

Chapter 15

Assessing the impact of Transportation on Climate Change: A Case Study of Agartala City in India's North East Region

Sohana Debbarma
Clean Air Asia, India

Geetanjali Kaushik
MGM's JNEC, India

ABSTRACT

India's North-East Region has greater demand for road and personalized modes of transport powered by fossil fuels. And due to emissions, there has been evidence of climate change. It has been found that diesel cars cause greater emissions (per kilometer travelled) as compared to petrol cars; therefore, the use of diesel should be discouraged. The chapter suggests that the emissions in case of public transport passenger-km are lesser than other modes of transport. However, in the North-East Region, there is negligible share of public transport due to poor infrastructure and service facilities. Therefore, improvements should be made with regard to public transport system so that considerable number of passengers shifts to public transport modes. Further, it is inferred that use of alternate vehicle or fuel technologies like hybrid electric vehicles, biofuel, biodiesel, hydrogen fuel need to be initiated to mitigate the climate change.

INTRODUCTION

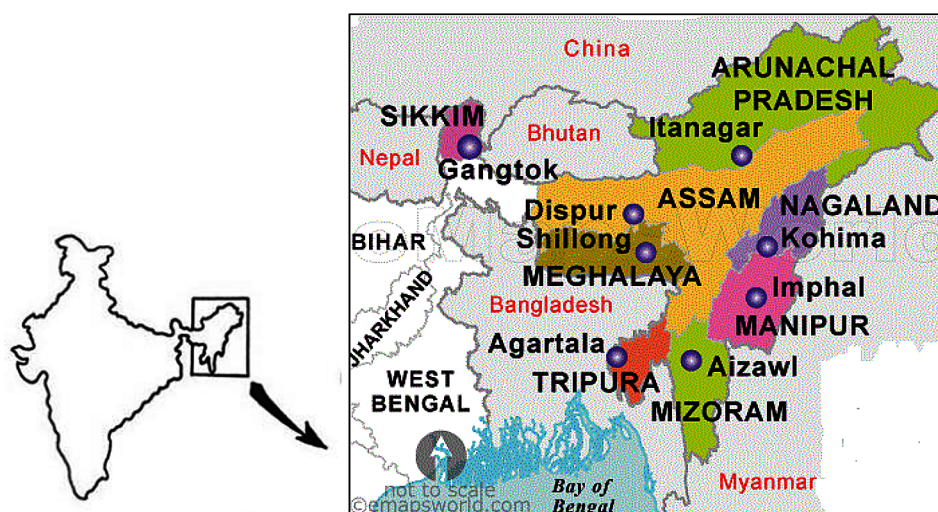
Background

North-East Region consisting of eight sister states covering a geographic area of 26.2mha and a population of 40 million, is characterized by large percentage of indigenous tribal communities (34-91%) and diverse climate regimes which are highly dependent on the southwest monsoon (June-September). The region has international border with China in the north, Myanmar in the east, Bangladesh in the south-west and Bhutan in the north-west (shown in Figure 1). The western part of the region is connected to the Eastern part of the country through the Siliguri Land Corridor. Urbanization and growing economy in the region are leading to rapid increase in the growth of motor vehicles further leading to the increase in GHG emissions causing climatic variations over the years (GoI, 2010).

Transport System

Transport sector in North-East comprises of different modes of transport like roads, railways, aviation and inland waterways, which facilitate easy and efficient conveyance of goods and people across the region. Road transport is the primary mode of transport which plays an important role in conveyance of goods and passengers and linking the centres of production, distribution and consumption. It is also a key factor for promoting socio-economic development in terms of social and regional integration. Sustained economic growth, increasing disposable income and rising urbanization has led to rising demand for road transport and personalized mode of transport, particularly cars and two wheelers. According to the 2011 census figures, 30 percent of the region's population lives in urban areas and the rate of urbanization are growing steadily due to the push/pull effects of employment opportunities and the declining viability of the agricultural sector. This has resulted in a large and growing movement of goods, services and people fuelled by trade and employment opportunities, almost all of which is powered by fossil fuels (GoI, 2011-12).

Figure 1. Map showing north-east region and its shared borders



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