Research Paper 2

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2. André Junqueira Caetano; Durval Magalhães Fernandes & José Irineu Rangel Rigotti - Migration and the Millennium Development Goals: Latin America and the Caribbean
3. Ralph Hakkert - Guide to the Demographic Module for Poverty Analysis and Projection (DMPAP): an EXCEL workbook with applications to Venezuela, Brazil, and Jamaica
4. Project RLA5P201 – Potential contributions to the MDG agenda from the perspective of ICPD: summary and programme implications
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6. Ralph Hakkert: Demographic Module for Poverty Analysis and Projection (DMPAP): an application to Suriname
7. Ralph Hakkert: The demographic bonus and population in active ages
8. Ralph Hakkert: Un análisis del efecto de la fecundidad no deseada sobre la pobreza a nivel de los Departamentos y zonas de residencia de Honduras, 2006
9. Ralph Hakkert: Demographic Module for Poverty Analysis and Projection (DMPAP): an application to Bolivia

MIGRATION AND POVERTY

Poverty is a complex and multidimensional phenomenon. Being deprived of the minimum survival resources to the point of not being able to meet minimum food requirements is one criterion, which focuses on deprivation in terms of essential needs. This concept equates to absolute poverty, the object of the first Target of the Millennium Development Goals (MDGs). In this regard, the smallholder farm has been pointed out as the world's core of extreme poverty (FAO, 2004). In view of the strong association between rural residence and extreme poverty in most of the world, the fact that Latin America and the Caribbean (LAC region) is the most urbanised region in the developing world (Rodríguez, 2002 a) stands out and must be taken into account in approaching the relationship between migration and poverty in this part of the world. Even though poverty is more intense in rural areas, most of the LAC poor population lives in urban areas, where they are either unemployed or employed in the informal sector, lacking social protection and access to essential services (UN Millennium Project, 2005 a).

Indeed, estimates indicate that the proportion of people in extreme poverty exceeds 50% in Nicaragua and 30% in El Salvador, both countries presenting a high proportion of rural population. In the Andean countries, rural poverty is relatively high, in large part due to geographic isolation, high transport costs, and limited infrastructure. In Peru, the extremely poor population has increased from 9% in 1994 to 18% in 2000 (UNDESA, 2004). According to Gilbert (1998), 34% of the LAC population living in urban areas were poor and 13% extremely poor in 1990. In rural areas those percentages were 53% and 30%, respectively.

Even though rural poverty is proportionally higher compared to urban poverty, the latter is more pervasive compared to the former. Recent estimates indicate that 60% of the LAC poor and half of the extremely poor live in urban areas (Fay & Laderchi, 2005). The large percentages of poor living in LAC cities are largely due to the fact that the urban spaces are unable to create enough jobs to absorb the population leaving rural and small cities, in addition to their own urban natural growth (UN Millenium Project, 2005 a; Skeldon, 2005). In sum, although LAC rural areas have proportionally more poor people compared to urban areas, the latter contribute with a much larger number of poor in absolute terms.

In this scenario, efforts to reduce and eradicate extreme poverty must take into consideration the rural and urban domains. In the rural one, policy recommendations range from making farms more productive – and thus raising farmers' incomes – to

expanding essential services and improving the lives of the rural inhabitants. Many of the poor are landless who depend upon rural off-farm labour markets to earn their livelihoods. These markets often function inadequately in rural areas where alternative opportunities to farming may be scarce or the poor may have limited education and training. They are thus forced to do farm work at low wage rates. A variety of interventions to increase skills can expand labour opportunities for the rural landless and promote the non-farm economic sector more broadly. Besides, it is said that the development of the essential infrastructure to provide education, health, sanitation, energy, and transportation is key to bring rural poverty down (UN Millenium Project, 2005 a; Skeldon, 2005; Paz et al., 2004).

While the impact of any specific policy towards rural development depends on its own characteristics and those of the targeted rural area, the literature evinces some generalisations associated with such policy measures and rural-urban movements. Rural-urban migration may be reduced by interventions that increase arable land or distribute (land or income) more equally. On the other hand, emigration from rural areas appears to be stimulated by interventions that increase access to cities, commercialise agriculture, strengthen rural-urban integration and raise education and skill levels (Rhoda, 1983). According to Du et al. (2004), supply side factors, such as education, land, and household labour availability, tend to be more important to migration decisions in the places of origin than demand side factors. Therefore, measures associated with higher living standards among rural dwellers may trigger or reinforce rural-urban relocations.

On a broader perspective, rural-urban streams tend to build up as a country moves from a rural-based economy to an economy with higher shares of industrial and service sectors (Bilsborrow, 1991). Furthermore, a greater economic insertion in the world system tends to strengthen urban growth. Indeed, the share of the population living in urban areas has risen relentlessly in LAC, especially in the more industrialised countries. Urban areas tend to concentrate economic activities and essential social services, such as education and health care which can be more easily provided there than in rural areas. Poverty thus may decrease exclusively due to the intensification of the urbanisation process (Skeldon, 2003 a). Nevertheless, the distribution of social basic services and the labour market opportunities in urban spaces occurs to the disadvantage of the poor. Hence, fighting extreme poverty in the urban environment requires ensuring a productive urban environment, improving the lives of the poor, and providing alternatives to the formation of slums (UN Millenium Project, 2005 a; Skeldon, 2005). In regard to migration processes, enhanced job markets and sound urbanisation have a side effect since they are factors that pull population from rural areas and from smaller cities to larger ones.

By far and large, the literature associates rural-urban socioeconomic differentials with internal migration, namely rural-urban streams. Todaro (1969; Harris & Todaro, 1970) produced a seminal piece regarding the association of internal migration and wage differentials between traditional (rural) and modern (urban) sectors. According to this model, migrants respond to a perceived positive urban differential and to the likelihood of obtaining a job. In this sense, rural-urban migration functions as a homeostatic mechanism to the extent that it transfers surplus rural labour force to urban sectors in which the marginal productivity is positive. Rural-urban migration ultimately causes a supply surplus in the urban labour market.

Strictly speaking, the model did not analyse poverty, but more recent extensions (e.g. Fields, 2005) consider a wider set of welfare implications, including poverty. This confirms that rural development would indeed produce better labour market outcomes, but also suggests that modern sector employment creation is not entirely bad, because the increase in unemployment and income inequality are partly compensated by more high-wage jobs and the consequent reduction of poverty. Fields also concludes that the urban wage restraint favoured by Harris and Todaro does not unambiguously improve labour market outcomes because the lowering of wages itself lowers welfare and because inequality can rise if the demand for labour is sufficiently elastic. Despite its limitations (Wood, 1982), it is worth mentioning Todaro's model because it was developed for a specific time and context in which great part of the developing countries' population inhabited rural areas, economic growth and urban formal jobs increased steadily for several years, rural-urban streams constituted the major migratory flow and, despite all that, urban unemployment followed unabated. The situation changed from the 1980s on, especially with respect to the rural-urban distribution of the population in the majority of the LAC countries. As it will be seen in the section dedicated to internal migration, urban-urban flows became more important and so this issue must be brought into the discussion about migration and poverty.

Be it rural-urban or urban-urban, internal migration may be linked to international migration. In LAC, perhaps with exception to Mexico, internal migration may constitute the first stage of a longer trip to an international destination (Skeldon, 2003). In fact, decisions and the actual relocations across national borders are determined by a complex set of factors. Different approaches and theories such as the world system theory, neoclassical economics, new economics of migration, and dual labour market theory have been brought about to deal with the complexity related to the initiation of international movements as well as with their perpetuation – network theory, theory of cumulative causation, and enclave theory (Massey et al., 1993). Massey et al. (1994) produced an insightful synthesis of international migration theories. Simply put, disruption

of non-capitalist modes of production stemming from globalisation and market penetration into peripheral economies generates labour displacement and a mobile population that will seek labour elsewhere to improve income, minimise risk, and acquire capital. According to the authors, "once begun, the flows display a strong tendency to become self-perpetuating" (Massey et al., 1994: 741) due to the formation and expansion of migrant networks. The diffusion of the migratory behaviour also triggers economic and cultural transformations in the sending areas that will encourage further migration. As and if the sending societies become progressively more industrialised and urbanised, international wage differentials become the main determinant of migration, much in line with the neoclassical approach advanced by Todaro and others.

In both internal and international cases, the literature presents evidence that economically motivated migration can bring about important positive effects in reducing poverty (De Wind & Holdaway, 2005). Labour migration constitute a livelihood strategy inasmuch as residential relocation is linked to the search of alternative sources of income (Nyberg-Sorenson et al., 2002). The income earned in the destination may allow a steady flow of *remittances*, i.e. transfers of monetary resources from the destination to the origin place. The maintenance of migrant links to its place of origin may allow for the transference of others tangible and intangible resources either through *return migration* or other mechanisms such as *transnational communities*. In short, both internal and international migration entail "remittances of earnings back home, investments from afar, return home and entry into self-employment, high-skilled employment circulation, and the impact of social networks and knowledge exchange in sending and receiving areas" (Nyberg-Sorenson et al., 2002: 2). These processes vary according to the skills of the migrants who are schematically divided in the literature into low-skilled and skilled workers and professionals.

With respect to migrants' skills, one issue of great concern has been the outflow of skilled workers and professionals at a rate faster than they can be replaced. The consequence may be a shortage of the best educated human resources. This phenomenon has been termed as *brain drain*. The depletion of the highly-educated nationals can represent a challenge to some countries and contribute to the impoverishment as well as to reduced economic growth and productivity (Sriskandarajah, 2005). This potential drawback holds even for less skilled migrants since they are not necessarily the poorest. To face the challenges of life in a large city or in a foreign country they are more likely to possess ascribed characteristics (age), human capital (education), and specific skills (initiative) that may deprive their region or country of origin (Martín-Guzmán, 2004). Hence one can refer to human capital drain in a broader sense defined by the emigration of individuals

whose schooling levels are higher than the region or country's average level of formal education. The upside of the brain coin is known as *brain gain*. Brain gain – or human and social capital gain – applies both to internal and international migration, since it is related to the permanent or temporary return of individuals to their places of origin who bring with them human capital, savings, techniques, skills, knowledge, attitudes and behaviours acquired while living abroad or in another region of the country (Martin, 2005).

The breakdown of migrants according to their skills is a convenient analytical device in the study of international migration to the extent that unauthorised or irregular migration is highly associated with low-skilled flows. In fact, the bulk of international migrants is comprised of low-skilled individuals and a high proportion of them manages to enter developed countries irregularly. Low-skilled unauthorised migrants are more prone to accept illegal employment or non-standard job contracts and incur in higher risks of exploitation through low wages and unsatisfactory working conditions. To be sure, the International Labour Organisation has singled out unauthorised migrant workers, along with women migrant workers and trafficked individuals, as the most vulnerable groups with respect to labour rights (ILO, 2004).

> *Given the enormity of unauthorised migrants living in the US, more attention will be paid to this case. Indeed, irregular migration may have doubled in the United States between 1990 and 2000 (Passel, Capps & Fix 2004). Recent estimates indicate a total of 11.5 million unauthorised migrants living in the US in 2005, about one third of the foreign-born population in that country. Mexico accounts for 57% of the unauthorised migrants living in the US while 24% come from other LAC countries (Passel, 2005). US unauthorised migrants are more likely to be working and to earn an average annual income half of that made by natives. As many as 56% have less than the high school degree and only 10% are college graduates. Besides, the majority of them are men on average younger than legal migrants and natives. According to the World Bank (2006 a: 62), "lower pay and higher costs of migration make irregular migration less desirable for the origin country because they cut into remittances. Remittances can be reduced by the relatively expensive money transfer operations used by irregular migrants who lack access to bank accounts."*

Among the processes linking migration and poverty, remittances have been the most emphasized. According to the World Bank (2004 b), worldwide remittances associated with international movements made through registered channels amounted USD 93 billion in 2003. This figure does not include the likely sizeable flow of transfers

made through informal channels and the transfer of goods such as computers. In fact, remittances are now the second largest financial flow to developing countries after foreign direct investment, reaching USD 56.4 billion in 2005 and surpassing direct investments from abroad.[1]

Remittances may reduce poverty by providing families in the countries of origin with additional income, which enables them to invest in education and health. Remittances may also be used to finance community projects such as hospitals and schools or be invested in business ventures. Even when used for consumption, remittances appear to present multiplier effects, especially in poor countries with high unemployment rates. It has been estimated that a 10% increase of international remittances as a proportion of the Gross Domestic Product (GDP) of a country will produce a reduction of a 1.6% in the share of people living in poverty (Adams & Page, 2003). International remittances tend to be more evenly distributed within a country than foreign investment and also to be anti-cyclical in the sense that they generally do not decline when the country goes through a recession period. At the macroeconomic level, international remittances may constitute an important source of foreign exchange, enabling a country to acquire vital imports, pay off external debts, and finance health and education expenditures (World Bank, 2006 a).

Besides remittances, brain drain/brain gain, and return migration, two other important aspects of international migration related to transnational communities are worth highlighting, diasporas, and transnational activities. Broadly, a diaspora may be defined as the dispersion of a given population among various foreign countries, which, in turn, may stimulate the development of transnational activities that link home and host countries (Nyberg-Sorensen et al., 2002). The positive impacts of diasporas depend upon the volume of remittances back home made by the migrants, on the skills the migrants acquire whilst overseas, and on whether they eventually return to or maintain their family and social connections in their home country (IOM, 2004 a). The combination of these factors may foster investments and the incorporation of innovations, learning processes, and enterprises in the countries of origin. Proper policies such as granting dual nationality may help home countries to benefit from their diasporas inasmuch as this policy allows naturalised migrant to invest in their countries of origin as nationals and permit their free circulation between countries. Taiwan and India have attracted attention as two cases in which diasporas have helped to foster economic development (Skeldon, 2002).

It is necessary to consider that migrants come from specific places within a country and hence their heterogeneity is concealed by national origins. In this sense, their practices may be characterised more as trans-locals than as transnationals.

[1] See http://www.iadb.org/mif/remittances/index.cfm.

One clear manifestation of trans-local activities is revealed by the organisation of Home Town Associations (HTAs), which connects migrants to particular areas of their countries of origin. The literature defines such diaspora organisations as transnational communities understood as nets or circuits structured by migrants (CELADE/IOM, 2000; Canales & Zlolniski, 2001). HTAs and other diaspora organisations enable immigrants to be in contact in the destination areas and link them to their community in the country of origin. They are said to provide support to newly-arrived immigrants, develop charitable activities and help their home areas with professional assistance and financial donations usually targeted to infrastructural, health, and educational investments. The increase in number and the importance that the HTAs of given origin country may take can eventually lead to larger and stronger institutional organisations. Mexican HTAs in the US organised themselves in federations that acquired political and social prominence in their home communities' affairs (GCIM, 2005). In sum, diaspora organisations are said to be an important instrument to fight poverty to the extent that they "can boost access to markets in receiving countries, help sending countries encourage return migration of skilled workers, and enhance the flow of finance and knowledge" (World Bank, 2004 a: 82).

While the literature indeed identifies clear effects of migration in reducing poverty through remittances, return, circular migration, and diaspora organisations, the size and significance of these effects depend upon a number of circumstances. Key to these potential positive effects is the migratory success. In turn, such success depends on labour market factors in the receiving areas and countries as well as on access to basic social services and habitation. Moreover, regular monetary transfers of savings, durable goods, knowledge, skills, techniques, attitudes, and behaviours are related to the maintenance of the links and social nets with the migrant home base. The potential effect of tangible and intangible assets and resources will also depend on the economic setting, on the links to broader markets, on the existence of public services, basic infrastructure, and efficient local institutions to turn savings into investments in the areas and countries of origin (Taylor, 1999).

Migration may bring about negative effects too. It may deplete the labour force of their most productive individuals and generate an age structure heavily concentrated on the elderly in the sending area. In addition, the infusion of money from emigrants may cause inflation in the local economy, especially on land and real state prices, and increase income inequality (Nyberg-Sorensen et al., 2002; Sriskandarajah, 2005). Specifically on internal migration, it must be taken into account the potential labour market crowding and excess of labour supply, which may result in increased urban poverty in contexts of limited labour demand.

As the discussion above has evinced, the migration-poverty/development nexus is too complex and is hard to isolate and tackle all its aspects and connections. On the other hand, four major processes connecting migration and poverty are clearly delineated in the literature, which are the following:

1. Human capital drain/brain drain;
2. Return migration and human capital gain/brain gain;
3. Diasporas and transnational activities; and
4. Remittances.

These four processes, or mechanisms, engage and affect individuals, households, and economies both in the origin and in the destination. The discussion that follows will attempt to tap these four topics for the LAC region to the possibilities provided by the literature available. The limitation of the literature on these topics for the LAC region is particularly restrictive with respect to internal migration. In this case, we made use of studies about Asian countries to provide a minimum material to enable the discussion of the main processes and policies relating internal migration and poverty reduction.

Before moving on to the next section, a final note with respect to the type of migration that is the focus of this part is in place. Even though the bulk of decisions and initiatives regarding migration are often related to labour opportunities, the search for a "better life" plays a critical role as well. Accordingly, it is not only the labour domain that is involved, but also higher standards regarding security, social mobility chances, social services access and individual and collective rights (De Jong et al., 2002). Although these elements cannot be played down, the sections of this report pertaining to poverty reduction focus on economic migration, for its obvious connections between labour and income (GCIM, 2005).

Internal migration

There is a consensus that detailed research on how internal migration alleviates poverty and contributes to development is still deficient (Paz et al., 2004). Nevertheless, the literature acknowledges that internal migration does play a role in reducing poverty and promoting development (Skeldon, 2003 b). On the aggregate level, the sheer difference of poverty levels between the rural and urban sectors reveals this effect of migration as a mechanism of population redistribution. Accordingly, the IOM (2005 a) associates, at least at the macroeconomic level, a substantial poverty cutback and rural-urban migration in China and India over the last 15 years, period during which the volume of internal migrants rose rapidly. Hakkert and Martine (2002) also link rural-urban migration and poverty decline noting that urban poverty in Nicaragua declined by 0.19% and rural poverty by

0.32%, while poverty declined by 2.02% nationally between 1998 and 2001. The authors conclude that 75% of the poverty reduction was related to migration from rural to urban settings. Wodon et al. (2001) identified that the mere fact of living in households headed by rural-urban migrants was associated with higher incomes in Latin America.

Although the linkages between macroeconomic effects and internal migration are difficult to isolate, internal migration is said to play a substantial role in poverty reduction. The impact of migration on poverty is due to three main reasons. Firstly, it is a livelihood strategy for the poor by supplementing earnings through off-farm – or off-rural in general – labour in urban areas. Secondly, it is a means of income security through diversification of its sources. Finally, migration may constitute a process through which small communities accumulate collective capital (IOM, 2005 a). Remittances and return or circular migration are the main mechanisms through which these effects may operate.

Remittances

Remittances are regarded as a mechanism of particular importance to alleviate and bring poverty down often invoked by the literature and rarely investigated, except in the Asian continent. Research on internal migration in several Asian countries indicates that remittances are a major source of income for those who remain in rural areas, representing one-third of the annual average household for landless people in some of the poorest rural areas (IOM, 2005 a). Indeed, as a supplement to rural income, remittances contribute to household savings, boost consumption, and stimulate the local economy (Guest, 2003).

The effects of the use of remittances, whether for consumption or investment, have been widely discussed. The evidence suggests that the recipients of internal remittances use it mostly to face day-to-day expenses. A smaller portion is invested. In general, there is a consensus that the larger the proportion of remittances that is invested, the better. Investment in education, housing improvements, infrastructure, and new businesses are considered to produce important multiplier effects and to have long-term beneficial consequences because they create conditions for a better future insertion in the labour market and stimulate the use of local factors of production, increasing productivity. On the other hand, remittances used for consumption may have important impacts on the local economy if and when basic items of consumption are bought locally (Guest, 2003).

The importance of remittances to fight poverty can also be established by comparing households that receive internal remittances to households that do not. As far as consumption is concerned, the analysis of data from a nationally representative survey conducted in Guatemala in 2000 indicates that 59% of the

income increment of households that do not receive internal nor international remittances were expended on consumption goods. Households receiving only internal remittances spent 54%. With regard to investment, the households that were recipients of internal remittances spent 45% more on education, especially at the secondary level, as compared to households without remittances. Finally, the former households spent 15% more on housing than the latter. In sum, the study about Guatemala concludes that at the margin those households that are recipients of internal remittances spend less on consumption and invest more when compared to households with no remittances (Adams, 2006).

These findings for Nicaragua are in line with the studies and analysis carried out in Asian countries, which list remittances as a key element to alleviate poverty, raise living standards of rural communities, and contribute to local development. Nevertheless, the maintenance of remittance flows is conditioned by the chances migrants have to obtain and keep a job as well as on the persistence of the migrants' links with their home area. The success of a labour migrant depends on the conditions of the urban labour market, on the professional experience and qualification of migrants, and on his or her contacts in the place of destination. Success in getting and holding an urban job is associated with longer durations of residence in the area of destination. The point then is that successful labour migrant equates with long-term migrant, who is more likely to lose touch with their areas of origin, which may weaken or suspend transfers (Laczko, 2005; Ping & Shaohua, 2005).

In any event, studies about the dimensions, uses, and consequences of remittances attached to internal movements in LAC are scarce to say the least. While the role of internal remittances in reducing poverty is widely recognised, it is largely unexplored for the LAC region.

Return migration

Permanent return and circular migration constitute other channels through which internal migration is said to have an effect on poverty (Lackzo, 2005; IOM, 2005 a). A permanent or transient return migrant may carry with him or her savings, experience, knowledge, information, practices, and attitudes that may have impacts on investments, human capital formation, and business development, which in turn can be beneficial to the local economy. Although return and circular migration is an essential component of migratory flows in LAC, especially in the larger countries such as Brazil (Pinto, 2002), the focus of the studies about this region seems to be determining and measuring the size of return streams and comparing human capital and income differences between returnee migrants, non-returnee migrants, and non-migrants (Rodríguez, 2004). Analysing data for Brazil and Mexico around 2000, Rodríguez found, for example, that migrants have higher levels of income

and schooling as compared to non-migrants, but experience higher levels of unemployment. Among migrants, returnees present the lowest levels of earnings when compared to old migrants and to those who have multiple trajectories.

Contrary to the lack of studies about LAC countries, in Asia and especially in China returning migrants have been hailed as potential contributors to enterprise creation in interior provinces. Accordingly, there is a line of empirical studies detailing how individuals use capital, contacts, skills and information accumulated during their time away to set up businesses. In general, the urban labour experience enables migrants to learn new skills or improve skills they previously had. Over their time in the city they also have the opportunity to acquire specific market information that may conduct them to start up efforts targeted at particular business opportunities in the sending region (Murphy, 2005).

