



HUMAN MOBILITY SHAPING VULNERABILITY AND RESILIENCE TO DISASTERS

MIGRATION, DISPLACEMENT AND DISASTER RISK REDUCTION



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INTEGRATING HUMAN MOBILITY IN DISASTER RISK REDUCTION

With over 740 million internal migrants and 230 million international migrants in the world (UNDP, 2009; UNDESA, 2014), and many more people moving on short distances and on a temporary basis (Tacoli, 2013), human mobility is one of the fundamental drivers of current social and demographic change (Black et al., 2011), influencing the development of cultures, societies and economies at the global and at the local levels.

Together with other demographic dynamics, mobility contributes to the distribution of human population; the location, size, density and composition of communities; and people's access to livelihood options and well-being (Schensul & Dodman, 2013). It is one of the essential features of the continuum of human interactions with the environment (Sanderson, 2009), contributing to define a spatial hierarchy of opportunities and risk, including risk from disasters, among different locations and actors (Skeldon, 2008).

Mobility and disasters are profoundly interlinked: natural hazards and environmental change can be drivers or tipping points of population movements, and can influence socio-economic and political processes that induce mobility responses (IDMC, 2013, IPCC, 2012, McLeman, 2011; Black, 2011; Foresight, 2011; Tacoli, 2009; Kniveton et al., 2009; Renaud et al., 2007; Hugo, 1996; EACH-FOR). More fundamentally, though, the need and capacity to move of different people and groups are rooted onto the same environmental, social, economic and political variables that define hazard exposure, vulnerability and resilience (Wisner et al. 2012; de Haas, 2008a). On the other hand, mobility has a distinct transformative effect on disaster risk: it results in reduced or increased risk outcomes for different groups and individuals – often producing effects of opposite sign at the same time.

From a Disaster Risk Reduction point of view, it is therefore essential to understand both how different exposure, vulnerability and resilience result into different mobility decisions, and how different mobility behaviors result into different resilience

and vulnerability outcomes. This requires taking into account how DRR and development interventions expand or reduce the people's capacity to move, as well as the well-being and safety options they can access without moving, and how different mobility management options translate into increased or reduced disaster risk.

The Hyogo Framework for Action 2005-2015 give very limited considerations to these implications. It refers to “changing demographic conditions” as one of the main drivers of disaster risk, along with a number of processes and actions that are directly influenced by human mobility (such as ecosystem management, adaptation to climate change, food security, access to basic services, land-use planning and inclusive preparedness mechanisms), and recognizes population displacement as a potential driver of vulnerability (UNISDR, 2005).

However, by looking at human mobility only as a consequence or cause of disasters, the HFA fails to recognize mobility as a positive force of past and current development of communities and societies (UNDP, 2009; World Bank, 2009). Research and practice, instead, show that mobility's effect on disaster risk are complex, and that the concrete outcomes of population movements on different groups and individuals are largely determined by the environmental, social, economic and political context in which movement takes place (McGrath et al., 2013; de Haas, 2008). This, in turn, suggests that human mobility should be taken into account in DRR policy for its potential to produce both vulnerability and resilience, and that DRR and, more in general, development efforts should create the conditions for maximizing its benefits and minimizing its costs. This would allow to leverage its full potential for the well-being of those moving, as well as host and home communities.

In order to better highlight the implications of this perspective, the International Organization for Migration (IOM) has attempted to look at mobility and disaster risk through the livelihood lens, interpreting migration, evacuation, displacement and re-

turn as livelihood protection and diversification options (IOM, 2013a). Mobility is understood as one of the strategies households can activate to pursue their short and long-term well-being in a context of more or less limited choices, and ultimately as one of the determinants of vulnerability and resilience outcomes (Wisner et al., 2004; McDowell and de Haan, 1997, Hugo, 1996). Lack of mobility (i.e. the incapacity to move before, during and after disasters) is ipso facto a major factor of vulnerability – as demonstrated by the disproportionate impact of natural hazards on trapped populations (for a discussion of the category: Foresight, 2011, for the case of Hurricane Katrina: Landry et al. 2007).

