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Gendered Bargains of Daily Mobility
Citing cases from both Urban and Rural settings

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Abstract

‘Access’ is primarily a gendered phenomenon in the developing countries, pertaining to all the subsets of access, i.e. access to information, rights, land, money, education, skills, political participation and voice. It thus becomes incumbent upon the policy makers and development practitioners to shred down the details of these ‘constrained accesses’ to truly empower women. This study highlights the ways in which constrained (daily) mobility i.e. the element of physical access to different facilities bears upon the issue of women empowerment. Rather than being a singular function of transport provision, the daily mobility of women in developing countries is guided by a set of complex hierarchies. This study contends that the following elements, though not exhaustive in nature, are highly influential in gendering of mobility in the present times: prevalent social/cultural norms, transport infrastructure, physical/area planning, effects of globalization, governance (women’s presence and participation in informal sector and micro-credit schemes), pre and post disaster/conflict rehabilitation process and access to information and communication technologies (ICTs). Although the study is primarily a review of recent academic and policy-oriented literature, the core idea has been to salvage the theme of ‘women and transport’ from the narrow confines of transport-related understanding and highlight that ‘mobility’ is a multi-faceted phenomenon and bears significant impact on the overarching aim of women empowerment.

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LINKS
Part I – Gendered Daily Mobility

This report aims to elaborate the theme of ‘women and transport’. It does so by gleaning the nexus between ‘gender and daily mobility’, and the ways in which this nexus coalesces to further embellish the existing power-asymmetries in the production and control of time, spaces, roles, individual agencies and structural barriers in the developing countries.

1. Introduction

Gender based variations of daily mobility is an established phenomenon in both the developed and developing parts of the world. However, the depth of understanding this phenomenon varies significantly, given that majority of the research studies have focused on the developed world and on travel behaviour of women, without giving due attention to the causes and consequences of their travel behaviour. A thorough establishment of daily mobility, or even travel behaviour, segregated along gender lines in developing countries is largely amiss (Peters 2001). This study aims to bridge that gap at the theoretical and policy level by providing a focused view on the developing countries.

A recap of the development interventions undertaken in the developing countries to impact gender equality, women’s empowerment and poverty reduction highlight their limited success. Despite extensive discourse and resources that have focused on women as key actors for development, their situation has not changed considerably (Cunha, 2006). A little unearthing reveals that regardless of using gender as a label, most policies and programmes failed to truly incorporate gendered issues primarily due to a lack of understanding of the contextual realities and a dilution in the process of transforming goals to implementable projects. Very often this has resulted in running the development programmes as patch-in solutions rather than a cohesive, coordinated attack at the problem. This precisely is also the case in transport sector. The sector is persuasive in its technical details but equally ignorant of the nexus between constrained mobility and missed opportunities; context based planning versus copying standards from the west; and the linkage of women, daily mobility and empowerment.

Before embarking on the issue of the gendered daily mobility in developing societies, it is equally important to highlight another big divide, that of urban-rural dichotomy. The context at these two levels is significantly different and therefore any generalizations would be prone to great fallacy. Apart from the social, economic, political, production-related and other tangible elements of this divide, the issue of culture vis-à-vis positioning of women in the psyche of accessing ‘outer space’, ‘kinds of activities’ and legitimization of this access makes a deep dent on the urban-rural divide. The necessity for a stratified understanding is further augmented by the fact that more than half of world’s population is living in urban areas today, according to the State of World Population 2007 report from the United Nations. The urban share is likely to rise from 75 percent to 81 percent in more developed countries between 2007 and 2030, and from 44 percent to 56 percent in less developed countries. Forecasts indicate that urbanization will occur most rapidly in Africa and Asia doubling its urban share between 2000 and 2030. Travel-behaviour analyses further highlight that modal splits, time-usage, willingness-to-pay, access to opportunities and (untapped) potential for movement are more diverse in urban areas, and vary greatly across the gender faults (Morikawa 2003). Apart from these factors, ‘globalization’ is essentially an urban phenomenon. And globalization for developing world is, in a nutshell, about accessing opportunities which is evident in the huge rural-urban migrations taking place.
A vital question emerging out of these trends is ‘how are the forces of globalization, urbanization and gendered mobility intersecting?’ Further, due to the rise and intensity of disaster and conflict situations and the precarious position of women in these situations, it is important that mobility needs assessment are inserted as vital elements of post disaster/conflict rehabilitation processes.

Given the focus of past studies on the rural aspects of gendered mobility (Ahmed 2000; Ahmed et al. 2001; Airey et al. 1993; Bamberger et al. 1998; Bamberger et al. 1999; Barwell et al. 1993; Barwell 1996; Barwell et al. 1989; Burjorjee, et al. 1997; Fernando 1997; Heyen-Perschon 2005; Howe et al. 1993; IC NET Ltd. 2004; IFRTD 1999; Kudat 1990; Levy and Voyadzis 1996; Malmberg-Calvo 1994a,b; Murphy 1997; Njoh 1999; NORAD 1990; Overton 1994, 1996; Peters D. 2001; Potgieter 2006; Rankin 1999; Riverson et al. 2006; Scheinman et al. 1989; Stock 1996; World Bank, 1996b, 2002a, 2006), this study aims to supplement the knowledge by highlighting the associated urban realities in the developing countries (Both rural and urban scenario is presented but segregated at these two levels, generalizations are avoided due to the stark variations in the respective contexts). The focus is to cull out the aspects which can be directly addressed through policies. Though an unequivocal understanding will be difficult on the subject given the pluralism of societies, cultures, economic positions and gender-related disadvantages, a novel beginning can be made by outlining the specifics of the mobility-related themes which can be directly addressed through policies.

In short, this paper reviews research studies drawing attention to insights that can inform strategies for shaping transport/urban planning policies in a way that enables gender equity in daily mobility profiles. This is followed by an effort to outline the parameters which affect gendered profiles of daily mobility. Despite the wide variations in types of economies, institutional mechanisms, and cultural forces that reinforce gender inequalities, there are still some common approaches available for developing countries. In order to mark this beginning, the study will be divided in the following parts:

**Part II – Understanding the issues which impact gendered daily mobility in the developing countries:**

The aim here is to highlight the issues which are prima facie not related to, but bear significant repercussions for gendered movements. This part will explore how daily mobility is either reinforcing gender norms in the frame of representation versus reality and of tradition versus modernity or being produced as an effect of these dialectics. To this effect, we can group institutions, laws, social practices, cultural representations, religious constraints coupled with changing contours of development politics, education, multiculturalism and (as)symmetries of power and opportunities. Other equally vital trends include globalization; advent of Information and Communication Technologies.

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**Figure 1: Percentage of Urban Population 2007,**

[Graph showing percentage of urban population by 2007, 2015, and 2030 for different regions: World, More developed countries, Less developed countries.]

(ICTs); disaster and conflict situations and issues related to governance.

Part III – Analyzing the trends in developing countries:

This section will be informed by the reviewing studies at both theoretical and policy level in the developing countries. Majority of the available studies, to the best of the author’s knowledge, will be referred to in this section through both examples/cases and an inclusive discussion. The major restriction in this part is the inability to access unpublished reports from the different countries.

Part IV – Indicating the possible policy directions:

An indicative list of the possible directions, to combat the issue of constrained mobility faced by women of the developing countries, is suggested in this section. It draws on the discussions presented in various parts of this study and generously borrows from other research and policy documents. Some of the recurrent suggestions and yet eluding the practice of urban-transport planning have been highlighted here. The themes raised here comprises of: building gender sensitive methods of collecting data and analyzing different growth patterns; public transport structure and supply including the modes of walking, non-motorized modes and intermediate means of transport (IMTs); informing better urban-design/planning with a focus on creating safer social-spaces; giving gender a parametric weight in efficiency calculations (cost-benefit analyses) and transport modeling; making access to market, education, training-facilities an essential part of micro-credit schemes; analyzing the ways in mobile phones can be utilized to dilute the barriers created by constrained physical mobility; and mainstreaming mobility issues in post disaster/conflict rehabilitation.

2. The necessity for focusing on Daily Mobility and not just Revealed Travel Behaviour

Discourses on the concept of mobility have traditionally described it as physical movement (operating in the domains of geography, urban planning and transport) on one hand and a change in social status on the other (a sociological construct). Mayers (2005) contends that ‘from the 80’s, this barrier started to melt away with numerous attempts from both sides to integrate approaches and to mutually get involved into scientific discourse. This involved addressing space, place and locality as a cultural and social category (see Gregory and Urry, 1985; Featherstone, 1990; Lash and Urry, 1994; Urry, 2000; Latour, 1999, Bonß and Kesselring, 2001 and 2004. He further sketches the cohesive nature of social and spatial mobility, contending that a change in geographical/spatial mobility patterns affects the individual space of options and action, thus producing varying terrains of social mobility. On a similar note, Langan (2001) describes the theme of mobility as a desired end, an end that is not only a function of personal achievement but a product of several constituent and affecting parameters.

‘Rousseau long ago declared in The Social Contract that the cripple who wants to run and the able-bodied man who doesn’t will both remain where they are. But by focusing on internal resources and intentions, Rousseau forgot to mention all those whose mobility is affected by external constraints. To consider those constraints is to notice how the built environment – social practices and material infrastructures – can create mobility-disabilities that diminish the difference between the ‘cripple’ and the ambulatory person who may well wish to move.’ (Langan 2001: 459)
Concurring with the importance of context in production of mobility, Cresswell (2001:20) espouses mobility as a movement that is socially produced, is variable across space and time, and has visible effects on people, places, and things, and the relationships between them. Mobility, unlike movement, is therefore a contextualized phenomenon. Jones (1987:34) puts forth the three components of individual action, potential and freedom of action to express mobility. In short, they are interpreted as:

- **Individual action**: in the form of observed movement or travel;
- **Potential action**: in terms of journeys that people would like to make, but are unable to because of limitations in the transport system and/or their own commitments restricting them in time and space, or financial restraints; and
- **Freedom of action**: which may never manifest in action, but gives the individual options from which to select and the knowledge that he/she could do something.

With relation to gendered movement, it is the individual action which has been studied in detail but much is left to be studied in the realm of potential action and freedom of action. Knie (1997) introduces a related understanding of the concept, and emphasizes that mobility is about the construction of possibilities for movement, rather than actual traffic. Sørensen (1999) notes that the analysis of mobility is basically about the performance, real as well as symbolic, of the provision of physical movement in society. In the following points Kaufmann (2002: 37) postulates the three determining factors shaping the mobility levels and patterns of the individual:

- **Access** to mobility-scapes (representing transport and communication infrastructure as potential opportunities) including both the availability and the usability (such as the price level, schedule, etc.) of these.
- **Competence** referring to the ‘skills and abilities’ necessary to use the accessible mobility scapes.
- ** Appropriation**, as a third factor, involving all behavioural components, such as the need and willingness to make use of the scapes, to become mobile.

Kaufmann also espouses the idea of mobility as a restricted good. These opportunities emerge as a function of market relations; for example, being related to and being limited by geographical locations (the vicinity of transportation scapes and access points such as motorways, hub airports, and railways). Nijkamp et al. (1990: 22-24) argue that an analysis of mobility and the underlying causes for its demand should be undertaken on a broad scale in the context of the following four themes:

- **Socio-economic context** of analysis, which focuses attention on the influences of exogenous socioeconomic conditions upon spatial patterns of interaction;
- **Technological context** of analysis, which deals with the implications of changes in the technological environment on the spatial behaviour of individuals or groups in our society;
- **Behavioural analysis**, which focuses attention on motives, constraints and uncertainties facing individuals, households

### Part II – Understanding the issues which impact gendered daily mobility in the developing countries

### Part III – Analyzing the trends in developing countries

### Part IV – Indicating the possible policy directions
and groups when taking decisions regarding transport, communication and mobility; and

- **Policy analysis**, which concerns the evaluation of actions, usually the application of policy instruments or measures of decision making agencies regarding transport.

Sorensen (1999) summarizes these thoughts under the term ‘mobility regimes’ to highlight the historical and cultural basis of mobility. A mobility regime results from a number of factors, some of which consist of the physical shaping of cities and landscapes, the available transport systems, the relationship between mobility and economic, social and cultural activities and the meaning attributed to mobility. Mayer (2005) reinstates the questions of interplay of social and spatial mobility with regard to deprivation (in spatial mobility):

‘Those who for some reason – should this be mental, social, geographical or economic – do not have access to all kinds of latest-standard mobilities will only have limited choice of options and therefore a disadvantageous position both on consumer and labour markets.’ (Mayer 2005)

These reflections from theoretical insights suggest that mobility cannot be analyzed in a purely instrumental, objectivist mode and that it remains a subjective dimension differing with the distribution pattern of the constituent resources. A differential accessibility to these resources maps out different mobility regimes distinguishable at the levels of people, places and processes. Mobility, thus, emerges as an enabling characteristic, a sought after rather than given ‘good/commodity’. The understanding of mobility has thus crossed the narrow confines of speed and distance and entered the wider realm of discussion on identity formation, freedom and rights. In an effort to recapitulate this evolvement, Sager (2008) notes:

‘The link between mobility, freedom, and rights is long recognized and well established. Evidence for this is found, for instance, in Article 13 of the United Nations Universal Declaration of Human Rights from 1948. Its first paragraph declares that ‘everyone has the right to freedom of movement and residence within the borders of each state’. The idea of mobility as a right is found in important policy documents, like the policy guidelines of the EU’s White Paper on European transport policy: ‘Personal mobility, which increased from 17 km a day in 1970 to 35 km in 1998, is now more or less seen as an acquired right’ (European Commission 2001:11). The connection between freedom and mobility is easily seen, as high mobility implies a high level of freedom of choice to travel, which in turn is a prerequisite for self-decision on what activities to participate in.’ (Houseman 1979)

Thus, mobility, as a concept has permeated the areas of politics, economics, history, social setup, popular culture, access, travel behaviour and movement in understanding the creation of identities, empowerment, conversions into social norms and the circulation of these through time and space. It brings forth the asymmetries of power and opportunities which might elude a pure transport focus, and therefore this report builds on the theme of ‘mobility’ of which the dimension of ‘transport’ is a subset. The following sub-sections sketch the social and gendered contents of mobility for highlighting its un-negotiable position while disusing "gender and empowerment".

### 2.1 The social content of mobility

It is widely assumed that ‘the convergent effects of globalization and cross-border organizational learning have rapidly outpaced the divergent effects of cultures, national institutions and social systems’ (Mueller 1994). Products of unrestricted mobility and the markers of postmodern times, time-
space compression and social fluidification have come to be accepted as given characteristics of the present times. Yet both these concepts remain grossly under-examined in terms of their social distribution. Kaufmann, in an analysis of social fluidification, notes that ‘the crux of the debate over social fluidification is whether or not the compression of time-space goes hand in hand with a decrease in certain social constraints that discourage action. It is thus a question of analyzing who has access to which relevant technology and the degree of freedom afforded by the usage of this technology’ (Kaufmann 2002:14). The very idea of fluidification supposes that social and territorial structures take the backseat to a context that is capable of accommodating the most diverse aspirations (ibid: 87). But is that the truth? Massey, in a critique of Harvey’s all-encompassing notion of time-space compression, remarked that ‘different social groups have distinct relationships to this anyway-differentiated mobility; some are more in charge of it than others; some initiate flows and movement, others don’t; some are more on the receiving end of it than others; some are effectively imprisoned by it’ (Massey 1993:61). Cresswell succinctly captures this point of view:

‘The question of how mobilities get produced – both materially and in terms of ‘ideas’ of mobility – means asking: who moves? How do they move? How do particular forms of mobility become meaningful? What other movements are enabled or constrained in the process? Who benefits from this movement? Questions such as these should get us beyond either an ignorance of mobility on the one hand or sweeping generalizations on the other.’ (Cresswell 2001: 25)

In the milieu of dissecting mobility, past research has demonstrated that access to mobility entails processes which are essentially highly differentiated along the lines of structural differences in society, related to gender, class, race, caste, and so on. A similar line of research under the aegis of the Social Exclusion Unit in UK is being promoted under the theme of ‘transport and social exclusion’. Three interpretations of ‘social exclusion’ are as follows (Lyons 2003):

1. ‘Experiencing public service failure’ – this recognizes that while it is the individual or community that suffers the consequences of social exclusion, it is the system or societal structure that has given rise to exclusion.

2. ‘The discrepancy between what you can do and what you want to do’ – this is a helpful interpretation that reflects the perspective of the individual concerned and suggests the beginnings of a means to measure in absolute and relative terms the extent of exclusion experienced.

3. ‘A spectrum of deprivation’ – this interpretation aims to underscore that social exclusion is not something that has a binary state (i.e. an individual A is excluded or included) but rather that everyone in society can be found on a multi-dimensional scale of exclusion or deprivation. Social policy and benchmarking then determine the point on that scale beyond which the level of deprivation is considered unacceptable.

Grieco (2003) notes that despite promises made, transport and social exclusion research remains relatively weak in its appreciation of processes and equally weak in its determination of what should be measured. Nonetheless, certain key points can be gleaned from this research agenda to enlarge the discussion on differential mobility, with reference to issues such as categorization of excluded groups, public transport and exclusion, the time-space interplay and its differential structure, and place/social-category/person based measures. The theme of ‘transport and social exclusion’ also introduces the notion of mobility as a part of citizen entitlement, as Grieco (2003) notes ‘Demand responsive
transport systems developed on an intelligent technology footing can ensure that accessibility and mobility constraints to essential services are removed or minimised in line with identified benchmark levels of citizen entitlement’. The four accessibility items presently analyzed under this approach are access to a food store, to primary health care, to a primary school and to a post office; these accessibility criteria are clearly restrictive as a measure of social deprivation or social exclusion. Though acceptable as a departure point, there exists the need to develop a better sense of the comprehension of physical accessibility as a subset of mobility. Clarifying this line of distinction, Levine and Garb (2002:179) note that ‘Mobility is defined as ease of movement; accessibility is defined as ease of reaching destinations. The concepts are related, but readily distinguishable. Where destinations are close by, great accessibility can be afforded even if mobility is constrained; where destinations are remote, mobility may be high without concomitant high-level accessibility’ (as quoted in Sager 2005). The next section touches upon the gendered content of mobility and the necessity of its acceptance as an important theme while discussing a modern society.

2.2 The gendered content of mobility

In order to address the situation where the needs of a respective gender were getting obfuscated, a new and focussed direction under the umbrella of ‘gender and transport’ gradually evolved in the western world. Attention to transport offered a way to link discussions of gender relations, transport systems, public and private spaces, accessibility, and the spatial and temporal organisation of human activity (Law 1999:567). However, Law (1999) notes that the field is still largely defined in terms of travel behaviour and policy, eventually stagnated by a relatively limited range of themes (primarily a singular focus on women’s typically shorter worker trips). Could this have occurred due to a biased comprehension of mobility of which transport is just the revealed part?

The understanding that eluded development planners for a considerable period of time is that the frame of operationalisation of transport occurs under the broader context of mobility. Though transport and mobility are very often used in a synonymous manner, they have distinct connotations. Mobility is a contextualised phenomenon whereas transport is just the revealed part of it. The concept of mobility entails the ‘potential aspect’ thus possessing an inherent knowledge of the potential trips that are/were not made due to constraining factor(s) (social, cultural, technological, infrastructural, political and financial). Concurring with the way Law (1999:568) envisages it, a better way to address ‘gender and transport’ is through reframing the issues of transport as part of a larger project, namely, analysing the social, cultural, technological, infrastructural, political and financial geographies of mobility.

The interaction between spatial mobility for negotiating daily lives and other forms of mobility (social, economic, political etc.), has not been substantially explored. Specifically, a focus on the operationalisation of gender norms and consequently gendered mobility permit an inquiry on the theme of development, democracy, equity, and their distribution through the resource of mobility offered by different societies. Polk (1998) states that ‘Despite the complexity of reasons underlying social inequalities, if social equality is the goal and spatial equality is the means then equal access to transportation technologies can be seen as a necessity.’ Enlarging this understanding, it also becomes essential to evaluate the differential claims on genders due to cultural beliefs and norms as being equally or in some cases the most important factor dictating daily mobility, and how these beliefs and norms are changing in the present times. Are these changes supportive or detrimental to the cause of
gender development and empowerment? Which transport-related issues can be corrected through policy interventions to aid the positive changes?

Further, such an inquiry will also lead to a better formulation of space-making attributes. Tracing the shifting and contested meanings of ‘good girls’, ‘obedient daughters’, ‘virtuous women’, and ‘respectable places’ in the developing world brings into focus the ways in which the cultural struggles over gender norms influence the causes and consequences of mobility (Silvey 2000:145). Space, whether sacred or profane, is not produced in vacuo, but rather through a web of cross-cutting power relations that are themselves forged at multiple scales from the local to the global (Massey 1994; as quoted in Secor 2002:7). Similarly, regimes of veiling participate in the production of urban space and shape the ways in which women, both veiled and unveiled, experience mobility in the city (ibid: 8).

In order to build up a mobility profile of the developing world, the transport research arena provides a good foundation to enumerate the gender differences and build a case for redesigning of methods, analyses and policies. The next two sections deal with theoretical insights from the developed and the developing world and present the gist of studies dealing with gendered differences in travel behaviour, the methodological flaws responsible for gender-blind transport policies and the identified future directions.

3. Theoretical Insights from the Developed World

3.1 What are the gendered differences?

Travel behaviour research abounds with evidence illustrating the difference between women’s and men’s transportation demands and realities. A clear line of justifying separate treatment of women has been established owing to differentiated access and attitudes to private and public transport, differences in patterns of commuting and employment, differences in child and elder care responsibilities and finally the differences emerging from the contextualisation of traditional female roles. Although parameters like income, age, household size and structure, elder-child care responsibilities, ethnicity, employment status, degree of disability, location, class, and education can produce significant differences among women’s mobility patterns, certain key observations are enumerated below:

- A number of research efforts undertaken in developed countries reported that gender-differentiated roles related to familial maintenance activities place a greater burden of time on women relative to men in fulfilling these roles. This results in significant differences in trip purpose, trip distance, transport mode and other aspects of travel behaviour (which includes different times, to different locations over different distances) (Erickson 1977, Andrews 1978, Hanson and Hanson 1981, Howe and O’Connor 1982, Fagnani 1983, Fox 1983, Pas 1984).

- Women spend more time on household maintenance activities and less time on leisure than men, with the result that women make more frequent but short trips (Hanson and Hanson 1981, Lu and Pas 1998, Pas 1984). Kwan (1999) restates the evidence that women have restricted space-time accessibility compared to men.

