

Linkage between Transport infrastructure, mobility and health related MDGs

Rabindra Bahadur Singh

1. Introduction

For a county plagued with the rampant poverty and political turmoil, the recent statistics on health related MDGs are encouraging. But, the aggregate achievements at the National level are undermined by persistent disparity in the health indicators across ecological zone, regions, caste and ethnicity. Among several factors, the skewed distribution of the transport infrastructure in the country has largely contributed in this gaping disparity. In the recent decades, there has been impressive development of transport infrastructure in Terai an Urban area of the county where as the majority of rural and mountainous areas are still inaccessible. Accordingly, the progress on health indicators is remarkable at the Urban and Terai region and dismal at the rural and mountainous areas.

However, the essential linkage between the transport and the health sector has been largely overlooked. The transport plans implicitly perceives the improved health as one of the development indicators of improved transport but lacks the explicit strategies to foster it. Similarly, the health sector is unable to acknowledge the role of the transportation in its discourse.

This paper seeks to examine and establish linkage between the transport and health (especially the MDG no 4, 5, and 6) both at the macro and micro level and provide some pragmatic recommendations for cross sector integration for the sustained health improvement.

2. Examining the linkage

2.1 Linkage between the health and transport sector at Macro level

Nepal is one of the four countries which received Millennium Development Goal (MDG) award from United Nations this year. Nepal bagged the recognition for its outstanding achievement towards the attainment of health related Millennium development goals, MDG no 4 and 5 i.e. improving the maternity health and children's health. Nepal has come long way in improving maternity health, with maternal mortality rate dropping from 515 per 100,000 in 1990 to 238 per 100,000 in 2010 .There is only marginal gap to meet MDG target of 213. Likewise, the infant and under five mortality rate, which were 99 and 142 respectively in 1990, has reduced to 32 and 51. With this pace, Nepal is all set to achieve the targets for MDG no 4 and 5 well before the deadline 2015.

Several elements have contributed in this progress. The remarkable development of transport infrastructure in the last decades is one of them.

At 1951, when the country released from the autocratic Rana regime, it had only 376 Km of road network .The Rana's policy of speculation and isolation inhibited the transport development in the county. With the end of the Rana regime, planned development begun. Since the beginning of the planned development, transportation sector has topped country's development priority which is manifested by the proportion of budget it holds in every five year plan. It has been arresting 17 to 40 % of the total development outlay each year .Of which the road sector takes the lions share, almost 80% of total transportation budget. Likely, about 70% of the rural infrastructure development budget is earmarked for rural road construction annually. The local governments spend more then 40 percent of their internal revenue to transportation, mainly on the rural road construction. As a result, Nepal's road Network has expended to 18,828km from meager 376 km. In addition, there is a rural road network of more then 5000km to facilitate the rural mobility.

The improved transportation has positive impact both on productive and social sector .However; the foregoing studies have indicated that its impact is more significant on the social sector like health. A direct correlation can be discerned between the road density in terms of area and population served and the improved maternity, infant mortality and under five mortality rates in the country.

In 1970, at the end of the forth five year plan, Nepal had a road density of only 1.7 km /100Sq.km. Correspondingly maternity and children's health condition was gloomy with alarmingly high infant mortality, under five and crude death rate, 99,237 and 21 respectively. In 1990, when the road density reached to 5 km /100 sq.km, the infant mortality, under five mortality, crude death reduced to 99,142 and 13 respectively. Today when the road density is at impressive 12.79 per 100km², the infant mortality, under five mortality and crude death rates are at 32, 51 and 6, very close to the MDG target set for the country.

Likewise, the maternal health status has proportionately improved with the improved road network. Corresponding to more then 100% increase in road density, the maternal mortality rate has reduced by around 50%.

Nonetheless, the improved transport has also given rise to some negative externalities as well. HIV prevalence which was 0.29 in the year 2000 is 0.5 today. Half of the population infected by HIV Aids is from 19 highway districts of the country. The mobile population like Sthe Truckers and the immigrant workers has been found to be more vulnerable to the AIDs.

2.2 Linkage between the health and the transport sector at Micro level

The improved health condition in the few Terai districts and urban centers, where there is concentration of about 60% of the road network, has significantly contributed in raising the national average of health indicators. Otherwise, the maternity and children health condition is still miserable in the rural areas of the mountainous districts which have either no or limited access to the road or other means of transport.