Nevertheless, research in China has shown that most of the entrepreneurial migrants tend to make a second stage movement instead of returning to their original area. The preferred destinations of this stage are the economically stronger localities with greater investment opportunities and the poorest areas of origin rarely benefit from the return of their most entrepreneurial individuals. Besides, only a fraction of returnees do start businesses and only a smaller fraction among those who do so succeed. Such a small proportion of success appears to be related to the fact that the business initiatives tend to be established based more on the migrants' urban experiences than on the realities and needs of their local origins. As a consequence, local markets do not demand such products and services. Another important hurdle that entrepreneurial returnees face is related to marketing their products due to the instability stemming from the attachment to on only one purchaser. In spite of all this analysts tend to be optimistic in the sense that entrepreneurial returnees may make a difference in certain regions (Murphy, 2005; Ping & Shaohua, 2005).

On the downside, internal migration may result in the permanent or temporary shortfall of local monetary and human capital in sending areas and thus can intensify poverty in the origin, at least in the short term. This situation may be particularly severe to vulnerable groups such as the women, the children, and the elderly, which may face increased work burdens and lack of income. The Chinese case is in place anew. In that country, agriculture has become the less lucrative sector over the last years. Among other causes, this fact has triggered and fuelled a massive rural-urban migration. As a consequence, agricultural activities became entirely dependent on women and the elderly in several regions. In this situation, return migration is viewed as highly positive regardless of the motive for the coming back (Ping & Shaohua, 2005).

Migration and the urban labour market

Migration a is highly selective process with respect to age, education, and resources. In rural-urban flows the youngest as well as the more resourcefulness and those who accrued more human capital over their lives are more likely to leave their home behind. There is consistent evidence of this selective process in LAC countries such as Brazil and Mexico (Rodríguez, 2004; Fiess & Verner, 2003). For the group aged 15-29 the estimates are that 15.5 million left rural areas for urban settings, reducing in one third the rural population at these ages in LAC since the late 1980s (Cerrutti & Bertoncello, 2003). If on one hand, out-migration can produce an age structure unfavourable to economic development in rural areas of origin, on the other hand, the labour market of receiving urban areas of LAC countries have been unable to absorb productively the immigrants.

Indeed, the urban labour market situation during the 1990s was bleak. Open urban unemployment in Latin America as a whole rose from 5.7% in 1990 to 10% in 2004. The unemployment rate peaked at 11% in 2002. Urban unemployment decreased only in the Dominican Republic, El Salvador, and Panama, but it stood at 18% in the Dominican and 14% in Panama. Moreover, the percentage of workers in the urban informal sector increased from 43% of the LAC labour force in 1990 to 47% in 2003. In Bolivia the proportion of informal workers was 76% in 2002, in El Salvador informal workers comprised 54% of the labour force and Honduras had 59% of its labourers in the informal sector in 2004 (ILO, 2005). In a context in which the informal sector absorbs the surplus of less-skilled labour supply, employers take advantage from lower wages, a flexible workforce, and weak or no regulation of working conditions. This reality leads to worse conditions of work as well as to job and income instability, which affect most of the migrants at urban destinations who are more likely to be employed in the informal sector or to be self-employed as compared to older migrants and natives (IOM, 2005 a).

As far as the job opportunities in the destination are concerned, providing decent jobs and regulating the informal sector are claimed to be the paths to support livelihood strategies (Deshingkar, 2005). At the same time, according to Deshingkar, capacity building policies and formal education would help migrants to match their capabilities with the emerging high-skill sectors and to secure better-paid jobs. Such policies are considered to be initiatives capable of enhancing and improving migrants' insertion in the destination job market and minimising income instability as well. The same logic applies to initiatives to inform potential migrants about work conditions in the major destination areas. In Asia, according to Tan (2004), this emphasis on building up human capital and the creation of information networks seems to have been left largely to the market, except for China.

The importance of urban-urban migration in the LAC region

There is little doubt that economic stagnation and poverty in rural areas function as push factors, maintaining or increasing the migratory flow to urban areas where new immigrants will add up to the poor living in harmful conditions, most of them competing for poorly paid jobs in the informal sector. On the pull side, there is an agreement that the successful development of urban areas, including the creation of decent labour positions, would attract more rural migrants. Accordingly, the ICPD Plan of Action (ICPD PoA) on internal migration puts forward that policies designed to change population flows should:

- Be integrated into overall social and economic and development programmes, especially equitable regional development aimed at less favoured regions;
- Carefully plan the location of industry, businesses and social services, and amenities;
- Establish and strengthen networks of small and medium-size cities to relieve the pressure on the large towns;
- Set up economic and social programmes to improve rural areas;
- Provide access to social services and support for production;
- Enhance employment opportunities in rural areas;
- Guarantee land tenure; and
- Provide information to the rural population concerning economic and social conditions in the urban areas.

A close look into these propositions reveals that they target mainly programmes and actions to fight extreme poverty keeping rural population in rural areas. Policies along these lines are in agreement with the incidence of poverty world over. According to the World Bank, 28% of the world urban population was poor and 28% and 12% was extremely poor circa 2000, whereas in rural areas these figures were respectively twice and thrice it (Fay & Laderchi, 2005). Given the weight of the rural population and the pervasiveness of rural poverty, internal migration has been equated to rural-urban streams and the internal migration counter-poverty properties have been approached largely from this perspective. While this may apply to a number of countries in LAC where the proportion of rural inhabitants is still high such as Bolivia, Paraguay, Belize, French Guyana, Guatemala, Honduras and a number of countries in the Caribbean, three quarters of the LAC population lives in cities. In fact, 60% of the poor and half of the extremely poor in the LAC region as a whole live in urban areas. The prospect is that the LAC urbanisation will reach 85% by 2030.[2]

[2] See http://www.un.org/esa/population/publications/wup2003/2003Urban_Rural.pdf.

In this regard, the LAC region presents a different reality, given its high level of urbanisation when compared to other parts of the developing world. The percentage of urban population in 2000 was 68.2% for Central America, 63% in the Caribbean and 79.6% in South America (UN Population Division, 2002 a). Brazil, Argentina, Colombia, Venezuela, and Mexico presented the highest urban proportions and rates of urbanisation. Among the LAC urban inhabitants – 75% of the total population in 2000 –, 36% lived in cities with fewer than 500,000 inhabitants, while 11% lived in cities with 10 million and more.

The connection of these indicators to migration is direct. Whereas urban-urban migration was incipient in the 1970s, from the 1990s on the flows with urban origins and urban destinations predominated (Rodríguez, 2002 b; Lattes, Rodríguez & Villa, 2002). According to CONAPO (1999), half of the Mexican interstate relocations during the 1987-1992 period were urban-urban and 70% of the inter-municipal movements in the period 1995-2000 had urban origins and urban destinations. The same patterns were detected for Brazil in the 1980s and 1990s (Pinto, 2002). Two features with respect to urban-urban migration are worth highlighting. First, return has become an important type of migration in LAC, particularly in the larger countries, but migrants who have left rural areas for urban ones in the past tend to go to cities when they return to their regions of origin. Second, the LAC urban hierarchies and the size of the cities in the urban net bring in a greater diversity of potential relocations and circulation.

Indeed, the interest on middle-size cities – defined as those with more than 50,000 and less than one million inhabitants – has increased in Latin America. According to Rodríguez (2002 a), the rate of population growth of Latin-American middle-size cities during the 1980s was higher as compared to the growth rates of the larger cities and metropolitan areas as well as to the growth of the population as a whole despite the historical urban primacy that characterises the region. For Argentina, Vapñarsky (1995) estimated that 33% of the population was in middle size cities in 1991 against 16% in 1950 and that middle size cities gained population from rural migration and from smaller cities.

Social, environmental, urban, and demographic negative consequences of the highly concentrated and unsound urbanisation, as well as the outflow of economic activities previously located in the largest cities, are pointed as the main reasons behind the increased importance of middle-size cities. In Mexico, 31.5% of the internal migrants had the Mexico City metropolitan area as origin between 1985 and 1990, while the two main targets of the *maquiladora* industry, Tijuana and Ciudad Juárez, experienced the highest population growth during the 1990s (Cerrutti & Bertoncello, 2003).

The inclusion of urban-urban migration in the context of the first MDG and the global features of extreme poverty may seem odd since rural population is at the epicentre of world poverty. Clearly, the LAC region poses a different perspective and introduces new theoretical and empirical challenges inasmuch as urban-urban migration tends to alter the theoretical interfaces between migration and poverty. According to Rodríguez (2004),[3] this is due to three basic reasons. Firstly, the differences between migrants and non-migrants tend to be less distinctive as compared to the difference between rural migrants and urban natives. Secondly, the multiplicity and specificities of connections between origin and destination can make the relation migration-poverty less amenable to generalisations, contrary to the case of rural-urban migration. Finally, whereas it is recognised that the urbanisation process per se constitute a path to lower levels of extreme poverty, the consequences of urban-urban migration depend upon urban structures and hierarchies as well as on the socioeconomic features of each city. One hypothesis, for example, is that urban-urban flows having small cities as origin and metropolitan areas as destination may increase poverty levels both at the origin and destination since the poorest tend to stay and the urban labour market may not absorb the newcomers. On the other hand, flows between larger cities and middle sized cities may involve mainly skilled and professionals.

Concluding remarks

We found that the vast majority of the studies and analysis linking internal migration and poverty/development through remittances, human capital drain and return migration is about the Asian continent. India and China are the most important cases as in these countries rural-urban migration has been massive in the recent past. Very few studies were found about these subjects for the LAC region. The inevitability of making use of analysis and results for Asian countries in order to discuss the linkages between internal migration and poverty as well as to exemplify its processes speaks for itself. The literature indicates that the greater impact on poverty stemming from internal migration is monetary remittances even though the sustainability of remittances depends upon a number of factors such as the maintenance of social links with the origin places, which must be considered by policymakers.

In the policy realm, the literature stresses that the focus should be on mainstreaming internal relocations in all government levels with a view towards making migration work for the poor (IOM, 2005 a). In this sense, migration must be taken as a possible initiative to increase standards of living in multi-locational livelihood strategy. In doing so, policies should address the maximisation and

[3] See also Cerrutti & Bertoncello, 2003; Paz et al., 2004.

diffusion of the benefits of the movements as well as the protection of the individuals. This perspective implies in two lines of action.

In the first place, it is necessary to "better understand and build consensus regarding meanings and implications of the migration process between sending and receiving localities" (Ahn, 2005: 162). In this direction, improving data on internal migration is essential. Whether it is right that migration estimations are quantitatively accurate, their qualitative status is usually insufficient and not all characteristics triggering and sustaining migration are captured. A good method for obtaining better knowledge of the movements, their determinants, and their impacts was implemented by the Indian national censuses, where quantitative data was supplemented with a number of high quality case-studies (IOM, 2005 a).

It is important not only to acknowledge migration as an important item in the agenda, but also expanding the protection of the migrants and their access to basic services. Support to the migrant and its family have to be expanded and this includes both enhanced and improved access to the labour market as well as access to health, education, housing and insurance. Housing issues in the places of origin or middle-size cities can alleviate the burden on large cities, as well as investments in infrastructure and services may encourage migrants to stay at home or migrate lesser distances (Ahn, 2005).

According to IOM (2005 a), public authorities of different levels should coordinate policies for the provision of basic services specifically for migrants. The private sector can play the role of providers of personal insurance when hiring migrants. NGOs and civil society organisations with links to rural communities should work closely with local governments to develop location-specific policies. Support local cells could be built up in order to provide migrants with better access to information about job market and living conditions at potential destinations, skill-building and skills enhancement. Focus on vulnerable groups left behind such as women, children and the elderly have to be considered. Last but not least, the maintenance of social and financial links with sending areas has to be facilitated and encouraged. Easier and cheaper mechanisms to remit money back to sending areas as well as the promotion of conditions to facilitate the contact of the migrants with their home base.

Although LAC still have a substantial number of rural inhabitants, the evidence points to the fact that the urbanisation process will continue as the LAC economies become more and more regionally and internationally integrated and increasingly based on services and industries. In face of this reality, the urban structure and the population movements within the urban nets of the LAC countries must be considered to the extent that the role of urban-urban movements in poverty reduction is unexplored.

International migration

Figures from 2000 indicate that 12% of the estimated 175 million international migrants in the world were born in LAC countries. Three quarters of the LAC migrants had the United States (US) as destination. As of 2000, 51% of the US foreign-born population, in a total of 14.5 million people, was from LAC. Mexico is the main source of immigrants to the US, followed by Caribbean and Central America countries (IOM, 2005 b). The destination of the remaining quarter was evenly distributed between LAC countries and other countries in the world (Martínez Pizarro & Stang Alva, 2005). In 2000, 5.9 million international migrants, representing 3.5% of the world's migrant population, lived in LAC (UN Population Division, 2002 b).The most popular destinations out of the American hemisphere were Portugal, Spain, Italy, the United Kingdom (UK), and Japan (O'Neil et al., 2005).

The magnitude of these numbers reflects the boost of international movements between developing and developed countries around the world in the last two decades. In fact, the importance that international migrants acquired both in home and host societies have put international migration on the centre stage due to its dimensions and socioeconomic consequences. As mentioned before, the economic relevance of international migration derives from its relationship with poverty and development basically through remittances, return, or circular migration, and diaspora organisations. While international migration is considered a two-folded process in regard to its consequences related to poverty, scholars, analysts, and policymakers have produced a vast number of studies presenting empirical evidence that the increase of international migration is positively correlated with a decline of people living in poverty (Adams & Page, 2003; Taylor, 1999).

The consequences of international movements are related to the size of streams as well as to the characteristics of the individuals who engage in the relocation endeavour. In this sense, there is a clear cut between the processes and effects of migration of workers with limited skills and the migration of skilled workers and professionals. The partition related to human capital and labour skills brings in the discussion the regular-irregular character of migration. Skilled workers and professionals tend to be legal migrants whereas the majority of the low-skilled migrants are not legally authorised to enter and reside in a given country. Estimates of the total number of unauthorised migrants in the US mounts to 11.5 million in 2004, making up to 29% of the total of foreign-born living in that country. The bulk of unauthorised migrants are from LAC countries. Mexico contributes with 57% of the unauthorised in the US, while 24% have the other LAC countries as origin, predominantly from Central America and the Caribbean (Passel, 2005).

Irregular migrants present a high likelihood to have a poor insertion in the labour market to the extent that they have no alternative but to accept low wages and dire work conditions. In this regard, the ICPD PoA has laid emphasis on the role of governments. They should work to prevent discrimination in the labour market through lower salaries or unequal conditions, to preserve human rights, to combat prejudice against migrants as well as to eliminate obstacles to the reunion of their families. In fact, a 2002 study of remittance senders in the US shows that 59% of the remitters have not completed high school, 64% are employed as unskilled labourers, 54% barely understand English, and 72% live in rental accommodations shared with four others on the average (Passel, 2005). Conversely, the more educated the immigrant the lower is the likelihood of remitting money back home (Lowell, 2001 a). In spite of lower wages, low-skilled migrants, including the unauthorised ones, are the agents of the mechanism considered to be the most important through which migration may lessen poverty, i.e. monetary remittances (Wickramasekara, 2002; Simmons et al., 2005; Lowell & Martin, 2005).

Remittances

Remittances to and between LAC countries are generally sent in small quantities of 200-300 dollars, but taken together they amount to a considerable sum. The estimates of total traceable remittances to LAC countries in 2005 were US$ 54 billion (Terry, 2005). In this regard, remittances surpass direct foreign investment and official development assistance in the region and have substantial positive bearings. All things considered, remittances are said to function as an instrument of social protection much more effective and encompassing than the social programmes of the migrant's homeland governments. To be sure, remittances constitute a critical source of income to around 20 million families in the region, making up to half of these households' annual income (Terry, 2005). Whereas the bulk of the senders are among the estimated 18 million of LAC international migrants who live in the US, Japan, and Western Europe, there is a sizeable 3 million workers in neighbouring countries of the region – Paraguayans and Bolivians in Argentina and Brazil, Nicaraguans in Costa Rica, Haitians in Dominican Republic, Colombians in Venezuela, Peruvians in Chile – who contribute to up to 5% of the LAC remittances (Fagen & Bump, 2005).

To be more precise, the 2005 Inter-American Development Bank (IADB) monitoring of remittances in LAC places Mexico as the largest recipient, with more than two thirds of the total.[4] Brazil (US$ 6 billion) and Colombia (US$ 4 billion) were the second and the third largest recipients of remittances. As a whole, Central

[4] According to the National Bank of Mexico, remittances in 2004 amounted to about US$ 16.5 billion. Some Mexican researchers doubt, however, whether all of these flows are actually remittances. Tuirán, Santibáñez and Corona (2006), estimate, for example, that actual remittances were just over US$ 4 billion in 2004, divided over a total of almost 1.5 million receiving households.

America and Dominican Republic received more than US$ 11 billion and the Andean countries obtained nearly US$ 9 billion. About 75% of the remittances come from the US whereas remittances from Western Europe – particularly Spain, Portugal, Italy, and the UK – contribute with 15% of the total. Two important flows originate from Japan and Canada. The former is directed mainly towards Brazil and Peru and the latter to Jamaica and Haiti. Up to US$ 3 billion are associated with intra-regional flows.[5]

Remittances make up for large proportions of a number of LAC national economies. The importance of remittances is directly proportional to the international migrant flows and is inversely associated to the size of each country's economical size. In 2004, remittances corresponded to 3% of the Mexican Gross Domestic Product (GDP) and to 10% of the Mexican exports, while for Brazil and Colombia the figures were 1.1% and 4% of the GDP, and 5% and 19% of the exports, respectively. In the Dominican Republic, the shares were far larger, i.e. 9% of the GDP and 45% of the exports. Although in these countries remittances are an important parcel of cash inflow, in Central America and the Caribbean remittances are crucial since they represent one quarter of the GDP on average. In Haiti (21%), Nicaragua and El Salvador (17%), Honduras (21%), Jamaica (19%), and Guyana (34%) are examples of the importance of remittances (Cerrutti & Bertoncello 2003; Paz et al., 2004).

Historically, in 1990, the observable volume of global remittances was estimated at US$ 71.1 billion per year, making it second only to oil in terms of value in international trade (Russell & Teitelbaum, 1992). Considering the global flows from developed to less developed countries only, the volume probably doubled from about US$ 30 billion in the late 1980s to more than US$ 60 billion a decade later (Martin & Widgren, 2002). Global remittances reached US$ 257 billion in 2004, with 188 billion accruing to developing countries (World Bank, 2006 a). The preliminary figure for 2006, according to the same source, is US$ 268 billion, with 199 billion going to developing countries. In addition, not all international remittances are accounted for, since workers find other means to send their earnings home, not always through formal channels. The proportion of the world total received by the LAC region has increased from 15.2% in 2000 to an estimated 19.8% in 2006.

The LAC provides the largest number of people living outside their country of birth of any region in the world (Baumann, 2005). Its receipt of international remittances rocketed from US$ 10.6 billion in 1990 to US$ 45.8 billion in 2004 (larger than the GDP of Ecuador in 2005) and reached US$ 56.4 billion in 2005. In 2004, Mexico (US$ 16.6 billion), Brazil (US$ 5.6 billion), and Colombia (US$ 3.9 billion) – three of the largest economies in the region – were the countries with the

[5] At http://www.iadb.org/mif/remittances/index.cfm.

largest inflows of remittances. Mexico is the second largest recipient of remittances in the world (Martin, 2004). Overall, remittances correspond to 1.5% of Mexico's GDP, surpassing the tourism industry and even farm exports, being outweighed only by manufacture exports as a source of foreign revenue. In 2003, remittances amounted to US$ 2.316 billion in El Salvador, US$ 2.217 billion in the Dominican Republic, US$ 2.106 billion in Guatemala, US$ 1.426 billion in Jamaica, US$ 1.180 billion in Cuba, US$ 862 million in Honduras, US$ 850 million in Haiti, US$ 788 million in Nicaragua, and US$ 137 million in Guyana. In addition, there were inflows of US$ 1.657 billion in Ecuador and more than US$ 1 billion in Peru.

How, when and why immigrants send money back home depends on a series of factors. Immigrants remit cash to their origins out of altruism or out of self-interest or both. Remittances per immigrant tend to be higher the more precarious and transient is the insertion of the immigrant in the host country. Remittances tend to be positively correlated with the economic condition of the host country and negatively associated with the home country economic performance when altruism prevails. On the other hand, it may increase as home economies prosper since this fact augments the probability of return. Remittances per immigrant tend to diminish the longer the period the immigrant lives in the host country. Finally, the monetary costs and risks of money transfer are important intermediate variables determining amounts and frequencies of remittances (Amuedo-Dorantes, Bansak & Pozo, 2005). A survey with Haitians and Jamaicans living in Canada has shown that immigrant households transfer two hundred dollars on average about five times a year out of a mixture of affective attachment and obligations to the recipients. These characteristics do not differ between Jamaicans and Haitians. Accordingly, as has been pointed out elsewhere the motives and the remittance values cut across cultural groups (Simmons et al., 2005).

A heated topic regarding remittances is related to how they are spent at the migrants' households of origin. Approximately 80% of the LAC remittances are employed to face food, housing, and service expenses (Terry, 2005; Zárate-Hoyos, 2005; Orozco, 2005; Kirton, 2005). Nevertheless, the impact of the remaining 20% used as investment, education financial support, and savings is considerable. The analysis of data from a nationally representative household survey carried out in Guatemala in 2000 found that the households without remittances spend 59% of their income increments on consumption goods as compared to 56% in households receiving international remittances. Besides, households receiving international remittances in this study spend 58% more in education than households that do not receive, at the margin (Adams, 2006). Comparing the effects of remittances to the other sources of income in El Salvador, Cox Edwards and Ureta (2003) found that child school dropout is ten times lower in urban areas and 2.6 times lower in rural

areas in households receiving remittances. Positive results regarding child education were also found in Mexico (Hanson & Woodruff, 2003).

Expenditures in housing are another important topic since they tend to have ripple effects in the local economy. The Guatemalan study indicates that, at the margin, households receiving international remittances spend 2.2% more on housing as compared to households that do not receive remittances (Adams, 2006). According to the author, as far as the individual migrant is concerned, housing expenditures may constitute investment inasmuch as he or she expects financial returns from them. Furthermore, higher housing expenditures may present beneficial effects for the overall economy due to the potential increase in the demand for construction material and workforce, affecting positively the wages, employment and business levels. Results in the same directions as the ones stated above were also found in Mexico (Taylor & Mora, 2006).