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1 Referring to this theme, ‘moral geographies’ is defined as the ways in which gendered normative ideologies operate in place making and shaping spatial mobility and spatial relations.
Women’s trip scheduling and chaining also tends to be more complex than men, especially if there are dependent children in the home, creating more spatio-temporal constraints on their activity participation (Gordon, Kumar and Richardson 1989).

Hanson and Hanson (1981) report that women adjust their schedules to accommodate their full-time employment with little or no adjustments from their male partners. Women are also less able to adjust their schedules and travel patterns to accommodate alternative schedules or transportation modes (Rosenbloom and Burns 1994).

Childcare obligations can require low-income women to seek employment closer to home than men (Chapple 2001).

Differential access of the genders to resources, notably time, money, skills and technology lead to differences in travel and transport patterns (Law 1999, Kaufmann 2002, Turner and Grieco 1998).

Access to automobiles appears essential for women in low-density settlements (Burns 1996, Uteng 2006). And with restricted access to automobiles, women’s daily mobilities emerge and give rise to a differentiated labour market and personalised space-time opportunities.

Mobility is also affected by labour market factors, which result in a differentiated geography of opportunities for men and women.

Security issues affect men and women in markedly different ways. Women are more easily the targets of sexual assaults related to transport provision and delivery systems. Law’s (1999:570) literature search on the issue reveals that self-imposed precautionary measures adopted by women limit their mobility significantly.

The built environment, including the organisation of land use, physical layout and design of networks (bus design, roads, paths etc.), facilities (such as bus shelters etc.) affect men and women differently (Law 1999, GLC Women’s Committee 1985).

3.2 What are the methodological flaws responsible for gender-blind transport policies?

It is a well-established fact that transport sector has been gender-biased, or perhaps gender-blind is a more appropriate aphorism. This bias/blindness has been recognised as being part of a systematic methodological flaw, emerging primarily from ignoring the innate differences between the mobility patterns of men and women. Research conducted in the United Kingdom (Hamilton, Hoyle and Jenkins 1999) points out the following primary flaws plaguing the transport system:

- The scarcity of women in central positions in policy making and the planning of transport;
- The systematic failure to incorporate the voices of women users in the consultation and planning of transport systems.

Further, the growth of automobile-dependent societies points to a deliberate snubbing of the mobility needs of women. In all societies, women are primarily dependent on public transport. This has been substantially established by travel behaviour research undertaken around the world, and yet the provision of public transport is far from satisfactory in all parts of the world. And strangely enough, even developed countries are characterised by restricted and poor provision of public transport. Travel studies from the US, Scandinavia and the UK recognise that i) automobility (car usage) is explicitly or strongly implicitly a male form of transportation and ii) structural factors such as impediments to accessing reliable public transportation facilities and consequently low spatial mobility lead to social inequality in the disfavour of women. Despite a raft of such evidence, public transport systems continue to be built around the needs of men without adequately addressing the needs of women.
3.3 What future directions have been recognised (in past research) for further developing the agenda of gendered mobility?

The benefits of including systematic recognition and gender consultation in transport planning have long been established through research. Further linkages with social and human capital development, democracy and participation through strengthening the mobility potentials of women have also been raised. Some vital directions that have been described are (Hamilton et al. 2005:65-72, Jauk 2005, Turner and Grieco 1998):

- Improve the provision of public transport to provide door-to-door demand-responsive services.
  The evolution of high-tech development management is proceeding rapidly. For it to proceed effectively, it must build in effective participation as demonstrated by the Global Knowledge 97 electronic conference hosted by the World Bank and the Canadian Government (www.globalknowledge.org). The development of electronic user groups facilitated by community communication facilities is already a possibility. Ensuring that gender is built into the electronic protocols is essential: the new social opportunity for electronic advocacy should not be wasted;

- Engage women transport users effectively in the transport policy decision-making process. Women’s involvement in decision making regarding those services that affect their lives is a democratic good. At a basic level, the presence of women in the composition of user groups has to be assured. The focus on women-only user groups is derived from the evidence that when women speak within mixed groups, conversational dynamics work against them;

- Enforce more rigorous monitoring of efforts to correct gender bias;

- Devise methods to integrate transport and social policies;

- A public transport gender audit should be made part of both public sector duty and community planning strategies to enable local authorities to implement it;

- Another way advocated to address the time-poverty faced by women is through substituting real journeys by tele-journeys (Turner and Grieco 1998). But the kind of training and facilities that are required to make this a reality are still unclear and need to be further explored.

4. Theoretical Insights from the Developing World

4.1 What are the differences?

Surprisingly, many similarities are to be found when comparing gendered travel behaviour among the developed and developing parts of the world. Common features comprises a gendered differentiated access and attitudes to private and public transport, differences in child and elder care responsibilities, the resultant escort trips and finally the differences emerging from the contextualisation of female roles. However, certain key points special to the developing world are: existence of huge disparity between the ‘urban, educated, middle-class’ versus ‘urban, uneducated, low-income’ women; access to activities/urban spaces/transport modes/ and socially-sanctioned movements in ‘rural and semi-urban areas’ versus ‘cities and metropolises’; existence of slums and permeation of religious beliefs in the society putting tangible borders on women’s participation in the outside world. Importantly, we notice that the developing world is characterized by a high dependence/demand and low availability of public transport systems. Many countries are characterized by availability of para-transit systems like taxis, auto-rickshaws, non-motorized rickshaws etc. which serve the needs of women to a greater extent. However, these modes do not form part of the mainstream government run transport planning policies
and programmes, with little or no governmental backing in procuring loans, regularization of these services etc. Further, gender division of labour in urban areas is different to that in rural areas. Unlike in rural areas, urban women do not have to walk long distances in search of water or firewood, neither do they carry heavy loads on their heads, shoulders or backs. Keeping these aspects in mind, the key features of gendered travel behaviour in the developing world are presented at the levels of urban and rural areas in the following section:

**URBAN AREAS**

**Low-Income Women**

- Travel behaviour is disaggregated both at the levels of income and gender. Women spend more time travelling on slower modes of transport to access work, and a significantly higher percentage of trips are made by foot than men (Anand and Tiwari, 2006, Srinivasan 2008, Tanzarn 2008). A poor access to transport resources and the resultant time–poverty circumscribes employment options at shorter distances from home. Their ability to alleviate poverty is severely curtailed by their limited mobility and the constrained accessibility to the transport system of the city.

- Access to transport resources is highly gendered. Women are less likely to own a vehicle or have a license to drive it. Women tend to have a lower proportion of trips involving personal vehicles such as bicycles or other motorised modes. Non-motorized modes are their primary mode for travel to both work and non-work destinations.

- Poverty appears to be a defining factor of mobility especially for women. Cost of transportation to the city commercial centre plays a key role in affecting women’s entry into self-employment (Glick, 1999). Unaffordability to use any form of public transport leads in returning home earlier due to safety concerns, thus losing out on business/employment opportunities, typically placed in the informal sectors.

- Women, especially those in the lower income bracket, spend a considerable proportion of their earnings on transport. Whereas transport is supposed to play a facilitative role in securing livelihoods, prohibitive fares intensify vulnerability to poverty.

- Women in central locations with better accessibility are more likely to both make more trips and travel farther for work trips. In the case of Chennai (India), living in a central zone allowed for more parity in the travel costs and times of men and women (Srinivasan, 2004; Srinivasan and Rogers, 2005). Travel behaviour of residents who are otherwise very similar (in terms of socioeconomic status) is likely to be different if they live in locations with differing employment and transportation opportunities (Moser & Peake (1987), Turner and Fouracre (1995); Abidemi AR (2002)).

- The shelter-transport-livelihood nexus vis-a-vis mobility of slum dwelling women remains a highly ignored issue. Time poverty is considered a key constraint to low-income women’s ability to accumulate assets and reduce their vulnerability (World Bank 2002). Many of the slum relocation policies in the urban areas pay no heed to this linkage.

- Responsibility for escort travel with children to school, to hospital, to pray and for social visits lies primarily with the women. Men’s involvement is largely limited to providing the means of transport if they are in a position to do so (Tanzarn 2008).

- Safety issues hit women more intensely than men. Safety concerns can be broadly divided at two levels: first is the case of poor physical infrastructure provision (absence of footpaths, poor
location of bus shelters, absence of street lightings etc.); the second case concerns sexual harassment on public transport services or walking down poorly lit streets, subways, connecting path between the slums and bus stops etc. remains a common theme in many developing countries (Anand and Tiwari, 2006, Tazarn 2008). The case of Bangladeshi garment workers is an appropriate example, where movement-related fear is pervasive and one of the biggest quoted concerns.

Middle-Income Women

- Deregularisation and opening of markets in many developing countries have carved out new niches of employment opportunities for women. However, this format of accessing new employment opportunities is highly dependent on having access to safe, affordable geographical mobility. For example, in some countries like Egypt, women’s commuting rates are not only much lower than those of men, but have remained stagnant in a period (1988-1998) where males were travelling significantly more to obtain private sector jobs (Assaad and Arntz 2005). Young, single males, who make up the majority of new entrants in the labor market, have had to significantly increase their geographical mobility to access regular paid work in the private sector. No such increase in geographical mobility could be detected for female new entrants, resulting in a growing gender gap in geographical mobility rates over the 1990s decade (ibid).

- Majority of the employees in the Business Process Outsourcing (BPOs) sector in India are women, and they are able to work in night shifts solely on the basis of transport provided by the offices, which is typically contacted through private taxi companies. However, there exists no security structure for these privately rented taxis chauffeuring women at nights resulting in gruesome cases of rape, molestation, thievery etc. Instead of being proactive and placing the security concerns at the very inception stage of such night-shift planning, there is tendency to be warned through mishaps. Similar patterns of development of BPOs are being observed in other Arab countries like Jordan. It would be prudent to be informed through the case of India and place security concerns from the very start while designing transport solutions for the night shifts.

- Shortage in public transport supply is a deterrent to women’s mobility due to their restricted access to privatized modes of transport. Expansion of urban areas, relocation of slums, booming satellite townships with no concomitant public transport handicaps women to a greater extent than men. This holds true for both low-income and middle-income women.

- With an onslaught of sexual harassment of women on public transport, women-only passenger cars on subways, local trains, and women only buses, taxis are becoming more popular in the developing countries. Whether this is a sought development in terms of future planning remains debatable, but what it does achieve is hassle free movement for women, thus encouraging their mobility.
RURAL AREAS

Cunha (2006,8) reinstates the reality of rural areas:

In sub-Saharan Africa, women account for 70% of household labour and 85% of household daily effort spent on transport. They carry at least three times more ton/kilometres per year than men. They walk between 15-30 hours per week on transport-related chores, carrying between 30-50 kilograms and frequently with a baby on their backs. These are heavier loads than the maximum 20 kg recommended by the International Labour Organisation, and commonly result in long-term health problems. To help their mothers, young girls are often removed from school to assist with chores (Heyen-Perschon, 2001; Peters, 2001; Omar, 2001; Starkey, 2001; World Bank, 2002a).

Both research and policy interventions covering the area of ‘gender and transport’ in developing countries has to date primarily focused on rural areas. The key findings that stand out in analyzing the literature and programmes conducted in the developing countries are:

- Most of the differences between transport needs arise due to the constructed roles of men and women in society.

- Transport burden of rural women is more accentuated than men – it is best illustrated by the dominance of head-loading and the transport of firewood and water by rural women (Venter et al. 2006; Bryceson et al. 2003; Grieco et al. 1995, 1996, 1997; Mashiri et al. 2001, 2006; Malmberg-Calvo 1994a,b).

- Access to education and health services are severely compromised for girls and women in the rural areas of developing countries. It is noted that in Ethiopia alone, over 25000 women and girls die each year during labor. More than 500,000 Ethiopian women and girls suffer from disabilities 0.3% of all deliveries (8000-9000) develop obstetric fistula, for which obstructed transport is cited as one of the primary reasons (Hamiln 2004).

- These constructed roles and the transport burden (especially in terms of time savings and manual labour) can be to a great extent mitigated by providing the right interventions, thereby opening possibilities for women.

4.2 What are the methodological flaws responsible for gender-blind transport policies?

The one basic answer to this question is that the issue of daily mobility has never been made an integral part of policy and programmes targeting development and empowerment in the developing countries. Evaluations of the success of development initiatives often neglect to reflect the gendered distribution of benefits or consider the influence of social-reproductive works on these interventions (Venter et al. 2006). With regard to Gender Planning and Development, Moser (1993) noted that analysts often “lack the necessary planning principles and methodological tools” to do so. This applies for the transport planning field as well (Mashiri et al. 2005). Further, not taking count of non-motorized transport modes in the planning process is a blatant denial of the contextual reality of the developing countries.

With regard to rural women, another marker in the alteration of gender roles is happening due to internal migration or immigration in search of better employment. This results in reversed role assignment with women becoming the head of the household. How these changes impacts upon her access to market and vis-à-vis maintain the rural labour cycle still needs further exploration. Most often, the transport linkage between rural and urban areas are a challenge for women given their severely restricted frequency, overcrowding and expense.
4.3 What future directions have been recognised *(in past research)* for further developing the agenda of gendered mobility?

The research directions identified are overlapping and consistent, which means that we have a well-researched and documented platform to base future projects on. Some of these directions (includes inputs for both urban and rural areas) are:

- Adopting an inter-sectoral approach in relieving women’s transport burden, particularly in bringing various resources to rural women (for example, water wells closer to rural homesteads and energy efficient ovens). The same can be said for urban slum-dwelling women, for whom access to basic services, employment niches and markets need to be integrated as part of any slum-redevelopment or relocation projects.
- Recognition of women’s social-reproductive work as “work”, in order to design public transport in a way that better meets women’s needs.
- Building of paths, roads and bridges to connect socio-economic activities and health facilities through affordable transport services.
- Researching and considering the role of cultural practices and beliefs is also an important step towards the design of appropriate transport interventions. The importance of this has been identified as being two pronged: Locally specific cultural practices and beliefs inform the allocation of roles, status, power, and resources within households and communities. Thus, knowledge of cultural practices and beliefs is essential for understanding the gendered ways in which households and communities function and thus for identifying various transport needs through a gender-sensitive lens. For this to be achieved, meaningful involvement and participation of women in the planning of transport initiatives is critical.
- Cultural practices and beliefs affect the success of transport interventions. For example, the benefits for women through the introduction of IMTs will be influenced by whether or not those forms of transport are considered appropriate for women, and by the gendered control and access to such resources.
- Disaggregated data collection followed by routine monitoring is often mentioned as the starting point for evaluating the gendered content of mobility in the developing world. Yet, this has failed to be adopted in mainstream transport planning in most of the developing countries. Data unavailability is one of the major handicaps affecting analysis of mobility in the developing countries.
Part II – Understanding the issues which impact gendered daily mobility in the developing countries

1. Social/Cultural Norms

Understanding gendered mobility outside the patriarchal system and the social-cultural norms dictating the visible movement of women will be tantamount to segregating the body and the mind. The concept of gender is constructed through performative reiterations, which are historically, geographically, culturally and politically different but dynamic. Opposition of relative flow and relative fixity where masculinity has come to be coded as mobile and femininity as static, and construction of different kinds of mobility that exist in relation to one another (the homemaker and the breadwinner for instance) has been the lead practice in many developing countries. This point is central to the current analysis of how mobility enables/disables/modifies exclusionary processes affecting women in particular. Even in the active, technological world of today, opposition of relative flow and fixity of women is widely practised in many non-western cultures thereby affecting their access to central services like education, work, and health as well as to the intangible entitlements of participation and information. How this access can be modified must be placed with due respect attached to the persuasive social norms otherwise any attempts at it will go in vain.

Operationalisation of gender norms and consequently gendered mobility will permit an inquiry on the theme of development, democracy, equity, and their distribution through the resource of mobility offered by the society. Although Polk (1998) frames this connection through highlighting the distinct role played by transportation technologies and equity, this report argues the same within the ambit of mobility potentials. She states that ‘Despite the complexity of reasons underlying social inequalities, if social equality is the goal and spatial equality is the means then equal access to transportation technologies can be seen as a necessity.’ Enlarging this understanding on gendered mobility, it also becomes essential to evaluate the differential claims on genders due to cultural beliefs and norms as being equally or in some cases the most important factor dictating daily mobilities.

Thirdly, such an inquiry will also aid in a better formulation of space-making attributes. Tracing the shifting and contested meanings of ‘good girls’, ‘obedient daughters’, ‘virtuous women’, and ‘respectable places’ brings into focus the ways in which the cultural struggles over gender norms influence the causes and consequences of mobility (Silvey 2000:145). Space, whether sacred or profane, is not produced in vacum, but rather through a web of cross-cutting power relations that are themselves forged at multiple scales from the local to the global (Massey 1994; as quoted in Secor 2002:7). Similarly, regimes of veiling participate in the production of urban space and shape the ways in which women, both veiled and unveiled, experience mobility in the city (ibid: 8).

Fourthly, there is the issue of ‘the scale of the problem’ owing to cultural traditions which is difficult to measure. ‘Honour killing’ is still a practised tradition in many Islamic countries. In 2009, Dr Shaheen Sardar Ali, chair of the National Commission on the Status of Women in Pakistan, estimated that at least three women a day were victims of honour killings. But the calculation of respective figures is not so simple. Citing Human rights lawyer Hina Jilani, co-founder of Pakistan’s first all-women law firm, ‘a woman’s right to live depends on strict obedience to social norms and traditions. In many cases her place in society is summed up by the adage Kor ya Gor (home or death)’. Another source asserting the helplessness of rural women state that "These voiceless creatures, shackled in a
primitive mode of life, are treated worse than even tradable commodities: they are but household possessions, living and dying at their males’ whims”. Bringing basic human rights to this segment of the population is not an easy task. It will only be made possible through consistent effort taken in all development-related sectors addressing this issue in a gradual, deliberate and percolative manner. But by incorporating culturally appropriate interventions, transport sector can make a direct impact on the access and visibility provided to women without making any direct attack on the social norms existent in developing countries. This requires a conscious insertion of the acceptable ‘modes’, ‘spaces’ and ‘timings’ of movement for women and designing policies and programs with these specifics in mind. Some of these successful interventions are highlighted in the following boxes.

Box 1: “AMMAN 2025” MASTER PLAN

One of the first major restoration projects conceived in the Amman Master Plan involves miles of new and improved sidewalks – with benches. Through basing the planning processes on the premise of “social diversity and justice”, the positive effects of small changes are being recognized and implemented. The intervention of introducing new sidewalks and benches are discouraging “islands of privilege,” fostering interaction among different socioeconomic classes in areas that were becoming exclusively upper-class. They are also breaking down gender barriers in a predominantly Muslim city. Women who say it would be culturally unacceptable for them to hang out on the street or sidewalk say that now, with the new pedestrian plazas and sidewalk benches, it’s normal for them to spend time on the street.

The city has adopted to build a new bus rapid transit (BRT) system with the specific aim of discouraging car use, and helping to create a new culture of public transit. Seen in conjunction with improved sidewalks and public spaces, one can see a more acceptable platform for women to move about in the city of Amman. This kind of accepted movement and visibility of women in public spaces is bound to deliver more opportunities to them for participation in various arenas. For details, please refer: http://www.ammanplan.gov.jo/english/docs/EVision.pdf

Box 2: Women-only Services, not just for safety but for increasing women’s mobility and the consequent change in their participation

The rise of the ready-made garments industry in Bangladesh since the 1970s has made a dent in the economic participation of women by providing them with opportunities to work outside the home for wages for the first time. This has coincided with changes like increased emphasis on girls’ education, improvement in women's health, relaxation of norms regarding purdah, reduced fertility, shift in marriage and child bearing age-profile, reduction in family size, greater acceptance of women in decision-making etc. (Khosla 2009). Prima facie, this trend should continue. However, the issues and hazards specific for women in this industry might not be conducive for any long-standing sustainable development. Transport issues are among the biggest concerns for these workers. With no provision for getting safe transportation, specially at nights makes economic participation of these women a daily struggle (Kabeer 2004, Siddiqi 2003). In such cases, safe transport provision provides the most unbiased and easy way of securing women's continued participation, upliftment and empowerment in the end.

With the specifics of preventing sexual harassment on public transport, Women-only passenger cars (on railways/subways) and buses are being offered (or in the pipeline) in Japan, Egypt, India, Taiwan, Brazil, Indonesia, Belarus, Philippines, Dubai, Korea and Mexico (the pink buses). It has repeatedly been proven to be a great source of relief for the women commuters in these countries. From a culture specific point of view, research studies posit that segregated reserved seats and segregated doors on buses are preferable and seen as conducive for the movement of women in societies divided along gendered lines (Peters 2001).

One of the most advocated interventions by development agencies has been provision of bicycles in the rural areas. Though it might seem a positive, benignant intervention on surface, a little unearthing of the gendered aspect of bicycle usage will reveal that many cultures do not accept such movement of women primarily due to rigid culture underpinnings in women’s movement and its representation. Overton (1996) documents a case in rural Mozambique where bicycles that were distributed to poor village women to alleviate their extreme transport burdens were taken from them by their husbands or
other male relatives, who often only used them for recreational and status purposes. In some cases, especially where women resisted, these appropriations were even accompanied with instances of domestic violence. In such extreme cases, male-dominated prevailing local cultures also tend to portray women's use of bicycles as inappropriate and unwomanly, branding the more daring, dissenting women as "loose," "behaving like men" and "unfit for marriage" (Grieco et al. 1995, Overton 1996). Similar cases can be found in many countries with wide pre-dominance in rural-urban Africa (Peters 2001). But before generalising this trend, a reversal of such imaginary is portrayed through the case of motorized two wheelers or scooters. Peters (2001) reports that since scooters are important status symbols for middle income families, its insertion in the mobility regime of women in Bamako, Mali has been relatively easy. Rather than being critical and dissuasive of women's newly found independence and mobility, husbands in Bamako are supportive of their wives’ motorcycling. Reportedly, the idea is less rooted in efficiency of women through optimizing the time for shopping and other caretaking related jobs, and more rooted in women on scooter having the ability to advertise their families social status and wealth. Mobility has always been linked in with progress, and how the subtleties of various forms of mobility imprints on the psyche of the society is an important point of entry into making any meaningful and long lasting changes in the travel behaviour of the population at large, and women in particular. The case of scooter usage runs counter to simplistic assertions that insurmountable cultural biases keep developing country women from gaining access to individual means of transport. Also, with the increasing participation rate of urban women in gainful employment, women are in a position to buy their own vehicles. This was reported to be the case for 39% of all interviewed female motorcycle and scooter users in Pune, India (Astrop, 1996:35). Meanwhile, portraying a completely different trend of bicycle usage is the case of South-East Asia, where bicycles continue to be the most important mode of transport in many communities and with women's bicycle usage being at fairly equal levels as men. In Vietnam, the advent of the motorcycle has now caused to raise women’s share of bicyclists to over 50%, with roughly 25% of all female trips in Hanoi being made by motorcycle. Meanwhile, 54% of all female trips are made by bicycle, compared to 38% of all male trips (Goddard and Cusset, 1996).