With the present paper, IOM would like to provide an overview of the nexus between mobility and the environmental, social, economic and political dimensions that define the resilience of individuals and communities. The text considers first mobility as an outcome of the interplay between environmental events and processes and historically determined human societies, and then tries to break down some of mobility's positive and negative ef-

fects on social and natural environments. The paper considers separately the effects of mobility on those moving and on communities and societies of origin and of destination. It should also be highlighted how none of these entity should not be understood as homogeneous. The evidence clearly shows that mobility has different effects on different contexts, and within given contexts on different groups and individuals, largely depending on prevailing social institutions and relations. Disaster risk reduction, resilience and vulnerability represent useful conceptual tools to interpret such relations, and how they influence mobility and its outcomes.

IOM believes that the dynamics highlighted in this paper will be central to development efforts, and in particular to DRR policy and practice, over the next decades, which will see an increasingly interconnected and mobile global society. Mobility is and will be a fundamental force in shaping vulnerability and resilience. Its integral role in global development shall not be overlooked in the implementation of the post-2015 framework on Disaster Risk Reduction.



ENVIRONMENTAL DETERMINANTS OF MOBILITY PATTERNS

RISK AS A DRIVER OF MOBILITY

Environmental shocks, stresses and change influence mobility patterns by affecting key components of human well-being. People's decisions to move are complex and multicausal and are based on the consideration of economic, political and social elements (e.g. the availability of material and social resources and opportunities in the place of origin and of destination, the existence of alternatives to mobility) (Walsham, 2010), which are profoundly linked to the features of local ecosystems. Environmental processes, natural and man-made, can therefore have a distinct influence on mobility, both directly (e.g. loss of coastal land due to sea-level rise) and indirectly (e.g. decrease in agricultural production and water availability due to changes in weather patterns) (Foresight, 2011; Pigué et al., 2010; Tacoli, 2009; Renaud et al, 2007; EACH-FOR). The interaction of environmental processes with the social, political and economic structures of societies and communities translates into different individuals having differential access to opportunities and hazards, and stimulates different responses (including mobility decisions), as people pursue well-being in accordance with their aspirations and capabilities (Wisner et al, 2004).

Extreme natural events – especially destructive, rapid-onset ones such as cyclones, earthquakes and floods – can be easily identified as immediate tipping points for massive population movements (IPCC, 2012). Between 2008 2013, over 165 million people moved as a direct consequence of natural hazards, 42.3 million of them in 2010 alone (IDMC, 2013). Movements induced by such events tend to be temporary, as most people leave with the intention of coming back as soon as the conditions for return are in place. They also tend to happen on as-short-as possible, well-known routes (McLeman, 2011). As a consequence, an overwhelming proportion of the population movements induced by natural disasters take place within national borders, with international mobility remaining

relatively rare, even in the wake of the most catastrophic events (Foresight, 2011; Hugo, 2008).

Nonetheless, the environment-risk-mobility linkage is not a simple matter of cause and effect. Environmental impacts are always mediated by social structures, and the mobility consequences they induce are profoundly heterogeneous (Tacoli, 2009). Environmental shocks and changes can act as obstacles to population movements, precluding access to assets and resources that are essential for mobility (Kniveton et al., 2008; Halliday, 2006; Findley, 1994).

Reducing the impacts of natural hazards is therefore one of the essential components of policies aimed to multiply the well-being options available to households, at a time to minimize their need to move, and to expand their capacity to move to pursue their well-being.

MOVING TO MANAGE ENVIRONMENTAL RISK

Throughout human history, mobility has been an integral part of human strategies to adapt to natural cycles and to manage fragile ecosystems. Pastoralists and nomadic communities have traditionally used transhumance to avoid overuse of scarce natural resources by migrating across rural landscapes, allowing for the recovery of the different ecosystems they exploit (Oteros-Rozas et al. 2012; Warner et al., 2012; UNEP, 2011; Wane, 2006; Morren, 1983). Similarly, traditional fishing and hunting systems are often based on seasonal migration to different grounds (Castillo, 2011). Rural-rural and rural-urban mobility are strategies that both reduce pressure on local natural resources and diversify income sources for households: their members “eat the dry season” through labor migration, which helps both reduce local resource consumption and diversify the household's income sources (IOM, 2012a; De Moor, 2011; Brown, 2007; Rain, 1999).