The investment use of migrant monetary transfers is more noticeable in countries with a longer international migration history. In Mexico, six thousand small enterprises operating in urban areas were surveyed and remittances accounted for around 20% of the total capital. Controlling for the states with the highest emigration rates, this figure rises to 33% (Woodruff & Zenteno 2001). It appears to be a direct relationship between remittances and local investments. In Mexico, this association and its multiplier effect were clearly detected. The production was estimated to be multiplied by 1.5 to 2.1 for each dollar remitted, with the greatest impact in the service sector (Zárate-Hoyos, 2005).[6] Besides, the higher the remittance level the greater the likelihood that they are productively invested (World Bank, 2006 a; Kirton, 2005). In a study of thirteen Caribbean countries, each percentage point increase in remittances was associated with a 0.6% increase in private investment (Mishra, 2005).

The evidence of the remittance effects specifically on poverty and inequality are noteworthy. In a study about the Mexican states of Guerrero and Oaxaca, Wodon et al. (2002) concluded that poverty is 2% lower than it would be without the inflow of remittances. The authors reason that this effect approximates in size to the impacts of the health, education, and poverty reduction official programmes. International remittances are estimated to be responsible for 15% of the per capita household income in rural Mexico. Besides, increases in international remittances tend to reduce both the poverty headcount and the poverty gap (Taylor, Mora & Adams, 2005). Certainly, the poverty reduction effect of international remittances may be more or less significant depending on how poverty is measured. In Guatemala, remittances

[6] For a dissenting view, according to which international remittances in Mexico have little or no impact on economic growth, see Canales (2006).

reduce the poverty headcount measure by 1.6%, while the squared poverty gap decreases by 21.9% (Adams, 2006).

The author advances that remittances will present different impacts on poverty and inequality due to factors such as the existence of migrant networks and the distance from the preferred destination countries, which may reduce migration costs and put relocation as a feasible alternative to the poorer households. Correspondingly, Mexico and a number of Central American as well as Caribbean countries tend to be the countries that can benefit most from reducing-poverty effect related to international remittances (World Bank, 2006 a).

Remittances are not all about good news and Cuenca in Ecuador is a good example of the downside of the remittance coin. Ecuador has experienced a huge growth of international migration from 1990 on in large part fuelled by the economic crisis. It is estimated that between 1999 and 2003 around 600,000 to 1 million Ecuadorians left the country mainly to the US and that currently 14% of the Ecuadorian population have remittances as a source of income. The US was the main destination from the Cuenca region and remittances to this region represent 38% of the country's total income from remittances. For the year of 2000, this share corresponded to US$ 600 million, from which 90% went to the municipality of Cuenca. The massive monetary transfers made Cuenca one of the most expensive cities in Ecuador (Serageldin et al., 2004). According to these analysts, the national average of the basic basket price was US$ 370 whereas it was US$ 100 more expensive in Cuenca.

Approximately 50% of the remittances to Cuenca were directed to the construction sector. Consequently, the price of urban land escalated. In the housing construction sector, prices jumped due to the combination of labour shortages and increased demand. The increase in housing prices eroded the housing affordability for families with no international migrants, for those with international migrants that do not receive money transfers (or receive very small quantities erratically), and for the international immigrants to Cuenca, particularly Peruvians, who along with a smaller number of Colombians constitute new flows of intra-regional migration engendered by the labour shortage.

Indeed, the departure of a large number of persons from the labour force has led to a decline in the unemployment rate and an increase in the wages. On the other hand, agricultural and handcraft production has declined. While in a first moment high levels of out-migration and remittances put Cuenca's extreme poverty rate at a lower level if compared to the rest of the country, this rate has increased from 30% in 2000 to 44% in 2004 despite the sustained migratory flows. Extreme poverty affects mainly families of international immigrants that do not receive remittances, families with no migrants, and Cuenca's immigrants (Serageldin et al., 2004).

According to Acosta (2005), remittances are indeed a two-faced coin. Remittances are vital to the Ecuadorian economy, especially from the dollarisation in 1996 on and surely contribute to reduce poverty. Nevertheless, they do not constitute an efficient channel to bring about sustainable development and to reduce poverty for good in an economic environment in which public policies aiming at the enhancement of production and jobs are not in the agenda. Furthermore, international remittances may increase imports and cut demand for internal products. Finally, it indirectly lessens the pressure on the Ecuadorian government for social investments, giving room for the use of the bulk of the public resources to pay the public debt.

Transnational activities

Although the literature associates potential gains to the return of high-skilled migrants and therefore to countries that have experienced a sizeable loss of highly educated individuals, diaspora organisations such as information nets, Home Town Associations (HTAs), and migrant clubs are important conduits for the transmission of benefits related to less-skilled migrants back to their origin countries. In regard to information nets, Meyer and Brown (1999) and Brown (2000) identified 61 Internet-based expatriate networks of skilled professionals and students. In LAC, Argentina, Colombia, El Salvador, Peru, Uruguay, and Venezuela have developed initiatives of this type. The CALDAS network, for example, has been set up to function as a means of contact for Colombians around the world and is aimed at the diffusion of knowledge and information. The impact of such networks, however, appears to be minor. The conclusions of a workshop on this matter occurred in Bogotá in 1996 concluded that such networks may configure only as complementary measures, having rather small effects on scientific and technological development (Pellegrino & Martínez Pizarro, 2001). Moreover, as of 2004 less than half of these networks had had regular updates and just about half of them were updated in the last twelve months (World Bank, 2006 a).

HTAs, according to Orozco and Welle (2004), are grassroots organisations formed around the interests and needs of first-generation immigrants from the same town or state in their home country. Mexican immigrants' HTAs in the US pioneered. Central-American and Caribbean immigrants followed the Mexican steps and established HTAs of their own. Although the term HTA has come up to define associations whose members come from the same city or region, it also applies to broader institutional arrangements such as the Jamaican Diaspora. Jamaicans abroad have organised several organisations such as the Jamaican Diaspora Canadian Foundation based on Toronto.[7] Such organisations were set up with the help of the Jamaican government to mobilise skilled Jamaicans in the areas of law enforcement,

[7] See www.jamaicandiaspora.org.

development, education and health. Jamaican Diaspora delegates from the UK, Canada and the US elect representatives to serve on the Jamaican Diaspora Advisory Board, a broader institution comprising organised Jamaicans around the world.

Initially, HTAs have focused on social activities that brought together immigrants in the destination cities and areas as well as on the provision of support to newly-arrived immigrants. According to Orozco (2000), HTAs expanded their actions more recently by sending remittances to their communities of origin and connecting immigrants in the US and migrant-sending communities. On a more general basis, the author considers that much of the contemporary HTAs activities configure remittances to the extent that they are non-reciprocated and unilateral private donations. Investigating Mexican, Dominican, Guatemalan and El Salvadoran HTAs in the US, Orozco traced their common characteristics. First, in spite of some specificity, they all perform similar activities. Second, nearly all LAC HTAs in the US perform donations and charity sending off clothes and other goods as well as supporting local religious events. Third, LAC HTAs in the US also raise and remit money targeted to infrastructural improvements such as paving streets, creating sewage treatment plants, filtering water, and building health-care facilities. Finally, HTAs also finance everyday education and health demands of their townspeople through scholarships funds, library books, health supplies, medicine, and equipment.

Due to its long migration relationship to the US, Mexico is perhaps the most representative country with respect to the development and organisation of HTAs. According to Zabin and Escala (1998), there are around 170 immigrant clubs from eighteen Mexican states in the US. Mexican HTAs and clubs took a step further organising official clubs founded by immigrants from the same sister communities. Such clubs were then organised in federations, i.e. associations of clubs from the same state of origin. The oldest and one of the most active is the Federación de Clubes de Zacatecas, created in 1972, with 51 club-members. In 1996, for example, the money raised by its members financed sixty infrastructural projects in the state of Zacatecas.

According to Canales and Zlolniski (2001), the fact the Mexican government fomented the establishment of such Federations points to their political and economic importance as well as to their pervasiveness in local issues, which has been enlarged by the faltering of government's social and development programmes. In reality, the vigorous role of the Federación de Clubes de Zacatecas inspired the creation of the "3 por 1 – proyectos compartidos", a concerted action between federal, state, and municipal government in which these governments contribute with one dollar each for each dollar provided by the Federation to be invested in community development

programmes (Zárate-Hoyos, 2005; GCIM, 2005). Salvadorans in the US have also constituted a Federation. In 2001, the Salvadoran government established a partnership with the Federation, as this entity and the National Corporation of Municipalities created a fund to match financial support for rural development projects (World Bank, 2006 a).

While HTAs' collective remittances to LAC have a limited scope as a proportion of individual remittances, HTAs activities in their towns of origin and areas are said to have an encouraging side. The resources of Mexican and Central-American HTAs', for example, are frequently larger than the municipal budgets for public works and go first and foremost to those with the greatest needs, having increased the supply of essential services in rural areas. Between 2002 and 2004 more than 3,000 projects benefited about 1 million inhabitants in 23 Mexican states. In this regard, IOM (2005) has identified a threshold effect linking individual and collective remittances in Latin America. It was observed that when at least 30% of households in a town receive remittances HTAs can make a difference with respect to the improvement of the life quality. Moreover, HTA involvement in such projects appears to increase the likelihood that programmes do focus on community needs and may enhance transparency and accountability among local authorities. On the downside, HTAs present clear limitations to scale up and widen their impacts on reducing poverty and promoting systemic development. Such constraint is related to their low capacity of investment, which ceiling is around US$10,000, and to their general orientation towards philanthropy. Besides, HTAs have restricted fund-raising, institutional, and advocacy capacities since they function based on voluntary work (World Bank, 2006 a).

Finally, diasporas can be a significant source of foreign-exchange earnings for countries with substantial outflow of migrants. International migration may also triggers and enhance trade of products traditionally consumed in home countries as well as products from the country of origin that have an appeal to natives of destinations nations such as handcraft, clothes, furniture, music, and "green" items. According to Cruz, Cerdán and Schatan (2004), "ethnic" and "nostalgic" trade from Mexico and El Salvador to the US reached $3.4 billion and $82.8 million, respectively, in 2001.

Policies related to international migration

Acknowledging the importance and positive impacts international migrants have for the economy of developed countries and recognising that migration may have a positive impact in poverty reduction, an array of different sets of policies in different levels have been discussed and designed in the specific area of market regulation. The assessment of the "migrant" component in the work force of developed countries is bringing up discussions of how can destination countries become more open and

flexible in their regulations. Although political barriers stand, policies allowing more legal freedom of circulation not only may have impacts on increasing benefits of the migrant's economic gains but also may restrict illegal flows and the negative impacts related to it.

At the global level the most important advancement in the field seems to be the liberalisation of Mode 4 of the GATS agreement in World Trade Organisation (WTO) negotiations advocated by the developing countries as a way of increasing the legality of temporary movement of persons, extensive not only to skilled professionals but also to semi-skilled workers. One can argue that these policies may accelerate brain drain instead of benefiting poor labourers. Still, they are important as a first step and broader flexibilisation should follow. Developed countries are resistant to commit themselves in this field and rather press for the liberalisation of Mode 3 of the GATS agreement.[8] Another proposition from the developing countries, according to Martin (2005) is to the WTO foster mutual recognition agreements, similar to those adopted by the European Union in order to facilitate migration and liberalise movements. Those propositions have not succeeded yet.

There has been, however, more progress in liberalising the movement of labour at regional levels. The NAFTA agreement has made provisions related to migration, permitting free movement for college graduates in more than sixty professions. Other regional organisations such as the CARICOM and MERCOSUL also have in their agreements ambitious goals towards movement of persons, but implementation has not taken place. In the bilateral level, various arrangements are actually having success in this direction, incorporating poor migrants in legal temporary programmes in which they do not have to undergo harsh bureaucratic entrance requirements. According to Martin (2005), the Canada's Commonwealth Caribbean and Mexican Agricultural Seasonal Workers Programme is one such programme and is being considered a model for moving temporary workers over borders. In this programme, Canadian farmers have incentives to hire temporary workers (4 months) from the Caribbean and Mexico to work in fruit, vegetable, and tobacco farms.

The question of how to reinforce the role of remittances as a development tool and as a source of sustainable poverty reduction strategy is also important. A major policy in this field is the strengthening of the financial structure supporting remittances. According to the World Migration Report 2005 (IOM, 2005 b), reducing remittance fees and enhancing formal channels of transfers is paramount to greater achievements. Fees charged by official money transfer agents vary from 13 to more than 20% of the total transfers, implying in economic loss for hard-earned remittances from poor migrants as well as boosting informal channels that

[8] This mode related to trade in services, such as bank, insurance and financial liberalisation.

many times also foster money laundering and other forms of transnational crime. Governments, on one side, should put efforts on regulations and restrict high transfer fees, encouraging the opening of remittance-transferring agencies and reducing collateral requirements that discourage new financial agents that could execute this service. On the other hand, migrants, when possible, should try to reduce the frequency they send remittances and therefore send more volumes at each time since major money transfer operators work with regressive fees.

Another step should be the improvement of worker's access to banking facilities in their host countries as well as to remittance services in the origin countries. This is what Vasconcelos (2005) calls "financial democracy" According to him, "the huge scale of remittances to LAC can be a powerful lever to open up financial systems, mobilise savings, generate small business loans, and multiply economies impact." However, for this to happen would require "fixing historic inequities in the financial systems of Latin America" (Vasconcelos, 2005: 8). These policies, although not addressing the qualitative dimension of remittances, aim at the maintenance of the integral value of the money remitted.

Poverty reduction requires also that remittances are spent on goods that provide better social welfare. While individual or family needs may be desperate so that remittances are spent mostly to face the needs regarding basic consumer goods, there is a growing acknowledgement of the need of social transformation and the use of remittance as a community tool for sustainable development. In this sense, HTAs are considered a key conduit to put remittances into productive and social investments use (IOM, 2005 b). The wide range of projects to improve living conditions in the migrants' hometowns gets support for being concrete and assisting the town's most vulnerable populations. The breakthrough aspect of this kind of policy is that it enables interconnection between civil society and government officials and in this way they are able to capture the real socioeconomic needs of the impoverished communities. Over time, the investments tend to become sustainable, enabling people to improve their lives. For those reasons, the channelling of remittances through HTAs is said to be a very effective path to put migration to work for the poor.

Dealing with "Brain Drain/Brain Gain" is another major highlight in the migration-poverty/development linkage. Retention, return and circulation issues seem to be the most studied and discussed ways to avoid brain drain or to promote brain gain. As far as retention is concerned, it is argued that it is very difficult and expensive to pursue policies directed at avoiding brain drain (Wickramasekara, 2005). In the absence of a strong research and development environment or in a scenario of a rapid economic growth, skilled workers and professionals tend to migrate. Since those conditions are very hard to find in developing countries, retention will be very

difficult to achieve. Even when possible, the possibility that brain drain happens is also significant. Despite these facts, an interesting case of retention is pointed by the author regarding the Philippines, where the use of internet allowed specialists to perform high skill work for abroad at home. Return is also seen by Wickramasekara (2005) as important, but not as an ideal policy. He shows that in most cases initiatives such as the UNDP TOKEN programme and RQNLA (Reintegration of Qualified Latin American Nationals), the costs faced are enormous and the marginal gain of a returnee insufficient.

Along with remittances, circulation is perhaps the best and most effective mechanism of transference of tangible and intangible resource from developed to developing countries and has been gaining importance among population and social scientists. Skilled workers improve their knowledge and work abroad but also return periodically to their home countries and contribute by sharing technology, knowledge or even qualified service. In the context of the MDGs, health and education professionals would share and provide their contribution to communities in their origin country. Again, GATS Mode 4 liberalisation is an important step towards more flexible immigration laws and visa regimes. Specifically in the Latin America case, most complementary actions to government return-retention policies consist of networks of knowledge exchange between diaspora specialists and the national scientific communities (Pellegrino & Pizarro, 2001), which as discussed above does have substantial impacts.

The issues that IOM (2006) recommends for an encompassing policy agenda with a view towards maximising the effects of migration in the poverty reduction efforts. Basically, such agenda should encourage bilateral temporary migration agreements, promote the retention in "brain strain hotspots", stimulate and facilitate circular migration, lower the costs of remittance transfers, use remittances to strengthen financial systems, enhance the impact of remittances, and enhance the role of the diaspora.

Concluding remarks

The topic of the relationship between internal migration and poverty revealed a deficiency of investigations and studies about remittances, human capital loss, and return migration in LAC countries. In fact, most of the contemporary production relating internal migration and poverty is applied to Asian countries. In LAC, the literature is largely focused on migration issues that touch but do not expose and explain the relationship and mechanisms between migration and poverty. In fact, most of the work focuses on macroeconomic or aggregate effects of internal migration on poverty reduction, urban-rural distribution of population, identification and measurement of migratory flows, differences between migrants and non-migrants, and consequences of migration to labour markets. The knowledge about LAC international migration

is far more developed when compared to internal migration and is unambiguously applied to the established mechanisms through which migration may reduce poverty, which are brain drain, brain gain, diaspora organisations, and remittances.

Brain drain is clearly identified as a problem to Central America and the Caribbean, but not so much to South America. Brain gain, on the other hand, tends to be null or even negative, especially for the smaller and poorer LAC countries. Diasporas organisations appear to have great potential in reducing poverty, but their evolution present substantial variations associated with each country's international migration history. Indeed, diaspora organisations are more institutionally developed in countries with longer international migration history and closer to the developed host countries, fact that enables a regular link to the community or town of origin. Last but not least, remittances are taken as the most pervasive and perhaps most potent process relating migration and poverty. In face of the billions of dollars involved the studies abound.

Nevertheless, as Skeldon (2005) sets forth, international remittances should not be taken as a universal remedy to poverty alleviation. This author reasons that the greater the proportion of migrants in a country tends to be formed by those who move internally and proportionally few people from any population cross international boundaries. Those who do so tend to come from a small number of internal areas. As a result, the benefits of remittances will be concentrated in a relatively small number of areas. Whether transfers have the effect of alleviating poverty locally, they may also increase inequalities between areas with and without substantial emigration and increase awareness of relative deprivation.

Skeldon (2005) advocates that the emphasis on the linkages between migration and poverty must be upon internal population movements. While it is clear that internal remittances do not entail gains in foreign exchange and their dimension is not as large as for the case of international remittances, it is a fact that the former certainly constitute a significant factor in poverty alleviation. At any rate, internal remittances are more spread out than international remittances because the range of areas of origin is greater in internal migration as compared to international migration. The author thus sustains that international migration is unlikely to be a decisive factor in the eradication of poverty at the national level and that the billionaire dimension of remittances has taken attention away from other important dimensions of the migration-poverty nexus, especially regarding internal migration.

MIGRATION AND EDUCATION

Recently, a UNFPA Expert Group recognised migration as clearly associated with globalisation and development, a reality which the efforts to achieve the MDGs cannot ignore. If the attainment of the Goals will be facilitated or constrained depends on how efficiently polices and actions at various geographical scales will be executed. The following section will briefly discuss some questions about the interrelationship between migration and education, providing an overview of the direct and indirect effects of migration on education, focusing on issues and evidence from the LAC region. It is necessary to take into account the fact that the interrelationship between migration and education is a complex one and overlaps the other MDGs.

Goal 2, achieve universal primary education, has one Target and three indicators:

Target 3: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.

Indicators:

4. Net enrolment ratio in primary education
5. Proportion of pupils starting grade 1 who reach grade 5
6. Literacy rate of 15-24-year-olds

In the LAC region, primary education is compulsory and universal enrolment at this level is a main goal in all countries. Some of the most populated countries such as Brazil, Argentina, and Mexico, besides Bolivia, Cuba, Ecuador, and Peru have reached near-universal enrolment. Others, such as Costa Rica, Uruguay, and Venezuela, are close to achieving this goal. In general, one of the most serious problems in these countries is the proportion of people enrolled who are out of the adequate age bracket for the primary level of education. The regional gross enrolment ratio was 125% in 1998, while the net enrolment ratio has reached 97%. This means that around 28% of students were not in the appropriate age group. Moreover, an estimated 2 million children were not enrolled at the regular level of education – a few were at the secondary level, but the majority was out of school.

The high gross enrolment ratio can be explained by high repetition rates and the inclusion of a considerable number of adults in the primary education system, a common problem in the region. The net enrolment ratios in primary education by sex reveals that in some countries the disparities are negligible. In Argentina, Bolivia, Mexico and Peru the ratios reach 100% for both sexes. For ten out of sixteen other

countries for which data were available the disparities were minor, and only in Brazil, El Salvador, and Guatemala higher levels of male participation could be observed. In the latter two, however, male enrolment rates themselves are still low.

Another serious problem in LAC countries is the dropout rates stemming from high repetition rates. This phenomenon can be better understood through the indicator 6, described above. As many other social indicators, the heterogeneity among countries is a notable feature in the region. For instance, in Nicaragua only 55% of pupils starting primary education reach grade 5. This figure ranges from 78-89% in Bolivia, Guatemala and Paraguay, while Argentina has the higher proportion, with 94% reaching grade 5.

In these cases, gender inequalities can be higher than those found in enrolment ratios. In general, the repetition and dropout ratios are higher for boys than for girls, suggesting better learning outcomes in primary education for girls. For example, in Nicaragua this indicator was 58% for girls and 52% for boys in 1998; in Paraguay these figures were 80% and 76%, respectively; the Dominican Republic had 82% and 72% and Argentina 96% and 92%, respectively (UNESCO, 2001).

The reduction of disparities between rural and urban areas and between regions (provinces, states) was established as an objective by the national representatives in most of the *National Reports* at the *Survey 2000* workshops, cited by UNESCO (2001). Strategies are being developed to provide educational services to people in remote or sparsely populated areas. These strategies include community schools, multi-grade or single teacher schools and the introduction or reinforcement of bilingual education. Special attention is required for populations in situations of social isolation and vulnerability resulting, among other factors, from the socioeconomic crisis that is affecting some countries. Programmes for children with special educational needs are also being implemented. They range from integration in regular schools to the creation or improvement of specialised centres. Most national representatives also emphasized the importance of preventive work on the part of schools and of community agents (such as social organisations, parents, families, and education directors) to attend to children from dysfunctional families or with behavioural disorders.

The migration-education nexus

The education domain is one of the most influenced by large human movements, which affect the welfare of migrants, especially children and women. In this sense, the impacts on education systems caused by heavy pressure of rural-urban relocations must be understood in a comprehensive view of the process of urbanisation, particularly in the countries of the LAC region. As not all educational facilities are located or built exactly where children are, daily and weekly commuting

to other areas or communities may be necessary in order to achieve better education. Depending on the proportion of the commuting pressure over the educational systems at destination areas, it may be necessary to invest in urban infrastructure and basic services such as schools. Thus, the issue of educational issue must be encompassed by MDG 1.

