

# Gender and Transport in Development

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Towards a gender-responsive approach to  
transport projects in a development context

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## -Synopsis-

*Gender is an important, but often overlooked, dimension of infrastructure investments, especially in the transport sector, despite the fact that transport is a key provision for enabling people to become mobile in order to realize opportunities of their economic potential and to meet their healthcare and educational needs as human beings. Without mobility, it is increasingly difficult in this century for people to play a part in the modern world. However, women do not always enjoy mobility equal to that of men - a condition which is underscored by multiple causes. Access to transport, and appropriate transport modes, is but one factor. Not only do transport planners have the opportunity of providing for women's needs, they also have a responsibility to ensure that women are not worse off after the introduction of local transport interventions.*

**Many integrated transport projects implemented in developing countries fail to adequately address differing gender needs. Do women gain less benefit than men in transport developments, and do they bear a greater burden of negative spillover effects?**

### **Introduction**

As the literature review will demonstrate, it has been observed that women's and men's travel needs and travel patterns differ, not just as individuals but because of gender constructs. The underlying premise for much of the post-colonial period of transport development was that transport is 'gender neutral'. Mainstream thinking was founded on the belief that women's and men's needs for transport were identical and thus, women and men would benefit equally from the provision of infrastructure or services. Planning was also founded on the belief that the provision of transport infrastructure would trigger local transport solutions and both women's and men's mobility would be almost 'automatically' enhanced. More recently, through heightened awareness of gendered social roles, differentiated needs of transport users have finally found recognition in development circles and gender-responsive approaches are slowly, but gradually finding a place even in the mainstream transport sector.

Transport and mobility are not synonymous terms and cannot be used interchangeably - one does not automatically translate into the other. Whilst transport can cover air, water and land, in this paper, only land transport is considered. Multimodal means of transport, from travel by foot on basic pathways to interregional highways, have been the subject of research that has questioned the differentiated transport needs of women and men.

In contrast to transport, mobility is an abstract concept that can be seen as a capability. It is a function of the intersectionality of a number of variables, which include both the physical, as well as key socio-economic variables. The extent to which a woman's mobility is enhanced differently from men's may be determined by cultural norms, ethnicity and economic status as much, if not to a greater extent, than by the physical constraints that bind her. Moreover, the provision of transport services and infrastructure is no guarantee in itself that a woman will be able to access the resource for her or her family's benefit. As with other resources shared by the household and the community, a woman's access is determined by the socio-cultural variables referred to above, as well as economic variables. In this sense, by viewing a woman's access to resources as a

determinant of her mobility, we are adopting a utility approach. However, a woman's ability to realize her mobility potential can also be studied from the capability approach.

Whilst the superiority of Sen's capability approach from social justice theory over the utility approach is acknowledged (Nussbaum,2003), the main body of literature and research available on the subject of women's mobility, gender and transport, is firmly rooted in the neo-classical debate on access to resources, where markets are expected to provide an optimal allocation. If we were to look at mobility from a capability approach, the analysis would take us a step further in understanding how women are able to transform access to (transport) resources into betterment of their own condition once those resources become available; however this is beyond the scope of this paper and the present analysis will adopt the utilitarian approach of mainstream thinking on gender and transport. From the literature and research we can learn, however, that *unrealized* or *unrevealed* mobility are also important notions to examine in this field of research.

### **Outline of paper structure**

After a literature review tracing the beginnings of the interest in gender, transport and development since post-colonial times to this present day, a brief record of international donor activity in the area of infrastructure investment in the transport sector will be presented, as a backdrop to the context in which a good part of the body of literature on this topic was shaped. In the literature review, it is established that much of the early research on gender in transport emerged in response to donor-driven interest and research funding.

With the background provided by the literature review and donor activities in this area, we will proceed to an examination of the main gender differentiated issues in transport in the context of developing countries. The variables that determine a woman's mobility, beyond the provision of transport infrastructure and services, are examined. Those elements essential in order for a transport project to translate into real enhancements to women's mobility will be introduced here.

Of critical importance to the condition of women in face of infrastructure investments in the transport sector are the so-called negative spillovers. These unintended impacts cause transport sector specialists to cross with human rights defenders on crucial social and health issues which will be highlighted in this section. In this context, the impact of mega-investments in transport infrastructure in the developing world is examined. The failure of such projects to address gender issues and potential negative impacts is the background that led to the development of transport planning models in the form of good practices to integrate gender mainstreaming in transport. These tools will be outlined in the final part of this paper preceding the conclusions. In the appendix to this paper a brief case study serves the purpose of illustrating some such negative impacts occurring in a specific context where mitigation measures proved inadequate.

In this paper, *gender mainstreaming* is understood to refer to the comprehensive approach adopted in policy and planning in order to achieve gender equality. The United Nations definition is adopted whereby "mainstreaming a gender perspective is the process of assessing the implications for women and men of any planned action, including legislation, policies or

programmes, in all areas and at all levels “(Report of the Economic and Social Council 1997). As a normative concept, gender mainstreaming has found its way into the transport and development debate only relatively recently.

### **Literature Review**

In reviewing the literature on gender and transport, it is readily observed that the field has attracted a wide range of disciplines from labour market and gender theorists to political scientists. We find contributions from areas of classical labour market theory, spatial division of labour, economic geography and gender studies from both sociological and political science standpoints; and more recently, specialists from the field of urban planning who have made an important contribution to the body of literature.

Starting with immediate post-war, post-colonial, economic development, transport (ungendered) was an important focus of research and activity sustained by international donors’ interest in pinpointing key catalysts of development. In the early years of the post-colonial development debate, remoteness was seen as a handicap to realizing economic opportunities, as well as to gaining social welfare benefits. In this era, the simple remedy to remoteness-induced poverty was seen in public works programmes in transport (Bryceson 2006) which led to extensive road building activity in developing countries, essentially in the shape of main connecting roads, starting already in the 1950s and lasting several decades.

It was believed in the early post-colonial period that “that roads can ‘bring’ development to remote areas” (ibid p.2) and stimulate economic activity through the facilitation of rural produce trade. Some early critics (Bryceson 1993 and 2006, Moser 1993) of this approach resisted the claim that transport is a panacea, viewing transport sector development as important, but insufficient in itself to initiate growth or bring about poverty reduction, claiming that ‘other factors’ must be present in order for transport improvements to significantly impact on mobility, accessibility and poverty reduction.

The oversimplification of applying the transport remedy approach to development, especially through rural road construction, did not always succeed in bringing about the desired outcome of poverty alleviation and the popularity of this approach declined. Whilst infrastructure investments continued to hold an important place in development, the debate on rural poverty shifted to other foci such as spatial inequalities within countries for explaining different levels of economic prosperity, rather than the lack of infrastructure per se. Remoteness was no longer seen as the key factor, or the only key factor. By the time the MDGs<sup>1</sup> were developed, transport did not even appear on the agenda, and stands out as the missing link to achieving targets on health and education included in other MDGs – which of course are to a large extent dependent on access levels to services in both urban and rural areas.

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<sup>1</sup> Millennium Development Goals

Now, in the new century, the pendulum seems to be swinging back again in recognizing infrastructure investment as a key for poverty reduction; albeit with significant differentiation between urban infrastructure development and infrastructure for the alleviation of rural isolation once again. For most of the post-colonial transport and development debate of the last century referred to above, the focus had been on *rural* infrastructure, whilst the cities of the 'South' had been largely overlooked, even though they were emerging as motors of economic activity. As a result of migration attracted to the economic activity of the cities, urban areas experienced rapid and unplanned growth and, with their exploding populations, transport infrastructure was found wanting.<sup>2</sup>

Until quite recently, the demarcations between transport experts (largely engineers), urban planners and the social scientists remained entrenched, as reflected in the literature and in research. To a large extent the division is still clearly evident today; however the acknowledgement from the engineering side that spatial and social differentials require different approaches has brought about a certain intersection of the disciplines. Perhaps due to the long-protected domain of the engineering discipline in transport in development, the debate had been led largely by (male) engineers and was donor-driven, with limited community and stakeholder consultation. Social scientists played a secondary role in directing donor funding in this direction and it was only many decades later, in the 1980's and then more so in the 1990's, after gender and then gender mainstreaming, had become established themes in development, that the study of gender and transport became a sub-sector study in its own right (starting with Moser in 1993).