Mobility allows households to manage existing risk by diversifying their members' and their livelihoods' exposure to hazards (Stark and Bloom, 1985; Taylor, 1999). In the face of slow-onset events, it is often a complement to other in situ strategies that maximize a household's resilience (Mc Leman, 2011). Even in the case of sudden-onset, disruptive events, mobility helps protect the affected households' human capital: people displaced by disasters are actually engaging in adaptive behaviors that, while potentially risky, are appropriate to their pre-disaster exposure and vulnerability context (Schenkul & Dodman, 2013). Other people move in the aftermath of disasters in order to gain access to additional resources that support reconstruction and recovery (Wisner, 2003).

Trapped populations, those with limited capacity to move before, during or after disasters, lack a key option for anticipating, coping with and recovering from disasters (Foresight, 2011). Lack of physical and financial resources to move, legal and cultural obstacles (including discriminations based on gender, ethnicity or mobility status), the lack of supporting trans-local networks and the absence of adequate infrastructure or information can force people in hazard-exposed locations or prevent them from moving or returning to areas where they would enjoy better access to opportunities and services, resulting in increased vulnerability (for the example of Katrina: Stephens et al. 2009; Landry et al. 2007; Elder et al. 2007).

ENVIRONMENTAL EFFECTS OF HUMAN MOBILITY

MOVING AS A DETERMINANT OF HAZARD EXPOSURE

The very same natural features that make locations desirable for human settlement, and that therefore act as pull factors to population movements (such as fertility of floodplains and volcanic slopes, strategic or economic importance of hilltops, coastlines, river crossings and estuaries), often translate into exposure to hazardous natural events. As a consequence, a large share of the current demographic growth is taking place in hazard-prone areas (UN HABITAT, 2010, Lall and Deichmann, 2009). Population movements modify the distribution of population and capital, and redesign global and local risk landscapes.

Mobility can expose people to new hazards: it is for instance the case of population flows in many low-income countries, coming from marginal, fragile environments such as drylands and mountain areas, but directed towards cyclone and flood-prone regions, or in the case of North-America, where significant population movements are directed towards drought-prone areas (de Sherbinin et al, 2012).

While it is not the predominant factor of urban growth worldwide, human mobility can be a significant driver of urbanization (UNDESA, 2008), especially at the early stages of the urban transition process, in countries that often lack the institutional capacity to manage significant demographic pressure, thereby reinforcing another of the main global risk dynamics.

HUMAN MOBILITY AS A DRIVER OF NATURAL HAZARDS

Mobile people and their activities influence the ecosystems in the areas of destination. The sheer increase in the number of people living in a given place can drive up use of local and regional natural resources such as land, food, water and fuel (UNEP, 2011). Movements towards urban areas can pose additional challenges, as newcomers tend to take on a more resource-intensive lifestyle (Government of Malawi, 2010). In other instances, it is the traditional way of life of incoming individuals, who may be insufficiently aware of local environmental conditions, that is incompatible with the carrying capacity of receiving ecosystems (de Sherbinin et al, 2012).



Increased use of land and natural resources can lead to environmental degradation and create the conditions for increased frequency and intensity of hazards such as landslides, floods and fires (Peduzzi, 2010, UNISDR, 2009; Day et al., 2007). In addition, it can have consequences on the people's food and water security, and on their overall levels of well being (van Beukering et al, 2013; IUCN, 2008). Both hazard incidence and impacts on livelihood patterns can increase levels of risk, and further influence human mobility patterns.

Pressures on the receiving ecosystems are harder to manage when the population movement is massive and takes place in a sudden, unexpected manner, as is often the case in situation of displacement resulting from conflicts or disasters. Deforestation has been recorded as a consequence of the establishment of displacement sites, as incoming population seeks access local wood for fuel, construction material or income source (UNEP, 2002, UNEP, 2000, Black and Sessay, 1996). Displacement can also lead to decline of soil fertility and water avail-

ability, increased levels of pollution or biodiversity loss (Lassailly-Jacob et al., 2006; Jacobsen, 1997).