Humla is one of the “High Himalayan “District of Nepal located in the remote northwestern corner of it. It is one of the most isolated districts in the country, reachable only by foot or erratic air service to district Headquarter, Simikot. The district lacks roads altogether.

In 2006, incidence of ARI and diarrhea were hopping 244 and 575 in 1000 children respectively in the district .The immunization coverage was just 54 in 2004. At present, the infant mortality rate is 81.4 which is almost double that of the national average (Department of health services Nepal)

Government supported by Donor agencies like UNICEF runs various immunization programme periodically, but it is simply impossible to reach out to the every child of the district due to the remoteness of the VDCs. Many of the VDCs are at brisk walk of four or more days from district head quarter and the coolers cannot keep the Vaccines that long .Hence, it’s simply impossible to immunize all the children.



A sick women being carried to the health post on local stretcher

The condition of the maternity health is even worse. A report shows that out of 1883 pregnancies in the district in the year 2004 only 5.4% were attended by the skilled health attendants. A recent study has showed that the number of assisted birth is only 9 percent in the district which is less the half the national average of 19 % delivering with a skilled attendant.

3. Major constraints and challenges

Nepal has made marked progress in transport infrastructure development in the recent decades .However, it is far then adequate .The hard fact is that, even the district head quarter of some of the mountainous districts are yet to be touched by road network and 6 million people still need to walk 5 hours on an average to reach to the nearest road head. Similarly, there has been increasing evidences that even the improved transport infrastructures have failed to generate the desired changes like improved health condition especially in the rural areas due to various social taboos and discrimination related to transportation. Some of the major constraints and challenges are discussed as below;

a) Difficult topography and sparse settlements

Nepal is predominantly a mountainous country. 83% of its total area consists of mountains and hills which are crisscrossed by more then 6000 rivers and streams .Hence, the extension of road network and other means of transportation is really capital intensive and daunting. The per km meter cost of 4 wide hill road is approximately \$ 41,000 and the cost of the

motor able bridges over the rivers and streams is prohibitory high in many instances. On the top of that , the geography of the country dictates its predominantly agrarian population to live in small scattered settlements .The are more then 100, 000 settlements and on an average a settlement comprises about 40 households. Hence, extension of transport infrastructure to provide universal access is really challenging

b) Resource constraints

Nepal is one of the poorest countries in the world hence it cannot keep up with the demand for the health care and other basic needs of the growing population. Its internal revenue is not enough even to meet its regular expenditure. The development budget is largely dependent on the foreign loan or grant. There service centers including the health centers are inadequate and sparsely located and the provisions of transport infrastructure and services to access them are poor.

c) Political instability and poor governance at local level

Political stability is the pre requisite for any social and economic development in any Country. Unfortunately, political turmoil consistently prevails in the country through out its history. Country witnessed a worst outburst during last decade, when Moist lunched an armed conflict. The decade long conflict not only disrupted the development activities but also destroyed the rural infrastructures worth billions of dollar .Even the schools, health post and hospitals were not spared. Nepal is, still in a transitional period, entangled with the political issues hence the development agendas are in the shadows.

Likely, the conflict has resulted a political vacuum at local level. Nepal lacks the elected local body since one and half decade which has seriously hampered the development of infrastructure including the transport infrastructure and service delivery. Absence of credible local political body has given the breeding ground for rampant corruption. The major chunk of budget allotted for the local development is siphoned into the pocket of the government employee and some influential people.

d) Narrowly focused transport policies

The failure of national transport policies to comprehend the real transport and travel needs of the rural people in totality and devise the appropriate transport infrastructures and services accordingly is another major challenge. The transport policies are heavily weighted toward the highway and feeder road construction. The transport services are at the disposal of private sector which tends to be concentrated at more lucrative urban centers. Hence, there is often deficit of the transport services in rural areas. Likely, despite of the fact that the rural transportation is predominantly a pedestrian based with an extensive trail network of around 20,000km, little effort has been done to improve it. The significance of intermediate means of transport to facilitate the rural mobility and access to services have been completely ignored .

e) Gender dimension in transportation

The deeply rooted social taboos and misconceptions in the rural areas inhibit mobility of rural women thus limiting their access to basic services like health care. In many part of rural Nepal, women are not allowed to leave the village without being accompanied by the male member of the house. Likely, as the rural society is highly gender segregated, the women are unable to travel on their own in public vehicles. At times, they cannot exercise their free will in the movement as they don't have access to financial resources.

