

EAST-WEST MIGRATION IN ENVIRONMENTAL CONTEXT

Gönül OĞUZ*

ABSTRACT

Following the Eastern enlargement in 2004 and 2007, a great deal of debate has centered on whether the environment factors will create obstacles to labour mobility in the European Union (EU). In particular, the removal of restrictions with the end of transition periods in most of the old EU has led to a more informal manner of discussions of whether environmental movement will be increased in short or medium run. While the socio-economic benefits of labour migration from the East to the West will likely triumph, it is generally claimed that the population of the Central Eastern and European countries intend to go abroad, but often change their minds because of the environmental well-being, such as pollution or bad weather. This article explores the possibility of the impact of environmental factors on the labour migration from the Central Eastern and Western European countries to the EU.

Key Words: East-West Migration, European Union, Environmental Well-being.

JEL Classification: J61

* Dr., the University of Reading, E-mail: g.oguz@reading.ac.uk

ÖZET

DOĞU-BATI GÖÇÜNÜN ÇEVRESEL FAKTÖRLERİ

2004 ve 2007'deki Doğu genişlemesinden sonra, tartışma çevresel etkenlerin Avrupa Birliği'nde (AB) işçi işgücü hareketliliği için engeller oluşturup oluşturmayacağı konusuna odaklanmıştır. Özellikle, eski AB'nin çoğunluğunda geçiş dönemlerinin sona ermesi ile kısıtlamaların kaldırılması çevresel hareketliliğin kısa ve orta vadede artıp artmayacağına ilişkin gayriresmi tartışmalara yol açmıştır. Doğudan Batıya işgücü göçünün sosyo-ekonomik yararları ortaya çıkmışken, Orta ve Doğu Avrupa ülke vatandaşlarının yurt dışına gitme eğiliminde oldukları ancak sıkça hava kirliliği ve kötü hava standartları gibi olumsuz çevre koşulları nedeniyle düşüncelerinin değiştiği genel olarak dile getirilmektedir. Bu makale çevresel etkenlerin Orta ve Doğu Avrupa ülkelerinden Batı Avrupa ülkelerine işgücü göçü etkileri üzerinde durmaktadır.

Anahtar Sözcükler: Doğu-Batı Göçü, Avrupa Birliği, Olumlu Çevre Koşulları

JEL Sınıflandırması: J61

Introduction:

The Dynamic of Post-Enlargement Migration Flows

In principle, right from the start of EU encouraging, stimulating and governing cross-border mobility has been one of the essential aims (Houtum and Velde 2004: 100). For the early initiative, the Rome Treaty (TEU, 48-58) provided the right to free movement for European citizens. This initiative reflects on the original economic objectives, in order to tackle unemployment, and thus increase Europe's competitiveness and growth.

Although free movement rights are fundamental European rights, mobility across the member states remain low. The European Commission statistics shows that movement from one country to another is limited. Only 2% of EU citizens currently live and work in another member state. This is despite the fact that the transitional restrictions have, by now, been lifted by most member states.¹ 10 Central Eastern and European countries (CEEC-10) nationals make up only 0.2% of the total EU-15

¹ Mobility inside the enlarged EU is restricted by the member states through transitional periods, because of fear of mass migration. The transitional arrangements were signed with the CEECs prior to their memberships, delayed the implementation of the right for full free movement of workers for up to seven years.

population.² A new migratory pattern inside the enlarged EU is the tendency toward mainly a regional mobility. This reflects on short distance mobility and commuting mobility (i.e., 21,000 Slovaks work in Hungary and 75,000 Hungarians work in Slovakia).

These trends are expected to continue, with the net East-West migration either remaining stable or declining slightly, while some countries (notably Germany and Austria) are projected to absorb essentially all additional net population movement. Current difficulties may prove continuing in longer term. Studies, which have attempted to estimate the potential migration flows following 2004 enlargement, indicate that this is not so. According to the European Commission estimation, a potential migration flows would be between 1% and 4% of the total population of the EU-10 within the next two decades. However, forecasting such flows is risky due to the unpredictability of economic growth in both the EU and the new accession countries.

