chinese dictionary. The answers of the women seemed a bit nervous.

SECTION I.

**INTERNATIONAL MIGRATION
AND DEVELOPMENT
IN CONTEMPORARY
GLOBALIZED WORLD**

Chapter Two

International Migration in the Age of Economic Globalization

Robert Stojanov, Tadeusz Siwek

Global migrations intensify relations among different human populations. Thanks to migration, large regions of the world are increasingly integrated and interdependent. Relations among neighbour populations – typical of the past – are being replaced by relations among distant populations of the world. New technologies enable the rapid transfer of capital, goods, services, information and ideas from one country and continent to another (GCIM, 2005: 1).

Here we examine relations between aspects of the process of globalization and the migration process. First, we must define the globalization process in the context of history. One of the most interesting books about globalization, ‘The World is Flat’ by Thomas L. Friedman, placed the starting point of globalization in the Age of Discovery. According to Friedman, there were three main waves of globalization (FRIEDMAN, 2005):

- 1) The first phase of globalization (from 1492 to the end of the 17th century). The main driving force behind this early globalization process was the power of human beings and animals.
- 2) The second phase of globalization (from 1800 to 2000) was based on falling transportation costs (steam and later electricity). Eventually it was multinational companies that became the key driving force behind this phase of development. This communication era – encompassing the telegraph, telephone, computers and the internet – created a truly global economy, in the sense that there was enough movement of goods and information from continent to continent for there to be a global market, with global arbitrage in products and labour. The first two phases of globalization both had the effect of making the world smaller by opening up new lines of communication and commerce.
- 3) The third and most recent era of globalization dates from the fall of the Berlin Wall and the terrorist attack against the World Trade Center in New York. This period promises to be an era of massive and cheap communication (more virtual than physical). Friedman describes the information technology and service industries as the main developing factor behind the third wave of globalization. There are some 3 billion people in places like rural Asia, Latin America and Africa who still live in a traditional ‘unflat world’ (according to FRIEDMAN, 2005), unaffected by the technologies and socio-

economic changes outlined in Friedman's book, however these people too will welcome the 'flat world' in the future. Many people in the most developed countries, with high wages and high economic regulation, are feeling the pressure of global competition in the form of offshoring, the migration of businesses from countries with high wages to countries with low-cost labour.

2.1 Global Migration Flows

The migrations processes, including the large-scale movement are as old as the mankind. During the human history migrants crossed the political borders as well as continents. There is no sense in citing the numerous attempts to divide globalization along a time axis. One set of conclusions is beyond dispute: globalization can be described in different ways, its starting point is very often placed in early history or in the modern age, and it can be divided into longer or shorter sub-divisions. In the context HELD et al. (2003: 286–321) described main selected historical forms of global migration and divided them into four periods.

1) *Pre-modern global migration* (until 1500)

The era of political and military expansions of empires and the development of the major world religions were accompanied elite and mass migrations to previously peripheral areas. HELD et al. (2003: 287–288) identified following key migratory flows:

- from North-East Asia into the Americas and Pacific Islands;
- within the frame of formations of great Asian civilizations such as Chinese and Indian states, Mongol empires;
- within the Africa, including migration flows from Sahara region affected by desertification (between 3.000 and 1.000 BC) and migration of Bantu-speaking peoples;
- between the Europe-Africa in time of the Greek states and Roman empire;
- within the Euroasia, ethnics pursuing new grazing lands, including the "barbarian invasion" to Europe (5th century);
- rise of Islam and expansion of Arabic nomadic warriors;
- Jewish Diaspora from Middle East to Western Asia and Europe.

2) *Early modern globalization* (about 1500–1760)

This is the period of the spread of the European maritime powers, colonialism and the formation of European modernity with the following main migratory flows (HELD et al., 2003: 288–289):

- colonists from Western Europe to North America, Latin America and Caribbean, and South Africa;
- slave trade from sub-Saharan Africa to the Americas, North Africa and the Middle East;
- small-scale migration within Europe and Russian empire.

3) *Modern globalization* (about 1760–1945)

The era marked by the explosion of Western economic power and cultural influence, the rise of industrialism and new infrastructure such as new transport facilities, information technologies etc. HELD et al. (2003: 287–288) identified following key migratory flows:

- huge economic migration from Europe to the North America and Australia, New Zealand;
- Russian colonization of Central Asia and Siberia;
- transatlantic and Indian Ocean slave trades peak to the second part of 19th century;
- European colonisation of sub-Saharan Africa;
- regional labour migration relates with industrialization within Europe and South Africa.

4) *Contemporary globalization* (since 1945)

The period is characterized by Cold War and many international and civil conflicts on regional level, collapse of European and Soviet communism and huge economic development of OECD member states. The migration flows are significantly affected by globalized technologies such as new information and communication technologies, transport networks relates with fast and cheaper links between distant places. There is now almost no state or part of the world that is not importing or exporting labour and all the world areas have become locked into both global and regional patterns of migration processes, argue HELD et al. (2003: 298–299). They recognized following key migratory flows during the last five decades of 20th century (HELD et al., 2003: 306):

- core migratory flows are labour migrants to OECD member states, and Persian Gulf countries (after 1973);
- post-war or conflict waves of intense regional migrations and displacements in Europe (Germany, Poland) and Asia (Palestina-Israel, India-Pakistan),
- asylum seekers, refugees and internal displaced persons flows caused by post-colonial state formation and civil conflicts.

There have been many other ways of classifying the globalization process into specific and internally homogenous periods. Some of these approaches are more theoretical and try to segment the globalization process according to typical features (for example the phase of creating a global market and the phase of global management). Other approaches segment globalization according to its intensity, such as the model of Nayyar Deepak, which divides the globalization process into only two phases: the 19th and 20th centuries (DEEPAK, 2006: 137). A more subtle segmentation of the globalization process was carried out by CHASE-DUNN, KAWANO and BREWER (2000). These authors computed the ratio of world trade to world GDP. There was a high peak in the 1880s, followed by a relatively long decline until 1945 (interrupted by small periods of increase – some of these can be labelled de-globalization periods).⁴ This measure

of globalization as mentioned above has been steadily gaining prominence since the end of World War II.

In spite of different classifications of periods of globalization, the most interesting era of globalization is the contemporary era – that is, after World War II. Current globalization processes are stimulating migration on a scale that is both greater and more rapid than at any time in the past (ROBERTSON, 2004: 564; for details on the historical context of forms of migration see HELD et al., 2003: 286–297, 304–318). Developments in transport networks, particularly cheap and comprehensive air travel – quick and low-cost links even between distant places – allow for easy and frequent mass population movements. The development of global communications (especially cell phones) and entertainment networks (in particular electronic media) has helped expand awareness of life in other countries. This is particularly the case in developing countries whose populations are exposed to images of the lifestyles and cultural formulas of developed countries (GRAHAM, 2000: 188). The accessibility of a low-cost workforce facilitates cheap production which can be exported on the global market (HELD et al., 2003: 299).

The contemporary era of global migration began with the end of the Second World War, which induced massive population displacements. In terms of intensity and geographical extent, the most significant flows have been the economic migrations to OECD countries, in Western Europe, Australia and North America. However, these migrations have not been all of a piece. Only a handful of countries, mainly the traditional host nations in North America and Australia, were significantly affected by international migration in the 1960s, but about 3 per cent of the world's population (i.e. nearly 191 million people in 2005) were living outside of their country of birth by the first decade of the 21st century (compare with POKU, GRAHAM, 2000: 2; UNPD, 2005; see Table 2.1). Today, the number of people living outside their country of birth is larger than at any other time in history (UNFPA, 2006: 6), but the relative figures of international migrants, as share of world population, did not record any changes during the last two decades.

There has been an enormous increase in the diversity of international population movement. Whereas in the past, the bulk of such movement involved permanent, or at least long-term, settlement at the destination, world migration is now characterized not only by increased levels of permanent settlement in foreign countries, but also by a myriad of temporary, circular migrations of varying duration with a range of purposes (POKU, GRAHAM, 2000: 2). The volume of immigrants has grown and its composition has shifted decisively away from Europe, the historically dominant source of emigration to other continents. Currently, European states were suddenly transformed into immigrant-receiving societies, however immigrants mostly came from developing countries in Africa, Asia, the Caribbean and the Middle East by the late 1960s. Similar trends appeared in other developed countries, and these societies have become diverse,

⁴ The term “de-globalization” is promoted as an action programme by the well-known Philippines's critic of globalization by BELLO (2002).

Table 2.1: Estimated number of international migrants at mid-year⁵ in the world and percentage share of international migrants in the population (1960–2005)

Year	Estimated number of international migrants	International migrants as a share of the world population
1960	75.463,352	2.5 %
1965	78.443,933	2.4 %
1970	81.335,779	2.2 %
1975	86.789,304	2.1 %
1980	99.275,898	2.2 %
1985	111.013,230	2.3 %
1990	154.945,333	2.9 %
1995	165.080,235	2.9 %
2000	176.735,772	2.9 %
2005	190.633,564	3.0 %

Source: UNDP (2005)

multi-ethnic, with a significant role of migration networks and transnational social spaces. The emergence of international migration as a basic structural feature is typical of nearly all industrialized countries (compare with MASSEY et al., 1997: 257).

Although most of the world's population remains sedentary, the globalization of migration flows continues to produce extraordinary diversification. The number of origin, transit or destination countries and regions is increasing constantly, gradually diminishing the ‚monopoly‘ of colonial or historical links and altering the bilateral nature of the flows such as the cases of USA, Canada and Australia, as the former colonies, that are new resident countries for tens of millions immigrants currently (see Table 2.2). International Organization for Migration (IOM, 2003: 27) notes that new networks are creating circuits that no longer have any traditional ties with the countries of destination: Iranians in Sweden, Romanians in Germany, Vietnamese in Canada and Australia, Senegalese in the United States, Bangladeshis or Brazilians in Japan. Trends indicate that the globalization of migration flows will continue, given the persistence of development gaps and the growing sophistication of clandestine immigration networks. As border security is tightened, the smuggling networks refine ever more elaborate ways of thwarting controls. However, the British

⁵ The basic data used to estimate the international migrant stock and presented in the tables and text are always fixed on the date 1st July and they are results of combination of calculations and estimation based on using various methodologies (see details at UNPD, 2005, in the concrete on <http://esa.un.org/migration/index.asp?panel=4>). However, these figures do not include the extent of illegal migration in receiving countries. For instance the estimations of illegal migrants figures in European Union (former 15) varied from 400,000 to 500,000 people per year early 21st century (JANDL, 2004: 9–10) and, in total, numbers of illegal migrants in USA were estimated on 10.3 million in March 2004 with undocumented Mexicans numbering 5.9 million (PASSEL, 2005: 7) and 11,1 million in 2005 (HANSON, 2007: 9).

magazine *The Economist*, in 2002, reported that the real extent of global migration remains unknown, because records of the various forms of mobility in the least developed countries and war-torn regions are often haphazard and random. Figures vary, sometimes significantly, even on migration flows among industrialized countries. For example, the most reliable data come from the Organization for Economic Cooperation and Development (OECD), but only concern the organization's Member States, recorded regular flows and some estimates of irregular migration (IOM, 2003: 27–28). Internal displaced persons and environmental migrants also represent undocumented or poorly documented categories of internal and international migrants.

During the 1990s, the influx of non-nationals into OECD countries followed a 'cycle', which peaked in 1992–1993 and then declined following the application of more restrictive measures. Flows started to accelerate again in 1997. The OECD has grouped some of its Member States according to the relative trends observed over a decade. An ongoing increase for most of the period, despite sporadic shifts that do not alter the overall trend, was registered in Australia, Belgium, France, Ireland, Italy, Japan, Luxembourg, Norway, the United Kingdom, and the United States. A significant decline after 1993 and a renewed rise to levels seen in the early 1990s were recognized in Canada, Denmark, Finland, the Netherlands, Portugal, Sweden and Switzerland. A downward trend during the period was registered in Germany and New Zealand (IOM, 2003: 28). In absolute figures, the seven leading OECD immigrant-receiving countries in 2005 (in descending order) remained the United States, Germany, Canada, the United Kingdom, Australia, Italy, and Japan. The highest share of international migrants in the national population in 2005 among the leading OECD immigrant-receiving countries is in Australia, where every fifth inhabitant of the country is an immigrant (20.3 per cent), followed by (in descending order) Canada, with a similar percentage share in its population, the United States,

Table 2.2: Estimated number of international migrants at mid-year in selected countries and percentage share of international migrants in the population (in 2000 and 2005)

Country	Estimated number of international migrants (2000)	Share of international migrants in the population (2000)	Estimated number of international migrants (2005)	Share of international migrants in the population (2005)
USA	34.802,754	12.2 %	38.354,709	12.9 %
Germany	9.802,793	11.9 %	10.143,626	12.3 %
Canada	5.555,019	18.1 %	6.105,722	18.9 %
United Kingdom	4.764,824	8.1 %	5.408,118	9.1 %
Australia	4.071,971	21.4 %	4.097,204	20.3 %
Italy	1.634,290	2.8 %	2.519,040	4.3 %
Japan	1.619,968	1.3 %	2.048,487	1.6 %

Source: UNPD (2005)

Germany, the United Kingdom, Italy and Japan, where ‘only’ 1.6 per cent of local inhabitants are immigrants (see Table 2.2) Australia and Canada are strongly multi-ethnic countries without a history as imperial (colonial) powers; additionally, both states are former British colonies.

Nevertheless, migration growth has actually slowed: that is, the absolute number of new international migrants has decreased from 41 million between 1975 and 1990 to 36 million between 1990 and 2005. Part of the decline is connected with the drop in the number of refugees (UNFPA, 2006: 6).

Each of the leading OECD immigrant-receiving countries recorded an increase in the number of international migrants and their share in the national population between 2000 and 2005, excluding Australia which registered a slight growth in the number of international migrants, but a small decrease in the percentage share of international migrants (from 21.4 per cent to 20.3 per cent). The United States remained a leader in terms of absolute numbers of new immigrants (with more than 3.5 million new immigrants), but the highest increase of international migrants in the national population in relative figures was registered in Italy (with an increase of 1.5 per cent, from 2.8 per cent in 2000 to 4.3 per cent in 2005), followed by the United Kingdom (an increase of 1.0 per cent, from 8.1 per cent to 9.1 per cent) and Canada (an increase of 0.8 per cent, from 18.1 per cent to 18.9 per cent). For more details see Table 2.2.

The sharpest rise in the percentage share of international migrants in national populations over the last five decades (between 1960 and 2005) was registered by the United States of America (from 5.2 per cent in 1960 to 12.9 per cent in 2005); the USA still offers potential for (slower) future growth. Similarly, Germany,⁶ the United Kingdom, Italy and Japan recorded strong (almost threefold) growth in the percentage share of international migrants in their population due to globalized demand for cheap and flexible labour. It is interesting that the country rankings from 2005 are hardly changed from those of 1960 (for more details see Table 2.3).

*Table 2.3: International migrants as a percentage of population
(in 1960 and 2005)*

Country	1960	2005
Australia	16.6 %	20.3 %
Canada	15.4 %	18.9 %
Germany	*7.5 %	12.3 %
USA	5.2 %	12.9 %
United Kingdom	3.2 %	9.1 %
Italy	1.5 %	4.3 %
Japan	0.6 %	1.6%

* percentage share for 1990

Source: UNPD (2005)

⁶ There is no data from before 1990 because the composition of some regions and states changed between 1985 and 1990 in the database of UNPD. For more details see ‘*Definition of Regions*’ in UNPD (2005). In the case of Germany, new data are available from 1990 due to the reunification of the country during that year.

In fact, there do exist countries with higher absolute and relative figures for international migrants in the national population, however they are not OECD members. One of the most frequently mentioned examples in the migration literature is that of the Persian Gulf, a region rich in oil and gas, with relatively small national populations (in selected states) and a higher percentage share of international migrants. Hand in hand with the oil boom that has characterized the economic development of these countries, the national population structure of the countries has also changed. Some of the states have more foreign immigrants in their society than national citizens. The highest percentage share of international migrants within the national population in 2005 was registered in Qatar (78.3 per cent), followed by (in descending order) the United Arab Emirates (71.4 per cent), Kuwait (62.1. per cent), Bahrain (40.7. per cent) and Saudi Arabia (with ‘only’ 25.9. per cent). It is very interesting to compare these figures with the statistics from 1960, when the United Arab Emirates had a percentage share of 2.4 per cent, the same figure as Saudi Arabia. For more details see Table 2.4.

The highest absolute number of international migrants in 2005 was registered in Saudi Arabia (nearly 6.4 million) and the United Arab Emirates (more than 3.2 million) followed by Kuwait (with almost 1.7 million immigrants), Qatar (0.6 million) and Bahrain (0.3 million). Again, it is instructive to compare the figures for 1960 and 2005, in particular for the United Arab Emirates, where the absolute number of international migrants in 1960 was 2,194, whereas the 2005 statistics indicate a figure of over 3.2 million (for more details see table 2.4.) This situation is a typical product of the globalized labour market.

According to the latest figures published by the United Nations Population Division in 2005 (UNPD, 2005), Europe is the continent sheltering the largest numbers of international migrants (more than 61.1 million), followed by Asia (53.3 million), North America (44.5 million) and Africa (17.1 million). Migration flows have shifted in recent years, with changing poles of attraction for labour migration, migration policy restrictions, increased intensity of cross-border links

Table 2.4: Estimated number of international migrants at mid-year and percentage share of international migrants in the population in selected countries of the Persian Gulf (in 1960, 1990, 2005)

Country	Estimated number of international migrants / Share in the population					
	1960		1990		2005	
Bahrain	26,667	17.1 %	173,200	35.1 %	295,461	40.7 %
Kuwait	90,630	32.6 %	1,551,316	72.4 %	1,668,991	62.1 %
Qatar	14,400	32.0 %	369,816	79.1 %	636,751	78.3 %
Saudi Arabia	63,389	1.6 %	4,743,010	29.0 %	6,360,730	25.9 %
United Arab Emirates	2,194	2.4 %	1,330,324	71.2 %	3,211,749	71.4 %

Source: UNPD (2005)

(particularly in Europe), however in some parts of the world, migrant numbers have actually decreased.

Although the number of Asian migrants has increased from 28.5 million in 1960 to 53.3 million in 2005, Asia's share of global migrant numbers decreased from 37.7 per cent to 28.0 per cent over the same period. Africa has also seen a decline in its share of international migrants: from 12.1 per cent in 1960 to 9.0 per cent in 2005, however the absolute number of African migrants has increased almost twofold during this period. This is also true for Latin America and the Caribbean (down from 8.0 per cent in 1960 to 3.5 per cent in 2005, though the absolute number of migrants from the region remains constant), and for Oceania (down from 2.8 per cent to 2.6 per cent in the same interval, while the absolute number of migrants from Oceania increased by nearly 2.9 million). The statistics for the percentage share of migrants in Europe show an increase from 18.9 per cent to 33.6 per cent in the same period. Similarly, North America registered a growth in both absolute and relative numbers of international migrants, from 12.5 million (and a percentage share of 16.6) in 1960 to nearly 44.5 million (23.3 per cent) in 2005. For details see Table 2.5 (for data see UNDP, 2005; compare with data commentary between 1970 and 2000 in IOM, 2003: 29).

However, the stock of international migrants still remains concentrated in a relatively small number of countries. Generally, since the end of the 1990s, migration from Asia has been increasing, notably to Japan, Australia, Canada, Italy, and France. These flows are mainly made up of Chinese and Filipinos. There is also a steady migration flow from Russia and the Ukraine to Western Europe, Poland and southern Europe. Permanent migrants in search of work have contributed most to these flows. These migrants include many highly qualified professionals and students (IOM, 2003: 29).

Table 2.5: Estimated number of international migrants at mid-year and share of global migrant stock (in 1960, 1990, 2005)

Region	1960		1990		2005	
	Number	%	Number	%	Number	%
Africa	9.134,224	12.1	16.351,076	10.6	17.068,882	9.0
Asia	28.477,693	37.7	49.887,766	32.2	53.291,281	28.0
Europe*	14.244,764	18.9	49.381,119	31.9	64.115,850	33.6
Latin America and Caribbean	6.018,088	8.0	6.978,142	4.5	6.630,849	3.5
North America	12.512,766	16.6	27.596,538	17.8	44.492,816	23.3
Oceania	2.134,129	2.8	4.750,692	3.1	5.033,887	2.6
World	75.463,352	100.0	154.945,333	100.0	190.633,564	100.0

* including Russian Federation

Source: UNPD (2005)

Table 2.6: Estimated number of population and international migrants as a percentage of the population in regions

Region	1960		1990		2005	
	Number	%	Number	%	Number	%
Africa	285.444,500	3.2	628.887,539	2.6	898.362,211	1.9
Asia	1.675,158,412	1.7	3.117,985,375	1.6	3.806,520,071	1.4
Europe*	418.963,647	3.4	715.668,391	6.9	728.589,205	8.8
Latin America and Caribbean	214.931,714	2.8	436.133,875	1.6	552.570,750	1.2
North America	205.127,314	6.1	284.500,392	9.7	329.576,415	13.5
Oceania	15.926,336	13.4	26.689,281	17.8	33.117,678	15.2
World	3.018,534,080	2.5	5.342,942,517	2.9	6.354,452,133	3.0

* including Russian Federation

Source: Author's calculations and data from UNPD (2005)

Long-term trends of growth in the percentage of international migrants in the regional population have been registered in Europe (from 3.4 per cent in 1960 to 8.8 in 2005) and North America (from 6.1 per cent in 1960 to 13.5 per cent in 2005). A comparison of these data provides clear evidence of the dependency of European population growth on immigration. While Europe and North America are experiencing immigration growth, the share of international migrants in African, Asian and Latin American populations is slowly declining. For more details see Table 2.6.

Developing countries are experiencing a sharp reduction in the immigrant growth rate, while in developed countries (excluding the former Soviet Union), growth continues to expand: Of the 36 million people who migrated between 1990 and 2005, 33 million eventually settled in industrialized countries. These trends reveal that 75 per cent of all international migrants now live in only 28 countries. Between 1990 and 2005, 75 per cent of the increase occurred in only 17 countries, while migration actually decreased in 72 countries. In summary, migration is concentrated in a relatively small number of countries (see Figure 2.1): One out of every four migrants lives in North America and one of every three in Europe (UNFPA, 2006: 6–7).

2.2 Selected trends and new forms in global migration

Over the last two centuries, migration has risen to an unprecedented level – primarily owing to the globalization of economic activity and its effect on labour migration – and international migration is a vital part of today's globalized world.

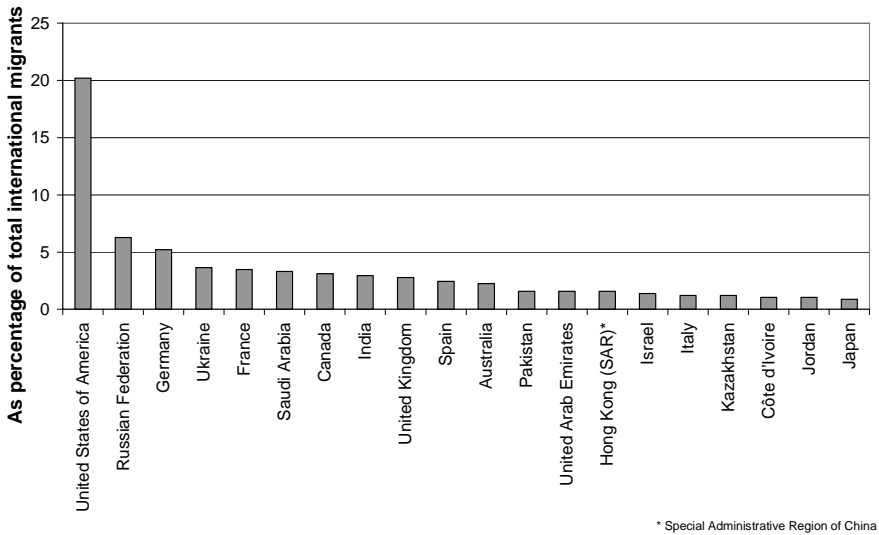


Figure 2.1: The 20 countries or areas with the highest numbers of international migrants (in 2005). Source: UNFPA (2006: 8)

However, the great majority of those who move are still internal migrants, individuals or families, who migrate within their own country (UNFPA, 2006: 4–5).

Asia and the Pacific region have been involved in migration processes for the past twenty years. Host countries can hardly control these processes: rural exodus; the birth of a ‘migration industry’ spearheaded by organized networks; the feminization of migration; migration of contract workers, skilled workers, students, refugees and asylum seekers to various destinations (North America, Europe, Oceania-Pacific and the Middle East). According to an IOM report (2003) Africa is also experiencing steadily increasing migration streams linked to brain drain. There are two main streams: the movement of skilled professionals within the continent, very often to South Africa; as well as brain drain movements, in which many Africans leave the continent to settle elsewhere (IOM, 2003: 29).

Other regions in the world are also affected by this widespread mobility. Causes of migration abound in Latin America, the Caribbean or the Middle East, where emigrants include graduates, victims of political crises, farmers ruined by natural disasters, or ethnic and religious minorities subject to persecution. Significant differences have been observed over the last years between the new and the old flows. Above all, ‘migration pairs’, a legacy of colonial history and of privileged relations between the country of origin and the country of destination (Algeria/France, Turkey/Germany, Commonwealth countries/United Kingdom), have lost their importance. There are now increasingly diversified flows from

origin countries to destination countries having no apparent link with the newcomers (IOM, 2003: 29).

There are now new forms of migration where, most importantly, the 'pull' or attraction factor of migration is today as strong as the 'push' or repulsion factor. Migratory pressure is not only created by a combination of poverty and demographic pressure – which is actually declining in several countries of origin. Popular images also play a role in migration, as the visible trappings of Western comfort can be seen throughout the world on television or in local markets (household appliances, electronic gadgetry and other consumer goods). Globalization is generating migrant populations of varied backgrounds. These people wish to improve their living conditions, not only economically but also socially, culturally, politically or spiritually. Europe is sometimes no more than a temporary destination, a staging post for onward migration to preferred countries, such as the United States or Canada (IOM, 2003: 30). Sovereign countries have the right to control immigration and deter illegal entry. However, this constitutes only one aspect of any comprehensive policy framework and should not be the only major focus. One positive development is that more countries today acknowledge the need to manage migration rather than restrict it (UNFPA, 2006: 3).

One phenomenon that has only relatively recently become the focus of attention is women's role in international migration flows. This is a subject that needs urgent, priority attention. Women now constitute almost half of all migrants and predominate in migration streams to developed countries; at the same time, they are among the most vulnerable to human rights abuses – both as migrants and as females (for more details see UNFPA, 2006). Women are entering the global labour market in greater numbers and increasingly migrate alone. Indeed, they are often primary breadwinners for the families they leave behind. These trends will continue in the years to come, not least because of increased demand in the industrialized states for labour in sectors that are traditionally associated with women: domestic work, nursing and personal care services, cleaning, entertainment and the sex trade, as well as retailing and labour-intensive manufacturing. Negative attitudes in countries of origin towards divorced, widowed, childless and single women, coupled with the fact that many women now have better access to education and a greater awareness of their human rights, will provide further incentives for women at all levels of education to seek jobs and new experiences abroad (GCIM, 2005: 14).

Migration can be voluntary or forced, although the actual experience may contain elements of both. For instance, in the case of poverty the boundary between voluntary and forced migration is not always clear-cut. Most people migrate for labour, for reasons of family reunification, or for marriage. Forced migration and trafficking, on the other hand, encompass the more traumatic aspects of international movement – particularly where such migration involves women and children (UNFPA, 2006: 5–6).

Growing interdependence between countries, coupled with widening inequalities, will probably lead to the further intensification of international movements. In the worldwide scramble for skills, advanced countries are

increasingly tapping into a larger pool of highly mobile labour. At the same time, if their economies are to continue to grow, developed countries will require more migrants to undertake low-paying work that their native counterparts are unable or unwilling to do – particularly at the low wages and working conditions offered. These jobs – known as the ‘four Ds’, that is *dirty, difficult, demeaning and dangerous* – include garbage collection, street cleaning, construction, mining, sex work, etc. Other occupations, which local workers may or may not shun, are seasonal and require a complement of foreign workers. At the other end of the scale, the demand for highly skilled professionals in technological, scientific, managerial or administrative activities is also increasing. Most rich countries are open to, and indeed encourage, immigration at the top end of the skill range but are ambiguous or negative about their needs at the lower range (UNFPA, 2006: 6–7).

2.3 Challenges of globalization and international migration linkages

Increasingly, migration is following an unsavory course that is hewing toward the negative side of globalization, and exacerbating existing inequalities. While an elite of highly skilled individuals increasingly enjoy the benefits of migration,⁷ barriers to poorer migrants are increasing (UNFPA, 2006: 3) in the forms of migration policy restrictions (e.g. in Australia or any European countries such as Spain, Switzerland, etc.), new military controls of Western Africa coast since 2006 (the European Union member countries), an idea of camps at North African countries building for immigrants to Europe (advocating by the European Commission and have not implemented yet), or ‘wall’ building against immigrants (case of USA-Mexico border).

It is widely believed that most migrants come from the poorest populations. This is incorrect. In fact, emigrants are usually better educated than people left behind (for details see CARRINGTON, DETRAGIACHE, 1998). The vast majority en route to the Organization for Economic Co-operation and Development (OECD) countries, for example, possess a secondary (high school) education or higher. With the exception of short-distance movements across borders (i.e., people migrating from Mexico and Central America to the United States of America, or Turks to Western Europe), migrants generally need access to information and some sort of bankroll in order to cross borders – whether legally or illegally. The demand for skilled workers can result in the emigration of a substantial number of skilled workers from source countries. This fact is at the root of one of the major debates surrounding international migration, and can represent a significant loss for developing countries. Countries spend considerable resources training highly skilled professionals: when they leave,

⁷ A part of the migrants answered on developed states initiatives trying to attract the countries for skilled migration. This migration policy generally clashes against any development programmes of the countries within the frame of ODA.

the sending country loses both the emigrants' skills and the initial investment made in their training and education. Concern over skills depletion is nothing new, but global competition is driving countries to recruit more highly skilled migrant workers in order to maintain and increase their economic edge. As a result, researchers estimate that between a third and half of the developing world's science and technology personnel now live in the developed world.

However, a World Bank study (ADAMS, 2003: 18-19) concludes that for 22 of the 33 countries in which educational attainment data can be estimated, less than 10 per cent of the best-educated (that is, tertiary-educated) population of labour-exporting countries has migrated. What is a godsend for the developed world, however, can be devastating for more impoverished countries. Perhaps nowhere is the effect of 'brain drain' more acutely felt than in the already fragile health systems of developing countries. While sub-Saharan Africa is now staggering under the highest infectious disease burden in the world (25 per cent), it retains only 1.3 per cent of the world's health-care practitioners. In some countries, the supply of nurses and doctors has been severely depleted. Aggressive recruitment policies on the part of developed countries seeking to address skills shortages in their own health workforces are partly responsible (UNFPA, 2006: 7).

Developed countries also fear that large immigration may erode cultural values and undermine national security. Developing countries worry about a 'brain drain' even though any output losses from emigration of skilled workers may be more than offset by remittances and positive network effects on trade and investment (WORLD BANK, 2003: 158; MISHRA, 2006).

Some researchers argue that in order for the brain drain to be detrimental, two conditions must prevail: the loss of a high proportion of a country's total educated population, and adverse economic consequences (such as a loss as a fraction of GDP when skilled emigration loss does not outweigh sending remittances to the country, lack of some experts/labour supply in particular economic sectors, or high government expenditure on educating the migrants). Researchers observe that small, less-developed countries, particularly in Africa and in the Caribbean, are most likely to suffer the effects of brain drain. In the context MISHRA (2006: 13-14) points out, that from 1965 till 2000, over 70 per cent of the highly educated populations of Guyana, Haiti, Jamaica and Trinidad and Tobago were living in OECD countries. Although the previous sentences do not tell the whole story, some empirical studies reject this hypothesis (in this context e.g. BOUCHER, STARK, TAYLOR, 2005; see also the discussion in DESAI, KAPUR, McHALE, 2002). The negative effects of brain drain are offset to some extent by inward remittances from migrant workers. Source developing countries may also benefit from network effects (business contacts, investments, technological help) from their skilled and successful emigrants abroad. It is not certain whether skilled workers, had they not emigrated, would have been used to their full potential given the imperfect work environment in many developing countries. Skilled workers may eventually return to their home countries if the investment climate and work environment improve (WORLD BANK, 2003: 168).

Available research does not lead to simple conclusions; benefits can only be determined on the basis of each specific case. Indeed, the World Bank maintains that, despite the fact that developing countries are increasingly concerned about 'brain drain', losses may be more than offset by remittances and increased trade and investment. Simply, remittance income can spur consumption in the home country and can be used to invest in businesses (UNFPA, 2006: 8; compare with WORLD BANK, 2003).

However, several positive indirect impacts have also been identified. MISHRA (2006) argues that for most countries in the Caribbean, the total losses due to skilled migration (which includes the emigration loss predicted by the labour-demand supply framework, augmented with external effects, and government expenditure on educating the migrants) outweigh remittances. Remittances should be the most immediate focus, as they can affect growth through investment, both physical and human. Evidence from micro-level studies suggest that remittances lead to greater human and physical capital investment, but countries need to recognize the importance of remittances and improve recording of the data (MISHRA, 2006: 28–29).

Moreover, when highly trained people find no outlet for their profession at home, neither the person nor the country benefits, and the final result may be 'brain waste'. Altogether, the idea of 'brain drain' tells only part of the story concerning the overall impact of migration on an economy or society. Consequently, the intuitive policy response – to plug the drain – will likely be ineffective. Recent research promotes the idea of 'optimal brain drain' – that is, that an increase in the emigration of skilled migrants may actually benefit the source country in some cases. Lessons suggested by an analysis of Taiwan (where brain drain was eventually transformed into gain), include: subsidize education only up to the level actually demanded by the national economy; use migration as a 'brain reserve' in terms of advice and returning skills; support a diaspora involved in networking and recruitment; and build a critical mass of returnees. There are also practical reasons why attempts to restrict mobility may simply not work. Many migrants will find ways around recruitment bans. Furthermore, policies that have attempted to curb migration have historically met with little success. Efforts to limit mobility from particular countries could also end up inhibiting development. Indeed, those policies most likely to be effective are those that accept existing trends rather than seeking to reverse them (UNFPA, 2006: 8–9). Nevertheless, the issues of remittances and skilled migration consequences are researched in detail at following chapters.

Chapter Three

Causes of Migration and the Development Studies – Brief Theoretical Overview

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In the course of the third quarter of the 20th Century, rapid and sustained economic growth, the increasing internationalization of economic activity, decolonization, and emergent processes of economic development in the developing world, all brought about an intensification of migration (ARANGO, 2000: 284). Global communications and transportation have made it possible for people to enjoy more freedom of movement than ever before. But people should not be compelled to migrate because of inequality, exclusion and limited alternatives in their home countries. While governments and experts discuss how best to manage migration, at the centre is the fact that migrants are first and foremost human beings vested with human rights. The equitable management of migration means that measures adopted should not further penalize the most vulnerable, who already face systemic inequality, first of all, lower-income and female migrants (UNFPA, 2006: 2–3).

What are the reasons for human migration flows during the last decades that “dictate international migration” (DRBOHLAV, 2001)? Following parts of the chapter are addressed to theoretical views on the causes of migration from three perspectives. First of them deals with brief review of the best known migration theories from the economic causes perspective based on classical papers of Douglas S. Massey and other authors that have principal impact on many social sciences. Traditional paradigm of development studies in relation to causes of migration in terms of critical works by Arjan de Haan and other scholars is contained in second part of the chapter. Final third section deals with short review of three another approaches to the causes of migration issue within the frame of relations between developed and developing regions.

The essential purpose of the chapter is not to bring comprehensive interpretation of particular theories dealing with causes of migration, but tries to offer sententious introduction to fundamental causes and motives of migration processes leading to better understanding of the following chapters.

3.1 Structural Forces Supporting International Labour Migration

Why do people move? In the contemporary globalized world is no single, coherent theory of international migration, only fragmented set of theories that have developed largely in isolation from another, sometimes but not always segmented by disciplinary boundaries. A variety of theoretical models has been proposed to explain why international migration begins, and although each ultimately seeks to explain the same thing, they employ radically different concepts, assumptions, and frames of reference (MASSEY et al., 1993: 432; MASSEY et al., 1997: 258).

Social scientists have theorized about four basic aspects of human migration in their efforts to explain it (MASSEY, 2001):

- the structural forces that promote ‘out-migration’ from sending regions;
- the structural forces that attract ‘in-migrants’ to receiving societies;
- the motivations, goals, and aspirations of people who respond to these structural forces by becoming migrants; and
- the social and economic structures that arise to connect areas of out- and in-migration.

Drink mixed from four aspects creates uniqueness of particular migration theories that are briefly characterized in following parts of the chapter.

3.1.1 Push-Pull Model and Neoclassical Economic Approaches

One of the most commonly known theoretical concepts in migration research is „*push-pull*“ model. This concept in general terms describes causes of migration within the frame of number of negative (push) factors in the country of origin cause people to move away, combined with a number of positive (pull) factors that attract migrants to new destination. Lists of push factors at large include such elements as economic, social, and political difficulties in the developing countries, while the pull factors include the comparative advantages in the richer developed countries as the higher wages, social and health insurance, high quality education, etc. The general criticism is that such model does not explain why some regions supply migrants while others do not, or not to the same extent, or why within regions some people move and others stay, nor can they explain the direction of flows (compare with SCHOORL et al., 2000: 3). This simple model has become basis for neoclassical theories at migration studies.

The neoclassical approach to migration analysis came from classical works Adam Smith from 18th century (BAUER, ZIMMERMANN, 1999: 13) and from 19th century by RAVENSTEIN (1885: 198–199). MASSEY (2001) notes that the best-known theoretical model, *neoclassical economics*, offered from the *macroeconomics view* has strongly shaped public thinking and has provided the intellectual basis for much immigration policy. MASSEY et al. (1993: 433–434) summarized the theory to several implicit propositions and assumptions:

1. The international migration of workers is caused by differences in wage rates between countries.
2. The elimination of wage differentials will end the movement of labor, and migration will not occur in the absence of such differentials.
3. International flows of human capital – that is, highly skilled workers – respond to differences in the rate of return to human capital, which may be different from the overall wage rate, yielding a distinct pattern of migration that may be opposite that of unskilled workers.
4. Labor markets are the primary mechanisms by which international flows of labor are induced; other kinds of markets do not have important effects on international migration.
5. The way for governments to control migration flows is to regulate or influence labor markets in sending and/or receiving countries.

Neoclassical micro-economic models focus on labour markets as well, but assume that individuals make rational cost-benefit calculations, not only about the decision whether to migrate or not, but also when considering alternative destinations. Against the benefits of expected higher wages there are various costs such as travel and adaptation expenses (learning a new languages, cultural differentials) and the psychological cost of leaving the family and friends (SCHOORL et al., 2000: 3). It means that a potential migrant goes to where the expected net returns to migration are greatest, leading to several important conclusions that differ slightly from the earlier macroeconomic formulations (MASSEY et al., 1998: 259–260):

1. International movement stems from international differentials in both earnings and employment rates.
2. Individual human capital characteristics that increase the likely rate of remuneration or the probability of employment in the destination relative to the sending country (e.g., education, experience, training, language skills) will increase the likelihood of international movement, other things being equal.
3. Individual characteristics, social conditions, or technologies that lower migration costs increase the net returns to migration and, hence, raise the probability of international movement.
4. Because of 2 and 3, individuals within the same country can display very different predispositions to migrate.
5. Aggregate migration flows between countries are simple sums of individual moves undertaken on the basis of individual cost-benefit calculations.
6. International movement does not occur in the absence of differences in earnings and/or employment rates between countries. Migration occurs until expected earnings (the product of earnings and employment rates) have been equalized internationally (net of the costs of movement), and movement does not stop until this product has been equalized.
7. The size of the differential in expected returns determines the size of the international flow of migrants between countries.

8. Migration decisions stem from imbalance or discontinuities between labor markets only.
9. If conditions in receiving countries are psychologically attractive to prospective migrants, migration costs may be negative. In this case, a negative earnings differential may be necessary to halt migration between countries.
10. Governments control immigration primarily through policies that affect expected earnings in sending and/or receiving countries—for example, those that attempt to lower the likelihood of employment or raise the risk of underemployment in the destination area (through employer sanctions), those that seek to raise incomes at the origin (through long-term development programs), or those that aim to increase the costs (both psychological and material) of migration.

Nevertheless, ARANGO (2000: 286) recognizes a few critical points towards the neoclassical economic approaches that originate from their difficulties to come to terms with reality. The first of them Arango calls as ‚Achilles heel of neo-classical theory‘, runs from question ‚why so few people move, given the huge differences in income, wages and levels of welfare that exist among countries?‘. In fact, international migrants make approximately 3 per cent share of the world population and it argues, that majority of the world population does not migrate. The second problem, connected with the theory, is its inability to explain why some countries have relatively high outmigration rates and others, structurally similar, do not (ARANGO, 2000: 286).

Furthermore, governments control of immigration through long-term development programs seems to be very interesting hypothesis, but in fact, it is definitely useless. Developed countries have provided official development assistance (ODA) for six decades, approximately, and without any significant global effect on international migration flows to the advanced economic regions.

3.1.2 The New Economics of Labour Migration

In recent last decades, a ‚new economics of labor migration‘ has arisen to challenge the assumptions and conclusions of neoclassical theory associated primarily with the name of Oded Stark, however ARANGO (2000: 287–288) indicates doubts whether the disparate ingredients that make up the theory are sufficiently woven and logically integrated as to constitute a coherent theory, or whether it is no more than a critical, sophisticated variant of neo-classical theory. MASSEY (2001) points out that key insight of this approach is that migration decisions are not made by isolated individuals, but within larger units of interrelated people - typically families, households or entire communities - and that people act collectively not only to maximize expected income, but also maximize status within an embedded hierarchy, to overcome barriers to capital and credit, and to minimize risk and diversify the incomes.

From the development studies perspective is crucial issue that in most developed countries, risks to household income are generally minimized through

institutional mechanisms as a private insurance markets or governmental programs, but in developing countries these institutional mechanisms for managing risk are imperfect, absent, or inaccessible to poor families, giving them incentives to diversify risks through migration. In developed countries, moreover, credit markets are relatively well-developed to enable families to finance new projects, such as the adoption of new technologies. In most developing areas, in contrast, credit is usually not available or is procurable only at high cost. In the absence of accessible public or affordable private insurance and credit programs, market failures create, according to the theory, strong pressures for international movement (MASSEY et al., 1993: 436). In the context the migrant's remittances seem to be important element of finance accumulation to invest in development, as well as for old-age pension.

Some researchers (e.g. Piore, 1979 in SCHOORL et al., 2000: 4) argue that labour market factors in receiving countries rather than in sending countries determine migration and intrinsic labour demands in modern industrial societies create a constant need for new workers at the bottom of the social hierarchy, who will accept low wages and a lack of social mobility perspectives, motivated by a desire to increase status in their community of origin rather than at destination.

The theoretical models growing out of 'the new economics of labour migration' yield a set of propositions and hypotheses that are quite different from those emanating from neoclassical theory, and they lead to a very different set of policy prescriptions (MASSEY et al., 1997: 260–261):

1. Families, households, or other culturally defined units of production and consumption are the appropriate units of analysis for migration research, not the autonomous individual.
2. A wage differential is not a necessary condition for international migration to occur; households may have strong incentives to diversify risks through transnational movement even in the absence of wage differentials.
3. International migration and local employment or local production are not mutually exclusive possibilities. Indeed, there are strong incentives for households to engage in both migration and local activities. In fact, an increase in the returns to local economic activities may heighten the attractiveness of migration as a means of overcoming capital and risk constraints on investing in those activities. Thus, economic development within sending regions need not reduce the pressures for international migration.
4. International movement does not necessarily stop when wage differentials have been eliminated across national boundaries. Incentives for migration may continue to exist if other markets within sending countries are absent, imperfect, or in imbalance.
5. The same expected gain in income will not have the same effect on the probability of migration for households located at different points in the income distribution, or among those located in communities with different income distributions.

6. Governments can influence migration rates not only through policies that influence labor markets, but also through those that shape insurance markets, capital markets, and futures markets. Government insurance programs, particularly unemployment insurance, can significantly affect the incentives for international movement.
7. Government policies and economic changes that shape income distributions will change the relative deprivation of some households and thus alter their incentives to migrate.
8. Government policies and economic changes that affect the distribution of income will influence international migration independent of their effects on mean income. In fact, government policies that produce a higher mean income in migrant-sending areas may increase migration if relatively poor households do not share in the income gain. Conversely, policies may reduce migration if relatively rich households do not share in the income gain.

Nevertheless, ARANGO (2000: 288) points out that the new economics of migration has problem with its limited applicability and it seems to draw its inspiration from a small number of rural villages in Mexico. He notes that the theory concerns itself only with the causes of migration at the sending side. Furthermore, DE HAAS (2005: 1271–1272) claims, that social and economic development enables more people to migrate and tends to increase their aspirations which means that economic development within sending regions probably does not reduce the pressures of international migration directly.

3.1.3 Segmented Labor Market Theory (Dual Labor Market Theory)

Author of the *dual labour market theory*, Michael Piore, pays attention only to the receiving end of migration and places its explanation at the macro level of structural determinants. According to him, international migration is caused by a permanent demand for foreign labour that stems from certain intrinsic characteristics of advanced industrial societies, which in turn result in the segmentation of their labour markets. For a number of reasons, highly developed economies require foreign workers to fill jobs that native workers refuse (ARANGO, 2000: 288).

The *segmented labor market theory*, as well as the world systems theory, perceive international labour migration as the natural effect of economic globalization and trade liberalization across the borders. According to Piore (1979 in MASSEY et al., 1993: 440–441) international migration is not caused by push factors in sending regions (low wages or high unemployment), but by pull factors in receiving areas (a chronic and unavoidable need for migrant workers). The built-in demand for inexpensive and flexible workers stems from three basic features of developed countries economies: structural inflation (people generally believe that wages should reflect social status and a variety of mechanisms ensure that wages correspond to the hierarchies of prestige and status that people perceive and expect); social constraints on motivation (employers need workers

who view bottom-level jobs simply as a means to the end of earning money, and for whom employment is reduced solely to income, with no implications for status or prestige – for a variety of reasons, migrants satisfy this need), economic dualism (low wages, unstable conditions, and the lack of reasonable prospects for mobility in the secondary sector make it difficult to attract local workers, who are instead drawn into the primary, capital-intensive sector, where wages are higher, jobs are more secure, and there is a possibility of occupational improvement – to fill the shortfall in demand within the secondary sector, employers turn to migrants) (MASSEY, 2001).