What is evident is that rather than being an issue of power struggle within the confines of the household, women's access to different modes and public spaces are primarily dictated by local cultures and general social practices. And it is important to take away from this fact that through making small, incremental and locally-acceptable changes, development projects can address many culturally rooted restraints at relatively low additional cost, often yielding immediate and significant results for future.

2. Transport-related Issues

2.1 Access to Health Services

Morbidity and mortality are common outcomes for pregnant women in rural parts of the developing world, which is increasingly being connected to a lack of timely access to the health services. Though limited location of health facilities is definitely the primary cause with figures stating that more than 60% of people in poor countries live more than 8 km from a healthcare facility (Forster 2008), there exists numerous studies that blame inaccessibility due to either lack of transport options or affordability as the second major cause of pregnancy-related mortality (for a case from Tanzania, see
Mlay R. Et al. 2010; for a case from Ethiopia see Forster 2008, Hamlin 2004). Citing a research study from Cebu in the Philippines, we see the explicit relationship between the distance to a health facility and worsening maternal mortality figures. The study identified a clear association between infant, child, and maternal mortality rates and distance to healthcare services, it was found that a 10% increase in distance from a hospital was associated with a 2% increase in all three mortality rates (De Silva). Highlighting the rural dimension of this problem, Heyen-Perschon (2005) note that though access to health services in the developing world is poor but it gets significantly worse in the rural areas as represented by the example from Ghana where it was found that while 79% of births in urban areas were supervised by a medical practitioner, the rural figure was as low as 33%. This is a consistent finding in all parts of the developing world.

Another parameter linking mobility burdens and women’s health is the issue of head-loading. A study on women fuel carriers in Addis Ababa showed that of 276 women sampled, an average load of 36.2 kg (i.e. 75% of body weight) was being carried an average of 11.7 km, and as many as 17% of the women were carrying loads heavier than their body-weight (Peters 2001). This result should be seen in reference to the maximum carrying weight recommended by the ILO, which is 20kg. Among these women, eye, chest and back pains were common, coupled with high rates of miscarriage (Haile, in Bryceson and Howe 1992:7-8). To substantiate these claims, Kenyan medical sources also document frequent backaches and knee damage among head loading Maasai women. To gather further support for this particular coupling of mobility and gender, it has been estimated that at any given time, one third of all women in the developing world are either pregnant or lactating (Momsen, 1991, cited in Turner and Fouracre, 1995) and child carrying has to be accommodated in a way to still guarantee the safety and well-being of the child, further reducing women's "maximum carrying capacity." Another very important avenue for making meaningful contribution is the linkages between transport availability and the incidence of HIV. A case study of South Africa highlights this connecting in the following box.

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2 Case of Ethiopia (Forster 2008): Based on a survey of patients at the Fistula Hospital in Addis Ababa, it was found that on average it takes 11 hours for women in labor to reach a health care facility capable of addressing their needs. It was reported that 'access to the health facilities' and the "inhibitive cost" of transport were the two most important factors contributing to the occurrence of fistula. Women in labor, typically, spent several hours travelling on a make-shift stretcher over difficult terrain which could have induced other health complications for the mother. Where access to roads was available, delays of several days were often encountered as families tried to raise the money necessary for hiring a vehicle to transport the patient. Emergency transport costs are an overwhelming financial burden for families across Africa. Even short distances are subject to this difficulty. The delays in access to health services caused by the difficulties in raising such sums of money are one of the important contributors to the occurrence of obstetric fistula and subsequently increased vulnerability in the country (Hamlin 2004).

Case of Tanzania (Mlay R. Et al. 2010): A case study designed to explore the emergency transport needs of rural pregnant women in Erri village, Babati District, Tanzania through a cross-sectional design. 250 women of childbearing age were interviewed, 12 men and 12 women participated in focus group discussions (FGD), and 7 women were interviewed using the critical incidence technique. Information on community awareness of women's needs for locally available and functional transport for emergency obstetrics referrals was obtained using a structured questionnaire, FGD and critical incident interviews. The questionnaire revealed that 75% of women with 7 years of school in this study, were more likely to seek help from the district hospital than women with 5 or fewer years of schooling. Women who lived nearer to emergency obstetric facilitaties were more likely to use these facilitates than those living far away. Having a bicycle in a household did not influence the woman's decision about where to seek help during an emergency. Seventy percent of respondents (43/61) who used a bicycle revealed that when women encounter emergencies it takes more than half a day to reach the district hospital. Almost every participant declared the hardship in accessing emergency obstetric care related to lack of funds and unavailability of the transport. During FGD women shared stories of mothers and newborns who had died on their way to emergency obstetric care.
2.2 Access to education

This section builds on a recent study published by Gina Porter (2007) covering the linkages between transport, (im)mobility and spatial poverty traps for rural women and female children in sub-Saharan Africa. She highlights that in remote areas, areas with poor physical access, or areas with strong (culturally imposed) mobility constraints on females, poor access to schools is likely to be an important contributing factor to girls’ low educational achievement. This fact is also true for many parts of rural Asia, cases from Nepal, India, Sri Lanka, are abound on the subject. To specify in numbers, data from Morocco suggests that in the area of influence of major rural roads which had been paved, the percentage of girls attending primary school tripled to 54% (while the percentage of boys doubled to 81%): increases in areas where road improvements had not been made were much lower (cited in Levy and Voyadzis 1996).

Porter (2007) presents the analysis of a study conducted with children, their parents and teachers in Ghana and some preliminary research in a linked three-country study (Ghana, Malawi, South Africa). It was found that in each of these countries, girls living in remote rural areas with poor roads and poor or expensive transport services face particular problems in accessing educational services for a variety of cultural, economic, and social factors. The study is replete with cases and quotes to paint a succinct picture if the realities faced by these young women in accessing education. The gist of these cases is that girls at all ages are expected to perform substantially more house work and associated chores than boys, this burden is especially severe in many remote rural areas where the transport gap brings

Box 3: Amnesty International urges the South African authorities to urgently address a key barrier to women's enjoyment of their right to health - the lack of reliable, affordable and safe transport, particularly for women living in poor, rural communities. The authorities appear to be overlooking this critical issue in their increased efforts to combat the HIV epidemic and to address violence against women. In South Africa, women are disproportionately affected by the country's HIV epidemic. Rates of infection among women 15 to 34 years of age are two to four times higher than among men of the same age. An average of 30 per cent of women attending antenatal clinics are HIV positive. As noted by Deputy President Kgalema Motlanthe in late 2009, these stark gender differences in HIV prevalence rates are linked to the disempowerment of women, which is one of the “key drivers of the epidemic”. South African-based studies show that women in abusive relationships have a long-term increased risk of HIV infection. They are less able to refuse unprotected sex with a male partner. Furthermore, men who are perpetrators of domestic violence are more likely to be involved in high risk behaviour, such as having multiple concurrent unprotected sexual relationships. While several laws have been amended to increase the protection of women from sexual and other forms of gender-based violence and improve their access to justice, such abuse remains pervasive. Women from poor rural communities are often unable to reach places of safety and other emergency services. Long distances as well as relatively expensive and infrequent transport, especially late at night, act as major barriers for them. These barriers must be overcome, to enable women who experience gender-based violence to have access to places of safety, and to have access without delay to emergency medical treatment, including to reduce their risk of HIV infection. These same transport barriers also prevent women living with HIV in similar circumstances from regularly accessing treatment, care and support services. While the health authorities continue to expand access to comprehensive HIV services, including the provision of anti-retroviral therapy (ART) for AIDS, these services are still primarily provided through hospitals. The cost of transport to these distant facilities is often high, especially for women affected by poverty and unemployment.

In February 2010, the government announced an increased budget for combating HIV. In April, the government and the South African National AIDS Council launched an implementation plan to scale up the HIV and AIDS prevention and treatment programmes. The objectives of this plan are in line with a widely agreed strategy in place since 2007. However, while all government departments have been urged to cooperate in these reinvigorated efforts, the role of the Department of Transport has not been recognized. Quoting that ‘while the Government marshalled resources to improve urban-based transport systems for the World Cup in June 2010’, Amnesty International calls for a meaningful consideration to the transport needs of economically and socially marginalized, rural women at risk of or living with HIV.

additional demands especially for girl-child labour as transporters. This is well exemplified by the relatively remote Shire highlands village in Malawi (approximately 8 kms from the paved road, on a laterite road of adequate condition to allow motor access but with no regular transport passing through) where many children are absent from school on two days each week when markets are held in nearby towns since they are required to headload firewood for sale. The head teacher observed that many of the pupils suffer lack of concentration, ill health and illness because of these chores, but this is particularly the case for girls. Not surprisingly, then, girls in this village tend to be less successful in the competitive examinations for entry to Secondary School. Only five out of 30 eligible children (four boys, one girl) had been selected in the previous year, so the remaining 25 who were not selected (boys and girls) are mostly enrolled as ‘night scholars’ at the secondary school on the paved road (i.e. paying for lessons from the teachers after the school day has finished there). The night scholars (usually around 13 to 15 years old) walk 8 km. along a laterite road to the secondary school in daylight but must return home in the dark: this poses hazards for girl students. “The older girls who attend [the secondary school] because it’s so far and it’s a night school and they come back late with the boys, they form ‘marriages’, then they get pregnant and drop out…..” “Girls just fall into marriage” [group discussion with four mothers in their 30s and 40s]. Clearly the barriers faced by many children in remote rural areas with poor and expensive transport services in accessing even a basic education are impossibly high. Girls, in particular, may never be enrolled at school or only attend intermittently, not least because of their required role as porters to fill the transport gap. For those girls who are enrolled, the heavy burden of household chores required of them before they leave for the long walk to school in the morning seems to be ubiquitous. Fear of punishment for being late (due to the work followed by a long walk) in some cases encourages truancy, while failure to perform well at school may often be associated with exhaustion. There are also dangers associated with travelling alone along remote paths, or in the dark, such that parents living in remote locations may prefer to withdraw their daughters from school at a young age (or not to send them at all) if they must travel alone.

In such circumstances it is hardly surprising that so few girls in remote rural areas are able to obtain even a basic education, and that the opportunities for women to develop a livelihood which will eventually lift them out of persistent poverty are so few. The majority of girls are condemned to follow a life very similar to that of their mothers and grandmothers before them, competing in the same narrow economic niches for the same meager rewards.

2.3 Public Transport (PT) Services vs. Private vehicle Ownership and Use

A consistent finding from around the world (both developed and developing parts) is that compared to men, women are more dependent on the PT services. Brennan (1996) states that women made more trips with different reasons, and they depended mostly on public transport in Puebla (Mexico); whereas Angela Astrop in her research regarding women trip behaviour stated that women with low income depended on cheap public transport and walking in Pune (India). Similar to the cases in Mexico and India, analysis of women behaviour in Palembang (Indonesia) show that women primarily depend on public transport (88.7%). Survey results in Palembang further showed that women tend to choose door to door service that can reduce walk trip and which wait for their customers, such as becak (tricycle), Ojek (taxi-motorcycle) or minibus (oplet, mikrolet) in Indonesia and cycle rickshaws in India. Similarly, in Latin America, though large buses predominate, minibuses have a growing share of the market (Kunieda and Gauthier 2007). In African cities, buses represent a marginal share of the
public transport market, where minibuses or combi-taxis dominate heavily. In Senegal, for example, some 58% of total passenger trips are made by 10 to 15-seat paratransit vehicles called Car Rapides or Ndiaga Ndiayes, and large buses account for only 2.7% of total motorized trips. Studies, based on gendered variations of time use and transport resources, from across the world further establish the fact that women and men tend to use public transit at different times, with women more likely to travel at off-peak hours. Issues like overcrowding and the resultant sexual harassment affects women to a much higher degree.

Given this background, it will be interesting to compare it with the level of private vehicle ownership and use by respective genders in the developing countries. The following facts predominate this theme (adapted from Kunieda and Gauthier 2007):

- Automobile ownership rates are very low in much of the developing world: for every 1,000 people, less than 5 are car owners are recorded in Haiti, Pakistan, India, and Indonesia, less than 7 in Bolivia, Zaire, and Honduras, and less than 14 in Liberia and Thailand. The rate of car ownership in Brazil and Mexico is 60 per 1,000, in Europe 300, and in the USA 500 (that is, one car for every two people).

- When it comes to female vehicle ownership rates, the rates become even lower. In Nairobi, 9% of women heads of households used a private car, compared to 24% of men. In Belo Horizonte, Brazil, 6% of women used a car to get to work, compared to 23% of men.

- The case of south-east Asia is interesting with its relatively high levels of bicycle usage by women. This case once again reinforces the differentiated nature of access to transport resources for the two genders. It is noted that as women gain access to older vehicles, such as bicycles when men move to motorcycles, and motorcycles when men move to cars, etc. In 1990, only 35% of households had access to some form of motorized vehicles in Ho-Chi Minh City. Four years later, that percentage rose to 63%, mainly due to motorcycles. In Hanoi, the share of trips made by motorcycles rose by 5 to 10% annually and now accounts for 37% of all trips. Meanwhile the share of bicycles has fallen from 65% to 45%. Previously, women made up half of all bicyclists. Now, they are the majority as men move to motorized means of travel (Godard and Cusset, 1996).

It is not difficult to incorporate these essentials while developing City Master Plans but the tendency has been to perfect Master Plans for a car based system whereas in reality, only a minority share is using it in the developing countries. Development programmes have the ability to bypass these bureaucratic details and incorporate the elements of non-motorized transport, for example, in their area planning schemes targeted towards low income population.
Analysing PT issues in rural areas still remain a challenge because of very limited or no availability of it in the rural parts of the developing world. Though PT remains the primary way to access regional markets as well as social, administrative and health facilities outside villages, services in rural areas are infrequent and unreliable (Peters 2001). Further due to limited space and with overarching demand as compared to supply, men get the first right to board buses in rural Africa and many parts of Asia owing to the local mores of the continent. In tandem with the PT issue, it is useful to cite the case of a self-help initiate in rural Kenya, which brings forth the urgency of providing service upliftment for women (refer Box 5):

Box 4: The case of Auto Rickshaws in New Delhi

The public transport sector in the cities of developing countries consists of multiple options, including a variety of motorized and non-motorized options. Studies around the developing world establish the importance of alternate forms of public transport for women. However, these forms of transport hardly get their due recognition in Government plans. The case of auto rickshaws in Delhi illustrates the point.

In Delhi, auto rickshaws are a common and widely used form of public transport. An auto rickshaw purchased from the government costs around Rs. 130,000 but Rs. 460,000 if purchased from the black market. The current trend has been that every fourth or fifth year, government brings out advertisement for buying autos. However, the number is limited to approximately 10,000 autos. In majority of the cases, these are bought by the private auto owner agencies, which then sublet their autos on daily basis. Personal interviews in Delhi revealed that the chances of an individual driver buying a government issued auto are infinitesimal. Majority of the auto rickshaw drivers are running rented autos on a 12 hour shift (divided between day and night shifts), paying around Rs. 300 to the owner on a daily basis. Personal interviews revealed that due to the emergence of a very strong urban middle class resulting in exponential rate of car ownership, the clientele base for these autos has gone down dramatically resulting in an average earning of gross Rs. 500-600 per day (net of approximately Rs. 300). No loans are available for buying autos and thus the poverty trap for these auto drivers persists without any let out. Further, only the educated auto rickshaw drivers (minimum class XIIth passed) are issued a batch by the government which ensures them against accidents on road. However, they are not part of any government pension or any other plans. Despite their strong presence on the road, there are no dedicated lanes for the autos neither are there any parking provision for them. Parking facilities in the market areas of Delhi are operated by private groups which are often abusive towards the auto drivers and cater primarily to the car drivers. Typically, on a four lane road in Delhi, one lane is dedicated to a combination of buses and goods transport (lorries, trucks and SUVs), and the other three lanes are open for a mix of cars, motorcycles, autos and in many places a mix of non-motorized modes as well. Streamlining this mode as a feeder service to the bus stops and metro stations in terms of pricing, timing, physical amenities and presence on the road can have huge impacts on the mobility of both low-income and middle-class women in getting them connected within their limited time budget, but it seems that in a rush to seem modern, many developing countries are obsessed with a car-driven agenda at the cost of other alternatives.

Box 5: Private Bus Arrangement by Rural Women in Kenya

Owing to the frustrations in accessing local markets and hospitals, rural women in Kenya decided to buy their own bus. This is a rare case of self-help initiative which took place almost four decades ago (early 1970s). The local women's group began a collective savings effort and they were even successful in providing their own service for several years. The bus was paid for within a year and a half, but it was only with increasingly high repair bills on the vehicle, that the group had to discontinue the services. Though this courageous venture was brought to a grinding halt, PT still remains a challenge in major share of the rural parts of the developing world. Unlike developed world, there is no paucity of demand in the rural parts of the developing world, but lack of political commitment, low affordability and ignorance on part of the development programmes run by both government and non-governmental organizations could be contributing to such a sustained state of mobility deprivation.

2.4 Bicycles and Intermediate Means of Transport (IMT)

Studies from many parts of the developing world show that though access to transport resources in form of intermediate means such as wheelbarrows, carts, bicycles or animals can make a substantial difference in women’s lives, women are generally deprived of direct access and control of these IMTs. Though it has been noted before that cultural norms regarding women riding bicycles tend to be prohibitive in Africa and Asia, these norms are perpetually in a state of flux and prone to changing with the right interventions. Certain cases with positive results are quoted below to prove this point:

- Porter (2007) notes that in parts of rural Africa, including areas with substantial Moslem populations, women cyclists are becoming quite common: for instance at the southern end of Lake Malawi, and in northern Ghana. It would thus be unwise to suggest that change will not occur: clearly once a critical mass of cycles exists not only will repair facilities and spares be more easily found, but cultural inhibitions may gradually disappear.

- The case of Pudukkottai district in Tamil Nadu, India, is another apt example. This state is highly traditional in its outlook on various issues like caste, role of women, marriages etc. despite that, women’s cycling was included in a rural development program, admittedly with a larger, strategic goal of empowerment connected to this pilot scheme. After the first ladies' bicycles were made available to women in the area through the financial help of the Indian Bank, cycling gained rapid popularity among females. Many of them pooled money in order to collectively hire bicycles to acquire riding skills. Most importantly, cycle-owning men eventually began to help teach women. The campaign was surprisingly successful. More than 50,000 women learned to ride bicycles in one year alone (Rao 1994 in: Doran 1996, case quoted in Peters 2001).

Another case from Ghana establishes the ways in which the social psyche around women’s usage of bicycles and motor bikes can be moulded. Apart from making important contributions to health service provision, the provision of cycles and motorcycles to women health workers and NGO staff has also aided in improving their acceptability in the wider population. The impact of motorbikes among nurses in Navrongo (northern Ghana) is described by the maternal and child health worker as following (Porter 2007):

“… all the nurses have motorbikes. They are off [to the villages] and by 2.30 they are back [at the health centre], all done. A big improvement. It’s expensive but you are able to do more and it breaks the outreach size into small pieces. You can’t do that when walking. [prompt] There’s no problem with women riding motorbikes. In the north they’re used to riding bikes, even women of 45. Down south now it’s become the fashion to ride a motorbike… that’s brave. You actually mean business…this girl is serious with her work … there’s a nutrition officer from the north in Central Region. She rides her motorbike up and down, she can even go home [to the north] and back… after some time some people also decided they must get motorbikes.”

Examples where motorbikes and bicycles have had positive impact on women is also to be found in the recent massive expansion of motorbike and bicycle taxi services in some parts of rural Africa (Porter 2007). They commonly operate from market centers and major paved road junctions into remote areas where roads are poor and transport services sparse. In most rural regions these services appear to be patronised more by men than women, but particularly younger women also use them, as Iga (2002) and Howe (2002) show in Uganda. On the Jos Plateau, despite the speed and dangerous driving of the young male drivers and the high fares (usually approximately double the standard bus
many rural women see motorcycle taxis as a lifeline when medical emergencies arise, particularly in the wet season when motor vehicles have difficulty negotiating rural roads (Porter 2002b). While usage is obviously restricted by the cost of fares, cycle and motorbike taxis offer relative speed compared to walking, (door to door) convenience, and may provide a lifeline in emergency situations. The fact that they can operate along unpaved paths which are too narrow for conventional motorised vehicles, and in difficult road conditions during the rains, are additional advantages. These advantages have also encouraged the growing interest in low-cost cycle- or motorcycle-trailer ambulances among donors, notably for use in safe motherhood programmes. Porter (2007) further notes that it is intriguing that the incidence of motorcycle and cycle taxi services varies substantially, especially between countries: in Nigeria the motorcycle-taxi service seems almost ubiquitous in some regions; in Uganda and Kenya a mix of services can be found; in Malawi, where rural incomes are low, bicycle-taxis predominate; in southern Ghana, neither has yet become prevalent.

Other IMTs such as hand carts which do not improve personal mobility, but can be used for transporting loads within the village area may still offer significant advantages in terms of reducing women’s time poverty. In southern Ghana IMT study (ibid), the locally-manufactured push trucks obtained by women through the project were mostly operated by boys and men, but women in the families felt some benefit. Individual interviews with women recipients and their families indicate the potential for change (ibid): ‘now he can just send the truck while I work in the house.... I go less to his farm now than previously. If he wanted to fetch firewood I needed to go with him, but now he can just use the truck and the children to fetch it.’ (Paul Simpson’s wife, interviewed alone, March 2002).

‘A lot of work done by women I can do now, because I don’t carry, but I can use the truck.....Now for the firewood I can convey it to the edge of the village with the truck, but because of our custom a man shouldn’t carry firewood, but with the truck I can.