A question arises as to what extent the environmental deterioration has triggered the East-West migration. Although studies acknowledge barriers to international labour mobility such as the existence of legal and administrative, they rarely dedicated to the environmental aspects of migration. So, there is considerable less literature on the interconnections between environmental change and European labour mobility. In this paper, I explore the environmental factors both in the EU-15 member states and the CEECs countries that may affect labour mobility.

Theories of Environmental Movement

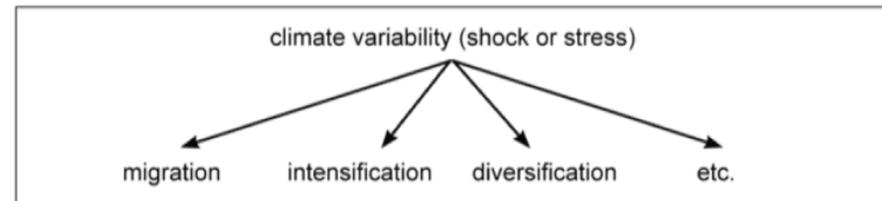
Understanding migration behaviour in response to the impacts of environmental variability, two approaches are generally adopted.

Firstly, the Sustainable Livelihoods Approach (SLA) attempts to explain the responses of households to external vulnerabilities in terms of a variety of strategies. A livelihood is environmentally sustainable when it maintains or enhances the local and global assets on which livelihoods depend, and has net beneficial effects on other livelihoods. A socially sustainable environment can cope with and recover from stresses and shocks, and provide for future generations (Chambers and Conway 1992: 48). The underlying assumption is that families possess a variety of natural, physical, financial, human and social assets, which are all used to maintain their livelihoods. Any loss can be compensated by falling back on the other available assets. The SLA is also concerned with the question of vulnerability of livelihoods. This is particularly relevant in terms of shocks, trends,

² The Central and Eastern European Countries are referred to as a group of ten countries (CEEC-10) – Bulgaria and Romania, and Hungary, Poland, the Czech Republic, Estonia, Slovenia, Slovakia, Latvia and Lithuania.

and seasonal developments. It is equally important to know what kinds of coping strategies are used by people in the case of such developments. In addition to this, within the East-West migration, external influences in the form of policies of the EU-15 member states as well as the EU institutions are taken into account.

Figure 1 :
Focus of SLA Based Enquiry

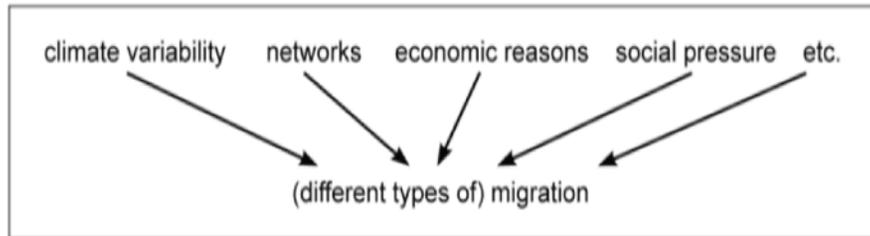


Source: 'Climate Change and Migration: Improving Methodologies to Estimates Flows', IOM, Migration Research Series, No. 33, 2008.

Secondly, New Economics of Labour Migration (NELM) developed by economists Oded Stark and David Bloom (1985) seeks to figure out whether migration diversifies sources of household income and reduces risk. Stark and Bloom argued that migration decisions are often made jointly usually within families, who expect remittances in return for investment in the initial migration of a household member.³ Simply, migration is thus not a strategy used to maximize individual income regarding more direct question of what causes people to move. The function of the risk-minimizing strategies, such as systems of insurance and social welfare is the key to this approach. If local markets fail for some reasons, some family members can compensate these losses by providing money they earned in such market.