The changing tides of donor interest in transport and especially the more recent field, transport and gender, will be examined in the following section, however it should be stated here that research on gender and transport has *not* to date been a particularly fertile field of academic research. When we look at the evolution of the literature that inspired or contributed to the debate, we see that the rich field of development theory was well fed with contributions from the transport sector, however, for a long time, gender did not come into the picture, and the differentiated concerns of women and men were largely ignored.

The early literature that first introduced the notion that women and men have different transport requirements came initially from the developed world.

Hanson (1980a) was one of the earliest to recognize that the feminist movement had brought about a paradigm shift in employment practices, thus requiring a new approach to analysing labour-related activities. With the overwhelming tendency towards paid, full-time employment out of the home, women's travel patterns and transport demands had changed. Whilst Hanson's early research was based on a sample of households in Sweden, the findings clearly identified different needs of men and women and, through the process of trip identification and travel patterns, the research findings had policy implications for transport planners in that country. When similar research was later carried out in other developed and then in developing countries

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<sup>2</sup> In a contradiction, if we look at the literature, the opposite could be inferred, whereby urban transport in African cities became the subject of a solid body of research interest. However, this academic interest did not necessarily translate into funding infrastructure investments

the findings were similar. Men and women had differentiated travel patterns and therefore different transport needs (Hanson 1995).

With Moser (1993), the focus shifted to the developing world, and the green-field of incorporating gender into development planning in the transport sector was explored. Essentially through developing planning tools and methodologies, Moser sought to sensitise planning officials in the developing countries in which she was engaged to the need for differentiated gender requirements and priorities. Initially focusing on urban planning in South America, she soon recognized the importance of bringing in the gender dimension to transport planning at an early stage, rather than merely grafting the gender dimension at a later stage onto existing planning and practices in response to pressure from women's groups. Reflecting the standard approach of transport planners of that time she concluded that "... one of the most critical problems faced by women is that transport services are organized to meet the needs of male workforce schedules, with buses running from the periphery to the centre during morning and evening peak periods" (ibid p. 53).

Moser's empirical research revealed that, in many developing countries, low income women spend three times as much time as men on travel for multiple activities and financially, spend twice as much as men on this expenditure item (ibid). She was one of the first to recognize that the multiple roles women play in society create transport needs distinct from those of men. She called for 'intersectoral-linked planning' (ibid) in order that the needs and activities of women are taken into account in transport planning as in other areas of planning in development. A turnaround in research methodologies to include sex-disaggregated data came from Africa however, in the form of a small study in a rural integrated transport project in Tanzania in the early nineties, which established what become known as the 'Makete Approach' (Gutierrez 2009) to incorporate gender in transport needs analyses.

Prior to the widespread adoption of the Makete Approach to sex-disaggregated data, Fouracre and Turner (1992) had focused on identifying travel patterns among low income earners in urban settings of the developing world (India and Ghana) but failed to recognize the importance of gender in the research. Whilst establishing that the number of trips households make is fairly income inelastic (whereby it was established that a ten per cent increase in household income brings about only a one per cent increase in the number of trips made), they observed that it is the *mode* of travel that changes with income (ibid). As studies were carried out at the household level, differences between male and female travel patterns were not explored within households and the authors concluded, without further investigation, that "women are less likely to travel long distances for employment" (ibid p.5), an argument which has not held out over time with many women migrating for employment<sup>3</sup>. The authors did acknowledge that there was a need to understand the complexities of demand for travel, as little is known about travel characteristics in developing countries, however, the importance of collecting sex-disaggregated data, rather than data aggregated at the household level, was not recognized at this time. This was a serious shortcoming of research that was otherwise a valuable contribution to the field.

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<sup>3</sup> or for work in distant export processing or special economic zones within the country

Grieco, Turner and Kwakye (1995) were the first to recognize the importance of differentiated transport needs in a developing country context and adopted sex-disaggregated data approaches accordingly. Their hallmark study in fact focused on women as economic agents with very specific needs in a specific context. They looked at informal, petty traders in urban markets in the capital of Ghana, Accra, an occupation dominated by women. The women were engaged, not only as vendors, but were also responsible for sourcing, purchasing, negotiating and transporting of their wares sold in petty trading using a variety of modes. The women had created their own supply of transport services as a 'taxi service' for other vendors through the mode of head-loading. The specific demands of the women traders had led to the creation of transport services to match their needs, made possible by the fact that the female traders were a powerful body. Thus, the women's market trading activities both created and responded to transportation. It was also significant for the urban transport planners to observe that non-motorized transport (NMT) was often the preferred mode in inner city areas.

Palmer, Astrop and Maunder (1997) also took Accra, Ghana as the site of their field research on identifying constraints, attitudes and travel behaviour of low income householders in developing countries. To make a comparison of findings with Africa, they added the Indian city of Pune into their research. In focusing on women's travel behaviour, they assumed from the outset that "women are often more disadvantaged than men in terms of access to transport services" (ibid, p.1) and in terms of the urban poor, they concluded that women are the most vulnerable of urban poor.

The researchers recognized the multiple roles women fulfil – productive, reproductive and community management – thus creating transport needs that are different from those of men. Through their empirical research, they found that half the trips made by women are carried out on foot compared with only twenty per cent for men (Pune), although in Ghana there was little difference between male and female travel by foot (ibid). The poor bargaining position of women (in both locations) within households in access to a vehicle (where either motorized or non-motorized was available) was identified as a further hindrance to their mobility.

Whilst the two above-mentioned studies focused on urban transport needs in a developing country context, Bryceson and Howe (1993) were meanwhile taking the rural context for examining gender characteristics of transportation. Reporting on data collected in sub-Saharan Africa, Bryceson et al. highlighted the important role women played in rural load carrying. Although urban female porters were to figure in the later urban African transport and gender studies referred to above (Palmer et al 1997, and Grieco et al 1995), Bryceson's research highlighted the significant input from women in economic activity, not just as porters, but as key linkages in getting produce to market, in addition to carrying out their reproductive activities, such as water and firewood collecting.

Bryceson's enquiry into rural African women and their transport practices helped to trigger donor interest for pursuing efficiency improvements in terms of reducing female transport times for bringing produce from field to market; however, the overriding motivation here on the part of donor interest was clearly the improvement of agricultural production chains and productivity, rather than welfare enhancements of the rural household (Bryceson et al 1993).

Back in the developed world, Rosenbloom (2004) using the U.S.A. as her reference point, took Hanson's early interest in identifying the different travel patterns of women and men a step further. Based on extensive sex-disaggregated data from a national household travel survey from 1995 in the USA, Rosenbloom developed a strong case for differentiated gender approaches. She coined the term 'trip-chaining' to reflect the differences in gender roles, whereby combined-purpose travel patterns practiced extensively by women contrast with single-purpose travel of men. Contrary to Hanson's earlier findings, Rosenbloom claimed to detect a convergence of men and women's travel patterns as women joined the labour force, but interpreted this as an apparent 'superficial' convergence of travel patterns (such as car driving), as the division of household labour was not changing rapidly and the employment gender gaps, in terms of occupation and wages remained stubborn (ibid p.12).

After the MDGs, Bryceson and Bradbury (2006) detected again a swing in policy debate in developing countries with a renewal of interest in links between remoteness, mobility, roads, and economic disadvantage. Focusing on mobility, Bryceson (ibid) conducted a series of revealing studies, twinning villages and testing variables such as remoteness and not so remote, identifying, and where possible, measuring, benefits (or lack thereof) that arose from improved road connections. Bryceson (ibid) correctly assumed that improved roads or improved road networks do not necessarily lead to greater mobility for women. It is worth noting here that the concept of 'negative spillovers' that may arise from road building activities or from increased connectivity were not flagged at that time.