The dual labor market theory understands contemporary realities better than above mentioned theories, claims ARANGO (2000: 288) because its fundamentals are well-known empirical observations. According to him the value of the theory does not lie principally in providing a general explanation of the causes of international migration, it rather lies in highlighting an important factor for the occurrence of international migration, namely the structural demand for foreign labour in the economic structure of developed countries. The dual labor market theory also provides cogent explanations for such demand which help to understand the apparently anomalous coexistence of a chronic demand for foreign labour with significant rates of structural unemployment in a number of receiving countries. Another merit is its contribution to the idea that immigrant workers affect the latter's level of wages and employment prospects (ARANGO, 2000: 289–290).

Segmented labor market theory does carry implications and consequences that are quite different from those outgoing from micro-level decision models (MASSEY, 1997: 262):

1. International labor migration is largely demand-based and is initiated by recruitment on the part of employers in developed societies, or by governments acting on their behalf.
2. Since the demand for immigrant workers grows out of the structural needs of the economy and is expressed through recruitment practices rather than wage offers, international wage differentials are neither a necessary nor a sufficient condition for labor migration to occur. Indeed, employers have incentives to recruit workers while holding wages constant.
3. Low-level wages in immigrant-receiving societies do not rise in response to a decrease in the supply of immigrant workers; they are held down by social and institutional mechanisms and are not free to respond to shifts in supply and demand.
4. Low-level wages may fall, however, as a result of an increase in the supply of immigrant workers, since the social and institutional checks that keep low-level wages from rising do not prevent them from falling.
5. Governments are unlikely to influence international migration through policies that produce small changes in wages or employment rates; immigrants fill a demand for labor that is structurally built into modern, post-industrial economies, and influencing this demand requires major changes in economic organization.

However, ARANGO (2000: 290) has two critical points towards the dual labor market theory. Firstly, any theory that posits that all international migration is demand-driven and excludes altogether ‘push’ factors, cannot aspire to explain but a part of reality. On the second place, today’s immigration flows do not seem to result primarily from recruitment practices, especially in the economies of developed countries that the theory envisages, such as those of North America or Western Europe.

3.1.4 World Systems Theory

Growing out of the historical-structural tradition in social science, *world-systems theory* argues that migration stems from the penetration of capitalist economic relations into non-capitalist or pre-capitalist areas to create a mobile population (Fligstein 1979; Sassen 1988 both in MASSEY, 2001). The theory is based on unbalanced world order and ideas that highly developed economies need foreign labour from developing countries to work for low wages in certain sectors focusing on macro-social processes only. However, its explanation of international migration does not so much rest on this demand, but rather in the dislocations brought about by capitalist penetration in less developed countries, claims ARANGO (2000: 290).

The conceptual cornerstone of world systems theory is the notion of a ‘modern world system’ coined in the mid-1970s by historian-sociologist Immanuel Wallerstein (ARANGO, 2000: 290), but the roots of the theory can be found in (neo)marxist doctrine. What does theory simply say? In order to achieve the greatest profit from existing agrarian resources, and to compete within global commodity markets, capitalist farmers seek to consolidate landholding, mechanize production, introduce cash crops, and apply industrially produced inputs such as fertilizer, insecticides, and high-yield seeds. Furthermore, land consolidation destroys traditional systems of land tenure based on inheritance and common ownership and mechanization using decreases the need for manual labor and makes agrarian workers redundant on the one hand, and creates many lackland from small land owners on the other hand. These forces drive peasant farmers out of local markets and create a mobile labor force of people displaced from the land. This uprooted population is prone to rural-urban and international migration, which creates necessary supply of labour force for working on plantations or for industrial production, such as extraction of raw materials and goods manufacturing. The workers on the plantations and factories are exploited by their owners firstly and “thrown aside” later, when the production is finished or managers find new cheaper labour. At the same time, capitalist firms enter developing regions to establish assembly plants, often within special export-processing zones created by sympathetic governments (compare with MASSEY, 2001). In the past this penetration was assisted by colonial regimes and in the present it is assured by neo-colonial regimes with their “special” relations to the former colonial powers, and multinational corporations, and foreign direct investments play a crucial role in it (ARANGO, 2005: 290). MASSEY (1993:

446) notes on feminizing the workforce and socializing women for industrial work and modern consumption without providing a lifetime income capable of meeting their needs within the system.

MASSEY (2001) mentions two additional dimensions of world systems theory. The first of them deals with international security issue and military attendance of advanced economic states in developing regions. Core capitalist nations also have the military interest of preserving their geopolitical order, and leading powers thus maintain relatively large armed forces to deploy as needed to preserve the integrity of the global capitalist system. Each military base and armed intervention, however, creates a range of social and political connections that promote the subsequent movement of migrants (compare also with MASSEY et al., 1994: 740).

The second dimension relates to ideological or cultural links between core capitalist regions and their peripheries. In many cases, these cultural links are longstanding, reflecting a colonial past in which core countries established administrative and educational systems that mirrored their own in order to govern and exploit a peripheral region. Ideological connections are presently reinforced by mass communications, modern consumption and advertising campaigns directed from the core centers. It interacts with the emergence of a transportation-communication infrastructure to channel migrants disproportionately to global cities (MASSEY, 2001).

World systems theory thus argues that international migration follows the political and economic organization of an expanding global market, a view that yields six distinct hypotheses (MASSEY et al., 1997: 262–263):

1. International migration is a natural consequence of capitalist market formation in the developing world. The global economy infiltration into peripheral regions is the catalyst for international movement.
2. The international flow of labor follows the international flow of goods and capital, but in the opposite direction.
3. International migration is especially likely between past colonial powers and their former colonies, because cultural, linguistic, administrative, investment, transportation, and communication links leading to the formation of specific transnational markets and cultural systems.
4. Since international migration stems from the globalization of the market economy, the way for governments to influence immigration rates is by regulating the overseas investment activities of corporations and controlling international flows of capital and goods. Such policies tend to incite international trade disputes, risk economic recession, and antagonize multinational firms with substantial political resources that can be mobilized to block them. However, it is unlikely that policies are to be implemented because they are difficult to enforce.
5. Political and military interventions by governments of capitalist countries to protect investments abroad and to support foreign governments sympathetic to the expansion of the global market, when they fail, produce refugee movements directed to particular core countries, constituting another form of international migration.

6. International migration ultimately has little to do with wage rates or employment differentials between countries; it follows from the dynamics of market creation and the structure of the global economy which are under control of advanced industrial countries.

Even if the world systems theory may shed light on the importance of past and present linkages between countries at different stages of development, claims ARANGO (2000: 291), some mechanisms of development which cause uprootedness and explains the common-sense empirical observation that migration often connects countries that were linked in the past by colonial bonds. According to him the theory represents a grand historical generalisation, a product of reductionist and sense-loaded interpretation of history in which all countries pass through similar processes.

The world systems theory focuses on negative aspects of economic and social processes of (global) capitalist market and understands migration as negative consequence of the processes. The theory does not consider any positive relations, for instance possible “pull” factors in the form of positive challenges for the migrants in the receiving regions which can improve quality of their life.

Papademetriou and Martin (1991: 10 in ARANGO, 2000: 291) emphasize that the world systems theory is only applicable at the global level, and migrants are passive players in the play of big powers. This explanation of the specific migration relationships between countries is formulated in a way that cannot be subject to empirical test.

3.1.5 Cumulative Causation Theory

The expansion of migration networks,⁸ organizations⁹ and migrant supporting institutions sustain international migration in other ways that make additional movement progressively more likely over time, which MASSEY (1990) calls *cumulative causation theory*, and it was first processed by Gunnar Myrdal in 1957 in his concept of circular and cumulative causation in the context of the ‘backwash effects’ put in motion by uneven development in underdeveloped areas (MASSEY, 1990: 4–5; ARANGO, 2000: 292). The theory basically argues that human migration changes individual motivations and social structures in ways that make additional movement progressively likely. Causation is cumulative in the sense that each act of migration alters the social context within which subsequent migration decisions are made to make additional trips of longer

⁸ The theory tries to explain “how” people migrate, in particular, and for that reason is not included in the list of theories dealing with the causes of migration (for details about the theory see e.g. MASSEY et al., 1993: 448–450; ARANGO, 2000: 291–292; FAWCETT, 1989; BARŠOVÁ, BARŠA, 2005: 275–276; SCHOORL et al., 2000: 5–6; BAUER, ZIMMERMANN, 1999: 19–21).

⁹ See BARŠOVÁ, BARŠA (2005: 277) for controversial comment of the human rights organizations that need increasing anti-immigration policy due to greater propagation of their work, their existence justification, and grants activities.

duration more likely (MASSEY, 2001). Additionally, DRBOHLAV (2001) notes, that once migration processes have been started, after that they have ‘self-sustaining tendency’ through personal motivation and social networks, where individuals are embodied.

SCHOORL et al. (2000: 6) talk about creating a true ‘culture of migration’ in some societies where migration becomes part of the value system of the community caused by change of tastes and motivations due to the experience of migrants gained in the countries they have moved. The authors argue that at receiving countries migration tends to change circumstances. For instance, the social acceptability of work is altered as people start to view certain jobs as low-status immigrant jobs, and refuse to enter those occupations any longer. Therefore, despite high unemployment rates, there may be a structural demand for immigrant labour. Immigrants may perceive status differently, at least as long as their primary goal is to earn money and improve their status in their community of origin, or if the fact that by earning an income they have gained independence provides them with a sense of status improvement (SCHOORL et al., 2000: 6).

MASSEY (2001) mentions eight ways that migration has cumulatively caused: the expansion of networks, the distribution of income, the distribution of land, the organization of agriculture, culture, the regional distribution of human capital, the social meaning of work, and the structure of production. Feedbacks through other variables are also possible, but have not been systematically treated yet (compare with older version within six socio-economic factors MASSEY et al., 1993: 451–453; see distribution of incomes in detail in TAYLOR, 1992). However, MASSEY et al. (1993: 453–454) view international migration in dynamic terms as a cumulative social process yields a set of three following propositions:

1. Social, economic, and cultural changes brought about in sending and receiving countries by international migration give the movement of people a powerful internal momentum resistant to easy control or regulation, since the feedback mechanisms of cumulative causation largely lie outside the reach of government.
2. During times of domestic unemployment and joblessness, governments find it difficult to curtail labor migration and to recruit natives back into jobs formerly held by immigrants. A value shift has occurred among native workers, who refuse the „immigrant“ jobs, making it necessary to retain or recruit more immigrants.
3. The social labeling of a job as „immigrant“ follows from the concentration of immigrants within it; once immigrants have entered a job in significant numbers, whatever its characteristics, it will be difficult to recruit native workers back into that occupational category.

3.1.6 Migration Systems Theory

Migration systems theory incorporates many of the theoretical models and elements briefly described above such as world systems theory, and the theory of cumulative causation. Migration flows acquire a measure of stability and structure over space and time, allowing for the identification of stable, international migration systems. A migration system may be seen as a set of places linked by flows and counter flows of people, capital, goods, services, and information between certain countries and less intense exchanges between others. An international migration system generally includes a core receiving region, which may be a country or group of countries, and a set of specific sending countries (peripheries) linked to it by unusually large flows of immigrants (MASSEY et al., 1993: 454; SCHOORL et al., 2000: 6; compare with FAWCETT, 1989: 678–679).

SCHOORL et al. (2000: 6) note that international migration as taking place within a system where countries and regions are connected by several types of linkages, as well as viewing it as a dynamic process rather than a static phenomenon, inevitably calls for the integration of micro- and macro-level processes (compare with FAWCETT, 1989: 678–679). Therefore, research on the causes of migration has to consider both individuals and households (including their migration-related behaviour, motivations, perceptions, etc.) and the economic, social, environmental and political circumstances which create the context for migration and influence individual behaviour. Within a systems framework, individuals and households are regarded as active decision-makers about migration or alternatives to it. Questions posed by systems-oriented studies include the reasons for migration versus non-migration, the role of states in controlling migration, and the role of networks and information, etc. (SCHOORL et al., 2000: 6)

MASSEY et al. (1997: 266–267) see at migration systems theory perspective yields in several interesting hypotheses and propositions:

1. Countries within a system need not be geographically close since flows reflect political and economic relationships rather than physical ones. Although proximity obviously facilitates the formation of exchange relationships, it does not guarantee them nor does distance preclude them.
2. Multipolar systems are possible, whereby a set of dispersed core countries receive immigrants from a set of overlapping sending nations.
3. Nations may belong to more than one migration system, but multiple membership is more common among sending than receiving nations.
4. As political and economic conditions change, systems evolve, so that stability does not imply a fixed structure. Countries may join or drop out of a system in response to social change, economic fluctuations, or political upheaval.

The main advantages of migration systems theory were outlined by Fawcett and Arnold in 1987 (FAWCETT, 1989: 672–673; compare with SCHOORL et al., 2000: 67):

1. It directs attention to both ends of a migration flow, with a corresponding necessity to explain stability and mobility in each location.

2. It examines one flow in the context of other flows, or one destination in relation to alternative destinations.
3. It highlights the diverse linkages between places, including flows of information, goods, services and ideas, as well as people.
4. It suggests comparisons between places, thus calling attention to the disparities and imbalances that are a source of energy in the system.
5. It brings into focus the interconnectedness of the system, in which one part is sensitive to changes in other parts.
6. It reinforces the view of migration as a dynamic process, a sequence of events occurring over time.

ARANGO (2000: 292) considers the potential of the migration systems approach to international migration has never been fulfilled and still remains at the stage of promise.

3.2 Gap in linkages between development studies and migration

DE HAAN (1999) in his paper, reviewing of empirical studies, shows that may not be possible to generalise the characteristics of migrants, or the effects of migration on broader development, inequality or poverty. His review concludes that, given the importance of migration for rural livelihoods of many, policies should be supportive rather than trying to limit population mobility, and possibilities should be explored to enhance the positive effects of migration. One of the key idea of the paper is that labour migration, between and within urban and rural areas, has to be seen as a natural central element in the livelihoods of many households in developing countries for a long time. Much of the literature focuses on movements of people as a result of crises – environmental, natural, economic, political or demographic. Yet migration is also a *normal* element of most, if not all societies,¹⁰ and DE HAAN (1999: 1–2) addresses itself to scholars of development studies, with a offer to integrate the analyses of migration within those of agricultural and rural development issue.

Whereas standard economic theories emphasise the advantages of a free flow of labour, development studies tends to look at migration as the population movements which are happening at an unprecedented scale. Despite increasingly tough measures and restrictions against illegal immigration to developed regions, international migration is thought to be at an ‘all-time high’ (MARTIN, WIDGREN, 1996: 2) and international migration issue is perceived as a ‘global challenge’ (see e.g. MARTIN, WIDGREN, 1996; MARTIN, WIDGREN, 2002). DE HAAN (1999: 2–3) indicates that in contemporary studies of migration in developing countries, there is much emphasis on migration as an option of last choice for impoverished peasants. According to him, literature that usually departs

¹⁰ For example, it is commonly argued that the history of Africa is a history of migration and similarly, Asia has been a continent of a mobile population (DE HAAN, 1999: 7).

critically from neo-classical models, sees migration not as a choice for poor people, but as the only option for survival after alienation from the land, and highlights the exploitation of migrants in both destination and source areas.

Further, DE HAAN (1999: 3–4) argues that development studies often ignore migration as a significant factor in agricultural or rural development due to their focus on rural-urban migration in developing countries where poverty and bad crops (hazard) play main reasons for this form of migration. This focus follows a perception of historical developments in Europe, where migration has often been perceived as the result of the uprooting of the peasantry in the process of industrialisation and the transition from a rural to an urban society, however, migration was a common part of the European economy before industrialisation. According to him this is an example of the hand downed assumption common in development studies. Additionally, DEMUTH (2000: 21–24) mentions that European population¹¹ is generally resident since their ancient forebearers stopped being nomads, excluding the emigration flows to colonies, and migrants for a long time have been regarded as something extraordinary and resident ‘deeply rooted’ population was the norm. In fact, in developing countries, the largest proportion of migrants moves between rural areas (DE HAAN, 1999: 4), perhaps with the exception of the Latin America (DE HAAN, 2000: 2).

DE HAAN (1999: 4) calls attention to ambivalent relations between development strategies and human migration. Development policies often pay little attention to migration and development assistance programmes are designed to promote strategy ‘stay-at-home’ and at the same time reduce emigration pressure.¹² Policy makers perceive population movements as a threat to stability and the rural-urban movement in developing countries, and the consequent urbanisation, is regularly portrayed as undesirable.

In this respect, the example of double-faced Chinese government policy in the case of internal migration, seems to be interesting. Chinese national government, officially supports “stay-at-home” strategy (*hokou* system) and slightly persecutes the informal migrants in Chinese cities by social pressure (does not provide the social support or other generally free of charge social services as the health care or education for children and other members of immigrants families).¹³ On the other hand, first of all coastal economic zones have huge demand for cheap and flexible labour force which is necessary for economic growth of the country. However, Chinese national government relieved emigration policy during the 1990s and it seems that supports the brain circulation strategy.

A central point of DE HAAN’s paper (1999: 9–16) is argument that population movements are not economic reactions to push and pull factors only, but the *patterns of migration are determined by social and cultural institutions* (highlighted by author of the chapter), incorporated in local customs and ideologies. According to him, *migration processes are usually not a isolation from society’s histories and they are usually part of populations’ survival strategies* to obtain

¹¹ More accurately, West-European population.

¹² In fact, nobody still defines what is ‘(e)migration pressure’.

¹³ But the situation is slowly getting better.

livelihoods (highlighted by author of the chapter). Socio-cultural structures also give migration particular forms. Further, migration options are not open to all, and people's networks, preceding migrations and various social institutions determine, to a large extent, who migrates, and from which areas. This also means that the gains from migration are not distributed equally (DE HAAN, 1999: 16).

3.3 Alternative approaches

Following parts deal with three briefly described approaches frequently cited in the migration literature – voluntary/forced migration, circular migration and transnationalism (transnational social spaces) – they have direct links to development in economically poor countries.¹⁴

3.3.1 Voluntary and forced migration

One of the classic and well-known migration concept divides migration flows into *voluntary* or *forced (involuntary)*. Migration processes are based on circumstances of leaving the country (region) of origin and a possibilities to choose to migrate or not. Voluntary migration is generally action of peoples who have left their homes of their own volition (study or intership, new position in career, etc.). DEMUTH (2000: 33–35) simply classifies *voluntary migration* on labour migration, non-immigration, chain migration and betterment migration (see Figure 3.1), even if there are another possible typologies. But at the same time he advices of a fact, that many forms of labour migration are not quite as voluntary, the people move and try to find job abroad because their opportunities inside the countries of origin are limited and many of them have to support their families. The sending remittances can be only or basic finance source for survival. At similar cases the migration can be called a mixed voluntary and involuntary migration (in the context see also UNFPA, 2006: 5–6).

Involuntary (forced) migration is one that circumstances cause which directly or indirectly do not allow the potential migrants to remain at their home, but forces them to leave. Here are two main distinctions (see Figure 3.1): man-made causes (such as poverty, angst and political persecution or the brutality of wars) included in Geneva Convention, and natural causes such as natural disasters or catastrophes (e.g. famine caused by drought, flooding, volcano eruptions, etc.) (DEMUTH, 2000: 35). It is apparent that some of the fundamental factors – man-made or natural reasons for migration – can blend together as in the case of poverty or climate change. Similarly, the environmental reasons for migration (such as the desertification and land degradation) are examples of cumulative, slowly-onset economic and environmental causes on the voluntary and forced base.

¹⁴ Limited space and effort to keep the coherency of the book do not allow the description in detail, as well as a selection of another theoretical approaches. In the context of migration and development nexus author chose most frequently cited theories in scholar literature during last time.

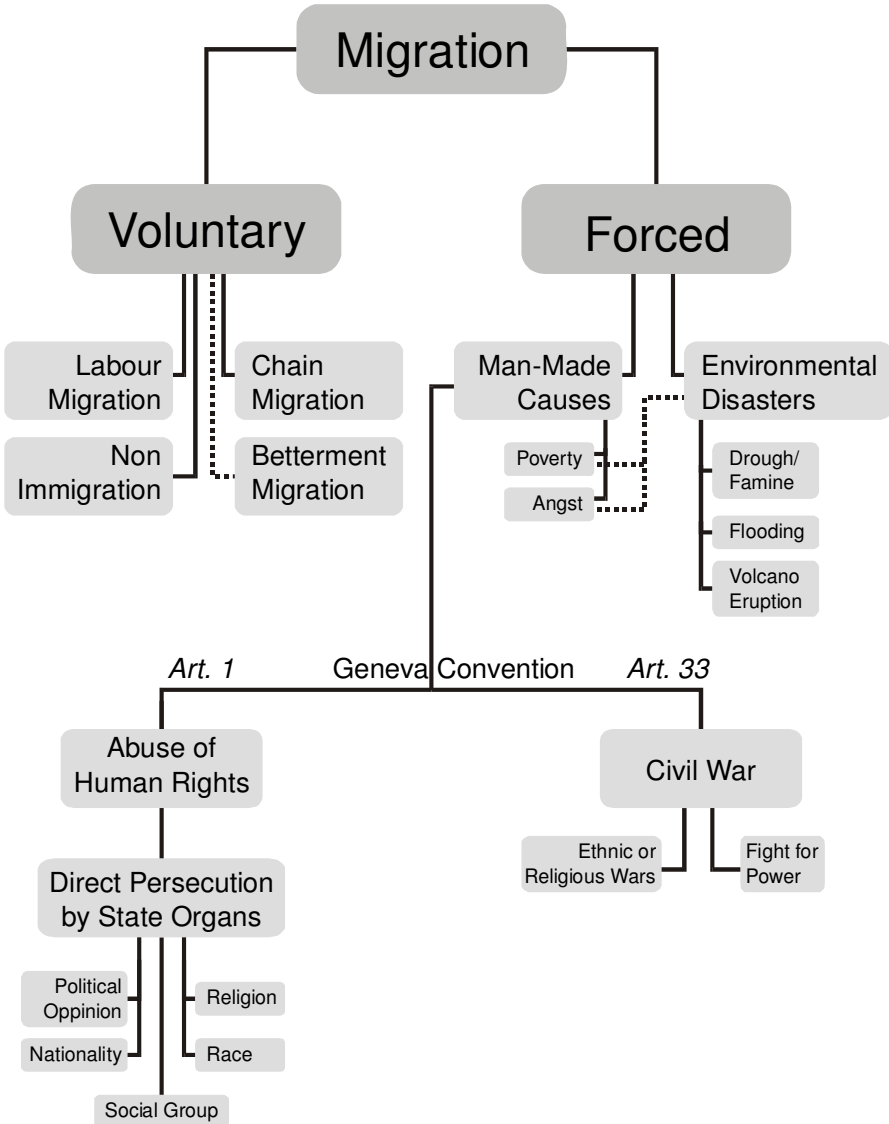


Figure 3.1: Forced vs. voluntary migration. Source: DEMUTH (2000: 35)

3.3.2 Circular Migration

The circular migration generally mentions the temporary or permanent return of migrants to their countries of origin. The migrants are not just passive participants but active agents of their own mobility (AGUNIAS, NEWLAND, 2007: 1–3). The theory presents relatively new research phenomenon (HUGO, 2003; compare with DE HAAN, 1999: 12), first processed by Graeme Hugo in 1982 in his paper dealing with circular aspects of migration in Indonesia, and has started to be new challenge for both politicians and scholars.

Graeme HUGO (2003) argues that from a research perspective, we are confronted with the situation that the bulk of our international migration data collection, much of our empirical knowledge and theories are rooted in a permanent settlement migration paradigm. For this reason migration experts have to rethink our data collection systems regarding migration flows or limit the amount of detail sought regarding them. Most conventional collections of information regarding stocks of migrants such as population censuses either exclude temporary residents altogether, or if they collect information from them, it is not processed or tabulated.

The paradigm of development studies was not be able to absorb the circular migration approach for a long time (whether on international or on internal level), when in the international literature of the 1960s and 1970s the idea of one-way, permanent rural-urban migration dominated, argues DE HAAN (1999: 12). But in the 1970s analyses that emphasize the circular nature of migration started to appear, challenging unilinear models assuming rapid urban transformation. The studies of international migration stress the cultural aspects that this circular movement entails. DE HAAN (1999: 12–13) points out that most migrants - and much migration is by single persons – maintain close links with their areas of origin and the literature on circular migration shows that a range of factors are responsible for this pattern, including perception of migration as the part of a ‘diversification’ strategy, patterns of landholding, land rights, and patterns of demand for labour in the rural society are equally important. In the context ROBERTS (1997: 265) describes general and specific arguments for circular migration and diversification strategy of rural Chinese households. Among some general reasons, common for many countries, rank spatial and occupational diversification, security for times of unemployment, sickness and old age, and the institution of community-owned land which one will lose if not farmed. However, in China there are five additional specific factors that intensify the relation between Chinese living in rural areas and their land:

- 1) The right of resettlement in the village is lost by permanent outmigration (Siu, 1993 in ROBERTS, 1997: 265);
- 2) Land allocations have been readjusted with some frequency in the past, and peasants are afraid they will forfeit their land in the next reallocation of land rights (in Judd, 1992 in ROBERTS, 1997: 265);
- 3) Peasants fear there could be a major change of internal government/regional political praxis which is relatively tolerance to land tenure, off-farm employment opportunities, or migration. The land is understand as their „route of retreat“ (Li, 1991:116; in ROBERTS, 1997: 265).
- 4) Peasants are more risk-averse with regard to basic food security and experience with famine is relatively recent. Consequently most Chinese peasants never abandon basic food production on at least a small plot of land (Odgaard, 1992 in ROBERTS, 1997: 265).
- 5) Labor requirements in Chinese agriculture are highly seasonal and, there is still little mechanization. A survey of 4,000 households in 8 provinces found that even inter-provincial migrants returned to work an average of 37 days on their own farms each year (Song, 1996 in ROBERTS, 1997: 265).

Oi (1989: 195 in ROBERTS, 1997: 264) literally quotes, that “those who can work in factories do; the others, often women and the older members of the family, work the entire family’s fields”. This reality also determines the preferences in sex of children in the country.

Recent papers dealing with circulation migration issue on general level, (e.g. AGUNIAS, NEWLAND, 2007; AGUNIAS, 2006; HUGO, 2003) say that is impossible to receive the information about global scope of the phenomenon. As AGUNIAS, NEWLAND (2007: 17) note, the nature of the transnational movement of people requires data to be collected from countries of origin and countries of destination, which in turn calls for coordination of such data from various sources. While many countries of destination have registration procedures in place that allow assessment of the number of incoming immigrants, estimation of outflows of immigrants is less straightforward. As was mentioned above, the permanent settlement migration paradigm still defines most data collection systems. There are typically no procedures in place that register emigration (AGUNIAS, NEWLAND, 2007: 4). However, numeric data are available from limited number of countries and the data are based on inequable methodology and that is why, they are comparable with difficulty (e.g. quantity of gained work permissions, quantity of granted long-term visas, etc.).

The impact of such circular migration on the development of migrants’ countries of origin is complex. Scholar studies are just beginning to accumulate the information and data and mixed results from these studies, although still few and mostly preliminary in nature, suggest the promise as well as the perils of circular migration (AGUNIAS, NEWLAND, 2007: 6–7). The present knowledge of particular research works dealing with the issue in China and India shows positive as well as negative results. For instance, China recently has experienced a significant rise of returnees with advanced technical knowledge since 1999. A survey in 2002 of 154 returnees and locals in high-tech zones in six Chinese cities found that 48 per cent returnees in the private sector brought back foreign technology as compared to only 21 per cent of locals (AGUNIAS, 2006: 9–10). Further, about 30–40 per cent of higher level employees in Indian software firms had relevant work experience in a developed country (COMMANDER et al., 2004). However, there is an example of study of Kerala, South-West India (NAIR, 1999), found that returned migrants are, in general, middle-aged persons with low-levels of education, skills, and experience. And not surprisingly, half of them were found to be unemployed upon return (NAIR, 1999: 209). Even if, this conclusion does not have to be just unambiguous,¹⁵ it is true that circular migration is not any ‘heal-all’ on long-term and complex development challenges.

According to AGUNIAS, NEWLAND (2007: 7–8) circular migration’s impact on development tends to be positive when:

¹⁵ Author of the chapter is not just sure if the outcome of the research is not misrepresented by Gulf War in 1990–1991 which probably completely disrupted the “natural” (unaffected) personal development of migrants in the region who have to return to India previously. NAIR (1999: 211) on his own mentions that “hostilities in Kuwait also led to an increased flow of return migration in 1990”.

- 1) the socio-economic conditions in countries of origin have improved or are strongly expected to do so;
- 2) the return, whether on a temporary or permanent basis, has been voluntary and planned; and
- 3) the returnees have gained skills and savings while abroad.

In cases that fail to meet any of these conditions, circular migration's impact on development may be very limited. The goal of policy therefore, is to create circular migration arrangements that allow for positive circularity (AGUNIAS, NEWLAND, 2007: 8; compare with NAIR, 1999: 226–228).

3.3.3 Transnational Social Spaces (Transnationalism)

However the concept of *transnational social spaces* (*transnationalism, transnational social formations, transnational communities*¹⁶) hit the migration studies scene in the late 1980s (VERTOVEC, 2004: 2), it is still beyond the main stream of political discussions, analogous to circular migration theory, dealing with international migration issues. FAIST (2000: 191) describes the concept as combinations of ties, positions in networks and organizations, and networks of organizations that reach across the borders of multiple states (compare with more general definitions in FAIST, 2004: 331 or VERTOVEC, 2004: 1). Withal the definition does not cover any occasional and fleeting contacts between migrants and relatively immobile people in the countries of immigration and the countries of emigration (FAIST, 2000: 189–190).

Transnational social spaces are populated not only by global corporations, media and communications networks, social movements, criminal and terrorist groups (VERTOVEC, 2004: 1–2), but also by political parties and diverse entities such as transnational families, religious communities, or issue networks of non-governmental organizations and some of which are politically active (FAIST, 2004: 332). These spaces denote dynamic social processes, not static notions of ties and positions. Cultural, political and economic processes in transnational social spaces involve the accumulation, use and effects of various sorts of capital, their volume and convertibility: economic capital, human capital, such as educational credentials, skills and know-how, and social capital, mainly resources inherent in or transmitted through social and symbolic ties (FAIST, 2000: 191). Moreover, transnational social formations in international migration systems range from little to highly institutionalized forms (FAIST, 2000: 189).

Basch et al. (1994 in LEVITT, SØRENSEN, 2004: 2) indicates that transnational theorizing began its development in the early 1990s, when a group of US-based anthropologists found that the migrants with whom they worked had developed transnational practices that conventional migration theories did not adequately capture (compare with FAIST, 2004: 334). They argued that

¹⁶ FAIST (2000: 190) describes mentioned concepts in more detail. But for the purpose of the of the chapter we do not recognize his another diversifications using the term of transnational social spaces and transnationalism uniformly.

traditional migration theory treated migrants as individuals who either departed (emigrants) or arrived (immigrants). To overcome this false dichotomy, the transnational theoretical concepts started to develop and the researchers proposed that migrants be understood as forming part of two or more dynamically intertwined worlds and transnational migration as the processes by which immigrants forge and sustain multi-stranded social relations that link together their societies of origin and settlement (Basch et al. 1994 in LEVITT, SØRENSEN, 2004: 2). Thus, sending and receiving societies became understood as constituting one single, transnational social, space for following analysis (compare with LEVITT, SØRENSEN, 2004: 2).

FAIST (2000: 218) includes factors that are conducive to the formation and maintenance of transnational social spaces in their border-crossing expansion such as modern technologies of contemporary globalized world (e.g. communication, transport), incomplete nation-state formation in many countries of emigration, discrimination and multiculturalism in the countries of immigration. Migrants often interact and identify with multiple nation-states and/or communities, and that their practices contribute to the development of transnational communities (LEVITT, SØRENSEN, 2004: 2) or new types of social formations within a transnational social space (FAIST, 2000: 198–200).

Further, FEIST (2000: 191) argues that cultural, political and economic processes in transnational social spaces involve the accumulation, use and effects of various sorts of capital, their volume and convertibility such as economic capital, human capital, such as educational credentials, skills and know-how, and social capital. According to his outcomes, the reality of transnational social spaces indicates following three points (FEIST, 2000: 191–192):

- 1) Migration and remigration may not be definite, irrevocable and irreversible decisions. Transnational lives in themselves may become a strategy of survival and betterment and, also, transnational webs include relatively immobile persons and collectives.
- 2) Even those migrants and refugees who have settled for a considerable time outside their country of origin, they frequently entertain strong transnational links.
- 3) These links can be of a more informal nature, such as intra-household or family ties, or they can be institutionalized, such as political parties entertaining branches in various countries of immigration and emigration.

This long-term relations support sustainable flow of remittances and investments to the country of origin. LEVITT and SØRENSEN (2004: 3) point out that remittances are currently considered as the most visible indicator and measurement of the ties connecting migrants to their home countries. They also argue that transnational migration creates at least three distinct categories of inhabitants (LEVITT, SØRENSEN, 2004: 6):

- 1) Those who actually migrate.
- 2) Those who stay behind but receive support from those who migrate.
- 3) Those who do not migrate and have no sources of outside support.

Clearly, it is apparent that first two groups participate on stable networks within the frame of transnational concept (LEVITT, SØRENSEN, 2004: 6). The people from third group are those, who have no outside support are the most needy and they should be fundamental target groups for development interventions of governments from developed countries, international organizations and another development institutions.

The concept of transnational social spaces (transnationalism) is not accepted unambiguously within the migration studies community, indeed. VERTOVEC (2004: 3–4) identifies set of critical challenges or questions used in literature and conferences that dealt with the transnationalism approach:

- 1) The term ‘transnationalism’ is often used interchangeably with ‘international’, ‘multinational’, ‘global’ and ‘diasporic’. There is also the problem of suggesting that all migrants engage in transnationalism, but in fact, there is great variation in migrants’ border-crossing practices.
- 2) The questions whether transnational activities among migrants are new, and to how, or to what extent, are they new?
- 3) Research and theory have not adequately problematized the difference between trans-national, trans-state and trans-local processes and phenomena.
- 4) There are false dichotomies between terms transnationalism vs. assimilation and transnationalism vs. multiculturalism.
- 5) The question if the contemporary forms of migrant transnationalism are a function of today’s modes of real-time communication and cheap transportation only?
- 6) The question whether current patterns of transnational participation are among migrants going to dwindle or die with the second and subsequent generations of migrants?

3.4. Conclusion

Social scientists do not approach the study of migration from a shared paradigm, but from a variety of competing theoretical viewpoints fragmented across different social disciplines, regions, and ideologies. As a result, according to MASSEY et al. (1994: 700–701), research on the subject tends to be narrow, often inefficient, and characterized by duplication, miscommunication, reinvention, and bickering about fundamentals. Given the fact that theories conceptualize causal processes at such different levels of analysis – the individual, the household (family, community), the national and the international – they cannot be assumed, a priori, to be inherently incompatible. It is quite possible, that individuals act to maximize income supports family (community) effort minimizes economic risk and increasing of capital in the form of remittances and/or social status (MASSEY et al., 1997: 258). The very important role play conditions in which international migration proceeds, such as how do transferrer s networks work; institutional support from non-governmental organizations

dealing with immigration issue (e.g. humanitarian aid, legal cooperation) in receiving countries; migrant networks connecting immigrants, former migrants and local population; the atmosphere in receiving society towards immigrants; historical development and international relations between the receiving and sending states.

The older and handed schemes presenting migration processes as the negative component of impoverishment or underdevelopment in economic poor countries (regions) were affected by De Haan's approach that brought 'a fresh air' to development studies in the context of perception causes of migration. A gap arose in the validity of the schemes and scholars in development studies, politics and, especially, workers in development assistance organizations received new challenges for their work. His arguments that population movements are connected with the migration patterns incorporated in social environment and culture of local populations, and that migration processes take place within the frame of historical context and they are usually part of populations' survival strategies should play significant role in development assistance strategies of developed countries.

In the context of international migration and development linkages is important to find possible role of developed countries in the migration processes. The concepts of circular migration and transnationalism have a big potential for relevant changes in migration and development policies of developed countries. There is a great challenge for development experts and politics trying to find new ways and target groups for development programmes and migration policy so that they work in system coherency, more effectively and have a beneficial effect for both developed and developing regions, including the role of Central and East European countries.

Chapter Four

International Migration and Development Links – Introduction

Robert Stojanov

4.1 The United Nations from 1990s to 2000s

From small beginnings in the late 1990s, renewed interest in the impact of migration on development has burgeoned into a somewhat organized international debate (NEWLAND, 2007). One of the first report of UNITED NATIONS (1996) aimed on the issue expressed that international migration and development are interrelated and the linkages are numerous and complex. These linkages, the size, type and direction of migration movements, and national policies are all a function of the political, economic and social contexts of the time (UNITED NATIONS, 1996). However, about ten years later new report (UNITED NATIONS, 2006) progressed forward the issue and is already focused on the demographic, social and economic aspects of international migration in relation to development. It describes recent international migration trends; examines the interactions between international migration and population growth, fertility, mortality and health; discusses the economic aspects of international migration; and concludes with an overview of policy responses at the national, regional and international levels.

In September 2006, the United Nations held an unprecedented meeting of the General Assembly to discuss the relationship, which produced an informal agreement among states to hold an annual Global Forum on Migration and Development, the first to be hosted by the government of Belgium in July 2007. During the last decade the discussion about international migration and development linkages moved to focus on the three principal concerns (NEWLAND, 2007):

- 1) optimism about positive impacts from remittances and other contributions by emigrants to their home countries,
- 2) concerns about negative impact from the loss of skilled people, and
- 3) an underlying hope on the part of some major destination countries that accelerated development might slow migration flows from the developing countries toward the North.

4.2 International Migration and Development – General Links and Development Consequences

The relations between migration's sending and receiving countries (regions) are bi-directional and we can track some interesting topics which describe the consequences of international migration on development on developing countries, in the case. One of the prime impact of international migration on development comes through remittances, which are sent by migrants to families and relatives to countries of origin. Development and migration studies devote increased consideration to remittances as the potential effective development tool. The remittances can provide financial resources which may stimulate the development in the countries of origin indirectly (through the consumption) and directly (as the investment). The issue is researched by many scholars and majority of them consider remittances and other general effects of international migration for forceable tool for development of economically poor countries, in particular in rural areas (see e.g. TAYLOR, 1992: 187). The issue of remittances is deeply described in chapter 6.

However, there may be indirect links through diffusion of positives from the wealthier part of society to the poorer. In this line of arguing, the issue of an adequate social relations enabling such a spread of positives emerges. For many households remittances are the most important source of income. Without remittances, it is very likely that many of them would fall under the poverty line. Recipients of remittances may create a new and relatively wealthy social group and thus contribute to the social division of their community.

Remittances have a significant impact on development. But what are the relations between remittances and poverty? This issue is not as straightforward, as one could suppose. The problem is who are the people, sending remittances home. This question brings us to the domain of migration. There is a conventional idea that extremely poor people generally do not migrate (e.g. SKELDON, 2002: 71), except in the cases of displacement or involuntary migration in particular because of limited information and lack of funds to pay transaction costs. If one accept this hypothesis, it would mean that there is no direct link between remittances and poverty because remittances are directed to the wealthier part of population.

SKELDON (2002: 78) argues that the poorest population cannot afford neither risk or movement and the majority starves at place of origin and we can even find some opposite examples from human history; during the "Great Famine in Ireland 1845–1850", it was rarely the poorest who emigrated to North America. It has been emphasized that migrants tend to be among the more innovative and better-educated members of any population.

The results of analytical study (based on macro-data comparison of 71 developing countries) of World Bank's scientists (ADAMS, PAGE, 2005) show that international migration and remittances significantly reduce the level, depth, and severity of poverty in low-income and middle-income developing countries. According to their calculations, on average, a 10 per cent increase in the share of

international migrants in a country's population will lead to a 2.1 per cent decline in the share of people living on less than 1.00 USD per person per day. Similarly, a 10 per cent increase in per capita official international remittances will lead to a 3.5 per cent decline in the share of people living in poverty. But the study also points out possibility that poor people, especially poor people from countries located near major labor-receiving regions, are more likely to remit through informal channels. It means that outcomes of the study can be misrepresented. For this reason, a full and complete accounting of the impact of international remittances (official and unofficial) on poverty in the developing world needs more accurate data on the large level of unofficial remittances returning to developing countries (ADAMS, PAGE, 2005: 1660).

The older paper by ADAMS, PAGE (2003) point out modestly different outputs. Based on calculations and data from 74 developing countries they argue that, on average, a 10 per cent increase in the share of international migrants in a country's population will lead to a 1.9 per cent decline in the share of people living on less than 1.00 USD per person per day. Similarly, on average, a 10 per cent increase in the share of remittances in country GDP will lead to a 1.6 per cent decline in the share of people living on less than 1.00 USD per person per day.

Another topic discusses the prime question who are emigrants and/or returned migrants originated from sending regions, and how they contribute to development of the developing countries. Thus the matter is concerned some characteristics of the migrants who come up, especially in the relation to very controversial issue of skilled migration, and also migrants who come in to countries of origin (return or circular migrants) with their knowledge and skills gained during the stay abroad. The topic of skilled migration is broadly analyzed in chapter 6.

International migration affects on migrant's home country are described in a variety of ways in many papers and studies. For instance KATSELI, LUCAS, XENOGIANI (2006) focused on impact of migration processes at changes in labour supply as well as changes in productivity. According to their report (KATSELI, LUCAS, XENOGIANI, 2006: 25) some negative shocks in labour supply appear at early stages of migration, when a large number of people, mostly economic migrants, decide to leave their home country. These shocks may be positive at later stages of migration when return migration takes place and/or immigration may take over. They also point out that migration might even lead to massive departure of labour with specific levels and types of skills (e.g. nurses, doctors, teachers) which at least in the short-run may have severe adverse effects on the stock of human capital. But in the medium run however, moderate emigration can result in improved incentives for skill accumulation and replenishment, thus enhancing productivity.

Migration-related shocks linked to labour supply changes lead to specific behavioral and policy responses depending on specific structural characteristics, argue KATSELI, LUCAS and XENOGIANI (2006: 25). These structural characteristics include labour and credit market conditions as well as the migrants' characteristics (gender, age, skill, regional origin). For example, in countries

with a large supply of unskilled labour and a high rate of unskilled unemployment, migration of a proportion of this labour group will not have a major impact on productivity since unemployed or unskilled workers will fill in for migrant labour. However if the substitutability between migrants and natives is low, then migration could have a negative impact on output and productivity. In later stages of migration, when either migrants start returning back home or immigration is taking over emigration, the labour supply shock may be positive, and its impact would depend again on labour market conditions (KATSELI, LUCAS, XENOIANI, 2006: 25–26).

4.3 International Migration as the New Development Challenge

About ten years ago, migration issue was receiving insufficient attention in the development studies literature, and in policy making (for details see DE HAAN, 1999). Much has changed since, with increasing research particularly on international migration (some of it driven by security concerns, especially after the September 11, 2001 s events in the United States), a growing number of research and teaching centres and conference that focus often entirely on migration, and at least in the development agencies that increasing recognition that migration is important, and practical responses to this awareness. However, the key question that remains, is whether and how this increased recognition of the significance of migration has entered mainstream development studies thinking, including debates on growth and poverty reduction. This question is prompted by two observations (DE HAAN, 2005):

1. Migration studies findings particularly regarding *in-country* migration (by far the largest proportion of total movements) often are not reflected in ‘mainstream’ reports on development topic and they do not sufficient justification for the continued lack of attention.
2. Conclusions about the role of migration in development differ hugely and recent papers and studies show the polarisation in the debate. On one hand there is an assumption that movement of labour – as part of a well-functioning integrated labour market - would lead to the elimination of disparities and equalisation of development. PRITCHETT (2003: 37–40) stresses that there are economic, technological and demographic reasons for much larger labour mobility and migration flows across borders, and that “*migration is the Millennium Development Goals plan B*” in the case not achieving the principal goals and tasks in 2015 (which very presumable). While most of world inequality is because of differences *across* countries, international population distribution has failed to adjust.

Similarly DE HAAN (2005) argues that programmes and projects of development policies and development assistance aimed towards block off the international migration and oriented on strategy “stay-at-home” seem to be ‘right for the wrong reasons’ (DE HAAN, 2005: 4). It is really a challenge whether support of international migration consequences and remittances in particular could be used as an effective development strategy beside other “classical” development tools as the official development assistance, foreign direct investments, etc.

Nevertheless SKELDON (2005: 2–3) points out even if the remittances sent back by migrants can have a significant impact on poverty reduction, they cannot be seen as a universal panacea to poverty alleviation. The reason why is that relatively few people from any population migrate across international boundaries and those that do, tend to come from a fairly small number of areas of origin in any country. That is, according to author (SKELDON, 2005: 3) international migration is unlikely to be the decisive factor in the eradication of poverty at the national level because the majority of those who move do so internally and the emphasis on the linkages between migration and poverty must be upon internal population movements. Remittances from internal migrants back to the villages may be a significant factor in poverty alleviation.

International migration is usually positive both for countries of origin and of destination. Its potential benefits are definitely larger than the potential gains from freer international trade, including foreign direct investments or programmes of official development assistance, particularly for developing countries. With the following two chapters remittances and skilled migration are described in more detail. Their outcomes, based on cited present research works and analysis result in benefit of international migration consequences for poor economic countries.

Chapter Five

Remittances, Development Assistance, Return of Migrants and Development

Jiří Novosák, Robert Stojanov

5.1 Introduction

In traditional economic theories, underdevelopment is perceived to be the trigger of international migration. Understandably, relations between development and migration are rather complex, containing issues such as remittances sent to families of migrants, return of migrants to their countries of origin and many others. However, the objective of this chapter is not to disentangle complicate nexus of these relations. On the contrary, focus is given only on remittances as a partial path of the nexus, attracting more and more attention in accord with increasing importance of the issue as shown for example by research activities of World Bank and Inter-American Development Bank or by practical efforts of financial institutions to reduce costs connected with remittances (BROWN, 2006: 56). Moreover, BROWN (2006: 56) accentuates importance of remittances with respect to Millennium Development Goals, concerning especially with poverty eradication. He claims it is unlikely that traditional financial tools as official development assistance (further ODA) will be sufficient to meet the goals. In this regard, remittances may represent a highly significant complement to ODA. Finally, DE HAAS (2005: 1277) even claims that there are tendencies to take remittances for development mantra of developing countries.