³ Stark, Oded and David E. Bloom (1985), The New Economics of Labor Migration, American Economic Review 75(2): 173-178.

Figure 2 :
Focus of NELM Based Enquiry



Source: 'Climate Change and Migration: Improving Methodologies to Estimate Flows', IOM, Migration Research Series, No. 33, 2008.

Taken together, these approaches provide a way of understanding how households respond to environmental changes in a sense that migration is part of their response. Essentially, if information can be obtained on how people perceive the impact of shocks and stresses, maintain their livelihoods, what assets they possess, what they think about the future, and what has changed from the past, estimates can be made regarding the significance of climate change and variability as shocks and stresses, and the significance of migration as a response. An understanding is also needed of who takes migration decisions and whether and how a consensus is achieved; what family members usually migrate and why; why certain destinations are preferred over others; what determines the length of stay; what has changed from the past; and what the future is likely to be (IOM 2008: 39).

Literature Review

As already mentioned, there is considerable less literature on whether the natural deterioration frequently accompanies immobility. Although contemporary examples are fewer, there are some case studies which have documented evidence for a link. These studies have underlined the implications of environmental destruction for labour migration. Having said that, there are at least some studies – need to be considered here – that may shed some light on current European mobility trends.

Hunter (2005) identified a significant relation between migration and environmental hazards. Migration as a demographic process can be associated with environmental hazards in several ways. On the one hand, proximate environmental hazards might influence residential decision-making by shaping the desirability of

particular locales. In this case, we might consider environmental hazards as factors shaping migration. On the other hand, migration can represent an exacerbating force with regard to environmental hazards as a result of increasing population density in vulnerable locales (Hunter 2005: 275).

At the very least, one might expect labour migration to mean that some form of movement takes place regardless of the erosion of biological diversity or how ecological trends interact with migration. According to Bates (2002), the interconnections between the environmental change and migration are rarely direct. Instead, the effects of change normally filter through the local economy (Bates 2002: 469). Obviously, Bates has stressed on local economy as push factors, whilst dismissing the idea of environmental factor for causes of migration. As Bates has pointed out, the expected income from work and the probability of getting a job are the main migration drivers than anything else.

This view point is contradicted by Flintan (2001) in his study entitled 'Environmental Refugees—a myth or a reality?' Although Flintan argued that the reasons for migration were often overlapping and interrelated, including social and political factors, he actually strongly stated that 'the environmental factors are often the root-cause for migration' (Flintan 2001: 75). Cautiously, this is an optimistic view – nothing less than a shift from the socio-economic situations towards the environmental well-being. From a radical view point, one would wish to have a safer place to live environmentally in the face of globalization.

A different perspective is provided by Heinonen (2006). Like Bates, Heinonen strongly defended the idea that environment in itself does not actually constitute incentives for movement. A degrading environment affects livelihoods and this, together with other factors, creates the pressure to move (Heinonen 2006: 457). So, Heinonen pointed to a multitudes of factors, combine together create incentives for movement. For rational individuals, there is no need to rely on a single factor – other factors come into play. In 2002, a survey was carried out in six villages in the province of the Tonle Sap Lake in Cambodia. Heinonen examined the forces that drove population from the Tonle Sap Lake Region and how such movement was interconnected with natural resources, especially water resources (rainfall, droughts, flood, water quality and sedimentation, etc). The result of survey revealed that the driving force that pushed population from the region was rather like a tapestry woven out of many different components. The environmental problems including population growth, poverty, water quality, water quantity and arable land were all parts of the pattern that created the push from the region. Overall, the result showed that water resources had a major role forming the driving force from this major lake in Cambodia.