In Bryceson's research, sites were chosen in Vietnam, Ethiopia and in Zambia. In the case of Vietnam, the findings so clearly identified 'mobility enhancements' allowing rural people to travel further and faster from road improvements that they concluded that "data supports the view that roads can facilitate economic activity and social services access" (ibid p.31), albeit with provisos. The findings from the two African sites were so different from each other and from the Asian findings that the 'provisos' cautioned in the case of the Vietnam research became critical in determining *the potential* of roads to contribute to poverty reduction. Bryceson et al. (ibid) concluded that there are 'complex interplays' between road infrastructure and transport modal choice availability, as well as interplays between 'mobility' and 'accessibility', whereby mobility can only be enhanced where access to public transport is available and enhanced. The extent to which road networks already exist is a further determinant of how effective additional road building will be in alleviating poverty.

In the villages researched in Vietnam in the Bryceson study (ibid 2006) it was interesting to observe that road improvements did not have a significant impact on the number of trips villagers made to markets, however, a large increase in *formal* from *informal* employment in the villages, remote and not remote, took place once the roads were improved. Looking at trip purpose, education was seen to be the most sensitive variable to changes in road services and location (far exceeding visits to health services or markets). The field research for the study was carried out from 2003-2004 and with the subsequent development of the GMS<sup>4</sup> transport corridors soon

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<sup>4</sup> Greater Mekong Sub-region



after (the subject of the case study in the appendix) the findings today could be expected to appear rather different, particularly in terms of the distribution of economic benefits and the negative spillover effects that have arisen.

Already in the late nineties, Fernando and Porter (2002) had identified early on in their research the importance of unequal access of men and women to resources, and recognized transport as one such key resource. Basing their research in Africa, they compiled a series of case studies focusing on the interaction of gender and transport. Whilst African contexts formed the main focus, they also included research from South Asia for comparison. Gender started to appear again on the agenda of donor-backed transport programs. The studies compiled by Fernando and Porter (ibid) were prepared variously as part of donor-driven initiatives and reflected the growing interest in micro-interventions to improve transport in the developing world to meet women's specific needs. The publication of *Balancing the Load* (ibid) in 2002 marked a new surge of interest in this subject and saw Bryceson et al (2006 and 2009) taking up on this current by applying the 'sustainable livelihoods approach', which had been originally focused on rural areas in identification of mobility needs of the poor, also to urban areas and rural-urban linkages.

It took until the early part of the present century however, for south-east Asia to attract the attention of researchers in this field and with the rapid development of extensive road networks in the region, ample material has been generated for conducting empirical studies on the gendered impacts of road transport developments and increased regional connectivity. Kusakabe (2012) has conducted and reported on studies which reflect a growing body of interest in the region and provide clear evidence that impacts differ as much between the sexes as between localities and countries. In the south-east Asian context, the importance of locality appears to be critical, as is ethnicity, for appraising gendered impacts, both positive and negative. Ethnic and other socio-cultural constraints to women's mobility emerge clearly from the body of literature coming out of south-east Asia to date. Whilst early empirical research clearly identified gender differentiated roles that shaped the differences in travel patterns and transport needs between women and men, the cultural elements that shaped gender roles were implicit, rather than highlighted or explored in depth.

Back to the developed world context, more recent work by Duchène (2011) explores parallels in gender and transport in developing and developed countries and identifies innovative approaches for employment creation in the transport sector that have been piloted in less developed countries and that could be replicated in more advanced economies (ibid, p.14 Mali Urban Taxi Project). In advanced countries of Europe, she recognizes that women continue to be poorly represented in planning processes and at decision making levels, and under-represented in employment in the transport sector. Citing France as an example, where men use public transport for only 10% of their travel needs, but are predominant at all levels of the sector, Duchène concludes that the transport sector is a long established 'male domain' in all countries (ibid p. 8).

The preceding references cited in the literature review tracing research trends in the post-colonial period have for the most part taken transport from an 'access to resources' stance. As flagged in

the introduction to this paper, the access to resources approach from a utilitarian point of view is but one approach for studying gendered transport and women's mobility. This is, however, the approach that forms clearly the largest part of the body of literature on transport and gender to date and reflects gender mainstreaming practices and principles.

What is missing in the above review of the literature is reference to alternative approaches that link issues of transportation and mobility with theories of capability. It has been observed (Kronlid 2008) that the body of literature on mobility as a capability, 'à la Sen', is scant. Sen's capability approach is often accused of being too vague (Nussbaum 2003, Kronlid 2008) which has generated endeavours towards creating 'lists' of fundamental human capabilities. 'Mobility' figures on Nussbaum's list of 'central human capabilities' (in the sense of "being able to move freely from place to place", as in Capability 3, Nussbaum 2003), and mobility figures as the tenth of fourteen capabilities listed by Robeyns (2003). Whilst mobility seems to be generally accepted as a 'capability', the debate is ongoing as to the dimensions of mobility that should be incorporated, beyond spatial mobility. Whilst the different points of emphasis of mobility in the capability approach have not been reconciled, the approach offers an alternative to the utilitarian decision-making frameworks that have dominated the debate on economic growth (Kronlid 2008). Even though the literature specific to mobility as a capability did not emerge until the current century, it has not yet found currency in mainstream debate on gender and transport.

#### **Donor Activity – a historical perspective**

As mentioned at the start of the literature review, much of the body of research and literature on gender and transport that has emerged has been the result of research in response to donor demands and interest; it is therefore appropriate to take a brief look at the activities and agendas of the key global players in a post-colonial context of transport development.

As previously stated, the multilateral development banks (MDBs), in particular the World Bank, in the 1950's and 1960's of the post-colonial era, invested heavily in infrastructure in the developing world, particularly rural infrastructure, in the belief that development could be 'brought' to isolated areas. Eventually, as it became apparent that the 'one recipe fits all' approach did not always produce the desired outcomes the need for a differentiated approach was eventually recognized, and by the 1990's the MDBs, as well as bilateral agencies such as DANIDA (Danish International Development Agency) and DFID (Department for International Development of the U.K.), started to explore alternative approaches carrying out more extensive research using improved methodology.

Interest was focused initially on improving rural access for rural populations through better transport networks. No special attention was afforded to women and their differentiated transport needs. Even though USAID (the United States Agency for International Development) recognized that women are 'key actors' in the economic system (Moser 1993), the body failed to grasp the need to sensitise planning engineers and officials in recipient countries as to the differentiated transport needs of men and women. By the 1990's, DFID had identified at least *some* gendered aspects of transport and proceeded to conduct training seminars in Africa and

Asia (in collaboration with the International Labour Organization) targeted at transport professionals, decision makers and community workers. In particular, DFID addressed issues of concern to women in terms of access and mobility in rural areas, in order that their concerns may be better integrated into planning (Fernando and Porter 2002). These training and consultative activities generated a valuable stream of micro-studies, some of which were referred to in the literature review.

During this period of pre-MDGs, DFID also initiated research to improve their understanding of transport's role in women's productive and entrepreneurial activities in terms of facilitating, or constraining, mobility and access to resources including markets. Household surveys, using sex-disaggregated data, were carried out in Africa, South America and South Asia (Ghana, Colombia and India from 1993-1997) mainly in urban settings. This marked the start of a shift from research on rural transport to urban transport.

As referred to in the literature review, it was found that men and women had different transport needs (Grieco et al 1995; Palmer et al 1997, Hanson 1995 and 1980, Rosenbloom 2004) and that of some of those needs were culturally shaped by their context, with the gender dimension providing an additional dynamic, rather than gender being the main shaper. These finding represented a sharp contrast to the generic, gender-neutral early approaches to transport adopted by the World Bank. Even though progress towards a more gender-sensitive approach to transport in international development assistance has been achieved and a policy of gender mainstreaming has since been incorporated into World Bank transport projects today, compared with the health, education or agricultural sectors, the ratio of 'gender informed' projects in the Bank's operations in the transport sector still reaches only around 16 per cent (2009) compared with 86 per cent in projects in the areas of health and nutrition (Kusakabe 2012).

