Journal of Economics and Sustainable Development www.iiste.org
ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online)
Vol.2, No.5, 2011

Climate Change, ICT and Global Labour Mobility

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Abstract

This paper critically examines the causal relationship between Climate Change, ICT and Global Labour Mobility in an exploratory manner. It was discovered that ICT is a major determinant of labour mobility across borders and it has contributed immensely to the phenomenon of brain drain. It has also created avenues for repatriations of gains accruable to the brain drain. It was however discovered that the role of climatic variation is a moderating factor in this free flow of labour skills and that it is also a major factor of the process of Globalization. The repercussive effects of climatic upheavals are global in context and content. Using descriptive explanatory methods, the study tries to identify the inter-relationship between these three concepts as they affect the Diasporas' labour movement. It was discovered that the perception of the local labour about *climatic security* in a foreign destination plays a major role in determining the level of mobility and that there is a greater appeal for *on-shoring* and *in-sourcing* of productive activities.

Keywords: Climate Change, Climatic security, on-shoring and in-sourcing

1. Introduction

Information and Communication Technology, ICT, have had a tremendous effect on the way we do things. Mothers can now make orders for groceries and sundry items from the comfort of their kitchens and at the same time monitor their children's itinerant in school. Some entrepreneurial

mothers go as far as starting a small, internet-based business from home. For the worker, ICT has made it possible for his service to be available and accessible at virtually any time and this has made him to be able to work flexibly. However where these changes has the most effect is in the expansion of interaction between and among people and in the amount of information at the disposal of the ICT savvy person.

The diffusion of mobile telephones for instance, has made a huge difference for the mass of unemployed youth in every nooks and crannies of Nigeria; providing relatively cheap and easy access to money making opportunities and creating new products targeted at new and emerging local markets. However, an area where ICT have had a profound influence is in availability and diffusion of internet access and affordable computers, which are radically changing the way people access job opportunities, locally or internationally, offering applicants several direct and almost instant means of searching and applying for vacancies as they occur.

2. Conceptual Framework

2.1 *Climate Change and ICT*

As a key contributor to growth and employment, Information and Communication Technology (ICT) increases efficiency and productivity, creating jobs and supporting business models which recognize the portability of information, workforce mobility and distribution of resources. ICT has been recognized as a major factor in climatic control through its usage in addressing such critical goals which enhances "transition to a low carbon economy by increasing energy efficiency, reducing energy use and managing scarce resources" (ICC, 2010). In relation to Climate change, Smart ICT applications can enable energy efficiency improvements in areas as diverse as building design and maintenance, transport and logistics, electricity generation, distribution and consumption, travel substitution, product dematerialization and enable a myriad of other daily process efficiencies (ICC, 2010). The information and tools of analysis provided by ICT can empower people and organizations to adapt their behaviour in an environmentally responsible manner. A good example of this was the information provided on the levels of concentrations of Green House Gasses (GHGs) as reported by the United Nations Inter- governmental Panel on Climate Change (IPPC) in 2007. The report indicated that changes in GHG concentrations and sea-levels are occurring faster than expected, and the risks of major regional climate disruptions are greater than were predicted even a few years ago.

2.2 *Climate Change and Global Labour Mobility*

Human migration is as old as creation itself. Traditionally, people move from one point to the other for various economic reasons such as seeking greener grazing grounds; gathering fruits and in search of games; proximity to source of water supply and for such strategic reasons as military advantage. In some cases, migration may be seasonal; following the trend of seasonal or climatic variation. This

tends to be one of the major reasons why people, and in fact animals, migrate. However, the changing climatic condition across the world is posing a major challenge to this.

The change in climate affects virtually all aspects of human endeavours. However, the greatest single impact of climate change might be on human migration—with millions of people being displaced annually by shoreline erosion, coastal flooding and agricultural disruption (IOM, 2008). Environmental degradation, and in particular climate change, is poised to become a major driver of population displacement—a crisis in the making (ICC, 2010). Environmental degradation which is a major factor in climate change is driven by personal and industrial activities of human being through the emission of Global green-house gas (GHG), which have grown since pre-industrial times, with an increase of 70% between 1970 and 2004 and most of the observed increase in global average temperatures since the mid-20th century is very likely due to the increase in anthropogenic GHG concentrations (IPCC, 2007). The 2001 World Disasters Report of the Red Cross and Red Crescent Societies referred to the displaced as "environmental refugees". The number of environmental refugees is expected to double to 50 million by 2010 (UNUIEHS, 2005) and reach a staggering 200 million by 2050 (Myers, 2005). Many of these displaced would be forced to migrate either permanently or on temporary basis.

Temporary migration in times of climate stress can help top-up a family's income, through remittances from paid work elsewhere and reduce the draw on local resources (IOM, 2007). On the other hand, immigration, whether permanent or temporary, is curtailed by adverse environmental or climatic conditions of the target destination. For instance the 2004 tsunami affected the influx of immigrants to the countries involved negatively. Many developed countries even warned their citizens not to travel to the affected countries.

2.3 *ICT and Labour Mobility*

The ICT revolution was an all-purpose revolution that has been described by Blinder (2006) as the third industrial revolution. It has stimulated growth in generally all facets of economic interactions, not least of which is the transferability of labour skill and knowledge. It has change the notion of "market" from a time and space limited entity to a rather more pervasive concept through which exchanges in virtual and tangible commodities could be made.