Most recently work by Jay and Schraml (2009) explored the role of urban forests in Freiburg, a city located in south-west Germany, when they tried to establish links between home and host countries. Interviewing was conducted according to the

principles of qualitative empirical social research. As a result, those, who were interviewed, underlined the unity of nature and human beings and the necessity to close to nature in everyday life. Those interviewees perceived the urban forest as a place where humans can live or at least be in contact with nature. Interestingly, this perception was contrary to the native Germans and their perception of urban forests. These emotions were not always negative and seemed to be an important bridge for the interviewees between “here” and “there”— host and home country. The logic lies in strong symbolic ties that exist between humans and urban woodlands. Such a logic may influence migration, since strong emotional bonds appeared in the form of remembrance or having feelings of nostalgia.

Results of such studies show that migration is a complex process and the decision to migrate is multifactorial. In general, people are more likely to migrate toward opportunities than away from problems. The environmental deterioration may count among the factors, but it is not the main reason for emigration, except in cases of environmental disasters (Meyerson 2007: 188).

Linking Environment and Labour Migration

The looming question is what significance of the environmental variability is for the movement of labour from the CEE countries to the EU. I assume that the way that environment is incorporated into labour migration is Environmental factors matter in a sense that the push factors start to lose their plausible nature, once expectations for a more environmental well-being in a home country diminish. In principle, when the population of the CEECs countries fears of being excluded from the right to a safe and diverse environment (clean air or pure water, etc), they will likely to move to Western European countries, where a good condition exist or natural resources are plentiful. This necessitates an analysis of a number of environmental push factors driving workers from the CEECs to the EU.

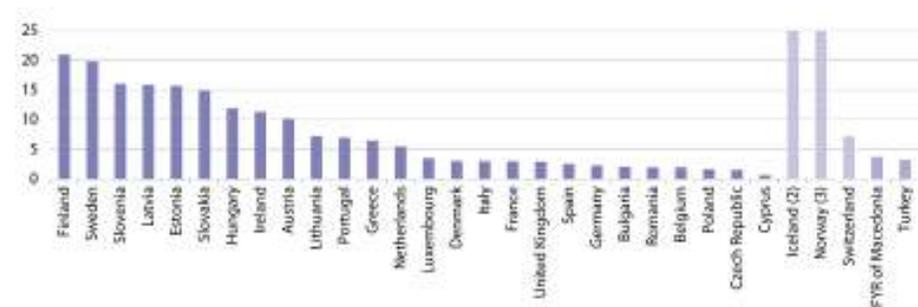
Water Resources and Migration

It is widely claimed that threat is posed by the deteriorating water resources in the CEECs, despite the Environmental Action Programme for Central and Eastern Europe (CEE) has taken some initiatives to improve the water quality. These countries are at the risk of running out of fresh and salt water ecosystems. Proper access to safe drinking water is often limited by the poor quality of surface and groundwater, shortages of chemicals for treatment, and the poor state of distribution mains and networks. Most CEE countries suffer pronounced droughts of high intensity, duration and areal coverage. This inevitably reduces water resources. For weather conditions and some other reasons, rivers that produce fresh and clean waters are said to be dried from time to time. Generally, there are three basic water problems faced by human beings: having too much, too little, or too dirty water

(Kundzewicz 2002: 883). All these problems manifest themselves frequently in CEECs, although their range and intensity may vary considerably in time and differ between countries. It is then plausible to conclude that CEECs will face the prospect of risk of running out of water resources in the medium or long run.

As Figure 3 shows, what immediately strikes one is that there are wide differences in freshwater resources among the EU-25 countries ranging from 2% to 22% in 2006. At the other end of the spectrum, the highest volume of freshwater resources per capita was observed in Finland (22%) and Sweden (20%). The lowest averages were recorded in Poland (3%), the Czech Republic (2%) and Cyprus (1%).⁴ Obviously, water resources are more constrained in Poland and the Czech Republic, suggesting more population of the CEECs will move to the EU countries where water resources are plentiful.