(Paul Simpson, teacher, interviewed separately, Lome, January 2002)

‘Previously he was not helping me with the firewood, but now he helps with the pushing of the truck loaded with firewood.’ (Aminatu, Lome, March 2002)

Further, cases where there has been a reduction in the amount of heavy crops carried by women are also reported; though this generally occurs where the fields are easily accessible from a track which can be negotiated by a push truck:

‘When I want to process gari I just hire the truck to convey cassava. [who operates it?] my brother... pushes for me... [The truck] reduces my headload and I don’t feel pains from headloading again.... it has changed my time of headloading. ... we also used it to convey our maize... we used the truck for
the entire harvest’. (Dora, Ewe woman, aged c. 30, Adabra, June 2002).

‘[The IMT] has reduced my time spent, because if I want to convey maybe 5 headloads, I can use the truck or power tiller once to convey all. If I have 10 headloads to be carried to the junction and the power tiller or truck is available, I can send my [male] child to take it to the junction, so I have much time to rest.

[what do you do with the saved time you now have?] I use it for other work. If somebody wants to buy something and I am not around the person will not buy from me. But since I have time to be around now in the house, I use it for selling.

[Has your income changed?] The power tiller and truck have brought a difference to my income, because now I can convey about 20 headloads of firewood from the farm to the village because I know that the power tiller can convey it to the junction for me. But when the power tiller was not in, I could not convey all 20 headloads, because I wouldn’t have been able to carry all the firewood to the junction at one time. (Aba Akon, Abora, January 2002)

2.5 Review of the transport related development

It is reported that in spite of commitment and funding for bettering rural mobility in Africa, the share of funding directed towards research and implementing solutions to rural mobility issues is limited and often weighted heavily towards infrastructure. Since 1985, about 15-20% of World Bank loans have been for transport investments (roads, ports, railways, etc), with nearly US$ 40 billion in loans/credits, of which about US$ 2.5 billion (about 6%) has been specifically for rural transport (World Bank, 1999; Bamberger and Lebo, 1999). However nearly all this funding has been dedicated to
infrastructure and large-scale transport systems. Transport planners have paid little attention to intermediate means of transport. The bias towards infrastructure and large-scale transport still exists in national governments and donor agencies, and is reflected in terms of budgets, personnel and professional training. Work undertaken by Transaid in reviewing the health service transport capacity of many developing countries identified that as the health impact from vehicles is easily distinguishable from other health system components, transport management is ignored at great cost.

The case of governmental approach to transport-related development in developing countries is also similar in many ways. There is a heavy focus in portraying modernization through encouraging access to cars to the urban middle class, accompanied with a either a total neglect or marginal focus on the issue of soft modes (non-motorized transport, cycling and walking) and public transport. To illustrate this point, I cite the case of New Delhi, India (Box 6).

**Box 6:** “Between 1957 and 2002, the population of Delhi increased by about seven times, the car population by about 60 times, motorcycles by about 200 times, and buses by only 10 times. It is fascinating that though there has been a huge increase in personal vehicles, the proportion of trips by cars has not even doubled. However, this large increase in cars and motorcycles has preoccupied the concerns of planners ever since, and the main concern has been to provide for more road space and reduce ‘congestion’. The Master Plan for Delhi 2021 is still focussed on widening roads, providing expressways and grade-separated junctions, and a metro system for the city. The Plan has no specific provisions for expenditure on pedestrian infrastructure, and restricts bicycle use to collector roads and access streets. The focus remains on the car, and the car-and-road system would appear to be the winning technology. In 2002, the Government of India announced a new Auto Policy with the objective to ‘Exalt the sector (automotive) as a lever of industrial growth and employment and to achieve a high degree of value addition in the country’ because the ‘Indian auto sector needs to grow collaterally and in harmony with world industry. India has the potential to be a global automotive power.’ This has obvious implications for the forming of Indian transport and traffic policies.

From an economic point of view, the economy of Delhi has been growing by about 10% per year, and vehicle ownership (cars and motorcycles) by about 15% (Economic Survey of New Delhi 2002). In Delhi today, the most modern high-speed cars and motorcycles have to share the roads with slow vehicles and non-motorised modes. Accordingly, the consciousness about global risks associated with chaotic urban transport is being recognized also by the administration. The National Urban Transport Policy stated that ‘Travel in the city has become more risky. This again has tended to impact the poor more severely as many of those killed or injured tend to be cyclists, pedestrians or pavement dwellers’ (The National Urban Transport Policy of Govt. of India, 2005).”

### 3. Gender ‘un’conscious Urban (Spatial) Planning / Area Development

Mobility is produced due to the fact of accessing facilities and opportunities in space. And since the location of these facilities / opportunities is rendered by the spatial and urban planning processes, it is vital that any discussion on gendered mobility also covers the aspects of spatial planning. This section highlights how the traditional planning processes have been gender blind\(^3\). Gender equality can be but often is not transformed into concrete planning contributions and strategies and as Todes (1995) contends, ‘A gender planning procedure might have helped to identify spaces for action, and could have provided a more systematic identification of needs’.

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\(^3\) A blatant neglect of planning issues related to women is not a feature shared by developing countries alone. It is also part and parcel of the planning domain in the developed countries, even countries where gender equality is a much celebrated and established field of governance (for an illustration on Sweden, refer Friberg 2006).
3.1 Comprehensive Plans / Integrated Area Plans

The primary aim of comprehensive plans, also known as strategic plans, is to specify future land uses, infrastructure, and building configurations. Prognoses regarding demographic, economic, transport/traffic, housing, regional development changes and notions gain physical and spatial expression in comprehensive plans. There are two ways to approach making of such plans: a gendered approach vs. the traditional gender-neutral position. Numerous case studies from around the world show that men and women have different planning priorities, discuss planning issues differently (Todes 1995; Beall & Todes 2004; Saad & Carter 2005; Erkip 2005; Friberg 2006; Whitzman 2007) and thus a gendered approach to comprehensive planning should be adopted. This section is inspired from the above-mentioned studies. Friberg (2006) contends that a gendered approach to planning is different from the traditional gender-neutral position, although the gendered approach retains the normal planning links with space and place. A gender perspective demands answers to the following questions: Who has the power to plan, build, own and manage space? Who has the right to use the space? Who has the right to categorize and change spaces? To answer these questions it is useful to begin with the case of public space where planning lays down the fundamental features of the future usage of the space. It is also directly related to mobility undertaken by women in terms of accessing services, supplies and social networks. Given that women’s activities in public spaces are often restricted (cf. McDowell, 1999), zoning that separates land uses such as residential and industrial activities is often criticized because it is based on antiquated gender roles that confine women to local private spaces (Greed, 1994; Darke, 1996). Often is the case that women are held responsible for any unfortunate incidences if they do not comply with these norms outside their homes or places of work. For example, women who are victims of assault when walking through a park after nightfall are often blamed for the violence because they were ‘out of place’⁴. Apart from the existing lacunas in infrastructural provisions, the reality of the daily lives of women has not permeated in the planning process. For example⁵, the gendered division of household labour has major consequences for women’s daily lives and their travel patterns and public space needs to be shaped so women can carry out these tasks as smoothly as possible. To break this pattern, planning must start from everyday life, including equally home and workplace, reproduction and production. This mode of ingress makes it possible to identify how women’s specific experiences are linked to physical space by considering issues as daily travel patterns, the relative locations of shops and workplaces, and security and safety in public places. Box 7 highlights a case study of integrated area development (IAD)⁶ from Cato Manor Development Project (CMDP) in Durban, South Africa. The CMDP is seen as an exemplary project and has been recognised as a ‘best practice’ by the United Nations agency UN-Habitat. It was

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⁴ Assault also occurs when women are subject to men’s leers and invectives, i.e. forms of sexual harassment (Rose, 1993; Morell, 1996). In both examples, women’s activities are restricted by men’s power (cf. Little, 1999). A limits B’s access to and use of specific spaces, A dominates and obstructs B’s freedom of movement, A taking space at B’s expense (Hirdman, 1990). A is undeniably the first letter in the alphabet and B is number two. The order of the letters is inspired by Simone de Beauvoir’s analysis of the relations between the sexes in The Second Sex (Friberg 2006).

⁵ Women still do most of the unpaid work in private households, shouldering responsibility for the dwelling, children, the sick and disabled, and the elderly.

⁶ Integrated Area Development (IAD) is increasingly being favoured as a response to social exclusion and economic restructuring and as a form of ‘joined up governance’ and ‘development in the round’ (Turok, 1999), enabling multi-dimensional approaches to development needs in particular areas. While the limited feminist literature on IAD suggests that practices have not been sufficiently gender aware (Brownill 2000; Brownill and Darke 1998), integrated area development projects (IADPs) offer a potentially important space for gender sensitive planning and practice.
one of the first ‘Special Integrated Presidential Projects’ of the post-apartheid era, beginning as an infrastructure led development project, providing an integrated physical environment including a major residential component, but later shifting to a greater emphasis on social and economic dimensions (Beall and Todes 2004). What this case conclusively establishes is that a multi-sectoral and integrated approach offers space for innovation and close attention to local dynamics. In this case, the emergence and implementation of a gender-aware approach was made possible through facilitative political and policy conditions, politically empowered and organized women, and gender-aware professionals.

Apart from accessing opportunities, having the ability to be mobile empowers women in myriad ways. Amir-Ebrahimi (2006) quotes the case of post-revolution Iran to emphasize how frequent presence in the different public spaces gave women a new consciousness about themselves and their individual and citizen rights in the society. Through his focus on the methods employed by Iranian women to conquer enclosed public spaces, he is able to elucidate the direct linkages existing between entering public spheres as social actors and to gain power, albeit in silence, in different socio-political and cultural fields. To illustrate a case of how new mobility for Iranian women is being created due to spaces being made accessible to them, he quotes the following excerpt from an interview:

Tomorrow I go to the stadium, like many other men and boys. Tomorrow I go to the stadium to restore the right which maybe I will never use it, like many other women and girls. Tomorrow I go to stadium to remind the authorities that we (women) exist. I go to the stadium and sit next to men who be insulting, say insanities and other weird things and I will applaud Iran’s football team. Men who are in the street my ‘religious brothers’, but it seems they turn to be wild wolves at the stadium... I do not adore football; this is only Iran’s football team and its presence in the World Cup, which is important for me. For me it is much easier and more pleasant to see football at home... I am not fan of any football player. Maybe if they did not ban us (women) from going to the stadium, I would never go. However, tomorrow I go there to remind the authorities, that is my normal and citizen right to be there, this is not for the football that I go there; but for exercising my right to be there (Guissou Faghfouri) http://www.hanouz.com/archives/001713. html (7 June 2005)

The mobility of women in developing countries can be enhanced through providing suitable spatial interventions. Safe, accessible public plazas (left), provision of toilet facilities (below) are basic steps in the direction of diluting the between inner-outer space divide in the developing countries.

Source: Author, New Delhi, India.
The CMDP is an urban restructuring project located seven kms. from the city centre of Durban. Aimed at providing housing and an integrated urban environment for a largely low-income black population, it was seen as a strategic and highly visible project aimed at redressing some of the spatial divides created under apartheid. Established in 1993 with considerable political support, the project had to respond to a series of challenges as well as to a rapidly shifting social landscape. Under apartheid legislation, it was subsequently zoned as ‘white’ and some 200,000 black people were relocated to distant peripheral townships. Before these forced removals in the early 1960s, the area was home to powerful women’s organisations that emerged to challenge apartheid influx control laws and subsequent relocations (Edwards, 1996). This history was encountered by the CMDP, as it was later invoked to organise women towards development in the area. The decline of the apartheid state also gave space for the establishment of inclusive local forums, negotiating the development of cities in the early 1990s. The Greater Cato Manor Development Forum (GCMDF) was established in 1990 and by 1992 had developed an integrated planning framework in the area. Nearly half of these households (48%) were headed by women, many of whom had lost husbands during violence. Young, unemployed single people also formed a large proportion of in-migrants (Makhathini and Xaba, 1995).

Crime was a critical issue from a gender perspective. A Crime Prevention Strategy was initiated by CMDA in this period to respond to crime and violence and women played key roles in formulating and implementing it. Hence, women were not passive in the Cato Manor context. A set of powerful women leaders, linked to political structures, was on the board of the CMDA and played key roles in the representative community structures that were set up. These women did articulate women’s interests, and were not easily intimidated. Yet gender relations were not simple. Community representative structures set up by the CMDP tended to be dominated by political parties, ensuring good representation of women since there was political commitment to a form of quotas for women. However, it also meant that women’s organisations outside of this net were excluded and some gatekeeping occurred. Aware of these dynamics, the CMDA set up broader communication strategies to reach community members directly, including a community newspaper, mass meetings (attended predominantly by women) and localised participation around particular projects and issues. The CMDA also attempted to facilitate women’s participation through the times at which meetings were held and by offering transport home to ensure safety. Women played an active role in committees and were sometimes dominant in numbers (an estimated 40% of development committee members comprised women overall). As a consequence of a prolonged period of contestation throughout the early years, delivery only began in 1997. Apart from the crime prevention strategy, the initial focus of the project was on physical development—on the delivery of infrastructure, housing, services, and facilities. At this stage, as has often been the case elsewhere, little direct attention was given to women or gender issues in either the project documents or in the collection of data for performance monitoring. Nevertheless, there was an implicit view that women were the centre and stable base of the community—reflecting continued social fragmentation in the area even as greater stability began to emerge—and should therefore be the focus of the development initiative. Although this reflected a rather instrumental and stereotyped view of gender, it was consistent with the assumptions of the powerful women in the community and not inconsistent with the counsel of gender planning. In addition, it was responsive to the demography of the local community, with its continuing high proportion of women-headed households (44% by 2000) and transient men.

In the realm of physical planning, the settlement was designed to offer full services (water borne sewerage, water inside the house, electricity), a range of social facilities (schools, libraries, community centres, pre-schools, sports fields, clinic) and access to employment and commercial services in the area through frequent public transport, all of which assisted women in their daily lives. Careful attention was given to safety in the design of layouts, public spaces and public buildings. Planners tried to put in place small, local parks that were accessible and could be closely monitored. Street lighting was developed as a priority. Moreover, planners and architects consulted on design and were responsive. For instance, while planners favoured the idea of a pre-school overlooking a park, the community development manager argued that it would make children vulnerable to men who might expose themselves, so the facility was reoriented. Several pre-school facilities were established (such facilities are not provided by government in South Africa) and a training programme was set in place to facilitate their operation, although the need to recover costs has meant that they are under used. No constraints were placed on home working and some 14% of households run a business (mostly from home) and 60% of these are owned by women (Delca, 2002). Practices in housing have also benefited women. Formal housing delivered in the area either reflected the gender distribution of households or exceeded it. Women own title to 50% of the low-income housing and 45% of higher income mortgaged housing (12% is in joint ownership). The only social housing project in Cato Manor, the Shayamoya Project, was constructed by a nongovernmental organisation. It specifically targets women and some 62% of households are women headed—well above the target of 45%.

**Box 7: Highlights from The Cato Manor Development Project** *(source: Beall & Todes 2004)*

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Crime was a critical issue from a gender perspective. A Crime Prevention Strategy was initiated by CMDA in this period to respond to crime and violence and women played key roles in formulating and implementing it. Hence, women were not passive in the Cato Manor context. A set of powerful women leaders, linked to political structures, was on the board of the CMDA and played key roles in the representative community structures that were set up. These women did articulate women’s interests, and were not easily intimidated. Yet gender relations were not simple. Community representative structures set up by the CMDP tended to be dominated by political parties, ensuring good representation of women since there was political commitment to a form of quotas for women. However, it also meant that women’s organisations outside of this net were excluded and some gatekeeping occurred. Aware of these dynamics, the CMDA set up broader communication strategies to reach community members directly, including a community newspaper, mass meetings (attended predominantly by women) and localised participation around particular projects and issues. The CMDA also attempted to facilitate women’s participation through the times at which meetings were held and by offering transport home to ensure safety. Women played an active role in committees and were sometimes dominant in numbers (an estimated 40% of development committee members comprised women overall). As a consequence of a prolonged period of contestation throughout the early years, delivery only began in 1997. Apart from the crime prevention strategy, the initial focus of the project was on physical development—on the delivery of infrastructure, housing, services, and facilities. At this stage, as has often been the case elsewhere, little direct attention was given to women or gender issues in either the project documents or in the collection of data for performance monitoring. Nevertheless, there was an implicit view that women were the centre and stable base of the community—reflecting continued social fragmentation in the area even as greater stability began to emerge—and should therefore be the focus of the development initiative. Although this reflected a rather instrumental and stereotyped view of gender, it was consistent with the assumptions of the powerful women in the community and not inconsistent with the counsel of gender planning. In addition, it was responsive to the demography of the local community, with its continuing high proportion of women-headed households (44% by 2000) and transient men.

In the realm of physical planning, the settlement was designed to offer full services (water borne sewerage, water inside the house, electricity), a range of social facilities (schools, libraries, community centres, pre-schools, sports fields, clinic) and access to employment and commercial services in the area through frequent public transport, all of which assisted women in their daily lives. Careful attention was given to safety in the design of layouts, public spaces and public buildings. Planners tried to put in place small, local parks that were accessible and could be closely monitored. Street lighting was developed as a priority. Moreover, planners and architects consulted on design and were responsive. For instance, while planners favoured the idea of a pre-school overlooking a park, the community development manager argued that it would make children vulnerable to men who might expose themselves, so the facility was reoriented. Several pre-school facilities were established (such facilities are not provided by government in South Africa) and a training programme was set in place to facilitate their operation, although the need to recover costs has meant that they are under used. No constraints were placed on home working and some 14% of households run a business (mostly from home) and 60% of these are owned by women (Delca, 2002). Practices in housing have also benefited women. Formal housing delivered in the area either reflected the gender distribution of households or exceeded it. Women own title to 50% of the low-income housing and 45% of higher income mortgaged housing (12% is in joint ownership). The only social housing project in Cato Manor, the Shayamoya Project, was constructed by a nongovernmental organisation. It specifically targets women and some 62% of households are women headed—well above the target of 45%.
On a similar note, it should be highlighted that the spectacular popularity of shopping malls in the developing countries is not a facet of commercialization alone, it is about providing the much needed public space especially to groups like women, elderly and the students. Erkip (2005, 90) notes that “It is the required ‘public space’ by many segments of urban society, including the suppressed groups such as traditional women, young people and people with an apparent Muslim identity who are excluded from urban public life (for a thorough discussion of these issues see Erkip, 2003)’. It is often quoted that “...women are increasingly conquering public space without the need for a male presence to protect them” (Abaza 2001, p. 118). On the other hand, the threatening aspect of this development for public life is that “the others” might be excluded for the sake of a safer environment for family use, meaning that malls will become more homogeneous in terms of user groups, which are already being noted in documented studies from the developing world (for example, the case of Bilkent Shopping Mall in Ankara, Tukey documented in Tulgay, 2002; see also Erkip, 2003, 2005). Given that the developing world is marked by great variations in socio-economic status, private control over the use of public spaces can have severe consequences for the society. The type of potential mobility offered to women by such public spaces is in reality offered to only women from a certain socio-economic background, and needs to be understood in this fragmented manner as a product of the planning process. As Zukin (1995, p. 191) suggests “...ordinary shopping districts frequented by ordinary people are important sites for negotiating the street-level practices of urban public culture in all large cities”. This holds true for the developing countries where traditional shopping districts and open markets and ‘bazaars’ provide valuable site for interaction and market to the informal sector economies, where a major share of the low-income women are employed. The impacts of shopping malls on the use of such spaces—particularly open public spaces—may reduce the potential of this negotiation (Erkip 2005). One possible development to combat such an exclusionary future is through treating streets more than thoroughfare, to design and assign its usage as a prime public space that people can enjoy and have pride in using (Kunieda and Gauthier 2007 also advocate this sentiment with regard to urban areas in the developing countries, example quoted in Box 8).

Apart from the mainstream government led planning, immediate results can be achieved through encouraging public-private partnerships to achieve targeted goals. The case of business improvement districts (BIDs) should be actively encouraged in the developing countries. This kind of partnership involves property and business owners of a defined area, whereby they elect to make a collective contribution to the maintenance, development and marketing/promotion of their commercial districts. A range of services can be provided through this method including street and sidewalk maintenance, marketing, parking area for non-motorized transport like rickshaws, providing clean toilets etc. This kind of service provision has a direct impact on women’s mobility and in the development plan’s ability to deliver a meeting space for them. For example, in Johannesburg, this model has been adopted in the Central Business District to install cameras and hire private security in an effort to make downtown a safer and more attractive place.
3.2 Creating safer space

Whitzman (2007) highlights that fear of crime has been shown to have a negative impact on economic livelihoods and physical and emotional well-being by limiting access to education, work, and leisure, restricting use of public space, and eroding trust of neighbours and strangers (Gordon and Riger, 1989; Moser, 2004; Pain, 2000; Valentine, 1991). Further, most recent studies of fear of crime recognize that “gender is the most consistent factor” in explaining who fears crime (Grabosky, 1995, page 2). However, gender does not affect this fear in a singular fashion. Through reviewing studies on this theme, Whitzman (2007) suggests that it is not gender per se, but economic and social powerlessness and exclusion that is the defining factor behind fear of crime, an argument also made by feminist researchers such as Elizabeth Stanko (1990) and Rachel Pain (2000; 2001). Similarly, the most recent British Crime Survey suggests that gender alone is not the biggest determinant of whether “quality of life has been greatly affected by fear of crime”, but that people with low incomes, those who live in areas with physical deterioration or council housing, and single parents (all social groups in which women predominate) are most likely to have their lives significantly affected by fear of crime (Crime Reduction UK, 2005). For developing countries, this is corroborated by slum dwelling, female informal workers who register fear of crime while going from bus stop to their homes through poorly lit pathways as one of the greatest deterrents to coming home after dark and accessing evening markets. Rather than searching for the causes of this ‘fear of crime’ only in the external environment, Whitzman (2007) posits that this fear has its roots in the existence of physical/sexual abuse experienced by women in the confines of their homes as well and a corrective measure lies in increasing women’s mobility to safe ‘counterspaces’ where they can find refuge and mutual support from peers – including temples, churches, recreational parks, public plazas etc. Consequently, space (elaborated as ‘social space’ by Listerborn (2001)) becomes the sum of physical space itself,
discursive space that influences the (re)making of that space, and the discussions and actions that take place within that physical space. These facts have dual ramifications for future planning interventions:

(i) Prioritizing ‘Safety’ in Physical Planning: The practice of urban planning in developing countries need to recognize that given ‘walking’ is the primary mode, it is best suited to align mixed land use policies with transport to create active spaces where women will not feel isolated and vulnerable to attack. A concrete imagination is needed around the fact that links to public transport are important considerations for safety in urban areas where women who do move are primarily dependent on public transport – the entire cycle of journey from home to public transport stop, public transport itself, the journey from public transport to the destination and back needs to be assessed from ‘safety’ point of view. For example, once this realization sinks in, basic infrastructure like lighting both internally for stations and vehicles, and the approach to the station will get prioritised.