When moving along with husbands as "dependents", women may be rendered disadvantaged in terms of access to training programmes in language, skills acquisition or cultural orientation, especially in the case of international migration. Therefore, migration and paid work seen as empowerment tools and non-economic factors such as better education are more important for migrant women than for men. According to Usher (2005), women who migrate seek improved economic status through the association of advanced education and enhanced knowledge. Improved economic status empower women and provide female role models, which in the long term may act to diminish the high ratio of boys over the girls in primary, secondary and tertiary education.

In spite of these highly desirable outcomes, the ratio of boys over girls in primary education is a minor problem in LAC, except in specific regions of a few countries. On the other hand, the male disadvantage in terms of repetition and dropout rates is an issue to be tackled. Despite of the lack of studies showing the differentials of indicator 6 by migratory status in LAC countries, it should not be a surprise to find that the situation is worse in the case of migrants, particularly recent ones living in poor areas such as slums. On the other hand, it is known that rural areas and small towns normally have the worst supply of public and private services and thus the movement to larger urban areas means a better opportunity for those migrants. These are cases for specific studies, preferably on a country-by-country basis.

International migration can also be associated with positive effects in the areas of origin of the migrants. It is possible to identify a broader relation between the effects of migration on education through the exam of the impacts of remittance on development. Remittances are increasingly seen as important flows of capital that can, if properly used by governments and individuals, be an important resource to build basic infrastructure and social services in origin countries. Organisations of migrants in host countries have started to organise pools of investment and to use the resources towards investment in health and education in origin countries (Simmons, 2005). This is particularly important in regions frequently affected by economic crises, like LAC. Remittances allow for household stability even in crisis situations to the extent that permit educational expenses to be kept during hard times. Moreover, remittances may give the opportunity to the recipient families to invest in private education, which would lessen the burden over the educational system.

Remarks

According to UNICEF (2005 b), the LAC region is on the track to achieving MDG 2 by 2015. As discussed, the major obstacle is related to repetition and dropout rates, which are captured by indicator 6. Even in this case, the likelihood that children currently under five years old will complete primary education by 2015 is greater than 95% in Argentina, Chile, Colombia, Ecuador, Mexico, Panama, Peru and Uruguay. Brazil, Costa Rica and Venezuela must reach between 90% and 95%. However, some countries like Haiti and Guatemala are far from the Target.

A second positive aspect is that the reduction of the gender educational gap is also highly attainable in most of the region, except for Grenada and Guatemala. On the other hand, Bahamas, Haiti, Saint Kitts, and Nevis have significantly more girls than boys at the schools and they are not likely to achieve MDG 2.

Some particularities differentiate LAC, as pointed out by UNICEF (2005 b: 45-46):

> *"Unlike most of the world, in most countries gender disparity favors girls rather than boys. But it is also true that there are pockets where girls are being denied their right to an education, particularly within indigenous populations and in rural areas. There are multiple layers of barriers in this region that correspond to each reality (...) unlike in other regions, poverty is perhaps a greater obstacle for boys' school participation because young men are more likely to drop out to join the labour pool."*

This quote proves that the issues of MDG 2 cannot be separated from MDG 1, and to a great extent from MDG 3. In sum, as stated in the Conference of NGOs in Consultative Relationship with the United Nations (CONGO, 2004), although the ICPD PoA recognises the advances in primary education, it also recommends targeting educational needs of specific ethnic groups, as indigenous and rural dwellers. In addition, informal education must complement the formal one and besides the need to include family and community in educational programmes must be addressed.

Brain drain and brain gain

If remittances configure an important mechanism through which migration may reduce poverty and induce development, the emigration of skilled workers and professionals individuals, i.e. the brain drain, is said to bear important negative impacts. According to the ICPD PoA the outflow of qualified personnel from developing to developed countries may seriously hamper the development of the sending countries and entails the urgent need to formulate national and international policies to avoid the brain drain and to control its adverse effects. In fact, countries that have gone through high emigration rates of their best educated inhabitants tend to have a slower pace of

GDP growth. There is evidence pointing on this direction for 21 countries, including Mexico (Lowell & Martin, 2005; Lowell, 2001 a). As far as highly educated emigrants from LAC are concerned, it is important to bear in mind that the US accounts for nearly 100% of North America's emigrants with tertiary education and 80% of South America's outflows. Brazil and Jamaica are the main exception in the hemisphere since their emigrants can be found in other developed countries in Europe and in Japan (Lowell & Martin, 2005; Lowell, 2001 a).

It is acknowledged that the empirical analysis on the effects of brain drain endures data paucity and that the US 2000 Census stands as an exception (Özden, 2005)[9]. This author made use of this data source to study the 8.5 million people born in Latin American countries who are between 25-65 years old and employed at the time of the census. He found that close to 17% of migrants arriving in the 1980s had at least a college degree. For LAC immigrants arriving at the 1990s, 18% LAC have at least a college degree. Compared to Philippinos and Indians with college degree in the US, 63 and 58%, respectively, these figures are considered rather small. The ratios of college educated to total migrants are above the LAC average for Brazil, Argentina, and Chile and below it for Central American countries.

A more meaningful measure for the losses that the brain drain process may entail, however, is the size of the total tertiary educated labour force from Latin American countries in the US in relation to its size in the countries of origin. Özden (2005) found that a very large portion of the college educated migrants from smaller and poorer countries in the Caribbean and Central America are in the US. These percentages are close to 80% of college educated people born in Jamaica, Haiti, Guyana, Belize, and Grenada. Central American countries stands in the middle range, having about 30% of their college educated nationals in the US. This is the case of El Salvador, Guatemala, Honduras, Nicaragua, and Panama. Larger and wealthier countries have much lower percentages. The percentage is less than 5% for Brazil, Argentina, Chile, Costa Rica, Uruguay and Venezuela.

The author calls the attention to the fact that the differences between smaller and poorer countries and larger and wealthier ones are due also to a compositional effect. While for the former LAC countries highly educated nationals constitute a smaller proportion of the migrant population, they represent a large proportion of the educated labour force. For the larger and wealthier countries, the total number of migrants relative to the population is much smaller, the proportion of individuals with tertiary education in the educated labour force is far larger and a smaller portion of these individuals emigrates.

[9] Draft version entitled Brain Drain in Latin America; quotes and citation by the author's permission.

Investigating international migration by education world over through the US 2000 Census, Docquier, and Marfouk (2006) found results very much in line with Özden (2005). Both studies are in line with the results of Carrington and Detragiache (1998), who carried out an analysis considered to be the only one reliable on brain drain estimates for the 1980s. Carrington and Detragiache used the proportion of tertiary educated persons who emigrated from developing countries to developed ones as the indicator of brain losses. The estimated figures for the loss of tertiary educated individuals up to 1990 were 15% in Central America and the Caribbean, 6% in Africa, 5% in Asia, and 3% in South America.

Accordingly, the various analysis of LAC brain drain points to two realities, one for the Caribbean and Central America and one for the South America. In the latter, the levels of tertiary educated emigrants in relation to the national stock do not reach levels that may severely deplete national demands. For Central America and the Caribbean countries, on the other hand, the brain drain is considered to constitute a devastating loss (Hintzen, 2004; Stubbs & Reyes, 2004).

Mexico seems to stand in an intermediary situation. On one hand, the Mexican emigration to the US is well-established as a typical case of low-skilled worker flows. On the other hand, it has an important component of tertiary educated loss. Whether proportionally the Mexican losses is in the lower LAC range at 10%, in absolute terms Mexico presents the largest loss of highly educated persons, close to 1 million in 2000 (Docquier & Marfouk, 2006). What seems to make Mexico a particular case is the difference between bachelors and graduates emigrants. Lowell and Martin (2005) estimate that 9% of Mexican-born with a bachelor degree live in the US. The figure for those with doctorate is 36%.

Brain drain can reverse into brain gain. Basically, brain gain is engendered through the combination of experience, new techniques and knowledge, and attitudes as well as behaviours acquired by the migrants in the host country. Permanent or temporary return migration may guarantee the conveyance back home of these tangible and intangible resources stemming from years of work and social immersion in societies where individual initiative, merit, and entrepreneurship tend to be more valued and better rewarded (IOM, 2001; Martín-Guzmán, 2004). Brain drain is also said to lead to gains by internal inducement in the sense that the share of skilled individuals who migrate and earn a higher wage abroad may raise the expected return on education. Such increased expected return, in turn, would prompt additional investment in education, which can represent a net gain and raise welfare and growth. To be sure, to brain gain be realised it must exceed the brain loss, i.e. the economic gains of high-skilled returns must offset the economic loss of highly skilled emigration (Schiff, 2006).

While the potential impacts of brain gain do not depend entirely upon the definitive return of the immigrant to his or her country of origin, a note of caution is in place. As emigrants are selected in the home country, returnees are selected in the host country. Brain gain thus can be fettered to the extent that return flows may be constituted by the less-skilled of a given cohort, by those disappointed with the wages and working conditions, by those who failure in establishing themselves successfully in the destination or even by retirees. Moreover, migrants may have their skills deteriorated while overseas and those who have specific targets regarding savings tend to stay short periods of time in the destination and therefore do not get embedded in the host environment (World Bank, 2006 a).

Be that as it may, the potential gain will depend on various factors such as the ease to invest in, the ease to get in and out of the home country as well as of the host country, and the socioeconomic conditions and entrepreneurial settings of the home country (Lowell 2001 b). Regarding the transfer of knowledge and productive investments, the literature singles out China, Taiwan, and India as exemplary cases. These countries have experienced and even induced massive flows of tertiary educated people to obtain their doctorates abroad. Over time, the national governments implemented specific policies to either attract high-skilled professionals back home or to facilitate their entering and investing in the country of origin.[10] The cases of India and particularly Taiwan make clear that brain gain is closely linked to emigration of highly-educated persons and that domestic policies towards research and development as well as infrastructure investments are key to the productive return (Jackson, 2005).

In spite of the existence of exemplary cases, the literature reaches neither a definite nor an optimistic picture (Lowell & Martin, 2005; Lowell, 2001 a; Schiff, 2006). To be sure, Schiff (2006) showed that the size of the brain gain and its impact on welfare and growth are significantly smaller than the indicated by most of the previous analysis. According to the author, the only common ground between his study and the bulk of the literature on brain gain is his negative impact for countries presenting large migration probabilities and that undergo severe processes of brain drain. From this perspective, the smaller and poorer LAC countries, especially in the Caribbean region, can expect less than nothing from their brain drain.

[10] As lively depicted by the World Bank, "The stunning growth of India's software industry is a strong example. The industry has created 400,000 new software jobs in India and it exported over US$6 billion worth of goods and services in 2002. Nineteen of the top 20 Indian software businesses were founded by or are managed by professionals from the Indian diaspora. The industry relies for new ideas, new technologies and new markets on diaspora-led professional organisations in India and abroad, and diaspora-led subsidiaries in key markets such as the United States" (2004, page 85).

MIGRATION AND GENDER EQUALITY

Gender is related to the expected and distinct roles, rights, and responsibilities of men and women based on the inherent biological differences of males and females. In each society, a specific set of norms determine the appropriate behaviour of men and women. This, in turn, bestows imbalanced social, economic, and political power to each group. Although the social norms that define gender roles and power differ temporally and from society to society they habitually favour males over females. As a consequence, girls and women face more obstacles and struggle with heavier loads over their lives, having access to fewer resources and enjoying fewer opportunities when compared to boys and men. Clearly, gender perspectives unveil the asymmetrical relationship between the two sexes and the overall disadvantage of women as compared to men (UN Millennium Project, 2005 b).

Accordingly, the Task Force on Education and Gender Equality envisages three main dimensions to be tackled in this realm. The *capabilities domain* refers to basic human abilities as measured by education, health, and nutrition, being fundamental to individual wellbeing and the means through which individuals access other forms of wellbeing. The *access to resources and opportunities domain* refers to equality in the opportunity to use or apply basic capabilities through access to economic assets (such as land, property, or infrastructure) and resources (such as income and employment), as well as political opportunity (such as representation in parliaments and other political bodies). The *security domain* is defined to mean reduced vulnerability to violence and conflict. Violence and conflict result in physical and psychological harm and lessen the ability of individuals, households, and communities to fulfil their potential (UN Millennium Project, 2005 b). Implied in this approach is the fact that setbacks in any one domain undermine the achievement of the others.

Although the MDG 3 aiming at gender equality constitute a matter of its own, it is important to bear in mind that the consequences of gender asymmetries in developing countries are highly related to poverty to the extent that "the probability of being poor is not distributed randomly among the population" (Sen, 1998: 127). Indeed, it is well established that women are more likely than men to face and endure poverty. In fact, poor women outnumber poor men, women are more likely to be extremely poor, and the rate of poverty increase is higher for females, largely because of the rise in the number of female-headed households. These characteristics and trends came to be termed the "feminisation of poverty". Even though this concept has been disputed, the indicators showing women in

disadvantage comparatively to men undeniably demonstrate that gender have an important effect on poverty (Sen, 1998: 127).

Absolute and relative lack of goods and resources are certainly one dimension of poverty in which women are unfavourably positioned relative to men. But, according to Bravo (1998), women are also in a more unfavourable situation in regard to the potential benefits such as income one can obtain from human and social capital. Narrower access to resources, ownership of fewer assets, and smaller returns from human and social capital are part and parcel of a vicious circle in which women have greater risk of being poor and are at greater risk of being poor largely because they are women.

According to Ruspini (1996), this situation results in greater vulnerability, which is revealed mainly in the work and family domains, as detected by household and labour market indicators. As far as poor and rich women are concerned, the evidences are that gender unevenness is far more pervasive among the former because poor households are more dependent on women and they take on a larger load of productive as well as reproductive responsibilities (World Bank, 2001 a; Filmer, 1999). Additionally, the absolute and relative share of poor households headed by women has increased over time (Bruce et al., 1995).

The gender asymmetry in the labour market is clear in LAC. While the analysis of data from LAC surveys point to the increase of women's participation in economic life from 38% in 1990 to 42% in 1999, unemployment rates were higher for women and this difference increased during 1990s. More precisely, the female-male gap in the unemployment rate stood at 0.8 percentage points in 1990. In 1999, the figure was at 4 percentage points. The overall difference holds over time even controlling for educational attainment, but the gender unemployment gap tends to decrease the more qualified are the workers. Nevertheless, women earn on average less than men and the gender remuneration gap increases with skills. Proportionally, however, women are fewer than men in highly qualified positions and disproportionably represented in lower-skilled jobs. Low-skill positions are associated to lower wages, higher job instability, and higher chances of being employed in the informal sector (CELADE, 2004).

In face of this reality, the question is whether migration can contribute to bridge the gender gap in LAC countries and how so. Female migration has always been substantial and has increased over time, but it is said that scholars and policymakers have neglected its role, especially in the case of internal movements (Bilsborrow, 1991; Zlotnik, 2003[11]). Indeed, global estimates confirm that international female migration has been on rise since the 1960s. In 2000, women made up to 51% of all

[11] At http://www.migrationinformation.org/Feature/display.cfm?ID=109.

migrants in the developed world and about 46% of all migrants in the developing countries (ILO, 2003). International migration within LAC region present an increasing female predominance since the 1980s and the migrant stocks accumulated up to 2000 underline such characteristic, but for a number of cases such as Bolivians in Argentina, Colombians in Panama, and Peruvians in Venezuela. As for the LAC immigrants in the US, the average sex ratio shows a predominance of men, resulting from male preponderance in the flows having Mexico and Central America as origins. However, women appear in greater numbers among immigrants from the Caribbean and South America (Martínez Pizarro & Villa, 2005).

According to Bilsborrow (1991), women (as well as men) may migrate by their own initiative or with their families. In either case the decision may be economically-driven or not, but in the latter case the relocation is generally termed as associational, with the woman following someone else's decision to migrate, mainly the husband's. The difference lies in the fact that while in associational migration women may participate in the decision-making process in various degrees, they are the main agents of their acts when they migrate individually or head their families in the relocation (Bilsborrow, 1991). While in the past women migration has been chiefly associational due to social constraints, they have assumed an increasingly significant role within the migration process since more and more women migrate independently or as heads of families (IOM, 2004 a).

The sexual division of labour that is socially sanctioned largely defines the expected gender roles and the rights and obligations related to them. Social hierarchies in which women are taken as dependent and must abide by the father, the husband, and even a brother are based on such division and imply in a patriarchal family structure. The patriarchal order still prevails and largely determines female independence, autonomy, and opportunities in most of the LAC societies. Although migration can empower women and improve their economic and social status, the influence of cultural and social backgrounds allows for the persistence of inequality patterns even when abroad (Pessar, 2005).

Rural women living in families rigidly controlled by fathers, brothers, husbands and sons may be empowered simply by moving away from such patriarchal schemes. Women may also be empowered by migration of their fathers, husbands, or brothers, which may launch the women left behind into positions of greater authority or at least may give them more room to exercise their will (Skeldon, 2005). Studying the female migration from Mexico to the US, Hondagneu-Sotelo (1994) concluded that women gain more than men in terms of improvement in status through migration.

On the other hand, according to Pessar (2005), in family structures where high dependence on males exist, the absence of the head of the family may perpetuate

the existing inequalities instead of allowing room for new roles for the wives. In this case, women may have to reside with the male's kin, be monitored by them, and have no control over the husband's remittances. As a result, out-migration may actually reinforce conventional roles and inequalities (Grasmuck & Pessar, 1991). In other cases, women left behind are called upon to assume roles previously assigned primarily to men (Chaney & Lewis, 1980). In those cases, women's burdens tend to be increased with new responsibilities. However, assuming new roles also allow for the empowerment of women locally and tend to reduce inequalities as well as reduce stereotyped views of women in labour markets in the long-term. Another possible situation is that of women who live in households more economically secure and are prohibited by their husbands to work. Their lack of autonomy and dependence on the husbands' remittances make inequalities persistent but may also stimulate their own out-migration (Grasmuck & Pessar, 2001).

When the women themselves migrate, different constraints to equality can be observed. According to Daeren (2000), one main obstacle for women is that their migration is still perceived as associational when actually a vast number of women migrate independently. As a result, their contribution to society and to economic development is underestimated. In any case, women that migrate with their families are likely to be seen as dependents and economically inactive when this is not actually true. The rates of work participation of migrant women are much more related to the rates of work participation of women in their origin areas than to migration itself. In addition, their occupations in the destination tend to be closely related to their occupations in the origin (Balán, 1995).

Women who are normally dependent on their husbands and family and who take up traditional roles in their origin areas have the chance to be more economically and socially self-governing when they assume a paid job in the destination. Whether economic empowerment can yield social empowerment, such achievement depends on other factors. It is important nonetheless to recognise the aspiration that women have upon migrating and results stemming from migration. Farah and Sánchez (2002) analysed data from focus groups in different Bolivian cities, to understand the causes and features of Bolivian women's migration to other countries. They found the results displayed in Table 1.

As can be seen, among economic and family causes, chances to study and experiences of returnees motivate Bolivian women to migrate. Their gains however are not restricted to individual remuneration but also include social recognition of their new roles and the by importance they may acquire on improving living conditions of their relatives and communities. According to Farah and Sánchez (2002: 21), "in general, they [family and relatives] consider that the emigration will

be beneficial for their future and the future of the rest of the family. When a woman is going to emigrate, the whole family is happy, since that means an improvement in the family's economy, food for all." The perceptions of the Bolivian interviewees about the positive impacts of migration show that migration can foster equality and empowerment as a whole as well as demonstrates a trend that can be taken to happen in Latin America in general.

Table 1: Causes for migration and factors supporting the decision

Place of origin	Destination	Causes for emigration	Factors supporting decision to emigrate
Cochabamba	Argentina	Sick husband Small children Lack of jobs in country In country jobs too unstable Low wages Shortage of funds Debts Sexual harassment in work of a household maid Earn more for the children Get ahead in life	Proximity to Argentina Cheap fares More chance to study More flexible work schedule Easy paperwork
Riberalta	Japan Spain	No perspectives to improving situation in Riberalta or Bolivia We are dying of hunger There is no work in Riberalta	For Japan, it is enough to have all papers in order Good experiences among the returnees Those that have gone have built homes
Guayaramerín	Brazil	Lack of jobs Lack of money	Those who went did well If they aren't caught by the Federal Police, my friends do well
Tarija	Argentina	Work Pay lower in Bolivia Too much discrimination in Tarija (single woman head of household) To see other places	The fact of being single A favourable family financial situation
Potosí	Argentina	Lack of jobs Low income in Bolivia	A sister that lives in Argentina With her husband they both decided to emigrate

Source: Farah & Sánchez, 2002

Even though in the initial periods migrants reported facing discrimination and precarious living conditions, in the long-term they recognise at least three groups of benefits related to their original status:

> *"Economic benefits, which result in savings, the purchase of real estate, starting their own businesses, achievement of study and work alternatives for their children; benefits related to the development of personal competencies, especially those that refer to apprenticeships that facilitate their professional and personal development. The latter includes the younger children, who, according to the interviewees, become 'more alert', a characteristic that gives them prestige in their environment and in their place of origin; and symbolic benefits associated with the possibility of achieving a better life with ambitions, which they could have never imagined in their previous condition." (Farah & Sánchez, 2002: 27)*

New roles may mean empowerment but the sole act of moving can increase the levels of decision-making autonomy and independence for women. In another study carried out by Mora (2002), levels of independence and decision-making of women can be compared. As can be seen, migrants tend to be more independent and this is by itself an important characteristic towards gender equality.

Table 2: Social Control of women by husband/partner (%)

Country		No	Yes	Total
Peru 2000	Native-Born	76.2	23.8	100
	Migrants	77.7	22.8	100
Nicaragua 1998	Native-Born	84.7	15.3	100
	Migrants	94.1	5.9	100
Colombia 2000	Native-Born	68.2	31.8	100
	Migrants	92.4	17.6	100

Source: Mora, 2002

Inasmuch as migration can reduce poverty and induce development, it surely will enhance women's opportunities as well as independence and autonomy from men. One clear path to greater gender equality through migration is the increase in the proportion of women in paid employment situations, which empowers them economically and enhances self-esteem. Moreover, the survival and coping skills they develop during the migration process are sources of heightened self-determination and self-esteem.