Figure 3 :
Freshwater Resources Per Capita – Long-Term Average (1)
(1,000 m³ Per Inhabitant)



Source: Eurostat

Hence, interconnection seems apparent, but traditional destinations (linked to job prospect, higher wages, social provisions, etc) continue to impact on migrants' choices. In this vein, the immediate effect of removing borders felt more in Poland than nowhere else. Evidence from the Eurostat suggests that by far the largest group of people coming to the UK has been Polish workers, who make up 7 out of every 10 Eastern European workers in the UK. Five years after the country joined the EU, higher wages and better perspectives for professional growth drew Polish

⁴ As for case of Cyprus, transitional periods were not applied.

labour force to the United Kingdom and Ireland, in particular. However, figures from the Polish Ministry of Labour show that, since 2008, there has been a decreasing trend in Poland as a result of the global economic downturn. The country is now experiencing return migration as far as the dynamics of labour migration is concerned. As the case of the Czech Republic, it is difficult to obtain data for potential migration in the EU-15 member states. Even so, it is claimed that the Czechs are less mobile than, for example Polish and Latvian workers. The net migration flows is very small relative to other CEECs in the 2000s.

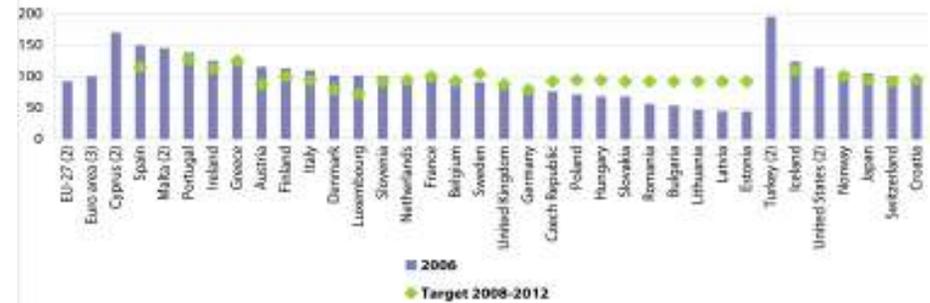
Pollution and Migration

Environmentalism can be seen as a convenient resource available to satisfy workers' need. In this regard, the question of how polluted Eastern Europe becomes sensible. Gordon Hughes (1991) implicitly or explicitly took up the issues of pollutants in Eastern Europe, covering from air pollution to various polluting industries. His work highlighted how serious the situation was especially, when one may have concerned with a potential health effect. As Huges pointed out, the parts of Eastern Europe were grossly polluted. Air pollution was severe in some areas of CEE. Sulphur-dioxide outputs per head from the Czech Republic and Poland were particularly the World's highest. Levels of heavy metals in soil and river sludge were alarmingly high around (Hughes 1991: 109). Given this outlook, the environment-related movement may prevail, when the population of CEECs expose to pollutants.

Equally important, in May 2002, the EU adopted the Kyoto protocol and by doing so, would be committed itself to a total reduction of 8% of greenhouse gas (GHG) emissions by 2012. By far, the strongest rises (45% to 70% higher) in 2006 were recorded in Cyprus, Spain and Malta, compared with the situation in 1990 (see Figure 4). Clearly, GHG emissions levels were relatively high in the UK, Germany, Sweden and Denmark, but these countries more or less met the target.⁵ This is with the exception of Denmark where emissions remained above 1990 level. It is interesting to note that GHG emission reduction was observed in Poland, Hungary, Romania and Bulgaria by less than 20%. It is also noticeable that, with some of the largest reductions recorded among the three Baltic Member States, notably Latvia, Lithuania and Estonia, emissions fell by more than 50% - well above within their respective Kyoto targets. In part, this can be explained by a reduction in the use of coal and in the case of a lower use of fertilizers and pesticides for agriculture.

⁵ Targets were not set for Cyprus and Malta.

Figure 4 :
Total Greenhouse Gas Emissions



Source: Eurostat (tsien010), European Environment Agency, European Topic Center on Air and Climate Change.