Outgoing population flows can also have negative environmental impacts in the areas of origin, particularly in traditional landscapes shaped by long-standing human interactions with the natural components of the ecosystems. As land is progressively abandoned, available human capital decreases, which hinders the maintenance of the elements that contribute to preserving and improving the stability and productivity of natural landscapes (e.g. terraces, water catchment and irrigation systems). As a consequence, the ecosystem undergoes a degradation process that can lead, in particular in dry and mountainous areas, to biodiversity loss and proliferation of invasive species, increased incidence of landslides, floods, fires, avalanches, soil erosion and desertification, and ultimately to reduced food, water and livelihood security (GFMC, 2010; Rey Benayas et al., 2007; FAO, 2007; Raj Khanal and Watanabe, 2006).



MOBILE POPULATIONS

EFFECTS OF MOBILITY ON RISK & RESILIENCE

INCREASING THE WELL-BEING OF MOBILE POPULATION

People move for the prospects of a safer, better life, and for most mobile people movement actually results in overwhelmingly positive outcomes. The majority of mobile people benefits from mobility through increased access to improved services, food security and opportunities (UNDP, 2009; Dayal & Karan, 2003). Mobility can also open up opportunities for the multiplication of one's skill and human capital in a new professional and social context (De Moor, 2011), and can allow individuals to challenge traditional social roles and constraints, which can empower marginalized individuals and help tackle one of the structural drivers of vulnerability (de Haas, 2008b). Mobile people tend to have higher incomes than those who stay behind, regardless of the kind of movement they engage in (internal or international) and of their level of education (UNDP, 2009). Even in situations of forced migration, moving can result into better access to assets and opportunities, in particular for the poorer segment of the population (Fiala, 2009; Ssewanyana et al, 2007).

For those moving, access to health care, infrastructures and information tends to be better in the place of destination than in the place of origin. Households whose members have moved (both within and across national borders) are on average smaller and healthier than the average of the areas of origin (UNDP, 2009). Moving also opens up a diversity of educational opportunities, a fact that is driving a steep increase in the number of international students worldwide (UNESCO). Educational benefits are also extremely significant for families moving from the countryside to the city (Hashim, 2006).

Enjoying higher income level and better access to essential services, mobile people consistently report higher rates of happiness and satisfaction in their destinations than in their place of origin, despite the costs and the adjustments linked with

moving (Bartram, 2012; UNDP, 2009), and despite evidence that, prior to their departure, people wanting to move tend to be less satisfied than people willing to stay (Graham & Markowitz, 2011). In areas of destination, much of the adjustment process often happens through associations and other groups, which migrants are more likely to join than local residents (UNDP, 2009).

While influenced by their living conditions in their community of destination, the well being of mobile people is also rooted in continued exchange with the community and household members in the areas of origin. People at home can take care of dependents left behind, manage investments and housing construction projects for the distant members of the household, deal with bureaucracy or send local goods that support consumption and increase food security (Long, 2008; Mazzucato, 2008).

LIMITED ACCESS TO SERVICES AND OPPORTUNITIES

However, movement does not automatically yield good results, and its positive and negative outcomes are not distributed equally. Origin and destination of the people matter in determining the capacity and willingness of markets and service providers in receiving communities to integrate newcomers, as well as the barriers mobile people will encounter (IOM, 2013b; de Haas, 2008). Cultural, economic and political obstacles can reduce the incoming population's access to income opportunities and essential services, exposing people to new hazards and undermining their resilience.

Most of the people on the move at the global level are low skilled (Dumont et al. 2010) and increasingly arrive in their destinations without jobs (OECD, 2007). They undergo frequent de-skilling (Iredale, 2001), and are more likely to be underemployed and unemployed compared to local-born, as well as less satisfied of their professional position (IOM, 2013b). They also have to face cultural and institu-

tional segmentations of local labor markets, which often result in discriminations, informality, and lack of security and exploitation (UNDP, 2009). As a consequence, their financial situation is on average worse than that of the local-born, and they are less able to secure sufficient food and to meet other basic needs (IOM, 2013b). They also encounter more obstacles in accessing social security systems (UNDP, 2009), as well as in transferring the contributions they have made to insurance schemes in their host countries upon return (IOM, 2012).