Remittances are financial or goods transfers from migrants staying abroad. However, under International Monetary Fund's statistics, remittances are together reported under three different categories (GAMMELTOFT, 2002: 191; compare with elderly terms in GHOSH, 2006: 11):

- 1) *Workers remittances* – transfers from workers staying abroad for one year or more,
- 2) *Compensation of employees* – transfers from persons staying abroad for less than one year, and
- 3) *Migrants' transfers* – flows of goods and financial assets linked to the migrants' cross-border movements.

There appears to be a general tendency, in scholar literature, to focus especially on the first category. We can recognize various motives for sending remittances, which AMUEDO-DORANTES et al. (2005: 38–39) divided into five groups:

- 1) Remittances connected with altruistic behaviour towards families staying in the sending country.
- 2) Remittances for consumption smoothing based on efforts to diversify incomes and thus risk to the whole family.
- 3) Remittances for target saving to fulfil a specific goal such as housing construction or enterprise establishment.
- 4) Remittances as a migrants' insurance tool to maintain ties with families, if something goes wrong in the new destination.
- 5) Remittances to repay initial loans for migration.

Regardless motives, the concept “Go away and stay away but don't forget us” is an important strategy for many families in developing countries such as Mexico, India, Turkey or the Philippines (WUCKER, 2004: 37). However, a lot of authors claim that relations between remittances and development are rather under-researched, among others due to lack of reliable statistics (see e.g. LÓPEZ-CÓRDOVA, 2005). Thus, the aim of this chapter is to provide fundamental information on remittances and its relations to development.

5.2 Total volume of remittances and their geographical distribution

Just like so many other components of migration, remittances are notoriously difficult to measure accurately. While there are estimates of the volume of flows remitted by international migrants, it is recognized that these capture only flows through official channels (SKELDON, 2002: 68). Remittances sent through informal channels, varying between 8 and 85 per cent of total flows for particular countries (GHOSH, 2006: 15), are not included in these statistics. Therefore, according to GHOSH (2006: 13), especially flows of remittances between developing, as well as relatively very limited flows from developing to developed countries, are underestimated. However, substantial increase in the total volume of remittances in the last decade is unquestionable (see Figure 5.1), markedly surpassing other capital flows such as foreign direct investments (further FDI) or ODA (see table 5.1). Similarly, LÓPEZ-CÓRDOVA (2005: 219–220) claims that remittance flows to Latin America and the Caribbean in 2004 exceeded combined flows of foreign direct investments and official development assistance. Moreover, WUCKER (2004: 37), LÓPEZ-CÓRDOVA (2005: 218) stress higher stability of remittance flows, including periods of economic recession in the sending countries, when remittances are directed to alleviate the worst impact of economic crises.

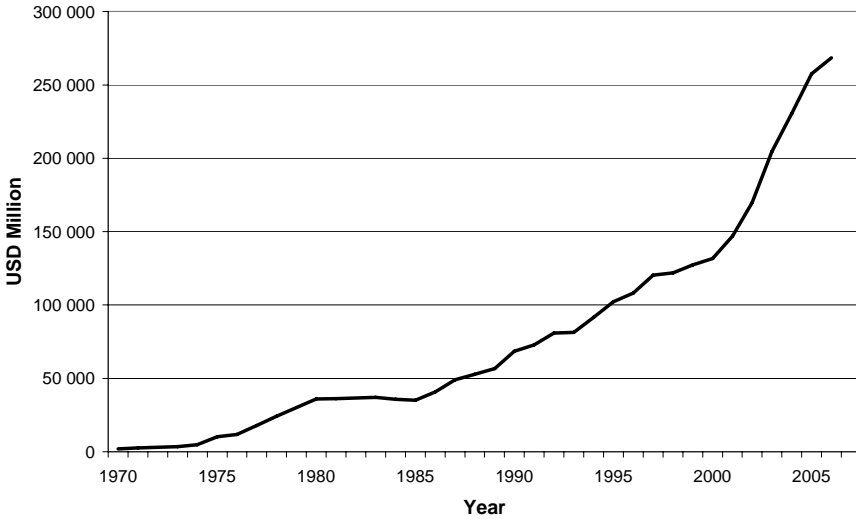


Figure 5.1: The total volume of remittances (1990–2006).
Source: WORLD BANK (2007)

Table 5.1: Changes in total volume of selected financial flows to developing countries (in billions USD)

Year	Workers remittances	FDI	ODA
1995	58	107	59
2004	160	166	79

Source: WORLD BANK (2006: 88)

From geographical point of view, developing countries are the dominant recipient of inward remittances (see Table 5.2). However, it is necessary to stress that the least developed countries lag in the absolute volume of inward remittances, implying higher figures for Asian and Latin American regions than for Sub-Saharan Africa (see Table 5.3) with little assumptions for any change. At the national level, Mexico, India, China, Philippines and France were the top five recipient countries of remittances in 2006. On the contrary, USA, Saudi Arabia, Switzerland, Germany and Spain were the top five source countries of remittances in 2005, both rankings based on estimations of World Bank. Such a situation clearly demonstrates strong ties between neighbouring countries USA and Mexico, the importance of Saudi Arabia as the oil power for guest workers, position of Germany or Spain as countries with extremely strong migrants' communities or increasing importance of emerging superpowers China and India in the global economy. Relatively, measured by the share of remittances on national GDP, smaller economies like Tonga, Moldova, Lesotho, Haiti or Bosnia and Herzegovina belong to the top-five countries.

Table 5.2: *Distribution of workers' remittances, compensation of employees, and migrant transfers according to division of countries based on income (selected years)*

Type of countries	2000	2001	2002	2003	2004	2005	2006
Low income	21.792	25.897	32.048	39.572	40.534	45.815	46.785
Middle income	63.439	70.451	84.649	105.444	122.642	142.355	152.313
High income	46.551	50.667	52.991	59.655	67.319	69.326	69.326
World	131.786	147.015	169.688	204.671	230.495	257.496	268.424

Source: WORLD BANK (2007)

Table 5.3: *Distribution of workers' remittances, compensation of employees, and migrant transfers according to the geographical regions (selected years)*

Region	2000	2001	2002	2003	2004	2005	2006
East Asia and Pacific	16.682	20.105	29.476	35.309	38.774	43.934	45.317
Europe and Central Asia	13.383	12.980	14.386	17.299	22.691	30.812	32.377
Latin America and Caribbean	20.127	24.381	28.097	34.856	41.103	47.556	53.406
Middle-East and North Africa	13.202	15.082	15.595	20.702	23.419	23.542	24.773
South Asia	17.212	19.185	24.155	31.094	29.787	34.883	35.762
Sub-Saharan Africa	4.625	4.615	4.988	5.756	7.403	7.443	7.464
World	131.786	147.015	169.688	204.671	230.495	257.496	268.424

Source: WORLD BANK (2007)

The total volume of remittances is generally related to income, with the poorest remitting lesser than the richer, as well according to the migrants' length of stay in the receiving countries. In this respect, after a "transitional" period the initially high volume of remittances declines (remittance decay) due to extended family reunion or establishment of a new family, loss of ties with the sending countries or repayment of "family loan" which enabled to migrate (BROWN, 2006: 61). Note that the distinction between temporary and permanent migration is very significant because after the reunion of family in the case of permanent migration, motives for remittances disappear. The total volume of remittances may be influenced by sudden events as well. WUCKER (2004: 39) gives several examples in this regard, such as the first Gulf war in 1990 connected with flight of many guest workers from the area or the ban on unlicensed money transfers from USA in 2002 due to suspicion on al-Qaeda involvement in these mechanisms.

It is now widely acknowledged in the literature that officially transferred remittances as published in the recipient countries grossly underestimate the actual level of remittances. The degree of under recording varies from country to country. There are two types of leakages: one due to erroneous, imprecise *accounting*, and the other due to the choice of *informal*, unsupervised channels

for remittances. It has become common to treat all informal remittances as foreign exchange leakages from the labour exporting country; but this practice is erroneous because these “leakages” also include remittance items such as (PURI, RITZEMA, 2001: 7):

1. *personal imports of migrant workers* – i.e. goods imported by return migrants under the duty free allowance facility or brought along with them under personal baggage/gift facilities)
2. *the savings brought home on return* – savings in the form of cash or traveller’s cheques subsequently converted into local currency at domestic banks.

There is evidence that these two forms of unrecorded remittances are likely to be quite significant, particularly for low-income migrants, who usually account for the bulk of remittants. According to the findings of a recent survey on Overseas Workers in the Philippines, they account for 42 per cent of total worker remittances. Some tentative estimates available for Sri Lanka, Pakistan and Bangladesh show that their combined share in total remittances could be between 10 to 15 per cent (PURI, RITZEMA, 2001: 7). For details see Table 5.4.

Table 5.4: Unrecorded remittances as a percentage of total remittances in selected remittance-receiving countries.

Country	Estimation Period	Estimation
Bangladesh	1981–1986	20
Korea	1980–1985	8
India (Kerala)	1983	40
Egypt	1985–1986	33
Philippines	1982; 1990	50–55
Pakistan	1986	43
Sri Lanka	1980–1985	13
Sudan	1984	85
Tonga	1992–1993	43
Thailand	1977–86	18

Source: PURI, RITZEMA (2001: 8), citing primary sources.

The share of remittances transferred through unregistered mechanisms varies widely. Available information comes mainly from sample surveys among remittance senders and receivers Table 6.4 presents a series of estimates from such surveys, with unrecorded remittances ranging from 8 to 85 per cent of the total. Table 5.5 presents the estimated evolution of the proportion of remittances transferred through informal mechanisms to selected remittance-receiving countries. These estimates are based on econometric modelling that departs from the differentials between official and unofficial exchange rates (CARLING, 2005: 20). It appears that the use of unrecorded transfer mechanisms has declined over the past decades. One rough estimate suggests a drop from 50–60 per cent in the late 1980s to around 20 per cent in the late 1990s. This could have declined

Table 5.5: *Estimated percentage proportion of unrecorded remittances based on econometric modelling. Selected remittance-receiving countries 1985–2000.*

	1985	1985	1990	1995	2000
Bangladesh		80	80	21	20
El Salvador		80	26	21	20
Guatemala		70	25	10	10
Indonesia		20	20	21	21
Pakistan		40	41	41	50
Sri Lanka		27	29	20	20
Tanzania		70	70	11	11
Turkey		10	10	11	11

Proportions are modeled on the basis of the size of black market premiums on exchange rates. Source: El Qorchi *et al.* in CARLING (2005: 21).

further in response to measures to restrict financing of terrorism after 11 September 2001. From the perspective of remittance senders and receivers, several factors influence the choice of transfer mechanism (CARLING, 2005: 21–22):

- 1) *Cost* – the cost of transfers varies between remittance service providers and often depends on the amount remitted. The cost of sending a typical remittance amount through formal channels from industrialized to developing countries is usually 5–15 per cent, but can be lower than 2 per cent or higher than 30 per cent depending on the mechanism and location.
- 2) *Speed and ease* – the time required for remittances to be transferred varies from a couple of minutes to several weeks. There is also variation in the amount of paperwork and formalities required.
- 3) *Limiting requirements* – some services are limited to senders and/or receivers with bank accounts, or with accounts in specific banks or credit unions. Furthermore, some mechanisms require identification documents while others do not. Migrants who are not legal residents in the country of employment could have a more limited choice of transfer mechanisms.
- 4) *Proximity and outreach* – the accessibility of remittance services is highly variable, especially at the receiving end. Many migrants have families in rural areas with limited infrastructure. In the countries of employment, services that are readily available in the migrants' neighborhood are more attractive.
- 5) *Familiarity and trust* – migrants often prefer remitting through institutions that are familiar, welcoming and trustworthy. Research from different countries has found that banks are often perceived as intimidating, and they often have market strategies that deliberately discourage less wealthy clients.
- 6) *Awareness* – it is often difficult to navigate the market for remittance services. While the large money transfer operators heavily advertise their services, smaller operators often rely on word of mouth. Many migrants therefore

remit money through other mechanisms than they would have chosen had they had perfect information.

- 7) *Niche services* – some remittance service providers attract clients through specific niche services. These include door-to-door delivery and different provisions and various arrangements for delivery of goods to the receivers

5.3 Remittance Types

Several definitions of remittances exist. In its broadest sense, remittances refer to cash or in kind transfers from one place to another. As Van Doorn (in DE BRUYN and WETS, 2006: 7) notes, different types of remittances can be distinguished: international or intra-national; individual or collective; formal or informal; in kind, in cash or only financial.

One way of distinguishing between transfer types is to differentiate between the types of senders and recipients. CARLING (2005: 12–13) identifies a few different types of (see Table 5.6).

1. *Personal deposits or investments (migrant to migrant)* – Migrants' transfers of money for their own use, either depositing in bank accounts in the country of origin, or transferring savings accumulated abroad. The migrant spends the remitted money. This is the type of remittances most often used for productive investment, consumption, business development, housing construction and buying of land, saving money in bank accounts in the country of origin, and buying of bonds. Spending decisions are made by the migrant herself or himself.
2. *Intra-family transfers (Migrant to non-migrant – family, friends)* – In most countries, this is the most important remittance flow. Migrants' transfers to family members or friends in the country of origin, either on a regular (usually monthly) basis or for special circumstances such as religious festivals, or in times of particular hardship. The most commonly identified use of these remittances is for satisfying basic needs, consumption, education and health care. In fewer cases, buying of land, house construction and business development are mentioned. This flow is what is usually thought of as remittances, and probably the most important flow in monetary terms. Spending decisions are made by the recipients and it is very difficult to identify the exact allocation of remittances on the beneficiaries' side. Remittances are regarded as an additional source of income, constituting just one of the revenues of the family or family member. The remittances are added to the total budget and this total budget is allocated to different purposes.
3. *Charitable donations (Migrant to collective)* – Migrants' donations to charitable purposes, both crisis relief and long-term development in the region of origin, e.g. churches, mosques, etc. These are either made on an independent basis, or through the opportunity offered by some money transfer companies to divert a proportion of transfers to a charitable purpose.

4. *Collective investments in development (Collective to collective)* – Transfers made by migrant organizations, especially hometown associations (HTA) for investments in community development (to partners in the region of origin to finance development projects.). This is especially important in remittance flows from the United States to Latin America.
5. *Taxes or levies (Migrant to government)* – Mandatory remittances to the government or governmental/public institutions (as the school or hospitals to finance education and health care of family members/friends) of the country of origin, either as a specified proportion of voluntary remittance transfers, or in the form of a tax collected from emigrants. The best example of such a tax is postindependence Eritrea, which has successfully collected taxes from the country's large diaspora.
6. *Pensions and social security transfers (Government or private business to migrant)* – Regular transfers from former employers, pension funds or governments in countries of employment (and destination). Such transfers are significant in the case of emigration to welfare states where migrants obtain the right to pensions which they can receive in their countries of origin after retiring there. In some cases social security benefits other than old age pensions are also important. Pensions and other social security transfers are not discussed in detail in this report. However, their importance and potential are worth noting. When emigrant populations mature and intra-family remittances decline, an increase in social security transfers can abate the loss of income.

5.4 Remittances and development linkages

The preceding statistics clearly illustrated the increasing significance of remittances. But what are the relations between remittances and development of recipient areas at various geographical levels? From the development viewpoint, it is necessary to stress position of remittances in the three R's concept. Thus, remittances are closely related to recruitment of migrants and therefore, the need to look for trade-offs between impacts of recruitment and remittances on development arises. This issue is discussed especially in relations to the brain drain. Similarly, remittances may be ceased by return of migrants to their country of origin with another trade-off between benefits and losses stemming from remittances and returns, especially with respect to skills and other characteristics of migrants. However, discussion of these trade-offs is outside the scope of this paper and only direct relations between remittances and development will be reviewed.

Naturally, remittances contribute to the increasing welfare of their recipients (e.g. consumption, education) with impacts on development at the local level through typical multiplier effects. Note that internal coherence of social units such as family, clans, or the whole communities plays an important role in this way because it limits opportunistic behaviour of migrants through an unwritten

Table 5.6: Remittance types classified by senders and recipients

Sender	Recipient			
	Migrant	Non-migrant(s)	Collective	Government
Migrant	Personal deposits or investments ¹	Intra-family transfers ¹ or transfers to friends	Charitable donations	Taxes or levies
Collective			HTA ³ development projects	
Government	Social security transfers ²			
Private business	Company pensions ²			

¹ These transfers may be either monetary or in kind, and a large proportion of the monetary transfers are often unofficial.

² These types of flows are subsequently combined as 'pensions and social security transfers'.

³ Hometown association

Source: CARLING (2005: 12)

agreement between the migrant and the family remaining at home. In this way, internal coherence ensures rather stable flows of remittances. Moreover, remittances, used for new construction (infrastructure, schools, community centres, housing and others), for upgrading of existing economic activities (modernization) or for establishment of new small-scale enterprises, are expected to be a progressive trigger of local or regional development. On the other hand, remittances may postpone required structural reforms due to inefficient allocation of financial resources with threats related to the increasing dependency of economy and human behaviour on remittances. WUCKER (2004: 38) stresses the impact of remittances on discouragement of governments in developing countries from making structural changes necessary for economic development. Thus, remittances may stimulate further emigration in this way. Moreover, remittances used for ostentatious consumption (e.g. sponsoring of weddings) provide only limited contribution to development and although usually without empirical evidences, just ostentatious consumption is the cornerstone in the reasoning against the positive influence of remittances (ZARATE-HOYOS, 2004: 556). Note that BROWN (2006: 62) mentions creation of a “subsistence ethic” among migrants, when they remit financial means in the volume only for subsistence, not for over-consumption.

At the national level, the importance of remittances for development is connected with their position in the whole economy. Lesotho’s remittances accounted for more than one third of GDP in 1995–99 (GAMMELTOFT, 2002),

thus having an enormous impact on the whole economy of the country. In similar cases, remittances represent an important supplement of domestic capital resources and substantially contribute to macroeconomic stability, including threats arising from short-term capital reversals. Remittances may be also a subject of taxation, thus increasing limited public resources. However, taxation will be always threatened by corruption and efforts to escape to the informal procedures. Moreover, ethical questions, with second taxation of once taxed income or permission to migrate bound to commitment to tax income (e.g. used in the case of Korea), arise. Altogether, taxation, as well as other restrictive mechanisms from the government, seemed to be ineffective¹⁷ in most cases and rather proactive approaches to foster flow of remittances are followed at present (BROWN, 2006: 66). The impact of remittances is conditional on structural characteristics and behavioral responses due to restructured incentives. Thus, credit market conditions, determine not only the cost of transferring money and thus the channel chosen by migrants to send remittances back home, but also the way remittances are invested, argue KATSELI, LUCAS and XENOGIANI (2006: 25–26). The development impact of remittances also depend on their continued flow and on the ease with which the money can be transferred. Some family economies highly dependent on the financial flows can be hit hard when the flows suddenly decrease (MUTUME, 2005: 12). Positive impacts of remittances on development may meet also some technical barriers, which are connected with costs and risks to transfer remittances to the recipient countries. The story of Turkish guest workers in Germany shows potential threats in this regard. In 1970s, the Turkish government encouraged them to save their earnings in Deutschmark accounts in Turkey. Collapse of the Turkish economy led to conversion of these funds into Turkish currency with strong devaluing effects (WUCKER, 2004: 40). Therefore, the main question remains the advancement of transfer channels, used to send remittances, to decrease costs and reduce risks. Some trends in this regard will be sketched out in the conclusion. The co-author of the chapter can confirm rather ubiquitous presence of money-transfer companies in almost all cities and bigger towns in East African countries, especially in Kenya. The companies include world-wide extended the Western Union which is specialized on money transfer between families, having nearly 250.000 commercial offices in the world, and local private transport provider Akamba Public Road Services which is successful example of competition to state public transport and post services.

KATSELI, LUCAS and XENOGIANI (2006: 26–27) point out that, the growth and development potential of remittances may be limited by local market imperfections, such as imperfect or absent rural credit markets in which case, recipients would be constrained to borrow against remittances or use them as collateral. Inefficient rural credit markets would also hamper the channeling of

¹⁷ WUCKER (2004) mentions attempts of several states, such as Bangladesh, South Korea, Pakistan or the Philippines to implement requirements on migrants to send mandatory amounts of financial means home through formal banking channels. However, only South Korea partially succeeded, because of frequent employment of migrants in the Korean firms abroad.

savings from households with remittances to those desiring to invest them in productive activities. Similarly, corruption and weak legal system, macroeconomic instability or absence of desirable public services (education, healthcare) may seriously constrain inflow of remittances to sending countries (DE HAAS, 2005: 1275).

However Léon-Ledesma and Piracha (in KATSELI, LUCAS, XENOGIANI, 2006: 27) argue that potential impact of remittances on the sending country may change with the type of migration (temporary versus permanent/ skilled versus unskilled) and the likelihood of return migration as a consequence of behavioral responses to migration. Thus, one dollar received from a highly- skilled Mexican migrant occupying a relatively high- status job in Mexico city, might produce stronger incentives for investment in education among family members left behind than if this same migrant occupied a menial job in the United States (compare with BOUCHER, STARK, TAYLOR, 2005: 21–22).

5.5 Remittance methods (transfer mechanisms)

Monetary remittances are sent through a large number of different transfer mechanisms. Remittances transferred through the most commonly used mechanisms - cash-based electronic transfers, card-based transfers, account-to-account transfers - are usually registered in national accounts, while transfers by means of informal value transfer systems and personal couriers generally aren't. The balance between registered and unregistered remittances has been a concern to policy makers. Migrants may choose to send remittances outside official channels for a variety of reasons. As shown below, informal systems are often favourable in comparison to official mechanisms in terms of cost, accessibility and other variables. In addition, unregistered mechanisms are attractive when exchange rates are overvalued and cash remittances can be exchanged on the black market at much better rates than through formal channels (CARLING, 2005: 20).

Isern et al. (in DE BRUYN, WETS, 2006: 9) explain that any formal remittance system consists of three major building blocks:

1. The institution which provides the transfer, including banks, money transfer agencies, postal banks, and credit unions;
2. The mechanisms that carry the transfer from one place to another, including cheques and bank drafts, money orders and giros, electronic transfer mechanisms such as SWIFT, and proprietary networks;
3. The customer interface through which cash is collected and/or disbursed to recipients, including automated teller machines (ATMs), retail or store fronts, fixed and mobile phones, and the Internet.

Among the formal remittance methods, the most important include cash-based electronic transfers, electronic account-to-account transfers, and card-

based and paper-based transfers. Besides personal carriers of money, the informal remittances system often uses informal transfer agencies.

1. Cash-based electronic transfers

Money transfer operators (MTOs) take a central place in this system. The main activity of MTOs is remitting money from one place to another. To remit money, the sender has to deposit cash at an agency of an MTO, and the recipient can collect the money at an agency of the MTO in the destination country. To use this system, a number of conditions have to be met. The sender has to fill in a form with his or her coordinates and the coordinates of the recipient. In addition, the sender has to provide proof of identity and proof of residence. The sender then gives the amount of money she or he wants to remit to the agency, along with a commission fee, which can be a flat fee or dependent upon the amount of remitted money. The sender also fills out a form with the sender's name and the amount sent. The transfer agent enters these data into the computer and gives the sender a receipt and a code. The sender has to give this code to the beneficiary (by calling him or her on the telephone). To collect the money, the receiver gives the code and proof of identification to the local transfer agent. The transfer agent then gives the money to the recipient in local currency or in dollars, together with a receipt. In general, MTOs make use of their own electronic money transfer network (DE BRUYN, WETS, 2006: 9; compare with CARLING, 2005: 22–23).

Western Union is the World's largest MTO, with a market share of about 14 per cent. MoneyGram and Thomas Cook also operate globally. Entering the formal remittance market at a regional or global level requires very large investments in a branch network in both source and recipient countries. Western Union, for instance, had 182,000 agent locations worldwide at the end of 2003.¹⁸ About 40 per cent of these are partnerships with banks, and 35 per cent are with post offices. The high fixed costs impede new entrants and allow incumbent firms to charge above the marginal transaction costs. Western Union's revenue on cash transfers has grown by more than 30 per cent annually in recent years, and the profit margin has remained stable at about 30 per cent. Western Union, sees 'incredible growth opportunities' in developing markets such as China, India, Eastern Europe, the Former Soviet Union, Africa and the Middle East. During 2003, Western Union opened 9000 new agent locations in China and India alone. In addition to the handful of globally established MTOs, there is a myriad of smaller MTOs that cater to specific ethnic and/or regional markets. These include specialized MTO companies as well as shipping companies and other businesses that also offer money transfer services (CARLING, 2005: 22–23).

¹⁸ According the Czech branch of WESTERN UNION in May 2007, the current number of agent locations is 245,000 in worldwide (<http://www.intercash.cz>).

2. *Electronic account-to-account transfers*

It is possible to make international transfers from one bank account to another, and in some cases to accounts in credit unions or micro-finance institutions. This is a reliable transfer mechanism, but often a relatively slow and expensive one (CARLING, 2005: 24). This system requires the sender and the recipient to have an account at a bank or other financial institution. The sender deposits money into his or her account and the financial institution transfers it to the account of the recipient. The costs for sending money by banks can either be paid entirely by the sender, or by the receiver, or the costs can be shared between sender and receiver (DE BRUYN, WETS, 2006: 10).

Although banks worldwide now communicate through the SWIFT messaging system, interbank transfers are still best suited for large commercial payments, for which the bank wire system was originally developed. The requirement that both the sender and the receiver have a bank account is also a principal limitation for the use of account-to-account transfers. When account-to-account transfers are tailored to the needs of remittance senders and receivers and marketed on competitive terms, this has the wider advantage of drawing previously unbanked households into the formal financial system (CARLING, 2005: 24). Besides commercial banks, postal banks are used in many countries to transfer money, in which case the electronic transfer is called a giro (Isern in DE BRUYN, WETS, 2006: 10).

3. *Card-based transfers*

The spread of automatic teller machines (ATMs) and point of sales (POS) terminals in developing countries has opened up for new remittance transfer mechanisms with very low costs (CARLING, 2005: 23). There are two types of card-based transfers. For the first method, the sender needs to have an account at a financial institution. The recipient uses a debit card to withdraw money from the sender's account or to make payments. The second method does not require an account. Instead, so-called "smart cards" are used, which have a stored value (DE BRUYN, WETS, 2006: 10–11).

Card-based transfer mechanism has had some success in the Dominican Republic and the Philippines but remain very limited globally. Some of the reasons are the requirement that the sender has a bank account, the limited spread of ATMs and POS terminals outside major cities in developing countries, and the daily withdrawal limits. It is estimated that ATM-based remittance transfers will grow rapidly in the coming years, from USD 0.3 billion in 2002 to a projected USD 19.5 billion in 2006. This is expected to constitute 11 per cent of the global remittance market. Established cash-based transfer firms such as Western Union are diversifying their product offerings to include card-based transfer services (CARLING, 2005: 24).

4. Paper-based transfers

While the aforementioned systems make use of electronic transfer mechanisms, paper-based mechanisms are also common and include money orders, cheques and bank drafts. Cheques and bank drafts were among the first documented money transfers. The issuing of cheques and bank drafts is usually legally limited to regulated financial institutions. Money orders can be issued by a greater variety of financial institutions, and do not require bank accounts. For paper-based transfers, the sender receives a cheque, bank draft or money order from the financial institution, and has to send it or bring it to the receiver. The receiver can then cash it by presenting it to an authorized agent. The postal money order is among the most commonly used of these systems (DE BRUYN, WETS, 2006: 11).

5. Informal value transfer systems (IVTS)

Informal value transfer systems are another common type of institution through which money is transferred to the country of origin. They are a heterogeneous collection of mechanisms for transferring outside the conventional, regulated financial institutional systems. The systems are similar to that of formal transfer agencies characterized by trust, a relative absence of written records, and a reliance on international ethnic networks. In most cases, there is no physical movement of money involved. With informal transfer agencies, the sender gives money to an intermediary (an informal transfer agent), who contacts an agent in the country of origin. The latter is responsible for giving the equivalent of the money that the sender has given to the intermediary then to the recipient. An informal exchange rate is used to determine the amount of money the recipient gets. The recipient can take the money from the agent by using a code that she or he receives from the migrant, or by identifying him or herself to the agent. Because there are no official documents used in this process – although informally it is often documented – the system is based on trust (DE BRUYN, WETS, 2006: 11; CARLING, 2005: 24–25).

Informal value transfer systems are known by different names in different parts of the world. Among the most common are *hawala* (simply means “transfer”) and *hundi* in South Asia and *xawilad* (or *hawilad*) on the Horn of Africa. The word *hawala* is often used to refer collectively to the IVTS that are used by migrants around the world to send remittances to various parts of Asia and East Africa (CARLING, 2005: 25). In the academic and policy literature, IVTS are also known as ‘alternative remittances systems’; ‘underground banking’; ‘ethnic banking’; or ‘informal funds transfer systems’ (EL QORCHI, MAIMBO, WILSON, 2003: 12).

The use of the word ‘informal’ is partly misleading because in some countries, such as the United Kingdom, these systems have largely been formalized and subjected to state regulation. There is considerable variation between countries – even within Europe – in the legislation governing such systems, and in the

extent to which laws are enforced, IVTS are generally considered to be reasonable, swift, accessible and reliable, and therefore attractive to remittance senders and receivers. It appears that IVTS have become less competitive relative to other mechanisms during the past few years, and that the proportion of remittances transferred through these channels has declined. Nevertheless, they are still popular and wide-spread (CARLING, 2005: 25; for a more details see EL QORCHI, MAIMBO, WILSON, 2003).

In the case of the Somali *xawilaad* system, the procedure for sending remittances is as follows: A Somali in Europe or North America pays the transfer amount and fee in cash to a *xawilaad* broker in his city and provides details about himself and the receiver. The broker then informs a local office near the receiver (e.g. in Nairobi or Mogadishu) via fax, telephone or e-mail, and the local office contacts the recipient. He or she then comes to collect the money in person, and is required to provide details about the sender as well as proof of his/her own identity. Accounts between the different *xawilaad* offices are settled through sending cash or through trade in consumer items, gold or other commodities (CARLING, 2005: 25).

The various IVTS are often extremely complex. Within these systems, the transfer of remittances is often part of larger exchanges of money and goods between several countries. In some cases they operate completely outside the formal banking system. In other cases, banks are used for depositing the cash collected from migrants, or for making large lump sum transfers to settle accounts between the different offices. In the *hawala* and *hundi* systems there is frequently a distinction between a 'retail' tier responsible for collecting small amounts from individuals, and a 'wholesale' tier of operators who transfer the funds internationally, either directly to the receiving or through an intermediary, usually in Dubai (CARLING, 2005: 25–26).

6. *Personal couriers*

Many remittance flows occur within transnational social spheres where there is also extensive travelling between diaspora communities and countries of origin. If there is also geographical concentration at both ends - i.e. migrants originating in a specific area living in proximity of each other in the diaspora - there is potential for extensive use of personal couriers to send remittances. Most often, migrants on holiday bring cash to their country of origin on behalf of relatives or friends and distribute envelopes to the recipients. This is not only a practical arrangement for transferring remittances, but also a social practice that reinforces transnational connections (CARLING, 2005: 28–29).

7. *Remittances in kind*

There is often a flow of goods alongside monetary transfers. The nature and volume of such remittances in kind depends in part on characteristics of the sending and receiving economies. Where there is a higher price level in the

migrant's country of origin, this stimulates remittances in kind either for personal consumption by the receivers, or for resale in the informal market. Even when the general price level and standard of living is lower in the country of origin, the price of certain products can be markedly higher than the lowest available price in the migrant's country of employment (CARLING, 2005: 29).

5.6 Remittances in case studies shortly

5.6.1 Mexico and United States of America

A lot of case studies were written about remittances. To illustrate the conceptual background given above, the most important findings from three papers on remittances sent by Mexican workers in the United States will be given. Mexico represents a country strongly integrated into the global economy. Since 1970, upsurge in Mexican foreign direct investments or international trade volumes has been recorded. Similarly, the role of international migration has increased since 1970s, justified by the rising share of Mexican workers abroad on the total labour force from 3 per cent in 1970 to 16 per cent in 2000 (LÓPEZ-CORDÓVA, 2005: 220). Not surprisingly, the importance of remittances for Mexican economy took off as well. In 2004, the share of remittances of the national GDP was 2.5 per cent compared with only 0.3 per cent share in 1970 (LÓPEZ-CORDÓVA, 2005: 220) and the total volume of remittances exceeded the total volume of foreign direct investment inflows and reached 80 per cent of the crude oil export value. Mexico is now the world-leading country according to the volume of remittance inflows (WORLD BANK, 2006) and attracts attention from many researchers.

LÓPEZ-CORDÓVA (2005) deals with the relations between migration and development using advanced statistical methods to test relations between remittances flows and selected development indicators using a detailed municipal-level database for Mexico. He concludes that remittances have positive impacts on the decrease of infant mortality, illiteracy and weak version of poverty. On the contrary, no relations between remittances and decrease of extreme poverty were recorded and remittances were negatively correlated with school attendance of older students. LÓPEZ-CORDÓVA (2005: 234) explains the latter findings by the straightforward contention that the extremely poor people do not migrate and by inadequate educational infrastructure or disincentives to study (e.g. preference of emigration to education) respectively. Overall, LÓPEZ-CORDÓVA (2005) perceives remittances rather positively, especially due to their spatial better-than-average concentration in rural areas with lower GDP per capita figures and over-representation of indigenous population. Finally, LÓPEZ-CORDÓVA (2005: 221) mentions influence of old historical migration networks on the spatial distribution of remittances, with five states (*Michoacán, Estado de México, Hidalgo, Jalisco, Puebla*) receiving almost 45 per cent of all Mexican remittances. Just these states created close migration ties with the United States, as the dominant receiving country of Mexican emigration.

ZARATE-HOYOS (2004) bases his paper especially on data from household surveys in 1990s. He claims that about 1,3 million Mexicans receive remittances in the average value of 300–500 USD per migrant and month at the turn of the century. Rural households are with 10 per cent share relatively more often receivers of remittances than urban households with 4 per cent. In both groups remittances make about 50 per cent of the total households' income. ZARATE-HOYOS (2004) focuses on differences in expenditure patterns of both, households receiving and not receiving remittances as well. Generally, urban households receiving remittances are characteristic by lower consumption expenditures than the households without remittances. In the rural areas the opposite is true and households receiving remittances have higher expenditures on both consumption and investment expenditures. However, the most important finding from the paper claims that there is no evidence of ostentatious consumption due to remittances. On the contrary, households receiving remittances tend rather to invest or save their additional income. ostentatious consumption is thus rather case specific feature of remittances.

Also AMUEDO-DORANTES et al. (2005) use data from household surveys¹⁹ in the time period 1982–2002 to formulate their findings. Similarly to ZARATE-HOYOS (2004) they claim that regular remittances on the monthly basis prevail with an average sum of 450 USD per month in 2000. Withal, the average earnings of migrants in the sample were 1.700 USD in this year. Moreover, AMUEDO-DORANTES et al. (2005) deal with savings brought home by migrants alone as well. The average sum in this regard was 2.800 USD with the average length of stay of three years. Further, AMUEDO-DORANTES et al. (2005) provide worthwhile information on characteristics of remitters compared with non-remitters. In this way, remitters tend to be more often older, less educated and undocumented with larger families left behind. The sum remitted by migrants tends to decrease with the length of stay in the receiving country. Thus, the survey confirms the remittance decay hypothesis. Primary remittance reasons were another research area of interest, findings of which are summarized in the following table. Although it seems that consumption dominates, it is necessary to stress the larger amount of money is remitted for investment purposes (see Table 5.7).

Finally, AMUEDO-DORANTES et al. (2005: 49–53) review methods how migrants remit their money to Mexico. The main conclusion is that non-bank money transfer firms are far the most often employed methods in this way. Higher fees are compensated by extensive network of facilities and higher anonymity compared with bank transfers and by lower risk compared with informal channels. Transfers via banks used only 17 per cent of migrants, a bit more than 12 per cent for informal channels, however with dynamic increase of the bank share in 1990s.

¹⁹ AMUEDO-DORANTES et al. (2005) used data from a sample of 5.000 household heads for their conclusions.

Table 5.7: Share of primary reasons to remit by Mexican migrants and average amount of funds regularly (monthly) remitted by migrants expressed the particular primary reasons

Reason	Share (in per cent)	Average amount remitted
Health expenses	46.2	less than 500 USD
Food and maintenance	29.8	less than 500 USD
Construction or repair of house	7.5	500-1,000 USD
Debt payment	5.4	less than 500 USD
Purchase of consumer goods	4.5	less than 500 USD
Savings	1.4	500-1,000 USD
Purchase of house or lot	1.0	500-1,000 USD
Start/expand business	0.5	less than 500 USD
Purchase of agricultural inputs	0.4	500-1,000 USD
Education expenses	0.4	less than 500 USD
Purchase of livestock	0.3	500-1,000 USD

Source: AMUEDO-DORANTES et al. (2005: 49)

5.6.2 Great Lakes Region – DR Congo, Rwanda, Burundi

However, while certain regions are very well researched and are characterized by an institutional structure that harnesses remittance-oriented policies (e.g. Mexico, the Philippines, Senegal and Morocco), others are not. The Great Lakes region (in particular the Democratic Republic of Congo or DRC, Burundi and Rwanda) belong to the latter group (DE BRUYN, WETS, 2006: 5).

Reliable data on the amount of remittances sent to the region is hard to find. Moreover, figures are only available on official remittances and the amount of money remitted through informal channels will be probably much higher than these formal figures. The Central Bank of the DR Congo keeps records of remittances entering and exiting the country. In 2004, 96.8 million USD in remittances entered the country. Interestingly, 40.9 million USD was remitted from the DR Congo to other countries in 2004 (DE BRUYN, WETS, 2006: 18). The Central Bank of Burundi keeps records of international financial transfers made to and by residents in Burundi via the banking system or money transfer operations. This means that the figures do not only include remittances to and from members of the diaspora, but also to and from foreign nationals working, for instance, for international organizations and NGOs, and from tourists. It can be assumed that tourists take up a significant proportion of the official remittances. It is thus not possible to identify the exact amount of migrant remittances. In 2003, almost 2.9 million USD were remitted to Burundi, while in 2004 this figure stood at 4.1 million USD. Moreover, remittances leaving the country represent an equal or even larger amount of money (DE BRUYN, WETS, 2006: 36). According to figures of the National Bank of Rwanda, 11.9 million USD of remittances entered the country in 1993 and about 16 million

USD in 2004 through formal channels (DE BRUYN and WETS, 2006: 55). The total figure for official remittances recorded at central national banks in DR Congo, Burundi and Rwanda is nearly 117 million USD for 2004 (for details see Table 5.8).

Table 5.8: The amount of official remittances in Great Lakes Region – DR Congo, Rwanda, Burundi – in 2004

Country	2004
DR Congo	96,820,000
Burundi*	4,139,055
Rwanda	16,000,000
TOTAL	116,959,055

* figure includes remittances from members of the diaspora, foreign nationals working for international organizations and NGOs, etc. and from tourists.

Source. Data from DE BRUYN, WETS (2006)

Although no exact figures are available, studies have shown that most migrants remit money to satisfy the basic needs of the family members or friends in the country of origin (e.g. food and clothing), and to a lesser extent for educational costs, health care and to the needs of their elder family members. Moreover, remittances can help alleviate budget shortages in times of crisis. Other important objectives are family events, such as marriages, funerals and baptisms, etc. In total, only a small percentage of the total amount of remittances seems to be sent for specific economic investments, even if Soenen and his colleagues showed that all of the families in the study tried to invest, especially in the service sector and the urban informal economy. In this, material transfers play an important role, paying for items such as phones, computer parts and cars. Larger sums of money are sent to buy property or to construct a house. Community development was hardly mentioned as an objective of remittances (DE BRUYN, WETS, 2006).

Even though, as most respondents and studies mentioned, remittances are mostly used for consumptive purposes, they have a certain economic impact on the local economy. But due to the lack of data and impact studies, it is not possible to determine precise impact of remittances on the economic and social development of the region. It is only possible to make some assumptions on the basis of the information that has been gathered. Taking the official remittance figures as a starting point, remittances do not seem to have a significant impact at the macro-economic level. According to the calculations of the Central Bank of Burundi and the Ministry of Finances, official remittances entering the country represented only 0.48 per cent of the GNP in 2003 and 0.6 per cent of the GNP in 2004 (DE BRUYN, WETS 2006: 42).

It is relevant for each country that senders do not always know whether the money is used for the purposes for which the recipient has requested the money. In addition, the pressure to remit money can sometimes inhibit members of the diaspora to fulfill their own needs, and recipients are not always aware of the financial situation of the sender (DE BRUYN, WETS 2006: 54).

5.7 Remittances use and development impacts

The impact of remittances is still a subject of debate among scholars. Knowledge about the role of remittances in families and communities is much more restricted than knowledge about their impact on national economies. The impact of remittances varies according to both the overall level of development and the nature of local migration dynamics. If there are mechanisms that exclude the poorest strata of the population from taking part in migration, remittances are likely to exacerbate existing inequalities. However, if migrants are wealthier to start with, remittances are more likely to be used for productive investments rather than household consumption, and this could have positive community wide effects (CARLING, 2005: 30).

Most theories and conclusions are based on either empirical micro-scale studies or analysis of macro-economic data. Because the former are very context-specific and the latter only take into account formal transfer methods, it is very difficult to draw general conclusions that are valid for all remittance-receiving regions, and for all senders and recipients of remittances. In addition, most research focuses on the economic impact of remittances and hardly mentions social effects (DE BRUYN, WETS, 2006: 12). CARLING (2005: 30) argues that it is possible to construct long lists of plausible negative and positive consequences of remittance inflows, but extremely problematic – and perhaps not very constructive – to attempt to estimate their overall effect on development processes. For all that BRUYN and WETS (2006: 12) bring lists of positive and negative impact of remittances based on the main conclusions of existing remittance research (see Table 5.9).

At the macro-economic level, remittances provide foreign exchange that strengthens the balance of payments. They can also stimulate the import of capital goods and resources that are needed for industrial development. On the other hand, the demand for import can also have negative effects on the balance of trade (BRUYN, WETS, 2006: 12). CARLING (2005: 32) argues that this can occur when the consumption patterns of migrants' families in the country of origin, as well as return migrants and non-migrant families, change because these groups get accustomed to foreign products. Furthermore, large influxes of foreign exchange can lead to an appreciation of the local currency and thus make exports less competitive. On the indirect, positive side, the demand for products from the country of origin by the migrant communities can lead to an increase in exports.

Financial transfers are also a more stable money influx than, for instance, foreign direct investments. Even in times of political and economic crisis migrants tend to send remittances to support their families. Remittances even tend to be counter-cyclical; in other words, the remittance influx is higher in times of crisis. On the other hand, remittances tend to decrease the longer the migrant community is in the destination country. When an economy is too dependent on remittances, a decrease of this money can have severe negative effects on the national income (BRUYN, WETS, 2006: 13).

Table 5.9: Possible positive and negative impact of remittances

	Positive Impact	Negative Impact
Macro-economic Level	Strengthening balance of payments by provision of foreign exchange	Deterioration of balance of trade, by stimulation of import and appreciation of local currency
	Remittances are stable and countercyclical	Deterioration of the “social balance” Remittances tend to decrease as migrant community is more established in destination country
		Economic dependency of remittances
Community & Regional Level	Boost local economy	Increase inequality between families that receive remittances and those that do not
	Financing local development projects	Inflation
Household Level	Allowing families to meet basic needs	Dependency on remittances and neglect of local productive activities by families
	Opening up of opportunities for investing in children’s education, health care, etc.	Hardly used for productive investment
	Loosening of constraints in family budget to invest in business or savings	
	Emergency resources	
	Social security resource base	

Source: BRUYN, WETS (2006: 12)

One of the most commonly heard criticisms about remittances is that they are primarily used for consumption purposes instead of investment effects. So-called “economic productive investments” are much less frequently mentioned as objectives of remittances. Even if this is true, for many families remittances are an important source of revenue. This extra income allows them to meet their basic needs or to overcome periods of economic crisis. It can also open up opportunities to invest in the family’s well-being, education of children, improvement of the family’s health status, and so on (BRUYN, WETS, 2006: 13). More recently, it is interesting to concentrate on the distinction between consumption and investment which has been criticized by researchers that expenditure on ‘consumption’ items such as health and education should be seen

as investment in human capital (CARLING, 2005: 30). SKELDON (2002: 77–78) argues the example of the expenditure on house construction, for example, can stimulate local building enterprise, thus generating employment and trade in materials .

Furthermore, increased consumption by poor families is often equivalent with poverty alleviation, which is a goal in its own right. The silencing of criticism for ‘squandering’ remittances is also based on the recognition that remittances are hard-earned money that migrants and their families should be entitled to spend as they wish (CARLING, 2005: 31). However, the contemporary literature on the impact of remittances indicates that the second- and third-round impacts of consumption expenditure (such as more equal households consumption in rural areas during all the year; consumption of new commodities (e.g. cars, motorcycles, cell phones, etc.) and related services (e.g. repairs, supplement selling); cargo transport) are important in local job creation (compare with SKELDON, HUGO, 1999: 338).

In some countries, remittances form a major source of money for parental support and, as such, act as a kind of social security resource base for vulnerable groups. At the regional and community level, increased consumption can give a boost to the local economy and smooth out income inequalities. But it can also result in rising inequality between families receiving remittances and those that do not. Moreover, the poorest population groups often do not possess the financial means to undertake an international migration. Hence, they are excluded from receiving remittances. Anyway, inflation can be another effect of a large inflow of remittances in a region, and some families and regions can become dependent on remittances and, as a consequence, neglect productive activities. However, any migrant communities remit money to their region of origin to develop social and economic infrastructure (BRUYN, WETS, 2006: 13).

Another cost of remittances that should be considered is the social cost. A significant change in recent migration patterns is the “feminization” of migration: almost half of the migration population is female and they are not always wives following their spouses. This can result in a situation where a country benefits from migration through remittances and where a family is provided with the necessities of life. However, it is very often also a situation where the grandmother raises the children, in the absence of their mother, while the mother, earning money abroad, is exploited, and in the worst case, even abused. This is common in countries where migrants’ rights are not protected or guaranteed. If these women are raped, they lose their social position in their society when they return, which simply compounds the trauma of what they have already experienced. Thus, the economic benefits of this situation are often realized at a very high social cost (BRUYN, WETS, 2006: 13–14).

The use of remittances is hard to describe univocally. Often, the underlying system can be described as a system of communicating vessels. As described above, many migrants use their remittances to support their families’ basic economic needs. If this need is filled, money can be used for more productive purposes. If these necessities are met, there is room for community projects (BRUYN, WETS, 2006: 14).