In this respect, the World Bank (as does the Asian Development Bank), in assisting transport infrastructure investments now stipulates in loan agreements that an evaluation of the potential impact of a transport project on women is mandatory (beyond a minimum threshold). The bank stipulates for its own staff that "gender aspects must be considered when designing and planning for transport infrastructure and services because gender-based inequalities will slow economic growth and poverty reduction" (World Bank 2010, p.9).

This does not necessarily imply, however, that the respective recipient governments have the will or capacity to integrate gender into transport projects at the national and local level. The transport sector is typically multilayered with complex interactions and often a large degree of autonomy among the key bodies involved from the public and private sectors. Responsibility for the development of secondary roads to link into national or regional road networks frequently falls under the jurisdiction of provincial or even local governments and these units may not adopt the same gender mainstreaming principles and practices as those that the donors impose on national governments for large infrastructure projects.

The ADB, whilst in principle, keenly aware of the need to introduce gender early on into the planning phase of infrastructure development projects, as well as in the later implementation and evaluation phases (Thomas et al 2005), fails to ensure that gender-differentiated needs and impacts are included in all studies coming under pan-regional ADB transport programs (see for instance, ADB Institute 2013, a major study on connectivity that does not even mention the word 'gender').

Whilst collaboration among international donors is often lacking for coordinated *funding* of transport investment projects, there have been some positive initiatives towards collaboration among the multilateral institutions for the mitigation of recognized and pernicious negative spillovers from transport development. Seven MDBs (the big global players such as the World Bank and regional ones such as the African Development Bank) together with the concerned international agencies (such as the World Health Organization) have now come together for the coordination of targeted strategies for example on health issues (HIV/AIDS) and road safety concerns. For example, the Global Road Safety Facility has been set up with the financial backing of the multilateral development banks in tackling the challenge of road safety in developing countries, whereby 90% of road traffic fatalities occur in developing and transition countries (Global Road Safety Facility, 2013). Whilst women are not necessarily specifically targeted in such programs, it is recognized that, as pedestrians, women and children form a higher share of victims of irresponsible driving along highways funded by the same donors. Transport corridors, instead of evolving into 'economic corridors' for the majority, all too often translate into 'HIV highways' and 'killer-speed highways' for communities.

In Africa, the African Development Bank (AfDB) (see link in references) and the African Union recognize transport as crucial to the continent's development; however fail to incorporate gender into transport policy and planning. This represents an under-utilized opportunity in view of the central role African women played in early transport research and the role they continue to play in load carrying.

Finally, the role of large donors, such as the European Union (EU) should be mentioned in the context of gender and transport development. The EU has traditionally been an important player in infrastructure development, not only in the transition countries of Europe, but also in less developed countries of the 'South'<sup>5</sup>. However, when it comes to transport, the gender issue has been largely ignored, despite the fact that the EU applies gender-sensitive indicators in other sectors in which it is engaged, such as in the water sector (European Commission, 2013 p.23). Whilst the EU has taken the initiative of identifying obstacles to sustainable public transport in Latin America with the aim of improving urban mobility and economic development, it nonetheless completely fails to take gender differentiated needs into account (ibid, p.89).

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<sup>5</sup> infrastructure development as a relative share of EU's development cooperation has declined to represent only 3.5% of the total development cooperation expenditure in 2012

### **The issues and the determinants of mobility**

As defined earlier in this paper, the word 'transport' is not synonymous with 'mobility'. Improvements in transport infrastructure or services *may* enhance the mobility of men *and* women equally (gender equity of outcomes), or, men's mobility may be enhanced to a greater extent than that of women. Whether women's mobility is actually enhanced will depend, not only on the design of the project, but equally importantly on other determinants; namely, the variables that govern a woman's mobility independently of that intervention.

In examining these variables, firstly, the *physical* variables will be considered. These are the variables that are given and may affect women and men similarly or differently. Apart from one's individual physical endowments, age or handicaps, such physical 'givens' include climatic/geo-topographical features of where one lives. Clearly, mountainous localities present greater transport and mobility challenges for men and women alike compared with a plain or coastal dweller and climes susceptible to dramatic seasonal fluctuations will also impact on both men and women's mobility. However, male and female mobility may differ under climatic influences inasmuch as in terrains subject to heavy monsoon rains, in flooded conditions, women may be worse off than men if their transport mode is that of travelling on foot, as is often the case. As men tend to have greater control over resources they may have access to a motorized or intermediate form of transport enabling them to overcome temporary inclement climatic conditions (long detours by road rather than short-cuts on paths that women take). In urban contexts, the physical variables key for determining mobility of urban dwellers may not impact so differently on women and men. However, as soon as we move out to peri-urban areas, other factors soon come into play impacting less favourably on women than on men, or even negatively. Women's restricted mobility in peri-urban areas has to a large extent been overlooked in donor-driven transport developments.

Secondly, and most importantly, we move on to the *non-physical* determinants of mobility. Here, we are talking about socio-economic and cultural variables. Social norms shape women's reproductive roles in the household and in the community and economic factors determine her income and her productive activities. The duality of a woman's productive activities (for the cash economy or the household) alongside her reproductive activities (fetching water, firewood and cooking), necessary in order to sustain the household, commonly create the all-too familiar 'time poverty' syndrome.

Precisely where time constraints should call for transport solutions that maximise the efficient use of a woman's time, women are often denied the most efficient means of transport available. Moreover, the *time constraints* a woman faces in her dual role may also create *spatial constraints*. A woman's travel patterns are constrained in limiting herself to the distance that she is able to cover within a day for carrying out productive activities whilst returning to the household at the end of the day in order to fulfil her reproductive duties. In the absence of efficient transport modes such spatial constraints can restrict a women's access to income earning opportunities, such as a market for example. Finally, spatial constraints may be artificially construed through the imposition of cultural values whereby a woman's independence of travel is curtailed by her husband or by society. Similarly, cultural values also determine whether it is

acceptable or otherwise for a woman to travel by a certain mode of transport. Cultural-social values also determine within a household whether a woman has equal access to transport resources; where the household owns a bicycle or motorbike it may be for the man's exclusive or priority use. By extension, household income may be shared unequally, whereby boys travel by bus to school, but girls are kept at home to save costs. Entrenched socio-cultural practices produce unequal outcomes for the future.

We have seen therefore that women's mobility is a function, not only of the provision of roads, bridges, buses and bicycles, but is heavily dependent on a number of other key variables. These variables form a complex dynamic of intersections of ethnicity, income, age, and location to determine firstly, a woman's access to transport and secondly, her ability to use that access to transport to enhance her mobility – which becomes ultimately a capability function.

Further on in this paper we will look at large, integrated road infrastructure projects as an illustration of the potential they have to unleash a chain of unintended consequences of far reaching proportions. Not only do such projects fail largely to address women's transport needs, but women end up bearing an undue burden of the negative impacts. First, however, we will focus on the more positive outcomes of road developments considered in different contexts of rural and urban or peri-urban settings. As will be highlighted, whilst outcomes have not always been gender equitable, important lessons have been learned in identifying differentiated transport needs of women and men, elements of which have been incorporated into gender and transport toolkits which will be outlined at the end of this paper.

### **Rural versus urban settings**

Rural access road projects usually small-scale, local solutions that often feed into secondary connecting roads or transport corridors and wider networks. Many examples of successful small projects can be found, particularly where community or stakeholder consultation has taken place in improving rural dwellers mobility (Bryceson & Howe 1993, Bryceson & Bradbury 2006). Stakeholders however, may typically be politically disempowered beyond their immediate community level and therefore have limited inputs into the broader reaches of the transport vision of a provincial or higher level of government. In other words, their local road may not take them to where they want to get to in terms of where the economic opportunities lie in the long term if their local road project fails to link in to a larger network. This impacts both women and men in the realisation of economic opportunities.

With specific reference to women, women may already be inadequately represented in the consultation and planning process and decisions on their transport requirements for reaching medical and educational facilities, as well as markets and other income earning destinations, may be made for them on their behalf. Moreover, road safety concerns shared by women for their children arising from the dangers of a major road slicing through their village may be hushed by community leaders eager to capture economic opportunities of improved connectivity to the world beyond their village.