Nevertheless, migrants tend to take jobs in the destination closely related to their jobs at the origin. An important feature of LAC societies is the domestic work. Indeed, female migrants in domestic occupations are a striking feature of the LAC female migration in all types of migratory flows, be they internal (rural to urban), regional (Peruvian, Bolivian and Nicaraguan to Chile, Argentina, and Costa Rica respectively), to the US (Puerto Rican, Mexicans), and to other areas (Spain and Western Europe) (Staab, 2004). The problem is that this occupation is largely unregulated and women suffer with persistent violation of rights regarding wage, access to official social security or insurance, and dependence on the employer. In contexts of international migration, moreover, dependent domestic workers may become even more vulnerable with the lack of social and cultural connection with their home countries (Daeren, 2000).

Research indicates that migrant women tend to send home a larger share of their income as remittances, which in turn contributes to poverty reduction (IOM, 2003). The role women play as senders is very important and their contribution to their countries and regions of origin tend to be different as compared to transfers made by men. Again, having the responsibility to decide if, how much, and to whom

to remit is by itself an independent act and adds power to the migrant woman. Yet, the social roles of the woman in the household of the country of origin have a great influence on these decisions. According to Ramírez et al. (2005), when migrating to sustain the family, LAC women tend to work more and undergo more stressful or arduous tasks, as well as to remit more money and conditioning her personal improvements to the economic needs of the family. When performing autonomous migration, on the other hand, women tend to send less money to relatives and invest in personal improvements. As associational migrating, i.e. as dependents of husbands, their share of remittances tend to be less relevant but their social and economic contribution in the private sphere tend to be enormous.

Great dependence on employers also poses threats to the migrants' physical security and harassment is not uncommon. Fear and lack of knowledge about official support is common and many times they don't report abuses and violence, which further hampers their security and health as points the following evidence tables:

Table 3.A.: Search for help/support before a health centre upon cases of violence (%)

Country		No	Yes	Total
Peru 2000	Native-Born	99.3	0.7	100
	Migrants	100	0.0	100
Nicaragua 1998	Native-Born	94.6	5.4	100
	Migrants	100	0,0	100
Colombia 2000	Native-Born	99.8	0.2	100
	Migrants	100	0.0	100

Source: Mora, 2002

Table 3.B.: Search for help/support before the police (%)

Country		No	Yes	Total
Peru 2000	Native-Born	85.5	14.5	100
	Migrants	88.4	11.6	100
Nicaragua 1998	Native-Born	83.4	16.6	100
	Migrants	100	0.0	100
Colombia 2000	Native-Born	91.3	9.7	100
	Migrants	95.7	4.3	100

Source: Mora, 2002

Even more precarious is the situation of women who are subject to trafficking and sexual exploitation, either or not with their consent. LAC migrant women are surely targets of exploitation. Ramírez Bautista (2000) shows that 75% of the women in the sex houses of Frankfurt in 1995 were from LAC. Moreover, according to the International Association Against Racism and Sexual Exploitation (AGISRA), the major sending countries of sex workers were Colombia, Brazil and the Dominican Republic. According to the author, the little information about their services, lack of

knowledge of the language and unfavourable power relations must influence the fact that between November 1993 and January 1994 LAC women accounted for 74% of STI cases in Frankfurt health centres.

In sum, migration still implies in more dangers for women as compared to men. Women are more vulnerable to deprivation, hardship, discrimination, physical, sexual and verbal abuse when away from home and are more likely to be trapped into trafficking and exploitation. Migrant women often face double discrimination – as females and foreigners – in the labour market, and their access to employment, social and health programmes can be more limited. Finally, migrant women are especially vulnerable if their legal residence is dependent upon a relationship with a citizen or another migrant (Martin, 2004).

Migration is said to have extremely beneficial effects on gender relations and a great potential to promote gender equality even for women who stay home by the sheer absence of their husbands, fathers or brothers in the household. Migration for women seems to be a means of income earning, autonomy, independence, self-esteem, and new attitudes and behaviour. Migrant women, be they internal or international, imply in a risky endeavour, much more so than for man. But the general view is that the benefits in this domain tend to highly exceed the costs. The problem appears to be the measurement of these effects. As far as the resource domain is concerned, longitudinal, male-female, and migrant-non-migrant comparisons related to the labour market and to welfare and social programmes constitute clear indications of the effects of migration to promote gender equality. Indicators of change in the household relationships associated with security, autonomy, and empowerment may be more difficult to capture, but for qualitative case studies as the one carried out by Hondagneu-Sotelo (1994).

MIGRATION AND HEALTH

Three of the MDGs are directly related to the field of human health: child mortality (Goal 4); maternal health (Goal 5); and combating HIV/AIDS, malaria and other diseases (Goal 6). For each Goal, specific targets were defined and a set of indicators was developed in order to evaluate country performance with respect to the implementation of the MDGs.

There is no predefined relation between migration and overall health. In some situations, the impact of migration can be positive for health and gender equality while in others migration may raise the exposure to risk with severe consequences over health. For example, if new practices and therapies emerge as a result of migration in destination areas and thus contribute positively for the rupture of old cycles of inefficient traditional healthcare practices, this same movement may, for the staying population, amplify the health risks.

The immigrant is, at least initially, always in a vulnerable situation in the destination area and also, on most cases, while in transit between origin and destination. While in transit, women are more exposed to health risks, especially in regard to reproductive health. Castellanos (2005) shows that female migrants, especially those in irregular situation, tend to suffer abuses and harassment. To make matters worse, they seldom have access to health services. Moreover, even those in regular situation at the destination face difficulties when embedded in the new reality stemming from communication issues and different health practices.

Looking upon the goals in the field of human health and under the scope of its relations to migration some issues should be pointed out. Firstly, the dynamics of migration itself contributes to expand the risks of certain diseases. In this scenario, the impacts of the demographic movements, be they internal or international, should be evaluated at the sending, transit and receiving regions. In this regard, a number of questions with respect to the net effect of migration emerge. For example, it might be necessary to assess whether the standards of living of those families left behind that receive remittances undergo sufficient improvements so as to reduce the levels of child mortality in a way that compensates the absence of the household chief. In case of a positive answer, it is important to examine whether this reduction suffers of gender imbalance favouring one sex over the other. By the same token, family separation due to migration, particularly in cases in which the male partner or husband goes away for short periods, increases the probability of sexual transmitted diseases.

Another point that needs consideration is the availability of data. Even in the developed countries where data in the field of heath tend to be reasonably reliable, the status of migrants frequently is not taken into account and in most cases is "invisible" to official health records. Besides, the irregular situation of many immigrants is a decisive factor keeping them away from official health care services.

Lastly, the conditions under which migration takes place should be considered. Irregular migrants tend, in many cases, to use the services of middlemen and are subject to degrading treatment that may influence their health. Sexual harassment and abandonment while travelling and attempting to cross irregularly national borders are examples of the problems that may occur to international migrants while in transit. To be sure, precarious sanitation and dwelling conditions may prevail not only during the trip but also at the destination point. The likely hazardous situation of migrants may get even more dramatic when natural disasters or armed conflict triggers compulsory movements.

Another aspect to be considered is the pattern of disease incidence in the areas of origin. The increase of migratory flows from regions that present endemic patterns for diseases such as tuberculosis and Chagas disease may bring about a modification of the epidemiological pattern at the destination (Gushulak & MacPherson, 2006). In the specific case of tuberculosis, for instance, there is a 10% chance that persons carrying the disease in its inactive state will develop it at some point in their lives. In such a scenario, regions with low incidence of tuberculosis may have its prevalence rate increased after the arrival of migrants from regions with high incidence rates.

Goal 4: Reduce child mortality

Target 5: Reduce by two thirds, between 1990 and 2015, the under-five mortality rate.

Goal 5: Improve maternal health

Target 6: Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio.

Close ties between Goals 4 and 5 make it reasonable to consider them jointly when studying the impacts that migration may cast upon them. Child mortality and maternal health are connected in a way that good outcomes on the first depend greatly on good outcomes on the later.

Child mortality and maternal health-migration nexus

Measuring the impact of migration on child mortality is a great challenge both in methodological terms and in relation to the available data. Except for census data, which can, after proper demographic methods, estimate the probability of death in early ages and infancy and connect it to migration, there are no other reliable sources

of information for that purpose. Even so, caution on the interpretation of results (as there are many restrictions to each method) should be taken. In the study of international migration, this task turns out to be even more delicate since in sending countries it is not possible to gather information on emigrants and in receiving countries the surveys carried out not always are capable of gathering information from migrants (Goza, 2004).

In addition, the effects of migration on human health tend to be cumulative and in result may only appear in the long term. In the case of returnees, for example, changes in his or her place of origin derived from new health habits and practices learned during his or her time in the destination can be evaluated only after a certain time after he or she has moved back home. According to Donato, Stainback and Kanaiaupuni (2003, 2005), the role played by migration on child mortality is very much conditioned by the social and economic situation of the emigrants household. In her recent study about the impact of migration on the health of Mexicans in which she compares household with migrants and household with no migrants, the author found that child mortality in Mexico is associated with migration. Indeed, among the where migration occurs the more economically vulnerable ones were those presenting the greatest reductions of child mortality. Another important finding is that the reduction depends on which of the spouses migrate. When the mother migrates, the risk of child mortality actually raises whereas when both parents migrate the risks tend to be reduced. In fact, the impacts of migration on health are strongly associated with higher levels of income than any with other variable.

In another study about migration of Mexicans to the United States, McKenzie (2006) found a high correlation of migration and knowledge of health practices that result in the improvement in the women's health, which in turn has a positive effect over all residents in the household. This relation is stronger when the migrant is a woman. Another aspect raised by the author is the positive impact of remittances on the reduction of child mortality rates in the origin areas. The prospect of having more than one source of income allows for the possibility of increased levels of food intake and essential health products.

Besides considering the impact of migration in the regions of origin, there are also concerns about the health of migrants in the destination areas. If conditions on these regions are favourable, such as better and more accessible health services or if contact with new realities, especially in the case of women, allow for improvement of education levels, migration can turn out to be beneficial, contributing to the reduction of child mortality along with gender equality in health and therefore improved women health. (Donato et al., 2003). However, if conditions are not favourable, migration can turn out to be an even greater burden on health services

of receiving countries and locals may have decreased levels of health access as they incorporate foreigners. In some cases, locals may impose barriers to the access of basic services to migrants as a way of not losing established benefits or avoiding decreasing local standards of living.

In the case of health services in the area of origin, the flow of qualified health personnel such as doctors, nurses and hospital technicians from developing regions to developed areas may seriously affect the quality of services, which can be detected by indicators that use the relationship of health and the number of qualified health personnel. Child mortality is possibly the goal most sensitive to the lack of qualified health personnel. Prenatal care, basic orientation regarding lactation, child nutrition and childcare and other actions that enhance maternal education are factors closely linked to the availability of health professionals. Concerning maternal mortality, intervention of health personnel demands special and improved qualifications, representing extended training and far greater investments from governments.

According to the JLI Report (JLI, 2004), there is a strong relation between the number of a country's health professionals and indicators both of child and maternal mortality. Another point raised by this report is that for attaining a good level of birth assistance and vaccine immunisation, the minimum professional density (number of health professionals for 10,000 persons) should be of 2.5. This level is far from being reached in a number of LAC countries (Table 4).

The loss of health professionals is known to be of special importance in Asia and Africa but is gaining importance also in the Caribbean. The growing demand and better salaries in the developed world function as attracting factors for professionals from developing countries. According to Dovlo (2005), the lack of health personnel affects distinctly the countries across the developing world. In some cases, the migration of health professionals is consistently incorporated into national policies that expect in return improved qualification and monetary payoffs in the form of remittances. Cuba,[12] India and the Philippines are examples of such cases. On the other hand, there are countries that suffer bitterly with the exit of health professionals that often search for better salaries and higher standards of living in developed countries. Once established, these professionals start a process of integration in the receiving societies and, whenever possible, try to reunite their families. This, in turn, reduces drastically the remittances. This is case of a number of Caribbean countries (GCIM, 2005). The major concern about migration and brain drain is that for the achievement of all MDGs related to health prevention and access to health advisement is crucial.

[12] In the case of Cuba, it is important to note the participation of Cuban doctors in Central America countries. In some cities they are the only support in the health area.

Table 4: Health personal density, under five mortality rate, Infant Mortality Rate, and Maternal Mortality Ratio for countries of LAC

Countries	Density	Under 5 Mortality Rate	Infant Mortality Rate	Maternal Mortality Rate
Antigua and Barbuda	3.45	14	18	-
Argentina	3.81	19	18	84
Bahamas	5.53	16	8	10
Barbados	4.92	14	19	33
Brazil	2.57	36	38	260
Cuba	13.35	9	8	24
Dominica	4.65	15	12	-
Dominican Republic	3.72	47	41	110
Ecuador	3.13	30	27	210
Grenada	4.17	25	18	-
Guatemala	4.94	58	39	270
Guyana	2.77	72	45	150
Jamaica	2.5	20	12	120
Haiti	0.36	123	89	1100
Mexico	3.93	29	25	67
Belize	2.31	40	23	140
Bolivia	1.05	-	66	550
Chile	1.72	12	9	33
Colombia	1.9	23	20	120
Costa Rica	2.39	11	10	35
El Salvador	2.03	39	28	180
Honduras	1.09	38	35	220
Nicaragua	1.78	43	35	250
Paraguay	1.37	30	27	170
Peru	1.84	39	37	240
Panama	3.2	25	19	100
St. Lucia	7.47	19	14	-
St. Vincent and Grenadines	3.26	25	17	-
Trinidad and Tobago	3.66	20	18	65
Uruguay	4.5	16	14	50
Venezuela RB	2.58	22	20	43

Source: JLI (2004)

Therefore, the loss of skilled health personnel may be pointed as the single most important challenge to be addressed by countries that suffer from the problem that has been termed "nursing crisis" in the Caribbean.

Remarks

Not all research has found positive effects though. Bender, Rivera and Madona (1993) found that children of urban women of rural origin in Bolivia were more likely to suffer from malnutrition than those of native urban women, a difference only partially explained by the lower educational level of the former. A UNICEF study on Ecuador, Mexico, and the Philippines (Cortés, 2006) suggests that children whose parents migrated can suffer adverse psychological effects. In another study by UNICEF (2005 a), on children and adolescents in the triple border region - Argentina, Brazil, and Paraguay - involving 62 municipalities of the three countries, the vulnerability of children in this transit area becomes evident. In transit area

municipalities of Paraguay and Argentina, child mortality rates were higher than their national averages, whereas in Brazil, because of intense work by NGOs (especially Pastoral da Criança), child mortality was actually below the national average. Differences among the three countries also appear when other causes of death rates are analysed, including AIDS. These are indications that the potential advantages of the integration process and the Mercosul Treaty are not yet comprehensive for all the population, and there is a need for common policy approaches.

In the case of qualified health personnel depletion due to migration, important measures are being taken in order to cope with this problem. Initiatives with the support of the Regional Nursing Body, PAHO, CARICOM and the Commonwealth of Nations are taking place with a view towards the retention of qualified professionals as well as encouragement of their return. An important document was issued at the Caribbean Conference on Temporary Movement, in Barbados, entitled "Draft Framework of Action for a Programme of Temporary Movement of Nurses". In this document, health, trade and development issues were linked through a holistic perspective, which includes the effects of migration upon those themes. Recommendations range from bilateral agreements between countries that lose skilled health workers and countries that demand them to incentives to return and inclusion in government health-sponsored programmes as well as to temporary return to train of young professionals.

Goal 6: Combat HIV/AIDS, malaria, and other diseases

Target 7: Have halted by 2015 and begun to reverse the spread of HIV/AIDS.

Target 8: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases.

HIV/AIDS and malaria represent serious health issues in the LAC region. Prevention and control are still far from reaching robust levels, although regional differences exist.

The Caribbean sub-region is proportionally the second most-affected region in the world, with a total of 500,000 [300,000-590,000] people currently living with HIV (IOM, 2004 b: 8), making it the leading cause of death among adults aged 15-44 years (World Bank, 2000: 15). Inadequate HIV surveillance due to reluctance among public officials to publicise the scale of the epidemic masks the real magnitude of the spread of the disease. Moreover, prevalence among women is surpassing prevalence among men due to spouse/partner transmission and also as a result of the sex industry activity. The practice of establishing relationships with older men endangers young women and in the region sexual activity is becoming common at increasingly younger ages. In the rest of Latin America, HIV is also a challenge and 1.8 million people are

estimated to be living with it. Although antiretroviral treatment access has improved notably in almost all countries in the region, in poorer countries of Central America the progress has been very slow. Men who have sex with men and female sex workers are the major risk groups in the region.

Malaria also represents a substantial health problem in most parts of the LAC, presenting high levels of prevalence in particular areas. The combination of high temperature and humid tropical forests contribute to make the region a natural vector-breeding area for the mosquito. Besides, the degradation of natural environment by human action intensifies the risk of transmission. Indeed, the two major infection areas in the region are located in Central America and in the Amazon Basin. Malaria transmission occurs in nine countries of the region that share the Amazon rainforest and in eight countries in Central America and the Caribbean. Population movements associated with gold mining and forestry work have resulted in isolated epidemics. Prevention and treatment encompass both drug therapy as well as spraying of mosquito-infested areas. Although mortality rates associated with malaria are low, morbidity rates have an important impact on social and economic development of countries where the disease prevails (Prothero, 1995).

HIV/AIDS and malaria-migration nexus

Migration has a noticeable and sometimes intense impact on the prevalence and spread of HIV/AIDS and malaria. The spread of HIV/AIDS as a result of migration presents many intricate features and Latin America is not different from the global trends. In the first place, poor migrants constitute a specific vulnerable group exposed to greater risks of infection to all sexually transmitted diseases. Poor living standards and lack of information on health issues both at the origin and in transit regions along with lack of access to health services in destination areas, particularly in the case of irregular migrants, make diagnose and treatment difficult and augment the chances of spreading the epidemic. Furthermore, exploitation of their vulnerabilities during the migration process such as sexual harassment over women and children by traffickers and middlemen poses a greater challenge. Migration of sex workers also represents a problem and further increases the risk of dissemination.

Gender is an important factor in analysing the impact of migration in the spread of HIV/AIDS. Migrant women from Latin America are special targets for HIV, not only due to their vulnerability to sexual exploitation, but also because of their distinguished characteristic of being employed in occupation of housekeeping where violations and lack of rights are more evident. Men are also vulnerable but in a different way since stress, instability and isolation make migrants more prompt to involve in unsafe sexual activities when away from the family.

A major concern in regard to disease contamination is return migration. While abroad and vulnerable in the condition of migrant, contagion and lack of access to official assistance may have a negative externality to the extent that undiagnosed infected return migrants pose a threat to their partners. This mechanism applies both for international and for internal migration. Return migration from higher-prevalence urban areas to lower-prevalence small cities and rural areas may trigger the diffusion of the disease in the latter, where the diagnosis and treatment tend to be more difficult to be obtained.

An illustrative case of the impact of migration on HIV/AIDS epidemic is that of Mexican migrants. According to Mexico National Conference for the Prevention and Control of HIV/AIDS[13], a significant amount of cases of HIV/AIDS can be traced back to residence in the United States. Also, HIV/AIDS is more prevalent in US cities and states with substantial presence of international migrants. In California, for example, 68% of people living with HIV/AIDS are of Mexican origin and three fourths of them are men at working ages. To make matters worse, around 90% of Mexican immigrants do not have access to the health system in the US. Moreover, an increasing number of women and adolescents are acquiring the virus in the poorest Mexican states of origin to where the migrants return. As a consequence, HIV/AIDS prevalence is rising in rural areas.

A different and more generalised pattern that can be observed in the LAC region is that the countries with the highest migration rates are also those in which HIV/AIDS is more prevalent. Guyana, Haiti, Guatemala, and Honduras are clear examples of this trend. Belize, a regional host country, has seen its prevalence rate scale up (Table 5). Another fact to be borne in mind is that the countries most affected by the emigration of skilled health personnel such as Trinidad and Tobago also show rising rates of HIV/AIDS prevalence. Apparently, the shortage of nurses and teachers is a constraining factor for counselling and prevention initiatives.

With respect to malaria, migration plays a paramount role in the diffusion of the epidemics. Human mobility in areas where there is a high concentration of the vector is a very important side-player along with natural environmental factors that make the region propitious to the development and endemic status of the disease. During the 20th century, large movements of people occurred in the direction of tropical forest areas, partially motivated by government policies and incentives to colonisation. In the Amazon basin movements towards fringes of the tropical forest and consequent degradation of the environmental contributed for large numbers of malaria cases. The persisting character of environmental degradation and unsound process of urbanisation in the Amazon region turned the multiplication of vectors

[13] Data gathered at Catholic Agency for Overseas Development (NGO), at http://www.cafod.org.uk/policy_and_analysis

more likely. In addition, the advance of human occupation in environmentally sensitive regions such as the Amazon and the expansion of agricultural frontiers are not accompanied by public policies aiming at creating social and health basic infrastructure and services.

Table 5: Percent HIV prevalence rate for ages 15-49

Country	2001	2003
Argentina	0.7	0.7
Bahamas	3	3
Barbados	1.5	1.5
Belize	2.1	2.4
Bolivia	0.1	0.1
Brazil	0.6	0.7
Chile	0.3	0.3
Colombia	0.5	0.7
Costa Rica	0.6	0.6
Cuba	0.1	0.1
Dominican Republic	1.8	1.7
Ecuador	0.3	0.3
El Salvador	0.6	0.7
Guatemala	1.1	1.1
Guyana	2.5	2.5
Haiti	5.5	5.6
Honduras	1.6	1.8
Jamaica	0.8	1.2
Mexico	0.3	0.3
Nicaragua	0.2	0.2
Panama	0.7	0.9
Paraguay	0.4	0.5
Peru	0.4	0.5
Suriname	1.3	1.7
Trinidad and Tobago	3	3.2
Uruguay	0.3	0.3
Venezuela	0.6	0.7

(Source: U.N. Statistics Division. Available at: http://unstats.un.org/unsd/mi/mi_series_ results.asp)

As Prothero (1995) points out, governments' initiatives are undermined by the lack of experience and the inability to cover far-reaching, new trends of population distribution. Another important migration feature, especially in relation to efforts to contain the spread, is the event of short-term and circular migration in the region. In the case of Central America, where such relocations take place regularly, intra-country seasonal movements have fuelled the diffusion of the disease across countries.

In sum, rapid circular or seasonal migration, internal or international, all contribute to constrain malaria control programmes. The spread of malaria in Central America was mainly caused by this interface and Prothero (1995) mentions the case of Guatemala where lands, once freed of malaria, had it reintroduced by population movements from El Salvador. The condition of rural and temporary migrants implies in greater vulnerability and treatment becomes more difficult. Temporary dwellings are difficult to include in official control operations and many times their structures

are so poorly built that they are unsuitable for anti-vector spraying. Accelerated erosion and flooding that occasionally happen in tropical regions also favour vector-breeding and further contamination.