5.8 Conclusion – a way forward

Migrants' remittances represent an interesting possibility for a better economic future of developing countries. As was mentioned in previous chapter ADAMS, PAGE (2005: 1660), on the basis of macro-data comparison, showed that international migration and remittances significantly reduce the level, depth and severity of poverty in recipient low-income and middle-income developing countries. But it is not possible to perceive remittances as a panacea for development of recipient countries and it is necessary to further look for innovative ways how to stimulate endogenous factors for development. Suitable credit schemes or infrastructural investments represent often-cited tools in this way.

Existing research can try to bring light on the key questions and different mechanisms involved, which in turn can be targeted by policy measures with the aim of increasing the development benefits of remittances. In the scholar literature, remittances are often indicated as a possible substitute for ODA (GHOSH, 2006: 20). Better allocation without extensive bureaucratic apparatus and low prone to corruption are regarded as the main advantages of remittances, compared with ODA (DE HAAS, 2005: 1277). However, this issue is not so straightforward. Based on comparison of low and middle-income countries, GHOSH (2006: 24–25) contends that remittances are not to be perceived as a substitute for ODA and warns from following such an approach. On the contrary, ODA is extremely important especially for the least developed countries due to rather low volume of remittances and for the poorest due to selective nature of migration. Moreover, he stresses different essence of remittances and ODA, with private decisions as a main trigger in the former and transaction negotiations using economic, humanitarian, political, or security considerations in the latter case. This findings show that combination of different tools is the best solution of the problem “development”.

What can be done to further promote the positive role of remittances to foster development? GHOSH (2006) and BROWN (2006: 67–69) mention the following tools:

- 1) The total sum of remittances is generally influenced by average value of remittances per migrant and the number of migrants. Thus, the labour policy of developed countries, as the most probable source of remittances, towards immigrants plays a substantial role to reinforce the significance of remittances. It is necessary to search a configuration, creating win-win situation for both, developed and developing countries. In this way, lack of workers in some segment of labour market in developed countries seems to be the most relevant opportunity.
- 2) Developing countries may implement several restrictive or proactive tools. Taxing remittances or mandatory requirements to provide remittances belong to the first group. However, such an approach will be always threatened by corruption and efforts to escape to the informal procedures and discussed with regard to the ethical issues. Proactive approach, with tools as preferential exchange and interest rates, promotion of safe channels for

remittance transfers or advantageous loans and accounts connected with remittances, seems to be much more suitable in this way. In some cases remittances are even subsidized, directly to foster the use of financial institutions in this way such as the case of Morocco or indirectly through their combined use with public resources for selected local projects as the case of Mexico or Salvador (WUCKER, 2004: 43–44).

- 3) It is necessary to look for new possibilities how to reduce costs and risks related to the transfer of remittances between countries. Total fees of non-bank financial institutions are in average still around 10–15 per cent of the total volume²⁰ (WORLD BANK, 2006). Interest of banks in remittance sending is rather limited due to small amount of funds sent by particular migrants and distrust to financial partners in the sending, especially rural, areas.²¹ Thus, despite much was done to provide better services, many things remain to be done. Technological (e.g. electronic transfer) and institutional (e.g. cooperation between financial, insurance and logistic institutions) innovations represent, as well as potential to use economies of scale arising from the number of remitters, a great hope for the future.²² Note that advancement in the institutional background of remittances transfer attracts wider and wider political attention with respect to use of informal transfer channels for undesirable purposes (e.g. financing of terrorist groups).
- 4) Macroeconomic stability without severe price and currency fluctuations is an important condition for stable or increasing flows of remittances. Similarly, activist safeguarding of migrant worker interests may stimulate remittances inflows.

It is a matter of policy, whether the tools, given above, will work for a better future of recipient countries. In this way, one assumption seems to be substantial, namely, wide cooperation between interest actors from public, private and NGO sectors in both, sending and receiving countries.

²¹ Although fees relatively fall with the amount of financial means, most migrants are not able to send enough to avoid high relative figures.

²² Experience of one author of the paper confirms rather ubiquitous presence of money-transfer companies in almost all bigger cities and small towns in East African countries, especially in Kenya. These companies include not only world-wide specialized *Western Union* but also local private local transport provider such as *Akamba Public Road Service*.

²³ Several innovative products, how to transfer remittances, are given in WUCKER (2004). For example PONI PIN CARD is based on a PIN number, which is scratched by migrants in the receiving country and through free phone call told to a person in the sending country. Using a similar card and the PIN number, the person in the sending country has access to remittances.

Chapter Six

Skilled Migration, Brain Drain, Brain Gain and Developing Regions

Jiří Novosák, Robert Stojanov

6.1 Introduction

Both traditional and innovative economic theories consider education as an important way how to improve personal as well as aggregate income in particular countries, regardless of their level of development. However, it is necessary to stress that there is one specific feature related to human beings. Normally, it is not possible to buy or sell people, as well as to ban human mobility (KAUKAB, 2005: 104). Thus, investments to human capital are always connected with threads related to “disappearance” of their carriers. In the case of developing countries, such situation may be very serious due to rather scarce human capital resources. Understandably, this issue also has its spatial dimension because migration flows on different geographical levels may substantially change distribution of gains stemming from betterment of human capital through education. Skilled migration, brain migration, brain drain and other terms are used to label this type of migration. In this chapter we use mostly the term skilled migration. Skilled migrants are defined in accord with DOCQUIER, MARFOUK (2006: 156) as all working-age (25 and over) foreign-born individuals who have at least tertiary education attainment wherever they completed their schooling.

The interest of this chapter is oriented towards skilled migration on the national level, especially between developed and developing countries. Before the Second World War, skilled migration flows were directed especially from developed to developing countries with unskilled migrants flowing in the opposite direction (VINOKUR, 2006: 7). But since 1960s the situation changed and debate on skilled migration from developing to developed countries, known frequently as brain drain, has been sparked (CARRINGTON, DETRAGIACHE, 1999: 163). Public education programs in developing countries, creating oversupply of tertiary educated individuals, underdevelopment of these countries and an advance in transportation, played an important role. Although almost five decades passed, many questions in the debate have remained unanswered due to lack of reliable data, in order to test hypotheses and models related to impacts of skilled migration on sending and receiving countries.

6.2 Quantification of skilled migration

As noted earlier, quantification of skilled migration suffers from the lack of reliable data on skilled migrants in different countries. What indicators are used to measure skilled migration? Besides absolute and relative numbers of skilled migrants related to the total migration stock, skilled migration rate is the indicator most frequently employed to evaluate extent of skilled migration. The skilled migration rate is the share of skilled migrants from a particular spatial unit (e.g. sending country, world and others) in the total population of skilled people with tertiary education coming from the same spatial unit, thus including migrants. In this concept, skilled migration rate enables to compare intensity of skilled migration among countries of different population size. Despite difficulties connected with data management, the last World Bank research report (ÖZDEN and SCHIFF, 2006) provided rather comprehensive details on magnitude of skilled migration, including spatial distribution²³. Based on data on migration stocks in OECD receiving countries several conclusions were drawn (DOCQUIER, MARFOUK 2006):

- 1) Increase of the absolute and relative figures of skilled migrants between 1990 and 2000

DOCQUIER, MARFOUK (2006: 167–168) estimate that between 1990 and 2000 the total number of skilled migrants increased by 800.000 persons per year and the share of skilled migrants in the total migration stock from 29.8 per cent in 1990 to 34.6 per cent in 2000. Similarly, the world average emigration rate for people with at least tertiary education increased from 5.0 per cent in 1990 to 5.4 per cent in 2000 with higher figures for non-OECD (7.2 per cent in 2000) than for OECD countries (4.0 per cent in 2000).

- 2) Skilled migrants are substantially overrepresented in the total migration stock, compared to education structure of the whole populations consisted of migrants and non-migrants together

DOCQUIER, MARFOUK (2006: 168) estimate that at the world level, skilled migrants represented 34.6 per cent of the migration stock. It is much more than 11.3 per cent of world labour force with tertiary education. This finding is in accord with conclusions in CARRINGTON and DETRAGIACHE (1999: 165–166) who also describe differences in the education structure of migration stocks to the United States according to source countries. In this regard, more than 75 per cent of Indian immigrants are skilled compared to 53 per cent for the Korean migration stock and only 13 per cent of Mexican immigrants are skilled compared to 42 per cent for Jamaica. Thus, rather complex picture arises, influenced by various factors.

²³ It is necessary to note that not all problems related to statistical data were solved. The results are certainly not wholly correct e.g. due to absence of figures on illegal migration, heterogeneity in definitions or census methodologies in particular OECD countries, problems related to dual citizenship and reliability of data in many developing countries. However, similar problems will emerge in all surveys on this issue.

Table 6.1: Total and skilled emigration rates for groups of countries according to their population size

	Migration rate	
	Total (in per cent)	Skilled (in per cent)
Large countries (over 25 mil. inhabitants)	1.3	4.1
Upper-middle countries (10-25 mil. inhabitants)	3.1	8.8
Lower-middle countries (2.5 - 10 mil. inhabitants)	5.8	13.5
Small countries (less than 2.5 mil. inhabitants)	10.3	27.5

TOP 5 COUNTRIES

Guyana	89.0
Grenada	85.1
Jamaica	85.1
St. Vincent and the Grenadines	84.5
Haiti	83.6

Note: Migration rate is the share of migrants from a particular spatial unit (e.g. sending country, world and others) in the total population of people coming from the same spatial unit including migrants.

Source: DOCQUIER, MARFOUK (2006: 175–176)

- 3) Skilled migration is spatially highly concentrated with respect to receiving countries

DOCQUIER, MARFOUK (2006: 168) estimate that around 90 per cent of highly skilled migrants lived in one of the OECD countries, with the United States (about 50 per cent of skilled migrants), Canada (13 per cent), Australia (8 per cent), the United Kingdom (6 per cent), Germany (5 per cent) and France (4 per cent) as the main destination in this respect. An about 85 per cent of all highly educated migrants in the OECD countries live in six countries: the United States, Canada, Australia, the United Kingdom, Germany and France. Large numbers of highly educated migrants originate in developed countries. Outside OECD, Gulf States (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates), South Africa, Malaysia, Hong Kong, Singapore and Taiwan are other countries or dependant territories attractive for skilled migration.

- 4) Skilled migration rates are negatively correlated with country population sizes

DOCQUIER, MARFOUK (2006: 168) estimate that the skilled migration rates of small countries with population less than 2.5 millions inhabitants is almost seven times larger than the emigration rate of large countries with population more than 25 millions inhabitants (see Table 6.1). This fact may be attributed to relatively higher emigration figures of small countries. Note

that in absolute figures, the situation is understandably opaque with highest share of skilled migrants coming from countries with more than 25 millions inhabitants.

- 5) Middle-income countries are more affected by skilled migration than low or high-income countries, however, the picture is more complex with high number e.g. for Sub-Saharan Africa and low number for Islamic world.

6.3 Geographical distribution of *skilled migration*

The analysis the distribution of the brain drain in the Latin America and the Caribbean region, Asia and Africa based on new data set relies on Census data collected in all OECD countries and an original data set relies on international migration by educational attainment for 1990 and 2000, provides consistent and reliable information about the loss of human capital in these regions. DOCQUIER, LOHEST and MARFOUK (2005: 30–31) present the analysis of the brain drain distribution and show that, on average, the most affected regions are the Caribbean, Central America, and Eastern, Middle and Western Africa. In Asia, the South-Eastern Asian region also exhibit important rates (for details see Table 6.2). According to them the distribution of skilled migration rates is globally multimodal in all developing regions and indicate different dynamic patterns across regions.

Among developing countries, the sources of the largest numbers of highly educated migrants to OECD countries include China, India, the Philippines and the Republic of Korea. However, the data available cannot distinguish between migrants who had been educated in the countries of origin and those educated at destination (UNITED NATIONS, 2006).

Naturally, assessing the determinants of the brain drain as well as consequences for the source country requires incorporating additional panel data from developing countries (DOCQUIER, LOHEST, MARFOUK, 2005: 31). However, the largest disparities between share of skilled workers among migrants and in the whole population are observed in the African regions, the result of generally low level of education. Note that the largest absolute stock of skilled migrants is from Europe especially from the United Kingdom, Germany and Italy and that other large countries (the Philippines, India, China and others) are the most important contributors to skilled migration in the absolute figures (DOCQUIER, MARFOUK, 2006).

6.4 Impacts of skilled migration - brain drain, brain gain and brain circulation

Theoretical debate on impacts of skilled migration on both sending and receiving countries, has attracted rather wide attention and several shifts in the line of reasoning may be recorded. In the traditional stance, sending countries

Table 6.2: Selected indicators of skilled migration according to regions

Region	Share of the region in the OECD stock of skilled migrants (per cent)	Skilled emigration rate (per cent)	Share of skilled workers (per cent)	
			among residents in the region	among migrants in the region
Caribbean	5.7	42.8	9.3	38.6
Central America	6.6	16.9	11.1	16.6
South America	5.6	5.1	12.3	41.2
Eastern Europe	7.8	4.3	17.4	34.2
Eastern Africa	1.7	18.6	1.8	40.8
Central Africa	0.5	16.1	1.6	30.9
Northern Africa	2.2	7.3	7.5	19.6
Southern Africa	0.8	6.8	8.7	62.1
Western Africa	1.6	14.8	2.4	42.0
Eastern Asia	11.3	3.9	6.3	55.5
South-Central Asia	9.2	5.3	5.0	52.5
South-Eastern Asia	10.5	9.8	7.9	51.4
Western Asia	3.5	6.9	11.4	22.9

Note: The skilled migration rate is the share of skilled migrants from a particular spatial unit (e.g. sending country, world and others) in the total population of skilled people coming from the same spatial unit.

Source: DOCQUIER, MARFOUK (2006: 170–171)

complain about their loss of human capital²⁴ and investments in education (brain drain). Thus, brain migration is perceived to be detrimental for those left behind, especially if the education of skilled emigrants was partly financed by public funds (DOCQUIER, MARFOUK, 2006: 151). On this basis, sending countries calls for protectionist provisions to reduce brain migration (e.g. taxation of migrants' income abroad) and simultaneously for loss compensations. Not surprisingly, receiving countries followed other line of reasoning. They argue that skilled workers could not adequately use their abilities in their countries of origin and therefore, from the global perspective, brain migration lead to increasing efficiency of human capital allocation. Objections related to uneven distribution of gain between receiving and sending countries are rejected through contention that brain migration may decrease macroeconomic figures such as average income or GDP, but individual welfare remained the same. Moreover,

²⁴ It is necessary to stress that loss of human capital has its quantitative and qualitative dimension. Problems related to the quantitative dimension may be often solved through extensive education programs. However, this possibility is often connected with substantial decrease in the quality of education. TORBAT (2002) mentions example of lecturers on Iranian universities. Before the Islamic revolution in 1979, a lot of lecturers had their diplomas from universities in the United States or United Kingdom. After their emigration due to political causes, it was possible to replace them by new lecturers, however, the quality of education decreased substantially.

remittances, return migration and trade networks balance public costs of education (VINOKUR, 2006).

BEINE, DOCQUIER and RAPOPORT's model, focusing on the impact of migrations on human capital formation and growth in the source country of migrants, shows the fact that migration opportunities foster investments in education since it is awarded a higher expected return when the economy is open to migrations than in the economy without migration possibilities. Authors called this first effect the *brain effect*. The second impact, undoubtedly detrimental, is due to the departure of some, if not all educated agents, we have called this second effect the *drain effect*. Obviously, the sign of the total impact depends on which effect dominates (BEINE, DOCQUIER, RAPOPORT, 2001: 287).

STARK, HELMENSTEIN and PRSKAWETZ (1997) studied human capital depletion and formation in a economy open to out-migration, as opposed to an economy which is closed and they have demonstrated that a brain gain may occur without using the argument that gain arises from new skills that are acquired abroad and are brought home upon return. Since expected migration favourably alters the incentives of a poor country's workforce to invest in human capital formation, policy makers may wish to reconsider before embarking on measures that hinder migration (STARK, HELMENSTEIN, PRSKAWETZ, 1997: 233).

Consecutively, the debate was complemented by further features such as substitutability of different capital types, market imperfections and especially by the role of externalities and endogenous growth (VINOKUR, 2006: 11–12). Externalities related to collective learning and agglomeration effects are nowadays regarded as the main trigger of stable economic growth or development respectively. However, to trigger externalities a critical mass of human capital is necessary. In this respect, brain migration may further reinforce the aggregate mass of human capital in receiving and, on the contrary, decrease this mass in the sending countries (brain drain). When this happens, sending countries are trapped in their circles of poverty and underdevelopment, returning us to the calls for protectionism and redistribution of gains. Nevertheless, new literature on skilled migration adds another piece to the mosaic with substantial impact on conclusions. The main idea is that emigration alone may trigger spontaneous creation of human capital through expectations related to the increasing income from skilled migration. Then in sum, brain formation may outweigh brain drain and net brain gain arises with positive impact on economic growth and welfare of sending countries (SCHIFF, 2006).

Figure 6.1 describes the mechanism for two net brain gain scenarios. The first net brain gain curve, often used in the new literature on skilled migration, is optimistic, creating positive net figures for migration probabilities lower than the threshold p_1 . However, SCHIFF (2006: 205) denotes the second net brain curve as better depicting the reality and therefore he claims that the role of brain gain on sending countries is rather exaggerated. Especially the cases with high migration probabilities must be denoted as undesirable from the viewpoint of net brain gain. The most important aspects of Schiff's argumentation are:

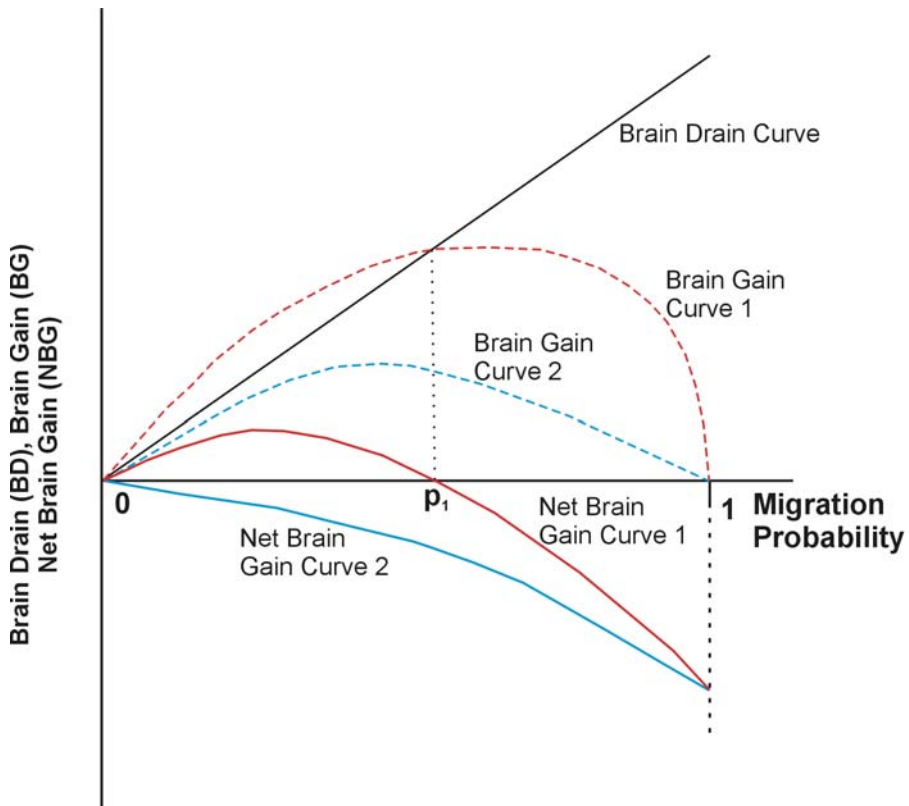


Figure 6.1: Net brain gain mechanism. Source: Adjusted according to SCHIFF (2006: 205)

1. Heterogeneous nature of skills resulting into decreasing average level of human capital abilities due to migration²⁵
2. Uncertainty connected with utilisation of education abroad
3. Extreme brain waste abroad connected with inferior jobs for skilled migrants

VINOKUROV (2006: 13) extends the debate, claiming that the argumentation given above becomes obsolete in the contemporary global world. Increasing mobility of capital is the cornerstone for his contentions. In this respect, national states are not more able to control capital flows and they are forced to play off one against another for capital allocation. Thus, spatial distribution of jobs, as well as nature of skilled migration, is changing. Oversupply of tertiary educated workers in developing countries, always ready to be poached, adds the second piece to the game. Overall, VINOKUROV (2006. 13) emphasizes the following aspects of skilled migration which have to be taken to the account:

²⁵ KAUKAB (2005) gave an example of this kind in the case of Pakistani health sectors, when lack of professionals represented the decisive barrier to open Ph.D. program in the medicine studies.

The first aspect is connected with spatially concentrated, capital intensive, occupations without important barriers for their relocation. If in interest of global capital, these occupations may be relocated to developing countries (e.g. through outsourcing), which offer adequate conditions, especially a modern communication system and a large pool of cheap tertiary educated labor force. Transnational U.S. computer firms in China and India belong to the well-known examples in this way. However, such investments may appear to be highly volatile due to pure economic interests of transnational companies. In this regard, migrants, once drained from the sending countries, may play a positive part through creation of close ties between their country of origin and new destination. In this way so called brain circulation helps in development of both, receiving and sending countries, through higher interest of migrants in the life of sending countries. Taiwanese Diaspora in the United States, now called astronaut commuters, represent the best illustration of these ties. Not surprisingly, brain circulation seems to be better development paradigm than brain drain with its negative connotation. More and more often used migrants' short-term contracts, with the aim to grasp advantages of cheap labour force and to reduce impacts of brain drain through migrants' return, are also in accord with the brain circulation paradigm.

The second aspect is connected with human capital intensive occupations closely tied to a place such as social services or education. In this regard, it is necessary to stress decreasing ability of national states to provide such services as public goods due to sharper and sharper global competition. Overall, recruitment of skilled migrants from the oversupply in developing countries represents an important alternative to solve the problem. In these cases, there are little likelihood that brain circulation model will develop. However, due to ever-spreading demand both, public and private sector in many developing countries, decided to actively promote recruitment of skilled migrants. Nurses in the Philippines may be regarded as a good example of this kind.

Policy implications may therefore be derived cautiously. From the perspective of the source countries, it is obvious that the imposition of barriers to the international mobility of skilled-labor, arguing for instance, that human capital has been partially publicly financed, could end up with opposite effects and result in a decrease in the long-run level of human capital. At the policy level, the critical issue in self-selection models is that of the appropriate pricing of human capital tax and subsidy policies. That would allow the human capital that is necessary for growth to be retained at home. However, the analysis of BEINE, DOCQUIER, RAPOPORT (2001) suggests that subsidies to education are likely to be inefficient if the probability of leaving is high for the educated (this is quite obvious), but also if wage differentials are important. In both cases, the expected return to education is high, so that no subsidy is required to foster human capital formation. From the perspective of destination countries, selective immigration policies could also be reconsidered in the light of their impact on growth in the source countries of migrants (BEINE, DOCQUIER, RAPOPORT, 2001: 288).

6.5 Skilled migration in short case studies

A lot of case studies were written about skilled migration. To illustrate the theoretical background given above, the most important findings from two of them are reviewed. The first one represents a classical situation where it is not clear whether losses are higher than gains or whether the opposite happens. The second case study is more unambiguous and typical brain drain may be recorded. Moreover, both case studies demonstrate the need to ingrain skilled migration into wider relations with other aspects of topics migration and development of developing countries.

KAUKAB (2005) deals with skilled migration in Pakistan, which belonged with the total stock of skilled migrants about 220.000 to the top 30 countries in the world in 2000 (DOCQUIER, MARFOUK, 2006: 175–176). In his paper, KAUKAB (2005) does not give any accurate numbers of skilled migrants due to lack of data, however, he emphasizes some important events from history. Thus, Pakistan lost more than 4.000 medical doctors in 1960s due to their emigration, especially to the United Kingdom, for a better prospect. Overall, since the earliest phases of history, about 25 per cent of medical doctors left Pakistan. Further KAUKAB (2005, 105–106) deals with government policy towards skilled migration. In this regard, Pakistani government takes rather positive stance to skilled migration because of important foreign exchange stemming from remittances. On the national level, Department was established with the aim to promote overseas Pakistani and to look for new employment opportunities abroad especially in the Gulf States, the United States, the United Kingdom and Malaysia. Further, some subsidised real estate schemes were created to support attraction of remittance flows and liberal policy towards dual citizenship is followed. Based on interviews with skilled Pakistani abroad, KAUKAB (2005: 106–107) gives variety of their motives to migrate, stating, along with economic reasons, conservative spirit of the country, ethnic prosecution or ever-spreading corruption. The first motive, conservative spirit of the country, may be regarded as an important barrier to exploit all advantages from relations between migration and development. KAUKAB (2005: 107) mentions two examples when world-known Pakistani scientists living abroad were not permitted to establish research institution in their country of origin. Overall, KAUKAB (2005: 107–108) evaluates skilled migration from Pakistan rather negatively due to loss of scarce professionals in several sectors and due to vanishing public-oriented attitudes. He is rather sceptical to replacement of these disadvantages through remittance flows and he calls for measures to reduce skilled migration from Pakistan. Development of high-profile jobs in politically secure environment is denoted as the best tool in this regard.

TORBAT (2002) focuses his paper on skilled migration from Iran to the United States. In this regard, political situation in Iran, including international relations, is the most important factor creating a specific nature of skilled migration from Iran. Its origins may be connected with 1970s when oil prices surged and foreign exchange was used for tertiary education of many Iranians abroad, especially in the United States. Thus, in the academic year 1978/79,

Iranians with their 17 per cent share were the largest group of foreign students in the United States. After the Islamic revolution in 1979, many of them returned to Iran to fill the gap on the labour market. However, rather hostile behaviour towards Western Iranians appeared and consequently, emigration of skilled Iranians emerged. Based on data from different resources, TORBAT (2002: 281) claims that Iran indicates relatively high skilled emigration rates and this contention is in accord with findings in DOCQUIER, MARFOUK (2006: 175–176). Iran is between top 30 countries according to absolute numbers of skilled migrants (about 300.000 persons in 2000) and also according to the proportion of skilled emigrants in the total migration stock. In the United States, Iranians belong to the best educated minority and they often occupied high-profile jobs (TORBAT, 2002: 280–282). However, skilled migration from Iran is characterised by weak linkages with the sending country. Political instability, causes of migration and frequent migration of whole families create little incentives for Iranians abroad to remit or invest their funds in the country of origin. Despite efforts of Iranian government representatives in 1990s to persuade emigrants abroad to return home or to invest in Iran nothing changed. To conclude, the case of Iran represents an example of real brain drain with serious negative impact on sending countries. Only improvement of the current political situation may trigger dormant potential of Iranian migrants to foster development of their country of origin.

The econometric analysis (BOUCHER, STARK, TAYLOR, 2005) of data from rural Mexico leads us to reject the brain-drain hypothesis, both for international migration and for internal migration. Relatively highly educated villagers are selected into internal migration. However, controlling for the underlying dynamics of human capital formation in rural areas, the effect of (lagged) internal migration propensities on average schooling of non-migrants is positive. International migration that does not select on schooling has no significant positive effect on the average education of non-migrants. The presence of high-skill family migration networks at internal destinations significantly increases the likelihood that a child will be enrolled beyond the compulsory (9th grade) level. By contrast, low-skill internal networks decrease the likelihood of high-school enrollment. International networks have no significant effect on school enrollment (BOUCHER, STARK, TAYLOR, 2005: 21).

Internal migrants are significantly better educated than non-migrants (7.5 versus 5.5 years of completed schooling in 2002, a 36 per cent disparity), and the effect of schooling on internal migration is positive and statistically significant. The fact that it *increases* the schooling of non-migrants is consistent with the existence of a dynamic and positive incentive effect of gainful internal migration on rural human capital formation. The finding that, controlling for remittance inflows, high-skill internal migration networks increase the probability of enrollment in post-compulsory (high-school) education provides further evidence of the inducement effect of the probability of migration on investment in schooling in rural Mexico (BOUCHER, STARK, TAYLOR, 2005: 22).

MISHRA (2006) investigated the impacts of brain drain from Caribbean region and he claims that the emigration loss due to emigration of skilled labour

is significant. One of the most principal characteristics of migration from the Caribbean region, apart from the very high rates of migration, is the loss of the educated population. The loss due to emigration is amplified if emigrants confer a positive externality on non-emigrants. In addition, emigration loss due to high-skilled migration (which includes the emigration loss predicted by the labor-demand supply framework, augmented with external effects, and government expenditure on educating the migrants) outweighs remittances for many Caribbean countries – Antigua and Barbuda, Barbados, Belize, Guyana, St. Lucia, Suriname, and Trinidad and Tobago. Emigration loss almost equals remittances for Jamaica, St. Kitts and Nevis, and St. Vincent and the Grenadines. The magnitudes of the emigration losses are much higher than the estimates of immigration surplus in the presence of external effects, which range between 0.3–0.7 per cent of GDP. The losses range from 2 per cent of GDP in the Dominican Republic to 20 per cent of GDP in Jamaica. On average, the losses outweigh the official recorded remittances for the Caribbean region and for almost all the individual countries (except Dominican Republic, Haiti, Grenada, and St. Lucia). For Grenada and St. Lucia, the total losses are almost equal to remittances (for details see Table 6.3) (MISHRA, 2006: 25–27).

6.6 Conclusion

Skilled migration represents a significant part of the wider topics migration and development and it is justifiable to expect that its importance in the global world will increase, among others due to ageing of population in developed countries, globalization of labour supply, and fast development in some economic sectors (e.g. informal technology) and demand for new labour in the sectors. Changes in migration policies of traditional immigration countries such as USA, Canada or Australia, where skills gained high weigh as the criterion to acquire permission to stay, confirm this expectation. Immigration policies of EU countries are still substantially oriented towards traditional issues such as asylum-seekers or family reunification, however, interest in brain migration has been rising as witnessed by 20,000 green cards issued in 2001 in Germany to hire 20,000 non-EU ICT specialists for a maximum five years (DOCQUIER, MARFOUK, 2006: 153). It is necessary to note that an alternative stance to the issue is based on 9/11 syndrome and measures connected with fight against terrorism, creating important barriers to international migration flows (e.g. KAUKAB, 2005: 108–109).

Skilled migration is important not only for developed but also for developing countries, especially for those with high absolute figures and especially with high skilled migration rates. To weigh pros and cons of skilled migration is the decisive task for migration policies of both, developed and developing countries. VINOKUR (2006: 20–21) gives a nice example of potential threads connected with skilled migration. Let have two countries with extensive skilled migration from the developing to the developed one. What does it mean for education costs? Theoretically, it is not interesting for the developed country to subsidy education in the occupations which are filled by skilled migrants. This is the case

Table 6.3: Total Losses Due to High-Skill Emigration vs Remittances

	Estimated Education Expenditure (as a percentage of GDP)	Emigration Loss (as a percentage of GDP) ($\gamma=0.1$, $e=0.4$)	Emigration Loss + Estimated Education Expenditure	Remittances (as a percentage of GDP) Average 1980-2002
Antigua and Barbuda	8.8	5.4	13.2	3.0
Bahamas, The	1.1	4.2	4.4	
Barbados	7.4	4.9	18.5	2.3
Belize	2.7	4.8	6.8	4.7
Dominica	5.0	5.2	11.5	8.4
Dominican Republic	0.2	1.4	2.1	5.3
Grenada	5.7	7.7	11.0	11.0
Guyana	6.8	7.8	9.5	1.9
Haiti	0.8	6.6	9.0	10.1
Jamaica	7.7	7.2	20.4	7.4
St. Kitts and Nevis	9.4	6.8	9.7	6.9
St. Lucia	2.0	5.3	3.8	4.0
St. Vincent and the Grenadines	7.0	7.2	10.7	7.2
Suriname	1.3	3.9	7.8	0.5
Trinidad and Tobago	6.2	6.3	16.8	0.3
AVERAGE	4.8	5.6	10.3	5.2

Note: „e“ denotes the elasticity of factor price of labor (i.e., percentage change in wages resulting from a 1 per cent change in the size of the labor force); „gamma“ denotes the elasticity of marginal product of labor (the percentage change in marginal product of skilled labor due to 1 per cent change in aggregate stock of skilled labor).

Source: MISHRA (2006: 27)

for example in the United States having no interest to finance education of nurses despite their lack on the market. At the moment, education of skilled migrants is attractive for the developing country (e.g. training of nurses in the Philippines) due to expected remittances and other benefits. However, is this strategy sustainable to keep on public subsidies directed towards education or should be education costs distributed more evenly between the both countries?

The skilled migration from developing countries do not have to go with negative impact of brain drain. Some research studies show opposite outlooks because gained knowledge, experience, sending remittances and human capital production can cause processes known as brain gain, or brain circulation if you like. Nevertheless the phenomenon of skilled migration cannot presented unilaterally only, above all small (populated) countries can face serious problems.

Chapter Seven

The Panorama and Drama of International Migration and Development in the Philippines

Jeremaiah M. Opiniano

7.1 Introduction

An archipelago with 7,107 islands is no stranger to international migration movements. The Philippines, in fact, currently celebrates the centennial of the first recorded Filipino overseas emigration in the 20th century: some 15 males from the northern province of Ilocos Norte were hired as workers in the sugar plantation fields of Hawai'i. International migration even became a policy of sorts for the Philippine government when former strongman Ferdinand Marcos, in 1974, set up a labor export program at the height of Martial Law.

A century hence, Filipinos can be found almost everywhere in the world and in many ocean-plying vessels. Especially these last few years, it has been overseas migration's resources and opportunities that have kept the economy of the Philippines barely standing. On the country's backdrop is a socio-economic condition that, in the last few years, has not gained much headway. Meanwhile, there is heightened attention to international migration (particularly because of migrants' billion-dollar remittances) in the last few years.

This paper²⁶ attempts to explain the international migration phenomenon of the Philippines and its many development implications. The paper will also attempt to find out how can the international migration of Filipinos be a source of opportunity that, if used strategically and wisely, will build the country's socio-economic capacity further and rely less on seeing citizens having no option left but to migrate abroad.

²⁶ Data and studies to be cited in this paper were culled from the work of IMDI as technical editor of a forthcoming publication, *The Fourth State of the Philippine Population Report* (to be published by the government-run Commission on Population in the Philippines).

7.2 Panoramic view

The Philippines is largely regarded in international migration circles as a sending country of migrants, and its government a model of managing the international exodus of citizens to various countries (IOM, 2005). But it has been overseas Filipinos themselves who have made the country renowned as a beehive of international migration activity.

Types of migrants. Filipinos abroad migrate overseas as temporary contract workers, immigrants and permanent residents, and as undocumented migrants. Temporary contract workers (both land-based and sea-based workers) refer to those whose primary motivation to go out is to work in host countries and remit their incomes to families in the Philippines more frequently – but they do not intend to stay there for good. Permanent residents, for their part, migrated overseas and soon become naturalized citizens in the host country (or are in the path towards such upon initial temporary stay in the host country). Undocumented migrants are those whose stay abroad is not properly documented, who are “overstayers,” and who do not have valid residency or work permits for over six months (COMMISSION ON FILIPINOS OVERSEAS, 2006a). Classifying these overseas Filipinos is important because all international migration dynamics are influenced by these types of migration flows. At the same time, these migrants may have dissimilar motivations for overseas migration, although what has been a common reason for such decision is the search for better economic opportunities given the lack of gainful employment in the country.

Stock estimates. Government’s annual stock estimates of overseas Filipinos show that there are at least 8 million Filipinos in some 193 countries. These estimates cover all the types of migrants, with temporary contract workers making up some 46.08 per cent of the total in the 2005 figures (see Tab 7.1).

Feminization of Filipinos’ overseas exodus. Basic demographic data about departing temporary contract workers and emigrants are not complete due to many limitations in the data capturing mechanisms of government agencies. But existing data reveal what is called the feminization of migration since women are more in number than men as departing newly-hired temporary contract workers and as immigrants (see Tab 7.2 and 7.3, respectively) due to long-term demand for unskilled labour which is traditionally practised by women²⁸ (see Tab. 7.6).

Spatial distribution of overseas Filipinos (homeland and hostlands). Most of the migrating overseas Filipinos come from Philippine regions that are near the National Capital Region where the capital Manila is (located in Luzon island), and these same regions also have lesser poverty incidence. It does not come as a surprise that most migrating temporary contract workers and immigrants originate from these areas (with the National Capital Region as an exception

²⁸ However the newest data from Philippine Overseas Employment Administration (POEA) shows the shift in demand for highly skilled workers in non-traditional markets and the ratio of deployed female to male newly hired workers was observed to change from a ratio of 70–30 in 1992 to 60–40 in 2006. One important contributing factor in this change is the reduction in the number of deployed female workers belonging to the vulnerable position (POEA, 2006a: 13).

Table 7.1: Stock estimates on overseas Filipinos (multiple years)²⁷

Year	Permanent	Temporary	Irregular	Total
1997	2,153,967	2,940,082	1,880,016	6,974,065
1998	2,333,843	2,961,254	1,913,941	7,209,038
1999	2,482,470	2,981,529	1,828,990	7,292,989
2000	2,551,549	2,991,125	1,840,448	7,383,122
2001	2,736,528	3,049,622	1,625,936	7,412,086
2002	2,807,356	3,167,978	1,607,170	7,582,504
2003	2,865,412	3,385,001	1,512,765	7,763,178
2004	3,187,586	3,599,257	1,297,005	8,083,848
2005	3,391,338	3,651,727	881,123	7,924,188

Notes: Stock estimates are based on the aggregation of data from the Commission on Filipinos Overseas, Department of Foreign Affairs, Philippine Embassies and Consulates, and the Philippine Overseas Employment Administration.

Source: Data from the COMMISSION ON FILIPINOS OVERSEAS (2006a; 2006b: 4)

Table 7.2: Total deployment of new-hire temporary contract workers by gender (1995, 2000, 2005)

Year	Female	Male	Total
1995	124,822	89,335	214,157
2000	178,323	74,707	253,030
2005	205,206	79,079	284,285

Note: POEA only has data of the new hires. Data on rehires, looking at all variables, have yet to be processed by the said agency.

Source: Data from the POEA (2006b)

Table 7.3: Registered Filipino emigrants by sex (1985 to 2005)

Year	Male	Female	Total	Sex Ratio*
1985	18,409	26,860	45,269	68M/100F
1990	25,400	37,749	63,149	67M/100F
1995	22,550	33,692	56,242	67M/100F
2000	19,907	31,124	51,031	64M/100F
2005	27,330	41,698	69,028	66M/100F

* Sex Ratio is number of Males for every 100 Females

Source: Data from the COMMISSION ON FILIPINOS OVERSEAS (2006a)

²⁷ Definition of terms: *Permanent migrants* – immigrants or legal permanent residents abroad whose stay do not depend on work contracts. *Temporary migrants* – persons whose stay overseas is employment related, and who are expected to return at the end of their work contracts. *Irregular migrants* – those not properly documented or without valid residence or work permits, or who are overstaying in a foreign country.

since it also has high levels of urbanization, and many from the rural regions migrate first to the capital region for domestic employment opportunities).

Given such domestic spatial distribution of emigrating overseas Filipinos, some economic studies are of the thought that since the volume of migrants in areas with lesser poverty incidence is more than regions with higher poverty incidence, these regions receive more remittances than areas with higher poverty incidence. For that, inequality is further made glaring (ANG, 2006; PERNIA, 2006; RAVANILLA, ROBLEZA, 2003).

The Kingdom of Saudi Arabia and the United States of America (USA) are the most frequented destination countries of temporary contract workers and immigrants, respectively (see Tab 7.4).

Table 7.4: Top ten countries of destination of registered emigrants (1988–2005) and temporary contract workers from Philippine (1998–2002)

Temporary contract workers *		Emigrants and permanent residents	
Country	F	Country	F
Saudi Arabia	1,512,335	United States of America	952,604
Hong Kong	848,077	Canada	193,149
Japan	480,437	Australia	91,897
Taiwan	444,355	Japan	81,474
United Arab Emirates	413,179	Germany	10,187
Kuwait	207,462	United Kingdom	7,016
Singapore	196,900	New Zealand	5,630
Italy	166,738	Italy	6,184
Qatar	116,773	Spain	4,354
Brunei	96,748	Norway	2,539

**Some of them returned and re-applied for overseas work*

Source: Data from the POEA (2006b); COMMISSION ON FILIPINOS OVERSEAS (2006a)

Saudi Arabia is a favored destination for temporary contract workers ever since the formal introduction of the Philippine government's labor export program in 1974 as a response to the Kingdom's need for workers to its then booming oil industry. Meanwhile, the Philippines is a former colony of the United States and that country's ties with the Philippines, as well as its need for workers in the health sector, have propelled further emigration. US Census data show that there are at least 2.5 million Filipinos in the US, predominantly as immigrants and naturalized citizens. As for irregular migration, Malaysia and the US are the top two source countries of Filipino undocumented migrants. Filipinos from the Western Mindanao region (southern Philippines) have take the chance to go to Sabah and work there in unskilled occupations; this development has caught the attention of Malaysian immigration authorities and crackdowns of irregular Filipino and Indonesian migrants in Sabah are ongoing (see Tab 7.5).

Table 7.5: Countries with the most number of irregular migrants from Philippine

Country	2000	2001	2002	2003	2004	2005
United States	278,000	532,200	510,000	510,000	350,000	157,998
Malaysia	509,564	363,000	363,000	363,000	300,000	125,000
France	18,050	26,121	26,121	26,121	26,120	40,105
Singapore	65,000	71,917	71,92	71,917	72,000	37,600
Japan	16,369	36,379	76,573	30,100	31,430	30,619
Israel	20,711	21,136	22,500	23,000	23,000	23,000
United Arab Emirates	20,000	38,000	20,000	20,000	20,000	20,000
Italy	62,531	78,000	78,000	50,000	48,000	20,000
Saudi Arabia	25,700	18,000	18,000	18,000	18,000	18,000
Korea (South)	15,273	15,235	15,235	9,015	9,015	13,519
World Total	1,840,448	1,625,936	1,579,092	1,512,765	1,297,005	881,123

Source: Data from COMMISSION ON FILIPINOS OVERSEAS (2006)

Occupations abroad. Data also show that many of the deployed newly-hired temporary contract workers are service workers (see Tab 7.6), and among these workers are domestic workers in prominent destinations such as Hong Kong, Singapore, Saudi Arabia, and Malaysia. This development highlights the feminization of international migration, especially so that these women are into what is called dirty, dangerous and difficult (or “3D”) jobs.

Table 7.6: Deployed newly-hired temporary contract workers by gender and occupational category (1992–2005)

Occupational category	Female	Male	Total
Professional and technical workers	727,584	191,938	919,522
Managerial workers	1,243	4,058	5,301
Clerical workers	24,881	28,716	53,597
Sales workers	18,690	19,040	37,730
Service workers	1,026,237	131,959	1,281,437
Agricultural workers	333	10,702	11,346
Production workers	221,323	835,750	1,057,073
For reclassification	32,440	26,640	58,084

Note: Many of these newly-hired workers have returned to the Philippines and, possibly, have been re-hired for overseas workers. There are no data from POEA on rehired workers.

Source: Data from the POEA (2006)

Remittances. Overseas Filipinos are the ones that are providing much-needed foreign exchange to the Philippines (and the corresponding economic results of such, like continued consumption, stability of the local currency vis-à-vis the US dollar, savings and investment build-up, economic endeavors such as enterprises,

and the bolstering of the country's Balance of Payments and dollar reserves). Remittances are the major reason why government has hailed overseas Filipinos as "modern-day heroes" (IOM, 2005); from 1975 to 2005, the Philippines's formal banking system has received over- 93 USD billion worth of remittances (see Tab 7.7).

A landmark ASIAN DEVELOPMENT BANK study (2005) revealed that Filipinos abroad remit an average of 340 USD monthly, and remittance-receiving families use the amount for daily needs, education expenses, health, and sometimes in acquiring property. Globally, as per processed data (1995 to 2004) coming from the International Monetary Fund, the Philippines is the fifth-highest country that receives remittances from migrants (see Tab 7.8).

Migration policy. Historically, the Philippine government does not explicitly mention that it sends out workers – for the fact that it might reveal the weaknesses of the domestic economy (OPINIANO, 2005). However, the bureaucratic structure to manage the outflow of people has been in place for more than 20 years. This situation reveals the Philippine government's *implicit* endeavors on managing the flow of citizens bound for overseas work and permanent residency; many have remarked the Philippine government as having a model of managed migration (IOM, 2005).

The major departments or ministries in this regard are the Department of Labor and Employment (DOLE) and the Department of Foreign Affairs (DFA). The relevant line agencies or bureaus that are part of the government's migration management machinery are: (for temporary contract workers) the Philippine Overseas Employment Administration (POEA) and the Overseas Workers Welfare Administration (OWWA); and (for permanent residents) the Commission on Filipinos Overseas. The Philippines also has an army of some 80 embassies and consulates that cater to the needs of Filipinos abroad. The Philippines also has a set of laws intended for overseas Filipinos' protection and upholding of rights, for their political participation in the homeland, and for reacquiring their Philippine nationality through dual citizenship. In terms of labor migration, the Philippines also has an active overseas recruitment industry that operates under a highly-regulated environment that the POEA handles. Given all these, some are of the observation that the Philippines has mastered the handling of citizens' overseas migration (OPINIANO, 2004).

If not for international migration, the Philippines's unemployment rate could have gone higher. Given what economists (LANZONA, 2004) call as structural unemployment (or the condition that the economy cannot generate as much jobs despite episodes of economic growth), the Philippine government had to accommodate requests from foreign principals for workers so that Filipino workers (whether employed or unemployed) may capitalize on such opportunities. What is called "international labor migration" has also been a means by which the Philippines can generate foreign exchange. Although, multilateral institutions like the World Bank and the International Monetary Fund have cautioned the Philippines not to rely so much on international migration as an economic growth strategy.

Table 7.7: Overseas Filipinos' remittances coursed through the formal banking system (in million USD)

Year	Amount
1975	103
1980	421.3
1985	687.2
1990	1,181.07
1995	4,877.51
2000	6,050.45
2005	10,689.01
Total*	93,070.64

* Total remittances (1975–2005)

Source: Data from the BSP (2007)

Table 7.8: Top twenty countries receiving remittance inflows

Rank and Name of Country Receiving Remittance Inflows	Total in million USD (1995–2004)
India	130,422
France	90,388
Mexico	89,767
China	80,897
Philippines	72,907
Belgium	48,108
Spain	46,521
Germany	45,834
United Kingdom	38,569
Portugal	34,647
Turkey	31,766
Egypt, Arab Republic	31,593
Morocco	26,111
United States	26,083
Brazil	23,599
Lebanon	23,308
Greece	22,668
Italy	22,124
Bangladesh	21,193
Pakistan	20,870

Source: Data from the WORLD BANK (2006)

What is also critical here for the Philippines is its ballooning population, now at over-83 million. Given the Philippines's lack of capacity to address the needs of the population, overseas migration has been the resort of many Filipinos. But some think that like many other developing countries, the Philippines is

now in a stage called a “demographic transition” where its birth rates are declining and there is an abundant labor force that, if all are employed, will provide needed economic contributions to countries (COMMISSION ON POPULATION, 2007). Meanwhile, at least a fourth of the country’s population lives in poverty, and at least 47.5 per cent of the population lives on less than 2 USD a day.