In a historical perspective, the vision held by rural road access planners was focused on neither women nor men, but on produce. Moving not people but produce to markets or factories (by rail and road). This has been summed up by the World Bank in its guidelines for gender mainstreaming in transport as follows: “conventional rural transport planning has tended to focus on road networks and long-distance transport of produce; this has led to the neglect of transport solutions for many rural women who lack access to motorized transport, tend to travel on feeder roads and tracks on foot or who use intermediate means of transport such as donkey carts and bicycles. Improvements to the road network can improve contacts between rural villages and nearby communities as well as the delivery of inputs and consumption goods and the possibilities of selling produce to traders or bringing produce to markets” (World Bank 2010,p.11).

The constraints a woman in a traditional rural society faces in her mobility is reflected in the conclusions to a case study carried out in Africa<sup>6</sup> where a triple bind of factors were identified: firstly, as agricultural workers, the division of labour between men and women was such that women covered long distances every day on foot to fulfil the duties of their reproductive role (such as collecting water) as well as attending to their farming and marketing activities; secondly, they were further constrained by lack of financial resources to purchase a mode of transport, since they had very limited opportunity for generating cash income; and thirdly, even if they had financial resources, or were able to obtain credit, they would be constrained by ‘cultural restrictions’ as it was considered inappropriate in that part of the country for women to ride donkeys or bicycles (Ouedraogo, in Fernando and Porter ed. 2002).

Leaving rural transport behind and moving to the urban context, it is often erroneously assumed that women have fewer mobility constraints and better access to transport as urban dwellers than is the case in rural areas. Evidence shows however, that this is not necessarily the case. In fact, households in peri-urban areas are found to have the highest travel burden, denied access to the convenience of an urban centre and denied access to livelihood supports found in rural areas (Venter et al 2007). Commuter corridors in urban areas serviced by buses or trains tend to run straight to the city centre thus benefiting male, single-trip makers (Moser, 1993); many women in informal economic activities or part-time employment live in underprivileged peripheral urban areas and travel to another peri-urban area for employment or informal economic activities. Cross city links are often inadequately serviced - a failing of cities in developed as well as less developed countries.

Moreover, timetables of public transport are geared to rush hour (male) commuters. As raised in the introductory literature review (Hanson 1980), urban transport developments have frequently failed to take account of women’s different travel patterns and needs, particularly with respect to ‘trip chaining’ (Rosenbloom 2004) as a mechanism adopted by women to cope with their multiple roles demanded by family and community.

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<sup>6</sup> Yatenga province of Burkino Faso

Low income women may in fact be worse off in peri-urban areas and more isolated than in rural areas if they do not have access to a public transport network, or if their mobility is seriously restricted by economic variables (cost of bus or shared taxi fares, or purchase price of a bicycle beyond their means) and cultural variables (such as whether it is acceptable for a women to move about the city on her own or if it is appropriate for her to ride a bicycle). The variables determining a woman's mobility are a complex of cultural, as well as economic dynamics. Moreover in an urban and peri-urban setting, security concerns are often at the forefront of women's concerns, both as a passenger in a public transport or as a road sharing pedestrian (Tanzarn 2008).

Peri-urban areas populated by low-income dwellers are usually poorly linked to main transport routes as stated above and to places of employment or to markets, thus reinforcing a vicious circle of constrained mobility leading to limited access to economic opportunity. Both women *and* men living in such areas are impacted. Often long walks are required to access the main arterial road where trunk line or feeder buses run. For women, however the limited network coverage of transport services together with poor design and maintenance of pathways or road shoulders add to their difficulties of coping with children or elderly and carrying loads of goods.

Many studies (Dingen 2000, Bryceson et al 2003, Fernando et al 2002, Tanzarn 2008) have confirmed that in urban and peri-urban settings, as well as in rural areas, women walk more than men, covering more kilometres a day than men for their reproductive, productive and community tasks. As constant pedestrians for much of their day women are exposed to extra risk and are involved in a large share of fatal accidents as pedestrians (ADB, 2006). Whilst sex-disaggregated data has not been systematically collected in road safety research, it has been determined that in urban settings in less developed countries women are predominantly users of non-motorized transport and men users of motorized leading to an unequal impact of safety risks. It was determined from data collected in 1992 that 62% of road fatalities victims in urban Dhaka were pedestrians for example (ADB *ibid* p. 7), and females can be assumed to represent a large share. Today, with greater use of motorized vehicles in large unplanned cities such as Dhaka the female share of pedestrian fatalities would not be expected to have fallen.

In cities, non-motorized forms of transport - bicycles, rickshaws and carts (human and animal drawn), together with motor cycles, form what is known as intermediate forms of transport, or IMTs. These modes are accorded too little attention by transport planners with regard to the competition these modes face in terms of speed and space with motorized modes. Women, as petty traders, are highly dependent on NMTs in dense urban contexts (Grieco et al 1995) and are negatively impacted as cities rapidly expand and speed up with motorized transport becoming dominant.

### **Gender-responsive transport infrastructure and services**

Gender-responsive components of the *physical* design of a transport infrastructure project include elements of road safety, personal safety and women's comfort, as well as efficiency. In rural and peri-urban areas in particular, the road design must allow safe space for NMTs,



including sealed and all weather road shoulders (and ideally dedicated lanes in urban areas). Pedestrian pathways on bridges crossing rivers and access bridges in transport nodes are also important components to take be incorporated into project design.

As referred to in the previous section, NMTs or IMTs are often the only means available to women for transporting goods, or for reaching trunk roads to connect with bus transport for longer distance connections to markets or other destinations. Moreover, head-loading is still common for women to transport goods (Africa and South Asia), thus reducing their physical flexibility and visibility. Planners often fail to take into account the relegation to the margins of roads for usage by women as pedestrians, load carriers and users of IMTs. It must be recognized that trunk roads in particular are often planned in terms of transport routes for freight before people.

In terms of personal safety issues, waiting areas at connection points for transport are important for women and will impinge on her mobility if she does not feel at ease in such locations. Lighting in waiting areas affects her perception of well-being and safety. In transport exchange hubs (at bus transit stations for example) where extended waits for an available vehicle are common, the provision of sanitary facilities are also important for enhancing women's transportation, her perceptions of mobility and for willingness to undertake travel.

With respect to transport modes, the provision of gender responsive public transport is just as crucial as the provision of road networks. In long-distance and urban bus travel women have greater safety concerns than men, and these must be taken into account in designing routes and stops where passengers embark and alight. Visibility within the vehicle must also be assured - overcrowding in buses is an impediment to visibility and a threat to women's safety and dignity.

The design of buses, both urban and long haul, must take account of women's multiple roles they play in society and their need for 'trip chaining' to meet their time poverty constraints. Steps may be too high for mounting with children and produce, head clearance may be too low for head-loading and standing space may be too restricted for children and loads. Clearly, aspects such as these need to be integrated in the design well before vehicles reach the factory production line.

In terms of the provision of services, the low incidence of public-private partnerships is just one factor causing women's transport needs, all too often, to remain unmet. Whilst public participation with backing from donor funds is common in public works programmes, the creation or improvement of network *services* is typically left to market forces. The private sector steps in, providing services along routes of high demand that promise to be the most profitable, setting prices and establishing schedules accordingly, but frequently compromising on safety.

As a consequence, the travel needs of women are not considered the priority. Women living in marginalised, peri-urban areas, or commercially insignificant villages may find they are not on the priority bus routes determined by the operators, and the schedules of the services provided may not coincide with the requirements of female passengers to reach markets early morning for sale

of produce, or late at night to return safely from shift work in nearby factories. Or conversely, operators may charge above market fares to service such areas. The intervention of transport regulators from the public authorities representing the interests of civil society is normally required to ensure that private transport operators meet the demands of female consumers, as well as their revenue-generating base of male commuters and travellers. Appropriate transport licensing practices is one method of redressing the imbalance of gender outcomes that otherwise prevail.

Finally, in incorporating gender-responsive aspects and practices into transport infrastructure projects and services, the participation of females, not just as stakeholders and consumers, but also as employees is an under-explored area of opportunity.