(ii) Designing ‘Access’ to Community Spaces: Through identifying, designing and making ‘safer spaces’ available to women, development practitioners can indirectly address the issue of violence on women taking place within their homes. For example (taken from Whitzman 2007), an Afghan women's group in the Dandenong suburb of Melbourne disseminates information on services, including violence-prevention services, through halal meat shops, multicultural television and radio, and mosques. Its weekly swimming group offers women a chance to meet in an informal setting, and although it is supported by a recreational grant and is not specifically intended to address violence, discussions on safety issues are generated in the changing rooms before and after the swim. The swimming sessions might be described as ‘safer space by stealth’, and are intended to address the discomfort many women feel in discussing violence issues in more formal surroundings. Planning interventions can thus promote social inclusion of women through providing mobility of women to a range of social spaces like community health centers, neighbourhood centers and public events like activities in local parks, festival arrangements etc.

4. Globalization

The business of globalised services has settled on the international trade scenario and will remain so for a long time to come. In order to compete in a deregularised, neo-liberal, open-market world trade set-up, companies need to internalise (on a global scale) a range of specialised competencies which include asset management, production, organizational and managerial know-how, supplier and customer networks management and market intelligence (Perera 2007). And a significant and consistent outcome of globalization has been the feminization of labour, a sudden and withstanding change affecting the social, cultural, economic and political fabric of the developing societies (Luke and Munshi 2010). As is evident in Table 1 and 2, the main players at the production level are the developing countries. Apart from production and manufacturing, global outsourcing is also increasingly taking place in higher end activities or ‘Knowledge Process Outsourcing’ (KPOs) that include valuation and investment analysis, market research, consulting, legal and insurance claims processing, software design, architecture, drafting and filing of patent applications, drug discovery and other types of R&D activities, chip design and embedded systems, analytics and inventory management and so forth (Rajan and Srivastava 2007).
Table 1. The most active receiving geographies in the globalization of services

<table>
<thead>
<tr>
<th>The Leaders</th>
<th>India, China, Canadá, México, South África, Ireland, Russia, The Philippines</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Challengers</td>
<td>Brazil, The Caribbean, Eastern Europe, Malaysia, Israel, Singapore, Vietnam, Costa Rica, Chile</td>
</tr>
<tr>
<td>The Next Tier</td>
<td>Bangladesh, Ghana, Korea, Senegal, Sri Lanka, Taiwan, Mauritius and Thailand</td>
</tr>
<tr>
<td>The hopefuls</td>
<td>Argentina, Botswana, Guatemala, Panama,</td>
</tr>
</tbody>
</table>

Source: Perera 2007 (updated from WTO/UNCTAD 2005)

Table 2. Share and types of processes being outsourced

<table>
<thead>
<tr>
<th>Verticals</th>
<th>% Share (2004)</th>
<th>Typical Processes Outsourced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking and Financial Services</td>
<td>47.4</td>
<td>Customer support, marketing and sales, collections, billing, transaction processing, market analytics, HR</td>
</tr>
<tr>
<td>Telecom</td>
<td>24.1</td>
<td>Customer support, cross-selling, loan processing, claim processing, market analytics, data validation, HR</td>
</tr>
<tr>
<td>Manufacturing (Consumer Durables/Automobile)</td>
<td>12.2</td>
<td>Customer support, sales and marketing, transportation, supply chain management, accounts payable/receivable</td>
</tr>
<tr>
<td>Others (IT-ITES, Aviation, Hospitality, Retail)</td>
<td>16.4</td>
<td>HR, Customer support, marketing and sales, billing, transaction processing, analytics, etc.</td>
</tr>
</tbody>
</table>

Source: IDC, 2005

What this development implies is that both low-income and middle class women are in the spate of globalization and their lives are dramatically being altered by this phenomenon. But rather than being a win-win situation, it has brought new gendered issues to the forefront. Daily mobility and the associated hazards have a strong presence in that list of issues. To begin with, let us dwell on the case of India, one of the major actors in Globalization of services. Out of roughly 548 million women in India, only 40 million are gainfully employed working women (roughly 9%). However, the working population of India’s BPO (business process outsourcing) and IT-related industries consists of more than half women. Given this huge share of women participation in this sector, amendments were made to the Factories Act, allowing women to work between 10 pm and 6 am, in IT among other sectors. This was made with clear stipulations that the employer should ensure the safety of women at workplace and while commuting. A major decision based solely on ‘mobility’ was taken to facilitate participation of women in the employment scenario carved out of Globalization. This has certainly redeemed the position of women as contributors and active participants in the Indian urban economy. However, on the flip side India has witnessed several cases of rape, murder, molestation, thievery targeted primarily at the women employees who work late night shifts and are transported on private taxis. Some of the processes at play here are detailed out in box 9.
Business Process Outsourcing (BPO), IT Outsourcing (ITO) or Research and Development works is growing rapidly in the Arab world as well, opening new opportunities for women to participate in the labour market, for example, Amman (Jordan) is now the hub for Arab-language call centres. But has the issue of mobility been looked into and considered as a vital infrastructure towards that end? Apparently not, as is evident from adverts promoting Jordan as a vital center for outsourcing/shared services (http://www.sabeq-jordan.org/SABEQ_Files/634126961802875632.pdf). Instead of waiting for women to be abused and rendered unsafe while travelling in nights as warranted by employment in this sector, a proactive approach for safe and reliable mobility (specially for women employees) should be built right from the inception stage of such services.

While referring to development, the trend is to quantify in terms of GNP, poverty reduction, reducing adult illiteracy, reducing infant mortality rate etc. However, the linkage between ‘mobility’ and these assessed factors is still not undertaken seriously. This issue becomes magnified in light of the processes initiated by ‘globalization’. Therefore in order to let the benefit of globalization truly permeate the different strata of the developing societies, it is necessary to analyze the mobility context, history and culture of the country in question. Constrained mobility seems to affect women at a much deeper level than men, even in the case of globalization’s ‘emancipatory’ effects.

4.1 Daily mobility as a ‘quantifiable’ factor of progress

While referring to development, the trend is to quantify in terms of GNP, poverty reduction, reducing adult illiteracy, reducing infant mortality rate etc. However, the linkage between ‘mobility’ and these assessed factors is still not undertaken seriously. This issue becomes magnified in light of the processes initiated by ‘globalization’. Therefore in order to let the benefit of globalization truly permeate the different strata of the developing societies, it is necessary to analyze the mobility context, history and culture of the country in question. Constrained mobility seems to affect women at a much deeper level than men, even in the case of globalization’s ‘emancipatory’ effects.
2000, a total of 116 UN members had submitted national action plans to fulfill government commitments to the Beijing Platform for Action, with majority focusing on education and training, women in power and decision-making, women and health, and violence against women. Few plans established comprehensive, time-bound targets for monitoring such progress, and most made no reference to sources of financing for the actions agreed. “Indicators show that 13 countries - of which Albania, Burundi, Iraq, Liberia, Myanmar, Nigeria, Somalia and Tanzania are a few - are in the same shape or worse off today than they were in 1990, and for almost 40 countries the data is insufficient to say anything, which probably reflects an even worse situation for women,” according to Social Watch, an NGO watchdog system aimed at monitoring the commitments made by governments at the World Summit for Social Development in Copenhagen and the Beijing World Conference on Women. The issue of daily mobility is largely amiss in these discussions.

In capturing the gendered employment effects of Globalization, Seguino and Grown (2006) contend that theoretically, job access for women can improve their level of well-being and that of the children they care for—if this provides more income, and if women can find a way to juggle their care responsibilities. However, the little available evidence on time use suggests that women’s time burdens have increased with globalization (Floro 1995). Men’s performance of unpaid labour does not appear to have increased enough to compensate, suggesting a decline in female leisure. Are there measurable effects that show up in measures of well-being or household bargaining power? We need to answer this question in order to determine whether economic and trade liberalization provide the conditions for women to achieve equitable standards of living and power with men over time, even if women’s incorporation into the labour force in the short term is under unfavorable conditions. Further what role does mobility play in accessing these ‘new’ employment opportunities? This still remains a grossly unexplored area.

There are still no clearly established trends that access to paid employment in developing countries has resulted in sufficient leverage to alter social norms that devalue women. This leads to the question of whether the conditions under which women are incorporated into the paid economy are adequate to eventually transform conditions of gender inequality into gender equity. Some studies find that as women’s access to outside income rises, they are better able to renegotiate the distribution of resources within the household to the benefit of themselves and their children. The source and stability of that income appears to play a role in influencing women’s bargaining power. For example, Kabeer’s (2000) study of Bangladeshi garment workers found that women employed as home workers with insecure and intermittent earnings were less able to renegotiate their position in patriarchal households than women with higher and more stable earnings. One study considers these questions for Asian economies where rapid growth was fuelled by low-cost female labour in a period of otherwise global economic stagnation (Seguino 2002). A focused study on the role of daily mobility in the lives of women operating at the lowest strata of production and its inter-linkages with higher and stable earnings / employment opportunities will allow transport policies to be based on a quantified study of this relationship. This approach can be used to distinguish if and under which conditions are these relationships mutually beneficial and what changes are required to better the chances of women employment and access to higher and stable earnings. This issue is also closely tied with the existence of informal sector in the developing countries, which is further examined upon in the next section.
5. Governance Issues

5.1 Informal Sector Economy

The prevalence of employment in informal sector is noteworthy in developing countries, comprising one half to three-quarters of nonagricultural employment: specifically, 48 per cent in northern Africa; 51 per cent in Latin America; 65 per cent in Asia; and 72 per cent in sub-Saharan Africa (Carr and Chen 2004). It is further reported that if South Africa is excluded, the area of informal employment in non-agricultural employment rises to 78 per cent in sub-Saharan Africa, and if comparable data were available for other countries in southern Asia including India), the regional average would likely be much higher. Adding informal employment in agriculture to this dataset, as is done in some countries, the proportion of informal employment increases hugely: from 83 per cent of non-agricultural employment to 93 per cent of total employment in India; from 55 to 62 per cent in Mexico; and from 28 to 34 per cent in South Africa (ibid). The emphasis on this sector of employment derives from the fact that throughout the developing world, informal employment is generally a larger source of employment for women than formal employment. Other than in northern Africa, where 43 per cent of women workers are in informal employment, 60 per cent or more of women workers in the developing world are in informal employment (outside agriculture). In sub-Saharan Africa, 84 per cent of women non-agricultural workers are informally employed as compared to 63 per cent of men; and in Latin America the figures are 58 per cent of women in comparison to 48 per cent of men. In Asia, the proportion is 65 per cent for both women and men. Needless to state that the informal sector economy comes with a big set of risks and agendas including insecurity of tenure, no pension or other kinds of benefits, payments below the stipulated minimum wages making it hard for the working poor to carve their way out of poverty. Given that women are more exposed to these risks than men, it behoves the research and policy making community to unearth different ways in which these problems can be mitigated. Constrained mobility, especially of women, can reduce women’s economic opportunities by limiting their choice of work location, their access to final goods and factor markets, their access to information relevant to their work and the freedom to combine jobs in the informal sector. But given the traditional focus on labour regulations, skills training, property rights etc. the issue of mobility has been
obfuscated. In the following boxes, this theme is built upon with a view to promote infrastructure and services within the transport sector to address mobility constraints in the informal sector. A lack of insight into the varying context of transport planning in developing countries plays a big role in such faulty planning. In the developed countries, transport planning by-and-large means providing a balance between car and public transport, solving congestion and other regulatory features. However adopting similar transport planning patterns in developing countries, where para-transit and non-motorised vehicles constitute a major share of the modal split and are often the carriers of informal economies, and removing non-motorised modes like bicycles and rickshaws will be the biggest setback on the daily mobility and employment of the billions of poor people employed in the informal sector. This finding is consistent in all parts of the developing world (Houpin 2009). Since a huge share of the female workers are employed in the informal sector in the developing countries, transport projects ignoring the soft and informal modes will directly hit the women workers. This fact is already reinforced in identifying the constraints to women’s access to profitable small scale enterprises. Jennings (1994) notes that:

Box 10: Access is further hampered by the spatial constraints placed on women by the sexual division of labour and by “social customs”. Women are most often confined to the home as the site for their productive work which limits their access to contacts for markets, raw materials, role models, and social interaction, and compounds the problems they already face by virtue of having to operate in the informal sector. As isolated workers they do not share in the benefits of collaborating with others to achieve particular ends. As home-based workers they have limited contact with the informal “business culture”, the main training ground for small scale businesses.

By comparison, men working in the informal sector in pursuit of fulfilling their breadwinning role are relieved of many household tasks and the free mobility that they enjoy facilitates greater access to contacts for markets, credit and raw materials (Moser 1984, 1989). It also provides them with a forum for meeting, learning from, and gaining the support of other informal sector workers.

Where zoning legislation separates commercial from residential areas, the mobility problems of women are reinforced. They are unable to market from their homes and are thus dependent on men to sell their products, thereby minimizing their control over the profits. Issues of the availability of transport at times suitable to women (not only at peak hours to facilitate formal sector workers), and the physical safety of women on public transport also impact on their freedom of movement.

Box 11: The case of myopic focus on car and other motorized vehicle based infrastructure in many developing countries, thus reducing the mobility (and invariably the quality of life) of those unable to afford automobiles has been put outside the ‘formal’ debate on transport policies.

To cite an example from India highlighting the link between social justice and transport policy is the plight of Delhi’s ‘wastepickers’ - informal sector trash collectors that make their living collecting and sorting garbage. According to Bharati Chaturvedi, Director of Chintan, a community group that advocates for wastepicker rights, new transport policies in Delhi and other Indian cities have often favored the transportation needs of private automobile owners over those of the wastepickers.

While often unseen or overlooked, 1 out of every 100 Delhi residents earns a livelihood as a wastepicker. As a group, these informal garbage men and women collect over half of the city’s waste. But in a rapidly modernizing India, the wastepickers’ way of life is under constant threat. Mobility is essential for these workers, who typically use cycle rickshaws to move from house to house and to haul their huge bags of garbage, which can exceed 60 kilos (approximately 130 lbs). But as private cars have begun to dominate Indian roads, the government has decided to ban bicycles and cycle rickshaws from many city streets. Ostensibly, these measures are designed to improve traffic flow, but they can be a death sentence for the wastepicker business model: without this affordable form of transportation, their ability to collect enough trash to make ends meet becomes even more difficult. According to Bharati, wastepickers caught using their cycle rickshaws in restricted areas can have their rides confiscated. The rickshaws are then cut in half, in order to permanently take them off the road! (http://thecityfix.com/car-centric-transport-policy-hurts-indias-informal-sector)
Another nuance of this deprivation is illustrated by the employment conditions of women in garment manufacturing sector in South Asia. The case of Bangladeshi garment workers paints the most succinct picture of the flip side of this form of economic participation. Bangladesh presently exports ready-made garments (RMG) to about 30 countries in the world, employing about 1.8 million workers of which 1.5 million were women (Kabeer 2004). Though a string of problems exist for these women workers, problems of industrial work and urban living are compounded by the mere fact that there are not enough affordable housing and transportation facilities for workers on limited wages (Absar 2000). In her study on the living conditions of women workers in the RMG sector in Bangladesh, Absar (ibid) notes that a major problem afflicting women workers in Dhaka is transportation in the city. Thousands of workers struggle to reach work daily, mostly on foot. A clear demarcation between the travel behaviour of workers can be seen in the Export Processing Zones (EPZs) versus the non-EPZs, which is attributable solely to the provision of transport facility in the EPZs. According to Table 3, more women (69%) walk to work than men (58%) in Non-EPZ factories, whereas workers in EPZ factories only 7.5% men and women walk to work. Table 3 itself explains the reason for this difference, showing that 78-80% workers use factory bus in EPZ factories but most Non-EPZ factories have no factory bus and thus workers walk and/or use public bus. According to Khan (1993), buses are overcrowded and irregular and rickshaws are time-consuming. Moreover, in Dhaka rickshaws are not allowed to ply in some major roads where a number of garment factories are located. This also compels them to walk.

**Table 3: Garment Workers Mode of Commuting, 1997 (per centage)**

<table>
<thead>
<tr>
<th>Commuting Mode</th>
<th>Non-EPZ</th>
<th></th>
<th>EPZ</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Walk to work</td>
<td>57.9</td>
<td>68.9</td>
<td>7.4</td>
<td>7.6</td>
</tr>
<tr>
<td>Walk and rickshaw</td>
<td>3.7</td>
<td>7.0</td>
<td>3.7</td>
<td>3.3</td>
</tr>
<tr>
<td>Walk and bus</td>
<td>21.6</td>
<td>15.5</td>
<td>3.7</td>
<td>3.3</td>
</tr>
<tr>
<td>Bus/tempo</td>
<td>4.2</td>
<td>2.1</td>
<td>3.7</td>
<td>2.2</td>
</tr>
<tr>
<td>Factory Bus</td>
<td>0.5</td>
<td>-</td>
<td>77.8</td>
<td>79.3</td>
</tr>
<tr>
<td>Rickshaw</td>
<td>6.3</td>
<td>2.8</td>
<td>-</td>
<td>2.2</td>
</tr>
<tr>
<td>Other</td>
<td>5.8</td>
<td>3.7</td>
<td>3.7</td>
<td>2.1</td>
</tr>
</tbody>
</table>


Another depiction of the reality faced by garment factory workers is presented in the following box.

**Box 12: Garment Factory Workers of Dhaka, Bangladesh**

Factory women walk 4–5km each day. Without effort they have formed a line. This is why they are so visible. They form the silver lining of a road. They walk to save daily commuting costs. For a person having to pay Tk800 for a room from a wage of Tk700–1,000, it is more than essential to walk. So much walking every day takes its toll on workers' health, particularly that of women. The situation is worse at night because of the fear of being raped. This adds mental stress to physical stress. All the 35 workers interviewed agreed that every single night, when they leave work, they fear men will stop them on the dark roads and take away their izzat (virtue). They fear mostly construction workers, who coincidentally are migrants too. Employers should provide transportation for women workers, at least from the factory to the nearest point of their squatter settlements or places of accommodation. It would cost less than a woman's izzat. Regular and secure transport would ensure that workers turned up on time, that the women would be physically less stressed and could channel their energy into their work, would reduce sicknesses and absenteeism, particularly in the rainy season, and might engender a sense of loyalty amongst the women.

Source: Absar 2000
A different format of the same industry is home-based garment manufacturing. This sector is also primarily run by women in South Asia but rather than being employed in factories or export processing zones, these women run their production units from their home. To illustrate the effect of variation in mobility levels on the economic outcomes for female-based informal sectors, Kantor (2002) analyses the case of home-based garment producers in Ahmedabad, India. Though it was difficult to establish a distinct and significant relationship between the level of daily mobility and economic outcomes due to a the special type of market structure existent in Ahmedabad, she concludes that development planners cannot ignore mobility when developing interventions to improve livelihood outcomes of female producers in this sector. Based on the sector’s market characteristics, one potentially important intervention typical to many microenterprise development programmes is to improve the range and quality of markets to which women have access (ibid, 156). She underscores the importance of assisting producers “in linking with markets in higher value-added niches within the city, and with garment markets outside the city and state. This will require a programme with a range of components, including stitching skills training, marketing skills development and conscious-raising regarding mobility. The latter is necessary because improving market access is likely to increase the demand for mobility, particularly if producers access these outlets directly” (ibid).

5.2 Micro Credit Schemes
Following the lead from the World Bank, it was recognised during the 1970s that one of the main reasons why the poor in developing countries failed to benefit from development (the “trickle down” problem) was that they lacked access to resources and opportunities, thus leading to the formulation of the “target group” oriented development strategy. It emphasised the promotion of specific target groups that failed to benefit from development through direct allocation of resources and channelling of opportunities. However, judged by the current levels of poverty in many of these countries, this new approach appears to have had only a limited success after more than two decades. Gender based discrimination, along with constraints attributable to their informal status, is claimed to have restricted women’s opportunities. As Sethuraman (1998) notes, that though the presence of women in informal sector in the developing countries is markedly high, current strategies toward women in the informal sector does not seem to recognise the existence of market imperfections in developing countries, especially in the area of credit, and accordingly they have not focussed on easing women’s access to credit. There is also a growing recognition that credit and other markets in developing countries are not friendly or accessible to the poor and illiterate, particularly to women. As a proactive response to this state of affairs, the trend has been to address the constraints which the informal sector and women, in particular, faced through the advocacy of micro-credit schemes. Consequently, multiple microenterprise credit programmes sprung up in recent years, which have endeavoured to develop “informal” financial mechanisms to reach women in a friendlier environment. However, as Omorodion

Access to market, training skills and education need to be made integral part of micro-credit schemes
Source: Ari Yuniasti [ari_yuniasti@yahoo.com]
(2007) contends that though much research has been done on the effectiveness of micro-credit programs in improving the economic situation of women (Fernando, 1997; Schuler et al., 1997; Mayoux, 1999; Ahmed et al., 2001; Amin et al., 2001; Perry, 2002; Pitt et al., 2003; Izugbara, 2004), the findings have been inconclusive. For example, Pitt et al. (2003) found that women’s participation in microcredit programs did increase their empowerment but Perry’s (2002) analysis shows that although capital was useful to the participants, they were unable to make repayments as they were forced and cajoled by their spouses to hand over the money meant for repayment to them to reinvest in their own economic activities, thus questioning the assumption that empowerment is simply a matter of handing over credit. The issue of daily mobility seeps in this discussion in a twofold manner. Firstly, similar to the case of informal sector, women lack direct access to market to sell their products and make networks to access information; secondly as Fernando (1997) has argued, lending institutions need to implement repayment arrangement that includes outlets located close to market places and in communities involved in the program. As a result, women would not have to travel long distances nor seek their husbands’ permission to make such repayments. The women could on market days simply walk to such outlets to make repayments. Some highlights from review studies are:

- Case study of Esan women, Nigeria (Omorodion 2007) – “The lack of financial institutions in rural areas, which meant traveling long distances to make loan repayments also contributed to the failure of the micro-credit schemes in Esan communities”;

- Cases from the Lawra District of Ghana (Ansoglenang 2006) – This study advocates extending appropriate technologies to women as part of the credit schemes which includes simple loading/transportation equipment in order to spare them of the health risk associated with head porterage.