4) Recommendations for improvement

While the statistics of Maternity health and Children health condition at national level paints a rosy picture, a closer look at the local level however expose a harrowing situation in remote areas of the country . Access to the most basic service like health care, is still an elusive dream for the poor communities of mountains and hills due to the extreme isolation. Hence, integrated and complementary approaches incorporating the wider ranges of options are imperative to improve the rural mobility and induce the improved health condition in rural areas. Some of the recommendations are as follows,

- 4.1 Hitherto, the economic return has been given the highest weight in determining the priority of road. There is no debate that, it should continue to be one of the major criterion , but at the mean time , its potential impact on the social sector like the health of the rural people should also be given due consideration .
- 4.2 The understaffed and under equipped village health post coupled with chronic absenteeism of the health staffs has largely failed to meet the medical requirements of the rural people. Instead, the mobile health camps have been remarkably successful in improving the health situation of the rural people .However, the deteriorating condition of the foot based rural transportation system, limits the movement of health staffs, equipment and the medicine. During the rainy season, when the prevalence of diseases and risk of it taking the epidemic form is high, the rural transport system often gets completely collapsed by the lands slides and the floods. Hence, it is important that the trails are improved by widening them and proving Trail Bridges or other form of crossing over the rivers and the streams across them.
- 4.3 Availability of affordable and appropriate transport service or transport aid is equally important as the improvement of transport infrastructure. The country's transport policy is inclusively focused in transport infrastructure development, with the implicit assumption that the private sectors will automatically come forward to provide the transport services. But, for the private sector, it makes little sense to operate regular transport services in the rural areas which are often low density. Hence, even in the areas connected by road network, the vehicles are not available or available at an exorbitant rate during the medical emergencies like obstetric emergencies. Likely, in the trail based transportation, often the sick people are head loaded to the health centers on the baskets “ *doko*” which often aggravate the health condition of the patient .Hence , local

government should either run the public vehicle or persuade the private vehicle owner to serve such remote areas by providing some incentives . Likewise, intermediate mode of transport Aid should also be promoted to facilitate the movement of the patients.

- 4.4 District hospital and health posts cannot handle the major cases as they are poorly equipped with trained human resource and equipments where as rural people's access to the well equipped hospitals in the Urban centers is severely limited by prohibitive travel and accommodation cost . The travel and accommodation cost surpasses the medical cost if it doesn't involve major surgery. Hence, government should provide some subsidy in transportation and accommodation in case of medical emergencies like obstetric emergencies to the rural people.
- 4.5 The gender dimension of transport is also found to be a major contributing factor in the gloomy condition of reproductive health and infant mortality in the remote areas. An independent research carried out by the author for his Master thesis has indicated that collection of fodder and firewood, marketing of agriculture produce, fetching of water are the major transport needs of the rural communities which constitute 80% of the total transport need. The transportation burden is largely shouldered by female population. They are not spared even during the pregnancy and post natal period .The study has found that they start shouldering the transportation burden with in 2 weeks of the delivery. This has taken heavy toll on the reproductive health of women and infant's health. Hence, the reversal of the gender relation in sharing the transportation burden is equally important. Likely, to facilitate the mobility of women and safe guarding them from negative externalities, some mechanisms like allotting a separate section in public vehicles are necessary.
- 4.6 There is growing appreciation that HIV AID is more a social issue then a medical issue. As discussed earlier , the HIV prevalence rate is higher in the immigrant labor and the immigration is the outcome of the pervasive poverty in the rural areas .Hence , to check the HIV , immigration problem is need to be addressed by generating employment and income generating opportunities in the rural areas .

5. Conclusion

The transport development is the bedrock intervention which underpins social and economic development in the country. Hence, for the sustained and commensurate improvement in health related MDG indicators sustainable, equitable, affordable and inclusive transport development is essential. The impact of the transport development on the health sector can be maximized by adequately addressing social issues like gender discrimination, social taboos etc in the transport planning and implementation. Likewise, more holistic approach in transport planning and recognition of traditional /intermediate means of transport can help to better cater the various transport and travel needs of rural people , including the health related.