Women are under-represented in all areas of the transport sector in developed as well as less developed countries (Duchène 2011). The employment of women in planning and regulatory authorities from engineers to bureaucrats in transport would heighten the gender sensitivity and responsiveness required in order for different approaches to be developed to meet the different needs of women and men.

In operations, the deployment of female ticket collectors (if not drivers) to the extent socially acceptable would offer not only employment opportunities for women, but also be a reassuring presence to female passengers. The transport industry not only serves men's needs as priority consumers, but also offers employment opportunities disproportionately for men; hence affirmative action is required in order to redress this imbalance and improve outcomes for women in this segment of the labour market. The fact that the sector is male-dominated does not preclude inclusive approaches for women in training and recruitment initiatives such as schooling taxi drivers for operating in market areas serving mainly female clients.

### **Megaprojects and negatives spillovers in transport infrastructure development**

Regional infrastructure investments, backed with international donor funding, have brought about a rapid expansion in integrated highway networks, or corridors<sup>7</sup>, in many regions of the world. Economic opportunities have been created, as well as negatives spillovers generated, impacting on the environment and on the region's inhabitants. Roads feature strongly in large-scale infrastructure investments, as inter-regional transport cooperation programs require an overarching vision beyond the national level, usually founded on agreed political and economic ideals shared in the region.

With the exception of Africa, where water and rail are also important components of the regional transport programme in addition to roads, initiatives have largely overlooked other sectors in favour of roads, leaving the private sector to create its own economic efficiencies in these sectors (including air transport), with the public sector playing largely a regulatory role. In the rail sector,

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<sup>7</sup> defined as an international, and sometimes intermodal, linear land link.

many pan-continental rail initiatives failed to take-off<sup>8</sup> and rail projects are no longer a major feature on MDBs' agendas. Furthermore, many railways are the legacy of networks originally established in colonial times and may not necessarily reflect the trading aspirations of today's post-colonial, independent governments seeking to reshape their roles in a globalised economy.

Each continent can boast its mega-transport project; PIDA in Africa, CAREC corridors in Central Asia and the GMS in south-east Asia and Central America the Panama Canal. Whilst the ambitious project spanning the African continent is not advanced, the Greater Mekong Subregion (GMS) corridor programme in Asia has already brought about an explosion in the region's transport networks in the past ten years.

Any large infrastructure project leaves its imprint, creating a polarity of opinion in terms of who are the winners and who are the losers. Corridors and large-scale road developments in general, are particularly susceptible to such polarisation due to the irreversibility of impacts on the environment and on communities' traditional lifestyles. Whilst the development of network services, as well as feeder roads, forms a key to broadening the positive impacts generated by a pan-continental road project, it is the *negative* spillovers that are the most irreversible and the least anticipated, or, controlled. The so-called 'unintended side-effects' (in planners' jargon) of such large-scale road projects tend to be under-reported and under-stated. The occurrence of such negative spillovers however is pernicious, and from what we have learnt from experience, should, to a large extent, be predictable, with the benefit of hindsight. Many negative spillover effects, in the context of road corridor projects, fall unequally on men and women, particularly in social and health impacts.

Roads themselves do not cause HIV/AIDS, but it is not without cause that the transport corridors sweeping across swathes of land in south-east Asia, as well as in Africa, have been dubbed 'HIV Highways' referred to earlier. Prior to the intrusion of highways in less developed parts of the world, village communities, particularly in mountainous terrains, lived in relative isolation, whilst visited by persistent material deprivation, they were spared exposure to many of the ills that modern 'civilization' have created, well beyond the realm of those imagined by early anthropologists.

Whilst road planners are quick to point out the future improvements in access to health and educational facilities to local communities, stakeholders are often insufficiently prepared for the intrusion that a new highway brings to their village and the destabilisation of their social fabric and traditional interactions.

In transport infrastructure development, a vicious circle of dynamics has been established and clearly observed from Africa to Asia in the development of the transport 'corridors'. First, after inspections by the planners and cursory community consultations have taken place, will come the construction workers for building the highway. Whilst some local community members may benefit through short-term unskilled labour hire for small works, typically an all-male work team

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<sup>8</sup> For example the Trans Asian Rail project now has a greatly reduced vision from its origins where Singapore was to be linked to Istanbul by rail

will be brought in from 'outside' for the duration of the project and housed in make-shift accommodation in construction camps in proximity to existing villages. This is the first threat to a community's stability. Whilst a construction team from outside may share a common national language with the local community; they invariably bring different sets of cultural values with them and, through their behaviour, impose those values on the members of the local community. Here it is the women who are impacted first and most negatively as they are enticed to interact with the outsiders.

Respect for traditional values is even less likely when principle construction team members are brought in, not just from 'outside' the area, but even from a different country, as is often the case, for example from the country of the civil engineering company contracted for the works.<sup>9</sup> Such scenarios see a new set of values imposed, incompatible with those of the host community. Respect for and comprehension of local values is further impeded by limited communication where the language of the works team is unfamiliar.<sup>10</sup>

Such all-male work teams engaged for civil works projects might well be self-sufficient for their accommodation needs, however, lacking any social structure or form of entertainment, they will typically seek substitutes for both in the nearest village or the nearest provincial town. Thus relationships are formed, bars and prostitution, if not previously present, take a foothold and the vicious cycle starts. At the heart of this cycle is the young woman. The young woman, initially attracted by the opportunity of entering the cash economy and gaining a small degree of financial independence previously unknown to her, soon becomes swallowed up in the commercial exchange and a stranger to her traditional village life.

Following road completion, the contractors will move out, and HIV/AIDS will move on to claim its next victims. Some commercial establishments thriving in the construction phase may shut down briefly, leaving in its wake some victims already infected; however, before long, the bars and roadside brothels will reappear when the road starts to serve an increase in freight traffic and demand is revived thanks to a surge in the number of truck drivers passing through. This is the second phase of the highway construction scenario.

Research (Brenton et al 2011, Lyttleton 2009) has clearly established that towns near to border crossing points are particularly vulnerable in this post-construction second phase, as drivers are frequently forced to wait overnight at a border crossing point in order to complete formalities. Rules that would normally govern the morality of their behaviour within their community are easily discarded in such anonymous 'frontier' settings. Here, young women, not previously involved in prostitution, are drawn in from outside, attracted by income-earning opportunities. Young women from the communities along the road in the original construction may have been

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<sup>9</sup> in Africa, it is not a rarity to encounter a Chinese work team dispatched by the Chinese civil works contractor, engaging local unskilled labour as they progress along the route; or in Laos or Cambodia to find construction teams from neighbouring Vietnam from the contracted civil works company

<sup>10</sup> the Vietnamese language bears no resemblance to Lao the main language of Laos, for example, without even taking into account the difficulties of encountering further minority language groups of Laos

initiated into commercial sex during at this time and may now, at this point in this second phase, be attracted to move to the nearby frontier towns to pursue opportunities in the cash economy.

As the interaction of truck drivers with young women of the community through commercial sex causes a progressive rise in infection rates of HIV/AIDS and other STDs, a rapid spread of disease beyond national borders is guaranteed, underscored by increased mobility. Add to this dynamic the surge in commercial travellers along these routes and a gradual increase in the numbers of tourists (as is the case in south-east Asia), the spread of the disease becomes fast, untraceable and unstoppable. This is a pattern that has repeated itself over and over again from Africa to Asia and has been well documented and yet, fails to be prevented.

In the third phase, negative spillovers in the form of human trafficking and sex tourism add further elements to the vicious cycle. Again, here the victims are predominantly, although not exclusively, young women. Studies (UNIAP 2010, 2009) have shown that human trafficking is greatly facilitated by improvements in transport networks and this has certainly been the case in south-east Asia with the expansion of the GMS transport corridors into landlocked regions<sup>11</sup>.

The victims of human trafficking are almost always young women, sometimes barely out of childhood. In previously remote communities in mountainous regions, the isolation of village life meant that a young woman often had not travelled further than the next town and hence had had little exposure to the outside world or contact with outsiders, leaving her unprepared and vulnerable to exploitation. Moreover, having few opportunities for realizing a future beyond hardship, such young women are easily lured with promises of cash income from bar work or factory work, or even more so by promises of marriage (a problem exacerbated by the 'missing women' phenomena of China), not fully realizing the implications for her future.