Further elaborating on ‘access’, few interventions at present are concerned with issues like differential access to education, training and skills, which is equally important in raising women’s income as making credit available, thus putting it directly in the ambit of empowering women through micro-credit schemes. In his assessment of microcredit schemes in five countries - Nepal, Viet Nam, Egypt, India, Kenya – Nigam (2000) states that the lasting impact of credit in reducing the worst manifestations of poverty can be enhanced when it is combined with basic social services and key social development. To that end, access to market, repayment nodes, and basic education and training are among the most vital elements.

6. Disaster and Conflict Situations

Natural hazards transform into disasters through a combination of various destabilising processes. As Graham (2001) notes, ‘Large-scale disasters could be viewed, in reality, as a myriad of small-scale concatenated, complex or combined disasters all related to the original triggering event. The levels
of damage and impact will vary between social groups, communities and areas according to their levels of vulnerability, adaption, and resilience, and the accumulative effects of the magnitude or intensity of each hazard. An adequate approach to risk reduction must inevitably recognize the hazards (causal factors) and their territorial circumscription.’ In the previous sections we witnessed the differentiated capacities exerted by the respective genders in accessing markets, wealth creation, socialization practices, cultural expressions and political participation. Owing to these differentiation, conflict and disasters impact differently on men and women. Nevertheless, it is often noted that humanitarian and rehabilitation programmes continue to favour men (Trujillo 2000). Even in the field of research, the vast majority of the available literature on ‘women and transport’ is found within the development discourse and the link with disasters/conflicts/emergencies is either absent or perfunctorily mentioned. Despite a consistent focus on ‘equal access and full participation of women’ by the International Agencies, there remains a gap in translating this focus. This could be happening simply due to lack of understanding of the importance of ‘mobility’ per se. In order to do justice to the rehabilitation process in the aftermath of disasters or conflicts, one needs to study the relationship between mobility and the developmental issues. Further, this relationship needs to be guided at the levels of respective genders and the scale of disasters and conflicts. A brief review of the rehabilitation processes highlights the lack of such insight. The International forum for Rural Transport Development (IFRTD, 2005) notes that the post disaster investment in Honduras after Hurricane Mitch focused primarily on big or secondary roads and not rural roads, and the transport sector’s modern rhetoric of issues such as sustainability and maintenance, gender and the environment were strangely absent. Though there is tremendous pressure in the post disaster reconstruction stage to show case the progress being made, the key challenge lies in reconstructing with change, avoiding mechanisms for constructing new vulnerabilities or exacerbating those that already exist. Citing an example to this end, IFRTD (2005) notes that ‘prioritising the rehabilitation of rural road networks to enable small farmers to access markets could potentially discourage post-disaster migration to vulnerable rural areas and urban slums. By continuing to listen to the needs of the poor in the post-disaster context, the transport sector has the potential to avoid creating new socities with even greater vulnerability.’

The essential conclusion is that rather than being a linear process of establishing the pre-existing set of situations, rehabilitation in aftermath of disaster and conflict situations offers a unique opportunity to correct development/gender-related imbalances. Disaster reduction measures can become an asset in post-disaster relief situations with regard to the positive impact of targeted policies for community level advocacy, awareness raising and preparedness education and training. Longer-term measures that assist to reduce vulnerabilities to hazards, by ensuring the important role of civil society, are therefore of fundamental importance to operate an effective transition from relief to development (Graham 2001). Tackling the boundaries of women with regard to daily mobility needs to be inbuilt while conducting the well established stages of community-based risk mapping, contingency planning

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7 The issues are different when the disaster or conflict situation entails displacement. As Gururaja (2000) notes ‘Displacement has different consequences for women and girls than for men and boys. There is often a dramatic increase in the number of women heads of households, and they bear additional responsibilities for meeting the needs of children and ageing relatives, since the male family members have either joined the warring groups or been captured. Women face new demands in providing for themselves and their children, with increased workloads and limited access to and control over the benefits of goods and services.’
exercises, and damage and needs assessments in the event of a disaster or crisis. Let us elucidate this example though the case of infrastructure provision. It has been time and again reported that lack of basic infrastructure like wells, water points near the housing areas have been productive in reinforcing the skewed gender relations and the resultant disadvantageous position of women. When such situations collapse with crisis and disaster, gender relations get more skewed, as elucidated by the case of Somaliland.

<table>
<thead>
<tr>
<th>Box 13: Women’s and Girls’ Increased Economic Insecurity after Drought in Somaliland</th>
</tr>
</thead>
<tbody>
<tr>
<td>In “Somaliland,” according to Famine Early Warning Network Systems, a two-year drought has had severe ramifications for the economic security of women and girls. Women and girls, largely responsible for water collection, have to travel further and further as wells and water points dry out. The drought has forced up to 40 per cent of school children in the Togdeer region to drop out, with girls comprising a majority of the dropouts.</td>
</tr>
<tr>
<td>Source: Byrne et. al. (1995, PP. 102).</td>
</tr>
</tbody>
</table>

Conflict situations present very specific cases. Post conflict rehabilitation is prima facie much wider in scope than a matter of building the infrastructure alone. Lahai (2010) touches upon the depth on this issue through an examining the nature of women’s participation in on-going and recently-concluded armed conflicts in 15 countries in Africa. He (ibid, 5) highlights that

It is evident in the literature that the end of conflicts, or the signing of peace accords, does not represent the end of violence against women. Countries in the data set of “recently-ended” civil wars share this feature of increasing levels of post-war gender-based violence. In Sierra Leone, for example, after the war the dashing down of the optimism of former male combatants to reclaim their lost status in society has resulted in more cases of domestic violence. In Southern Sudan, it has been pointed out that the violence that existed in pre-war years—such as arranged marriages, battering of women, and wife inheritance—is closely related to the prevailing culture of violence that escalated during the war, with multiple cases of rape of women (Lowilla, as cited in, Bop 2001, p. 36). Right across the African continent, Bop (2001) contends that the loss of identity, bodily integrity, the distortion of agency, economic losses, loss of Leadership, losses in education and health, amid the increase in domestic responsibilities defines the precarious condition of women’s post war lives—hence the validation of Cockburn’s (2004) argument that violence against women is a gendered continuum.

But as in the case of disasters, post conflict situations offer women opportunities to change the pre-war gender stereotypes and subordinations (Lahai 2010, 6). In Chad, as a consequence of the conflict, there has been a change in the patriarchal social outlook, because “the social disorder brought by the war transformed gender relations,” and “enabled women to leave the private sphere and participate extensively in the public domain” (Women’s Commission of the Human Rights League of Chad and the Editors 1998, pp. 126-207). In Nigeria, Okechukwu Ibeanu found that the Ogoni conflict raised the profile of Ogoni Women (Ibeanu 2001, p. 207). In Sierra Leone, it was after the conflict that some of the patriarchal stereotypes (of barrenness, and ancestral curse on women who contest for paramount chieftaincy elections, especially in the Northern Province) in politics were removed, making it possible for women to contest alongside men. It was after the genocide in Rwanda that women gained parity with men in politics. Underlying all these post-conflict development is the fact that women became mobile and there occurred a dilution of gap between private and public spaces. For development planning, this fact presents opportunities for facilitating women’s mobility to readdress
gender based discrimination in pre-conflict era, and the process should ideally be integrated in the very fabric of post disaster/conflict recovery. Unlike the following example, where mobility potential is ear-marked for the hard/technical aspects, one needs to accentuate that gender based interventions is equally important as providing infrastructure like roads and housing.

**Box 14: Challenges to Implementing Gender Mainstreaming in Kosovo**

Oxfam was involved in the emergency humanitarian efforts in Kosovo in 1999. Oxfam has made considerable efforts to mainstream gender and integrate ‘hard’ (technical) and ‘soft’ (social) elements of humanitarian assistance. This resolve, however, crumbled in the face of high media interest as large sums of money were diverted to Oxfam to spend fast.

In Kosovo, this initially resulted in gender inequalities in the recruitment and pay of staff: young educated male Kosovar refugees working with the water engineers were paid, while young educated female Kosovar refugees were not, an oversight that was later rectified. The stereotypical gender divide in the division of work, however, remained unchanged, with ‘hard’ programmes such as water engineering being staffed almost exclusively by men, while ‘soft’ programmes including gender, disability, social development and hygiene promotion, employed almost exclusively women. The water programme teams each had access to their own new vehicles – highly desirable resources during the crisis period – whereas social development, gender, hygiene promotion and disability teams had to share one old, broken-down vehicle.

Source: UN-Habitat 2007

### 7. Information and Communication Technologies (ICTs) - Virtual Mobility

A discussion on mobility in the present world is rendered incoherent without acknowledging the rapid development and diffusion of information and communications technologies (ICT) in the past decade. ICT penetration can be considered one of the most profound changes in people’s lifestyles since motorization, leading to an era of virtual mobility (Golob, 2001; Kenyon et al., 2002). Interactions between telecommunications (mobile phone, internet) and physical mobility (travel) can range from substitution, complementarity, modification to neutrality (Salomon, 1985), and thereby has provided people with a vast array of activity opportunities for communications in the cyberspace. The implications of this avenue of mobility are noted in the dramatic changes occurring in the individual activity-travel behavior, lifestyles and activity-patterns. Similar to the differential access to mobility, access to virtual mobility is also differentiated. Golob (2001) suggests that the three space-time constraints proposed by Hägerstrand (1970), the capability constraint, the coupling constraint and the authority constraint, are effecting the world of ICT and thus the gender divide persists in this arena as well. To better understand gendered mobility in this ICT era, we have to explicitly consider relationships between activities, travel and telecommunications as experienced by the respective genders.

To appreciate these processes of differentiation, first, it is necessary to consider the social realm as a setting for everyday life with respect to national legislation, cultural conduct and societal practices. This realm is also geographical – the lived location within the national, regional and local context. Second, we have the individual practices – the personal histories, visible and invisible power-relations, structural codes and personal choices form the ever changing mix of choices and their outcomes resulting in aggregates of organisations, collective arrangements and their inter- and intra-relations. Thus, micro-level collectively transfigures into macro-level in time and space. With regard to the developing countries, I describe mobile phone as the predominant technology (device) that constitutes
the essence of the “mobile society” for the majority of ordinary people (refer Figure 2-5). In technical terms, it would be necessary to broaden the “virtual mobility” concept in this section to include access computers, portable lap-tops and palm devices, but given the dominance of mobile phones in developing countries (at the end of 2007, more than one out of 4 Africans and one out of 3 Asians possessed a mobile phone, ITU 2007), this focus is considered sufficient at the moment. To bolster this argument, ITU further reports that internet use was progressing at a much slower rate, with only 13 out of 100 inhabitants in the developing world accessing the internet, and with fixed internet access limited and expensive (ITU 2009).

The case of the Village Phone project in rural Bangladesh funded by the Grameen Bank is emblematic of mobiles for development stories. It was initiated in Bangladesh under the leadership of the Grameen Bank, and has since been adapted in Uganda, Rwanda, the Philippines, Cambodia, Haiti and Indonesia, in order to “create a global Village phone movement that provides the world’s rural poor with access to reliable and affordable telecommunications” (Grameen Foundation, http://www.villagephonedefirect.org). In assessing the literature on women’s use of mobiles, Heatwole (2009) argues that access is a key concern in the debates: are those women most in need of the mobile for achieving empowerment (whether defined as furthering economic self-sufficiency or maintaining viable social ties for communities or families) able to access handsets? Are women most at risk for domestic abuse or social isolation able to access mobiles? And what is the impact of income and literacy levels in terms of mobile access? A selection of articles focussing on women’s access and use of ICTs in Africa reveals that, overall, mobile phones are found by many women to be empowering both socially and economically (Buskens and Webb 2009). In rural Mozambique the use of mobiles by women was found to extend and strengthen family ties while pre-paid phone services allowed women to engage in cost-effective communication for trading goods and services. Women’s appropriation of the mobile phone surpassed use of other ICTs such as computers and the internet, which, because of their gender, was not presented to them as a communicative option in telecenters (Macueve et al. 2009). Comfort and dada (2009) reported that in northern Nigeria most women had never used a landline as they were expensive and thus readily available only to middle to upper class families and government departments whereas the mobile filled this gap, with its popularity fuelled by the strong oral culture and low literacy rates (which is why SMS was not widely used). However, affordability was a key issue: the researchers recommended reform of mobile tariff systems because often poor signals, services and coverage in some areas meant that connecting calls was precarious; and that within households there was often disagreement about whether to spend needed money on top-up credits for the mobile, which husbands preferred or household expenses, which women wanted. In Zambia the mobile was used effectively by women NGOs for advocacy and change, for instance the use of SMS to alert members on timely legal proceedings. While stored telephone numbers rendered a network of social trust, gender-based conflicts in domestic situations over the use of the phone (reinforcing cultural restrictions of freedoms of expression and networking were reported by many women (Abraham 2009); this reinforcement of gender socialization and segregation was also reproduced amongst women entrepreneurs in Kenya (Munyua 2009).

Women fish-mongers and fish processors in Dakar cited mobile as an effective tool to strengthen their economic self-sufficiency as entrepreneurs, increasing their commercial transactions and facilitating relationships with suppliers and clients (Sane and Traore 2009). Mobiles can also be effectively
utilized for furthering the involvement of women in governance issues. In 2007 Kenyan election, mobiles were given to Community Information Volunteers who made short videos to promote electoral participation. One woman used it to probe why women were not running for political office and what Kenyans thought about women as political leaders (Verclas and Mechael 2008). Fahamu, an African NGO, has also documented the use of mobiles and SMS for dial justice advocacy and awareness. In one instance, Fahamu collaborated with the Solidarity with African Women’s Rights coalition to mobilize citizens to register their support for the African Union’s Protocol on the Rights of Women in Africa campaign. Fahamu has also worked with the Rural Women’s Movement in South Africa to teach women how to use SMS to report on lands rights and violence against women (www.fahamu.org). These trends indicate that there is a vast opportunity to directly address the issue of unmet mobility needs through mobile usage. Issues like access to market information, participation in civic governance, accessing help in case of emergency birth / health related situations / domestic violence can be organised through mobile usage without making a sharp dent on cultural codes per se. It is a technology which is widely available and due to decline in the mobile rates, it is becoming accessible to the lowest strata of population as well. The challenge lies in making this technology a part and parcel of development programmes aiming to eradicate poverty and empower women.

Source: ITU world Telecommunication / ICT Indicators (WTI) database.
Part III – Analyzing the trends in Developing Countries

This part attempts to highlight the dominant trends in travel behaviour of women as captured in surveys undertaken in different parts of the developing world. The urban and rural trends are presented separately given the overwhelming difference in the nature of travel behaviour at these two levels. This section should have been more elaborate and dense but it suffers from a lack of access to published survey results for developing countries. Additionally, a very short time frame given to prepare this report was also another handicap. Future work on this theme can build on this section in collecting and presenting survey results from various parts of the developing world.

3. Rural Areas

Irrespective of the continent, rural travel patterns in developing countries can be divided into three broad categories: i) domestic travel, including water and firewood collection as well as food processing trips to grinding mills, ii) agricultural travel, including trips to and from the fields, as well as supply and marketing trips, and iii) travel for access to services and social purposes, particularly to health facilities, shops, public markets, church/temple etc. While travel burdens are often shared between men and women for agricultural travel, women are almost entirely responsible for all domestic travel, which is by far the most energy and time consuming category in rural areas, accounting for one third to over two thirds of all travel (Peters 2001). As a result, daily mobility is consistently gendered in rural areas across all developing countries. To give a glimpse of this skewness along gender lines, a study (Potgieter 2006) conducted in 2005-2006 in rural South Africa (SA) is quoted here. This study took place in rural areas of the O.R Tambo District Municipality, located in the Eastern Cape, one of the poorest provinces of SA. Through a structured questionnaire survey of 237 respondents, this study once again reinstates that though much focus has been placed on the issue of women and transport in rural Africa, the problems still exist and the format of problems have not changed much either, at least with reference to the least developed parts of the world. The relevant details are highlighted here:

- Women are primarily responsible for collecting of wood, water and dung as well as performing other household activities;
- 99% of women walked and carried firewood on their heads;
- 55% of women are the primary providers of water for the household;
- An average of 66 litres are carried per trip (mostly head loading);
- When adult women are sick it is the responsibility of the girls, 92% of respondents indicated that it was unheard of for boys to collect water, wood and dung;
- When boys did do collections it was because there were no girls in the household;
- Girls start collecting wood around age 10 – often starting with adult women and eventually doing it on their own;
- The few boys who did collect stopped around the age of 18, but women continue throughout their lives;
- These extra tasks impact on education (for girls) and women contribution to community affairs as well as their health; and
- Women have very little free time – most of their time is spent doing household related activities – spending between 3½ and 9½ hours travelling.
Figure 6: Travelling time to collect firewood / animal dung (per day), Eastern Cape, South Africa

Figure 7: Travelling time to collect water (per day), Eastern Cape, South Africa

Figure 8: Usage of different modes of transport, Eastern Cape, SA
Data analysis further revealed that there existed no correlation between the ownership and the women’s usage of the mode of transport. Women’s mode of travel is walking (only 5.8% made use of non-motorised forms of transport) with reference to the incidence of transporting goods and head-loading. Most women interviewed indicated that they would want to be given carts which the animals could pull (eases health burden and time burden) Focus groups indicated that women were of the opinion that the carts would assist the men in their transportation needs. Though the skewed usage of transport resources are attached to patriarchal ownership and inheritance of asset, even a perfunctory view of the time spent by rural women on meeting the different mobility needs established the unfairness towards women in such an allocation of resources.

Table 4: Time distribution on daily mobility and unpaid work for women in rural Flagstaff, South Africa

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travelling to the river</td>
<td>35 min.</td>
</tr>
<tr>
<td>Travelling from the river</td>
<td>20 min.</td>
</tr>
<tr>
<td>Travelling for primary production purposes</td>
<td>9 min.</td>
</tr>
<tr>
<td>Travelling to the field</td>
<td>29 min.</td>
</tr>
<tr>
<td>Travelling from the field</td>
<td>23 min.</td>
</tr>
<tr>
<td>Travelling to the forest</td>
<td>44 min.</td>
</tr>
<tr>
<td>Travelling back from the forest</td>
<td>30 min.</td>
</tr>
<tr>
<td>Travelling to social activities</td>
<td>38 min.</td>
</tr>
<tr>
<td>Travelling to and from bus stops</td>
<td>38 min.</td>
</tr>
<tr>
<td>Cultivating crops</td>
<td>95 min.</td>
</tr>
<tr>
<td>Collecting firewood</td>
<td>26 min.</td>
</tr>
<tr>
<td>Cooking</td>
<td>97 min.</td>
</tr>
<tr>
<td>Preparing the fire</td>
<td>26 min.</td>
</tr>
<tr>
<td>Preparing food</td>
<td>41 min.</td>
</tr>
<tr>
<td>Other household activities</td>
<td>137 min.</td>
</tr>
<tr>
<td><strong>Total time spent on daily mobility</strong></td>
<td>266 min. (4h 26min.)</td>
</tr>
<tr>
<td><strong>Total time spent on unpaid work</strong></td>
<td>422 min. (7h 02min.)</td>
</tr>
<tr>
<td><strong>Total time spent on daily mobility and unpaid work</strong></td>
<td>11h 28min.</td>
</tr>
</tbody>
</table>

Table 5: Time distribution on daily mobility and unpaid work for women in rural Port St. Johns, South Africa

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travelling to the river</td>
<td>33 min.</td>
</tr>
<tr>
<td>Travelling from the river</td>
<td>26 min.</td>
</tr>
<tr>
<td>Travelling to and from the field</td>
<td>46 min.</td>
</tr>
<tr>
<td>Travelling to and from the forest</td>
<td>27 min.</td>
</tr>
<tr>
<td>Travelling to social activities</td>
<td>137 min.</td>
</tr>
<tr>
<td>Travelling to the shop</td>
<td>70 min.</td>
</tr>
<tr>
<td>Cultivating crops</td>
<td>37 min.</td>
</tr>
<tr>
<td>Tending to animals</td>
<td>20 min.</td>
</tr>
<tr>
<td>Collecting firewood</td>
<td>10 min.</td>
</tr>
<tr>
<td>Cooking and preparing food</td>
<td>114 min.</td>
</tr>
<tr>
<td>Preparing the fire</td>
<td>45 min.</td>
</tr>
<tr>
<td>Other household activities</td>
<td>211 min.</td>
</tr>
<tr>
<td><strong>Total time spent on daily mobility</strong></td>
<td>339 min. (5h 39min.)</td>
</tr>
<tr>
<td><strong>Total time spent on unpaid work</strong></td>
<td>437 min. (7h 17min.)</td>
</tr>
<tr>
<td><strong>Total time spent on daily mobility and unpaid work</strong></td>
<td>12h 56 min.</td>
</tr>
</tbody>
</table>
A recap on the experiences of these women while negotiating their daily mobility revealed that majority of the women used paths to get to the water and wood sources which were sites for potential robbing, rape and snake bites. Safety was the biggest concern for almost the entire group (94% of the respondents). This case highlights that the reality of rural Africa cited almost 15 years ago indicating that 87% of trips still took place locally and on foot (Barwell 1996), still remains unchanged. The fact that "the most common means of transport in Africa are the legs, heads and backs of African women." Malmberg-Calvo (1997) holds true as well. Figures quoted in one of the earlier studies covering this topic (Peters 2001) are also consistent with the above study. Peters (2001) reported that women accounted for over 65 percent of household time and effort spend on covering their daily mobility needs. Figures 9 and Table 6 give an overview of the gender differences in labor activities across Africa reported in 2001 (ibid).