> *"Reports of malaria are increasing in many countries and in areas thought free of the disease. One of the factors contributing to the reemergence of malaria is human migration. People move for a number of reasons, including environmental deterioration, economic necessity, conflicts and natural disasters. These factors are most likely to affect the poor, many of whom live in or near malarious areas. Identifying and understanding the influence of these population movements can improve prevention measures and malaria control programs." (Martens & Hall, 2000: 1)*

Movements of people can contribute to the transmission of malaria infections. In addition, programmes for malaria eradication, and for the improvement of public health in general, are hindered when applied to populations which are in whole or in part mobile. Historically, population movement has contributed to the spread of the disease (Prothero, 1977). Various malaria eradication campaigns failed due to non-consideration of this factor in the 1950s and 1960s (Bruce-Chwatt, 1968), as movement of infected people from endemic areas to areas where the disease had been eradicated led to its resurgence. People on the move also increase malaria transmission in other ways, such as augmenting risk for acquiring the disease through the ways in which they change the environment and through the technology they introduce – deforestation and irrigation systems (Service, 1991). People can inadvertently transport infectious mosquitoes to malaria-free areas, reintroducing the disease. Population movement is also increasingly implicated in the spread of drug resistance in malaria (Rajagopalan et al., 1986).

The increasing number of people on the move makes it more difficult to access and to contact, and the costs of doing so are much greater than when people are relatively sedentary. People who move can be categorised as either active transmitters or passive acquirers (Prothero, 1977). Active transmitters harbour the parasite and transmit the disease when they move to areas of low or sporadic transmission. Passive acquirers are exposed to the disease through movement from one environment to another; they may have low-level immunity or may be non-immune, which increases their risk for disease.

The spatial and temporal characteristics and patterns of these two major categories vary considerably. Migration may occur in a regular fashion, movements taking place after due thought and planning for a new place of residence. Or it happens precipitately, as a consequence of unforeseen factors (war, environmental catastrophe, famine). Irregular migration is likely to be more significant in its

effects on malaria. Circulation may occur for limited periods of time (daily), for longer periods which may extend for weeks, months or even years, or for periods which are defined by the length of seasons (winter/summer, wet/dry). All of these can have significant effects on malaria. In addition, irregular migration, caused by political pressures or by environmental catastrophe, exposes people to physical and psychological stresses and consequently increases their susceptibility to malaria and other infections (Prothero, 1994).

Malaria risks can be increased in a number of ways. People can move from arid or high altitude malaria-free areas to irrigated or low attitude malarious ones, for example, as in movements of farmers, hunters and gatherers between malaria-free and vector breeding habitats. People with little or no immunity risk contracting malaria when exposed to infected persons, particularly when strains of malaria are drug-resistant. Furthermore, physical and psychological stress reduce resistance to infection. Regular migrants who return briefly to their places of rural origin, may be exposed to the risk of malaria infection.

Urbanisation

When accompanied by adequate housing and sanitation, urbanisation can lead to a decrease in malaria through reductions in human-vector contact and vector breeding sites. Generally, therefore, malaria control is more effective in urban than in rural areas, but the urbanisation process threatens this control. Urbanisation in most developing countries usually takes place in a rapid, unregulated fashion which leads to an increase in or resumption of malaria transmission because of poor housing and sanitation, lack of proper drainage of surface water, and use of unprotected water reservoirs that increase human-vector contact and vector-breeding. Rural migrants may be infected and the makeshift temporary shantytowns in which they live provide habitats suitable for mosquito breeding. Manaus, the major city of the Brazilian Amazon, experienced several epidemic outbreaks in the 1980s on its shantytown neighbourhoods.

Colonisation of new territory

An increase in malaria can accompany colonisation of unpopulated or sparsely populated areas. The conditions of rural migrants, particularly temporary migrants across the region, make them vulnerable and make treatment very challenging. Settlers, who can have low-level immunity or are non-immune, may migrate into disease-endemic areas, spreading the disease. Inexperience with different soils and climates both degrades local environments and leads to the failure of family farmers to guarantee their permanence in the region (Hogan, 2002). Initially, housing tends to be basic, leading to close human-vector contact. Temporary dwellings are difficult to enter by official control operations and many times their structures are

so poorly built that they are unsuitable for anti-vector spraying. Moreover, housing is often near rivers or lakes to facilitate water collection, increasing the exposure of humans to mosquitoes. Accelerated erosion and flooding that occasionally happen in tropical regions also favour vector-breeding and further contamination. Activities to develop an area, such as deforestation and irrigation, can increase the number of vector breeding sites, contributing to an increase in malaria. Colonisation may be accompanied by major building projects, such as dams, canals, highways, or mining activities – referred to as the tropical aggregation of labour – which can further enhance malaria transmission.

The movements of people for resettlement in "frontier/pioneer" areas are particularly favourable for increased malaria transmission. For instance, the Amazon has witnessed a resurgence of malaria associated with frontier settlement, recording more than a half of all malaria cases in the Americas. Today, virtually all endemic malaria occurs in the Amazon region (Sawyer, 1992). Throughout the world, there are various examples: such as forced resettlement in Ethiopia in the 1980s (Kloos, 1990); people moving from Indonesia's malaria-free inner islands of Java and Bali to malarious outer islands where health services are inadequate to deal with it.

Many times, as Prothero (1995) points out, government initiatives are counterbalanced by the lack of experience and the inability to deal adequately with far-reaching implications of new population settlements. Another difficult aspect, particularly in relation to efforts to lessen contamination, is the presence in the region of short-term and circular migration. In the case of Central America, these trends are even more prevalent and occurrence of intra-country seasonal movements has helped in a large way the diffusion of the disease across countries. Rapid circular or seasonal migration, internal or international, all contribute to limit malaria control programmes and allow for infestation in new areas when migrants return. The spread of malaria in Central America was mainly caused by this interface. Prothero (1995) uses the example of Guatemala, where lands once free from malaria had it introduced by population movements from El Salvador.

Temporary dwellings cannot be protected with insecticide spraying, in clearing land settlers are exposed to vector-breeding habitats, and poverty limits their access to measures for protection against malaria. Besides agricultural settlement, malaria has increased through mining activities, which increase vector-breeding sites. Mining camps create the perfect conditions for malaria infection and transmission. Temporary shelters provide little or no mosquito protection. In addition, miners are highly susceptible to malaria because they are often migrants from areas free from malaria, and thus lack immunity to the disease. In their search for gold, miners also routinely destroy the banks of local streams. The widened riverbeds then become swamp-like

habitats perfect for mosquito breeding. The costs of treating malaria are beyond most miners' means, so many infected miners go untreated. Even when infected, miners do buy medicine (often paid for with gold), they usually stop taking it once the fever recedes, but before they are entirely cured. As a result, drug-resistant strains of malaria that are much more difficult and expensive to treat have emerged.

In the case of Brazil, malaria re-emerged through mobility related to colonisation, after having been practically eradicated from most areas of the Amazon region by the national malaria campaign in the 1950s and 1960s (Marques, 1986). Since the 60s, however, the incidence of malaria has increased dramatically because of massive population movements to colonise new territory.

New highways were built in the 1960s, linking the Amazon region to the rest of the country and attracting labourers to work on road construction. In the 1970s, many more people were attracted to the region by agricultural settlements and hydroelectric projects. Finally, in the 1980s, the discovery of gold led to a greater influx of people, along with the establishment of hundreds of mines throughout the region. The population of Rondônia State, which received the greatest number of migrants, increased from 113,000 in 1970 to 1,200,000 in 1990. Malaria cases in Rondônia increased from 20,000 to 174,000 in the same period. In Brazil as a whole, approximately 50,000 cases of malaria were reported in 1970; by 1990, reports had increased to 577,520, representing 10% of the world's reported cases outside Africa (Camargo et al., 1994). Of this total, more than 98% were recorded in the Amazon region.

The types of population movement involved in the colonisation of the Amazons are migration and long-term circulation from malaria-free areas of Brazil to the malaria-endemic Amazon region. The people involved are non-immune passive acquirers who on becoming infected can become active transmitters. If these active transmitters return to their initial place of residence in a malaria-free but highly receptive area, they can reintroduce the parasite and initiate an outbreak of malaria. Although in Brazil endemic malaria is mostly a problem of the Amazon region, other regions are or occasionally become malarious as well. For example, in 1985, 26 new active foci of malaria were recorded in Brazilian states outside the Amazon region (Marques, 1986). Settlers in the Amazon region are highly mobile, moving with daily, periodic, and seasonal circulation from settlements in unstable disease-endemic regions to hyperendemic regions of the rainforests. This mobility keeps settlements unstable and at high risk for epidemics through the constant flow of labourers (Camargo et al., 1994; McGreevy et al., 1989).

The Roraima Gold Rush and malaria

One of the reasons for the high population growth rate is the discovery of gold. The gold-mining boom has had several unintended consequences, including high levels of environmental degradation from mine tailings, deforestation, and deteriorating living conditions. In particular, malaria has swept mining towns across the region. In 1988, for instance, 50% of all malaria transmission in Mato Grosso occurred at gold-mining sites (Cruz Marques, 1987).

The Roraima Gold Rush and subsequent immigration by miners have dramatically increased malaria incidence and deaths among the indigenous population. A survey at the Indian Hospital in the city of Boa Vista showed that malaria was the main cause of admission of Yanomami Indians from 1987 to 1989. Of the 144 deaths reported during this period, malaria was responsible for 51.8% (Oneron et al., 1991). Estimates suggest that nearly 10% of the Yanomami population died of malaria between 1987 and 1990. Between 1991 and 1995, malaria was responsible for 25% of all Yanomami deaths (Castro Lobo, 1996). Overall, about 20% of the Yanomami population contracted malaria, and in some of the villages the parasite infected more than 90% of the community.

Although the Roraima Gold Rush is waning, the legacy of malaria infection continues to pose a risk to Amazonian Indians. Annual rates of malaria incidence in areas where contact with miners and other immigrants is frequent are as high as 1,350 per 1,000 population, meaning that some individuals have had more than one attack of malaria in just one year. This is in sharp contrast to rates in the villages not affected by the invasion of outsiders, which run around 20 cases per 1,000. It is also substantially higher than malaria incidence among the general Amazonian population, estimated to be around 40 per 1,000 (Castro Lobo, 1996; Cruz Marques, 1987).

The reasons behind the extremely high incidence of malaria among indigenous peoples are not completely understood, but many factors, both socioeconomic and environmental, may be playing a role. First, malaria control activities such as house-spraying and case detection and treatment that had been successful in the southeastern and northeastern regions of Brazil were unsuccessful in the heavily forested areas of the Amazon because of logistical and organisational difficulties and population mobility (Sawyer, 1992). Indoor spraying for malaria control proves ineffective as most mosquito bites occur outdoors. Second, the physical isolation of many of the groups in the Amazon may increase their susceptibility to malaria. Third, because most of these communities are in remote areas, the people have only

limited access to health services. In addition, culturally determined behaviours may increase the risk of malaria transmission.

In Colombia, the annual parasite index (defined as the ratio between the number of cases reported and the population at risk) has increased threefold since the 1960s (Sevilla-Casas, 1993). This increase seems to be related to the migration of non-immune people to areas such as the Naya basin, where malaria is endemic, and to the circulation of groups within the Naya basin. The circulation is predominantly seasonal, related to agriculture. People descend from hills and terraces, where malaria risk is minimal, to the malarious delta zone to cultivate and harvest their crops. In doing so, they are exposed to the anopheline population of the area and are at high risk for malaria. A large number of people are involved in this circulation (approximately 60% of the area's population is mobile for approximately 4 months of the year), and this population density, combined with the large vector population, maintains transmission at high levels (Sevilla-Casas, 1993).

Macro level data on endemicity and mobility (associated with agriculture, logging and trade) in the Naya Basin of Colombia identified that malaria risk was greatest in the delta of the Naya river into which there were movements for economic reasons, at times when vector densities were high and biting most intense. This combination of high vector density ensured continuous and intense transmission of predominantly falciparum malaria, with high prevalence among both sexes, increasing with age from adolescence onwards as the range and number of people's activities increased.

Two matters emerged from this case, which are of practical importance for the design of more effective measures of selective prevention and of adequate treatment in malaria control programmes, particularly among populations where a high proportion are mobile.

1. The need to identify areas where the risks of infection are greatest, and to concentrate control resources on these rather than spread them more widely.

2. Routine malaria surveys had been inadequately representing the numbers of infected women.

It is known that non-immune pregnant women are particularly susceptible to malaria infection and should receive priority protection (Reuben, 1993). Furthermore, women have been neglected in the study of tropical diseases, in general and as migrants who may be exposed to these diseases (Vlassoff & Bonilla, 1994).

Refugees

Malaria is one of the most commonly reported causes of death among refugees and has caused high rates of both illness and death among refugees and displaced persons in disease-endemic countries, such as Thailand, Sudan, Somalia, Burundi, Rwanda and the Democratic Republic of Congo. Population movement can increase

malaria transmission but also spread drug-resistant falciparum malaria and war itself can favour malaria transmission; its effect on agriculture and war management can increase vector-breeding sites; destruction of housing can increase human-vector contact; destruction of cattle can prompt zoophilic vectors to become anthropophilic if their usual food supply is disrupted (Onori & Grab, 1980); and control measures can be seriously diminished if health-care facilities are reduced or unavailable.

As a result of 15 years of continuous war, which displaced hundreds of thousands of people, Luanda, the capital of Angola, underwent an unprecedented population increase in the 1980s. This population movement resulted in a shift in malaria endemicity in Luanda from hypoendemic to mesoendemic level within 5 years (Kanji & Harpham, 1992). As a cause of child deaths, malaria moved from sixth to first place. Increasing parasite resistance to chloroquine also became a major problem. This situation arose because of the enormous influx of displaced people of low socioeconomic status into an environment with stagnant water reservoirs. The population movements that increased malaria transmission in Luanda were long-term circulation and migration from stable rural areas to an unstable urban area.

Intercontinental travel

The intercontinental transfer of malaria can occur through the introduction of an infective vector into a nonendemic-disease area, as in so-called airport malaria, or through the movement of a parasitemic person to a nonendemic-disease area, as in imported malaria. Airport malaria is defined as acquired through the bite of an infected tropical anopheline mosquito by persons whose geographic history excludes exposure to this vector in its natural habitat (Isaäcson, 1989). The incidence of these cases is low and accounts for malaria transmission in industrialised countries, with recorded cases of malaria in Europe (UK, Italy) imported from Africa. There were also cases of outbreaks of presumed local mosquito-borne transmission in the US imported from Mexico.

As travel is an important form of movement, agreements are necessary to avoid malaria transmission. In Latin America, the most satisfactory of these agreements is the Southern Cone Pact involving Bolivia, Brazil, Paraguay, Uruguay, Argentina and Chile. Malaria is endemic in the first three and in a small area of northern Argentina, but the greater part of Argentina, Uruguay and Chile are malaria-free. The 2005 Argentinean MDGR (Argentina, 2005) notes that 75% of the malaria cases in the country during the past three years were of Bolivian immigrants. The Pact provides for the exchange of information on malaria and resources for its control. Elsewhere in the highly malarious areas of Latin America there are varying degrees of coordinated malaria control along and across international borders. Coordination and control are limited by political inaction and in some instances by political friction, these

being exacerbated by refugee movements and by clandestine and illegal movements of migrant labour. In the coca-growing countries problems are made even worse by drug-trafficking and by attempts to control it.

The reports of the WHO Expert Committee on Malaria from the 1950s onwards have made reference to the significance of population movements for malaria transmission and for programmes for its reduction. In the past and at the present much lip service has been paid to this significance but too little practical action has been taken. The fact that in anti-malaria work people and their actions require the expert attention of social scientists, while parasites and vectors require the expert attention of malariologists and entomologists respectively, has not been fully appreciated. It must be noted, nonetheless, that advances have been made, particularly with the setting up in the late 1970s of the Socioeconomic Working Group in the World Bank/UNDP/WHO Special Programme for Research and Training in Tropical Diseases (Vlassoff, 1991).

Remarks

Addressing the challenges of dealing with migration in association to HIV/AIDS and malaria epidemics is an enormous task for the developing countries of LAC. Despite many good practices and policies, much remain to be done in the HIV/AIDS field. A first challenge is the collection of data to better understand the links between migration and this disease. For that, an initial difficulty is the evident lack of information about undocumented emigrants of the LAC region and return infected by the virus. As a major threat to the security of the families back home, returnees not always have access to health services and diagnosis is done very late when the risk of spreading is already established. At any rate, prevention has to be the basis for fighting HIV/AIDS. Successful initiatives involve, as stated in the ICDP PoA, education, awareness and involvement of all instances of government and civil society along with regional and international organisations. Two exemplary programmes in Latin America are worth mentioning:

- The Mesoamerican HIV/AIDS and Mobile Populations project coordinated by Mexico's National Institute of Public Health implemented HIV-prevention interventions on border crossings in Mexico and Central America.
- The Population Council's "Health on the Road" programme that provide STD/HIV and other health services and education to truck drivers crossing the Brazil-Paraguay border.

Intergovernmental forums and active participation of civil society have a substantive role in diminishing the impact that migration and the lack of information of those migrating may have on the expansion of the epidemic. An important aspect related to migration that is said to be a key factor in helping in the control of the

malaria transmission but also spread drug-resistant falciparum malaria and war itself can favour malaria transmission; its effect on agriculture and war management can increase vector-breeding sites; destruction of housing can increase human-vector contact; destruction of cattle can prompt zoophilic vectors to become anthropophilic if their usual food supply is disrupted (Onori & Grab, 1980); and control measures can be seriously diminished if health-care facilities are reduced or unavailable.

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Intergovernmental forums and active participation of civil society have a substantive role in diminishing the impact that migration and the lack of information of those migrating may have on the expansion of the epidemic. An important aspect related to migration that is said to be a key factor in helping in the control of the

epidemics is the family approach. Family reunification or enhanced contact during migration may reduce the chances of migrants having risky sexual behaviour.

In the case of malaria, not only treatment and prevention must be addressed but also the sustainability of human occupation in forest areas. The economic benefits of migration have to be weighed against their negative impact on the health of Latin Americans. In cases where migration is needed for development projects, prior health facilities and personnel should be available, along with proper instructions for those who arrive. Regional strategies must embrace the impact of migration and national efforts will not be enough if this important feature of the malaria dynamics is not taken into account.

Lastly, the brain drain of skilled helth personnel is having an extremely negative impact also on Targets 7 and 8 of the MDGs. The emigration of nurses is mentioned as the single most important challenge for the Caribbean countries in relation to the health Goals.

MIGRATION AND ENVIRONMENTAL SUSTAINABILITY

The following sections will briefly discuss interrelationships between migration and MDG 7, focusing on issues and evidence from the LAC region. MDG 7, to ensure environmental sustainability, comprises the following three Targets and 6 indicators:

Target 9: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources.

Indicators:

25. Proportion of land area covered by forest
26. Ratio of land area protected to maintain biological diversity
27. Energy use (kg of oil equivalent) per US$1000 GDP
28. CO_2 emissions (per capita) and consumption of ozone depleting CFCs (ODP tons)
29. Proportion of population using solid fuels

Target 10: Halve by 2015 the proportion of people without sustainable access to safe drinking water and sanitation.

Indicators:

30. Proportion of population with sustainable access to an improved water source, urban and rural.
31. Proportion of population with access to improved sanitation, urban and rural

Target 11: Have achieved, by 2020, a significant improvement in the lives of at least 100 million slum dwellers.

Indicator:

32. Proportion of population with access to secure land tenure

While the initial debate about population and environment in academia and the media focused on the impacts of population growth and its interrelationship to the environment and development, more recent research has recognised the importance of population mobility. In this sense, urbanisation, in-migration, out-migration, temporary migration, and, in some cases international migration, form a complex combination. In addition, another factor that turns this domain even more multifaceted is the scale of analysis, depending on whether one aims at the global, national, or local level. The migration and environment sustainability approach is frequently multidisciplinary, which makes it less consensual and harder

to deal with. However, all Targets and their indicators somehow show a relationship with migration, in some cases more directly and in others in the broader context of urbanisation.

With respect to Target 9 and its indicators 25-26 about forest and biodiversity, one of the strongest impacts on global environment and its consequences for biodiversity is tropical forest loss. Bilsborrow (2002: 75) states that "the *annual stock* of forest lost was highest in Latin America in the 1990s (at 4.8 million hectares/year, compared with 3.7 and 2.9 for Africa and Asia)". The annual rate of forest loss was largest in countries like Costa Rica, where little of the original forest remains due to long-standing dense human settlement. In the case of the Amazon forest, which represents a considerable area of nine countries of South America and constitutes the world's largest tropical wilderness area, the peak of deforestation occurred in 2003 and 2004 when forest loss reached 20,000 km^2 a year (Bremner & Bilsborrow, 2005).

Studies have shown that the main factors contributing to the loss of forest cover are road building, agricultural colonisation (often involving slash-and-burn practices), and logging. The tropical forest is not the only endangered ecosystem and fortunately the earlier almost exclusive emphasis on the Amazon region has been followed by a diversity of researches focusing other ecosystems in a multiplicity of scales (Bremner & Bilsborrow, 2005).

In general terms, demographic dynamics can affect endangered ecosystems in a number of ways, from the settlement of farms by new migrants to the search for timber to build a house or for fuelwood. On the other hand, more indirect demographic factors can also interfere, such as those related to the increase of agricultural goods demanded by a growing urban population. In this case, a thorough understanding of the urbanisation process in the LAC region is in place. Population increase reflected in the urbanisation process in a given region must be considered and in this case migration constitutes an underlying phenomenon.

The indicators of Target 10 are explicit, since they refer to the proportion of the population with access to water and sanitation in both urban and rural areas. UNFPA (2003) informs that the proportion of people without access to improved water and sanitation has been constant around 17%, despite the increase in the total amount of those who had access in the 1990s. Bremner and Bilsborrow (2005) reason that the achievement of Target 10 by 2015 means providing additional access to drinking water and improved sanitation for 1.6 billion and 2.2 billion people, respectively. Moreover, if the current growth in per capita consumption of water continues, around two thirds of the world population would face moderate or severe water scarcity.

Unsurprisingly, per capita consumption of water is unevenly distributed across the world's regions and between urban and rural areas. Indeed, there is an inverse

correlation between water consumption and income on one side, and population growth on the other. High income countries have high water consumption and low population growth. The opposite applies to the less developed poor nations (United Nations, 2005).