Interviews with victims of human trafficking reveal that frequently the young woman trafficked across international boundaries or, from a rural to urban area for sex work, is *not* smuggled under *physical* coercion, but often may cooperate with the person involved in her dislocation, such as a male intermediary from their own community (UNIAP *ibid*). Rather than physical coercion, such young women are more likely to be subjected to *emotional* coercion from their families, or from the community, to pursue 'economic opportunities' in order to support their families. Or, through their naivety, are lured by promises of marriage.

A further aspect of this third phase of a major road expansion project is that of the emergence of sex-tourism, not just by itinerant construction workers or truck drivers, but through the emergence of tourism targeted at commercial sex hubs in cities enjoying improved transport linkages or in border towns. It clearly does not take the development of highways to create a demand for commercial sex establishments in major cities, however the towns on a new highway opening up new regions, or towns sitting on the border, typically flourish once the fast highways connect regions and countries with each other. International tourists may arrive at international airports, but the highways facilitate convenient road travel to provincial regions. The type of

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<sup>11</sup> for example in the border regions of Thailand, Myanmar, Laos, Vietnam and Yunnan province of China

tourism that the highway expansion encourages, if not directly promoting, is that of 'entertainment tourism'. Here, casinos play a large role, generating demand, alongside gambling, for commercial sex. Such linkages are well evident in regions where, in one country gambling might be prohibited, but in the neighbouring country it is allowed and legal. In such juxtaposition, towns nearest to the border inevitably and intentionally attract 'leisure tourists'.<sup>12</sup>

Previously inaccessible, sleepy border towns become magnets overnight, not just for the money-spinning tourists, but also for young women (and men) from well beyond the surrounding villages to work in the casino and similar establishments. The literate ones may be lucky to obtain formal employment, however, the less educated and less experienced - the majority - typically end up finding some form of employment in the unregulated establishments surrounding the casinos or registered hotels (Lyttleton 2009). Young women from minority ethnic communities in mountainous region villages, as described earlier, are particularly vulnerable, drawn by the magnet of the 'glamour' of casino employment and wages, however, ultimately are unable to return home to their community, once they are locked into working in bars as commercial sex workers. The unlucky ones among them become victims of human trafficking or HIV/AIDS.

Such causality and effect, as has been described above, is clearly not a scenario unique to Asia. The dynamics of human interactions responding to supply and demand in any part of the world clearly create an environment where young women are perceived as 'commercial property' up for negotiation and sale as any other merchandise. Moreover, in the case of human trafficking, the reportedly low chances of the perpetrator 'getting caught' or even less, of being convicted (UNAIDS, Cambodia, SIREN 2008) presents no deterrent to viewing this commerce as trade in any other form of contraband.

Good Practices for targeting communities to reduce the risk for young women from human trafficking, as well as increased vigilance on the part of border officials, are just some of the issues addressed in toolkits developed in recent years from organisations such as the World Bank (2010) and the Asian Development Bank (2013). These toolkits serve as guides to measures for mitigating negative externalities, as well as providing a basis for developing gender-sensitive transport models.

### **Toolkits**

Contributing to a gradual move towards greater awareness and gender responsive components in transport, a number of development agencies and networks have developed guidelines or toolkits for practitioners and planners to apply to their transport interventions. Currently, the Asian Development Bank (ADB) and the World Bank provide the most up-to-date toolkits and guidelines as solid references for their own staff, consultants and executing agencies for mainstreaming gender specifically in the transport sector.

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<sup>12</sup> This is the case in Cambodia and in Laos where gambling is permitted, but prohibited in neighbouring countries of Thailand and China

Following on from its Gender and Transport Resource Guide (World Bank 2006), the World Bank more recently produced further guidelines for planning and implementing gender-responsive approaches in urban, inter-urban and transit transport contexts (World Bank 2010). The guidelines outline participatory methods at the three stages of design and feasibility, project appraisal and then at the implementation stage, whereby, space is allowed for public concerns to be incorporated in the first two phases and in the final phase through monitoring and evaluation. In exploring female user concerns, the World Bank provides guidelines on how appropriate surveys should be designed and conducted. It also addresses the challenge of integrating gender-balanced employment creation in road construction and markets.

With regard to long-term employment opportunities for women, the approach the ADB's toolkit takes is to promote the creation of market spaces facilitated by improved transport links (ADB 2013). Balanced against creating opportunities for gender mainstreaming in transport interventions, the ADB's toolkit also flags flashpoints where social risks are heightened through transport projects and provides guidance for mitigation of these risks. Apart from its own in-house specialists, the toolkit is also aimed at government partner executing agencies, providing guidelines on gender targets to be incorporated in planning and design, as well as indicators to monitor the success of gender mainstreaming in transport.

The ADB and World Bank were not however the forerunners in developing gender and transport toolkits. Already as early as 1997 the Swedish International Development Cooperation Agency, SIDA had developed a handbook for gender mainstreaming in transport (cited in Kusakabe 2012) and the International Labour Organization (ILO) through its ASIST program (ILO 2000 and 2011) developed planning processes for local governments in recipient countries. Under its Integrated Rural Transport Planning (IRTP) program (and later the IRAP) the ILO developed manuals where hands-on training formed an integral part of the transfer of expertise to local government units with responsibility for transport planning as a result of a growing trend of decentralization of power to local governments. Whilst the ASIST program under the IRTP evolved and expanded in various stages until the start of the new century, it can be observed that gender mainstreaming did not become a leading theme of the programme.

As was the case with SIDA, DFID also took the step of introducing gender elements to its transport projects as early as in the 1990's. Although a comprehensive toolkit as such was not developed, in Africa particularly, DFID was active in identifying gender-relevant concerns mainly through conducting in-country consultative transport workshops for transport planners and stakeholders. With the launch in 2004 of the global Transport Knowledge Partnership (gTKP), DFID adopted a new approach to knowledge sharing directed at transport planners and professionals in Africa and Asia, as well as in Eastern Europe. In a fund of several million pounds it contracted the management of this programme to the International Road Federation (IRF) in Geneva. The ongoing programme covers various key aspects of road transport, such as infrastructure, as well as addressing specific topics of interest such as road safety and gender, with knowledge imparted by specialists at events, as well as now through online platforms. Gender is now firmly embedded in the vision of the gTKP.

Today, with the advent of the Internet, online platforms and networks of transport specialists (see links in references) have taken up many of the gender issues relevant to transport planning, as demonstrated by the number of issues addressed by gTKP established by DFID, which includes gender and transport. *Gatnet* (Gender, Transport and Equity Community) is a platform and network set up by World Bank (dg groups), with support from the IFRTD, dedicated to the subject of gender and transport. Whilst the Internet as a medium provides fertile forums for debate and can draw on inputs from diverse sources, it is not clear that this form will be as effective in reaching transport planners in partner countries as in the early days of hands-on training sessions.

Whilst a number of non-government organisations have also been active in seeking local transport solutions for the poor, such organisations generally lack the back-up resources required to develop and maintain comprehensive toolkits that incorporate technical and specialist knowledge, not only on gender mainstreaming, but also on inputs ranging from urban planners to civil works engineers and transport specialists.

In conclusion, comprehensive toolkits provide a valuable basis in the form of guidelines for planning and milestones for implementation and monitoring. They can also be adapted for training purposes. However, the usefulness of these toolkits can only be realized if they are regularly updated reflecting lessons learnt from empirical evidence; and they need to be backed up ideally by direct training in capacity building exercises. Moreover, formal training institutions, such as engineering schools primarily responsible for generating future transport specialists, currently include neither gender nor development as core subjects. Future national and international transport planners will remain insensitive to gender issues if this education model continues to be the standard.

Finally, an area for the future would be the enhancement of such toolkits through linking transport databases containing sex-disaggregated data with other related issues pertinent to the transport sector such as HIV incidence, human trafficking, environmental degradation, air quality and road safety to name but a few.