Migrant students fare worse than natives in terms of enrolment by type of school, school attendance and dropout, level of achievement and diploma attained (Grayson, 2009; NESSE, 2008). Access to education is especially difficult for undocumented and discriminated children (UNDP, 2009), as well as for people forced to move in the context of crisis situations, due to untrained teachers, cultural and language barriers and limited funds for adapting receiving school systems to their specific needs and capacities (BHER, 2011).

Mobile people can also have limited access to health services, particularly if they do not possess formal documentation (IOM, 2013b; Ku and Jewers, 2013; Ku, 2006). Health conditions do not necessarily improve for the long-stayers, who may suffer the consequences of marginalization through increased exposure to environmental hazards, risky behaviors, poor nutritional status, anxiety and depression (Finch & Vega, 2003; Harris, 1999). In the case of massive population movements, limited access to water, sanitation and health services, poor nutritional status and excessive crowding can create the conditions for the spreading of water-related, vector borne and communicable diseases (Watson et al. 2007). Mobility, in particular following traumatic events, also has severe mental health consequences (Murray et al, 2008; Adams et al., 2010).



LIMITED ACCESS TO SAFE SHELTER

Mobile people are also likely to encounter significant challenges in achieving satisfactory standards of living in communities of destination, and are consistently less able than locals to access adequate housing (IOM, 2013b). Lack of better shelter opportunities in well-serviced areas results in the concentration of people in unsafe structures in marginal, hazardous locations. This is in particular an issue in low-income urban areas, where the rapid growth of urban population, partly fuelled by migration from rural areas, has overwhelmed local institutional capacity to provide formal shelters, leading a significant proportion of low-income households to acquire land in informal or irregular ways in risky settings (UNISDR, 2013b; de Sherbinin et al, 2007).

Access to safe shelter is especially challenging in crisis situations. Lack of planning can result in the construction of unsafe temporary shelters (CNN, 2013; Los Angeles Times, 2008) or in displacement sites being located in hazardous locations (TBC, 2011). Massive population inflow linked with humanitarian crises can also disrupt the host communities' housing market, by driving up rental rates and reducing the availability of affordable options, leading to overcrowding and on occasion to the eviction of original residents (MercyCorps, 2012).

SOCIAL MARGINALIZATION AND CONFLICT

National and regional social policies often discriminate mobile people based on their nationality and on their socio-economic background, favoring the individuals who are expected to be more able to integrate in the host community (Manole & Schiff, 2004). Mobile people, even those who integrate successfully in their context of destination, tend to face a variety of discrimination patterns, when interacting with host institutions and populations, which reduce their opportunities and well-being (Campbell, 2006; Berry, 1997; Aycan and Berry, 1996). This often results in loss of social status and reduced personal and physical security (IOM, 2013b).

The perception of mobility as a threat to social co-

hesion is widespread. Mobile populations often have lower levels of in situ social networks and resources compared to their receiving community (Grim-Feinberg, 2007), and their arrival can have a negative impact on the community's levels of collaboration and cohesion (Freire & Xiaoye, 2013). In extreme cases, lack of integration of mobile population, often in combination with increased social tensions and specific trigger events, can translate into violations of human rights, xenophobic stances and scapegoating of immigrants (both international and internal), and violence and conflict among and within communities (Kokkali, 2011; UNEP, 2011; Koser, 2010; Gagnon et al., 2011; Hammer, 2006; Campbell, 2006).

INSUFFICIENT INCLUSION IN DRM SYSTEMS

As a consequence of the above-mentioned factors, non-native individuals also have specific needs and vulnerabilities before, during and after disasters that are not always adequately taken into account by crisis management institutions. Language and cultural barriers, reduced knowledge of hazard conditions and of evacuation and emergency procedures, and lack of networks and financial means can result in impediments in accessing preparedness, assistance and protection systems (IOM, 2012).

Legal barriers and discriminations can further reduce their access to life-saving assistance, in particular in the case of stateless, undocumented and exploited migrants (Phillips, 1993; Bolin & Stanford, 1998). Lack of registration can result in migrants, displaced persons and refugees being unaccounted for by assistance institutions in home and host countries. Lack of legal entitlements to stay, to move freely or to return can also have negative impacts on their capacity to evacuate from the hazard-affected area (IOM, 2012; Koike, 2012).