7.3 International migration’s costs and benefits: Dramas unfolding

The costs and benefits of international migration have been the subject of much debate (even from within the Philippines). Existing studies on international migration’s consequences have many data limitations. At the same time, economists have different methodologies and datasets compared to sociologists, anthropologists and psychologists – and this differentiation has not led to a resolution of the cost-versus-benefits debate due to variances in data generalizability, study validity or reliability, and the types and occupations of migrants being studied and the countries where migrants are in.

It is not surprising, therefore, that the impact of international migration to the Philippines is varied, and the views surrounding it differ as well. To quote KING (1983) in her paper:

“The impact of (overseas migration), translated into benefits and costs, varies somewhat according to whose standpoint one will take: the individual worker, his or her family, his or her immediate community, or the national society as a whole. Some even advocate an internationalist perspective. For instance, there are social costs that must be imputed for the loss of skilled manpower. There are costs which do not go into the calculation of returns of overseas (migration) to the individual but are important to the society as a whole. One cannot dissociate the impacts (of overseas migration) on the individual, family, and on the community. What happens to individuals and families is eventually reflected in social relations, processes, structures and vice-versa. For the individual and his family, the benefits and costs may be easier to identify and determine. But for the society as a whole, the gains from (overseas migration) are not as obvious as some of us would think” (KING, 1983).

The Institute for Migration and Development Issues did a state-of-the-art survey of related studies and literature on the economic and social consequences of Filipinos’ international migration to individuals, families/households, communities, sectors, regions, and to the country (although, the studies surveyed may not be complete to paint a complete and truly wholistic picture). What the results of the studies seem to show is that international migration is a mixed bag. Thus, as KING (1983) said, it depends on how one looks at it. As observed, the studies done by researchers reveal the differences in methodologies, and it is

thus difficult to compare the economic consequences with the social consequences of international migration. It is a challenge for the future to determine the net benefit of Filipinos' international migration that would require interdisciplinary studies and the use of various research methods to hopefully provide such answers.

In summary, what the studies seem to show are the following points (all in COMMISSION ON POPULATION, 2007):

- International migration has obvious positive economic consequences to individuals, families/households, communities and the macro-economy. However, its continued prevalence has provided challenges such as inequality (units of analysis: communities, regions), and the depletion of needed manpower or what is called brain drain (unit of analysis: sectors of the economy). The Philippine economy as a whole is being challenged by the macro-economic costs of international migration while it benefits from remittances and overseas jobs that Filipinos have gained to elude domestic unemployment. Yet it is somewhat acknowledged that the Philippines' niche of providing skilled workers for the global economy has put the country into a steady disposition while its economy integrates with other nations.
- Yet, Filipinos' international migration has social costs to consider, especially on the part of: a) *individual migrants*, whose lives are potentially at risk overseas; b) *families/households*, as they endure the absence of a parent/parents and the attendant family issues to such absence; and c) *the country as a whole*, since the international migration of identified types of migrants and workers (e.g. domestic workers, undocumented migrants) is putting the country's image in a bad light. At the same time, international migration is being viewed as the only way out for many Filipinos, and that the country's own capacity to build a stable future for its citizens is being questioned. Another important issue to consider is international migration's feminization: migration's attendant family dynamics and consequences to women, men and children warrant further support, close examination and, in the future, a crisp gender analysis of the situation (de Dios in COMMISSION ON POPULATION, 2007).

The look at the consequences of Filipinos' international migration also warrants an interdisciplinary approach in terms of research (PEREZ, 1997). For example, economic and sociology-related data gathering methods to determine the social costs of international migration to Filipino families can possibly help determine these costs in a broader perspective without setting aside their continued prevalence.

7.4 The country's future beside the exodus: Scenarios and challenges

The Philippines faces a challenging socio-economic future beside international migration. There is even the observation that international

migration will all the more continue, not only because of sending countries' economic conditions, but also because developed countries will continue to need migrants. Plus, further economic development in many countries, as well as globalization, will trigger international migration flows in this new millennium (SPELLMAN, 2002).

The following will be the scenarios, and the corresponding challenges, to the Philippines with regard to international migration and development:

1. *The human rights and welfare of Filipinos abroad and their families/households in the Philippines.* The never-ending migration of Filipinos to various countries further challenges the limited resources of government to take care of the needs, and ensure the welfare of, these Filipinos. This responsibility is not only provided for by the Philippines's constitution, but is said to be morally bound unto the government since these Filipinos remit money to the country. Unskilled or less-skilled migrant workers are atop peoples' concerns.

The human rights of Filipino migrants are an obvious migration and development issue. It became a spurring issue when a woman domestic worker, Flor Contemplacion, was executed in Singapore in 1995 for allegedly killing a fellow Filipino domestic worker and her employer's Singaporean child. Migrants' welfare also became a national issue when a truck driver, Angelo de la Cruz, was kidnapped in Iraq and kidnappers demanded the Philippine government to withdraw its soldiers in the war-ravaged country (to the disgruntlement of the United States government, of which the Philippines supports its policy on all-out war against terrorism). Meanwhile, there are Filipinos who face labor and immigration cases in various countries (e.g. Saudi Arabia, Hong Kong, Singapore, the United States), and the needed legal protection mechanisms are also wanting. These instances have made the government decide to institute new policies especially on equipping departing temporary migrant workers with necessary skills so as to protect them from abuse and harm (e.g. the training of domestic workers, which the Philippine government now calls as "household service workers"). The situation also challenges the government to provide additional funds for programs to protect and uphold the welfare and rights of Filipinos abroad (more so to women migrants), especially in situations such as repatriation, deportation, cases of abuse in host countries, among others.

While all these are happening, sociologists have raised their concerns over the fate of the Filipino family (TAN, 2006) as international migration has become an influential variable in how the Filipino family is being "reconfigured". Simply put, the attendant social costs of migration to Filipino families/households will all the more recur given rising international migration (especially on the part of temporary contract workers and undocumented migrants). The response to such by these Filipino families has been the renowned extended family system where even grandparents, uncles/aunts and cousins help take care of the children left behind by migrant parents. Some are of the view that given three decades of a labor export policy, plus technological advances (e.g. mobile phones, Internet), Filipino

families are now transnational and have managed to keep themselves in stead with international migration's consequences. For example, children of migrants perform better in school than children of non-migrants (see SCALABRINI MIGRATION CENTER, 2005).

The bottom line here is how stakeholders including overseas Filipinos, may be able to ensure a steady and stable Filipino family, and how the social costs of international migration unto them may be eased or mitigated. Another challenge is how these families, especially temporary contract workers' families, will build on their capacities through financial literacy, psycho-social support and hard work so that they will not depend on international migration as the only resort towards a brighter future.

2. *International migration as a population and development issue.* International migration is a least studied area in the field of demography. However, in the case of the Philippines, migration (both international and internal) has become a relevant population process (the other two being fertility and mortality) because of its wide-scale socio-economic consequences. The relevance of international migration is also visible given the growing number of people directly into, or who are affected by, the phenomenon.

Four major trends are emerging in the look at international migration as a population and development issue (all in COMMISSION ON POPULATION, 2007):

- a) Demographic dynamics in other countries are becoming pull factors for Filipinos to go overseas. A look at demographic data from the top ten countries of destination for Filipino temporary contract workers and emigrants, and factors such as ageing populations, declining birth rates and rising numbers of countries' labor force do attract Filipinos to go there. Thus, Filipinos have contributed to the demographic challenges that developed countries face.
- b) There is a projection called the demographic dividend, where countries should not worry about rising populations and take advantage of low birth rates and death rates in order to cash in on economic opportunities for the rising labor force (especially if they are all employed). A cursory look at demographic and economic indicators showed that the Philippines is indeed in a demographic transition, but the demographic dividend projection seems to be only a potential, not real. The declining fertility rates are there, and the quality of the Filipino workforce has been the country's major economic driver. The Philippines, however, has limited savings and investments, and unemployment at home remains to be the biggest constraint towards achieving that demographic dividend or bonus.
- c) Data analysts have said that international migration is a negligible factor in the country's population growth. But this does not discount the *possibility* that increasing female migration by temporary contract workers and immigrants might have mitigated a population explosion. It is to note, however, that such an observation still needs validation from demographic surveys unto departing migrants, as well as econometric treatment of

population and international migration data. The Commission on Population (2007) thinks that since female temporary contract workers will practice longer birth spacing and will not bear additional children overseas, and since the children of Filipino permanent residents abroad are part of the census counts of host countries, international migration might have somewhat managed population growth.²⁹

d) International migration has even been a means for Filipinos to ensure their social protection (covering job security, income, and health) because of remittance and immigration opportunities. This trend reflects the economic inabilities of the country itself.

3. *Domestic employment conditions and services as the “niche” of the Philippine economy.* Many analyses on Philippine poverty and socio-economic development point to the lack of jobs as a recurring development issue. Data are also revealing that despite rising overseas migration (for temporary contract work and permanent residency), both unemployment and underemployment in the Philippines are also rising. This dispels the previous observation that international migration has lessened the number of unemployed: the Philippines just has so much labor.

Rising international migration will also have an impact on domestic economic productivity, especially because the continued presence of quality skilled workers in the motherland will be a crucial indicator of economic productivity (ALDABA, 2004). The Philippines has long been into a brain drain situation, although there is a lack of empirical analysis if this has led to diminished economic productivity. Some, meanwhile, are of the view that labor-abundant countries like the Philippines are helping mitigate the possible damaging effects of brain drain. What will be worrisome if a situation of “permanent brain drain” (or the incapacity of a country to produce replacement skilled workers for the domestic economy) occurs (Ang in OPINIANO, 2007) Some also think that the Philippines has a temporary brain drain situation, even as steps are underway to determine the labor needs of both the Philippines and in countries where Filipino workers may be deployed.

This situation brings us to the observation of some that countries like the Philippines have been buoyed by services, not agriculture nor industry. The skilled Filipino workforce has been one of the main positive revelations of the Philippines’s economic performance, according to some cross-country surveys (OPINIANO, 2004). There is even recent discussion that the country’s services sector should be bolstered that will meet the needs of domestic and foreign labor markets. The recent booming of the business process outsourcing industry is an example of the strength of the Philippines in services. Indirectly, there is the observation that if not for the nurses

²⁹ FARGUES’ study (2006) seemed to show was that somewhat remittances have influenced fertility rates of countries in the Middle East and Northern Africa. It would be interesting to validate FARGUES’ hypothesis (2006) in the Philippine case, which can be done regressing migration, remittances and demographic data plus doing key informant interviews and/or surveys with migrant families.

from the Philippines (as well as from other countries), many developed countries' health sectors would have not been stable.

It will be interesting to find out this: if services is indeed the niche of the Philippine economy in this globalized world, will this be sustainable for Philippine economic growth? Whither agriculture and industry then for the Philippines? The interest of policymakers unto services (owing to abundant Filipino labor supply) will surely affect international migration dynamics in the Philippines, especially if countries needed skilled workers such as accountants, engineers, and the like. It will also affect the country's own needs for skilled labor: for example, the country's science and technology manpower is depleted already (only 13,488 as of the year 2003), with recently-graduated and trained scientists and engineers migrating overseas since the country's science and technology landscape is not that developed (JUSTIMBASTE, 2007).

4. *Remittances and "brain gain" for development?* The Los Angeles Times, in a 2006 series on the international migration of Filipinos, observed that the country cannot grow economically without international migration. The more that efforts to determine how the resources of international migration may be tapped for Philippine development are necessary (BAGASAO, 2005). The obvious resource to tap is remittances, and recently stakeholders are in a mad rush to institute products, services and programs to tap what they call the "OFW market".³⁰ While the efforts from government, private and civil society/nonprofit sectors are underway to lure remittances for development, the challenge therefore rests on how equitable this development pursuit will be. Much concern is raised on the development of rural local economies, especially because some 60-to-70 per cent of overseas Filipinos originated from these areas, and a large informal sector exists there (BAGASAO, 2007; BAGASAO, 2005; ASIAN DEVELOPMENT BANK, 2005).

What should also be paramount in this remittances-for-development endeavor is the benefit of the overseas Filipino and the overseas Filipino family, especially because they own the remittances that will be tapped for development. Their financial literacy is important, much so the *consideration by stakeholders of their needs and lives overseas* so that they will understand what products and services may be catered to these migrants. For example, undocumented migrants may not open bank accounts in host countries; meanwhile, econometric studies have confirmed that families of overseas Filipinos have a hard time saving even as they receive increasing remittances (BAGASAO, 2005; BURGOS, DE VERA, 2005; IDANG, YAP, 2002; ANTONIO, PEREZ, 2000).

Another resource from international migration that may be tapped is "brain drain" or what the ASIAN DEVELOPMENT BANK (2006) refers to as knowledge transfer activities. There are previous programs and existing

³⁰ "OFW" is the frequently-used term to refer to Filipinos abroad. The acronym means "overseas Filipino workers" although this is much being referred to the temporary contract workers. So that permanent residents and undocumented migrants are covered, the appropriate term to use is "overseas Filipinos".

anecdotal experiences on this regard in the Philippines, even if these are not aplenty (OPINIANO and CASTRO, in ASIAN DEVELOPMENT BANK, 2006). In this regard, brain gain initiatives occur individually, as there a lack of widespread public support for it, as well as a strategy to plan brain gain for development. If properly harnessed, brain gain activities can even generate resources such as investments, jobs, or even philanthropic resources from overseas Filipinos, especially to benefit rural areas (OPINIANO, CASTRO in ASIAN DEVELOPMENT BANK, 2006).

5. *The development policy challenge: Can we build a consensus?* There has been much second-guessing about whether the Philippines should explicitly have a policy that it sends out labor. Civil society or nonprofit organizations catering to the overseas Filipinos sector have long lambasted the government on this regard. However, given the state of the Philippine economy and the slow pace of job generation, the people are left with no choice but to move out of the country. The situation is what Filipino analysts refer to as “forced” migration since Filipinos are left with no more option, and is thought of as a reflection of the failure of development in the Philippines (Abella in OPINIANO, 2005).

However, some people are now challenging that paranoia over international migration because of the direct economic gains of remittances. And when multilateral institutions have noticed the sudden rise of remittances, and their multiplier effect to poverty reduction and capital buildup, people are beginning to see the positive side of international migration. With that, these same people are now looking to find ways how to get the Philippines become more “skilled” in managing international migration. They are also searching for policies on how international migration may be made part of national development plans and programs. As for the paranoia over an explicit policy of sending out workers, whether this policy is admitted or not may matter less – yet the Philippines must now begin to find ways to lure the resources of international migration for development.

For one, international migration as a tool for development *is not, and should not*, see the Philippines export more of its people and merely receive remittances and other resources from overseas Filipino (that approach being an easy way out for the Philippine economy). The vision is capitalizing on whatever resources we can get from international migration and harnessing such to build the country’s economic capacity (BAGASAO, 2007; OPINIANO, 2004) so that there will be less “forced” migration. It will be a tall order to overcome this challenge, especially if some think the Philippines needs to have a sustained gross domestic product growth rate of 10 per cent for 23 consecutive years (ABELLA, 2002).

For another, the Philippine government cannot think of a way how to integrate the multifarious international migration and development issues so that an effective migration-and-development strategy will be formulated. Wanting at this point of Philippine history is a framework on how international migration will work to the country’s advantage beyond merely settling of remittance receipts and getting overseas job opportunities. This

would require much awareness-raising unto sectors (e.g. nonprofit and civil society groups) and telling them how Filipinos' international migration directly influences national and local development. Many Filipino nonprofit organizations, for example, still lack such deep awareness despite the current popularity of overseas Filipinos and their remittances. Businesses, meanwhile, go straight into getting slices of migrants' earnings without deeply understanding the lives and conditions of migrants.

6. *The role of overseas Filipinos.* Inarguably, overseas Filipinos are the central actors in migration and development. They have, in fact, long been contributing to national development (BAGASAO, 2003) by virtue of their remittances. Overseas Filipinos as the primary focus of a Philippine migration and development vision sounds good in paper, but we go back to the individual motivations of their overseas migration.

As an economist would say, "their individual decisions to migrate overseas are rational, but given that there are millions making those rational decisions, is the situation still rational?" (ALDABA, 2004). It depends on the individual overseas Filipino if he or she wants to remit more money; help the family, his community and the motherland; make investments in the Philippines; be actively involved in the homeland's socio-economic and political affairs; or even to return to the Philippines, albeit permanently.

International migration does seem to reflect the failure of Philippine development, and one cannot blame Filipinos who went abroad for making such decisions. But all is not lost on the Philippines. Some do think that if skilled workers, for example, do want to permanently settle elsewhere, it is the departing Filipinos' loss and not the country's. Some do think that since we are now in a transnational world, Filipinos from anywhere around the world (including those permanently settled elsewhere) can just be involved and can all the more say their visions of change for the Philippines. It would then be a matter of animating migrants' imagination, and make migrants feel that they have a stake for the country's future (OPINIANO, 2004).

It will not be surprising if Filipinos abroad will settle with being in their comfort zones and primarily take care of the needs of their families. That is the islander in the Filipino: to go into safe places to protect themselves (OPINIANO, 2007). What will also not be surprising is if millions of Filipinos abroad will not be much concerned with the Philippines anymore, that being an added input into the weak sense of nationhood in the Philippines (Michael Tan, in OPINIANO, 2007). That will be the greatest migration-and-development challenge for the Philippines (OPINIANO, 2004).

7.5 Conclusion

International migration is a development challenge in itself. The overarching solution is to fix the domestic economy, and let international migration provide supplementary, not primary, resources in national development efforts. Never can migration be a permanent solution to national development (OPINIANO, 2004). The country will lose much if international migration continues and Philippine stakeholders remain unprepared to resolve international migration's negative development consequences, and remain at a loss in not harnessing its benefits for the long term (OPINIANO, 2004).

The panoramic view surrounding Filipinos international migration is providing us with a mosaic of many scattered pieces about how international migration has gained and cost the country. This situation now challenges the Philippines to put these scattered pieces together and begin making steps to pursue a hopeful and brighter Filipino future. As Filipinos' international migration continues, the dramatic plot to be pursued next is that the Philippines should stop seeing herself lose much in the end (OPINIANO, 2004).

SECTION II.

**ENVIRONMENTALLY-INDUCED
MIGRATION**

Chapter Eight

Environmental Factors of Migration

Robert Stojanov

Suddenly it has been apparent that the lives of millions of people are being threatened not only by international wars and civil conflicts but also by hunger, chronic poverty, natural disasters and environmental degradation, including climate change. Even though human migration is an integral part of history and culture of many world nations, environmental change, including climate change and resource depletion, plays a contributing role in affecting population movement, particularly on regional level. The chapter explores the subject of environmental migrants (refugees) as the significant group of international or internal migration, including explanation of main reasons for fleeing of people from their habitats. In the following chapters, the special focus is made to estimation and prediction issue of extent of the phenomenon and the analysis of environmental migration factors for two world regions – South Pacific Islands and China.

8.1 The Concept of Environmental Migrants (Refugees) – – Discussion

Environmental degradation, resource depletion and natural hazards play a contributing role as an important *push* factor in affecting population movement³¹ during the human history, often filtered through contexts of poverty, food deficiency, conflicts and social inequity. In this way, MYERS (1993, 1994, 2001b), BROWN (2004) and others declare the rapidly increasing number of incidents that force people to leave their houses and fields due to environmental problems. Moreover, the same authors regard environmental migration as an emerging issue of global importance, especially in the light of analysis of climate change conducted by the Intergovernmental Panel on Climate Change (McLEMAN, SMIT 2004: 5).

³¹ On other hand, environmental can play a “positive” role as the *pull* factor in case ‘amenity migration’ that is defined as the (relatively) voluntary migration motivated by the opportunity to live in a better natural or/and socio-cultural environment.

People rarely move for a single reason, the motivation to migrate is complex of many factors and personal trajectories and itineraries of the migrants. Migration is also an individual decision: facing the threat of a natural disaster, for example, some people might want to leave, while others will choose to stay. Volcano eruptions provide good examples of these individual decisions: hours before the eruption, in a way that seems to be sometimes surreal, some people are still reluctant to evacuate. Sometimes they simply cannot do so. When the evacuation of the city of New Orleans was ordered, days before the hurricane Katrina hit, the authorities forgot that many people had no car and could not leave the city by themselves (GEMENNE, 2006). Thanks to media coverage of natural disasters during the last years, in particular the Asian Tsunami of December 26, 2004 and the hurricane Katrina in the USA in September 2005, the environmental change started to be recognized as an increasingly important factor of migration, attracting more attention from policy-makers, news services, public and also from researchers.

The definitions of environmental refugees or environmental migrants were criticized or commented from many points of view. BLACK (2001a) is one of the most cited on the issue. He agrees with central point that environmental degradation and natural hazards may be important factors in the decision to migrate, but according him, the conceptualization as a primary cause of forced displacement is unhelpful and unsound intellectually and unnecessary in practical terms (BLACK, 2001a: 1). Similarly HOMER-DIXON (1993: 40–41) believes that the term “environmental refugees” is misleading because it implies that environmental scarcity will be the direct and sole cause of refugee flows. Usually, it will be the only one of large number of interacting physical and social factors that together may force the people from their homelands. The term does not also distinguish between people who are fleeing due to genuine disaster or acute hardship and those who are migrants for a variety of less urgent reasons. He suggests using the term “environmental refugees” only when there is a sudden and large environmental change. He presents an example of population displacement rising from environmental land scarcity in Bangladesh where the issue has been a key factor causing the large-scale movement of people from the country to the Indian state Assam (HOMER-DIXON, 1993, 41–42).

On this matter, CASTLES (2002: 2) points out that it is interesting to note that a clear disciplinary divide exists within the literature between ecologists and geographers, or environmental experts and migration specialists. The first ones tend to be strong advocates of environmental ‘refugees’, considered as a new category of migrants (MYERS and KENT, 1995; BROWN, 2004; LEIDERMAN, 2002 and many others), while the migration or political studies specialists seem to be much more skeptical about the concept, dreading a water-down of the very concept of refugees. Also, they estimate that the concept is unsound intellectually, and unnecessary in practical terms (BLACK, 2001a; HOMER-DIXON, 1993).

The refugee experts (e.g. BLACK 1998; BLACK, 2001a; CASTLES 2002) argue that there are no environmental refugees as such, however environmental factors do play a part in forced migration, displacements due to environmental factors are always closely linked to other factors, such as social and ethnic conflict,

weak states, inequitable distribution of resources and abuse of human rights. According to CASTLES (2005: 4), thus it is difficult to define who is an environmental or disaster displacee, or to quantify this category in any meaningful way, and the emphasis on environmental factors can be a distraction from central issues of development, inequality and conflict resolution.

Further, BLACK (2001a: 6) argues that migration away from desertification areas is not a new phenomenon, giving an example of desertification-induced migration the migration of Mongolian tribes northwards in the second century B.C. due to drought. He questions the desertification generally as one from the most frequently mentioned reasons of displacement, when he talks about “myths” of desertification. Even if there is no secular trend of declining vegetation cover and land productivity in Sahel, it is possible that stress migration might result from a temporary decline of the productivity of agricultural and grazing land during the drought periods. And also, the study by Sally Findley (BLACK, 2001a: 7) about emigration from the Senegal River Valley in Mali shows that during the drought of the mid-1980s, migration actually declined rather than increased. According BLACK (2001a: 6) the situation appears similar in other semi-arid regions of the world allegedly prone to desertification and related migration. Also other study, PEARCE (2002), shows that migration in semi-arid or arid areas is a natural phenomenon as the obvious-cultural strategy for livelihoods (for details see below).

MYERS (1994) is aware of difficulties in making difference between refugees driven by environmental factors and those who are forced by economic problems. But we have to take in account that people who migrate because they suffer outright poverty are frequently driven by root factors of environmental degradation. He claims that people have migrated in large numbers and proportions in the past mainly due to deficits of natural resources (e.g. land, famines). But the present area is altogether different and environmental problems ahead could swiftly match all those of previous centuries combined. Countries such as Philippines, Ivory Coast and Mexico can lose bulk of their forests within half a human lifetime. Countries such as Ethiopia, Nepal and El Salvador can lose much if not all of their farmland topsoil within just a few decades; Jordan, Egypt and Pakistan can find themselves suddenly suffering acute deficits of water. He argues that the entire Earth seems to be experienced by global warming in what is, comparatively speaking, super-short order. Any of these environmental debacles can generate migrants in exceptionally large numbers (MYERS, 1994).

BROWN (2004) adds that among the “new refugees” are people being forced to move because of aquifer depletion and wells running dry. Thus far there have been evacuation of villages, but eventually whole cities might have to be relocated, such as Sana’a, the capital of Yemen, where the water table is falling by 6 meters a year; or Quetta, the capital of Pakistan Baluchistan province, which was originally designed for 50,000 people and now has 1 million inhabitants and may not have enough water for the rest of this decade like a Sana’a.

Nevertheless, SUHRKE (1993: 4–7) argues, based on the environmental change and population movements literature survey, that two different and opposing perspectives can be discerned:

1. The minimalists: The advocates of the view, primarily found in migration studies (compare with CASTLES, 2002: 2 or see above), see environmental change as a contextual variable that can contribute to migration, but warns that there is a lack of sufficient knowledge about the process to draw firm conclusions. According to the minimalists, migration, like social processes generally, is not a mono-causal phenomenon and some environmental degradation by itself is not important as a cause of migration. Moreover, migration is for rural people one of the several coping strategies to deal with poverty which in itself reflects a combination of social, economic, environmental and political conditions.
2. The maximalists: The proponents of the perspective, by contrast, argue that environmental degradation has already displaced millions of people, and more displacement is on the way. They tend to extract the environmental variable from a cluster of causes and proclaim the associated outmigration as a direct result of environmental degradation.

SUHRKE (1993: 6) criticizes maximalists for the uncritical approach to the issue such as a very general definition notion of (environmental) refugees and inflated estimation of numbers. She argues by many arguments that there are primary economic and social reasons for environmental degradation which cause outmigration, nevertheless at the same time she claims that we need to do more research about the linkages of the degradation to patterns of both resource use and migration (SUHRKE, 1993: 8).

Similarly, BILSBORROW (1992: 3–4) surveyed three categories of environmental degradation factors (such as land degradation, drought relevance in influencing out-migration decisions of rural populations. Environmental degradation may induce outmigration via *income effects* (by reducing income-earning opportunities by, for example, reduction of soil fertility or depletion of the available water supply) and migration may also be viewed as part of a household survival strategy; by *risk effects* (by increasing the instability of income resulting such as from greater severity or frequency of drought or flooding), or by *making the environment less pleasant or healthful* (the product of, for example, increased air pollution).

Nevertheless, BILSBORROW (1992: 3) also supposes the existence of „environmental refugees“ in extreme cases, such as drought or natural disaster where the role of environmental factors in impelling out-migration becomes dramatically evident, and those forced to move are labeled. Finally, KIBREAB (1997: 33) at this approach argues that environmental change and population displacement are the consequences of war and insecurity rather than their causes. War and insecurity force people and their animals to congregate in safer areas.

The environmental migration is not definitely new phenomenon, but recent extend of population pressure, environmental degradation or change in some regions and the threats of climate change (e.g. sea-level rise, rainfall season moving, droughts), together with possibilities to acquire the modern automatic guns (like a “kalasnikov”) add new security dimensions to the phenomenon. On the place of author of the of the chapter would be stated, that it is more accurately

and less conflict use the term “*environmental migrant*”, instead of “environmental refugee” which falls international and national legal definitions of refugees and does not express accurately broad context of the phenomenon (see below). That is why I will use the terms environmental migrant(s) on the general level as the main issue at the following text. Similarly, the “*environmental migration*” in following paragraphs is meant as the phenomenon originated by environmental change, natural hazards and natural resources depletion which are the only or one of the most important direct factor(s) determined economic developments or impoverished of the migrant.

8.2 The Debate on Definition and Legal Status of Environmental Migrants (Refugees)

The concept of environmentally-induced migration results from theory of ‘forced migration’ which describes the potential factors that “force” people for involuntary leaving their habitats. CASTLES (2005: 1) notes that forced migration includes a number of legal or political categories and popular usage of the term tends to call all forced migrants as ‘refugees’, but in legal terms refugees are actually quite a narrow category. He argues that the majority of forced migrants flee for reasons not explicitly recognized by international refugee law, and many of them are displaced within their own country of origin. Even if the governments particularly want to make clear distinctions between refugees and economic migrants, many people are forced to flee their homes and families due to ‘mixed motivations’ which produce new term ‘the migration-asylum nexus’. That refers to the blurring of the distinction between economic and forced migration (CASTLES, 2005: 1).

8.2.1 The Definitions of Environmental Migrants (Refugees)

Who are environmental migrants (refugees) exactly? There are many various definitions and approaches. The concept of environmental migration was probably first popularized in 1976 by Brown et al. in Worldwatch Institute (SAUNDERS, 2000: 229) as the “ecological refugees” because of various environmental reasons. The first definition of environmental refugees phenomenon proposed EL HINNAWI (1985: 4), in his report for UNEP. According to him environmental refugees are defined as those people who have been forced to leave their traditional habitat, temporarily or permanently, because of a marked environmental disruption (natural and/or triggered by people) that jeopardized their existence and/or seriously affected the quality of their life

JACOBSON (1988: 37–38) argues that “environmental refugees” have become the single largest class of displaced persons in the world which includes three broad categories:

1. Those who have been temporarily displaced because of a local disruption such as avalanche or earthquakes;

2. those who migrate because environmental degradation has undermined their livelihood or poses unacceptable risks to health; and
3. those who resettle because land degradation has resulted in desertification or because of other permanent and untenable changes in their habitat.

One of the most cited definition offers MYERS (1994, 2001b), according to him “environmental refugees” are people who can no longer gain a secure livelihood in their homelands because of drought, soil erosion, desertification and other environmental problems, together with the associated problems of population pressures and profound poverty. In their desperation, these people feel that they have no alternative but to seek sanctuary elsewhere, however hazardous the attempt is. Not all of them have fled their countries, many being internally displaced . But all have abandoned their homelands with little hope of foreseeable return.

LiSER Foundation, which is specialized on this issue, simply defines environmental refugees on their web sites as a people getting in trouble because their livelihoods have been damaged due to natural or human causes” (LiSER, 2004). LEIDERMAN (2002) claims, that “environmental refugee” is someone fleeing or who has fled from a natural disaster or chain of event that includes severe environmental deterioration; depending on combination of causes, they may be both environmental refugees, even refugees from economic disaster.

Generally, environmental migrants (refugees) are people who were forced to leave their traditional habitat, temporarily or permanently, because of lack of natural resources and/or environmental disruption that had jeopardized their existence and seriously affected the quality of their life. Thus, home-region was not able to ensure them safe livelihood. By environmental disruption is meant any physical, chemical and/or biological changes in ecosystem (or the resources base) rendering it temporarily or permanently in the way, which is unsuitable to support human life. Environmental disruption, often triggered by population pressures and poverty, can be caused by natural and/or human activity. Not all of the refugees flee their country, many of them being labeled as internally displaced people (compare with LiSER, 2004; MYERS 1994, 2001b; LEIDERMAN, 2002).

8.2.2 The Role of International Legal System

The international refugee legislation, the Treaty of Geneva approved in 1951 (further Treaty), defines refugees as persons forced to flee across an international border because of a well-founded fear of persecution based on race, religion, nationality, political opinion or membership of particular social group (UNHCR 2005; UNHCR, 2002). Institutionally, the issue of refugees falls under responsibility of United Nations Commissioner for Refugees (UNHCR). Both, Treaty and UNHCR, were established more than fifty years ago as a reaction to the huge number of displacement people after World War II. Nowadays, many critics argue that the conditions have changed during the last few decades and revision of the concept should be considered.

The revision ought to clarify current legal vacuum of any important groups of migrants, in particular *Internally Displaced People* (IDPs)³² (for more details about the issue see e.g. CASTLES, 2005: 8–9; IDMC, 2005; IDMC, 2007; BLACK, 2001a: 64–65); *Economic Refugee*³³ (for any details about the issue see e.g. BLACK, 2001b: 64; KUSSBACH, 1992: 651; or KOTZÉ, HILL, 1997: 11–12 for special case of South Africa in the period of apartheid; and BENARD, 1986: 621 for Polish ‚economic refugees‘ during 1980s); *Humanitarian Refugees* (BLACK, 2001b: 64), and *Environmental Refugees* (for more details see BELL, 2004; FALSTROM, 2001; LiSER, 2004; UNHCR, 2002; BLACK, 2001a; HERMSMEYER, 2005), which international law does not recognize as refugees and thus these groups of migrants can not draw any material or juridical support of institutions like the UNHCR or governmental agencies. In the context BERTRAND (1998: 111) argues by question whether any migrant who flees from famine, segregation and humiliation of his ethnic appearance is not a refugee? Similarly we can put the question about the migrants leaving their habitats due to significant or dominant role of environmental factors.

However there is another (ethical) challenge why environmental refugees should be recognized by international legal system: developed world is almost entirely responsible for majority of emission of greenhouse gases which probably cause or tribute to environmental change, including climate change. Climate change could be/is one of the main serious push factors of environmental migration flows in the century and all the states should participate equally on the responsibility for dealing with its displaced people. On this approach BELL (2004: 139) argues that duties to environmental refugees would be the duties of corrective or certificatory justice because the rights of potential and actual environmental refugees – and the duties of others to them – need not to depend on an argument

³² Although the notion of the ‚internally displaced people‘ is now widely used by humanitarian agencies, there remains a surprising lack of clarity about its precise meaning. The international community has not yet established a formal and legal definition of the term and UNHCR (1997: 99) defines the people as “persons who, as a result of persecution, armed conflict or violence, have been forced to abandon their homes and leave their usual place of residence, and who remain within the borders of their own country” (compare with IDMC, 2007: 9). Nevertheless, there is a number of issues arising from this definition which requires some further discussion. The global number of the internally displaced people was estimated 24.5 million at end of 2006 and increased moderately from 23.7 million in 2005, both in 52 countries (IDMC, 2007: 9). The figures are still lower than global estimation of roughly 25 million in 2004 in 49 countries (IDMC, 2005: 9).

³³ BERTRAND (1998: 111) calls ‚economic refugees‘ at the „hybrid type of migrants“ who are individuals who moves more by instinct to survive, or material preoccupations, than for direct and concrete political persecution. Nevertheless there is a some different to those whose conditions of life are so difficult and oppressive that they take the allusion of real mental and physical torture. In the context he points out the departure of refugees in South-East Asia, particularly Vietnamese during the 1980s, that was clearly influenced by a mixture of political, social and economic considerations and pay attention to masks the danger of different treatment being applied to so-called “second class refugees” (BERTRAND, 1998: 111). Richmond (1993 in BLACK, 2001b: 64) defines the ‚economic refugees‘ as people who were forced to migrate by poverty, underdevelopment or social exclusion. BLACK (2001b: 64) again argues that definitions of these terms are often vague, shifting or overlapping, and little evidence is presented to show that they are sociologically significant in the sense of describing a set of characteristics that are innate or defining features of a theoretically distinct population group.

from historic injustice. If climate change (whatever is its cause) has an impact on the distribution of benefits and burdens among persons or societies, according to him, the potential and actual environmental refugees may have a claim on those who are better placed to deal with its (actual or potential) effects.

In the context there could be very important future expected legal processes, in particular in the case of small Pacific island states. One of them prepared legal action against Australia³⁴ and USA (which deprecate to ratify Kyoto Protocol), as the largest producers of greenhouse gases in this region, a few years ago. These islands could become uninhabitable due to sea-level rise and its residents could become new environmental refugees. In this case does not exist any “adaptive strategy”, the islands will disappear under water (for details see below interesting case study dealing with the issue).

Finally on this discussion, FALSTROM (2001: 7–8) points out that without addressing the root causes of environmental displacement, whatever reason that may be, the reasons will not lead to a permanent solution and will allow a continual perpetuation of the causes with increasing damage as they become more widespread (compare with HERMSMEYER, 2005: 13). Additionally, BELL (2004: 151) argues, if the legal status of environmental refugees according to the international legislation will be realized and people will receive significant rights to natural resource and wealth transfers from those who are better off, the number of persons displaced by environmental disruptions in the world would significantly decreased.

8.3 The Principal Causes for Environmentally-induced Migration

The scholar literature dealing with environment and migration linkages give large attention to principal causes of the migration. We can identify five general groups of the most frequently mentioned environmental reasons causing the displacement or resettlement (compare with LONERGAN, 1998; BLAIKIE, 2001).

- Natural Disasters
 - floods
 - earthquakes
 - volcanic eruptions
 - landslides
 - several coastal storms (include tropical cyclones)

They are usually characterized by a rapid onset, and their devastating effect is a function of the number of vulnerable people in the region rather than the severity of the disaster. Poor people in developing countries are the most affected because they are the most vulnerable (LONERGAN, 1998: 50)

- Cumulative (Slow-Onset) Changes
 - desertification as the land/ soil degradation and erosion

³⁴ New Australian government signed the document during the Fall 2007.

-
- droughts and deficiency of safe water
 - climate changes (global warming)
 - sea-level rise

Cumulative changes are, in general, natural processes existing at a slower rate which are interacted and advanced by human activities. We can find 135 million people threatened by severe desertification and 550 million people subject to chronic water shortages in developing countries (MYERS, 2001b: 610). LONERGAN (1998: 50–52) argues that human induced soil degradation is one factor which directly affects economic sufficiency in rural areas and the water availability is another factor that may affect sustainable livelihoods. The linkage between the environmental factor and population displacement is much more indirect; in most cases, one or more of the factors such as the rapid population growth, economic decline, inequitable distribution of resources, lack of institutional support and political repression are also presented. Very often there are also combinations of human and natural factors.

HARDY (2003: 161) expects that climate change will probably accelerate the crisis like a desertification from tree removal, overgrazing and other detrimental land-use practices, especially in sub-Saharan Africa region. Some analyses of climate change identified by the Intergovernmental Panel on Climate Change (IPCC) which are likely or very likely to occur in this century include (MCLEMAN, SMIT, 2004, 5):

- Increased maximum temperatures and more hot days over most land areas;
- higher minimum temperatures and fewer cold and frost days over most land areas;
- increased risk of drought over many land areas;
- more intensive rainfall and snowfall events over most land areas;
- increases in peak wind intensities of tropical cyclones over some areas, accompanied by increases in peak rainfall and precipitation accompanying such storms;
- sea levels will rise between 9 and 88 cm.

Many of these represent risks which can give rise to human migration. Climate change will alter (or alter right now) regional agricultural and industrial potential and could trigger a large-scale migrations. The lifestyle of most human populations is adapted to a very narrow range of climatic conditions. Human settlements generally concentrate in areas of high industrial or agricultural potential, that is, areas with hospitable climates, near coastlines, in river and lake basins, or close to major transportations routes. According to most scenarios, climate change will place added demands on urban infrastructures and could accelerate urbanization, as people migrate away from low-lying coastal to interior areas or from drought-stricken farms to cities (HARDY, 2003: 160–161).

- Involuntarily Cause Accidents and Industrial Accidents
 - nuclear accidents
 - disasters of industrial (e.g. chemical) factories
 - environmental pollution

This category includes chemical factories, transport, nuclear reactor accidents and environmental pollution (air, land, water). The two most obvious examples are the nuclear accident at Chernobyl, in Ukraine (former USSR) in 1986, and the Union Carbide accident in Bhopal, India, in 1987. Between 1986 and 1992, there were more than 75 major chemical accidents which killed almost 4,000 persons worldwide, injured another 62,000, and displaced more than 2 million. Most of the displacements, however, were temporary. In the case of the accident at Bhopal, despite the death of 2,800 people and illnesses to 200,000 more, there was virtually no mass movement of population out of the region (LONERGAN, 1998: 52).

- „Development” Projects
 - construction of river dams
 - irrigation canals
 - mining (extracting) natural resources

It has been estimated that development projects in India forced over 20 million persons to leave their habitats in the past three decades (LONERGAN, 1998, 52). For details about the issue see following chapter.

- Conflicts and warfare
 - biological warfare
 - destruction of environment
 - wars due to natural resources

Environmental degradation is considered by many authors to cause and effect of armed conflict, the evidence of wars being fought over the environment are conflicts over land and natural resources. LONERGAN (1998: 53–58) claims that there is an increasing use of the environment as a “weapon” of war or strategic tool. He states examples the threat by Turkey to restrict the flow of the Euphrates to Syria and Iraq in order to pressure Syria to discontinue its support of Kurdish separatists in Turkey, the purposeful discharge of oil into the Persian Gulf during the Gulf War (1990–1991) and the destruction of irrigation systems during conflicts in Somalia. Such activities have similar consequences as the slow-onset changes noted above. But in these cases, it seems clear that the “environment” is merely a symptom of a larger conflict, and the root cause of any population movement is the conflict itself, and the reasons behind it (LONERGAN, 1998: 53–55).

In a similar way report of CIA “Global Trends 2015” (CIA, 2000: 28) estimates that nearly one-half of the world’s land surface consists of river basins shared by more than one country, and more than 30 nations receive more than one-third of their water from outside their borders. And as soon as countries reach the highest limits of available water resources, the possibility of conflict will increase.

Nevertheless, similar typology was already produced by IOM in 1992 (IOM, 1992: 11, in GEMENNE, 2006) which has ranked environmental disruptions into six categories:

1. environmental disruptions prompted by climatic or geological forces which include cyclones, volcanoes, earthquakes, floods and other “natural disasters”;

2. biological disruptions initiated by pathogens, insects (mainly locusts), pests and flora, which cause major population movements, particularly where they affect production of staple food item;
3. slow-onset disruptions which include global warming effects, deforestation, land degradation, erosion, salinity and may contribute to drought and famine;
4. accidental disruptions, an inevitable by-product of the industrial revolution;
5. disruption caused by development programs such as dams or environmental policies and urbanization; and finally
6. environmental warfare when the environment becomes a major target in times of conflict.

8.4 The Typologies of Environmental Migrants

- A. The first typology of environmental migrants (originally refugees) was created by EL-HINNAWI (1985) and JACOBSON (1988) who divided the group of forced migrants to three categories depending on time scale:

a) **Temporary displacement people**

After the disasters like floods, earthquakes and volcanic eruptions people can return to their habitats and start rehabilitation livelihoods and reconstruction their houses. These events can happen periodically. For instance alone hurricane Mitch displaced 1,2 million people in Central America, floods in Peru (in 1998) and in Mexico (in 1999) displaced in both countries 500,000 people (McGIRK, 2000).

b) **Permanent displacement people**

Permanent displacement created by the disasters like an effect of “development projects” (e.g. large dams, industrial events, mining etc). Potentially the migrants affected by rise of sea-level due to climate changes will belong to this group in the future. The United Nations World Commission on Dams (WCD) in 2000 published report in which evaluated impacts of building the large dams in the second part of 20th century. The displacement is reported from 68 of the 123 dams (56 per cent), mainly in Asia, Africa and Latin America large dams like one of the form of displacement forced to leave from 40–80 million people from their livelihoods and homes, for example 10.2 million in China between 1950 and 1990 (34 per cent all development-related displacement including that due to urban constructions) according to official statistics. But independent sources estimate that the actual number of dam-displaced people in China is much higher than the official figure (WCD, 2000: 102–104). More than 1.2 million people and according to some estimates, up to 1.9 million people will have to be resettled for the controversial project of the Three Gorges Dam in China’s Yangtze Valley. Reservoir filling will continue to 2008 (FRIENDS OF THE EARTH, 2003; compare with QING, 1998). Large dams in India forced to leave 16–38 million people. But these numbers do not include the millions displaced due to other aspects of the projects such as canals, powerhouses, project

infrastructure (WCD, 2000: 104). Unfortunately, “resettlement programmes” have predominantly focused on the process of physical relocation rather than the economic and social development of the displaced and other negatively affected people. The result has been the impoverishment of a majority of resettlers (WCD, 2000: 103).

c) **Temporary or permanent displacement people**³⁵

Sometimes – for instance after a long-term period of drought – the displaced people indeed can go back to their original habits, but with uncertain future. For instance PEARCE (2002) on September 2002 published at New Scientist’s web site report based on findings of geographers team from Britain, Sweden and Denmark who had re-examined archive satellite images taken across the Sahel and found out that “vegetation seems to have increased significantly” in the past 15 years, with major regrowth across swathe of land stretching from southern Mauritania, northern Burkina, north-western Niger, central Chad, much of Sudan and parts of Eritrea, 6,000 kilometers long. Survey among farmers showed that 70 per cent increase in yields of local cereals (sorghum, millet) in one province in recent years. The main reason is the increased rainfall since the great droughts of early 1970s and 1980s. But farmers have also been adopting better methods of keeping soil and water on their land (PEARCE, 2002).

There still is not any challenge whether this case and similar findings dealing with unexpected environmental changes or local usual labour circulation migration strategy (see Chapter 3 in the book) are caused by ,usual‘ dry season which are described at large in RAIN (1999: 131–191) for case of West African Sahel; or economic diversification dealing with migration and sending of remittances in African Sahel by BATTERBURY and WARREN (2001: 4); and strategy for survival of poor farmers in Tigray region, Northern Ethiopia by MEZE-HAUSKEN (2000: 399), and others. On the approach, the concept of desertification, in accordance with popular perception of desert spreading due to the long-term period of drought³⁶, cannot be unambiguously viewed as leading factor to long-term or permanent environmentally-induced displacement.

However, the term ,temporary‘ is not specified in the above mentioned El-Hinnawi or Jacobson’s typology.

³⁶ The various scholar definitions of desertification exist, and author of the chapter accepts definition based on United Nations Convention to Combat Desertification (UNCCD): Desertification is the degradation of land in arid, semi-arid and dry sub-humid areas. It is caused primarily by human activities and climatic variations. Desertification does not refer to the expansion of existing deserts (LEAN, 1995: 12). Dryland ecosystems cover roughly over one third of the world’s land area, are extremely vulnerable to over-exploitation and inappropriate land use. Deforestation, overgrazing and bad irrigation and other poor agricultural practices can undermine the productivity of the land. LEAN (1995: 12) notes that despite some popular rhetoric, desert is not steadily spreading over neighboring land. Sometimes desert may seem to expand when the rains are poor over a long period, but it usually retreat again with good rainfall. He explains that term “desertification” originated from man-made land degradation processes in the drylands that create desert-like condition.