## **Conclusions**

This paper has demonstrated that a woman's mobility is determined by the transport infrastructure and services available, as well as her own given physical abilities and key socio-economic factors. Moreover, and most importantly, it was observed that constraints to a woman's mobility may be social constructs, dictated by cultural and behavioural norms. We have seen that in aiming for gender equity of outcomes in transport development, planners must take all of these factors into account. Whilst it is not the role of planning authorities to challenge cultural norms, it is imperative that these givens be taken into account in designing context and needs-appropriate transport interventions. It has been demonstrated that women's transport needs frequently differ from those of men due to their duality of roles in the household and in the community leading to time poverty.

Whilst the use of stakeholder surveys, based on sex-disaggregated data, to identify transport needs in a community is to be encouraged, this paper has also cautioned that women's actual travel patterns identified may not be a mirror of her potential or unrealized travel needs. In



conclusion, the specific transport needs of women, actual and latent, require targeted interventions, or targeted components of interventions, in order for these needs to be met and for gender equity of outcomes to be approached. Recognition of transport needs and assessment of potential impacts of transport interventions must be carried out as early as possible in the planning stages, in order to avoid adding to a woman's burden.

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## Appendix - Case Study

### GMS – The Greater Mekong Subregion – Transport Corridor Development Project

The GMS grouping together representing a population of 330 million people, comprised of the countries of Thailand, Myanmar, Vietnam, Laos, Cambodia and two provinces of China, namely Yunnan and Guangxi Autonomous Region, is an initiative launched twenty years ago by the countries' political leaders to enhance cooperation in a number of key areas of common interest; enhanced land connectivity through strengthened regional transport being a key one. The common thread, as the name implies, is the meandering Mekong River, traversing or forming borders among the GMS countries, however it is land rather than river transport that has been at the core of the vision of enhanced transport programme.

The region is characterized by ethnic, economic and topographical diversity which has presented challenges in achieving equal distribution of economic benefits and mitigating the impact of negative outcomes among the region's inhabitants.

During the first two decades of this initiative, the Asian Development Bank has been the principle driver of large-scale infrastructure development in the member countries and has implemented some fifty six investment projects across the region. The development of the so-called 'transport corridors' has taken a large share of this investment. Going from the three in the initial vision, the sub-region is now traversed and connected with *nine* major corridors and connected to numerous sub-corridors.

Whilst it is difficult to reduce a program of such magnitude to a simplistic evaluation of impacts and conclusions, two particular components are noteworthy to highlight in terms of gender impacts; namely, economic impact and secondly impacts specifically on women and girls manifested through elevated HIV/AIDS infection rates, prostitution and human trafficking.

The first of these corridors to be completed already by 2005, the *East-West Corridor (EWEC)* spanning some 1500 kilometres from Dong Ha in the east on the coast of Vietnam westwards to the Thai-Burmese border (with plans for westward extension) has been the object of a number of monitoring and evaluation studies. However, with regard to a demonstrated positive economic impact on women due to the improved road, the evidence is unconvincing. It should be noted that the development of EWEC and the corridors that followed was driven by economic goals, such as promoting regional trade and investment, rather than goals of poverty reduction.

The impact on poverty reduction has *not* been confirmed and of more concern, the limited socio-economic evaluation of affected communities carried out formally has critically lacked gender analysis or gender-disaggregated data, having been undertaken at the household level only, where at all. Results of independent *micro*-studies based on sex-disaggregated data (Southiseng and Walsh 2012) reveal that whilst household income overall of both male and female traders and vendors declined due to increased competition from outside (Chinese and Thai goods) in some respects women fared better than men. This particular study was based on a very small sample and was context specific where a bridge was completed only in 2007 linking EWEC across the Lao-Thai border - these immediate impacts may transform over time. The phenomena of 'outsiders' taking over what were previously local-monopolistic trading opportunities was also observed on the eastern EWEC (Vietnamese-Lao) border, with official evaluation studies concluding that the majority of the local community was not able to take full advantage of the trade opportunities that exist in the border community (ADB 2008 p.67 para 10).

With regard to ethnic communities living along *EWEC* on the Vietnamese side, official evaluations (carried out by both the donor agency and the national government) identified positive impacts on the living standard of minority ethnics (reported by the Ministry of Transport of the Government of Vietnam, cited in ADB 2008 *ibid*, p.24 para 97). Whilst stakeholders interviewed agreed that "it is now easier to cross the border as compared to 3 years back" (*ibid*, p.24) how this actually translates into improved livelihoods is questionable since only one third of the ethnic community report actually crossing the border regularly. It can be deduced from what

we know of women's mobility constraints in ethnic communities in this region (Nguyen et al. 2012) that it is unlikely that it is the women who form the primary household members to engage in such journeys or trading activities.

Economic outcomes from EWEC are therefore ambivalent and this is also the case from observations of the various impacts from the *North-South Corridor* (NSC) linking southern China with Thailand (with extensions ongoing to connect Kunming in the north with Bangkok in the south). The corridor cuts a swathe through north-west Laos in what was previously an isolated mountainous region populated largely by ethnic minorities (90% of the population were identified as ethnic along the 246 km stretch within Laos that was previously a minor winding gravel road). Houaxay province, where the NSC crosses into Laos from Thailand going north, is home to ten major ethnic / languages groups and not surprisingly *economic* impacts from the NSC have varied dependent on ethnicity, education and location. Micro-surveys with stakeholders have shown however that the highway is perceived as benefiting men more than women (Thammanosouth et al, 2012).

Negative *social and health* impacts on women from these ethnic minorities who had had little contact with people from outside the region prior to the corridor construction have been devastating and clearly identifiable. Elevated HIV/AIDS infection rates, prostitution and human trafficking have impacted principally on women from the ethnic minorities. Laos until recently had a relatively low HIV/AIDS level for the region, but new recorded cases of HIV infection have jumped significantly from 162 new cases a year in 2000 to 670 a year by 2011 (UNAIDS 2011). As commercial sex work in Laos is officially still illegal, statistics of infection among female sex workers has only been monitored sporadically, nonetheless there has been a rapid increase in incidence among the 20-24 year old age group since 2009 (ibid) and the highest prevalence recorded was in the north of the country. The NSC (completed in 2008) cannot be held entirely responsible for this as the north of the country also features a number of tourist attractions towns reached also by plane, but the corridor has undeniably been a catalyser for this explosion already in the construction phase.

At the crossroads of the NSC inside Laos on its border with China, the town of Boten in just three years following completion of construction saw a fourfold increase in the number of people (nearly all Chinese nationals) entering Laos. The target was a Chinese-constructed casino which quickly became magnet for young Lao people from immediate and more distant different parts of the country for employment (with the hotel / casino complex requiring a staff of around 900 people). Prostitution, then AIDS, exploded.<sup>13</sup> As a background, already in the construction phase of the highway, a mushrooming of micro enterprises in the form of roadside stalls could be observed (Lyttleton 2009) which then responded to demands from truck drivers. The entrepreneurs of the roadside bars along this route soon discovered that they made the most turnover from selling beer if sold by young girls recruited from surrounding villages. Then beer with transactional sex proved even more profitable (ibid). Thus started the transition from village girls to bar workers to casino employees to commercial sex workers and to HIV/AIDS victims. Whilst reliable figures on human trafficking are not available, indications show (UNIAP 2008) that this route has facilitated the perpetrators of human trafficking, into China and Thailand, principally for commercial sex work, but also in the case of the former for the purposes of forced marriage.

HIV/AIDS prevention programs are now reaching 55% of the population in Laos (UNAIDS 2011) but this reflects levels in the capital or major towns. In provincial areas the programmes have low outreach levels resulting in low levels of awareness levels among female sex workers and low bargaining power in their transactions. Low status in social hierarchies, ethnicity and age, combined with low education leaves such young women particularly vulnerable in this region.

This case study, drawing on the limited evaluation work carried out, has shown that inappropriate transport infrastructure projects, have dangerous *social and health* impacts on women and that *economic* impacts on women through improved transport networks are at best ambivalent.

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<sup>13</sup> Due to rampant crime the casino has since been closed down