With declining greenhouse gas emission averages, workers from the Baltic States have been making use of the free movement provisions. Oddly enough, the Central and Eastern Europeans have moved where greenhouse gas emissions are significantly higher since the 2004 EU enlargement. Ironically, subsequent movement has particularly occurred in the case of workers to the UK, Ireland and Sweden. To this end, the number of Lithuanians working or studying abroad has increased considerably. Data from Eurostatistics shows that, for instance, in the UK, Lithuanians made up about 15% of workers from the EU-8 in 2005, while their proportion in Ireland was a significantly higher at 21%. Likewise, the level of willingness to leave Latvia was generally higher than other Baltic states in 2005. Accordingly, around 15,000-20,000 Latvian people worked in the UK, 1,500 in Germany, 1,055 in Denmark, less than 1,000 in Sweden and approximately 400 in other EU countries. Additionally, the number of Estonians was 965 in the UK in 2007, albeit marginal due to deficiency in data.

All in all, it is reasonable to suggest that in the context of migratory flows from the Baltic states to Western Europe, the tendency to move is higher regardless of environment conditions. Thus, the probability of labour migration is negatively related to environmental variables in the Eastern accession countries. Obviously, with higher intensity of pollutions, prosperous EU countries were attracted destinations of immigration regardless of whether they all provided very high standards of environmental protection.

Waste and Migration

Studies claim that waste is the part of push and creates pressure to move because waste materials are hazardous. The Eurostatistics in 2006 showed that almost 70 million tonnes of metallic, such as 37 million tonnes of paper and cardboard, and 12 million tonnes of glass were recovered across the EU-27 countries. A majority of these products was recovered in Germany, Spain, France, Italy, the United Kingdom and the Netherlands. More usually, a multitude of studies, which have estimated the size of the migration potential, concluded that labour migration from the CEECs would concentrate only in a few member states. Some countries, most notably Germany, Spain, France and the United Kingdom are the main destination countries.

Table 1 :
Employment Rates by Nationality – 2005 – Cell Percentages

Country of destination	2004	2005			
		Nationality			
	EU	National	EU15	EU10	non-EU
Belgium	64	62	60	55	35
Germany	:	67	68	51	48
Greece	47	60	53	47	71
Spain	68	62	64	78	71
France	61	64	69	62	44
Ireland	:	67	69	85	57
Netherlands	63	74	76	64	41
Austria	58	69	72	66	60
Finland	67	69	67	55	45
Sweden	62	74	73	62	45
United Kingdom	72	72	69	75	58
EU15	59	57	68	62	55
EU10	:	57	59	68	63
EU25	59	55	67	62	55

Source: Eurostat, LFS, 2004 – 2005 Q2

Notes: ‘:’ date not available or not reliable due to small sample size. Italy is excluded, since it does not disaggregate by nationality. Denmark, Luxembourg and Portugal are excluded due to small sample size.

Although the EU-15 member states introduced restrictions on workers from the CEECs through the transitional arrangements, the Eastern enlargement has already

generated a significant labour migration. Table 1 clearly shows that there were already significant numbers of EU-10 workers in Germany, Spain, France and the United Kingdom as a proportion of the working population, despite of their experienced in significant amount of metal recovery. Labour movement occurred albeit moderate level. It is also interesting to note that Germany was most keen to keep restrictions.

On the main, it appears that the population of the CEE countries has moved to Western European countries and thus changed their place of residence in search of better quality of life. Thus, it is sensible to assume that migration will likely to occur regardless of danger of waste. In principle, however, there should be compatibility between waste materials and movement because what destroys environment it also destroys the economic well-being of migrant. Nevertheless, this logic does not seem to work for the European labour mobility situation. Mobility from East to West, undermines the argument about the relationship between labour migration and the idea of environmental well being.