This kind of relationship is directly influenced by the patterns of urbanisation and spatial distribution of the population, but there are other less evident factors related to urbanisation and migration. For instance, demographic changes in size and age compositions as well as in urban or rural distribution impact water consumption within households. Even the decrease in the mean number of people by household could imply in a greater number of households in a given region. Moreover, a growing population and changes in the mean household size certainly affect the demand for food and the consumption of water for agricultural purposes. An improvement in the efficiency of water consumption can mitigate the problem, but the rural population may suffer from scarcity of water for their subsistence. In this sense, the provision of services in remote and sparsely populated areas must be addressed taking into account the trends in the spatial distribution of the population.

Whether the urbanisation process underlies the previous targets, the trends of the urban population growth are forcibly embodied in the Target 11 and its indicators. As *The challenge of slums: Global Report on Human Settlements 2003* by UN Habitat informs, the total number of slum dwellers was around 924 million people in 2001, which corresponds to 32% of the world's total urban population. These figures are even more striking when one considers the status of the world's regions. In developing regions, 43% of the urban population are slum dwellers and this number reaches 78.2% of the urban population living in less developed regions. According to the UN Habitat report:

> *"(...) slums are a manifestation of the two main challenges facing human settlements development at the beginning of the new millennium: rapid urbanisation and the urbanisation of poverty. Slum areas have the highest concentrations of poor people and the worst shelter and physical environmental conditions." (UN Habitat, 2003)*

In 2001, the LAC region had about 75.8% of the total population living in urban centres, a figure much higher than the developing regions as a whole (40.9%) and even higher than the developed region (75.5%). In contrast, the percentage of the LAC population living in slums (31.9%) is lower as compared to the figure for the developing region as a whole (43%t). To be sure, Latin America is placed in an intermediate position in the global distribution of slums dwellers (Table 6). However, in absolute numbers LAC still has 128 million people residing in slum areas (Figure 2).

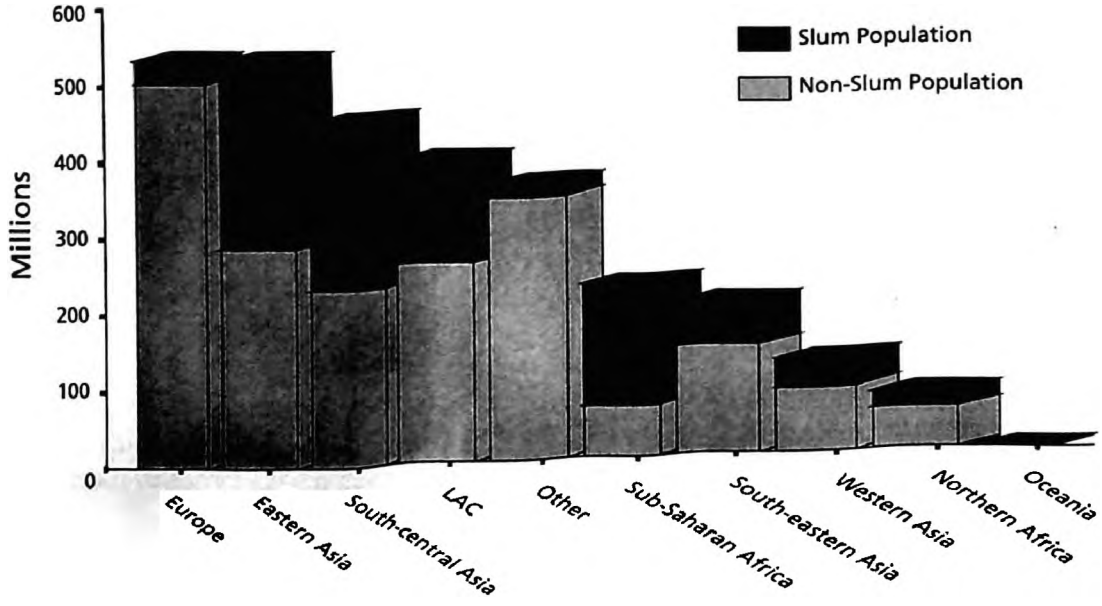
Table 6: Total, urban and estimated slum population by major region, 2001

Major area, region	Total Population (Millions)	Urban Population (Millions)	Percentage Urban Population	Estimated Slum Population (%)	Total
WORLD	6,134	2,923	47.7	31.6	923,986
Developed Regions	1,194	902	75.5	6.0	54,068
Europe	726	534	73.6	6.2	33,062
Other	467	367	78.6	5.7	21,006
Developing Regions	4,940	2,022	40.9	43.0	869,918
Northern Africa	146	76	52.0	28.2	21,355
Sub-Saharan Africa	667	231	34.6	71.9	166,208
LAC Region	527	399	75.8	31.9	127,567
Eastern Asia	1,364	533	39.1	46.4	193,824
South-central Asia	1,507	452	30.0	58.5	262,354
South-eastern Asia	530	203	38.3	28.0	56,781
Western Asia	192	125	64.9	33.1	41,331
Oceania	8	2	26.7	24.1	499
Least Developed	685	179	26.2	78.2	140,114
Landlocked Developing	275	84	30.4	56.5	47,303
Small Island Developing	52	30	57.9	24.4	7,321

Sources: United Nations Population Division, UN-HABITAT
(http://www.unhabitat.org/programmes/guo/documents/- Table4.pdf)

The UN Habitat document stresses that slums have the most intolerable urban conditions, including insufficiency of basic services like water and sanitation. Moreover, other environment factors, as hazardous lands (dangerous, fragile, or polluted), industrial effluents, noxious waste, and water-borne diseases plague these unsound settlements.

Figure 2: Slum dwellers as a proportion of urban population by region, 2001



Source: UN Habitat (2003)

The LAC region has the highest percentage of water connections (83.7%) among all developing regions (average of 75.8%), and the remaining indicators do not vary much between the regions, except for Sub-Saharan Africa (48.4%). Table 7 also indicates that in LAC even informal settlements have a better infrastructure compared to the other developing regions.

Table 7: Connections to infrastructure - informal settlements (%)*

Region	Water	Sewerage	Electricity	Telephone	Access to water
Sub-Saharan Africa	19.1	7.4	20.3	2.9	40.0
North Africa and Middle East	35.7	21.5	35.9	30.0	42.7
Asia and the Pacific	38.3	7.4	75.7	25.4	89.1
Latin America and the Caribbean	57.9	30.3	84.7	32.0	66.8
All developing	37.2	19.8	59.1	25.4	57.6

* These data may contain inaccuracies as sample sizes are small and measurement is uncertain.
Source: UN Habitat (2003)

An overcrowding population, frequently associated with rural-urban migration, can aggravate the negative impacts of unsafe and unsound urbanisation. Nevertheless, such impacts will vary according to the proportion of the rural-urban migrants who will live in slums areas or create new ones (Bremner & Bilsborrow, 2005). In this regard, is important to take into account that, according to projections by the United Nations Population Division (2004), the future population growth will be mainly concentrated in urban settlements with less than 500,000 inhabitants, the great majority located in less developed countries.

Slums also have a positive side. As the UN Habitat report has recognised, slums are likely to be the first stopping point for the majority of the immigrants, providing low cost housing and facilitating their eventual absorption into the urban society.

Despite the presence of the clear aim stated by the figure of Target 11, this figure can be taken as part of Target 10. While the former specifies the absolute number of 100,000 slum dwellers, the latter recommends a relative number, i.e. "halve by 2015 the proportion of people without sustainable access to safe drinking water and sanitation." As discussed, these two targets are strongly related to the process of urbanisation and the future trends of population growth. Even in the case of Target 9, there is an association between urbanisation, migration, and loss of environment resources. Urbanisation could imply the alleviation of the pressure on land use of tropical forest trough emigration from rural to urban regions. However, this effect is neither simple nor direct since the urbanisation process triggers another processes such as changes in agricultural practices and institutional support to rural populations to the extent that the demand for food is increased due to the urban population growth.

In the LAC region, the consideration of the urbanisation process is particularly important as the majority of the population already lives in urban areas and the slum population goes up. While the less developed regions of the world had about 42% of the population living in urban areas in 2003, LAC presented almost 77%. The UN projections indicate a figure close to 85% by 2030 (UN Population Division, 2004). However, it is not only important to consider the urbanisation process as a whole, but also the role of towns, large cities and mega-cities.

In this sense, UN Habitat (2006) draws attention to some facts and figures that must be taken into account:

- The need for improving water and sanitation in small urban centres and large villages becomes more urgent when one considers the population inhabiting them. These centres host a quarter of the world's total population and between 20 and 50% of the population in most low and middle-income countries.
- The scale of water and sanitation needs in small urban centres is extremely large. Whereas a large proportion of the global population lacking adequate provision of water live in these centres, most official statistics greatly overstate the quality and extent of provision. The Report estimates that at least 1 billion of the inhabitants of small urban centres lack adequate provision for water.

The migration-environment sustainability nexus

The previous section approached the relationship between broad factors of population dynamics and environmental aspects of the MDG 7. This section considers the process underlying the realisation of this goal indicating how migration trends and policies facilitate the attainment of these goals, make their attainment more difficult, or affect the strategies that need to be implemented for this purpose.

The ICPD PoA recognised population distribution as part of the larger demographic dynamic and touched on these issues in both the sustainability (III) and migration (IX) chapters, although relatively little attention was paid to the development of the relevant interrelations. This contrasts with the literature on population and environment, which generally considers migration factors quite important, particularly at the local level:

> *"For the use and preservation of natural resources, then, population mobility is the most significant demographic factor. Where the population lives, works and plays will always have an impact on nature – and vice-versa."* (Hogan, 2002: 5)

> *"Migration, in its widest sense, includes processes such as urbanization, tourism and commuting, all of which can radically change the relationship between native or resident population and its environment."* (Zaba & Clarke, 1994: 13)

One of the most notable demographic shifts of the last two decades is the decline in migration rates in Latin America, especially rural-urban migration (Busso, 2006). Consequences for urban growth and potential for improving quality of life will be important to consider in the short-term future. On the other hand, the predominant focus on rural-urban migration often hampers the correct appreciation of rural-rural migration, which in many countries is the predominant form of spatial mobility (Bilsborrow, 2002). Due to its high level of urbanisation, this is less true in the LAC region than elsewhere, but the fact remains that in some Latin American countries, such as Guatemala (IARNA/URL/IIA, 2006), rural-rural migration continues to be important or even predominant.

In theory, migration affects both the areas of origin and destination, but research on its effects in the areas of origin, where it might, for instance, alleviate population pressure or, to the contrary, disrupt the existing social structure, are extremely scarce. Preston (1998) suggests, for instance, that in the Camacho Valley of Bolivia out-migration led to less intensive grazing and improvement of the environment. But in the Peruvian Andes, Collins (1986) found that out-migration led to a depletion of the labour force which made it difficult to maintain mountain terraces and thereby aggravated soil erosion. In practice, the research focus has been on the effects of migration in the receiving areas and particularly on the deforestation resulting from migrant settlement in forested areas.

Analysing the factors causing deforestation in the tropics, Geist and Lambin looked at 152 case studies, identifying what they called regional scale, proximate, and underlying drivers such as road construction, natural resource extraction, agricultural colonisation, commercial agriculture, growth of urban markets, and government policies. A number of studies that the authors examined identify single primary causes of tropical deforestation, mainly shifting cultivation and population growth. Various other analysis, on the other hand, associate deforestation with multiple causal factors, revealing no clear distinct pattern.

In their framework, Geist and Lambin conceptualised proximate cause as:

> *"Human activities or immediate actions at the local level, such as agricultural expansion, that originate from intended land use and directly impact forest cover. Underlying drivers forces are fundamental social process, such as human population dynamics or agricultural policies, that underpin the proximate causes and either operate at the local level or have an indirect impact from the national or global level." (Geist & Lambin, 2002: 143)*

As a generalisation, the authors argue that the most important causal factors for deforestation at the underlying level are the economy, institutions, national policies and remote influences driving agricultural, wood extraction, and infrastructure expansion, at the proximate level.

Agricultural expansion is the leading proximate cause for deforestation in all parts of the world; in the LAC region, permanent agriculture is responsible for about half of the problem (Geist & Lambin, 2002). In the case of shifting cultivation, the region presents a distinctive feature due to migrant settlers, especially in lowland areas. For this reason, deforestation in the region is closely associated with migration. The connection of roads and agricultural expansion (and especially cattle raising) is also particularly important in the LAC region (e.g. Wahl, Limachi & Barletti, 2003). Some (Allen & Barnes, 1985) have gone so far as to qualify local population growth as the primary cause of deforestation, but this probably understates the role of other determinants. Demographic factors, according to the meta-analysis by Geist and Lambin, derive their importance from their combination with economic, institutional, technological, and cultural factors: 61% of the 152 deforestation cases they evaluated worldwide (53% of the cases, among those of the LAC region) could be related to human population dynamics. In 47% of the cases, demographic factors – especially in-migration of farmers into forested frontier zones – directly underlie the expansion of cropped land and pasture. By and large, this confirms the idea that approximately half of the variation in extent of deforestation is explained by variation in population (Mather, Needle & Fairbairn, 1998, 2000), but not in isolation.

Kaimowitz and Angelsen (1998), among others, have pointed out that population can also have considerable indirect impacts through its effects on labour markets, demand for agricultural and forest products, and induced technological or policy/institutional change. Geist and Lambin (2002) estimated these effects based on their case studies and concluded that they accounted for 12%, 41%, and 13% of their cases, respectively, with demand for wood products constituting the most important single factor. Excluding those cases in which factors overlap, they concluded that indirect population impacts accounted for 54% of the cases. Joining these cases with the direct population impacts of the previous paragraph, they found that population was directly or indirectly involved as a causal factor in 76% of the deforestation cases they evaluated.

Aide and Grau (2004) point out that lowland deforestation for cattle grazing and slash-and-burn agriculture in Latin America has called most the attention of the conservationist efforts, but that the relative importance of these drivers of deforestation is declining:

> *"Today, soybean production--the majority of which is shipped to China for animal consumption--is the major cause of deforestation of millions of hectares of seasonally dry forests in Brazil, Bolivia, Paraguay, and Argentina. (...) In fertile lowlands and valleys, small farms have been converted to large-scale modern agriculture, which frequently results in a decrease in the labour demand and rural-urban migration." (Aide & Grau, 2004: 1915)*

According to the authors, the high-yield agriculture is decreasing the prices of many crops and, in Latin America, lower prices of corn, coffee, beef, grain, and potato added to difficulties for small-scale farmers to compete with large-scale farms. As a consequence, there is a tendency to the abandonment of marginal grazing and agricultural lands, especially in the mountains (although rural migration has been stimulated in particular areas of Colombia due to armed conflicts and of Honduras due to natural catastrophes such as hurricanes). The point to be stressed is that "the abandonment of agricultural and grazing lands will facilitate ecosystem recovery" (Aide & Grau, 2004: 1916), regardless the migration determinants. This is not to say that deforestation is not occurring in many parts of Latin America, but a decreasing rural population has substantial consequences for the environmental conservation as reduced human pressures often permit the ecosystem and biodiversity to recover.

Indeed, the authors give some examples of fast ecosystem recovery where the soils were not severely degraded. In Puerto Rico, forest recovery increased from less than 10% to more than 40% in about 60 years. Since almost all the recovery forest is in the mountains, some of the most positive effects were the reduction of erosion and floods, the improvement of water quality, and the provision of habitat for many organisms. Another good example given by Aide and Grau (2004) is a region formerly covered with dry forest in Costa Rica. Reductions in global trade tariffs reduced beef prices in the 1980s and, consequently, the cattle production in Guanacaste declined by 90%, facilitating the addition of 60,000 hectares to the Conservation Area. Moreover, in 20 years, seeds dispersion converted into young forest the landscape formerly dominated by cattle pasture. In addition, the same authors inform:

> *"Similar patterns of ecosystem recovery following rural-urban migration have been documented in forested (e.g. Patagonia, northwest Argentina, Ecuador, Mexico, Honduras, and Dominican Republic), and nonforested ecosystems (e.g. mountain deserts and Andean tundra ecosystems of Bolivia, Argentina, and Peru)." (Aide & Grau, 2004: 1915)*

According to Bilsborrow (2002), in the LAC region the number of persons per hectare of arable and permanently cropped land decreased from 0.73 to 0.60 between 1961 and 1998. The author calls this trend as "agriculture extensification", i.e. the increase in the agricultural production took place concomitantly to the decline of the rural population density, with the exception of Central America. The United Nations projections indicate that up to 2030 the rate of growth of the rural population in the LAC region will decline and this trend could be interpreted in a positive way since overall population pressures on the land will tend to fall.

Bilsborrow (2002) raises the question how a declining rural population can affect the rural environment. One possible consequence of low densities is rural-rural migration. In other words, rural population leaves areas with a scarce supply of exploitable land to seek land elsewhere and poor people migrate to the frontiers in search of land. In fact, three-quarters of the 20% poorest live on marginal land in Latin America. This endeavour is facilitated by road construction, often driven by multinational corporations in need of access to resources demanded by the global market.

> *"Once the poor have degraded lands in on area, they often migrate to other marginal areas (such as tropical rainforest or semi-arid areas) and deforest and degrade those areas, creating a 'cumulative causation' circle linking rural poverty, deforestation, and land degradation." (Bilsborrow, 2002: 76)*

An additional problem is that the migration linked to deforestation can lead to microclimate changes in rural areas of South America – even in the Amazon Basin, implying in the reduction of agricultural potential.

Although the complex connections of migration and environment degradation have particularities in each country of Latin America, the Brazilian case is illustrative of some broader patterns. The occupation of the Brazilian Amazon began in the 1960s, when the national policies promoted a west- and northward expansion of the economy. At that time, the country had high rates of population growth and industrialisation was gaining momentum. The aim was to integrate the Amazon region with the more developed areas, to provide access to land for a vast contingent of landless peasants, and uphold the Brazilian presence in border areas.

The State of Rondônia in the Northern region increasingly attracted people due to several government-sponsored programmes offering free land and tax incentives for cattle. Many obstacles such as transportation difficulties to market the production, poor soils, lack of land titles or long delays in getting titles, and lack of credit for the small ranchers undermined the agricultural productivity in the Amazon frontier. As a consequence, the settlers sold out their holdings or abandoned them, seeking new ones in the rainforest to begin the clearing process again, or went away to the larger cities of the region. As a result, the larger farmers bought the small farmers' lands or even forcefully removed them, reinforcing the inequalities of land distribution (Bilsborrow, 2002).

The Brazilian case is important in illustrating that even in a context of low rural growth rate the rural-rural migration can stimulate deforestation. As Bilsborrow (2002: 82) points out, it is through migration that natural increase propagares from one ecosystem to the next:

> *"While increasing rural population pressures cannot be considered a major proximate cause of recent deforestation in the Brazilian Amazon (since the rural population of the Amazon, as well as in Brazil as a whole, has been declining), this agnostic view disregard the effects of high fertility and population growth in areas of origin of many of the migrants settlers to the Amazon."*

The high income and land inequalities and the relatively high fertility in Northeast Brazil was a good example of pressures on the land in the recent past. However, high population growth in Northeast no longer can be considered the main determinant of migration to the Amazon Basin since fertility has rapidly declined and migration to large urban areas in the Southeastern region has attracted the majority of Northeastern migrants. In addition, the replacement of farms by large, mechanised soybean plantations and in the changes in agricultural technologies, as well as misguided government policies subsidising cattle ranching up to the 1990s also had an important role in this process.

Similar processes of migration to the rainforest frontier have been documented in other countries of Latin America, like Guatemala, Ecuador, Panama, and Costa Rica. In Guatemala migration into northern Petén (the last agricultural frontier of the country) led to the loss of half of the forest between 1950 and 1985 (Leonard, 1987). In this case, the high population growth in areas of origin may have played a more important role on deforestation than that in Brazil. Moreover, the fragmentation of agricultural plots has turned the sizes economically unviable and increased unemployment set off migration flows from rural areas to Guatemala City or Petén. Road construction and high immigration rates also occurred in Ecuador, where, in the 1970s, roads were constructed to allow for the exploration of petroleum in the northern Amazon provinces. As a result of the ensuing migration of landless families from the densely-populated highlands – partially due to high fertility rates –, the annual population growth of the Amazon region reached 8% in 1974-1982 and 6% in 1982-1990. Deforestation, particularly in the Amazon, occurred at an annual rate of 1.8%, the highest among seven Amazon Basin countries (FAO, 1997). In a more recent document, FAO (2001) restates the position of Ecuador as having the highest rate of deforestation in Latin America.

Heckadon and McKay (1984) and Joly (1989) analyzed the case of Panama while Schellas (1996) carried out a study in Costa Rica. In Panama, deforestation took place along new roads, a process that extended to near the Colombia border, in the 1990s. In Costa Rica, the population of Sarapiquí grew fourfold between 1963 and 1983 as a consequence of the migration to the new areas of colonisation in the tropical forest region with the purpose to plant cash crops or grow cattle. In this case, the forest cover decreased from 70% to 30%, while pasture increased from 24% to 57% of the land area. Bilsborrow and Carr (2001) comment that

the expansion of cattle ranching as well as cotton and sugar cane plantations in lowland areas in southern Honduras. The government, in an effort to expand exporting earnings, facilitated large commercial landowners to force smallholders to migrate to adjacent mountain slopes, which in turn led to increased soil erosion and flooding downstream.

In all these cases, the underlying driving forces of migration and deforestation present multiple reinforcing factors related to economic, institutional, technological, cultural and demographic determinants. Economic and institutional factors have arisen in the majority of the regions around the world, but demographic factors were particularly important in Latin America. Specifically, natural population growth is said to have had little impact as a driver of deforestation. Studies of ecologically fragile areas show that "there is immense geographical variation in population pressure, which may bear little relation to population density" (Zaba & Clarke, 1994: 20). But in-migration of colonising settlers into sparsely populated forest areas appears to cause a substantial deforestation impact. To be sure, in-migration is part and parcel of a broader process in which a causal interaction emerges from the road construction associated with agricultural expansion or wood extraction, frequently driven by policy and institutional factors, besides economic and cultural factors:

> *"In-migration and, to a much lesser degree, natural population growth drive the expansion of cropped land and pasture in 47% of the cases in Africa and Latin America (22% in Asia), concomitantly with other underlying drivers... Expansion of pastures emerges exclusively from mainland South American cases, in association with processes of both planned colonisation and spontaneous settlement by colonist agriculturalists." (Geist & Lambin, 2002: 149)*

The effect may be particularly harmful in the case of frontier areas. Pfaff (1999), in his county level study of the Brazilian Amazon region between 1978 and 1988, concluded that migration into "empty counties" had significantly more impact on the environment than the same absolute population increase in previously occupied areas. Similarly, Cruz (1999), in her study of Costa Rica, attributed a major negative influence to the migration of landless peasants to agricultural frontier areas.

