Keynote address by Shri K.K. Kapila

The people across different communities the world over have a common urge for better quality of life. To a large measure this desire is being fulfilled for those residing in the developed world. However, for the developing countries, the benefits of economic development are not flowing to the nook and corner of the country and thus there exists large economic disparities needing to be bridged. Economic theory indicates that road investments have greatly helped in economic development of a country.

In order to ensure that the economic benefits flow particularly to the poorer lot, the Governments of developing countries are stressing on sustainable inclusive growth. In this context, it has emerged that unless and until the poor rural people are brought into the main economic stream of development, the country as a whole cannot prosper. Accordingly, in the developing world, there is immense emphasis on development of rural roads which contribute significantly in generating increased agricultural incomes, enhanced productive employment opportunities, promoting access to economic and social services, thereby such roads form the virtual life lines for the vast multitudes of communities residing in rural areas. It has been seen that roads have helped to improve literacy, health and quality of life, reduced child mortality, bringing more girls to schools, help in changed cropping patterns with enlarged incomes for the average households. Such sweeping changes have been observed as benefits of rural road connectivity for developing the backward areas in a country.

For each country, it is therefore essential to develop a master plan for rural road network in such a way that the travel needs of the people are met to the maximum extent by an integrated network, keeping the cost of development to the minimum. The travel needs comprising travel to market place, education and health centers need to be kept in focus while planning for the road network. Accessibility based network planning needs to be adopted for sparsely populated areas with a view to develop optimal network offering multiple connectivity.

It has to be borne in mind that in order to check the migration of the rural population to the urban areas, such areas should be made self-contained and this can only be possible by providing employment opportunities by setting up of Small Scale Industries, Educational Institutions and other infrastructure which is available in urban areas, but at present do not exist in the rural areas. In this context, it has to be kept in mind that gradually rural areas become semi-urbanized and later urbanized. Therefore, this important aspect should be kept in mind while planning rural roads.

Whereas, communities' desire is to have all weather roads, however the economic constraints often dictate to live with even lower standards such as earthen roads, gravel roads and ultimately the blacktopped roads. It is however, noteworthy that there is need to develop appropriate standards and specifications duly considering the terrain and climate, availability of local materials, promoting labour based technologies so that rural roads built continue to remain durable on a sustained basis. The technical aspects like compaction of sub-grade, roadside drainage, required cross, sub-surface and surface drainage need to be accorded due importance in the design of rural roads.

Pavement structure costs almost 50% in case of rural roads. Generally the choice of pavement will be dependent on factors like rainfall, traffic and strength of soil along the alignment. Thus, based on these factors, the choice of pavement can be exercised appropriately to economise in the overall cost. Unpaved all-weather roads with pavement surface of earth or gravel can be very cost-effective solution for low rainfall areas with low motorised traffic. Innovative pavement surfacing using stabilised soil or bituminous seal are also widely used as low cost options and found to be very effective in the continents of Asia and Africa. India, during last one decade, has targeted a massive improvement in rural connectivity through a systematically planned implementation of rural road projects covering the nook and corner of the country.

Construction of roads, particularly the rural roads, has been seen as a means of employment generation by adopting labour intensive methods. While the benefit of the participation of community in the construction and maintenance cannot be denied, every task cannot be performed manually and yet achieve the desired quality target. Therefore, labour based techniques have to be adopted selectively without compromising on quality. Adoption of uniform standards and specifications for rural roads is one of the means by which construction quality can be ensured commensurate with the construction method. Further, innovations in construction through use of admixtures and additives with locally available materials are areas which will also help in enlarging the network to reach the most remote habitation.

No asset lasts long without due maintenance and rural roads are no exception. Routine and periodic maintenance should be planned and executed with due budgeting for the funds. Maintenance may be taken to the top of the priority list to sustain the assets created and to reap the benefits perennially. We must remember that durable assets can be created by ensuring the quality, bringing savings in maintenance. The option of prioritization of maintenance and other innovative financing can be examined; such as cost sharing through PPP and charging the beneficiaries. Even an alliance of the government, private sector and the users could be a viable option for an effective maintenance system.

In the development of rural roads, environmental and social issues must be safeguarded, so that all positive and negative impacts are duly accounted in project preparation. The poverty alleviation effect of these roads are likely to have multiple benefits of removing barriers in rural development and reduce incidents of HIV/AIDS through extra awareness and education. The community participation in all stages of development of these roads (the planning, design, construction and maintenance) will give a sense of ownership and belongingness, as well as sustainability.

All safety engineering measures are to be built into the design, and all designs must be safety audited. The critical and complex issue of enforcement and compliance to safety rule and regulations in rural areas are to be addressed differently. The design and provisions are to be based on safe systems principle and self-enforcing as much as possible. In addition, the community is to be involved in the upkeep and watch-dog role for the safe road traffic system to minimize the adverse impacts. The informal means of transport in rural areas of developing world, which are often not safe, also require careful consideration for management or minimizing the overall risk. Also, the integrated infrastructure development in rural areas should consider all modes of transport (in use) for their safe operation under the rural environment.

R&D need to be given prominence in the context of rural roads, if these assets are to be developed scientifically. Most significant area to be researched is the means of cost cutting is the choice of materials and design. Another important area of research is to evolve innovative financing mechanisms for such low volume roads, through creation of an 'enabling environment' for local private sector. There are plenty of examples of best practices available from different parts of the world, and there are knowledge portals through different projects of IRF (like gTKP) where knowledge and experience can easily be shared across nations.

Coming from India, I would like to bring to you an example. The Prime Minister of India in the year 2000 stated that "India must shine for the poor. India must shine equally in the cities and the villages. Villagers should be able to reach the rest of the world and the rest of the world must be able to reach them with great ease".

The rural road programme of India, pursued over the last one decade has made the rural India a great enterprise exposing the potential of seamless development. I would like to recommend to other developing nations to take a leaf from both India and China's success stories in rural roads, for making a success of their rural roads programme.