Identifying and addressing the needs of people moving in the aftermath of natural disasters can pose particular challenges, and undermine institutional capacities to provide assistance and support (Rodriguez et al., 2006). International mobility poses additional political and operational challenges to national disaster management and relief authorities, requiring them to prepare and assist their nationals involved in crises while overseas (IOM, 2012).

HOME COMMUNITIES

EFFECTS OF MOBILITY ON RISK & RESILIENCE

REMITTANCES SUPPORTING THE HOUSEHOLDS' WELL-BEING

Mobile people contribute to the well being of their households and communities of origin the transfer of material and immaterial resources (i.e. financial and social remittances). The targeted inflow of resources has the potential to support the recipients' consumption levels, reducing short-term insecurities and freeing up resources for activities that build human capital. Households receiving remittances fare better than comparable, non-remittances receiving ones in all health and education indicators in a number of different geographical contexts (UNDP, 2009; Anyanwu and Erhijakpor, 2009, Valero-Gil, 2008; Hildebrandt and McKenzie, 2009; de Janvry et al., 2005; Adams, 2005).

Households receiving remittances have higher overall incomes, consumption levels and food security, and lower incidence of extreme poverty (Ratha, 2013, Anyanwu and Erhijakpor, 2010, San Vicente Portes, 2009). They have higher propensity to save, which means they have a buffer to cope with unexpected events, including with the impacts of natural hazards (Mohapatra et al, 2009; Yang & Choi, 2007). In addition, they have more access to credit and more resources to invest in productive assets, which can strengthen their livelihoods, in better housing, which reduces their vulnerability to health hazards and to extreme natural events, and improved access to information and communication networks, which plays an essential role in supporting economic activities, reproducing social capital and accessing and disseminating early warning and emergency information before and during disasters (Mohapatra et al, 2009, de Haas, 2006, Woodruff & Zenteno, 2001). Remittances tend to rise following crises and shocks, helping to smoothen consumption levels of receiving households and supporting investments for reconstruction and recovery (Attzs, 2008; Fagen, 2006).

REMITTANCES SUPPORTING THE HOME ECONOMY

The total amount of remittances sent back from mobile populations in 2012 accounted for a total of USD 410 billion (World Bank, 2013b). Developing countries received three times more resources through remittances than ODA (Ratha, 2013), with low-income countries receiving less than middle-income ones (Page & Plaza, 2005). As remittance flows are expected to further expand over the next years, much attention has been dedicated to their potential for poverty reduction: a research in Nepal has shown that their inflow might have contributed to a reduction of as much as 5% in the amount of poor residents over about a decade (World Bank, 2006).

Remittances have limited potential to support system-wide development: they are neither sufficient in amount, nor adequately targeted, to counter the root causes of vulnerability (de Haas, 2008a). The inflow of resources, however, can significantly increase the income levels of poor recipients (Jongwanich, 2007), and can have a multiplier effects on the economy of the receiving communities, stimulating local labor markets and producing spill-over benefits to non-receiving households (Glystos, 1993). The translocal bonds established through the distant community members can also stimulate or strengthen commercial relations between their communities of origin and of destination (Lucas, 2005).

Remittances are a more resilient source of financing than any other economic flow: while FDI and ODA were reduced by economic and political instability over the last years, flows of remittances have mostly kept growing (Ratha, 2013). The financial resources of the diasporas have on occasions been leveraged to issue specific bonds in the country of origin, and flows of remittances have been indicated as a collateral by States requesting credit from international financial institutions (World Bank, 2013b; Akkoyunlu & Stern, 2012).

SOCIAL & CULTURAL PROGRESS LINKED WITH MOBILITY

The participation in translocal communities by mobile people and their sending households has the potential to bring about profound social change in the home community. Through their exposure to different living conditions, mobile people can increase their human capital and become development agents for their families and home communities. Brain circulation helps transfer skills and technologies that reduce risk, such as sustainable resource use, health improvement practices, entrepreneurship and hazard prevention or mitigation (Rinke, T., 2012; UNDP, 2009; de Haas, 2006). The prospect of increased opportunities linked with mobility has also the potential to stimulate interest in higher education (World Bank, 2006b; Panescu, 2004).