B. RAIN (1999: 133–135) applies his own typology based on research between the local people from rural area in Niger (Guidan Wari sedentary village), not so far to border with Nigeria, who traditionally practice dry-season circular mobility towards cities. He divides the migrants to five types:

a) **Temporary displacement** (the duration is from 2 weeks to 6 months)

They are people, especially men, who are motivated for migration to border cities or Nigeria due to reduce consumption of the household food supply. They may send money (remittances) back home from their work in the city, which can be used to buy grain and other food.

b) **Seasonal displacement** (from 3 to 6 months)

This type includes men and women, often nuclear families, who leave the village after the harvest and head toward urban centers in Niger or in foreign countries within the Africa to look for work. The earned money are generally invested in livestock. But even if they do not get money after coming back to the village, they still have saved all the food they would have consumed in the village.

c) **Short-term wage labour** (from 1 week to more)

This category covers men from the poorer households that are hired during the harvest time at nearby villages and they leave the family due to work in other people's fields. According to the locals this is the oldest migration (moving) tradition which needs women's labour in the households' own fields.

d) **Market mobility** (from 1 day to a week)

This local mobility type deals with walk away of men to the local market for twenty or more kilometers.

e) **Educational mobility** (from 6 to 9 months)

These young men and boys leave the households for Islamic study. By leaving the village, they are exposed to the greater world and new experience and often irreversible change in values.

The last two types do not have direct relation to environmental change and cannot be used as the environmentally-induced migration category. RAIN (1999: 133–134) argues that first type mobility often results from household food shortages.³⁷ He also points out that ,pure' pastoralism is becoming rarer, with many individuals abandoning their herds and working in the urban centers for wages RAIN (1999: 135).

C. On the approach, CASTLES (2005: 4–5) offers his own typology coming from forced migration theoretical context.³⁸

³⁵ The term ,long-term displacement' could be more accurate.

³⁷ This is typical example of "mixed motivations" from the view of forced/voluntary migration's approach, or economic refugee category. But they could be also implemented to some environmentally-induced typology because environmental factors play significant role in decision-making process, as well as economic factors.

a) **Development displacees (development-induced displacement and resettlement)**

These are people compelled to move by large-scale development projects building, such as dams, airports, roads, conservation areas and urban projects and the World Bank, which funds many development projects, estimates that such projects displace an average of 10 million people per year. Development displacees represent a group larger than official refugee populations, for whom there is no adequate protective regime and many of them end up drifting into urban slums, or becoming a part of floating populations, which may spill over into international migration.

b) **Environmental displacees**

This category includes people displaced by environmental change (desertification, deforestation, land degradation, water pollution or inundation), by natural disasters (floods, volcanoes, landslides, earthquakes), and by man-made disasters (industrial accidents, radioactivity). Castles purposely does not use the term environmental refugees, as it is explained in your previous study (CASTLES, 2002).

c) **Disaster displacees**

This category covers people forced to move by natural disasters (floods, hurricanes, volcanoes, earthquakes, landslides) or disasters resulting from human activities (industrial accidents, environmental pollution, radioactive emissions). Castles reminds that displacement by natural disasters has become increasingly significant to humanitarian agencies, following the great loss of life and huge destruction caused by the Asian Tsunami of December 26, 2004, and the by the hurricane Kathrine in the USA in September 2005.

In the context, Castles, de facto, does not offer the any explanation of any approach differences between natural and man-made disasters in second and third category, which evidently coincide with each other. We can only speculate, whether the differences are based on range of catastrophes, as the mentioned examples of huge recent disasters prompt?

D. The author of the fourth typology, SUHRKE (1993: 9), draws a distinction between ,environmental refugees‘ as the type of involuntary movements and the more voluntary kind ,environmental migrants‘, even if the distinction between the two types is controversial.

a) **Environmental refugees**

Those vulnerable people who are displaced due to extreme environmental degradation that remove the economic foundation of the community altogether (as when indigenous people lose their forests or fishing grounds) and they must move for survive at all. The environmental refugee thus would include, for example, agricultural communities displaced by dams, coastal communities flushed out by floods, and pastoralists

³⁸ Castles' classification covers all categories relates with forced migration, but author of the chapter mentions the types associated with environmental migration.

displaced by drought. For the environmental refugee movement itself this is fundamentally the problem.

b) **Environmental migrants**

This category includes other people who migrate due to environmental change before the situation becomes as desperate as to yield no choice.

These migrants respond to a combination of pull-and-push factors and migration process here is part of the solution rather than the problem.

- E. Relatively new typology offer RENAUD et al. (2007) that use some potential sub-classes of present definitions of environmental migration and which may be useful to indicate the motivation to move and the urgency to receive assistance. Concerning environment-related mass movement of they propose to distinguish between (RENAUD et al., 2007: 29–30):

a) **Environmentally motivated migrant**

They “may leave” a steadily deteriorating environment in order to preempt the worse. The displacement can be either temporary or permanent and can be illustrated with examples like depopulation of old industrial and mining areas or the rural exodus of northeast Brazil to Sao Paulo due to long dry spells.

b) **Environmentally forced migrants**

People who “have to leave” in order to avoid the worst, often that happens on a permanent basis. Examples include movement due to sea-level rise or migration from the Sahel zone of Africa due to desertification.

These two categories may imply the option to decide to stay or not to stay, or when to leave, though these questions are already part of the survival dilemma.

c) **Environmental refugees** (including disaster refugees)

Those migrants who flee the worst and the displacement can be either temporary or permanent and can be illustrated by displacements due to floods, extensive droughts and the exodus due to Hurricane Katrina.

Whereas the distinction between environmentally forced migrants and environmental refugees could be sought in the swiftness of necessary actions.

The authors of the presented report did not account to their typology the real “victims” of public works or development projects (without sufficient finance or material compensation, adequate soil, government services, employment opportunities in cities or rural areas and psychological assistance), however the report of United Nations World Commission on Dam (WCD, 2000) reflects the issue. In the case of China the category creates the greatest number of environmental migrants (STOJANOV, NOVOSÁK, 2006; for details see following chapter).

F. Author of the chapter creates his own typology of environmentally-induced migration which modifies above mentioned, in particular, last one.³⁹

a) **Environmentally Motivated Migrants**

This category covers people who chose to move voluntarily from their usual place of residence primarily due to relatively serious⁴⁰ environmental concerns or reasons (change). These people move because, in their mind, environmental factors are one of the foremost reasons for leaving their usual place of residence (e.g. environmental pollution, natural or human disasters risks, slow-onset land degradation, etc.). This type of migration is pro-active, and can also be viewed as a coping strategy. However, 'amenity migrants', who also move voluntarily, are not included in this category. In the context is important to recognize that environmental dimension in other causes of migration such as politically motivated or economically motivated migration.

b) **Environmental Displacees**

This category includes people who are forced to leave their usual place of residence, because their lives, livelihoods and welfare have been at serious risk as a result of adverse environmental processes and natural disasters. They are people who were displaced by both slow onset and rapid onset environmental process and natural events such as natural disasters, land degradation, water or another natural resources deficiency and sea-level rise, industrial disasters. This category is the nearest the term 'environmental refugees' which is generally used in literature and defined (see above) and the speed of departure makes the dividing into subcategories possible.

c) **Development Displacees**

Those people are intentionally relocated or resettled due to a planned land use change and economic development. This type of displacement includes people who are displaced due to development projects such as dam construction, irrigation canals building, transport infrastructure development, as well as nature/wildlife conservation projects. This kind of displacement differs greatly from the previously mentioned two categories since displacement of environmentally motivated migrants and environmental displacees is unplanned and unintended,⁴¹ there is a clear responsibility for the environmental degradation.

³⁹ The formulation of the typology based on long-term study of the phenomenon and discussion with experts at the special informal international seminar hold in University in Ostrava September 5, 2007 finalizing the international conference "Migration and Development". The outcomes of the seminar were used for the EACH FOR project purposes, but some of the conclusions are different.

⁴⁰ For a clear distinction from amenity migrants, these reasons must be subjectively or objectively evaluated as a serious environmental degradation or change.

⁴¹ The author of the note is originally Prof. Janos Bogardi from UNU-EHS, Bonn.

8.5 Geographical Distribution of Sending Areas at Risk of Environmental Migration – Short Overview

Following text considers the selected areas, where environmental factors play the most important role or significantly contribute to the human migration. The purpose of this part is not to create the fully comprehensive list of vulnerability areas, but to select the most cited examples of environmental migration from the relevant scholar literature. For this purpose the author of the chapter selected Sub-Saharan Africa, South Asia, and Central and East Europe together with Central Asia as the regions using for a short case studies. The environmental migration issue of South Pacific Islands and China contain in detail following chapters of the book as the special case studies. More systematic structure is significantly limited by essential data and information deficiency. Moreover, the existing particular data and report's conclusions are poorly comparatively because realized researches used various approaches (field research or desktop analysis, more frequently aimed to different primary topics) and different methodology.

8.5.1 Sub-Saharan Africa

Sub-Saharan Africa is probably the most frequently cited example of vulnerable region in many social studies or sciences (for instance in development studies because of most economically and socially impoverishment sub-continent; in refugees and migration studies as the fundamental source of internal displaced persons (or refugees) in the world, or human migration flows to Europe; and in environmental sciences as the one of most environmentally depleted or environmental change affected area), including environmental migration issue as the cross-border discipline.

According MYERS and KENT (1995: 68) the Sub-Saharan Africa is region experienced by some of the worst man-made environmental problems in developing world. They are named droughts, soil erosion and desertification as prime reasons for human security and agriculture production problems (MYERS, KENT, 1995: 68–69). Climate change, in particular rainfall season moving, seems to be one of the crucial factor for current and future development and possible important *push* factor for population movement. On other hand there play similar role economic poverty and social impoverishment, demographic growth (despite malaria, HIV/AIDS and other diseases spreading), respectively local high population density (e.g. Victoria Lake Basin).

Author of the chapter had opportunity survey North-Western Kenya region as the one of the climate change (especially rainfall season moving or lack of precipitation) and environmental degradation (especially desertification and water deficiency) affected area in 2007. Nomad style of life local Turkana tribes is naturally linked with the local natural environment, but increasing human pressure on the arid ecosystems, above all deforestation and overgrazing reinforce by climate change, creates relatively new factors for migration these tribes to new (more far) grassland but where are living another tribes. In case of cross

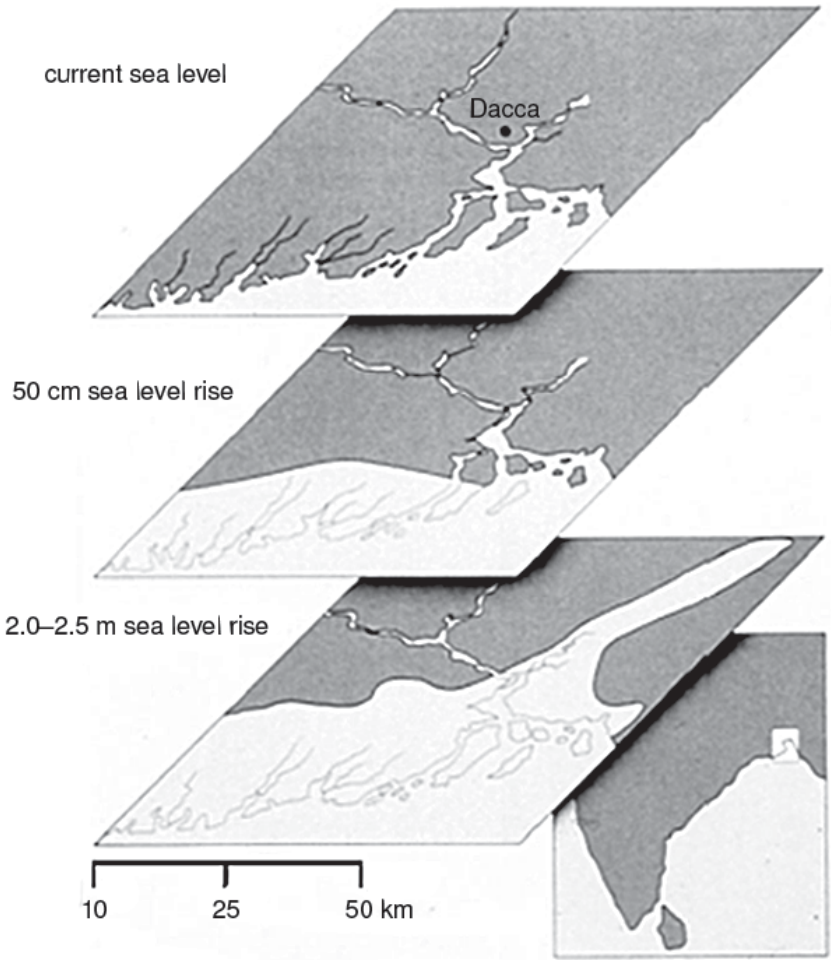


Figure 8.1: Model of sea-level rise in Bangladesh. Source: Myers (2001a)

near borders to Uganda or Sudan, there is an international conflict. Regarding the environmental situation in the region, refugees from the UNHCR's camp in Kakuma (approx. 80,000 people in early 2007) may not keep any livestock and cut any trees and bushes around the camp in distance 100 kilometers outside the camp, according to the agreement between representatives of local Turkana tribes (who are pastoralists), local people and Kenyan central government and international organizations. Turkana people can use the land in camp for their livestock as their traditional owners. KIBREAB (1996) provided more deep research on the similar issue in Sudan.

Climate change can cause sea-level rise and many low cost areas could be flooded. For example, Egypt would lose 12–15 per cent of its arable land and given Egypt's predicted population for 2050 it is realistic anticipate that sea-level rise may displace more than 14 million people (BROWN, 2004) or 12 million inhabitants (MYERS, 2001b: 611), especially in Nil delta areas. Other African river delta areas at risk include Mozambique, Gambia and Senegal with a high potential for displacement (MYERS, 1993).

More recently, RAIN (1999) describes links between the environmental change and circular labour migration in West African Sahel from the historical and contemporary cultural view on the issue. The sub-Saharan environmental migration issue summarized MYERS and KENT (1995) above all, further JACOBSON (1988: 8–15), BILSBORROW (1992), more recently BATTERBURY, WARREN (2001), MEZE-HAUSKEN (2000), and others.

8.5.2 South Asia

MYERS (1993) argues that sea-level rise coupled with increase of inland floods (from melting Himalayan glaciers) would affect estimating 142 million inhabitants of India's coast living of flood zones and people from Bangladesh. His conservative estimation is for number of 30 million potential environmental migrants for India and 15 million for Bangladesh. Myers (2001b: 611) modified in May 2001 his own forecasts about total numbers of people at risk of sea-level rise, in Bangladesh could be 26 million, and in India 20 million. BROWN (2004) presents that “only” one meter rise in sea-level would inundate half of Bangladesh's rice-land and forcing easily the relocation of 40 million people (see Figure 8.1). Among others, delta areas at risk in the region include Indonesia, Thailand, Vietnam.

Number of small islands in Indian Ocean are at risk of sea-level rise, such as Maldives and Sundarbans - islands in Bay of Bengal with a Mangrove system, where two islands are currently submerged (for details see HAZRA, BAKSHI, 2003). That is why Maldives national government support the initiative named *2006 Protocol on Environmental Refugees: Recognition of Environmental Refugees in the 1951 Convention and 1967 Protocol Relating to the Status of Refugees*.

The secondary impact of sea-level rise will be the salinization of underground and coastal supplies of fresh water in the coast mega-cities as Mumbai, Kolkata, Madras, Karachi, linking with safe water consumption growth and fresh water level decrease. Bangladesh has been experienced by environmental emigration, for a last decades and HOMER-DIXON (1993, 41–42) argues that land scarcity has been a key factor causing the large-scale movement of people from Bangladesh to the Indian state Assam. Similarly SWAIN (1996: 117–118) claims that environmental change in South-West part of Bangladesh causes displacement of nearly 2 million people from late 1970s. These migrants (Muslims) had to leave overpopulated Bangladesh and move to Hindu dominated India.

CASTLES (2005:4) argues that India has also the largest population of development-induced displaced people in the world – about 22 million and a

large proportion of Indian displaces are tribal people (57.6 per cent in the case of the huge Sardar Sarovar Dam). When Dalits are included, the figure rises to about 60 percents, according to the Commissioner for Scheduled Castes and Tribes, and even if tribal people account for only 8 per cent of India's population and Dalits, 15 per cent, thus the disproportionate burden born by these politically and economically marginalized minority communities is more than evident, points out Castles. According to the UN World Commission on Dams report (WCD, 2000: 104), large dams in India forced to leave 16–38 million people, but these figures do not include the millions displaced due to other aspects of the projects such as canals, powerhouses, project infrastructure.

8.5.3 Central and East Europe, and Central Asia

Environmental degradation, nuclear disaster, building of irrigations canals and about 700,000 environmental migrants, there are the reasons of policy of soviet leaders and one of the most famous examples of environmental migration (UNHCR, 1996; UNHCR 1997). According the report of UNHCR (1997) much of the Central Asia is affected by problems such as soil degradation and desertification by decades of agricultural exploitation, industrial pollution and overgrazing. During the Soviet years, irrigations schemes were introduced throughout the region (Aral Sea area), so that cotton could be cultivated on an intensive and continuous basis. Poorly designed and badly managed these irrigations schemes (mainly on rivers Amu Darya and Syr Darya) led to the large-scale wastage of scares water resources and the degradation of the land as a result of salinization. Using massive amounts of chemicals makes contamination of water, land and food. Around 270,000 people in the region were displaced for such reason (UNHCR, 1997). More than 45,000 people have moved from the Semipalatinsk in Kazakstan to safer areas in the country since independence. Semipalatinsk was hosted one of the Soviet largest nuclear missile testing-sites (UNHCR, 1996).

The Chernobyl nuclear power plant explosion took place in 1986 and there are as many as 9 million people living in Ukraine, Belarus and the Russian Federation may have been directly or indirectly affected. At least 375,000 people (150,000 million in both Ukraine and Belarus; 75,000 in Russian Federation) had to leave their homes in the immediate aftermath of the accident (UNHCR, 1996).

VANĚK (1996: 48) presents in his study, with opportune name “Nedalo se tady dýchat” (The Breathing was Impossible Here), that the North Bohemia region have left 50,000 people due to environmental pollution in 1960s. Communist functionaries were trying to prevent another flights by guarding of information about condition of pollution air, increasing of wages and social benefits and also because of decision by government of Czech Socialist Republic in 1984 there was prohibited employing of medics from North Bohemia outside this region (VANĚK, 1996: 63). Author characterized this situation like a “modern thrallldom”. At the same time due to escalated mining of coals was induced

destroying 116 villages in the previously described region (VANĚK, 1996: 60) – known as “Black Triangle”, together with parts from Poland and former German Democratic Republic.

8.9 Conclusion

In view of complexity and interdependencies of the various factors (or driving forces) causing migrations, some authors (DÖÖS, 1997; HOMER-DIXON, 1993; BLACK, 2001a; CASTLES, 2002 etc.) do not consider the term environmental migration usable or “entirely appropriate”. But none of them questioned important role of environmental factors in the process of migration. Thus, when environmental factors dominate, or possibly play key or important role in the process of migration, we can talk about the environmental migration. For BROWN (2004) the rising flow of environmental migrants is an indicator that our modern civilization is out of sync with the earth’s natural support systems. It is apparent that environmental driving forces (such as natural hazards, possible “sustainable” climate change, environmental degradation, pollution and resource depletion) contribute to human displacement, often filtered through context of social, economic and political forces (such as population grow, famine, poverty, conflicts, unemployment).

As we mentioned above, the important role can play the status legalization of particular fraction of environmentally-induced migrants as the ‘environmental refugees’, regardless of existence many environmental migrants typologies. In the case BELL (2004: 151) expects the significant decrease of the number of person of displaced by environmental disruptions. Further study of the environmentally-induced migration issue needs to more systematize future field research activities, increase of conclusions comparability and try to integrate current definitions and typologies to comprehensive theory.

From the view of international security we need to develop some warning system for predicting environmental migration watching and evaluating possible environmental factors and for identifying vulnerable regions and future “hot spots” of insecurity and potential migration/refugee pressure (compare with LONERGAN 1998: XI). This system would give effective assistance in mitigation responses. Sure, the most important is to develop and implement measures for reducing possible biophysical and social vulnerability to environmental changes having also significant impact on environmental migration. The solutions of the complexity of environmental migration mean also contributions to preventive solutions of crisis of international relations in the beginning of Third Millenium.

LONERGAN (1998: X–XI) and his team recommend implementing follows measures for reducing biophysical and social vulnerability to environmental changes having also significant impact on environmental migration:

1. Increase assistance in the field of family planning in developing countries where the population growth is a threat to the environment and to the economic livelihood of many people.

2. There must be greater focus on agricultural activities in developing countries. This should focus on reducing erosion and deforestation, and increasing the sustainability of small farms in marginal areas.
3. Greater effort should be made to improve education and awareness with respect to the environment. This includes care for the environment and sustainable resource use.
4. Sufficiency of freshwater is crucial. It is also imperative that treated water be recycled to agricultural uses. Inefficient use of water, water loss must be preventing.
5. Encourage of greater capacity building in the administration of environmental programs.

Norman MYERS suggests to implement following preventing policies, with the aim of reducing the need to migrate by ensuring an acceptable livelihood in established homelands (MYERS, 2001b, 611–612):

- Expand our approach to migrants in general in order to include environmental migrants in particular. We cannot continue to ignore environmental migrants simply because there is no institutionalized mode of dealing with them.
- Wide and deep our understanding of environmental migration by establishing the root causes of the problem – not only environmental causes, but also associated problems.
- Advance except in a overall context of the concept of sustainable development, notably to reliable access to food, water, energy, health and other basic human needs.
- Achieve of better targeting of foreign development aid and co-operation (more closely directed).

Chapter Nine

The Estimation and Prediction of the Number of Environmental Migrants

Robert Stojanov

9.1 Introduction

Some experts declare that the number of incidents causing people to leave their houses and fields due to environmental problems is increasing rapidly, and they perceive this as a serious global issue. Different group of experts indicates their conclusions as spurious evidence, at least. Nevertheless, the issue of estimation and prediction is one of the most frequently mentioned challenge within the environmentally-induced migration issue on the scholar as well as public level. Further, news service, politics and non-governmental organizations frequently use any “commonly accepted” figures, but almost nobody knows their origin. The most cited authority, in the context, is definitely Norman Myers. Number of reports dealing with environmental degradation, especially climate change consequences, mention his figures that estimate and predict the numbers of environmental migrants (refugees originally), often exclude any citation his name or paper, and without explaining author’s methodology that Myers used for data receiving.

The main task of the chapter is to describe ,what have been done‘ in the issue and to contribute to the discussion on ways of estimating and predicting the phenomenon of environmental migration. The chapter focuses especially on an analysis of papers by MYERS (1993; 1997; 2001a; 2001b) and DÖÖS (1997), who are the most important authors dealing with the issue.

9.2 Estimation of Number of Environmental Migrants

For 1995, MYERS (2001b: 609; see also MYERS, 1997) estimated that there were at least 25 million environmental refugees in the world, and predicted that this number would grow in the future. Out of these 25 million environmental refugees, roughly five million were in the African Sahel, while another four million were in the Horn of Africa including Sudan. In other parts of Sub-Saharan Africa, seven million people had been obliged to migrate in order to obtain relief food (Myers 2001b).

In China, at least 6 million environmental refugees were recognized, they had been forced to abandon their farmlands due to shortages of agricultural plots. In Mexico, each year brought a further million new environmental refugees. Some become assimilated in cities, and a few return home, leaving a cumulative total, as a bare minimum in 1995, of two million (MYERS 2001b: 609).

Finally, there are those people displaced involuntarily by public works and development projects, notably large dams; these numbers are increasing by 10 million every year (with a cumulative total of 50 million in China and India alone). Most of them resettle elsewhere, but the number remaining in a refugee-like situation totals one million (MYERS 2001b: 609; compare with WCD, 2000: 102-104).

Nevertheless MYERS (2001b: 610) claims that his estimate of 25 million environmental refugees for 1995 is cautious and conservative. In the whole of the developing world there were 135 million people threatened by severe desertification, and 550 million people subject to chronic water shortages and although certain of these people will have been included in the figure of 25 million, many could have been driven to migrate without being counted as environmental refugees.

The number of 25 million environmental refugees was compared by Myers with a figure of 22 million traditional refugees (defined in line with international refugee legislation or supported by UNHCR) in 1995 (MYERS, 1997: 167). While the total number of refugees under the mandate of UNHCR is slowly declining, the number of environmental refugees may well double by the year 2010, if not before. He argues that their numbers seem likely to grow still more rapidly if predictions of global warming are borne out, whereupon sea level rise and flooding of many coastal communities, plus agricultural dislocations through droughts and disruption of monsoon and other rainfall systems, could eventually cause as many as 200 million people to be put at risk of displacement (MYERS, 1997: 167-168).

9.3 The First Approach – Estimation of the Number of Environmental Refugees in the Future by Norman Myers

How many environmental refugees can we anticipate in the future - or rather, how many people are likely to become vulnerable to environmental problems that could force them to migrate? According to MYERS (2001b), a still larger pool of potential environmental refugees lies with the phenomenon of marginal people driven into marginal environments. They have been by-passed by development processes: for reasons political, economic, social, cultural, legal and institutional, they have been „marginalized.“ He claims that these people comprise around 900 million of the 1.3 billion people who endure absolute poverty with an average cash income of 1 USD or less per day. Of the 900 million, over 70 per cent live in agricultural areas of very low potential: and of these, 57 per cent try to survive in areas ecologically vulnerable to undue soil erosion, droughts, desertification, floods and other environmental hazards. A proportion of them are over-loading the environmentally fragile areas (MYERS, 1997: 168).

9.3.1 Outlook for the year 2010

MYERS (1997: 168) argues that the total estimation of 25 million environmental migrants in 1995 amounts to one person in 225 worldwide. As indicated, there are additional problems closely associated with environmental factors displacing people. These include population pressures and poverty; food insecurity, malnutrition and famines; landlessness, deforestation and climate change; inadequate access to safe water and sanitation; over-rapid urbanization and growing consumption of water and other natural resources; construction of large dams and other development projects; unemployment, social and economic instability; pandemic disease; government shortcomings together with ethnic strife and conventional conflicts; and also exogenous problems such as foreign debt (compare with MYERS, 1997: 168–169; HARDY, 2003: 161; LONERGAN, 1998; WANG, REN, OUYANG, 2000).

The population of developing countries is projected to grow from 1995 to 2010 by well over one billion people, a 24 per cent increase in just 15 years. The total in Sub-Saharan Africa will have expanded by some 240 million – a 42 per cent increase, and in the Indian subcontinent by 377 million – a 32 per cent increase. The numbers of people in absolute poverty are predicted to swell from 1.3 billion to 1.6 billion and the 135 million people affected by severe desertification could well increase to 180 million in 2010. The populations of water-short countries were 550 million in 2000 and are expected to surge to more than one billion. During the period we can expect shortfalls in food production, especially in Sub-Saharan Africa and the Indian subcontinent ((MYERS, 2001b: 611, compare with MYERS, 1997: 169–172).

In the light of these trends of environmental decline and its associated problems, MYERS (2001b: 611) expects that by 2010 there will probably be another 25 million such refugees on top of the 25 million estimated in 1995, if

only because the impelling factors will continue to be at least as prominent for the communities concerned. In fact, according to him, the increase could be more than another 25 million because of increasingly degraded environments coupled with growing numbers of impoverished people.

As a specific example of the potential of the problem to expand in the future, MYERS (2001b: 611) discusses the prospects for Sub-Saharan Africa up to the year 2010. This is already the region with half of the world's traditional refugees and at least a similar proportion of environmental refugees and despite some advances in soil conservation (in Kenya and Ethiopia), small-scale agriculture (in Nigeria and Zimbabwe), reforestation (in Tanzania and Malawi), anti-desertification (in South Africa), and population planning (in Kenya, Zimbabwe and Botswana), the outlook is unpromising, according to him.

The region's population is projected to increase to more than 800 million people, fully 42% more than in 1995, says MYERS (2001b: 609). Severe desertification might well affect more than 100 million people, half as many again as in 2000. Ten countries are expected to be experiencing chronic water shortages or even acute water scarcity, with collective populations totalling well over 400 million people. Without greatly expanded efforts to tackle the region's lack of development, the index per capita GNP will probably stagnate in real terms at around 400 USD, or little higher than in 1970. Nevertheless, most important of all will be the region's inability to feed itself, argues MYERS (2001b: 609). Some 20 countries with a total projected population of 440 million are expected to experience up to a 25 per cent shortfall in food supplies, and a further eight countries with a projected 75 million people face more severe deficits. The total number of malnourished people will continue to grow to at least 100 million. Because of its exceptional poverty, the region will be unable to access food on world markets. In early 2000, Sudan had eight million people who were officially considered at risk of starvation, with another six million in Somalia and three million in Kenya, plus several million others in other countries. A large proportion of these people could be characterized as environmental refugees, concludes MYERS (2001b: 609).

9.3.2 Outlook for the year 2050

In estimating the extent of environmental migration throughout the world in 2050, MYERS (2001b: 611) considers the issue of global warming and its impacts on sea level rise and the flooding of coastal zones, alongside increased droughts and disruptions of rainfall regimes, such as monsoon systems. According to him, the impacts of global warming and climate change could threaten large numbers of people with displacement by 2050 or earlier.

Preliminary MYERS' (2001b: 611) estimates indicate that the total number of people at risk of sea level rise in Bangladesh could be 26 million, in Egypt 12 million, in China 73 million, in India 20 million, and elsewhere, including small island states, 31 million. At the same time, at least 50 million people could be at severe risk through increased droughts and other impacts of climate dislocations

and the total number comes to 212 million people at risk of climate change in the mid-21st century.

In the same year, MYERS (2001a) presented slightly different estimates at a lecture on the occasion of the Blue Planet Prize ceremony held by The Asahi Glass Foundation in Tokyo. The total number of people at risk in a globally warmed world is 204 million. According to him the number of people at risk of sea level rise in Bangladesh could be 28 million, in Egypt 15 million, in China 77 million, in India 23 million, in island states 1 million and in drought areas about 60 million. The main difference is in the unclear column “elsewhere”, which in MYERS’ (2001b) previous estimation covered approximately 30 million people.

9.4 The Second Approach – Ways of Predicting Environmental Migrations according to Bo R. Döös

The approach to the issue by Bo R. Döös starts with the question “Can large scale environmental migrations be predicted?” (DÖÖS, 1997). His answer, in general, is that a large number of factors can contribute to the risk of environmental migrations, including not only stresses on the environment but also a variety of socio-economic and political factors. In addition, national and international conflicts and wars can, through feedback processes (destruction of the environment or disruption of access to natural resources), contribute to, cause or amplify the involuntary displacement of people. Moreover, the problem of predicting environmental migration is aggravated by the fact that some of the influencing factors either have a very low (or even zero) level of predictability (DÖÖS, 1997: 58).

There is a set of selected basic environmental, socio-economic and political determining factors which play a significant role in the process of predicting environmental migration (compare with LONERGAN 1998: XI; DÖÖS, 1997: 42–48).

1. Environmental factors

- frequency and intensity of natural hazards (e.g. floods, earthquakes, volcanic eruptions, tropical cyclones);
- intensity and result of climate change (e.g. floods, deficiency of precipitation and drought, tropical storms, crop reduction, food deficiency and famines, sea-level rise);
- degree of environmental degradation and pollution, resource depletion (e.g. lack of safe water resources, air pollution, soil degradation and erosion, desertification, deforestation, overfishing or other depletion of natural resources).

2. Social, economic and political factors

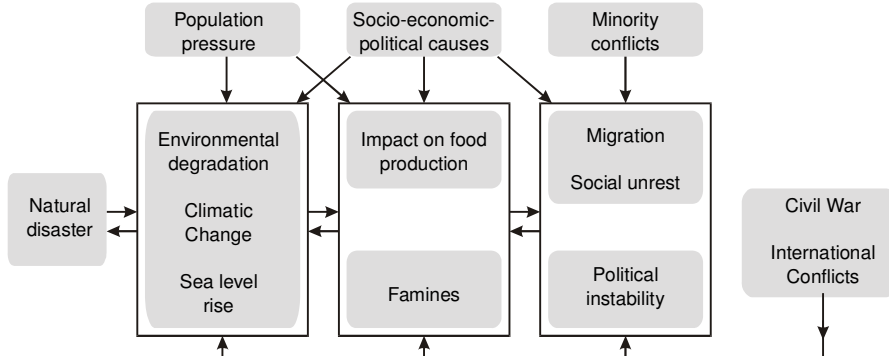


Figure 9.1: Interconnections between the major factors that can have influence, or reinforce environmental degradation, resulting in increased risk of environmental migration. Source: DÖÖS (1997)

- intensity and result of population pressure (e.g. overpopulation, food and safe water deficiency, environmental degradation);
- significance of social unrest and political instability (e.g. religious intolerance, unemployment, political subversions);
- intensity and duration of economic crisis (e.g. unemployment, external debts);
- number, intensity and duration of conflicts (e.g. food deficiency and famines, ethnic or minority conflicts, civil wars);
- poverty.

The interdependence of some of the factors that can have an influence on the magnitude of a mass displacement of people is given in Figure 9.2 (DÖÖS, 1997: 42–48).

Döös deals with predictions of two types of environmental migration – migration caused by insufficient food availability and migration caused by a rising sea level.

9.4.1 Migration caused by insufficient food availability

DÖÖS (1997: 59) reaches the following estimates of the predictability of the factors influencing this type of migration (DÖÖS 1997):

1. It might be assumed that a global change in the availability of food per capita can be predicted with a fair amount of accuracy over a period of about one decade.
2. For individual regions the predictability must be considered to be very limited. This is evidently particularly the case in drought-prone regions where a radical change in food availability can occur from one year to another.

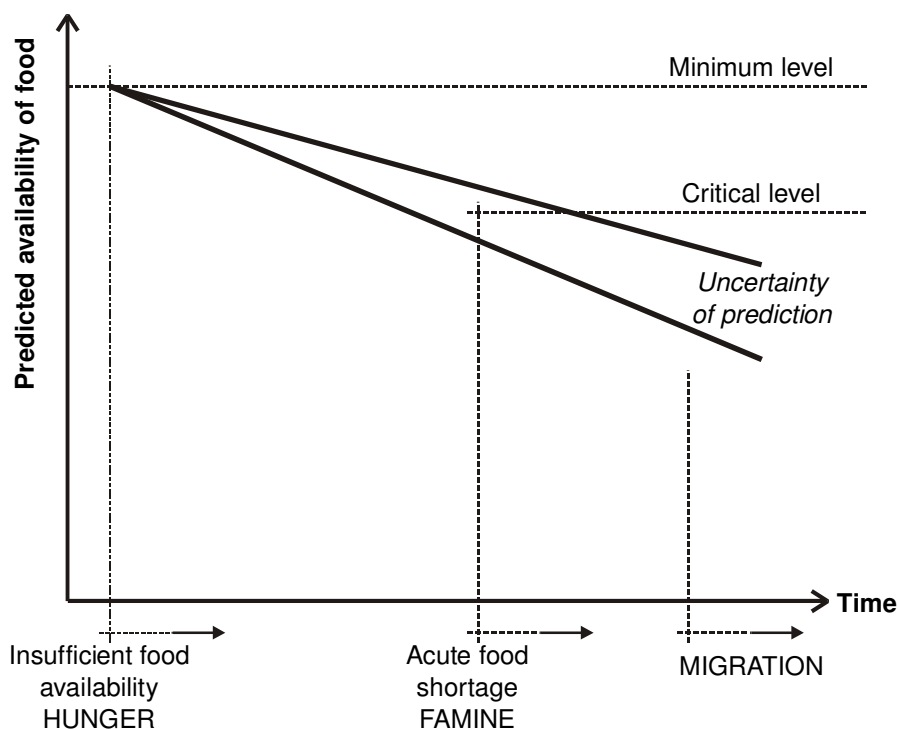


Figure 9.2: Schematic illustration of the different stages in the development of a migration out of a region suffering from insufficient food availability. Source: DÖÖS (1997: 57)

3. Even if food availability in a region falls below the level of sufficiency, it may take some years before actual famine occurs – “famines do not strike unexpectedly”.
4. It has to be recognized that no reliable formula exists for predicting migrations following a famine. The experience is, however, that migration is not an early response to a famine. The lag-time may be several years, see the Figure 9.2.

Figure 9.2 schematically illustrates the different stages in the development of this type of migration in a given region. Insufficient food availability results in malnutrition and hunger; acute food shortages culminate in famine, which in turn results in extensive migration out of the region. This type of development can be a relatively slow process, lasting much longer than a decade. The problem is in predicting whether a given magnitude of food shortage will eventually result in a mass human migration, and whether this will be temporary or permanent in nature (DÖÖS, 1997: 57).

9.4.2 Migration Caused by a Rising Sea-level

This type of migration is of a somewhat different nature in the sense that the time-scale of its main driving force is considerably longer (several decades). More specifically it can be concluded (DÖÖS, 1997: 59) that:

1. Despite the statements by the Intergovernmental Panel on Climate Change about their increased confidence in predicting the future rise of the global sea level caused by greenhouse gas-induced climatic change, it has to be recognized that the range of uncertainty is still significant.
2. In many densely populated coastal areas the subsidence of land is currently contributing much more to the relative mean sea-level than the rise of the global sea-level, and it can also be predicted with a better accuracy.
3. Taking these two points into account, it can be judged that the rise of the relative mean sea level can be predicted with some accuracy, permitting fairly realistic predictions of future migrations in coastal areas where the relative mean sea level is also affected by local subsidence.
4. In contrast to many other types of environmental migrations, people exposed to this factor have no choice but to migrate.

9.5 Conclusion

The issue of predicting the phenomenon of environmental migration is a very complex one, and different opinions exist on how to do it, or if it is even possible to do it. This chapter presents two different approaches to this particular discussion.

The main disparity between the authors is related to their general approach to the issue. While Döös presents a methodology setting out ‘how to do’ the prediction of environmental migration, Myers actually does such a prediction, attempting to estimate the current and future numbers of environmental migrants on the basis of various environmental, economic, demographic, social and other statistical data. However, we have to note that the process underlying his estimates is quite unclear, and his prediction of the numbers of environmental migrants extracted from the data is not adequately explained.

Another problem is posed by varying statistical data and indicators. For instance, Myers predicts a growth in the number of people in absolute poverty from 1.3 billion in 2000 to 1.6 billion in 2010 (MYERS, 2001: 611). The United Nations Statistical Division presents that numbers of people in absolute poverty is estimated on 1.1 billion for year 2005 (UNSD, 2005) and the prediction of the phenomenon is expecting very slow decline for the future.

We can conclude that, due to the complexity of the problem, we have very limited opportunities to reach definite and comprehensive conclusions, and we have to take into consideration very different environmental, socio-economic and political determining factors which come into play and interact with each

other (LONERGAN 1998, DÖÖS, 1997). For some factors - such as population growth, famine, food security, deforestation, drought, precipitation, conflicts and wars, religious intolerance, unemployment, poverty and wage differences - we have developed suitable theories and models. Nevertheless, some factors are difficult to quantify and possess a very limited degree of predictability and for this reason it cannot be expected that their integrated effect can be predicted with a high degree of accuracy.

With regard to the various types of environmental migration, there are compelling reasons to claim that some of the types can be predicted with sufficient reliability (e.g. droughts and deficiency of safe water, desertification and soil degradation, famine and food insecurity, climate changes, sea level rise, environmental pollution, construction of large dams or irrigation canals, mining of natural resources, unemployment, etc.), some of them with very limited reliability (floods, tropical cyclones, conflicts and wars, political instability, etc.), while some of them are hardly predictable at all (earthquakes, volcanic eruptions, landslides, nuclear or industrial disasters, etc.).

Chapter Ten

Climate Change and Forced Displacements in the South Pacific Ocean

Francois Gemenne

10.1 Introduction

Much of the international effort aimed at tackling global warming is related to the curbing of greenhouse gases emissions, while adaptation policies are still lagging behind. This is a vital stake for the developing countries, which are most likely to face the adverse effects of climate change. If adaptation policies are not quickly implemented, massive population displacements might occur in the regions most at risk. This is the case of all low-elevated regions, such as islands, coastal and deltaic areas. The small atoll of Tuvalu, in the South Pacific Ocean, is often portrayed as the first country that could disappear because of global warming. Indeed, Tuvalu being the lowest-elevated state in the world, its very existence is threatened by sea-level rise. The people of Tuvalu, however, are very reluctant to relocate, especially since they have no place to go. Relocation seems indeed to be the very last resort of adaptation for the people of Tuvalu, but the neighbouring states have not yet accepted to accommodate Tuvalu's population: New Zealand has implemented a migration scheme that allow only a few dozens migrants from the region yearly, and Australia, refuses the idea that people from Tuvalu could be forced to relocate eventually.

The people of Tuvalu, however, are far from being alone: global warming is expected to force millions of people to relocate.⁴² These displaced people share many common characteristics with those displaced by natural disasters, such as the hurricane Katrina or the tsunami that hit South East Asia at the end of 2004. In particular, they have in common a lack of legal status or organised protection, are thus often labelled 'environmental refugees'. This paper first provides a general overview of forced displacements triggered by environmental disruptions, then discusses the linkage between climate change and migration flows, and the different mechanisms of international cooperation that could help address the issue.

⁴² On this issue, see for example STERN (2007).

10.2 Environmentally-induced Forced Displacements: An Overview

Environment has probably always been a factor of migration. As early as in late prehistoric times, the first human beings used to migrate when they had exploited the resources of their immediate environment. The definitions of environmental migrants, to be usable and applicable, will need to establish a clear linkage between migration and environmental disruption. This linkage is still controversial, since migration is a very complex process, integrating a wide array of variables. People rarely move for one single reason, and migration is sometimes part of a social and routine process. It is also highly dependent on each individual: some people affected by an environmental degradation will decide to move, while others will stay. The environmental factor might also be difficult to isolate from other factors : many environmental disruptions are human-induced, such as deforestation or desertification, or associated with other difficulties. Isolating the environmental factor might eventually result in a biased perception and understanding of migration.

As I will discuss it in the next section of this paper, climate change is expected to dramatically worsen the situation. The International Panel on Climate Change (IPCC), a group of 2000 international experts mandated by the UN to assess the impact of climate change, estimates (IPCC, 2001: 13) that global warming will provoke a rise of the global sea-level comprised between 9 and 88 centimetres by 2100. This means most of the coastal and deltaic regions, which are amongst the most densely populated in the world, will be affected. An international conference, “Avoiding dangerous climatic change”, convened by the British government in Exeter on February 1-3, 2005, has concluded that 150 million refugees could be displaced as a result of global warming by 2050. These refugees would be located in low-elevated areas such a small atolls and islands, and in coastal and deltaic regions, such as India, Bangladesh or Egypt.

More recently, a report from the UN University Institute for Environment and Human Security (2005) predicted that the number of environmental refugees would top 50 million by 2010, due to climate change, and urged the international community to “define, recognise and extend support to this new category of ‘refugee’”. It also identified some areas of the world where environmental displacements were already occurring.

10.3 Climate Change and Forced Displacements

As said above, establishing a clear linkage between environmental disruption can be difficult, especially in the case of slow-induced environmental changes. The most salient example of this is probably global warming, resulting from global climate change: the phenomenon will be spread over decades, and will result in a wide range of different effects in different regions of the world.

In a paradoxical way, it is climate change that is expected to displace the most people, bringing an exponential increase in the numbers of environmental migrations, with estimations topping 50 million by 2010 (UNU-EHS, 2005) and 150 million by 2050.⁴³ The field of environmentally-induced forced migrations will be deeply transformed by climate change-related migrations, and yet this phenomenon is difficult to grasp as a whole. Before attempting to define and characterise the relationship between climate change and forced displacements, several obstacles must be overcome:

- a) Apprehending climate change as a whole is a difficult task. It will happen on a long period of time (though extremely short if compared with other climate change phenomena), with extremely various effects. Sometimes, it will only amplify a pre-existing situation.
- b) The extent of global warming, and of its effects, is still very uncertain and imprecise. Much will depend on the political will to curb greenhouse gases emissions. Therefore, one must rely on prospective data to assess the potential effects of climate change.
- c) Finally, the figures regarding the number of people that could be displaced by climate change look extremely high. These figures are often used by environmentalists and advocacy groups to sensitise public opinion and policy-makers to the realities of global warming, or to scare populations and governments about 'huge wave of immigrants that would overflow industrialised countries'. One must therefore be cautious when dealing with these estimations, since they might be potentially instrumentalised for political reasons.

Nevertheless, there is today a vast consensus in the scientific community on the existence of a phenomenon of global warming resulting from climate change. Despite some dissident voices, it is also widely acknowledged that there's a clear linkage between human activity, and especially greenhouse gases emissions, and global warming.⁴⁴

That being said, one can also qualify the climate as a 'global public good'. The first studies on public goods have been conducted by Samuelson in the 1950s, who defined public goods as being non-rival and non-excludable goods, meaning that it was impossible to exclude an individual from consuming a certain good, and that the consumption of this good by the said individual was not harming another individual's consumption of the same good. More recently, researches funded by the UN Development Programme (UNDP) have pushed the concept forward, and have elaborated the concept of 'global public goods'. In a milestone book published in 1999, KAUL, GRUNBERG and STERN (1999) define global public goods as 'goods whose benefits extend to all countries, people, and generations'. The climate clearly fulfils the criteria of this definition, and can therefore be considered as a global public good.

⁴³ Source: "Avoiding dangerous climatic change", conference held at Exeter on February 1-3, 2005 and IPCC.

⁴⁴ See, *inter alia*, the various reports of the Intergovernmental Panel on Climate Change (IPCC).

If climate is a global public good, any damage to this good can certainly be considered as a global public 'bad'. Reasoning by analogy with global public goods, I will here attempt to define a global public bad as a goods whose costs extend to all countries, people and generation. If we accept this definition, climate change certainly qualifies as a 'global public bad'.

I will now address the question of the forced displacement induced by climate change, that I propose to consider as a negative externality of climate change. Ronald H. Coase developed the theory of externalities, that can be defined as effects (positive or negative) of an economic decision not supported by the decision-maker (COASE, 1988). There are, in other words, social costs or social benefits, separate from the decision-maker's costs or benefits. For example, a person smoking in a social environment will also harm the lungs of the people around, and not only hers/his. The damage provoked to other people's lungs, and their discomfort, will be a negative externality. The problem of externalities is that – far from being a mere 'neighbourhood effect', as advocated by Milton Friedman – they will often result in a distortion of the market: the true cost of a good will not match its market cost if the externalities are not taken into account. Therefore, the market will produce an outcome that is not socially optimal.