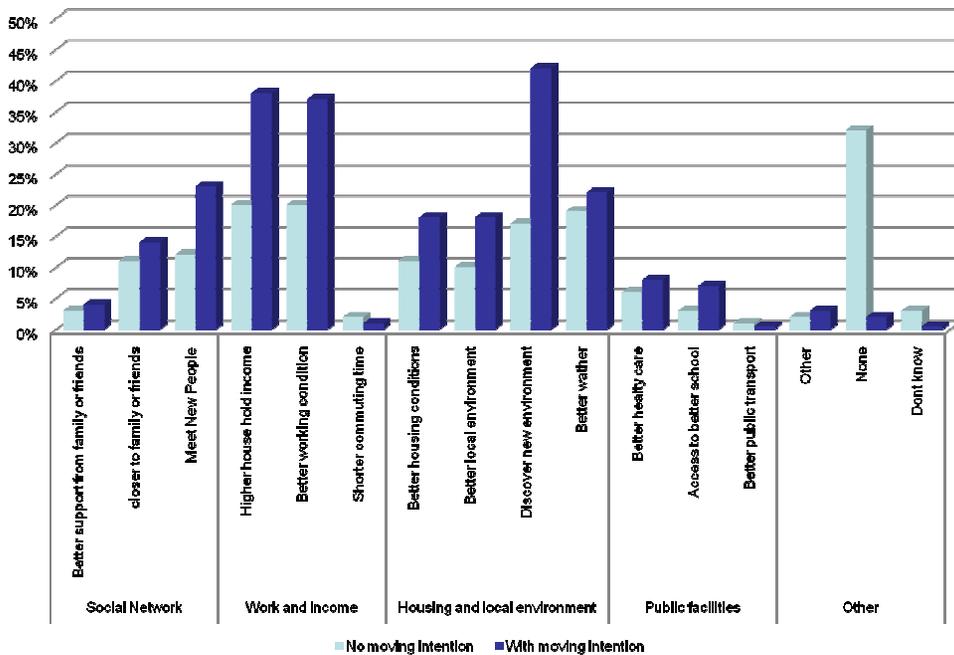
Climate and Migration

Generally, Europeans value climate change because of “feel good factor”. Perhaps, poor local environment is one of the most persistent and controversial problems related to the issue of better weather conditions for workers. This aspect is of particular interest in understanding how shocks and stresses caused by climate change and variability, which are likely to influence livelihoods in an important way. The question of why this should be the case is still closely associated with the natural resources. Such resources may be produced by a health environment of which a vast numbers of workers from the CEECs rely on.

According to a Eurobarometer survey in 2006, only 20% of respondents indicated that the prospect of better climate was crucial concerning the actual path of labour migration. The result of survey also showed that less than 25% of those asked would be prepared to leave their country in search of new friends in terms of social network, while 35% of respondents would ready to move on the condition of job and income satisfaction.⁶ These figures suggest that the environmental factors are less significant with regards to decision to move. Rather, other factors, such as higher household income and better working conditions are likely to motivate mobility. Obviously, this casts gloom over labour migration.

⁶ Residents of the EU-15 member states aged 15 years and over (a sample of 24 642 respondents) were interviewed in their homes and in the appropriate national languages.

Figure 5 :
Factors that would Encourage One to Move to Another Country
People with and without Moving Intention within the Next 5 Years, EU-25



Source: Eurobarometer survey 64.1, Consertium “TNS Opinion & Social” in 2005.

On the other hand, the issue of climate changes matters for the population of the CEE countries because many migrants from the CEE countries seasonally work in farming in the EU-15 member states. More famously, these migrants are very good at “strawberry picking” in the UK’s shorts and rainy summers. So, longer periods with high temperatures and little or no rainfall may affect their livelihood. More important, agriculture looms large in the life of the Eastern workers as far as land degrading is concern. Conversely, the harsh weather conditions reduce the demand for unskilled workers for agriculture-related sectors. The agricultural growing seasons may be lengthened as a result of climate change and increase the demand for these workers in some temperate regions of the EU (i.e., Mediterranean region). Overall, agricultural productivity due to the weather conditions may lead to low

level of mobility and thus reduce the demand for Eastern Europeans to work in such sectors.