**Figure 9: Load Carrying Efforts by Gender in Five Regions of Sub-Saharan Africa**

![Figure 9](image)

**Table 6: Women’s Participation in Labour Activities, General African Situation**

<table>
<thead>
<tr>
<th>Production Activities</th>
<th>% of Work by Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash Crop Production</td>
<td>30 -70</td>
</tr>
<tr>
<td>Food Production</td>
<td>60 -90</td>
</tr>
<tr>
<td>Food Processing</td>
<td>100</td>
</tr>
<tr>
<td>Animal Husbandry</td>
<td>30 -50</td>
</tr>
<tr>
<td>Marketing</td>
<td>50 -80</td>
</tr>
<tr>
<td>Brewing</td>
<td>90</td>
</tr>
<tr>
<td>Water Collection</td>
<td>90 -100</td>
</tr>
<tr>
<td>Fuel Collection</td>
<td>80 -100</td>
</tr>
<tr>
<td>Transport of Crops from Field</td>
<td>70 -90</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Household or Community Activities</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rearing and Care of Children</td>
<td>100</td>
</tr>
<tr>
<td>Cooking</td>
<td>100</td>
</tr>
<tr>
<td>Cleaning, Washing, etc.</td>
<td>100</td>
</tr>
<tr>
<td>House Building and Repair</td>
<td>30 -60</td>
</tr>
<tr>
<td>Communal Farming</td>
<td>50 -80</td>
</tr>
<tr>
<td>Social - Dances, Funerals, Weddings, etc.</td>
<td>50</td>
</tr>
<tr>
<td>Litigation Activities</td>
<td>10 -20</td>
</tr>
<tr>
<td>Political Meetings</td>
<td>10 -20</td>
</tr>
</tbody>
</table>

Source: Riverson and Carapetis, 1991:11, as quoted in Peters 2001
4. Urban Areas

Studying travel trends in urban areas is a well-informed and debated topic. The entire foundation of transport modelling and planning is based on urban areas. The most prophesised method to measure accessibility, namely the Place-based methods look at the spatial separation between key locations like home or workplaces and other locations (like grocery stores or schools) where required or desired activities occur (Miller, 2005). However, the challenge to planners in developing countries is that accessibility varies widely for different segments of the population and to measure accessibility in this detail, planners need data that disaggregate travel behaviour to the individual's travel patterns, which are generally not routinely collected in most developing countries (Srinivasan 2008, Peters 2001). Establishing a trend in such a scenario is difficult. This section will, therefore, highlight some findings which have been consistently reported from urban parts of the developing countries, to give a glimpse into this under-analysed mobility detail. It builds on cases provided by Kunieda and Gauthier (2007), Peters (2001), Srinivasan (2008), Tanzarn (2008) and Tran & Schlyter (2010). The study by Peters (2001) included analysis excerpts from Astrop (1996) who presents a study on gendered urban travel behavior in Pune, India; Pochet at al. (1995) presented research that the French institutions INRETS and LET carried out in Bamako, Mali; Kudat et al. (1997) provide documentation on a social assessment done for the World Bank's Turkmenistan Urban Transport Project (in Ashgabat), while Paul-Majumder and Shefali (1997) prepared a special gender study for the World Bank's Dhaka Urban Transport Project, for which Shefali (2000) presented another update; Gomez (2000a,b) presented a study analyzing gender issues for a bus corridor and a bicycle pilot project in Lima, Peru.

What stands out in the urban areas of the developing countries is that mobility becomes an accentuated problem for low-income population, specially women. For this group of women, the pyramid of daily mobility comprises walking\(^8\) at the base (the primary mode) followed by non-motorised modes (like rickshaws, para-transit vehicles like \textit{tuktuk}s, \textit{becaks}, or \textit{jeepneys}) and at the apex lies overcrowded and poorly maintained buses. Kunieda and Gauthier (2007) note that when considering all trips (motorized and non-motorized), women make more trips per day, but the costs in both time and money are higher. They further highlight that a study on the urban travel behavior characteristics of 13 cities across different regions showing that, on average, women make more trips than men. Net trip generation by gender was highest in Tokyo and Kuala Lumpur with roughly 3 trips per day (3.5 in the case of Tokyo). In Cairo, it was the lowest with fewer than 2 trips per day. Men traveled more than women in certain stages of life (usually older) and in mainly in cities in Islamic countries. This suggests that cultural factors, including religion, influence travel behavior. In transport-user surveys in the Turkmenistan, Ashgabat Urban Transport Project found that the use of various modes of transport services is highly differentiated by gender. For example, 28% of women walk to work compared to 14% of men; 7% of women commute by car as compared to 20% of men; and 10% of women use transport provided by the workplace as compared to 20% of men. Women’s waiting times are longer than men’s and their average total journey time is 10 to 15% greater. Women were also found to have

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\(^8\) In Asian cities, despite heavy public subsidies for the road-based and rail-based public transit systems, the urban poor who usually cannot afford the fares, travel by walking, riding bicycles, taking non-motorized modes or overcrowded buses. In Africa, especially Sub-Saharan Africa, most people walk. For example, in Dakar, Senegal, based on the 2002 household survey, about 73% of all trips were done on foot. In Latin America, the majority of urban trips are walking, with public transit following second (Kunieda and Gauthier 2007).
lower incomes. Therefore, improvements in public transportation, and particularly, in bus and trolley services were seen to directly serve the needs of women.

Fig. 10: Number of generated trips per person by age and gender in various world cities.

Source: Hyodo et. al. 2005
In Figure 11, Peters (2001) provides an overview of mode shares in five different cities for which detailed, up-to-date, sex-disaggregated data was available: Pune, India; Bamako, Mali; Dhakka, Bangladesh; Ashgabat, Turkmenistan; and Lima, Peru. Overall, the findings are consistent with other available evidences, highlighting that:

- More women than men have no mode of transport available at all and walk.
- More women than men depend on public transport.
- Women are less likely than men to have access to motorized means of transport.
- Women are less likely than men to use bicycles or other intermediate means of transport, but are more dependent on feeder services and door-to-door transport provision.

**Figure 11: Gendered Mode Choice in 5 Southern Cities**

As has been highlighted in this report before, gendered mode shares continue to be most dramatically demonstrated by the percentage of women confined to walking as their sole means of transport. Men’s and women’s walking trip mode shares in Dhaka and Lima were roughly the same, while female walking trip shares were 52% higher than men’s in Pune, 61% higher in Bamako, and a 100% higher in Ashgabat. A total of 87% of all women in Bamako reported that they had no access to individual means of transport at all. Only 57% of the men were in the same position (see figure 12).
Given these results in mind, it will be interesting to compare them with some recent studies from developing countries. Srinivasan (2008) analyses travel behavior and location characteristics data for 1001 households in Chengdu, China and 116 households (with a total of 509 persons conducting 1862 trips) for Chennai, India. She studied the low-income population in these two cities and table 7 reveals that the trends are very similar to the results discussed above. As Table 7 indicates, women in both cities make a higher percentage of trips by foot than men. Also, women tend to have a lower proportion of trips involving personal vehicles like bicycles or other motorized modes. Interestingly, low-income women appear to make a similar proportion of their trips by transit (about 10%). The difference in bicycle use in Chengdu versus Chennai is striking but not surprising. The facilities for bicycling in Chennai are very poor. Table 8 suggests that the average travel time and cost characteristics of women in both cities is very similar though men in Chennai appear to have lower average costs but spend more time traveling than men in Chengdu. The difference in the number of trips is perhaps an artifact of the differences in the way the travel diary was collected in the cities. The survey in Chennai was smaller and hence it was possible to conduct more than one interview to elicit more detailed responses about daily trips making by the household.

Other studies of household travel in Chengdu and Chennai (Srinivasan, 2004; Srinivasan and Rogers, 2005; Srinivasan, 2006) using these data have suggested that women in central locations with better accessibility were more likely to both make more trips and travel farther for work trips. In the case of Chennai, living in a central zone allowed for more parity in the travel costs and times of men and women. A study in West Africa by Glick (1999) also notes that the cost of transportation to the city commercial center was key in affecting women’s entry into self-employment. Travel behavior of residents who are otherwise very similar (in terms of socioeconomic status) is likely to be different if they live in locations with differing employment and transportation opportunities. Furthermore, the accessibility of a location from the perspective of a woman is likely to be different than that of a man in the same household because data suggests that women are less likely to own a vehicle or have a license to drive it (Table 8).
Table 7. Mode Choice by gender for trips in the Chengdu and Chennai sample

<table>
<thead>
<tr>
<th></th>
<th>Chengdu</th>
<th></th>
<th>Chennai</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Walk</td>
<td>39%</td>
<td>59%</td>
<td>63%</td>
<td>83%</td>
</tr>
<tr>
<td>Bicycle</td>
<td>32%</td>
<td>19%</td>
<td>8%</td>
<td>1%</td>
</tr>
<tr>
<td>Transit</td>
<td>10%</td>
<td>12%</td>
<td>22%</td>
<td>14%</td>
</tr>
<tr>
<td>Personal vehicle</td>
<td>19%</td>
<td>10%</td>
<td>7%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Note: In Chengdu males make 35% of walk trips; 57% of bicycle trips; 41% of the transit trips; 63% of the personal vehicle trips; and 45% of all trips. In Chennai males make 41% of walk trips; 83% of bicycle trips; 59% of transit trips; 80% of personal vehicle trips; and 48% of all trips. Source: Srinivasan, 2008.

Table 8. Travel characteristics by gender for trips in the Chengdu and Chennai sample

<table>
<thead>
<tr>
<th></th>
<th>Chengdu</th>
<th></th>
<th>Chennai</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Average travel cost (PPP US$)</td>
<td>0.29</td>
<td>0.19</td>
<td>0.36</td>
<td>0.19</td>
</tr>
<tr>
<td>Average total travel time (minutes)</td>
<td>21</td>
<td>19</td>
<td>26</td>
<td>22</td>
</tr>
<tr>
<td>Average number of trips</td>
<td>2.7</td>
<td>2.6</td>
<td>4.3</td>
<td>5.4</td>
</tr>
</tbody>
</table>

Source: Srinivasan, 2008

With reference to accessibility afforded to the different genders in the case of Chengdu, Figure 13 indicates the local and regional access as reported by gender varies by location within the city. Darker shading indicates poorer accessibility in terms of time taken to travel and, in many locations, the accessibility (both local and regional access) as reported by women was darker (worse) than that of men. Figure 13 indicates the spatial variation in accessibility related components appears to differ by gender in Chennai as well. It is interesting to observe from the spatial distributions that there were many similarities between the Chengdu and Chennai samples. Both surveys resulted in the extraction of a similar set of accessibility and attitudinal components that varied by gender (and by income). As revealed in figure 13 and 14, there are differences in the regional and local accessibility trends of those who live in central locations in both the cities versus those who live in more peripheral locations, and women and men in the same location report different levels of accessibility.
Figure 13. Average Regional and Local Access Components by gender in Chengdu, China
Source: Srinivasan, 2008

Figure 14. Average access scores by location and gender in Chennai, India
Source: Srinivasan, 2008
Apart from analyzing descriptive data, it is useful to further build on the analysis to check the connections between various accessibility and attitudinal factors upon mode choice and their variations by gender. This kind of analysis will be of great significance while designing or improving upon transport plans in future. Srinivasan (2008) presents mode choice estimated through a discrete choice model, where accessibility and attitudinal components are tested for significance in predicting the choice of mode. The results of a discrete binary mode choice between non-motorized and motorized vehicles (bus or personal vehicle) are shown in Table 9. The significance of gender (in the case of Chengdu women who work) and at least one measure of access in both models suggest some interesting trends. First, women do make choices that are significantly different than men. In Chennai the local accessibility of a location appears to affect the decision to use a motorized mode (worse local access means that the trip is more likely to be walk/bike). On the other hand, in Chengdu better regional access drives the choice to choose a motorized mode (worse regional access means that the trip is by foot/bike). This suggests that certain segments of the city which have poor connectivity to the rest of the city have fewer choices for employment and that these locations are especially inequitable for those who do not have access to the more expensive personal or transit modes for their trips.

Table 9. Binary mode choice of motorized vehicles (bus or personal vehicle) in the Chengdu and Chennai trips sample

<table>
<thead>
<tr>
<th></th>
<th>Chengdu</th>
<th>Chennai</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient Estimate</td>
<td>Significance</td>
</tr>
<tr>
<td>Time taken on trip (minutes)</td>
<td>0.03</td>
<td>0.00</td>
</tr>
<tr>
<td>Total cost of trip (local currency)</td>
<td>40</td>
<td>0.99</td>
</tr>
<tr>
<td>Dummy indicating if trip was made by Female</td>
<td>NA</td>
<td>-0.6</td>
</tr>
<tr>
<td>Dummy indicating if trip was made by person with a job</td>
<td>0.4</td>
<td>0.09</td>
</tr>
<tr>
<td>Dummy indicating if trip was made by Female with a job</td>
<td>-1.56</td>
<td>0.00</td>
</tr>
<tr>
<td>Local Access Component</td>
<td>0.1</td>
<td>0.4</td>
</tr>
<tr>
<td>Regional Access Component</td>
<td>-0.6</td>
<td>0.00</td>
</tr>
<tr>
<td>Constant</td>
<td>-2.4</td>
<td>0.00</td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td>0.58</td>
<td>0.72</td>
</tr>
</tbody>
</table>

Source: Srinivasan, 2008

A spatial distribution of the logsum is shown in Figures 15 and 16 for Chengdu and Chennai. The logsum is evaluated as the natural logarithm of the exponentiated utility for non-motorized vehicle choice (Ben-Akiva and Lerman, 1979). The spatial distribution of the logsum in the following figures (here dark indicates poorer non-motorized accessibility) suggests that women have better non-motorized accessibility than men in many locations in both cities. However, the converse is also true. The map of motorized (bus or personal vehicles) would be reversed in that men tend to make this choice more often because the model predicts that it is of higher utility for them to not walk or bike in many locations.
Figure 15. Average logsum of non-motorised mode choice by location in Chengdu, China
Source: Srinivasan, 2008
Figure 16. Average logsum access scores for non-motorized mode choice by location in Chennai, India
Source: Srinivasan, 2008
Another recent study covering gendered nuances of daily mobility in urban areas comes from Uganda. Tanzarn (2008), in her study on Metropolitan Kampala, examines how transportation structures and systems create, reproduce and sustain systemic differences in material circumstances between women and men and reinforce women’s exclusion and subordination. An often repeated issue in developing countries, she notes is that the city was designed to specifically expedite the movement of vehicles and not pedestrians. Through a questionnaire survey of 225 people (women constituted 52.4 per cent of the respondents) she highlights that while the majority of the people interviewed do not own any means of transport, more men than women own cars, boda bodas (motorcycles) and bicycles (Table 9), a situation that reflects women’s lack of resources. Accordingly, as Table 10 shows, matatus (minibuses) account for 85 and 49 per cent of women and men’s means of travel, respectively. People, especially women, use a combination of means daily. Many people walk or use a boda boda in order to access another means, especially public transport. A matatu is the preferred means of transport for both women and men because it is perceived to be cheap.

Survey results revealed that the majority of men (90 per cent) and women (61 per cent) preferred walking due to its ‘zero cost’. The rest of the women who walked did so in lack of any other alternative. Walking is the only means of transport available to them either because they cannot afford transport or because they live on the margins of the city, and transport services are inaccessible. As regards boda bodas, 52 per cent of men who use them prefer them on account of speed, while for women the key consideration for the majority (42 per cent) is affordability followed by security (36 per cent), especially at night. Whereas lower income women use boda boda to ensure personal security while travelling at night, relatively well-off women pay for special hire cars. In contrast, men use special hire cars because they are convenient.

Tran & Schlyter (2010) analysed the issue of gender and class effects on urban transport in Xian, China and Hanoi, Vietnam. This is an interesting case to refer on the topic of gendered mobility given that (i) China and Vietnam are fast-growing transitional economies that are undergoing rapid urbanization and motorization, and there have been few, empirical studies looking at the use of means of transport in the everyday lives of women and men in these countries; (ii) both Chinese and Vietnamese women have one of the highest rates of economic participation in the world. Their findings pertaining to gender differences in travel patterns

<table>
<thead>
<tr>
<th>Type</th>
<th>Female</th>
<th>Percentage</th>
<th>Male</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car</td>
<td>7</td>
<td>5.9</td>
<td>15</td>
<td>14.0</td>
</tr>
<tr>
<td>Boda boda</td>
<td>1</td>
<td>0.8</td>
<td>6</td>
<td>5.6</td>
</tr>
<tr>
<td>Bicycle</td>
<td>6</td>
<td>5.1</td>
<td>11</td>
<td>10.3</td>
</tr>
<tr>
<td>None</td>
<td>90</td>
<td>76.3</td>
<td>75</td>
<td>70.1</td>
</tr>
<tr>
<td>No response</td>
<td>14</td>
<td>11.9</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total</td>
<td>118</td>
<td></td>
<td>107</td>
<td></td>
</tr>
</tbody>
</table>

Table 10. Most Frequent Means of Travel
Source: Tanzarn, 2008

<table>
<thead>
<tr>
<th>Most frequent means of travel</th>
<th>F</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Walking</td>
<td>51</td>
<td>43.2</td>
</tr>
<tr>
<td>Bicycle</td>
<td>4</td>
<td>3.4</td>
</tr>
<tr>
<td>Boda boda</td>
<td>42</td>
<td>35.6</td>
</tr>
<tr>
<td>Private car</td>
<td>14</td>
<td>11.9</td>
</tr>
<tr>
<td>Matatu</td>
<td>100</td>
<td>84.7</td>
</tr>
<tr>
<td>Special hire car</td>
<td>8</td>
<td>6.8</td>
</tr>
<tr>
<td>Company transport</td>
<td>9</td>
<td>7.6</td>
</tr>
<tr>
<td>Total responses</td>
<td>220</td>
<td></td>
</tr>
</tbody>
</table>
highlight that:

a. More men travel to work and for leisure and more women make shopping trips:

This is a “conventional” gender difference, common in most countries but surprisingly high in Hanoi given Vietnamese women’s high rate of economic participation. This seems to reflect the informal (and unstable) nature of many women’s jobs. Similarly, in line with global “conventional” trends, more women than men made shopping trips in both cities.

b. Women walk more and men are more motorized:

Gender difference is more pronounced in Hanoi, with more women relying on non-motorized modes and more men using motorized transport. In Xian, women walked more than men but men used bicycles more than women. No gender difference was found in bus, car and motorbike use in Xian. In Hanoi, there were more women among those who walked and used bicycles, and more men drove motorbikes. Of the few who drove cars, the group consisted solely of men.

c. More women are motorbike and car passengers:

In both cities, more women than men travelled as passengers, driven by family members. Male car passenger trips were often for leisure purposes, while women passengers often headed to school. That women travelled as passengers for trips to go to work (income related) could reflect the fact that women possess fewer motorbikes than men, as shown in a recent urban transport study of Hanoi (ALMEC 2007).

d. Women travel shorter distances but walk longer distances

In line with “conventional” travel patterns, women travelled shorter distances than men in both cities, when all transport modes were included. In both cities, there were more women than men among those who travelled short distances of less than two kilometers. However, when looking into respective travel modes, we found that the distance differentiation between men and women depended on whether the travel modes were non-motorized or motorized. In both cities, women’s walking trips covered longer distances than men’s, while men's motorized trips (cars in Xian and motorbikes in Hanoi) were for longer distances.

d. Women bicycle longer distances in Hanoi

Women’s bicycle trips in Hanoi were longer than men’s. Most of the men’s trips were less than five kilometres, while women’s bicycle trips varied in distance, with some up to 15 kilometres. In Xian, the situation is different. Men’s bicycle trips covered all ranges of distance, including distances of up to 15 kilometres, while the majority of women’s bicycle trips were shorter than five kilometres. However, it should be noted that the majority of Xian respondents used electric bicycles, which is physically less demanding, while all the

An understanding of the trips made by women need to be made part of future urban-transport planning interventions

Source: Ari Yuniasti [ari_yuniasti@yahoo.com]
bicycles used by respondents in Hanoi were “normal” bicycles.

g. Men travel longer distances with motorbikes

In Hanoi, men’s motorbike trips were longer, with almost 30 per cent being more than 10 kilometres. The majority of women’s motorbike trips were less than five kilometres. For motorbike trips in Xian, no clear gender differentiation regarding distance was noted.

h. Men use cars more often and for shorter distances

In Xian, only small gender differences were noted with regard to car use and trip purpose: more women than men used the car for multi-purpose trips, and somewhat more men than women took the car to work. On the other hand, men used cars for shorter distance trips than did women; this exhibits a clear difference for both drivers and passengers. The interviews showed some gender differences in the purpose and frequency of car use. Although both men and women drove cars to work, men used cars as their only means of transport, while several women car owners used their car for work, but less often. Some women car owners used the car to go to work but took the bus when they went to the gym, to go shopping, or when travelling to the city for pleasure. In Hanoi, very few respondents drove cars and invariably, those who did drive were men.
Part IV – Indicating policy directions

1. Discussion

This study attempted to broaden the discussion on ‘women and transport’ to incorporate some important determinants of women’s mobility in the developing countries. It was based on the assumption that a sole focus on transport aspect will give a diluted picture of women’s travel behavior, since women and men’s mobility are structured differently due to differential access to resources, social norms, issues related safety and the dictates of various social-urban-transport policies and programmes. Despite efforts by various development organizations, equal access to mobility opportunities has continued to remain a problem in the developing countries. A consistent finding which emerges from the developing countries is that there exists a gap between the national gender framework and inclusion of gender in the transport sector. In other words, as IC NET Ltd. (2004) highlight that a gender-enabling environment, e.g. with reference to gender focal points in their case studies, did not necessarily result in concrete gender practice across the transport sector. It is frequently the case that ‘gender’ as a development priority does not percolate down to the lowest level of implementation hierarchy.

This is happening despite it being accepted that the most sustainable forms of transportation are public transport, cycling and walking. Women of developing countries are already practicing these sustainable forms, albeit not out of choice but through inability to access other forms of mobility resources. However, instead of creating an environment where women increasingly start using private motorized modes (a noticeable trend in the urban middle-class cosmopolitan culture of developing countries), future planning interventions can be built to sustain their present forms of mobility through addressing their problems. In this regard, two inputs need to be advocated for regular update:

- Protecting this group’s behavior as users of sustainable mobility patterns from changing in the future; and
- Methods to increase the patronage of public transport, cycling and walking through refining the conditions around the usage of these modes

The findings of this review report highlight that the present transport policies are not placing an appropriate level of importance to these issues. Additionally, the policies are regressive in nature. They do not imbibe the concept of ‘vertical equity with regard to income and social class’ in the context of developing countries. Stakeholder participation at different local levels in designing and framing transportation policies also seem to be missing. Women are still not made part of directing and evaluating the development actions regulating their mobility patterns. In urban areas, the policies serving auto-mobility is enforced with complete disregard to income levels, participation in informal sector, predominance of walking and cycling as the major modes etc. which poses a real threat with the onslaught of incessant urbanization. While low income population in general face the brunt of unaffordability in accessing public transport services, women are the worst sufferers. Assessing the mobility needs of low-income women should be made an integral aspect of social/urban/transport framework. The study also serves to highlight that a socially-just and sustainable public-transportation

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9 The study brought together findings of ten case studies from nine countries (China, Laos, Vietnam, Bangladesh, senegal, Lesotho, South Africa, Uganda and Peru) to comment on the component of integrating gender into world bank financed transport programs.
system would satisfy women’s mobility needs and deliver social justice in terms of eradicating or modifying the barriers concerning:

- **Affordability** (the extent to which an individual or household has to make financial sacrifices in other areas to cover the expense of travel);
- **Availability** (route options, timing and frequency of services; location and design of stopping points); and
- **Acceptability** (other factors that determine the quality of services, e.g. design of bus-shelters, safety around bus shelters through designing active spaces).