A good example of this is climate change. As shown on the figure below, climate change is considered as a negative externality of the emission of greenhouse gases emissions: it is the negative effect of these emissions, that is not supported by the emissions decision-maker. If the market is free and doesn't take into account this social cost, the equilibrium of the market will lie at point B. If the market is regulated and the social cost taken into account, the equilibrium will lie at a different point (A), resulting in a higher price and lower quantities produced. This is the *raison d'être* of international instruments aimed at regulating the market of greenhouse gases emissions, such as the Kyoto Protocol.

I propose to take this concept a step further, and to consider forced displacements induced by climate change as an externality of climate change, and therefore as an indirect negative externality of greenhouse gases emissions. Climate change would be an intermediary step between the emissions of gases and the resulting displacements. I am aware of the difficulties raised by such an assumption:

- greenhouse gases emissions are the main, but not the sole factor responsible for climate change ;
- as stated above, it is difficult to isolate the environmental factor in the migration decision, since it often mingles with other factors ;
- the line between forced and voluntary displacements is often blurred.

Nevertheless, I believe that in-depth case studies and comprehensive research of environmental migrations (still widely under-researched) can correct these imperfections, which do not undermine the central assumption. I have now showed how could climate change be considered as a global public bad, and how the related forced displacements could be considered as an indirect negative

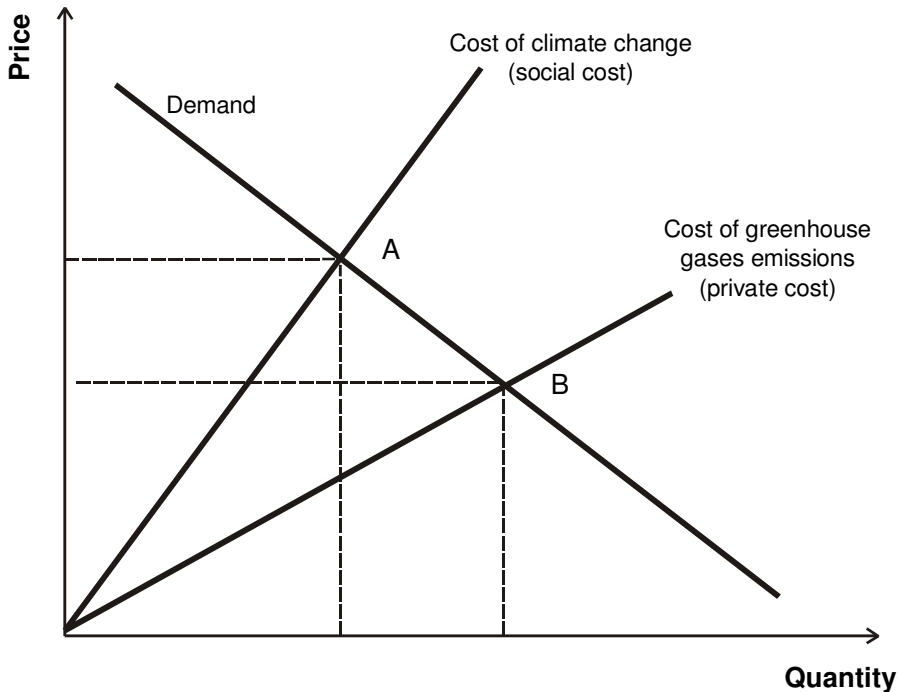


Figure 10.1: Climate change and externalities

externality. It is now time to look at the regions that will be affected by forced displacements related to climate change.

In a way or another, all countries will eventually be affected by climate change. Forced displacements will occur due to sea-level rise, food and water shortages, land losses, desertification or melting of the ice cap. This will take place in regions of the world as diverse as the small islands of the South Pacific Ocean, sub-saharan African or Alaska. Currently, these are the three regions that are most at risk. As diverse as they might seem, they share however (at least) two characteristics : climate change-related migrations are already occurring in these regions, yet they are responsible for only a tiny fraction of the world's greenhouse gases emissions. In short, the countries that are the most vulnerable to global warming are also the ones that are the least responsible for it. There's clearly a distortion between the countries suffering from climate change and those responsible for it.

This international disequilibrium calls for mechanisms of regulation, such as burden- and responsibility-sharing international and regional schemes. Building on the concepts of global public bad and negative externality explained above, I will try to show what such schemes could look like. But, first, I will examine the case of the small island developing states in the South Pacific Ocean, and in particular the most emblematic of them: Tuvalu.

10.4 Forced Displacements and Burden-sharing in the South Pacific Ocean

The South Pacific Ocean is home to about 20 island states and about 7 million people. Many of these states are independent, most of them are self-governed. The region is also widely recognised as one of the most culturally diverse in the world. It is estimated that this region is responsible for 0.06 per cent of the world's greenhouse gases emissions. Yet it has been recognised by the IPCC that the risk related to climate change facing this region is three times bigger than in industrialised countries (IPCC, 2001). The biggest threat facing these countries is the sea-level rise, due to the melting of glaciers and the thermal expansion of oceans, both linked to global warming. The IPCC (2001) estimates that sea levels will rise worldwide by 0.09 m to 0.88 m between 1990 and 2050, according to the most plausible scenarios. Most of the small island states are very low elevated, and therefore suffer repeated floods and tornados. Forced displacements have already begun, in Vanuatu, Kiribati, Papua-New Guinea and Tuvalu.

In Vanuatu, villagers from Tegua, in the Lateu settlement, have been moved in August 2005 to higher grounds, around 600 metres from the coast, since their coastal village was repeatedly devastated by huge waves and storms linked with climate change. The relocation has been completed within the framework of a programme called 'Capacity Building for the Development of Adaptation in Pacific Island Countries. In Kiribati, villagers also had to be moved inland, thanks to funds provided by the Canadian government. As similar relocation took place on the Cartaret Islands in Papua-New Guinea. But the most critical case, as for now, remains Tuvalu.

Constituted of nine tiny atolls, independent since 1978 and populated by 11,000 citizens, Tuvalu is one of the smallest countries in the world (24 square kilometres), and the lowest elevated: its highest peak culminates at 4 metres above the sea-level. The country is threatened by sea-level rise, and is slightly sinking into the Ocean. Its inhabitants are confronted with regular floods and tornadoes, which make life on the atoll everyday more difficult. These problems are worsened by other factors such as overpopulation (Tuvalu's population has almost doubled in the last decades and is one the most densely populated countries in the world), a poor system of garbage disposal, and the construction of an American military runway during World War II, which has considerably flattened the island.

Its national economy, surprisingly, greatly relies on an international trust fund, but also on the internet: in 2001, the sale of the internet country suffix ".tv", that they had been attributed by the International Organisation for Standardisation (ISO), to an American company, ".TV Corporation", has allowed Tuvalu to double its Gross Domestic Product, earning about 4 million USD in royalties each year, in addition to the 20 million USD received for the sale of the internet suffix. This two-fold increase in national income has allowed the officials of Tuvalu to send a permanent representative to the United Nations in New

York, who put forward the issue of environmental refugees on the international agenda.

Tuvalu is expected to become inhabitable by 2050, and its leaders are actively seeking solutions for the future. Despite the desire of the Tuvaluans to stay on the islands, and the fear that their cultural heritage might be lost, relocation seems to be the most realistic option. But no solution seems to be definitive at the moment. As stated by Tuvalu's Prime Minister and Minister for Foreign Affairs, Maatia Toafa, at the Mauritius meeting on the small island developing states that took place in January 2005, "Tuvalu is already suffering from the impacts of climate change and sea level rise, and we are uncertain of the future of our atoll nation".

10.5 Some Possible Solutions

- *Buying land.*

Tuvalu's government is considering the idea of buying some land to Australia or New Zealand, or a desert island in the area. This would certainly preserve Tuvalu's cultural heritage, but there's no sign that New Zealand and Australia would agree to such a deal, and the whole charge of the burden would probably rely on Tuvalu.

- *Moving to Niue.*

Niue is a self-governing state, dependent on New Zealand. A decade ago, some Tuvaluan families moved to Niue under an informal migration scheme. Tuvalu's officials have approached the government of Niue at the end of 2005 with a request to move more families to Niue, and negotiations are still ongoing. The governments are discussing the status of the Tuvaluan potential migrants, and the provision of their homes. However, some in Niue feel that Tuvaluans could merely use Niue as a doorstep to New Zealand.

- *Moving to Kioa, Fiji.*

Donald Kennedy, a Tuvaluan campaigner settled in New Zealand, is trying to persuade the Tuvaluan government to move Tuvalu's population to Kioa, a Fijian island. Kioa was an island given to Tuvaluans fleeing Tuvalu in the 1950s. The Fijian has recently granted Fijian citizenship to the citizens of Tuvalu who moved to the island in the 1950s and 1960s. According to Donald Kennedy, this would ensure that Tuvalu's culture will be preserved instead of being scattered all around the world. However, Tuvalu's government doesn't regard this solution as a priority for now, and Fiji's government is also very reluctant to this option. Indeed, the Tuvaluan government considers that a permanent population displacement would be a surrender of Tuvalu's assumption that its demise is caused by industrialised countries.

- *Burden-sharing agreements*

A burden-sharing scheme would be the solution most favoured by the Tuvaluan government, as its Prime Minister Maatia Toafa confirmed it at

the last high-level session of the UN General Assembly, in September 2005: “There are global issues that are beyond our control for which Tuvalu needs the supporting hand of regional bodies in the Pacific, and the international community.” Tuvalu’s government is preoccupied by two different issues that can sometimes contradict each other. On the one hand, Tuvalu is highly reluctant to bear alone the whole cost of a relocation, and on the other hand, a major concern is that Tuvalu’s culture would not be scattered around the world. Tuvalu is part of different regional organisations, such as the Alliance Of Small Island States (AOSIS) or the network of Small Island Developing States (SIDS-Net), but none of these organisations has yet proposed a burden-sharing scheme. But two schemes have been proposed by New Zealand and the Australia’s Labor Party :

1. *The Pacific Access Category (PAC)*

The Pacific Access Category (PAC) is an immigration arrangement that was proposed by New Zealand in 2001 following a request of Tuvalu, and agreed between the governments of Tuvalu, Kiribati, Tonga, and New Zealand. Each country has been allocated a set quota of citizens who can be granted permanent residency in New Zealand each year. The PAC allows 75 residents from Tuvalu and 75 residents of Kiribati to move to New Zealand annually, whereas Tonga has a quota of 250 each (including their partners and dependent children). These migrants are selected on a random basis, through a raffle-drawing. But the scheme bears many other conditions.⁴⁵

- an age requirement (between 18 and 45);
- a minimum level of English language ability (assessed by immigration officers);
- an ‘acceptable’ offer of employment in New Zealand (full-time);
- a minimum income requirement (NZ\$ 24,793 annually if accompanied by children);
- a requirement of health and character;
- the payment of a NZ\$ 50 registration fee;
- a residence in the country of origin or in New Zealand.

Family members of the successful applicants can also be granted residency. As one can see, such an agreement cannot be a definitive solution for the relocation of Tuvaluan people, since it does not provide any solution for the people who wouldn’t meet the requirements listed above, and accepts only immigrants on a quota basis. Furthermore, it does not mention the threat of climate change and does not acknowledge any responsibility for the displacement of these populations. The agreement is merely a ‘special immigration agreement’. Unwilling to create a legal precedent, New Zealand has refused to grant these migrants a status of ‘environmental refugee’.

⁴⁵ For more details, see the website of New Zealand’s Immigration Service: <http://www.immigration.govt.nz/migrant/stream/live/pacificaccess/>

2. *The Pacific Climate Change Alliance*

The Pacific Climate Change Alliance is a proposal recently put forward by Australia's Labor Party. Australia has not ratified the Kyoto Protocol, and its government has refused to accept any migrant from Tuvalu, arguing that this would be discriminatory towards other migrants. However, its Labor party, currently in the opposition, has recently issued a policy paper in which a regional burden-sharing scheme, the Pacific Climate Change Alliance, is proposed. The paper suggests the establishment of a Pacific climate monitoring centre, assistance to Australia's neighbours in their mitigation, adaptation and emergency efforts, assistance with intra-country evacuations, training of potential migrants in order for them to meet the immigration requirements of receiving countries (!), assistance to preserve cultural heritage, and, more fundamentally, an 'international coalition to accept environmental refugees' (Sercombe and Albanese 2006). According to the authors, the action of Australia should take two directions on this matter : firstly, it should 'help to develop a coalition of Pacific Rim countries willing to accept climate change refugees' – this is clearly a call for regional burden-sharing. Secondly, Australia 'should be working at the UN to ensure appropriate recognition of climate change refugees in existing conventions, or through the establishment of a new convention on climate change refugees'. This brings the issue of international responsibility, that I will now address.

10.6 Towards a Global Environmental Responsibility?

Far from being just an anecdotal example, the case of Tuvalu underlines the main challenges faced by countries at risk of global warming. While burden-sharing arrangements might provide regional solutions, as detailed in the precedent sections, many voices call today for an international recognition of 'environmental refugees' in international conventions. Furthermore, if these migrations are to be recognised as a negative externality of greenhouse gases emissions, this could open the way to the establishment of a global environmental responsibility, that would reach further than regional burden-agreements. The UN Environment Programme has recently organised a roundtable⁴⁶ on the common challenges faced by the Inuits and the islanders of the South Pacific, underlying the need to respond globally to climate change.

Two aspects need to be distinguished. First, the question of the legal status of these migrants ; and then the issue of financial compensation:

The legal status of these environmental migrants is still very imprecise. Not being prosecuted for their belonging to a particular group and not always crossing an international border, they cannot qualify for the status of 'refugee' as defined by the Geneva Convention. They are "legal gypsies, without a home in the Geneva

⁴⁶ The roundtable was entitled 'Many Small Voices – Arctic and Pacific meet' and was held in Montreal on 6 December 2005.

Convention” (SIMMS, 2003 : 6). No international organisation has any mandate to cope with these migrants. The Geneva Convention was drawn after World War II, in order to provide protection and assistance to the war refugees. The Geneva Convention is today challenged by other group of forced migrants, such as the internally-displaced persons or the environmental migrants. As said before, many scholars, in the field of migration studies, still regard the Geneva Convention as the paramount of protection, and fear that a legal recognition of environmental refugees would water the Convention and the very concept of ‘refugee’. However, many voices at the UN and among decision-makers are now calling for a re-drafting of the Convention that would include environmental migrants in its field: this is the case, among others, of UN Under-Secretary General Hans van Ginckel, British MEP Jean Lambert, Belgian Senator Philippe Mahoux, and many others. The Pacific Access Category elaborated by New Zealand in response to demands of its neighbours might open the way for this.

Whether these migrants are eventually recognised as refugees or not, the issue of financial compensation will remain. A government that needs to expropriate residents for the completion of an infrastructure project will offer them a financial compensation. Shouldn’t the same mechanism be applied to climate change forced displacements?

The UN Framework Convention on Climate Change (UNFCCC) contains an appendix aimed at constituting a global adaptation fund, that would meet the costs of adaptation to climate change. The costs of migrations induced by climate change can certainly be considered as ‘costs of adaptation’. Article 4.4 of the Appendix states that ‘developed country Parties and other developed Parties in Annex II shall also assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects’. If such an adaptation was to be implemented, this would be an implicit acknowledgement of a global responsibility. However, despite repeated pledges, this part of the Kyoto Protocol is still in the limbo.

Let’s briefly examine here how such a fund could be established:

- *On a system of voluntary contributions.*

This system would be similar to the one implemented for the funding of the United Nations. Each Party to the Kyoto Protocol would contribute on a voluntary basis. Studies by THIELEMANN (2003b), among others, have shown how some countries were more willing than others to participate in such schemes.

- *According to each country’s volume of carbon emissions.*

In 1997, Schuck argued that an international burden-sharing regime could be implemented on the basis of tradable quotas, where an international body would allocate countries quotas of refugees they should accept, based on criteria such as GDP or population. On a next step, countries would be allowed to trade these quotas on an international market. A very similar process has been implemented within the Kyoto Protocol, where countries have been allocated emission quotas which they can trade.

Regarding climate change refugees, one could imagine a similar system where each country would have to contribute according to its level of carbon

emissions. In climate change migrants burden-sharing schemes, independent from the adaptation fund, the same system could be applied with tradable quotas.

- *On the basis of a regulated market.*

If we accept the idea that climate change forced displacements are a negative externality of carbon emissions, I can draw the following graph and put forward another proposal :

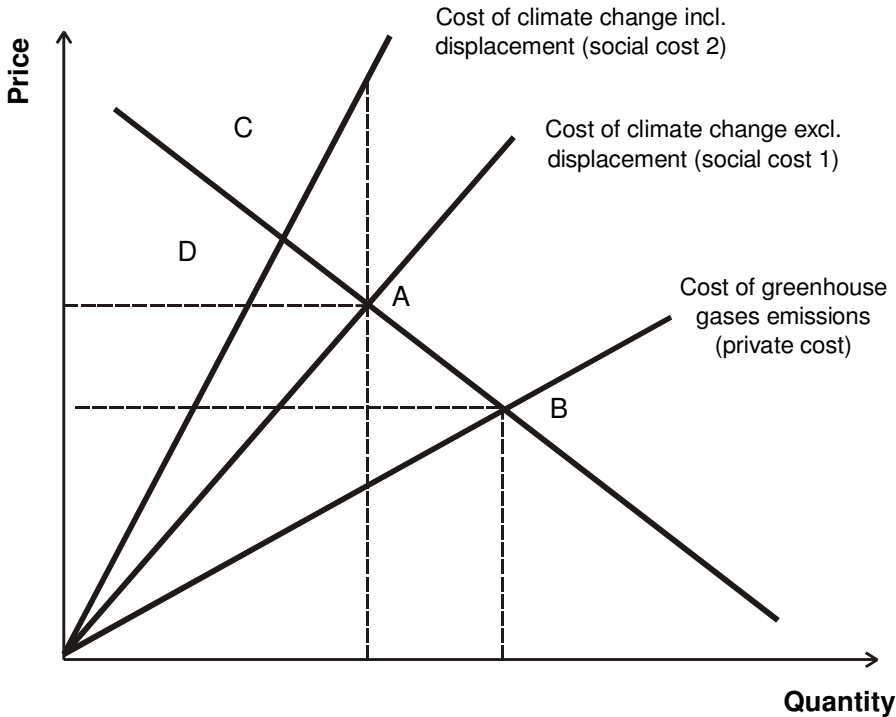


Figure 10.2: Climate change and externalities, including displacements

I have added another curve to the graph, which represents the externality of forced displacements. The point A represents the equilibrium of the market in the hypothesis where the Kyoto Protocol would be respected and implemented. However, the current state of the Protocol does not take into account the forced displacements of people. If these were to be considered as an additional externality, it would superpose itself to the first social cost (Social cost 1), resulting in a higher social cost (2). However, no further reduction of greenhouse gases would be needed, since this externality would represent an adaptation to climate change, and not its curbing. Therefore, the equilibrium of the market would be situated at point C (same quantities, higher price). The extra amount of money, represented by the triangle ACD on the graph, could be allocated to the adaptation fund.

10.7 Conclusion

The future of Tuvalu, and of the neighbouring island states in the region, remains very uncertain. Life on the atoll is increasingly precarious, and the islands are now flooded an average of three days every month. In July 2004, Tuvaluans gathered for a national forum on sustainable development, that highlighted the priorities for the next decade. Relocation was not of one them, despite the increasingly visible threat of sea-level rise. This is not as surprising as it might seem: though the explore options for relocation, Tuvaluan officials consider that Tuvalu is not responsible for its demise, and that industrialised countries should bear the cost of adaptation and relocation. Combining the challenges of development and relocation is far from being an easy task. Tuvaluan officials called repeatedly for a global environmental justice, and have threatened to take Australia before the International Court of Justice. It is however unlikely that mechanisms of global environmental justice will be implemented in the near future. Regional burden-sharing schemes could therefore be a first step towards the acknowledgement that Tuvalu's plight should bear upon the sole shoulders of Tuvaluan people.

Each of these systems has advantages and shortcomings, and the goal of this paper is not to discuss the best way to fund an adaptation fund. Furthermore, the social cost of forced displacements is difficult to apprehend: one should also take into account the possible loss of intangible cultural heritages, the psychological trauma...

For these reasons, I would rather recommend a two-fold system of burden-sharing :

- People burden-sharing on a regional basis, if possible within the framework of an international agreement on the status of these migrants .
- Costs burden-sharing on the international level, through an adaptation fund or a similar scheme. This would require some progress towards the establishment of a global environmental responsibility

The case of Tuvalu shows us the challenges ahead. Far from anecdotic, it encompasses the stakes of the whole region, and of all regions exposed to the adverse effects of climate change.

Chapter Eleven

Environmental Migration in China

Robert Stojanov

11.1 Introduction

China feeds 20 per cent of the world's population with 7.0 per cent of the world's cultivated lands, and makes important contribution to the world food supply (WANG, REN, OUYANG, 2000: 63) and world's prices of foodstuffs. China's economy expansion and rising living standards during the last decades are based on steadily weakening environmental foundations and are accompanied by a number of alarming social problems (SMIL, 1995: 75). Combination of relatively high population density in any regions and environmental change (including man-made change and natural hazards) creates a huge potential for human migration processes, on the internal and international level.

The theoretical background of the chapter focuses on human migration occurring as a result of environmental change and processes. The environmentally-induced migration (environmental migration) approach is based on hypothesis that environmental change (degradation) can have significant impact on decision-making process of potential migrant as the dominant "push" factor (in the case of natural disasters or development displacement), or one of the most important "push" factor (in case of slow-onset cumulative changes such as land degradation, sea-level rise or droughts). Many authors who develop the concept since the middle of 1980s, above all EL HINNAWI (1985), JACOBSON (1988), HOMER-DIXON (1993); MYERS (1993; 1997; 2001b), LONERGAN (1998), BLACK (1998), LEIDERMAN (2002), RENAUD et al. (2007), or summarized, for example, by HUGO (1996), SAUNDERS (2000) (for details see Chapter 8).

The first part of the chapter is dealing with general linkages between environment and migration. In this approach, some authors (e.g. SMIL, 1995; MYERS, 1997; BROWN, 2003) consider environmental change, including climate change, as a one of the significant factors which force people to migrate from their habitats in China and they expect the rapidly increasing number of incidents that force people to move due to environmental problems. People rarely move for a single reason, generally, the motivations to migrate are complex of many factors and personal motivations of the migrants, and especially in China, the poverty and economic factors play significant role.

The second part of the chapter presents the social and migration problems relates with resettlement issue as the consequences of Three Gorges Dam construction on the Yangtze River. The huge publicity that is paid more than last fifteen years to construction of the one of the greatest dam in the world caused the increase of focus on displacement issue between scholars such as QING, 1998; MING, 1999; WCD, 2000; JING, 2000; HEMING and REES, 2000; CHEN, 2002; YUEFANG and STEIL, 2003; YAN and WANG, 2004, and many others; and also activist groups such as Three Gorges Probe, Friends of the Earth, International Rivers Network, etc. According to various typology of environmentally-induced migration (see again Chapter 8) and forced migration generally (see e.g. DE WET, 2006) the people who are forced to leave their homes and fields due to construction of river dams are classified as ‚development displacees‘. They are people “who are intentionally relocated or resettled due to a planned land use change and economic development” such as river dam construction, transport infrastructure development, urbanization, etc. In this context CERNEA and McDOWELL (2000: 129–130) consider this category for most widespread in China from the environmentally-induced migration approach.

The huge growth of Chinese economy needs space and energy for continuing progress. In this sense HEMING and REES (2000: 458) describe the main reasons for construction of big river dams in developing world as the tools for achieving of production of clear and cheap energy, which is necessary for economic development, as well as providing water resources for industry and domestic use, reducing the risk of floods and providing safer navigation at the same time. Many developing economics face to following dilemma – on the one hand try to find their own way to independent development and poverty reduction, or troubled by a series of environmental and resettlement problems any local communities associated with the dams construction on the other hand (compare with HEMING and REES, 2000: 458).

11.2 China’s “Appetite”

The huge Chinese economic growth for last two decades is accompanied by, but not only, successful poverty reduction, rural-urban migration flows and social changes, but also by increasing domestic appetite for consumer products of natural resources. Lester BROWN (2005) published comparative report about two biggest consumers of natural resources – United States of America (USA) and China. He calculated that among the five basic food, energy, and industrial commodities - grain and meat, oil and coal, and steel – consumption in China has already eclipsed that of the United States in all but oil. China has opened a wide lead with grain: 382 millions tons to 278 millions tons for the United States last year. Among the big three grains, the world’s most populous country leads in the consumption of both wheat and rice, and trails the United States only in corn use. With the steel use, adds Brown, in China has soared and is now more than twice that of the United States: 258 millions tons to 104 millions tons in

2003. As China's population urbanizes and as the country has moved into the construction phase of development, building hundreds of thousands of factories and high-rise apartment and office buildings, steel consumption has climbed to levels not seen in any other country, points our Brown (for detail see Table 11.1).

Further, BROWN (2005) argues that the United States is still in the lead with oil consumption triple that of China's 20.4 million barrels per day to 6.5 million barrels in 2004. But while oil use in the United States expanded by only 15 per cent from 1994 to 2004, use in the new industrial giant more than doubled, and having recently eclipsed Japan as an oil consumer, China is now second only to the United States. Looking at energy use in China it is necessary to consider the coal, which supplies nearly two thirds of energy demand and the China's burning of 800 million tons easily exceeds the 574 million tons burned in the United States.

In another key area, fertilizer – essentially nitrates and potash – BROWN (2005) points out that China's use is double that of the United States, 41.2 million tons to 19.2 million tons in 2004. In the use of the nutrients that feed our crops, China is now far and away the world leader, finalizes BROWN (2005; for detail see Table 11.1 again). The new economic and politic giant needs for access to raw materials and energy new foreign policy and security planning, especially when China has lack of all strategic natural resources, excluding coal. World has to be prepared for this "appetite", including increase in prices of natural resources and other commodities.

Table 11.1: Annual consumption and use of key resources and consumer products in China and United States

Commodity (year)	Unit	China	USA	Share* (in per cent)
Grain (2004)	Million Tons	382	278	73
Meat (2004)	Million Tons	63	37	59
Oil (2004)	Million Barrels per Day	7	20	286
Coal (2003)	Million Tons of Oil Equivalent	800	574	72
Steel (2003)	Million Tons	258	104	40
Fertilizer (2003)	Million Tons	40	20	50
Cellular Phones (2003)	Million in Use	269	159	59
Television Sets (2000)	Million in Use	374	243	65
Refrigerators (2001)	Million Produced	14	12	86
Personal Computers (2002)	Million in Use	36	190	528
Automobiles (2003)	Million in Use	24	226	942

* Percentage share of annual United States' consumption compared with Chinese consumption

Source: BROWN (2005) and author's calculation

11.3 The Typology of Environmentally-induced Migration in China

We can identify two primary categories of environmental displacement in China: development displacees and environmental displacees. The most frequently mentioned environmental reasons for the current migrations are development projects construction, natural disasters and land degradation and water deficiency with droughts combination. Potential environmental risks related to migration flows are viewed at climate change impacts and sea-level rise on Chinese coast areas which are generally overpopulated.

11.3.1 Development Displacees

CERNEA and McDOWELL (2000: 129–130) consider development displacement to most frequently category of environmentally-induced migration in China, currently. This category of involuntary resettlement is formed, above all, by construction of water reservoirs, transport infrastructure, and urban building:

1. *Reservoir development* was the leading cause of resettlement in past, currently displaces no more than 10 per cent of the people resettled each year. Reservoir resettlement impacts are much greater and more difficult to deal with than any other type of projects, claim CERNEA and McDOWELL (2000: 129). Entire villages, even townships, are overtaken by reservoirs and these populations must frequently be placed on land already used by others. This can result in host-resettler tensions, and all incomes may decline (see. e. g. CHEN, 2002). Rich fertile land is lost and replacement options depend on fragile soil and less dependable water supplies. New cropping patterns have to be mastered, and land scarcity may force people to look for non-agricultural employment, add both authors (see below).
2. *Transport infrastructure investments* displace primarily rural people located in transport corridors and at the sites of airports, bridge abutment, etc, say CERNEA and McDOWELL (2000: 129–130). This displacement is therefore limited in scale and may vary from as few as a handful of families to hundreds or thousands, depending on circumstances. Transportation displacements also take place in the urban areas. According to them, in the 1980s about 12 per cent of overall involuntary resettlement was caused by the construction or upgrading of railroads and roads. In these cases, villages rarely lose all the village land and are able to redistribute the remaining lands to ensure more equity of land use. In more extreme cases they may be given an urban passport and resettled in the nearest town.
3. *Urban resettlement* now accounts the majority of all Chinese resettlement, claim CERNEA and McDOWELL (2000: 129–130), and because all of the urban land is owned by the state, therefore only usufruct rights rather than ownership rights are lost. Any resettlement project must compensate individuals for lost use rights by providing substitute housing of equal or higher standards, and by providing alternative places for doing business

and the means to replace lost assets (compare with HEMING and REES (2000) in case of Three Gorges Dam or DE WET (2006) on general level).

The UN World Commission on Dams (WCD, 2000) published report, in which impacts of construction of the large dams in the second part of 20th century were evaluated. The displacement is reported from 68 of the 123 big dams (56 per cent), especially in Asia, Africa and Latin America, where large river dams are one of the forms of forced displacement. Commission's statistics show 40–80 million people have left their livelihoods and homes including 10.2 million people from China between 1950 and 1990 according to official statistics, but at the same time point out, that independent sources estimation of the actual number of dam-displaced people in China is much higher than the official figure (WCD, 2000: 102–104; compare with CERNEA, McDOWELL, 2000: 128).

During the second part of the 20th century China constructed more than 84,800 reservoirs together with a total capacity of 485.3 billion cubic meters (WANG, REN, OUYANG, 2000: 63). It was generally estimated that only the Three Gorges Dam project displaced or will force to display nearly 2.0 million persons probably. Official government statistics still quote 1.2 million people. The World Bank estimates the total number of resettlers at 1.4 million. The main presumable reason for the variation can be found in the definition of displaced persons (for details see YUEFANG, D., STEIL, 2003: 423–424).

The World Commission on Dams declared (WCD, 2000: 103) that generally resettlement programs have predominantly focused on the process of physical relocation rather than the economic and social development of the displaced and other negatively affected people. The result has been the impoverishment of a majority of resettlers. The forced resettlements due to construction of the Three Gorges Dam are in the similar situation (see below in detail).

11.3.2 Environmental Displacees – Natural Disasters

Every year natural disasters, such as floods, drought, storms, hail, earthquakes, landslides and mud-rock flows destroy millions of the houses and hectares of crops in China and millions of the people have to be relocated. For example heavy flooding along the Yangtze in 1998 left the streets of Wuhan waist-deep in water while about 3,000 died and 14 million were made homeless along the river (REUTERS, 2007c). In the period between January 1 and July 20 in 2004 natural hazards have damaged about 18 million hectares of crops. About 1.6 million hectares of arable land yielded no harvest. An estimated 388,000 houses collapsed and 2.4 million were destroyed, forcing the relocation of nearly 1.3 million people and have killed 659 people and caused losses of about 4.75 billion USD. Floods accounted for more than half the deaths and affected 45.7 million people in the same period. The hardest hit provinces and regions were Yunnan, Guizhou, Sichuan and Chongqing in the southwest, Hubei, Hunan and Henan in central China and Guangxi in the south (LIM, 2004). During 2005 eight hurricanes have hit China's southeast and southern coastal areas. As of

mid-October, disasters had taken 1,796 lives and left 461 people missing. More than 15 million people have been displaced and 1.6 million houses destroyed this year, resulting in direct economic losses of approx. 22 billion USD (LIU, 2005).

In 2006 more than 1.3 million Chinese have fled their homes in the path of a super typhoon Saomai, the strongest to threaten the country in 50 last years. The center of the tropical storm was near Wenzhou city in Zhejiang province (MACFIE, SHIPENG, 2006). Floods and landslides have killed at least 360 people across China during the summer in 2007 and destroyed more than 4 million hectares of crops. According to the figures from the State Flood Control and Drought Relief Headquarters (in REUTERS, 2007a) the direct economic losses were 3.21 billion USD, apart from 217,000 houses wholly or partially were destroyed. Most of the deaths occurred after downpours across the Jialing River Valley in the southwest province of Sichuan which has resulted in floods in almost all the tributaries of Jujiang River and triggered severe mountain torrents, mud-rock flows and landslides (REUTERS, 2007a). More than 1 million people have been evacuated in Henan, Anhui and Jiangsu provinces together from the projected path of floodwaters from the Huai river (REUTERS, 2007b; REUTERS, 2007c).

BROWN (2004) argues that Gobi Desert in China is growing by 10,400 square kilometers a year and the migration stream is swelling. Asian Development Bank's (in BROWN, 2004) preliminary assessment of desertification in Gansu province has identified 4,000 villages that face abandonment. Desert expansion has accelerated with each successive decade since 1950. China's Environmental Protection Agency (in BROWN, 2003) reports that the Gobi Desert expanded by 52,400 square kilometers from 1994 to 1999 and Gobi far from within 250 kilometers of Beijing. BROWN (2003) reminds that Chinese population of 1.3 billion and a livestock population of just over 400 million are weighing heavily on the land and huge flocks of sheep and goats in the northwest are stripping the land of its protective vegetation, creating a dust bowl on a scale not seen before. Northwestern China is on the verge of a massive ecological meltdown.

WANG, REN and OUYANG (2000: 34) argue the average drought affected an area in the period 1949–1990 was 195.92 million hectares (approximately 2 million square kilometers) and the drought disaster area was 7,689 million hectares by year (approximately 77,000 square kilometers). The authors indicate that average loss of cereal production was 11.0 million tons, but in 1988 the cereal loss was 31.2 million tons and 28.4 million tons in 1989. Major natural factors that cause droughts in China are a huge population and very low water resource occupation rate, very uneven and imbalanced distribution of water and land resources, and a great variation of precipitation and runoff within and from year to year, claim WANG, REN and OUYANG (2000: 33).

Another region's serious environmental problem is land degradation. SMIL (1995: 81) argues that about 70 million hectares of China's pastures has degraded since the early 1950s. At least one-third of Inner Mongolia's grassland suitable for cattle grazing is affected by soil degradation and all of the region's three largest grasslands – Hulun Buir, Songnen and Horqin – are deteriorating.

Qinghai's high-altitude grasslands decreased by about one-fifth during the past generation because of overgrazing, desertification and conversion to crop fields, and according to official figures, China's net loss of arable land amounted to about 17 million hectares between 1957–1990 (SMIL, 1995: 81). He also argues, if the arid North's arable land loss was merely proportional to its share of the nationwide cultivated area – a conservative assumption given the region's high erosion and desertification rates – it would amount to about three million hectares. Given the North's average ration of about 5.5 peasant per hectare of cultivated land this would translate to the displacement of some 17 million people during the past (SMIL, 1995: 81).

In the context, author of the chapter is not sure whether comparison of agricultural degradation at North part of China with other cultivated areas is correct because of quite different environmental conditions and population density at mentioned areas. Nevertheless, it cannot change anything about the environmental degradation and possible migration flows from the Inner Mongolia.

11.3.3 Potential Environmental Displaces – Climate Change and Water Deficiency

With Chinese coal use far exceeding that of the United States and with its oil and natural gas use climbing fast, it is only a matter of time when China will also be the world's top emitter of carbon, claims BROWN (2005). Climate change will alter (or is altering right now) regional agricultural and industrial potential and could trigger large-scale migrations. HARDY (2003: 160–161) argues that lifestyle of most human populations is adapted to a very narrow range of climatic conditions and human settlements are generally concentrate in areas of high industrial or agricultural potential, that is, areas with hospitable climates, near coastlines, in river and lake basins, or close to major transportations routes (see Figure 11.1). According to most scenarios, climate change will place added demands on urban infrastructures. Climate change could accelerate urbanization, as people migrate away from low-lying coastal to interior areas or from drought-stricken farms to cities (HARDY, 2003: 161).

MYERS (1997: 171) estimates that largely sea-level rise, flooding of coastal-zone and result of increased droughts and disruptions of rainfall regimes could put large numbers of people at risk of displacement by the middle of next century if not before. Preliminary estimates indicate that the total amount of people at risk of sea-level rise in China is 73 million (MYERS, 1997: 171; MYERS, 2001b: 611; compare with MYERS, 2001a).

China's urban population is expected to almost double to a total of more than 600 million and this will engender greatly increased demand for water for household use, to the detriment of the country's agriculture which currently takes 87 per cent of all water consumed in order to maintain food production, expects MYERS (1997: 171). The worsening of sustainable access to safe drinking water in Chinese cities can contribute human migration in future. While coverage



Figure 11.1: Population density in China (2002). Source: DONALD, BENEWICK (2005)

increased in rural areas, access to improved sources decreased in urban areas. This contrasting trend in the region reflects what happened in China over the decade (1990–2002), according to UNSD (2004), with coverage in urban areas decreasing from 100 to 92 per cent. In rural areas coverage improved in the same period from 60 to 68 per cent, but in the country are still almost 300 million people without the access to safe drinking water. The important role plays human migration from rural areas, but the most crucial role plays increasing water's consumption of industry production concentrated in Beijing or around urban areas on coast above all.

While China consumed amount 562.3 billion cubic meters of water in year 1997, in year 2010 total water supply is expected to be 646 billion cubic meters, and for the year 2025 amount 720 billion cubic meters in the situation, when China predominantly depends on surface sources of water, point out WANG, REN and OUYANG (2000: 63). Considering present lack of water in cities and some parts of China, we can expect some tensions between states sharing the same water resources together with China. As long as China wants to increase the consumption of water from rivers as Brahmaputra or Mekong for irrigation of fields or industrial production, in negative way this could affects the needs of India, Bangladesh, Laos, Cambodia and Vietnam which are likely to protest. India and Vietnam waged wars against China in past.

Compound water security is becoming a critical issue in China in future. This issue includes (compare with WANG, REN, OUYANG, 2000, 169–170):

- food security (food sufficiency and accessibility, malnutrition, famine);
- human (individual) security (adequate safe water access);
- environmental security (deforestation, soil erosion, desertification, biodiversity conservation, environmental pollution, frequency of disasters);
- social security (state of economy, employment, migrants issue, etc.)

11.4 Contemporary and prospective “hot spots” of environmental migration in China

Upper reaches of the Yangtze River and Yellow River (especially in areas affected by construction of dams and soil degradation), Southeast coast regions (annually hit by tropical hurricanes and floods) and North and Northwest regions in China (threatened by desertification and drought) belong to source areas of contemporary environmental migration. The contemporary targeted areas for people from the environmental devastated regions are coast areas (especially cities), Beijing and other big cities, and Tibet (e.g. for displace people from Three Gorges Dam area). Some of the migrants cross the border to neighboring countries, primarily to Russia, Kazakhstan and other Central Asia states or to USA, Australia, Europe (see Table 11.2).

Table 11.2: Contemporary environmental „hot spots”

Contemporary threatened area	Contemporary targeted areas
Upper reaches of the Yangtze River and Yellow River	Sea coast areas (cities), Beijing, Tibet
South-East China (sea coast area, river banks)	Cities near the coast sea; Europe, Australia, USA
North and North-West China (especially Gansu, Inner Mongolia provinces, Xinjiang AR)	Cities, Beijing, Tibet, Central Asia, Russia, Europe

Source: STOJANOV, NOVOSÁK (2006), updated

New potentially threatened regions in China with a prospective growth of number of environmental migrants are low situated coast areas in Southeast and East China (primarily because of prospective sea level rise and raised intensity and number of hurricanes due to predicted global or regional climate change), the reaches of the Yangtze River and Yellow River (especially in areas affected by floods, construction of dams and soil degradation), North and Northwestern China (affected by desertification, drought and lack of sustainable sources of safe water). New potential targeted areas for displaced people in China will be cities in central and western parts of China, the capital Beijing or occupied Tibet. Some of the migrants will cross the border to Central Asia countries, Russia (especially to Siberia), South-East Asia states with a greater Chinese minority (e.g. Indonesia), USA, Australia, Europe (see Table 11.3).

Table 11.3: Prospective environmental „hot spots”

Prospective threatened area	Prospective targeted area
Reaches of the Yangtze River and Yellow River	Cities in central and western parts of China, Beijing, Tibet
South-East, East China (low situated sea coast)	Central parts of China, USA, Australia, South-East Asia, Central and Western Europe
North and North-West China Gansu, Inner Mongolia provinces, Xinjiang AR, Hebei, Henan provinces)	Russia (e.g. Siberia), Central Asia, Beijing, Tibet, Europe

Source: STOJANOV, NOVOSÁK (2006), updated

Absolute majority of contemporary and prospective environmental migrants are/will be internal displaced peoples, who do/will not leave China. Considering the present lack of cultivated soil or grassland, sustainable sources of safe water and other natural resources, together with difficult living conditions of the migrants, can undermine social stability in targeted areas and elicit crises or conflicts.

11.5 Estimations of Numbers of Environmental Migrants

There is only one paper oriented on estimation of extent of environmental migration in China. Its author, SMIL (1995), suggests several ways for estimation of future environmental migrations flows. The first approach is to derive such figures as fractions of populations in the most vulnerable areas. Even if the population of the poor provinces from south to in north-east China (interior arc from Guangxi to Hebei) would not grow faster than the national average, their total number would reach 450 million people by the year 2000 and at least 530 million in 2025. Analogically, population of the northern arid provinces would go up from about 140 million people in 1992 to almost 180 million three decades later. If no more than about 5 per cent of the interior arc's population would be affected by environmental degradation, SMIL (1995: 85) estimated, that their total number was over 20 million people in 2000 and would up to about 30 million people in 2025. For the Northern provinces it would not be excessive to assume a higher rate of around 10 per cent, and the environmental degradation can produce up to 18 million environmental migrants by the year 2025.

Another approach is to estimate the environmentally displaced population on the basis of arable land losses. If all of Chinese farmland losses, due to construction, soil erosion and desertification, alkalization, waterlogging and pollution, would equal just 7 million hectares during the 1980–2000, then, given the 1990 ratio of about eight villagers per hectare of arable land, at least 20–30 million peasants (or some 5 million families) would lose their livelihood during the 1990s. If only an additional 5 million hectares would be lost during the

meantime 2000–2025, the total of uprooted rural labor would be around 30–40 million people.⁴⁷ SMIL (1995: 85) points out, that all of these estimates are based merely on the assumption of current environmental degradation and pollution in China arising from population- and development-induced pressures within the country. In the long run, the numbers of environmental migrants could be much higher if the national and local degradation would be aggravated by an early onset of a relatively rapid climate change.

Change (move) of rainfall season, spatial distribution of precipitation or local rainfall decreasing could be seriously affected socio-economic stability in some regions, and increase the aridity in Northern China, in particular. Climate change could cause displacement by additional tens of millions of people. North China Plain now containing about 250 million people would be affected. SMIL (1995: 86) argues that total number of peasant unable to support themselves in environmentally degraded areas with insufficient productive countryside due to climate change could reach up to 100 million people by the year 2025.

11.6 Displacement in the Three Gorges Dam Area

As it was mentioned above, in the introduction to the chapter, the huge Chinese economic growth needs new energy sources for continuing development. The construction of big river dams is still one of the Chinese national government's strategies for satisfaction of the demand and Three Gorges Dam construction is one of the most important "stone in the Chinese energetic mosaic". However, the huge, especially negative, publicity that was paid for a years in the world towards a construction of the dam and the focus on social and economic conditions of displacedes from the region caused not only some public activities, but also unprecedented avoidance of the World Bank of contract with Chinese national government about the co-funding the project building.

11.6.1 Essential Environmental Characterization and Water Utilization in the Yangtze River Basin

The Yangtze is the greatest river in China, and the third largest in the world. The whole length of the river is 6300 kilometers. The total area of the basin is 1,8 million square kilometers, it means 18,8 per cent of the whole China. There lived 420 million people in 1997 and they cultivated land 230 million km² in the region. Total annual food production is 153 million tons – 36 per cent of the country and industrial production is more than 200 billion USD – 39 per cent of China. (WANG, REN, OUYANG, 2000: 103).

⁴⁷ In fact the total number does not mean that in the year 2025 would be about 60–70 million people without the soil, jobs or houses due to environmental degradation. This number is estimated total of gradually displaced people because of various types of environmental degradation from 1980s to 2025. These people found (will find) new habitats and jobs in any parts of China or abroad.

The amount of water and the proportion of water usage from the river have changed. The total amount of water utilization in the Yangtze basin in 1997 was 173,7 billion cubic meters, while in 1980 was used 135,3 billion cubic meters. The increase rate was about 21 per cent (see Table 11.4) (WANG, REN, OUYANG, 2000: 103–106).

Table 11.4: Water utilization of the Yangtze River in 1980 and 1997

Year	Water used (billion cubic metres)				Proportion (per cent)			Water used (cubic metres)
	Agriculture	Industry	Domestic	Total	Agriculture	Industry	Domestic	
1980	104,7	20,9	9,7	135,3	77,4	15,4	7,2	389
1997	106,0	49,6	18,6	173,7	61,0	28,3	10,7	414

The trend of water consumption in the region is increasing in all sectors of production, including domestic consumption. The highest increase in rate of consumption was achieved in industry in this period. The lowest increase in rate water consumption was in agriculture, but this sector remains the biggest consumer of water, absolutely and relatively.

11.6.2 Environmental Change in Upper Reaches of the Yangtze River

The upper reaches of the Yangtze River covers an area of 1,056 million square kilometers, it is equivalent of 58.9 per cent of the whole Yangtze River basin. It encompasses a region from the sources of the Yangtze to Yichang city, Hubei Province. YAN and QIAN(2004: 613–614) point out that the landscape of the region consists of mountains (50 per cent), plateaus (30 per cent), and hills (18 per cent), with small plains (2.0 per cent) and the population in this region amounts to around 180 million (in 2001), making up 14 per cent of population in China.

Most parts of the upper reaches of the Yangtze River are more than 3000 m above sea level and sloping land forms 45.9 per cent of the total cultivated land (40,700 square kilometers). Soil erosion counts among the most severe environmental problem in the region. The present area suffering from soil erosion in the upper reaches of the Yangtze amount between 350,000–393,000 square kilometers (it is more than one third of total area upper reaches of the Yangtze). In the 1950s was amount of soil area 299,500 square kilometers (YAN, QIAN, 2004: 620–621; WANG, REN, OUYANG, 2000: 39). The eroded soil in the upper Yangtze reaches 1,568 billion tons, an equivalent of 3,870 square kilometers of soil, depth of 30 centimeters worn away annually. Some authors quoted annually

amount of eroded materials 6.8 billion tons (WANG, REN, OUYANG, 2000: 39). In the limestone areas in Guizhou province about 1,800 square kilometers of land is being petrified each year and about 76 square kilometers of arable land is lost each year. Farmers in some villages had to move out of their original locations and resettle to other places due to losses of their farmland (YAN, QIAN, 2004: 621).