Conclusion: Looking beyond the Economic Dimension

Labour migration-environment interrelationship in European context is not straightforward. Mobility has been far modest by most plausible criteria. With regards to the destination countries, the socio-economic benefits, such as higher income, employment prospects and provision of social services will always be weighed against environmental concerns. However, the population of the CEECs to seems responsive to the external vulnerabilities even if the role of environment issues within European labour market is minor. Again, not only the perspective of socio-economic gains and losses should be envisaged, but also one has to consider the issue from environmental angles.

Taking into account the conceptual framework, one may make a sense of the relationship between labour migration and environmental well-being. The results of the field studies are able to reveal the most important trends of East-West migration and open up the grassroots perspective about the causes of migration from the CEECs to the EU. However, these studies only partly explain the complexity of environmental change in the case of migrants, while it is not denying that they provide useful perception of environmental movement in the context of East-West migration. Therefore, interconnection between livelihoods and environmental changes is yet to be extensively elaborated.

Overall, there is little evidence to suggest that the environmental factors have triggered labour mobility across the EU countries. It is not clear whether environment variability is one of the factors that influence the East-West migration given current level of mobility in the EU. However, the East-West migration is mainly attributed to the economic conditions and the social provisions in destination countries. It is more likely that the socio-economic factors will continue to play important role in decision to move abroad. This is despite the fact that there remains considerable confusion about relationship between labour movement and environmental well-being.

References

- Bates, D. C.** (2002) *Environmental refugees? Classifying Human Migrations Caused by Environmental Change*, *Population & Environment*, 23(5), pp. 465–477.
- Chambers, R. and Conway, G.R.** (1992) *Sustainable Rural Livelihoods: Practical Concepts for the 21st Century*, Discussion Paper 296. Brighton, UK: Institute of Development Studies.
- Flintan, F.** (2005) *Environmental Refugees—A Misnomer or A Reality? A Contribution to the Wilton Park Conference Report on Environmental Security and Conflict Prevention*, Engendering Eden, Cork. <http://www.ucc.ie/famine/GCD/Paper>
- Heinonen, U.** (2006) *Environmental Impact on Migration in Cambodia: Water-related Migration from the Tonle Sap Lake Region*, *Water Resources Development*, Routledge, Taylor & Francis Group, Vol. 22, No. 3, pp. 449–462, September.
- IOM.** (2008) *Climate Change and Migration: Improving Methodologies to Estimate Flows*, Migration Research Series, No 33, Sussex University, Brighton, UK.
- Hunter, L. M.** (2005) *Migration and Environmental Hazards*, Institute of Behavioral Science, Program on Environment and Behavior, Department of Sociology, University of Colorado at Boulder Losses, Population and Environment, Vol. 26, No. 4, pp. 273-302.
- Hughes, G.** (1991) *Are the Costs of Cleaning up Eastern Europe Exaggerated Economic Reform and the Environment*, *Oxford Review Economic Policy* (1991) 7(4): 106-136.
- Houtum, H. V. and Velde, M. V. D.** (2004) *The Power of Cross-Border Labour Market Immobility*, the Royal Dutch Geographical Society KNAG, Vol. 95, No.1, pp. 100-107.
- Jay, A. and Schraml, U.** (2009) *Understanding the Role of Urban Forests for Migrants Uses, Perception and Integrative Potential*, Elsevire.
- Meyerson, Frederick A. B., Merino, L. and Durand, J.** (May 2007) *Migration and Environment in the Context of Globalization*, *Frontiers in Ecology and the Environment*, Vol. 5, No. 4, pp. 182-190.
- Kundzewicz, Z.W.** (2002) *Water Problems of Central and Eastern Europe—a Region in Transition*, Research Centre of Agricultural and Forest Environment, Polish Academy of Sciences, Bukowska 19, 60-809 Poznan, Poland