Women are very often characterised by constrained social and economic networks which to a great extent is a primary, if not singular, product of mobility deficits. Even with the much celebrated stand of micro credit schemes to give economic independence to low-income women, ‘lack of access to market’ remains one of the greatest challenges in controlling the gains of various schemes that the women are involved in. Apart from such structuring issues, one of the greatest fallacies in realising the aims of the development programs has been adopting a naïve approach to the issue of mobility by ignoring the existent social and cultural norms. With regard to empowering women through giving them an opportunity to move, one has to respect that in the developing countries, an additional gender-imposed barrier for women is the freedom to move and the ways in which they move. In certain countries, segregated buses, for example, is the best option to begin with, whereas in other countries, a separate door will suffice. Given the context, acceptance and prioritization of IMTs, other para-transit modes, and designing public transport to meet the needs of women is incumbent on planning practitioners.

Though both genders identify similar barriers associated with transport infrastructure and services, the prioritization of their needs and corrective measures are different. This has definite implications. If transport policies, plans and programmes are to be economically and socially efficient, if they are to benefit women and men equally, then they must be informed by an analysis of women and men’s travel patterns and their related transport needs. In practical terms, this means institutionalizing the collection and analysis of sex and gender disaggregated data followed by routine monitoring. Many aspects of gender are not easily captured through travel surveys alone therefore there is a need to make a coherent discussion on mobility per se.

Access to education, health services and market should be prioritized on a prima-facie basis in the rural areas given their considerable impact on women’s ‘quality of life’. The linkage between fertility rates and female educational level is now well established (e.g. Ainsworth et al. 1996; Scribner 1995), and evidences suggest that girls’ educational attainment can affect their child-rearing practices and the health of their children (Kabeer 2005). These connections need to be sewed in the very fabric of transport planning.

Though much has been written on the connection between land-use and transport, urban/physical planning remains far from an integrated whole to serve the concerns of women. Looking at the urban-transport development in many developing countries, one cannot deny the fact that men have been the primary unit around which all planning and designing efforts have been concentrated. For example, wide roads with bare minimum or no pedestrian facilities is the existing norm in many cities. A blatant disregard of para-transit, non-motorized modes and an almost religious fervor around ‘car’ is either a conscious denial of women’s needs or an astonishing ignorance of the planning profession. A
plausible reason for this state of affairs is that the existing psyche in many developing countries connects ‘car’ to modernity and being progressive. This association needs to be broken.

This could be initiated by inserting more women in the field of urban/transport planning to bring forth women’s concerns, and the benefits which can be accrued by incorporating these concerns in mainstream development process. Majority of the building, planning and infrastructure sector is either heavily or totally led by men in both developing and developed countries (for example even in Sweden, where gender equality is an established and fiercely chased goal, 97% of the leaders in this sector are men). Greed (1994) says that women planners have a key role to play as philosopher queens who produce alternative visions of the city. Similarly Booth (1996) points out, a critical mass of women is needed to effect change since organizations and professions often have cultures that create invisible barriers that ultimately maintain the status quo.

In the 1970s, the World Bank under McNamara promoted multi-sectoral projects linked to the delivery of basic needs in developing countries but by the 1980s, this emphasis was displaced by the urban management approach, on the grounds that projects were fragmented and did little to address the dysfunctional management of cities (Devas, 1993). Yet joint-projects and Integrated Area Development (IAD) remain important for facilitating gendered mobility. Within the field of housing and upgrading, attention to creating ‘whole’ environments, the use of participatory approaches, and the growing attention to community development and poverty alleviation, has meant that projects allow for a broadening of the sectoral base to include social and economic development. Examples include Rio de Janiero’s Favela-Barrio upgrading project (Pamuk and Cavilieri, 1998; Riley et al., 2001) and DFID funded slum improvement projects in India (Amis, 2001). Odendaal et al. (2002) argue that UN-Habitat’s emphasis on community based planning and Local Agenda 21’s focus on sustainable communities reinforced new forms of IAD. The case of Cato Manor does suggest that IAD—and specifically projects run through a dedicated unit—provides an interesting and inviting space for developing more nuanced approaches to gender aware planning. Physical planning thus remains an open ground for innovative strategies to implement the goal of gender equity.

Zooming down on the transport dimension, one needs to acknowledge that this field is highly charged to make significant changes in women’s life. But it would be unwise to broach upon it through an attack on any established culture and the concomitant prescriptions around women’s movement. Incremental and thoughtful measures can eventually empower women through their newly found mobility. The case of Bangladesh illustrates this point: two decades ago, it was practically impossible to imagine women sharing public transportation with men since it was a taboo. But now it is an everyday event in the streets of Dhaka (Absar 2000). While this happened due to the unprecedented participation of women in the garment manufacturing sector and the associated need to move from the private to the public sphere, the existence of buses to ease this movement brought women out in public sharing the same space (of a bus) and thereby making a strong dent in the extreme segregation between men’s and women’s domain. Improvements in public transportation, non-motorized modes and provision of IMTs have the potential to dilute such segregations and eventually help the cause of women empowerment. But it seems that the understanding of this fact is extremely limited and operational within the domains of research studies and development organizations alone. Thousands of case studies and a general overview of the development process in developing countries highlight that mainstream planning still remains blatantly ignorant of this connection. Whether it intentionally
chooses to do so or is simply bogged down under bureaucracy to cater to any new creative ways of thinking demands further inquiry.

2. **Policy Directions**

A combined effort of urban-transport-social planning has the potential to address myriad imbalances present in the developing countries. Though these interventions differ at urban and rural level, the essential requirements of connectivity, affordability, security and ability to access important domains like education, health and market remain the same. Through right interventions, issues like security and crime, poverty (exacerbated by inaccessibility to employment centers, markets etc.) and the aim of empowering women through providing them ‘presence’ can be eventually achieved. This section aims to outline some policy directions. These directions provide the framework which should be further elaborated for different contextual settings.

As a most basic policy recommendation, the study suggests that the understanding of transport needs in isolation should be replaced by developing an agenda on ‘mobility needs’ and ‘gaps’. A mobility policy, including inputs from social-urban-transport planning arenas, would be designed to address the distribution of existing and potential mobility resources within the population. It will also serve to understand the ways in which mobility could be networked to reduce environmental, economic and social costs. Monitoring should be made an essential part of such a policy and both potential as well as actual movement and their controlling factors should be assessed. This might be achieved through a representative set of indicators, subject to a regular updating process.

The findings from this review study reveals that the agenda of integrating *mobility needs of different sub-groups* can be achieved through the following policy-interventions and strategies:

1. **Refinement of the methods for travel-related data collection and utilization**
   - Lack of regular data collection is frequently reported as an issue in developing countries. But apart from simple data collection, data needs to be segregated at the level of gender, activities and time-use. Friberg (2006) reinstates this in the area of physical planning that the perspective of everyday life can be an important planning tool. Time diaries can be used to identify this perspective in capturing the opportunities and constraints for various activities in different neighbourhoods, making visible the lives of men and women (Aquist 2006). The transport planning authorities need to be sensitized to take a more need-oriented approach. This should entail a recognition of the existence of distinct needs by the different socio-economic communities at the data collection, diagnostic and design stages;
   - The ‘travel behaviour surveys’ should disaggregate the sample based on gender (and other socio economic parameters like age, income, education, housing tenure, location etc.) to derive a better picture of the sub-groups (further discussion to be found in Mashiri et al. 2001, 2006). Gender classification, in particular, will reveal how time/space-resource distribution is taking place within this group.
   - Mobility-gap analyses should form an inevitable part of travel behaviour surveys. An explanation of the gap figures, for example in terms of average daily trips generated by
different types of households, will shed light on the distribution of mobility opportunities among the respective genders.

- There also exists a need to link the ‘soft’ or qualitative information to the ‘hard’ data information. This can aid in developing a model that corresponds much more to ‘everyday transport functioning’ than the much-used classical, techno-economical approach to transport model designing.

- Falling in sync with the findings of this review report, Barwell (1996) lists five factors particularly relevant for determining the actual extent of the female transport burden in rural areas:
  - Number of female adults in the household;
  - Number of children, particularly daughters in the household;
  - Distance to Sources of Water and Firewood;
  - Food staple and preparation requirements – relating primarily to travel to and from grinding mills;
  - Availability of intermediate forms of transport for domestic tasks which are actively used by women.

A simple start would be to draw a feasibility study based on the presence of these factors and the interventions which will be best suited for the case area. Additionally, programs can be built to target specific goals and ways to target potential mobility with reference to those goals can then be sorted out. For example, maternal mortality indicators have received much attention of late as the deadline of 2015 for the Millennium Development Goals grows nearer. Maternal mortality is a good indicator for demonstrating the efficiency of an entire health system, and availability of transport, availability of medical supplies, presence of trained health staff and access to health is a major factor affecting maternal mortality rates. Thus programs aiming at decreasing maternal mortality should have a detail analysis of mobility component as well. In areas where this access is problematic, complementary programs to address this issue specifically should be introduced, either through training the nurses to ride motorbikes, providing support for owning a community cart etc. The broad aim of building capacity of the public health authorities to promote equitable access to primary health care services needs to be broken down into workable components, based strictly on the contextual realities.

Given such benchmarking, it will become easy to assess the specific kinds of alterations needed in the mobility systems to adapt towards gendered needs (for example, usage of mobile phones to substitute the missed trips and access information). This applies at both rural and urban levels. Studies can employ methods like focus groups / questionnaire surveys / measuring actual behavioural response to different measures (for example, concessionary bus cards, channelizing feeder services, a change in the bus frequency, assistance in getting mobile phones as part of the micro-credit schemes etc.), and supplement this information by stated preference surveys to understand the adaptive preferences to different options. Studies conducted on these lines (e.g. Gärling et al., 2000, Loukopoulos et al., 2004 and Loukopoulos et al., 2005) have found that discretionary trips have a greater number of adaptation alternatives available from which to choose than non-discretionary work trips. This is exactly the case with women in developing countries where majority of their trips cater to discretionary purposes of combining various household/social/shopping related trips. Therefore, it is advisable that future research studies measure the costs and effectiveness of specific change alternatives for various trip purposes. Such results can give insights into the specifics needed for designing transport interventions for women to lessen their time and resource poverty.
2. **Immersion of the concept of ‘equity’ within the transport planning agenda**

- Design of public transport fare policies has to be refined to include the concept of vertical equity with regard to income and social class;
- Transport policies should be streamlined to reflect on both group-oriented and location-oriented specifics while designing services and fare policies;
- Meeting the mobility needs of the low-income population should be incorporated as an essential service of the welfare policies;
- The special needs of women in terms of their trip-chaining characteristics, travelling with young children, making trips in off-peak hours and such characteristics should be recognized both in infrastructure design and in traffic management. Incorporating details like reserved seats, increasing bus-frequency during off-peak hours, including both motorized and non-motorized para-transit modes like auto-rickshaws and rickshaws in mainstream transport planning will ensure the flexibility desired by women in terms of both routing and scheduling;
- The transport authorities can develop schemes like targeted fare experiments. The (major) variations in passengers’ price sensitivity, between different groups and between different journeys should be recognized and made part of fare designing policies.

3. **Articulation and promotion of public transport as the primary transport mode**

- If the government makes a conscious recognition of the multiplicity of modes in urban areas and uses the opportunity to regulate and diversify competition, it will most likely decrease costs and increase supply to poor people, specially women;
- Provision of minimum availability standards for public transport services, ensuring safety while plying on the public transport systems in evenings, supplemented where appropriate by feeder services like rickshaws, can be another effective approach to address the issue of inequitable distribution of mobility opportunities;
- Redesigning of road network and traffic management to allocate bus priority lanes and segregated tracks for cycles, non-motorized modes and pedestrians will not only make all transport modes operate in optimal conditions, it will also greatly reduce traffic accidents (for further discussion, refer Tiwari 2000, 1999; Tiwari et al. 1998a,b).

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*Segregated lanes for the various forms of modes operating in the developing world is the basic step needed towards preventing traffic accidents and efficient traffic management*

Source: Author, New Delhi, India.
4. Critical review of allocation / location policies (slum relocation policies, setting of satellite townships, low-income group (LIG) housing location)

- Location policies including slum relocation policies, setting of satellite townships, low-income group (LIG) housing location etc. need to be revaluated based on principles like the EANO (Equal Advantage for Non-Ownership) principle. This principle states that every part of every region should be developed and organized so that the advantages of not owning a car are at least equal to the advantages of owning a car (for further details, refer Gilbert 2000).

- Methodologies similar to the 3-R method, proposed by The Swedish Association of Local Authorities and Regions, should be explored and adopted depending which methods suits best for the context in question. The 3-R method has been developed using the key words Representation—Resources—Reality. It scrutinizes how women and men are treated in different communities by examining how the municipality allocates its resources and whether the allocation promotes women’s and men’s interests. Overall, it analyses the gendered norms and values that influence different activities. Experiences in other political and planning arena suggest that increasing women’s representation in comprehensive planning processes may have significant impact on the public agenda. The 3-R method illustrates the value of well-conducted statistical surveys with gender as a main category. Such surveys can reveal important gender differences in women’s and men’s daily lives, whether in travel habits, consumption patterns, or the locations of their workplaces. Similarly, Caroline Moser’s ‘introductory roadmap’ to urban violence and insecurity (2004) can be adopted to study the different structures related to mobility at local, national, and international levels to identify constraints and resources.

- The negotiation between a self-image of ‘insider’ and ‘outsider’ based on motorized modes needs to be broken down in the developing societies. To a great extent, this can be ensured through urban regeneration initiatives to improve access to jobs, diverse leisure facilities and other essential services without any need for private motorized modes.

5. More focussed research endeavours to address the ‘societal’ postulates of sustainable mobility

- The much advocated ‘social inclusion audits’ of transport delivery plans in the UK can be modified and adopted in the developing context as well. Such audits can aid in formulating programmes to ensure that adequate levels of funding are allocated to transport modes used by low-income sections of the population (mainstream public-transport, para-transit, IMTs and non-motorized modes like walking and cycling) (refer Hamilton and Jenkins 2000). Further, inserting gender auditing will aid in initiating the process of integrating gender into transport policy. A basic mapping could include the following inputs:
  - Establishing institutional linkages between a country’s transport, gender and urban planning policies;
  - Following the hierarchy from goal formulation to the level of actual approved projects and their implementation;
  - Inserting an assessment of mobility in all development programs aiming to reduce poverty and gender empowerment;
To facilitate this understanding, it will be useful to begin with analyzing the gender audit template commissioned by The UK Department of Environment, Transport and the Regions (DETR). This checklist or similar checklist is useful as a tool for benchmarking, evaluating and monitoring the insertion of gender component in transport planning. The UK gender audit checklist was designed to be utilized both as a management tool or a community tool. As a management tool, the gender audit checklist assists in (Hamilton, K. et al., 1999)

- assessing the organization’s performance in meeting the needs of women,
- identifying priorities for improvement,
- measuring progress towards gender-based targets.

As a community tool, the gender audit checklist –

- assesses how well a local transport provider or local authority meets women’s transport needs,
- identifies priorities for campaigning, lobbying and negotiations,
- measures the progress of operators and local authorities towards gender-based targets.

### Box 15: Basic gender and urban transport checklist

1. Has the urban transport program or project identified male and female participants, clients and stakeholders?
2. Has baseline data been collected and analyzed on gender relations, roles and identities within the urban environment and the use of transport?
3. Has the urban transport program or project taken into consideration the analysis of gender relations, roles and identities and introduced a component or transport measure to address a gender issue?
4. Has the urban transport program or project developed an indicator that measures gender specific outcomes and evaluate the effectiveness of the component or measure designed to address the above-mentioned gender issue?
5. Has transportation planning been based on local conditions and specific and local needs of men, women, youth, elderly and the disabled? Have statistics and situations in developed countries been referenced and adapted to reflect the needs and resources in developing countries?
6. Have jobs and social services been brought closer to men and women by developing accessible land use patterns?
7. Has the issue of personal mobility and access of non-drivers, of which a majority are women and the elderly, been thought through? Have policy, planning or investment practices that favour automobile travel over other modes or lead to automobile dependency been avoided?
8. Have the implications of policies and projects that degrade pedestrian and cycling conditions, such as new highways that divide existing communities or eliminate walkways been considered. Have measures been implemented to control vehicle traffic volumes and speeds, particularly in urban neighbourhoods?
9. Has the participation of various stakeholders in the transportation planning and decision making been facilitated?
10. Has comparative advantage been given to traditionally socially and transport disadvantaged by applying full-cost pricing to automobile travel, road pricing, parking pricing and fuel taxes and distance-based charges?
11. Provide transportation consultation and information on transportation choices available.
12. Have you looked at the supply of females into the transportation field? Has gender been integrated in engineering education and measures put in place to groom women’s leadership in transport planning?

Source: Kunieda and Gauthier (2007)

- ‘Affordability index’ to assess the share of expenditure meted out in meeting the mobility needs of a household as a percentage of its income could be developed as a useful indicator. The index, computed for various income groups, could provide evidence if the proportion of income being spent on public-transport fares is reasonable, high or onerous. The transport authorities can derive a useful basis for comparison through studies based on such affordability indices.

- There is evidently also a need for specifying the kind of data and calculations (for developing specific measures, targets and indicators) needed to convert the target of ‘equity and social justice’ into practically achievable and reviewable/revisable goals. Systems to establish networks to share these new approaches need to be prioritised.
Indicators to assess the actual and potential mobility can include direct observational references and criteria like socio-economic factors, physical separation of activity spaces, preferences, roles, lifestyles, and activity patterns etc. disaggregated at various levels of the society. Such assessments can be made an integral part of feedback systems benefiting a wide range of institutional/economic/urban/transport/environmental and social policies.

6. Requisites of mobility to be inbuilt in disaster and conflict rehabilitation processes

Another area of intervention is the special case of disaster and emergency situations. There remains a lot to learn from the well established protocols for such situations by International Organizations like the World Health organization (WHO), where logistics and supply chain systems have been established to enhance the delivery of medicines, equipment and relief services to vulnerable communities. The issue of mobility should also be built as a systematic component in the reconstruction / rehabilitation operations from the start. Apart from establishing these routines, to merely supplement omitted parts of the planning process is not at all the same as rewriting the subject by using new concepts and introducing new categories of analysis such the nexus between gender and mobility. One prerequisite for integrating women’s experiences is that women become active subjects in planning. This in turn means that knowledge is collected directly from women who are affected by planning through an ongoing process (Forester, 1989).

In terms of physical designing, these situations provide an opportunity for correcting the ‘accessibility issues’ existent in the past, for example, location of wells and hand-pumps, building access to market, assisting in making a framework for public transport supply through providing technical and financial analysis of the transport component through involvement of both genders. As Graham (2001:7) notes, “To respond to the changes in the external environment, it is essential to understand: (i) The specific roles and responsibilities of men and women, (ii) their main constraints and needs, and (iii) their ability to carry out activities under emergency situations (heightened urgency and activity) and early rehabilitation.” If this insight in built in right from the start of post disaster/crisis recovery, then mobility parameter will be inserted from the inception rather than being an adhoc addendum on the onslaught of problems at later stages. The following elements should be incorporated right from the beginning of the rehabilitation process:

- Obtaining sex-disaggregate data with reference to access to basic services10;
- Though much work has been done to prioritise ‘access to health services’ in the rural areas, post disaster management processes need to directly address the theme of ‘access in emergency’ and develop tools that will enable transport professionals to include holistic health impact assessments and mitigation measures in the planning, design and implementation of transport interventions.
- Integrating the placement of infrastructure related to water, sanitation, fuel and waste management in the housing rehabilitation plans. Most importantly these infrastructures should be placed within walking distance of the households;
- Creating a meeting space in form of a community center which is earmarked for women, and placed within walking distance of the planned housing.

10 This is with particular reference to the advocacy (Graham 2001, 7) that ‘in many ‘traditional societies’, it is advisable that initially both women and men participate through their societal defined roles, as this will allow both to feel empowered through their own cultural standards.
In recapitulating mobility, sustainability and beyond, Gudmundsson et al. (2005) advocates to cross the ‘methodological myopia’ \(^{11}\) surrounding the comprehension of mobility, to broaden this discussion through exploring the ‘lived world’ of mobility, how it works and the possible interventions required. Most importantly, strategies can never be complete, they must go on being reaffirmed and revised (Newman 2006). This study has explored related ideas through the context of gendered mobility in the developing countries and furthers a hope that we are able to overcome methodological myopias and become effective agents of change for a sustainable future.

3. Limitations of this review report

The author would have liked to have more expansive discussions on two equally important themes: travel choices of slum residents (for initiating a structured discussion on the topic, refer Salon and Gulyan 2010) and the plague of traffic accidents afflicting developing countries (Short and Pinet-Peralta 2010 provide a good starting point). Since this review report was prepared in a time span of two months and it was more concerned with highlighting the topics rarely picked up in mainstream transport discussions, a more detail accounting of slum residents and traffic accidents was rendered difficult. However, these two issues are important and should be considered in future discussions around gendered mobility.

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\(^{11}\) Methodological myopia, the tendency to frame all policy issues within a narrow cost-benefit or exchange value perspective, has primarily dominated the comprehension and refinement of sustainable mobility. Martens (2005) elucidates the dominance and critique of methodological myopia by commenting on the traditional transport modelling approach and cost-benefit analysis:

‘Both transport modelling and cost-benefit analysis is driven by distributive principles that serve the highly mobile groups, most notably car users, at the expense of the weaker groups in society. Transport modelling is implicitly based on the distributive principle of demand. By basing forecasts of future travel demand on current travel patterns, transport models are reproducing the current imbalances in transport provision between population groups. The result is that transport models tend to generate suggestions for transport improvements that benefit highly mobile population groups at the expense of the mobility-poor. Given the importance of mobility and accessibility in contemporary society for all population groups, the paper suggests to base transport modelling on the distributive principle of need rather than demand. This would turn transport modelling into a tool to secure a minimal level of transport service for all population groups.’
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