The association between migration trends and policies makes the attainment of MDG 7 more difficult and the complexities of this relationship must be understood in a broader sense. According to Bremner and Bilsborrow (2005: 6),

> *"If migration to the frontier and associated agricultural colonisation is often a major proximate cause of forest clearing, then the ultimate or underlying drivers of deforestation are those factors that lead to that migration. Included among these drivers is the development paradigm characterizing the tropical forest biomes as extractive sectors (e.g. petroleum, mining, or lumber). But the migrants must come from somewhere, and are influenced by various factors*

at the household or higher levels to leave their places of origin. Those factors are then also underlying drivers behind the deforestation at the frontier. Thus, multivariate research is needed to determine the factors leading to migration to forest frontiers.

Migration: beneficial or harmful to the environment?

In general, it is difficult to generalise on whether migration is beneficial or harmful to the environment, because this depends on many other factors. According to Cassels et al. (2005), one important mediating factor is the degree of migrant incorporation into the local community: a greater degree of migrant incorporation mediates the impact of a migrant's detrimental effects on the environment. Modes of incorporation describe the reception of migrants in places of destination. They include government policy towards migrants, public perceptions of migrants, the size and coherence of migrant ethnic enclaves already present in a destination, and other factors. In this context, Cassels lists the following typical environmental problems associated with migration:

1. Short-term outlook. Migrants often have expansionist attitudes that fail to consider long-term effects of resource extraction and land-use (e.g. Pichón, 1997).
2. Poverty. Migrants are more likely to be poor than non-migrants. The poor and hungry often over-harvest and degrade their surrounding environment in order to survive. An impoverished migrant may not be able to practice sustainable resource extraction in order to ensure future environmental productivity when immediate consumption needs are so strong (Broad, 1994).
3. Misapplication of technology. Migrants may use inappropriate technology to extract natural resources, which may be unsustainable. Technological changes imposed by migrants without knowledge of social and ecological context are more likely to fail and decrease ecological resilience. In the Calakmul Biosphere Reserve of Mexico, for instance, environmental degradation has resulted from the use of crops and technologies by newly arrived colonists that are inappropriate for the area (Ericson, Freudenberger & Boege, 1999; for other examples, see Begossi, 1998; Perz 2003).
4. Social norms and common property regimes. Migrants are often out of touch with social norms and expectations. For example, migrant may feel freed from familial norms and social pressures, and may feel anonymous when they are in a new community. This may lead the migrant to make poor, risky decisions regarding sexual behaviour. The same theory can be used for migrants' decisions regarding sustainable resource extraction and land use.

Incorporation into the destination community plays a role in each of these. If a migrant is incorporated into the community, he/she can rely on community members to satisfy the immediate, short-term needs of survival, so that his/her actions may not be as detrimental on the environment if they have support to invest in longer-term outcomes. Poor migrants may be able to rely more on the community for short-term help instead of making unsustainable decisions that endanger the natural environment. More integrated migrants also have more access to appropriate technology and local knowledge of the community's resources. Finally, migrants that are integrated into a community (for example, through marriage) may be under social pressure to comply with local rules and regulations such as common property regimes and make fewer risky decisions. For example, dynamite fishing may satisfy immediate needs and supply many fish, but the individual may risk being scorned by the community for the lack of regard for long-term sustainability of the reef and thus avoid such actions. But the fact that the "social connectedness" of small farmers may be related to their migratory status is not universally acknowledged. Pretty and Ward (2001), for instance, in their extensive literature review on social capital and environmental management institutions, do not mention it as a factor that may interfere in the ease with which such institutions can be formed.

Turning toward the issue of urbanisation, Bremner and Bilsborrow (2005: 6) point out that, despite the fact that rural population densities are declining as a consequence of rural-urban migration, there are connections between urban and rural population and environment dynamics that do not necessarily favour the rural environment:

> *"A major additional unanswered question is how urbanisation (the increasing proportion of the population living in urban areas) forecast for developing countries (UN, 2004) will affect forest cover and resource use. An inverse relationship between urbanisation and forest cover loss can be postulated based on the experience of the world's developed countries (FAO, 2000). While existing LULCC research discusses the importance of the local context on deforestation (Geist and Lambin, 2002), it provides little guidance for gauging the effects of future urbanisation on forest cover in the developing world."*

If Target 9 must consider the urbanisation process as a whole, this process is fundamental to the Targets 10 and 11, as discussed before. Moreover, even the indicators 27 and 28 of target 9 are implicitly related to rural-urban migration or movements from small towns to larger cities since these movements tend to increase the demand for energy (Bremner & Bilsborrow, 2005).

Considering that the LAC region has one of the highest percentages of urban population of the less developed regions, the achievement of Target 10 will probably

be facilitated by either the process of rural-urban migration, or by the movement from small towns to large urban centres. According to The Millennium Task Force for Water and Sanitation, 22% of the 2.6 billion people who do not have access to basic sanitation live in urban areas. With respect to the water supply, 15% out of one billion people without access to improved water supply live in urban areas. In other words, the majority of people facing some kind of water and sanitation stress do not live in urban areas. In effect, preliminary findings of the analysis of 43 low and middle-income nations already available in UN Habitat (2006) indicate that the provision of water and sanitation is of inferior quality in small urban centres, especially those with less than 100,000 inhabitants.

In this regard, the strong contrasts of urbanisation and spatial distribution of the population in the LAC region must be taken into. According to UN Population Division's estimates and projections (2004), the percentage of people living in urban areas in 2003 and 2030 are, respectively 64% and 73% for the Caribbean, 69% and 78% for Central America, and 81% and 89% for South America.

The global trend of increasing urban settlements with less than 500,000 inhabitants hides the fact that some countries, particularly in the Caribbean, have more than a half of the population living in a single city, i.e. 12 out of the 24 cities in the Caribbean, Panama in Central America, and the Falkland Islands (Malvinas), and Guyana in South America. Generally speaking, the smaller the territory, the greater the concentration. Because of that, most of the large countries still have and will keep having great proportions of the population living in smaller cities instead in mega-cities. To a great extent, this demographic shift will be consequence of migration. Where this process tends to be significant, migration will affect necessary strategies, as providing clean piped water and adequate sanitation, a task often too costly for small local communities. So, an additional challenge will be the assessment of the living condition in an urbanisation process more geographically dispersed, especially characterised by the presence of recent migrants.

UN projections indicate that three quarters of urban growth until 2030 will take place not only in cities of under 500,000 inhabitants, but also in cities with populations between 1 to 5 million people. Migration flows will certainly feed those growing areas. In more than half of the 29 case studies of cities throughout many parts of the less developed regions covered in *The Challenge of Slums: Global Report on Human Settlements 2003* (UN Habitat, 2003), slum formation is expected to continue, including in Latin America. The lack of information makes it difficult to find detailed information on trends of slum formation in the LAC region, but the case studies sought to provide a wide geographical representation as well as large range of city sizes.

In general, urban growth in the LAC region rates increased during the second half of the previous century, but there is a good deal of variation between countries. In Mexico, 33 million people live in cities with over a million inhabitants; 20.6 million live in medium cities ranging from 100,000 to one million; and 15 million live and smaller urban places. The remaining third of the population live in rural areas, i.e. localities with less then 15,000 inhabitants. The Metropolitan Area of Mexico City is the place of residence of almost 18 million inhabitants, but its growth rate has decreased, from almost 6% p.a. in 1950 to around 1.4% p.a. in 2000. To a large extent, this is explained by the reduction of fertility due to family planning policies implemented during the 1970s. However, many municipalities were incorporated into the Metropolitan Region and the growth of the city has become more dispersed. The majority of the irregular settlements, with the most critical housing conditions, were formed between the 1950s and the 1980s, i.e. a period of high population growth largely fed by migration. Around half of the urbanised area is constituted by irregular settlements that what may be called a slum, where almost two thirds of the city population live.

Despite decreasing natural growth rates, household formation rates continue very high, with households becoming smaller and older. According UN Habitat, the regional convergence of socioeconomic indicators is, among other things, an outcome of changes in migration patterns. Rural migrants are not as much attracted to the Metropolitan Area as they are to the US and to other large and medium cities within Mexico. In addition, the more educated population tends to leave the capital city for smaller towns and cities in search for better jobs. During the 1990s, net migration has become negative for Mexico City and the immigrants tend to be less qualified than both the non-migrant and emigrants. Indeed, from the 1970s on the contribution of the capital to the national economy begun to decrease gradually, a trend that was intensified by the fiscal crisis of 1982. Accordingly, high inflation rates, constant current devaluation, abrupt substitution of nationalism for free trade, and public expenditures curtailment affected Mexico City. In addition, environmental problems such as air pollution and traffic congestion undermine much of the comparative advantages of Mexico City, contributing to the reversal of migration flows. However, precisely because much of the population leaving the city is from the higher income strata, this emigration does not do much for alleviating the situation of slum areas.

In Rio de Janeiro the migratory movements to squatter settlements grew after the 1930s, when the surplus labour supply constituted by the "favela" dwellers was demanded by industries, commerce, and services. Various factors stimulated a steady growth of illegal occupation of some areas, such as an increasing demand as a result of large migration flows attracted by industrialisation; a policy of squatter settlement

removal, particularly in attractive areas to speculative building during mid 1960s; and the subsequent legislative restrictions imposed on the building sector associated with lack of finance resources towards housing investments. According to Xavier and Magalhães (2003), between 1930 and 1964, a serious economic crisis, speculative growth of urban lands, a lack of an urban development policy, and the expansion of mass transport forced low-income people to move to plots far away from their jobs. The only available choice for migrants was periphery land with no infrastructure whatsoever. During the 1950s the lack of housing became critical and the favelas grew enormously. The population living in such areas reached almost 170,000 inhabitants. The next decade was marked by the prevalence of a slum removal policy, but the number of favela residents had grown to 335,000. Estimates for the early 2000s indicate the existence of 348 illegal subdivisions in the city with 40,000 households and 160,000 inhabitants (Xavier & Magalhães, 2003).

At present, the core cities of large Metropolitan Areas are suffering a decrease in the demographic growth rates and no longer attract migrants as before. In fact, the 1990s was a period characterised by the increased importance of metropolitan peripheries – mainly in the Southeast Brazil – and medium sized cities as destinations of migration flows. For the most part, the features pointed out by Xavier and Magalhães (2003) for Rio de Janeiro, such as decreasing population growth, increase in the proportion of elderly population, and a significant predominance of women, could be generalised to other large urban places in Brazil.

Locational factors are often overlooked in dealing with this issue of slum settlements. Perlman (2004), for example, estimates that 20-40% of the slum dwellers of Rio de Janeiro would be able to pay for formal housing, but instead prefer to live in the slums due to their greater proximity to services and job opportunities. Even when facing joblessness, squalor, overcrowding, environmental hazards, and diseases, most squatter and slum residents are better off than the rural poor on the grounds that their access to public services faces fewer obstacles. Slum populations may even experience considerable social and economic mobility. In a follow-up of her early 1970s study on some favelas of Rio de Janeiro, Perlman found that 30 years later about two thirds of the inhabitants that she could locate had moved either to formal housing projects or to regular neighbourhoods.

Unlike Brazil and Mexico, migration constitutes the core of urbanisation in Ecuador. In reality, the Ecuadorian urbanisation process is more recent if compared with other Latin American countries. It has been said that the Ecuadorian society is not having much success to conceive and implement instruments to manage social and economic development in order to provide jobs, housing, basic services and infrastructure. As Carrión and Vásconez (2003: 3) put it, "Ecuador is undergoing

a sustained urbanisation process within a national context of state modernisation, decentralisation, and privatisation." As part of this context, a low rate of population growth in rural areas (0.7% in the period 1982-1990) is explained by migration to urban areas. Despite the decline of natural increase, Quito and Guayaquil kept growing at an average rate of 3.7% in the period 1982-1990 and their population doubled between 1974 and 1990. Contrary to the cases of larger cities of Mexico and Brazil, the phenomenon of low-income neighbourhoods in Quito is recent since it started in mid-seventies as result of massive immigration. The authors inform that this process was consolidated during the 1990s. It is known that in 1992 almost 173,000 inhabitants of Quito lived in slums. Despite some degree of disorganisation generated by the informal settlements of Quito, these places:

> *"(...) have contributed to solving the problem of overcrowding and the lack of housing in low-income areas, especially when considering that the popular housing solution proposed by housing authorities have not involved the underprivileged classes. Urbanisation, as well as the gradual construction of houses, are, at the moment, the real alternative to the economic crisis facing the country and affecting the low-income sectors." (Carrión & Vásconez, 2003: 12)*

Different from Ecuador, the urban concentration in Peru is impressive and since 1993 Lima became was 10 times larger (6,345,856) than the second Peruvian city in population and economic importance, Arequipa (629,064). As in almost all Latin American countries, there is more than one type of popular housing in Lima and various subtypes. This is one of the few cities in Peru presenting important slum zones, but lack of data also applies here. According to (Riofrio, 2003: 4), "there are no definite figures on the number of slums in Lima, but it can be estimated that between 20 and 30% of the population lives not just in tenements in poor conditions, but in deteriorated areas with tenements in poor conditions." The kind of new low-income settlements where people reside first, before constructing and installing services, "have concentrated the bulk of the low-income immigrant population who began to arrive in the 1950s. At present, they house low-income families born in the same settlements or in other parts of the city" (Riofrio, 2003: 4). In other words, migration no longer appears to be an important driving force of the slum formation in Peru.

Guatemala has a major poverty problem, and it is estimated that 60% of the population of the Metropolitan Area is poor. Although there is no official classification of the country's low-income settlements, the precarious areas of Guatemala City were estimated to be 232 settlements in 1991, residence of more than 700,000 people. Unlike Mexico City, the slums, understood as all settlements of greater or medium precariousness, have a clear socio-spatial segregation. Cerezo (2003: 8) informs that,

despite the lack of recent official information, different research institutions agree that "the growth of these areas is accelerating, and will continue to do so if the model of socio-economic development is not changed." A survey of 4,435 households carried out in 1993 constitutes an example of the possible negative effect of migration on slum formation in Guatemala City:

> *"59% of the household heads are immigrants, with 52.3% being from other departments, predominantly from the south-west and south-east of the country. Only 6.6% migrated from other municipalities in the Metropolitan Region, while the rest were born in Guatemala Municipality. Seventy-one percent of the migrants explained that they had migrated to improve their family's economic situation." (Cerezo, 2003: 8)*

Some policies and actions were taken to improve slum conditions and alleviate poverty, but according to Cerezo (2003: 18) the precarious settlements will continue to grow since there is no change in the socioeconomic model: "Programmes are merely palliatives, they do not attack the root of the problem." In effect, there is no sign of decrease of the pace of migration to the Metropolitan Region of Guatemala City. The UN Habitat report affirms that it would be necessary to implement an employment policy for the rural areas in addition to a "countrywide territorial policy to strengthen the intermediated urban areas to diminish the rhythm of migration to the Metropolitan Region" (Cerezo, 2003: 20), in a clear reference to the negative effects of rural-urban migration.

In sum, while some countries in LAC are experiencing a reversal of the rural-urban migration flows, others still have substantial rural-urban movements. As much as migration, slum formation is also associated with economic booms and busts related to the globalisation process, the cyclical nature of capitalism, and increased demand for skilled versus unskilled labour. Slum formation is related to economic cycles that boost inequality and distribute new wealth unevenly. In short, "slum development is fuelled by a combination of rapid rural-to-urban migration, spiraling urban poverty, the inability of the urban poor to access affordable land for housing and insecure land tenure" (UN Habitat, 2002).

The positive and negative effects of migration on slum formation encompass a broad range of issues, many of which are covered by other indicators of MDG 7 and others MDGs. For Bremner and Bilsborrow (2005), the only indicator specific to slums is indicator 32, related to tenure security, since other MDG targets focus on basic human services.

Remarks

When analyzing the causes and underlying forces of deforestation, Geist and Lambin (2002) pointed that there is no empirical evidence suggesting a universal

link between causes and effects. Indeed, analysis of several studies show different combinations of proximate causes and underlying driving forces in varying geographical and historical contexts. The observed causal factors challenge the view of the population growth as the main responsible for deforestation. Latin America distinguishes itself from the other developing regions due to its agricultural expansion and in-migration of colonising settlers causing deforestation through increasing population density. However, the analysis reveal that public and individual decisions respond to national and global economic opportunities and/or policies, frequently mediated by local-scale institutional factors. An important conclusion of Geist and Lambin (2002: 150) needs to be taken into account:

> *"As a major implication, case study–based evidence reveals that no universal policy for controlling tropical deforestation can be conceived. Rather, a detailed understanding of the complex set of proximate causes and underlying driving forces affecting forest cover changes in a given location is required prior to any policy intervention."*

At any rate, plans for further expanding road networks and agricultural production in agricultural frontiers tend to encourage additional migration. Unfortunately, this reality will mostly likely hinder progress towards the achievement of Target 9. Moreover, tropical forests are the world's most diverse biological lands and the future loss of forest cover will also obstruct the conservation of biodiversity.

As migrants must start their relocations from somewhere, the factors that trigger migration are the ultimate drivers of deforestation due to this cause and thus it will be essential to understand the roots of rural-urban migration. According the Chapter IX of the ICPD PoA, a fundamental challenge is to reduce the role of the various push factors as they relate to migration flows. One such push factor, especially regarding large countries of Latin America, is the fact that a considerable part of internal migrants are poor rural or small cities inhabitants compelled to move away. Hence, rural and urban settings need to share a more equitable economic development. One possible way to meet this goal is encouraging development in rural areas through sustainable agricultural practices, better environmental management, and policies to ensure the absorption of the rural families.

The role of population change in the indicator for CO_2 emission is not direct because it deals with a per capita measure, but the indictor of energy use per unit of GDP does not set aside the role of rural-urban migration. In this case, the attainment of target 9 will be more difficult inasmuch as the consumption of energy in urban areas is much higher when compared to rural areas. Of course, the effects of migration and spatial redistribution of population on energy use per unit of GDP will vary between countries, depending on the adoption (or not) of policies intending to improve the efficiency of energy use and consumption, as stressed by Bremner and Bilsborrow (2005).

Urbanisation figures and UN demographic projections indicate the high proportion of Latin-American inhabitants living in urban areas and the increase of this proportion over time. However, as the UN Habitat report recognises, small to medium city sizes tend to increase their sharing in urban population. Given its physical extension, its heterogeneity in terms of population size, and its different urban networks, it may be inappropriate to approach LAC as a whole using a single rural-urban framework.

In this new global scenario, migration will certainly take place in both small and large cities, implying in challenges of different nature and therefore in different strategies to cope with them. According to the UN Habitat (2006), most of the small urban centres[14] are facing rapid unplanned growth in a context of an inferior and often non-existent basic infrastructure. At the same time, they serve as market centres for their rural hinterland, strengthen rural-urban linkages and contribute to national economic development. The report also states that urban centres of this size are frequently located at trading routes, experiencing large population influx during the day. This event makes the provision of basic urban services even more difficult and pressures local authorities. In this sense, even small centres with well-covered water and sanitation systems often present high levels of inequality. To some extent, the aid assistance to the small urban centres has been overlooked. Small cities are in disadvantage compared to larger urban centres and rural areas. The former is more likely to receive loans for investment and the later is more likely to benefit from grants. To make matters worse, the cost of water delivery to individual household in small towns tends to be prohibitive.

Because of that, the UN Habitat report encourages pragmatic local response to improve economies of scale through public/private partnerships and community participation which can help reduce the cost of supply and increase the possibility of cost recovery. The report recommends two solutions, one of them being an example taken from South America cities – La Paz (Bolivia), Buenos Aires (Argentina), and some smaller urban centres of Brazil and Peru. The recommendation considered "condominial water supply systems" as a practice of sustainable solution for making the delivery of water feasible. The system involves the participation of residents who defray the costs of purchasing materials for connecting water into individual blocks and households. Parauapebas in Brazil has been taken as a best practice. In sum, the report states that the competence and capacity of local government to stimulate support is an essential condition to accomplish this objective.

Migration to large urban centres could alleviate the problems of access to safe water and sanitation faced by rural and small city residents. But it is essential to

[14] For the UN Habitat's report, "small urban centers" have less than half a million inhabitants.

take into consideration the expected proportion of slum population in the future. Despite the fact that target 11 sets a specific minimum number of slum dwellers to be reach by 2020, the amount of inhabitants living in such places will increase to near 1 billion (United Nations, 2005) and the achievement of Target 10 necessarily means providing a better standard of living for people living in slums. In this sense, not only target 10, but also other MDGs are connected to the Target 11. The only indicator specific of Target 11 is tenure security.

Tenure security is *sine qua non* for the slum dwellers to improve their surroundings. Access to other economic and social opportunities, such as credit, public services, and livelihood opportunities will continue to be jeopardised without it. According to UN Habitat (2006):

> *"Study after study confirms that, in slums where residents enjoy secure tenure to land and housing – whether formal or informal – community-led slum improvement initiatives are much more likely to be undertaken and, in fact, succeed."* [15]

It is fully recognised that the rapidity and size of the population flow to large Latin American cities intensifies slum formation, imposing serious constraints to city planning and management in order to adequately cope with the massive population influx. In addition, the current demographic shift and the new spatial redistribution of the urban poor is a key factor for urban planning.

As Martine (2005: 1) mentions, precarious land tenure can be imputed to "the failure to plan ahead, and the unwillingness to accept inevitable immigration and growth in cities." As consequence, the costs to provide slum dwellers with minimal services and to reduce negative ecological impacts rise. Despite the necessary traditional approach of concentrating efforts on the improvement of housing, infrastructure and physical environmental conditions, these are only remedial actions. It is said that it would be more efficient to supply slum dwellers with the urgent needs before the consummated fact (Martine, 2005).

Finally, the UN Habitat report recommends a more comprehensive approach to deal with the slum issue. In a broader sense, future policies must include the question of urban poverty and employment opportunities, moving beyond the physical dimension. In other words, the MDG 7 should be treated jointly with other MDGs since it involves a wide range of aspects such as employment, income generation, housing, food, health, education and access to basic urban infrastructure and services (UN Habitat, 2006).

[15] Quoted from a UN Habitat background paper available at http://www.unhabitat.org/downloads/docs /Press_SG_visit_Kibera07/SG%2013.pdf.

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