ICT has created a platform for ease of exchange of information and ideas between prospective employers and employees. The internet for instance has provided the applicant with the ability to search for jobs globally. It is also quite easy for a firm to search for experts and professionals on a global scale using the internet. ICT has also made it easy for people to move from their native country to another with little physical efforts. A case in study is the recent launch of the e-passport by the Nigerian Immigration Services. Embassies of various countries now receive applications for visas

"on-line" via the internet. This further accelerated both physical and virtual brain drain of professionals from developing countries of Africa and Asia. However, it has also enabled easier repatriation of earnings to home countries. It was in recognition of this fact that Brinkerhoff (2007) wrote in a study of the Diasporas, emigrants living in developed countries that IT has emerged as an essential enabler of Diaspora knowledge transfer and exchange.

2.4 *Climate Change, ICT and Brain drain*

The situation of certain macroeconomic and sociopolitical factors engendered the flow of trained professionals from the developing countries to the developed ones. The state of local infrastructures for instance, which are non existent in certain cases, may be considered to be the number one factor leading to the brain drain. Restricted economic opportunities which may be as a result of political instability, racial and ethnic discrimination, corruption and internecine warfare leading to a further aggravation of poverty, unemployment and widespread diseases and death constitute some factors why trained professionals leave their native countries for another. On the other hand, the assurance of higher incomes, higher standard of living, balanced political outlook, availability of basic necessary infrastructure such as adequate housing, good road network, efficient transportation system, electricity and health care became irresistibly attractive (Meyer,2001; Astor et al, 2005).

The lopsided rating of foreign currencies against the local ones does not help matters considering the fact that a professional's earnings in a foreign currency in a single year could translate to as much as one could earn in a life time at home. Astor et al (2005) highlighted greater access to enhanced technology and a desire for increased income as reasons why the surveyed physicians migrated. However, some professionals have been found to place more emphasis on personal safety than financial gains. In this case what amounts to personal safety covers such diverse issues as safety from mugging as a result of ethnic differences; climate security, whereby a migrant from a temperate clime feel secured against unfamiliar weather conditions and social cum integration safety requiring that the migrant is accepted by the host society through a smooth process of integration and acclimatization (IOM, 2007). Swedish immigration policy, for instance, views environmentally displaced migrants as people to be protected.

Globalization made it possible for organizations to splinter production processes and locate such splinters in areas where optimum utility of resources could be achieved. Many goods and skills today are produced far away from their target consumer markets. A major consideration in this regard is relative low labour cost. This process of relocating workplaces in search of employees was aptly termed *out-sourcing* and *off-shoring*. According to Rybinski (2006), out-sourcing means relocating orders, services, production, employment or, in a broader sense, a business process to another company (irrespective of its location), whereas off-shoring means relocating a business process

abroad (irrespective of whether to another company or within the same enterprise). Where climatic challenges come to play is that, everything being equal, other companies irrespective of their location should bring their services where it is needed (*in-sourcing*), while business process should also be expanded within a country (*off-shoring*) rather than taking it abroad.

3. Discussion

Climate change is one of the most pressing challenges of our times, linked as it is with real needs for energy, development and economic growth. It is a global long-term problem that requires collaborative solutions, and the engagement of all countries in a cooperative spirit will be crucial to achieving success (ICC, 2010). Climate change has become an increasingly important driver of labour mobility. On the one hand, the change in rainfall patterns; rising sea levels and the frequent natural disasters are likely to compel mass movement of people from their traditional bases leading to food and water shortages in host communities, while on the other hand these factors are also likely to affect the influx of immigrants. Either way, the number of people that may be affected by 2050, could be as high as 200 million people (Myers, 2005). This is a high figure when compared with the current total global migrant population, displaced or voluntary, of 192 million (IOM, 2007). In addition, local labour perception about *climatic security* in foreign countries contributes to the level of labour mobility and made a greater appeal for *on-shoring* and *in-sourcing* of productive activities. However, there is global awareness of climate change and labour mobility through Information Communication and Technology (ICT).

4. Conclusion

The major causes of climate change are through human activities, these include: poverty, deforestation, rapid population growth and urbanization, unsustainable agricultural expansion, indiscriminate bush burning, over exploitation of forests and consumption of fossil fuels especially in industry and transport, and use of ozone layer depletion substances.

The application of ICT tools such as Geographical Information Systems (GIS) and web data sources have improved prospects for the rapid acquisition of information on climate change and labour mobility, unfortunately, the acquisition of such data remains a significant challenge. The technologies are available but the challenge has been cost, reliability, latency and lack of research on the application and effectives of the alternative options available. As a result therefore, ICT has a global impact on climate change and labour mobility as new technologies are being pushed to the fore of the ever expanding ICT spectrum, hence, the need for countries of the world to continually develop their technology.

Finally, the perception of the local labour about *climatic security* in a foreign destination plays a major

role in determining the level of mobility and that there is a greater appeal for *on-shoring* and *in-sourcing* of productive activities.

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Fig. 1: Typical Environmental refugees.
Source: Adapted from: K Nsiah-Gyabaah.