Mobile people, in particular through hometown and migrants associations, have a significant role in supporting community development and infrastructural projects as well as initiatives to conserve local traditions and culture (Delgado Wise & Marquez Covarrubias, 2008; Asis, 2008). They also have the potential to influence institutions back home, stimulating broader political change (*ibid.*).

Mobility can also be a factor in challenging traditional gender, class and ethnic roles in sending communities, leading formerly subaltern groups

to escape from constraints embedded in their traditional socio-cultural context (de Haas, 2008). Male stayers are more likely to engage in care-taking activities and female stayers to take a more prominent role in household decision-making and economic management (King & Vullnetari, 2006; Deshingkar & Grimm, 2005). In addition, mobility often leads to the reconfiguration of traditional family patterns, which can, on occasions, lead to the strengthening of social capital through the enlargement of social networks (Asis, 2008).

INCREASING THE HOUSEHOLDS' VULNERABILITY

With the exception of North-North migration corridors, men are more likely to migrate than women (IOM, 2013b). Mobile people have a stronger overall presence in the age groups between 25 and 49 compared to the host populations. They also tend to be healthier than average individuals, compared both to their host and home communities – the so-called “healthy migrant effect” (Razum et al, 2000).

These factors result in a disproportionate loss of healthy, productive individuals for the communities of origin and in the consequent growth of dependency rate and of the number of split households and of single-parent (and in particular women-headed) families (Ratha et al. 2010). Mobility can reduce the effectiveness of kin and com-



munity-level care giving and the strength of social networks, in the most extreme cases resulting into settlements overwhelmingly populated by old and infirm people (Bernhard et al. 2009; King & Vullnetari, 2006). Separation from the parents can lead to lower educational attainments and involvement in risky behaviors by children left behind (Asis, 2008; d'Emilio et al., 2007).

Outward mobility can negatively impact the psychological well being and personal security of the individuals left behind (Dreby, 2010; Borraz et al., 2007), as well as their livelihood security, in particular in the short term (Edward & Scott, 2003). Traditional livelihood patterns can be re-dimensioned, modified or disrupted as the active population leaves, in particular in the case of massive population outflows (Bukuluki et al. 2008). As a consequence, households might find themselves overly dependent on the transfer of resources from distant breadwinners, running the risk of suffering disproportionate negative consequence as remote hazards affect their distant members (IOM, 2012).

Remittances can stimulate change in the lifestyle of the individuals left behind in ways that reduce their self-reliance, stimulating voluptuary consumptions to an unsustainable level (Zachariah & Rajan, 2004) or reducing their incentives to work or to study (Levitt, 1996). The investment of remittances can also drive the distribution of population and capital, and therefore hazard exposure: remittances have been observed to lead to environmental degradation by fuelling rapid urbanization processes in environmentally fragile areas within and around small and medium-sized urban areas in low and middle-income countries (Klaufus, 2010).

INCREASING THE FRAGILITY OF HOME SOCIETIES

Developing countries are increasingly providing the workforce to satisfy the advanced economies' demand for both cheap and skilled labor. Skilled workers are more likely to move across borders (Skeldon, 2008): up to 75% of all skilled workers native to countries such as Fiji, Guyana, Haiti and Jamaica have moved to OECD countries (Dumont & Lemaitre, 2004). In the short-term, this leads to a reduction in the average level of education and expertise in the home communities (Docquier & Marfouk, 2005), which can affect the quality and access to

essential services, such as health and education, of the population staying behind (Docquier et al, 2010, Marchal & Kegels, 2003).

The massive loss of population can also lead to reduced productivity of labor and lower returns of public education investments, negatively affecting the community's overall prospects for economic growth. Population movements can also have direct and indirect impacts on the amount of available tax revenues, and therefore on the capacity of national and local institution (Farrant et al., 2006). In the most extreme cases, loss of population can undermine the self-reliance of whole societies, as in the case of Montserrat after the 1995 volcanic eruption (McLeman, 2011).