Flood periods in some basins in the upper reaches of the Yangtze are four months describe WANG, REN and OUYANG (2000: 32). Deforestation has increased frequency and size of floods and during the rainy season, floods, mud-rock flows and landslides in deep valleys occur frequently. Ministry of Water Resources claims while serious floods occurring on the Yangtze in 1998 were mainly caused by abnormal climate and concentrated precipitation, to a great extent they can also be attributed to soil erosion that has reduced the flood discharging and storage capacity of rivers, lakes and reservoirs, point out YAN and QIAN (2004: 621). In Sichuan, a province located at the upper reaches of the Yangtze River, there are more than 50 counties with forest coverage of only 3–5 per cent (WANG, REN, OUYANG, 2000: 39).

Environmental destruction causes changes in the climate and land desertification. Climate change in the upper Yangtze River is one of the main factors resulting in the loss of vegetation, degradation of wetlands, etc. Due to regional reduction of rainfall and overgrazing, a vast extent of grassland has been changed to semi-arid area (YAN, QIAN, 2004: 622; compare with WANG, REN, OUYANG, 2000: 43).

11.6.3 Elemental Characterization of the Three Gorges Dam

The Three Gorges Dam is located in west China, in Chongqing and Hubei provinces and it is largest hydropower project in China. Construction of the Three Gorges project started in 1993 and had used 13.7 billion USD (RMB 113.1 billion yuan) investment by the end of April 2005. The total investment will be controlled with 21.8 billion USD (RMB 180 billion yuan) by 2009 when the whole project is completed despite the hikes of building materials prices in recent years. „Considering the factors of inflation and loan interests, the total investment in the project was initially estimated to reach 26.7 billion USD (RMB 203.9 billion yuan), according to the China Yangtze Three Gorges Project Development Corp (THREE GORGES PROBE, 2005a). According to some „independent knowledgeable Chinese banker“ the real investments are about 77 billion USD (ADAMS, RYDER, 1998).

The reservoir is about 600 kilometers long, and the dam is 2,309 meters wide and it is going to be 181 meters high. The area of the reservoir is 1084 square kilometers (LIBRA, 2004). Since the year 2003 the level of Yangtze River at the reservoir has risen 135 meters and will continue to rise to closing level 175–180 meters. Since the year 2003 was flooded about 1,500 towns and villages due to filling the reservoir and in the same year some experts discovered about 80 leaks in the dam and.

CHINA ONLINE BACKGROUNDER (2000) offered the debate over the costs and benefits of Three Gorges Dam. Many various factors come in the analysis, in the Table 11.5 are the most frequently mentioned arguments in summary.

Table 11.5: Summary arguments favor against dam

Issue	Criticism	Defense
Cost	The dam will far exceed official cost estimate, investment will unrecoverable cheaper power sources become available lure away ratepayers.	The dam within budget, updating transmission grid will increase demand its electricity allow dam pay itself.
Resettlement	Relocated people are worse off than before their human rights are being violated.	15 million people downstream will better off due electricity flood control.
Environment	Water pollution deforestation will increase, coastline will eroded altered ecosystem will further endanger many species.	Hydroelectric power cleaner than coal burning safer than nuclear plants, steps will taken protect environment.
Local culture natural beauty	The reservoir will flood many historical sites ruin legendary scenery gorges local tourism industry.	Many historical relics are being moved, scenery will not change much.
Navigation	Heavy siltation will clog ports within few years negate improvements navigation.	Shipping will become faster, cheaper safer rapid waters are tamed ship locks are installed.
Power generation	Technological advancements have made hydrodams obsolete, decentralized energy market will allow ratepayers switch cheaper, cleaner power supplies.	The alternatives are not viable yet huge potential demand relatively cheap hydroelectricity.
Flood control	Siltation will decrease flood storage capacity, dam will not prevent floods on tributaries, more effective flood control solutions are available.	The huge flood storage capacity will lessen frequency major floods. risk dam will increase flooding remote.

Source: CHINA ONLINE BACKGROUNDER (2000)

It is impossible to say any final resolution about the domination positive or negative consequences dealing with the Three Gorges Dam construction, especially before the finalization of the building. Author of the chapter is generally sceptical to definite denouncement or celebration of the construction, in the context of many economic, social and environmental factors, even if the costs seems to outweigh benefits. However, for ten or fifteen years, we will have more arguments for a final resolution.

11.6.4 Situation of Environmental Migrants in the Three Gorges Dam Area and Sustainable Development – Theoretical Approach

However the region of upper reaches of Yangtze River is very important for sustainable development of the whole China, the environment has deteriorated due to deforestation, reduction of vegetation, soil erosion and pollution of water. These conditions affected the livelihoods of the people in the region. Construction of the Three Gorges Dam worsened environment and forced to displace nearly 2.0 million people from the area. Official authority still contends that number of migrants is 1.1–1.2 million, but it does not only refer to different data between Chinese authority and “independent sources“ outside China (see MING, 1999; ADAMS, RYDER, 1998).

In the context is very surprising the report of PLANET ARK (2007), which cited the vice mayor of Chongqing through Xinhua news agency, that more than 4 million people currently living in northeast and southwest Chongqing, would be encouraged to resettle on the urban outskirts about an hour’s bus ride from downtown Chongqing due to erosion and landslides on steep hills around the dam, conflicts over land shortages and ,ecological deterioration caused by irrational development‘. No details about the relocation are available.

Some authors argue that environmental migration in the area is inevitable and it can help to solve the environmental problems of the region and poverty of people developed due to high population density. Emigration from overloaded water – carrying capacity and ecologically fragile regions is necessary, but needs careful human ecological planning and management (WANG, REN, OUYANG, 2000: 171; compare with JING, 2000: 26). YAN and QIAN (2004: 614–615) claim that some areas do not possess the basic condition for human subsistence and an important cause is the excessive growth of the population and the continually increasing population densities. Increased population pressure then ensues in over-cultivation, over-grazing, and haphazard logging, leading to reduction in vegetation and exacerbated desertification.

Through environmental migration, the people will be moved out of areas with seriously degraded environment or unlivable natural environment that essentially do not possess the condition for human subsistence and they will rebuild their resettlements in other locations, according to YAN and QIAN (2004: 615) Implementation of environmental migration to relieve population pressure and bring about sustainability of development between environment, population, economy, and society in this region has been proposed in recent years. West China Development Office of Sichuan estimated amount 10 million people in west China at the end of year 2000 who are poverty-stricken and required environmental migration (YAN, QIAN, 2004: 615).

The solution of environmental degradation by displacement of people is not solution of causes of the degradation but looking for reasons for displacement of the people from the development projects area. Instead of effort to stop the degradation of environment and fragile ecosystems by implementation of environment friendly technologies in agriculture and industry; techniques for reduction of wastage and consumption of natural resource (you can see this in

every cities and towns in China); building of sewage disposal plants, penalize of polluters (implement the rule “polluter has to pay”) etc, Chinese authorities choose simpler way – displace the people from their habitats. This way is possible in the case if you have comparable space and conditions for the people. But there is no case of the Three Gorges Dam area. In China, the kind of solution is definitively impossible. There is total deficiency of arable land, water and other natural resources and situation in future will be much worse. And unemployment is raising as a result of collapses many states factories.

For this reason is very sad when fertile fields are flooded and less productive soils remain. Thus construction of the Three Gorges Dam contributed more seriously to environmental pressures. Many people moved to higher parts of valley where the fertility of fields is much/far lesser and they caused higher population density in the areas. There are ecosystems more fragile and vulnerable to soil erosion. Displaced people became often poorer than before, because they have lost essential livelihood conditions, houses, land. Alternative conditions are totally inadequate (see below). Author of the paper observed that many displaced people from the flooded parts of the Three Gorges Dam are trying to come back and stay in their habitats and fruitful fields till last moment, although illegally.

11.7 Resettlement Program of Chinese Government

China’s tragic experiences with Danjiangkou and Sanmenxia Dam displacements in the 1960s and 1970s has led to the adoption of new resettlement policy claim CERNEA and McDOWELL (2000: 25). Author of the chapter believes, under the influence of his personal experience in place, that accepted tools or their implementation are not adequate in the case of Three Gorges Dam area.

According to the official figures, more than 1.2 million people have been resettled because of construction of the Three Gorges Dam. More than 40 per cent are rural people engaged in agricultural production (see Table 11.6). The rural resettlement has involved three main methods: settling people in nearby areas; moving them to distant locations in groups; and encouraging migrants to relocate on their own initiative, perhaps by going to live with relatives or friends (CHEN, 2002; compare with JING, 2000: 26). In fact most rural migrants are still being resettled in the vicinity of the reservoir area (see previous; compare with CHEN, 2002). Since June 2005 some 813,000 people in the Chongqing Municipality have been relocated due to the Three Gorges Dam according to the official authority (THREE GORGES PROBE, 2005b).

According to the report of finance experts from Chinese Finance and Banking Association (1998, in JING, 2000: 21), the dam will affect 1,380 industrial enterprises that have a fixed value of assets at 4.8 billion yuan (580 million USD), or 86 per cent the asset value of all industrial enterprises and mining establishments in the Chongqing reservoir area. By December 1996, approval of

*Table 11.6: The inundated land and displaced population in the Three Gorges area by county (1992)**

County	Total	Farmland (hectares)			Orchard (hectares)			Total	Orange	Others
		Non-agri-cultural	Agri-cultural	Total	Dry land	Rice Paddy	Vegetable			
Yichang	6850	1115	5735	293.9	121.9	172.0	-	395.3	360.3	35.0
Zigui	66955	25458	41497	1059.4	328.3	713.3	17.8	1391.9	1390.2	1.7
Xingshan	20915	17154	3761	93	15.4	54.7	22.9	178.1	177.9	0.2
Badong	32090	22812	9278	398.2	237.9	152.6	7.7	422.1	415.1	7.0
Wushan	55653	21852	33801	1231.3	843.9	309.0	78.4	461.7	447.3	14.4
Wuxi	191	-	191	20.1	6.3	13.8	-	3.0	2.3	0.7
Fengjie	78832	42860	35972	1393.9	675.0	625.9	93.0	1062.2	1034.7	27.5
Yunyang	110561	51929	58632	2158.5	970.2	1063.4	124.9	1051.7	881.7	170.0
Wanxian	63229	32356	30873	1329.7	440.7	866.3	22.7	717.4	621.1	96.3
Wanxian City	96104	89344	6760	339.9	93.7	124.5	121.6	70.5	65.0	5.5
Kaixian	110852	49968	60884	2618.7	601.5	1737.2	280.0	555.6	474.2	81.4
Zhongxian	55452	26809	28643	2305.2	913.5	1201.7	190.0	278.1	98.4	179.7
Shizhu	8416	3399	5017	347.0	100.8	238.5	7.7	101.3	46.8	54.5
Fengdu	54582	38124	16458	835.7	418.4	345.6	71.7	164.0	134.1	29.9
Fuling City	68590	49646	18944	1526.6	727.5	583.7	215.4	321.1	150.2	170.9
Wulong	3469	3005	464	75.6	38.5	5.9	31.2	0.1	0.1	-
Changshou	7114	4698	2416	160.7	51.1	40.7	68.9	121.9	121.9	-
Jiangbei	4280	2711	1569	396.2	304.5	82.1	9.6	39.7	6.0	33.7
Baxian	2073	1432	641	574.5	356.7	76.7	141.1	11.1	0.1	11.0
Urban Chongqing	-	-	-	-	-	-	-	0.3	-	0.3
Jiangjing	-	-	-	-	-	-	-	-	-	-
TOTAL	846208	484672	361536	17158.2	7246.0	8407.5	1504.7	7347.1	6427.3	919.8

*If "secondary relocation" and population growth during the period of resettlement are taken into account, the total number of migrants will be 1,220,000. Source: MING (1999)

3,048 resettlement programs had been granted. For industrial relocation, 2.036 billion yuan (246 million USD), or 34.5 per cent of the total budget, was invested into the Chongqing reservoir area. This investment includes the state's offer of 930 million yuan of compensation (112 million USD) (JING, 2000: 21).

11.8 The Situation of Displaces

YAN and QIAN (2004: 615) claim that environmental migration in the upper Yangtze is closely related to poverty alleviation and environmental regeneration. But the experience of the author of the chapter is quite different – the poverty of the displaced people is deeper and the press on environment is much stronger. This analysis also confirms report by Wu MING for International Rivers Network (MING, 1999) and also, partly, researchers from the Chinese Academy of Science (CHEN, 2002).

Official statements give the impression that resettlement is proceeding smoothly, but MING (1999) discovered that in fact it has been plagued by mismanagement, official corruption, inadequate compensation, and a shortage of farmland and lack of jobs for the resettlers. Resentment and foot-dragging opposition to resettlement is widespread. He pursued some interviews in the region and these in Yunyang County demonstrated why it is difficult for even the head of the Three Gorges Resettlement Bureau to get hold of reliable information. Yunyang has 120,000 people slated for relocation. In early January, the Yunyang County government opened an exhibition on resettlement. A chart at the exhibition listed three categories of resettlers (MING, 1999):

- First, 5,940 people were identified as „productively resettled“, meaning that they had either new farmland or new factory jobs.
- Second, 2,610 people were said to be „residentially resettled“, meaning a place had been found for them to re-establish their homes.
- Third, 187 people were classified as „account-closed resettlers“, meaning they had received their share of the compensation and moving expenses and the authorities had no further responsibility towards them.

MING (1999) claims that all these figures are problematic, if not completely false, according to a Yunyang official. In a private conversation, this official pointed out that the actual figure for the „productively resettled“ people (those who had been given new land or industrial jobs) was at most 3,000. At this early stage of the resettlement program, he explained, the people the county government was trying to relocate were mostly farmers, but only 133.4 of the 1,625 hectares of farmland that has reportedly been prepared for resettlers was usable. He also said the rest of the newly opened land was described by local farmers as „looking like ditches from a distance and like pigsties at close“. As for the „account-closed resettlers,“ this actually referred to an unfortunate group of farmers who had been persuaded to move to the island province of Hainan under a deal that was struck by Yunyang county and Hainan officials, argues. They returned to Yunyang six months later, complaining that they had been cheated (MING, 1999).

MING (1999) mentions example of one of these farmers who said in an interview that he and his fellow villagers had been promised a good life in Hainan but found the resettlement site uninhabitable. Now they have exhausted the moving expenses they had received from the government to travel to and then leave Hainan, and are not eligible for any further compensation. They have returned to their old homes, but will still have to move when the water rises. Like the uselessness of the farmland in Yunyang, the resettlement officials have covered up the failure of this scheme to move farmers to Hainan (MING, 1999).

CHEN (2002) asked 90 migrants and the hosts in the resettlement site of Changling town, in the Wuqiao district of Wanxian city in 2000 confirmed that the migrants had more farmland per capita (0.08 ha) in their place of origin, Tailong town, than in the new location (see Table 11.7). They could take advantage of the diversity of land resources in Tailong and pursue a variety of livelihoods, such as growing oranges in the orchards and fishing on the Yangtze River, two

extremely important sources of income. Unfortunately, after resettlement as CHEN (2002) mentions, the migrants not only experienced a sudden decline in farmland per capita – 0.04 ha, just half the original amount – but also suffered a great loss of cash income, which had largely been earned by growing oranges, animal husbandry and other farming-related activities in their native town.

Though Changling town was less than 20 km away from their place of origin, there were no orange orchards available in the new resettlement site. Some migrant households were further frustrated by the fact that they lost another important part of their livelihood – fishing – because the resettlement site is not situated by the river (CHEN, 2002).

Table 11.7: A comparison of land use in the place of origin and resettlement site (in per cent hectares/person)

	Cultivated land	Garden plot	Forest land	Settlement, industrial land	Roads	Water area	Unused land	Land per capita
Original site (Tailong town)	34.97	22.10	4.13	5.49	3.70	6.35	23.26	0.08
Resettlement site (Changling town)	74.90	0	0	7.34	4.41	0	13.35	0.04

Source: CHEN (2002)

MING (1999) also found people who have been appropriately resettled in the Three Gorges area, with fine new homes, jobs and compensation. In Badong and Zigui counties in Hubei Province, he conversed with six rural families who were enjoying a comfortable life after resettlement. They had even opened small shops in the new county seats. As he points out, these families explained, however, that they were prospering largely because they had been designated as ‘model resettlers’, which means that they had received preferential treatment and were showcased by local officials as success stories of the displacement from the Three Gorges area. But creating such ‘model’ households is expensive: Each one has cost about four times the average amount available for the relocation of a household. And since the central government insists that the total sum for resettlement is fixed, there is a question as to how much money will be available for those resettled later (MING, 1999).

Another serious threat to rural resettlers is the institutionalized discrimination they face in the official assessment of compensation according to residential status, claims MING (1999). Families that are registered as rural households receive less housing compensation than do urban residents, even though the cost of construction materials is the same for both. For example, in Yunyang County, compensation for every square meter of brick and concrete buildings is 300 yuan for county-seat residents, 225 yuan for township-seat residents and 180 yuan for rural residents. In Zigui, the rates are 480 yuan, 200 yuan and 150 yuan. Many farmers who were interviewed said, often in very

emotional terms adds MING (1999), that they regarded the compensation as insufficient to reestablish their homes (compare with JING, 2000: 27–28). YAN and QIAN (2004: 632) claim that it is estimated that the cost of assisting each migrant to move out ranges from 5,000 to 10,000 yuan (from 605 to 1210 USD).

Further, MING (1999) argues that compensation rates vary widely across the area, as well as between locations classified as urban and rural, and there has been no indication of whether compensation will be adjusted to reflect inflation. However, the value of the farmers' property, the cost of moving and the price of construction materials to build new houses were calculated in 1992. Adding to the farmers' anxiety is official corruption, which raises the question of whether they will see any compensation money at all. Every farmer who MING (1999) interviewed mentioned cases of officials who had embezzled resettlement funds or taken bribes for awarding construction contracts and the officials had taken bribes from land reclamation and construction contractors eager to profit from the reclamation of new farmland and the construction of roads, schools, apartments, health clinics and office buildings.

JING (2000: 26) mentions villagers in Gaoyang Township, Yunyang County, who have repeatedly appealed to the central government for more resettlement funds. Their appeal has to do, in part, with the regional discrepancies in the amount of compensation that resettlers can get after part of the resettlement investment is used to build community infrastructures such as roads, irrigation systems, schools, and medical clinics. The following figures are the varying rates of per capita compensation for distribution among individuals (JING, 2000: 26–27):

- Fengjie County: 9,458 yuan (1,144 USD)
- Zhongxian County: 7,611 yuan (920 USD)
- Kaixian County: 7,306 yuan (883 USD)
- Wushan County: 7,197 yuan (870 USD)
- Yunyang County: 6,773 yuan (819 USD)

Among the five counties listed above, Yunyang has more cultivated fields to be submerged and a greater number of villagers to be resettled. But it has the smallest amount of compensation to distribute among the local resettlers (JING, 2000: 27).

More significantly the migrants experienced a sharp drop in per capita income after displacement, indicates CHEN (2002). The average per capita income in the 11 households surveyed in Changling town, in the Wuqiao district of Wanxian city decreased from 3,431 yuan RMB (415 USD) in 1999 to 2,450 yuan RMB (296 USD) in 2000 (see Table 11.8), a decline of 29 per cent, with variations according to the work undertaken by the households (CHEN, 2002).

Table 11.8: Change in household income (in yuan) by household production category

Year	Farming			Fishery plus farming			Commerce & services plus farming			Transport plus farming			Total income per capita (yuan/person)
	Household	Population	Total income	Household	Population	Total income	Household	Population	Total income	Household	Population	Total income	
1999	6	21	68075	3	14	45700	1	4	18195	1	5	25000	3431
2000	6	23	48699	1	3	3070	3	12	42905	1	5	10510	2450

Source: CHEN (2002)

The Three Gorges area cannot absorb a large number of uprooted farmers unless they can be moved out of agriculture into industrial jobs. According to MING (1999) this is why one of the goals of the government's 'developmental resettlement' policy has been to provide jobs for rural resettlers who will not be able to farm by setting up new industrial enterprises as well as absorbing some relocates into the labor force of existing factories. But over the past few years, the prospect of finding industrial jobs has dimmed for many rural resettlers as local industries have hired all the people they need. Further, nationwide, unemployment rates increased dramatically in 1997, says MING (1999), and in the Three Gorges area, hundreds of thousands of urban residents formerly working for state-run or collectively owned factories and enterprises are being laid off. In the areas under the jurisdiction of Chongqing municipality, two million people who once worked for state enterprises are were unemployed, according to conversations with local officials, and unemployment rates in the counties and cities along the Three Gorges area, especially the Sichuan section of the reservoir area, are likely to increase in the next few years, concludes MING (1999).

CHEN (2002) tries to analysis of each laborer's working day in different sectors among 29 displacees in Changling town shows an apparent shift from agricultural to non-agricultural sectors. According to him this clearly reflects the fact that there is much less farmland available and more business opportunities in the new resettlement site. His statistics indicate that laborers involved in traditional farming spent 67 per cent of their working day on average on these activities before displacement, and that this percentage fell to less than 40 per cent after resettlement. This marked change reflects the sharp drop in farmland per capita. As a result, CHEN (2002) argues, that rural migrants have slipped into a state of underemployment after resettlement, leading to a greater surplus

of laborers in the resettlement site. Before resettlement, each laborer worked an annual average of 227.4 days, but this figure declined to 165.7 days a year in the new location (see Table 11.9). Assuming that a laborer employed full-time works 300 days a year, the current employment rate after resettlement is 55 per cent. Before resettlement, the equivalent employment rate was 76 per cent. Resettlement appears to have a disproportionate impact on women. Before resettlement, women laborers worked an annual average of 240.8 days, but after resettlement the figure declined to 157 days. If each woman worked 300 days a year, the current employment rate would be only 52 per cent, compared with 82 per cent before resettlement, calculates CHEN (2002).

Table 11.9: *Migrant employment among 29 displacees by sector in the resettlement site (workdays/year) – Changling town*

	Farming	Forestry	Animal husbandry	Fishery	Enterprises	Building industry	Transport	Commerce & services	Total	Average
1999	1759	1343	656	642	0	612	730	852	6594	227.4
2000	1405	350	0	133	174	906	730	1107	4805	165.7

Source: CHEN (2002)

The researchers from Chinese Academy of Science in their study focuses on the rural migrants resettled in the peri-urban area around Wanxian city identified four groups of problems (CHEN, 2002):

1. *Serious shortage of farmland* – it is somewhat surprising to note that local farmers suffer more from the resettlement and urbanization than the migrants do. One reason for this appears to be that the state resettlement policy guaranteed migrants a per capita average of 0.04 ha of farmland, while the host population was persuaded, sometimes forcibly, to hand over part of their land to the migrants. As a result, local farmers had an average of 0.02 ha per capita left for themselves, just half the size of the migrants' land-holdings.
2. *Continuous decline in household income* – a substantial decline in income from traditional agriculture can be seen in both migrants and locals. The poverty-stricken reservoir area seems to have suffered more from this trend because of the weak local economic foundations, a limited labor market and growing competition from other regions in developing non-farm industries and products. Apart from households with members working in the construction industry, both migrants and locals engaged in all other production categories are experiencing a steady decline in household income.
3. *Unemployment and underemployment* – the employment rate among migrants was 76 per cent before displacement, but the rate dropped to just 55 per cent after their resettlement. For the host population, the employment rate was 86 per cent in 1997 but only 65 per cent in 2000. It can be anticipated

that, inevitably, a large jobless army is likely to harm the local economy and trigger social unrest in the Three Gorges area.

- 4 *A low level of education and technical skill* – among both the migrant and host populations will have a negative impact on future sustainable development in the reservoir area. The migrants had an average of 6.52 years of schooling in 2000, while the host population had an average of 5.95 years. Workers in factories, the construction industry and in commerce and services had more education than agricultural laborers, who had 5.47 years of schooling (migrants) and 4.36 years (host population). These figures give an indication of why both migrant and local laborers are experiencing a great deal of difficulty in shifting from farm work to non-agricultural sectors.

Wei Yi (in JING, 2000: 29) has reached on the basis of his research in Yunyang that for reduction of social instability in the area would be caused by the resettlement in the next dozen years; the best solution is probably to lower the dam's planned height so as to reduce the total number of people to be relocated. He argues, for example, if the normal water level in the reservoir were lowered to 160 meters, and the flood control level to 130 meters, more than 500,000 people would not have to be relocated. In short, the resettlement problems must be taken seriously and solutions badly need be found. If not, Wei Yi suggests, social instability in the Three Gorges area is bound to cause far-reaching consequences (JING, 2000: 29).

STOJANOV and NOVOSÁK (2006: 77) suppose that implementation of any resettlement program should cover the following practical aspects:

1. **Adequate preparation**
 - clear and transparent criteria for relocation,
 - social impact assessment,
 - environmental impact assessment,
 - suitable and fertile fields for farmers,
 - suitable and sustainable employment opportunities for workers,
 - new suitable houses (mainly for villager) or flats (mainly for inhabitants of towns and cities)
 - suitable policies for relocation,
2. **Willingness and participation of migrants**
 - long-term explanation campaign,
 - comply to human rights,
 - psychological assistance,
3. **Willingness and participation of hosted population**
 - allow preserving standards of livelihood,
 - improve the infrastructure situation in target areas,
4. **Adequate funds for**
 - compensation, rehabilitation and social programmes,
 - construction of new villages, towns, cities or houses, flats,
 - construction of new factories or other employment opportunities,
 - modern environmental technologies and equipment (access to safe water, sewerage, etc.)

- purchase and adaptation of target areas;
 - relocation,
 - usable instruments and capacity for moving (vehicles, buses, etc.),
5. **Social integration**
- allow preserving standards of livelihood,
 - long-term process of integration to new environment, culture, society, etc.

11.9 Conclusion

Nowadays, environmental migration is emerging as a new phenomenon with an unpredictable potential. China with its scarce resources, overpopulation and economic development projects represents a country, which can be seriously hit in this regard. The case of Three Gorges Dam region clearly illustrates the relevance of this assertion. Some authors claim that environmental migration from the region is an inevitable and only solution to local environmental and social problems. Implementation of environmental migration to relieve population pressure and bring about sustainability of development between environment, population, economy, and society in this region has been proposed in recent years (see YAN, QIAN 2004: 615). Emigration from overloaded water – carrying capacity and ecologically fragile regions is necessary, but needs careful human ecological planning and management (WANG, REN, OUYANG 2000: 171; compare with JING 2000: 26). YAN and QIAN (2004: 614–615) claim that some areas do not possess the basic condition for human subsistence. An important cause is the excessive growth of the population and the continually increasing population densities. Increased population pressure then ensues in over-cultivation, over-grazing, and haphazard logging, leading to reduction in vegetation and exacerbated desertification. Through environmental migration, the people will be moved out of areas with seriously degraded environment or unlivable natural environment that essentially do not possess the condition for human subsistence and they will rebuild their resettlements in other locations.

However, it remains the question: “Is environmental migration from the region in accord with the fundamental principles of sustainable development?” According to the author of this chapter the answer is rather straightforward. The solution of environmental degradation using the strategy based on the displacement of people does not solve the primary causes. Instead of searching a more acceptable solution for all actors (e.g. construction of smaller dams, implementation of environment friendly technologies) the problem is transferred elsewhere with blurred impacts on both, original and host areas. In China, the problem is complicated by the absolute lack of natural resources including land. Thus, the construction of the Three Gorges Dam contributed to environmental pressures and social problems of displaced people. Economic benefits are controversial as well.

Research reports from the field and personal experiences of the author of the chapter argue that environmental migration generally cannot solve environmental problems or poverty of people in the Three Gorges area or in the whole China. The solution of the issue consists of change of access to environment and nature generally, prevention of wastage of natural resources and prevention of water contamination (compare with WANG, REN, OUYANG, 2000: 44). Agriculture in the area needs to use modern environmentally friendly technologies together with best knowledge (e.g. measures against the soil erosion mainly), which allows producing sustainable food and social security in the region. The experience from study areas (e.g. Zigui county) gives evidence that local people do not use the basic measures against soil erosion in their fields.

The construction of the Three Gorges Dam can contribute to economic growth in some areas of the region, but it will not surely help to nearly two million displaced people, who had to leave their habitats, houses and fields. Even though the promises of the central government or local authorities, enhance of living standards have not become, but reversely, the environmental migrants from the area have become poorer. Authors of the paper can confirm that many of them came back to their original sites in spite of strict prohibition, where they try to live and grow farming products to the last moment. They live in temporary homes (that are frequently built from papers, or plastic foils) and “wait” for reservoir level rise. For this reason their future fate remains unsure. We can expect their illegal migration to some Chinese cities with all negative consequences of their decision.

CONCLUSION

Chapter 12

Towards the Future Research and Policy Implications

Robert Stojanov

Policies that accept the wider mobility of the population are likely to accord with policies that will enhance the well-being of greater numbers of people. Ronald Skeldon⁴⁸

The contemporary world is characterized by large social and economic disparities between particular regions and countries, linked to the high level of poverty in the least developed of them. Development efforts to reduce these inequalities and combat poverty stand high on the political agenda, hand in hand with the security and environmental aspects that form the main domain of this publication. The traditional concept of ‘national’ or ‘state’ security, which had a purpose during the Cold War and which is based on the premises that most threats come from the outside and that these threats are primarily of a military nature, is now out of date. The ‘evolution’ of threats has changed our understanding of human security. Suddenly it has become apparent that the lives of millions of people are threatened not only by international wars and civil conflicts, but also by hunger, chronic poverty, natural disasters and environmental degradation or change, including climate change and resource depletion, which play a contributory role affecting population movement in selected regions. However, at the same time we have to take into account that (international) migration forms an integral part of the history and culture of many nations, especially in developing regions at the present time.

Recent decades have witnessed a dramatic change in the migration landscape as transport and communications have improved within an increasingly globalized world. All nations are now involved with the movement of people – whether as origin, transit or receiving countries. The number of people counted as living outside their country of birth has almost doubled during the last five decades – increasing to almost 191 million in 2005. Despite perceptions to the contrary, the proportion of international migrants worldwide has remained relatively low and stable, growing only from 2.5 percent of the total global population in 1960 to 3.0 percent in 2005. Nevertheless, the United Nations Population Fund

⁴⁸ SKELDON (1997b).

(UNFPA, 2006: 5) argues that net migration accounts for a growing and major share of population growth in developed regions – three quarters in 2000–2005. While emigration has not led to significant decreases in population growth in developing regions, data from 48 developing countries – mostly small or island states – has resulted in reductions of more than 15 percent (UNFPA, 2006: 6).

The issues of immigration and development are closely connected. Stepped-up investments in poverty reduction, gender equality and development, including the fulfillment of donor country commitments to official development assistance, are part and parcel of efforts to achieve a more orderly migration system. These measures are necessary to reduce the gaps between rich and poor and to expand opportunities for all – including women, who in too many countries lack equal access to livelihood opportunities. UNFPA (2006: 3) notes that immigration policies that respond to economic interests while safeguarding human rights and gender equality are critical and at the same time, such policies help remove unnecessary obstacles to mobility that can, and do, result both in the loss of human dignity and of human lives.

Managing migration more effectively has become a top policy priority for most developed and developing countries, even though some authors are skeptical about the possibility of managing human migration flows. This is especially relevant today in view of the prospects of continued international migration, driven by the ageing of OECD populations, increased labour shortages in many developed countries, and persistent gaps in income and standard of living differentials across developed and developing countries. It is widely recognized that migration may generate important gains, not only for migrants but also for host and sending countries. Developing countries in particular may have much to gain in terms of growth, investment, human capital accumulation and poverty reduction – if they manage to restructure effectively their economies following emigration and to diffuse these benefits throughout the economy. To do so, migration and development policies need to become more coherent (KATSELI, LUCAS, XENOGLANI, 2006: 5). In the context, we argue that using official development assistance to reduce migration pressures may not always be effective, because the level of aid required is usually very high and because piecemeal aid initiatives are unlikely to be successful (UNITED NATIONS, 1996).

In respect of the facts, some authors appeal for policies that accept the wider mobility of the population (SKELDON, 1997b), or – somewhat provocatively – call for a “celebration of migration” (King, 1996 in DE HAAN 1999: 30). Such views find qualified support in this review of the literature regarding migration and how it relates to development, poverty and people’s livelihoods. Too many studies assume an immobile population. Also, policies often wrongly try to encourage, implicitly or explicitly, a sedentary population, and impose restrictions upon population mobility. DE HAAN (1999: 30) argues that migration should be seen as the norm rather than an exception, as an integral part of societies rather than a sign of rupture – an essential element in people’s livelihoods, whether rich or poor. Migration is usually associated with general economic development, though it does not always contribute to an ‘equilibrium’. Rural development is not likely to stop migration, though the labour intensity of

that development is likely to be significant for specific types of migrants. Migration, and the form it takes, is usually consistent with populations' social and cultural values, and these values structure the patterns of migration.

Relations between migration and development are really exciting domain of research, however we must note it is still much to do in this field. It seems, according to surveyed sources and case study of Philippines, that positive factors of international migration predominate for both developed and developing countries, especially in the case of migration circularity, and therefore migration policy restrictions should be eased to foster international migration. However, this is very unlikely to happen. Developed countries will further try to limit numbers of immigrants from developing countries and only high-skilled migrants will represent an interesting segment in this regard. Political fears from cultural differences and number of unskilled labours in future are too strong to change the stance. Therefore we dare to claim that migration is an interesting opportunity for development of developing countries, however, in the near future, it is a rather dormant opportunity.

The case study of Philippine international migration provides us with a mosaic of many scattered pieces about international migration costs and benefits' for the country. This chapter shows what developing countries can lose or gained by international migration processes. Author of the study warns against situation when Philippine stakeholders will remain unprepared to resolve international migration's negative development consequences, and remain at a loss in not harnessing its benefits for the long term.

In view of the complexity and interdependencies of the various factors (or driving forces) causing migrations, some authors (DÖÖS, 1997; HOMER-DIXON, 1993; BLACK, 2001 etc.) do not consider the terms 'environmental migration' or 'environmental refugees' entirely appropriate or useful. Nevertheless, none of these authors question the important role of environmental factors in the process of migration. Thus, when environmental factors dominate, or play a key or important role in the process of migration, we can speak of environmental migration. For BROWN (2004) the rising flow of environmental migrants is an indicator that our modern civilization is 'out of synch' with the earth's natural support systems. It is apparent that environmental driving forces (such as natural hazards, possible permanent climate change, environmental degradation, pollution and resource depletion) contribute to human displacement, often filtered through context of social, economic and political forces (such as population growth, famine, poverty, conflicts, or unemployment).

The heterogeneous typology of environmental migrants, as well as unclear extent of the phenomenon are consequences of fact that topic is relatively new and still under-researched, in particular on empiric level. Predicting the phenomenon of environmental migration is a very complex issue, and various answers have been proposed concerning either how to do it, or whether it is possible to do it at all. This study presents approaches the most frequently mentioned in the discussion on the issue (above all MYERS, 1993; MYERS, 2001b; DÖÖS, 1997; SMIL, 1995), however we have to note that the process

underlying his estimates is still quite unclear, and his prediction of the numbers of environmental migrants extracted from the data is not adequately explained.

Due to the complexity of the problem, there is only a limited possibility of reaching definite and comprehensive conclusions; we have to take into consideration many and varied environmental, socio-economic and political determining factors which come in to play and interact with each other (compare with LONERGAN 1998, XI; DÖÖS, 1997: 41). For some factors – such as population growth, famines, food security, deforestation, drought, precipitation, conflicts and wars, religious intolerance, unemployment, poverty and wage differences – we have developed suitable theories and models. However, some factors are difficult to quantify and possess a very limited degree of predictability. For this reason, it cannot be expected that their integrated effect can be predicted with a high degree of accuracy. With regard to the various types of environmental migration, there are compelling reasons to claim that some of the types can be predicted with sufficient reliability (e.g. droughts and deficiency of safe water, desertification and soil degradation, famine and food insecurity, climate changes, sea-level rise, environmental pollution, construction of large dams or irrigation canals, extraction of natural resources, unemployment, etc.), others with very limited reliability (floods, tropical cyclones, conflicts and wars, political instability, etc.), while others are largely unpredictable (earthquakes, volcanic eruptions, landslides, nuclear or industrial disasters, etc.). Nevertheless the prediction of extent of the phenomenon will be always very questionable from the merit of the case.

The case of resettlement from Three Gorges Dam reservoir area clearly illustrates that environmental migration cannot be viewed as a solution of local environmental, demographic problems and following economic and social troubles. This kind of strategy does not solve the primary causes which still remain in existence and can cause other problems. In the context, is not too surprising the statement of vice mayor of Chongqing cited in Xinhua news agency that China has to relocate at least 4 million more people from the Three Gorges Dam reservoir area in the next 10–15 years to protect its „ecological safety“ (PLANET ARK, 2007). The displacement of the population only signifies that the problem is transferred elsewhere with blurred impacts on both, original and host areas. In China, the problem is complicated by the absolute lack of natural resources, including the land. Thus, the construction of the Three Gorges Dam contributed to environmental pressures and social problems of displaced people. Long-term economic benefits are controversial as well. The solution of the issue and other similar cases consist of searching for more acceptable solution for all actors such as construction of smaller dams, implementation of environment friendly technologies in agriculture and industry, prevention of wastage of natural resources and prevention of water contamination.

The two case studies in the second part of the publication show that future of environmentally-induced migrants from Three Gorges Dam area and people of Tuvalu, as well from other neighboring island states in the region, remains very uncertain. However, there are the principal contrasts between the groups. While the Chinese displacees from the Three Gorges Dam area are internal

migrants which were resettled with a limited governmental support (however, this support is sufficient for basic life), the people from Tuvalu cannot be internal migrants and the assistance of their government could be on international diplomatic level. In the Chinese case, there is a direct responsibility for the environmental change which force the people leave their habitats. In the case of Tuvaluan people we can also suppose human-induced cause but there is not any straightforward responsibility, excluding moral liability from inhabitants or governments of more industrialized countries. However, the involuntary fate of forced migrants connected with economic, social and psychic uncertainty and with impossibility to return home because of environmental causes of the resettlement is the most important feature which binds them together.

There are another exciting topics that we cannot take into consideration in the book, due to limited space, such as international migration and development assistance relations, or remittances and environment linkages. SHERBININ et al. (2008: 46), in the approach, argue by big complexity of the issues that any discussion of household migration–environment linkages without an assessment of the role of remittances would be incomplete, because remittances may have beneficial impacts on the local environment by reducing resource dependency through the substitution of purchased goods (such as electricity or imported food) for locally produced goods. On the other hand, JOKISCH (2002: 546–547) adverts that remittances may have negative impacts on the environment, such as degradation of agricultural systems, by increasing investment.

We have to underline the necessary of further research connected with the relations between both main issues of this publication, especially in the context of the Czech Republic as well as all Central-East Europe. The outcomes of the research works should be instrumental for deepening of knowledge of linkages and consequences between the international migration and development on one hand, and environmental change and migration on the other hand, which could be usable for increase of coherence and intensify effectiveness between migration and development politics. It is not surprising that politics in European politics and people from European Commission attach importance to the issues (e.g. organizing the first session of an annual Global Forum on Migration and Development in July 2007, support of research project ‘Environmental Change and Forced Migration Scenarios’ – for details see EACH FOR, 2007), and they effort to increase of coherence of national and European approaches towards the issues.

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Index

A

Africa 25–28, 32–34, 37, 38, 71, 72,
78, 82, 95–97, 116, 131, 133, 137,
139, 146, 147

Algeria 35

Antigua and Barbuda 103, 104

Asia 25–28, 32–34, 71, 72, 82, 97,
133, 139, 142, 152, 175

Australia 27–31, 33, 35, 37, 95, 103,
108, 130, 155, 161–163, 175

B

Bahamas, The 104

Bangladesh 73, 74, 78, 111, 140, 141,
148, 149, 174

Barbados 103, 104

Bahrain 32, 95

Belgium 30, 111

Belize 103, 104

brain circulation 96, 97, 100

Brunei 108

burden-sharing 160–166

Burundi 86, 87

C

Canada 29, 30, 31, 33, 35, 36, 95, 103,
108

climate change 17, 18, 21, 55, 123,
129–131, 133, 139, 141, 143, 145,
149, 150, 152, 155, 156–161,
163–167, 170, 173, 175, 177, 195,
197

Congo, Democratic Republic of 86,
89

Chernobyl 19, 132, 142

China 21, 57, 58, 71, 80, 96, 100, 123,
133, 137, 139, 146, 148, 149,
167–182, 190, 191, 198

D

Denmark 30, 134

desertification 17, 26, 55, 125, 128,
130, 131, 133, 134, 136, 137,
146–149, 153, 156, 173, 175, 176,
179, 181, 198

Dominica 104

Dominican Republic 81, 103, 104

drought 17, 18, 55, 125, 131, 134, 137,
146, 148, 153, 170–172, 175, 198

E

Egypt 73

El Salvador 74, 92, 125

Europe 18, 26, 27, 28, 33–35, 37, 48,
54, 72, 80, 82, 83, 97, 142, 175,
199

F

Finland 30

France 30, 35, 71, 95, 109, 111

floods 130, 132, 133, 136, 137, 141,
147, 149, 153, 160, 175, 179

G

Germany 27, 30, 31, 35, 71, 78, 95,
96, 103, 108, 111

global public goods 157, 158

global warming 9, 125, 133, 155, 156,
157, 159, 160, 163

-
- Greece 111
Grenada 95, 104
Guatemala 74
Guyana 38, 95, 103, 104
- H**
Haiti 38, 71, 95, 103, 109
- I**
India 35, 58, 70, 71, 73, 80, 96, 100, 111, 132, 141, 146, 148, 149, 174
Indonesia 74, 14, 175
International Organization for Migration (IOM) 29, 35
Intergovernmental Panel on Climate Change (IPCC) 123, 131, 152, 156, 157
Ireland 30, 64
Israel 35, 109
Italy 30, 31, 35, 96, 108, 109, 111
- J**
Jamaica 38, 94, 95, 103, 104
Japan 29, 30, 31, 33, 35, 108, 109
- K**
Kiribati 160, 162
Korea 73, 78
Kuwait 32, 95, 108
- L**
land degradation 17, 55, 133, 170, 172
Latin America and the Caribbean 25, 26, 28, 33–35, 38, 39, 54, 70–72, 76, 96, 102, 103, 133
Lebanon 111
Luxembourg 30
- M**
Malaysia 95, 101, 108, 109
Mexico 70, 71, 79, 84, 85, 86, 92, 102, 111, 125, 146
Middle East 28, 25, 80, 116
migration 15–21, 25, 27–30, 33, 34, 36, 37, 39, 41–62, 90, 93–103, 105–120, 123–131, 135–139, 141–145, 150–152, 156, 167, 168, 170, 173, 174, 181, 190, 196, 197, 199
- social and economic consequences of 113, 115
- migration and population 53, 95
- skilled migration 37, 39, 65, 93–104
- circular migration 16, 28, 55–59, 62, 141
Millennium Development Goals (MDGs) 17, 69
- N**
natural resources 18, 127, 132, 138, 147, 149, 153, 169, 176, 181, 198
Netherlands, The 30
North America 27, 28, 32–35, 48, 64, 83
Norway 30, 108
- O**
Oceania (Pacific) 33–35, 123, 130, 135, 155, 160, 162, 163, 164
Pakistan 35, 73, 74, 78, 101, 111, 125
Papua-New Guinea 160
Philippines 20, 70, 71, 73, 78, 81, 86, 96, 100, 104–106, 109–120, 125, 197
- P**
Portugal 30, 111
poverty 16, 54, 55, 64, 67, 84, 91, 112, 116, 123, 125, 128, 143, 147, 148, 150, 152, 167, 168, 183, 195–198
- Q**
Qatar 32, 95, 108

R

remittances 16, 17, 20, 38, 39, 64–67,
69–79, 82–92, 101, 103, 109–111,
116–119
- remittance decay 72
- positive impact 38, 39, 63, 77, 78,
84, 88, 89
- negative 38, 63, 88, 89
responsibility-sharing 163
Rwanda 86, 87

S

Saudi Arabia 32, 35, 71, 95, 108, 109,
114
Singapore 95, 108, 109, 114
sea-level rise 130, 131, 133, 137, 138,
140, 141, 148, 149, 150, 152, 153,
155, 160, 161, 166, 170, 173, 175
skilled migration rate 94
Spain 35, 37, 71, 108, 111
Sri Lanka 73, 74
St. Kitts and Nevis 103, 104
St. Lucia 103, 104
St. Vincent and the Grenadines 95,
103, 104
Sudan 73, 140, 146, 148
Suriname 103, 104
Sweden 29, 134
Switzerland 37, 71

T

Tanzania 74, 148
Thailand 73, 14
Three Gorges Dam 21, 168, 171, 175,
177, 179, 180–182, 186, 187, 189,
190, 191, 198
Tonga 71, 73, 162
Trinidad and Tobago 38, 103, 104
Turkana 140
Turkey 35, 70, 74, 78, 111
Tuvalu 21, 155, 159, 160–162, 166,
198, 199

U

United Nations Commissioner for
Refugees (UNHCR) 128, 129
United Arab Emirates 32, 35, 95,
108, 109
United Kingdom (UK) 30, 31, 35, 82,
95, 96, 101, 108, 111
United States (USA) 29, 30, 31, 35,
36, 37, 66, 71, 76, 84, 95, 100–
103, 108, 109, 111, 114, 168, 169,
173, 175

W

World Commission on Dam (WCD)
171

Y

Yangtze River 168, 171, 175–179, 184

Robert Stojanov, Jiří Novosák, Jeremiaah M. Opiniano,
Francois Gemenne, Tadeusz Siwek

Development, Environment and Migration
Analysis of Linkages and Consequences

Executive Editor: prof. RNDr. Tomáš Opatrný, Dr.
Editor-in-chief: Mgr. Lucie Loutocká
Layout: Palacký University Press
Cover Design: Mgr. Lenka Wünschová

Published by: Palacký University, Olomouc
Křížkovského 8, 771 47 Olomouc
www.upol.cz/vup
e-mail: vup@upol.cz

Printed by: Papírtisk, s. r. o.
Lindnerova 108/5, 779 00 Olomouc
www.papirtisk.cz
e-mail: papirtisk@quick.cz

Olomouc 2008
1st Edition

Edition Series – Monographs
Not for sale

ISBN 978-80-244-1966-4



9 788024 419664