As mobility is a costly option, not available to every households, remittances, particularly from individuals living abroad, have the potential to increasing income inequalities between poorer and richer groups in the community of origin (Adams, 1991). The inflow of foreign currency through remittances can lead to currency devaluation and inflation, which becomes a particularly pressing issue to non-recipients (Rathia, 2013, Narayan et al, 2011). In addition, the shift in economic balance linked with the inflow of remittances can potentially create resentments and tensions against the newly enriched households (Zachariah & Rajan, 2004). Similar patterns are observed at the international level, with middle-income countries having higher emigration rates and therefore receiving more remittances than low-income ones (Farrant et al., 2006).

HOST COMMUNITIES

EFFECTS OF MOBILITY ON RISK & RESILIENCE

STIMULATING AND SUPPORTING THE HOST ECONOMY

Population inflows also have overall positive effects on the host communities. Mobile people, over-represented in the economically productive age groups, increase the available labour supply with very limited costs to receiving societies (Carter, 2008). Their arrival translates into increased demand for goods and services, which stimulates production and supports employment (Ortega & Peri, 2009).

As a consequence, incoming population flows mostly have positive, rapid effects on local employment rates and wages (Carter, 2008; Gott & Johnston, 2002), which also help maintain functioning fiscal systems as well as social insurance and caregiving arrangements – an effect that is especially important for countering increasing dependency rates in ageing, advanced economies. Mobility also leads to international and intra-national labor differentiation and specialization, and thereby to efficiency and economies of scale (Farrant et al., 2006). The presence of mobile individuals has also been related to increased translocal cultural and commercial exchange, and to increased capacity for political, technological and cultural innovation in receiving societies (Ratha et al. 2010).

Mobile people can integrate the receiving societies' skill gaps, completing the available human capital stocks and leading to increased efficiency of the local labor markets (Manole & Schiff, 2004). This can be particularly important in the aftermath of major crises, including disasters linked with natural hazards, when incoming workers can support relief, reconstruction and recovery efforts (Hugo, 2008).

PRESSURING LOCAL SERVICE PROVIDERS

Despite these positive impacts, unmanaged population inflows, in particular when sudden and unexpected, can strain the capacity of host institutions and markets to provide resources to all the segments of a given society. This can potentially translate into reduced access to income opportunities and basic services that are essential for the well-being and resilience of the local communities. By straining labor markets, health and education systems as well as water supply, sanitation and waste management infrastructures, the population inflow can increase the fiscal cost for service providers and reduce the quality of the services provided. Insufficient access to health care by the incoming population, in particular, has been identified as a serious public health issue, as it acts as a health risk multiplier for the whole community (Kullgren, 2003).

In addition, incoming people often compete with the weaker groups and individuals within the host community for income opportunities, shelter, access to health and education, which translates into disproportionately negative impacts on the well-being of (both newcomer and native) women, youth and unskilled workers (World Bank, 2013; MercyCorps, 2012; UNDP, 2009).

CONCLUSIONS & RECOMMENDATIONS

Mobility is an integral part of the human development processes that determine hazard exposure, vulnerability and resilience patterns. Mobility decisions are rooted in the environmental and socio-economic factors and processes that constrain and allow individual, households and communities to access opportunities and well being. It is these factors that largely determine the heterogeneous risk reduction and risk production outcomes of moving for different people and groups, including within the mobile groups and their communities of origin and of destination.

Human mobility is therefore both a product and a determinant of the socio-natural context people live in, and as such it is linked to all the other processes that shape disaster risk at the global and at the local level, including environmental change, urbanization, economic growth and demographic evolutions. It should therefore be integrated in the holistic perspective that characterizes the work on Disaster Risk Reduction and resilience, and in particular in the actions targeted at reducing the

root causes of risk, but should also be analyzed and understood as a distinct process, which poses specific challenges and offers specific opportunities to home and host communities.

While highlighting the potential of mobility to improve resilience, it should also be noted that mobile people and their communities of origin and of destination have only limited capacity to influence the structural features of their socio-natural context. Actions aimed at maximizing the positive impacts of mobility on lives and livelihoods can only be successful if the context-specific conditions of vulnerability are addressed.

Efforts aimed to reduce disaster risk and promote well being in the implementation of the post-2015 global development agenda should adequately account for the benefits and costs linked with human mobility, and strive to creating the conditions for maximizing the long-term resilience building effect of moving on mobile people and their host and home communities.



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