

**Summary Report on the Multi-stakeholders Consultation Meeting
on
Formulation of the National Environmentally Sustainable
Transport (EST) Strategy for Nepal**



**Kathmandu, Nepal,
30 April 2014**

1. Background:

Rapid urbanization and increasing economic activities in cities, vehicle ownership and usage has dramatically increased in urban areas of Nepal. The current patterns of motorization adversely contribute to traffic congestion, air and noise pollution, traffic accidents and injuries, weakening social equity, lowering energy security, rising levels of greenhouse gas (GHG) emissions and destroying natural habitats and ecosystem which ultimately decreasing national productivity and human development. At the same time, frequent natural disasters such as floods, earthquakes and landslides are on the rise across Nepal. These natural catastrophes cause considerable losses of a human life and immense damage to public transport infrastructure every year. To make Nepalese cities more, resilience, sustainable and livable it is important to make balance to economic progress, social equity, environment protection and people-friendly infrastructural development. The Environmentally Sustainable Transport (EST) concept calls for all these essential elements to be integrated for policy, planning and development in the transport. EST concept therefore has increasingly been receiving higher attention worldwide, as means to address social, economic and environmental issues in the transport sector.

With an aim to create a new paradigm in transport practices and to build a common understanding across Asia on the need for EST integrated into overall policy, planning and development, the Asian EST Initiative was jointly launched by the United Nations Centre for Regional Development (UNCRD) and Ministry of the Environment of the Government of Japan (MoE-J) in 2004. The main objective of the EST Initiative in Asia is to integrate EST in the overall policy, planning and development, by sensitizing the local and national governments, private sectors and civil society. As a key component of the Asian EST initiative, UNCRD provides technical assistance to developing countries for the formulation of National EST Strategy. It aims to promote the EST in Asia to build a sustainable society through the effective use of safe, reliable, socially inclusive, economically viable, environmentally protective, people-friendly, and seamless transport system for the benefit of all in line with the objectives of the *Bangkok 2020 Declaration-Sustainable Transport Goals for 2010-2020*, *Bali Declaration on Vision Three Zeros-Zero Congestion, Zero Pollution and Zero Accidents*

towards Next Generation Transport Systems in Asia, and the Rio+20 outcome -*The Future We Want*.

In order to realize EST by effective implementation of the Bangkok 2020 Declaration and Bali Declaration, the Government of Nepal, as an EST member country of the Regional EST Forum in Asia, officially requested UNCRD for necessary technical assistance to develop a National EST Strategy for Nepal. As a follow up to the request, UNCRD included Nepal for providing technical assistance for the formulation of the National EST Strategy in 2014. The National EST Strategy for Nepal has two major components: Components 1-Urban Transport, Inter-City Transport, and Rural Transport; Component 2- Fuel Economy, Energy Security and Green Freight (cross-cutting) with supplementary Component 3-Climate and Disaster Resiliency (cross-cutting).

With this background, the Multi-stakeholders Consultation Meeting on Formulation of a National Environmentally Sustainable Transport (EST) Strategy (1st Draft) for Nepal, was co-organized by the Ministry of Physical Infrastructure and Transport (MoPIT) in collaboration with Ministry of Environment, Science, and Technology (MoEST), Ministry of Urban Development (MoUD), Ministry of Health and Population (MoHP), Ministry of Federal Affairs and Local Development (MoFALD), National Planning Commission of Nepal (NPC), the Government of Nepal and the United Nations Centre for Regional Development (UNCRD), on 30 April 2014 in Kathmandu, Nepal. The consultation meeting was supported by the Society of Transport Engineers, Nepal (SOTEN). About 60 participants comprising of senior government representatives, national and international organizations, the private and business sector, NGO's and academia, attended the consultation meeting.

2. Opening Ceremony

Mr. Indu Sharma Dhakal, Joint Secretary of the Ministry of Physical Infrastructure and Transport welcomed the delegates on behalf of Ministry of Physical Infrastructure and Transport (MoPIT), Government of Nepal. Noting that National Environmentally Sustainable Transport (EST) Strategy for Nepal is a significance step forward for the sustainable

development of the country, Mr. Dhakal acknowledged UNCRD's technical support to the Government of Nepal in formulating of the National EST Strategy.

Appreciating the Government of Nepal's initiative towards the sustainable transport development, Mr. C.R.C. Mohanty, Environment Programme Coordinator, United Nations Centre for Regional Development (UNCRD), highlighted the importance of the EST concept which calls for all social, environmental and economic consideration and integration in the overall transport policy, planning and development. In order to make Nepalese cities more productive, resilient, sustainable and livable EST is indispensable. Accessibility, mobility and regional connectivity are crucial for regional economic integration and enhancement. Regional connectivity, in particular efficient rural-urban transport link can significantly enhance the livelihood security of rural farmers through better market access and by reducing wastage of farm produce. On the energy side, if Nepal can fully utilize its potential of hydropower resources in the transport sector, it would be the best opportunity to realize *Zero Emission* transport which ultimately helps realize climate and disaster resilience and livable society in Nepal.

Mr. Lal KC, President of Society of Transport Engineers, Nepal (SOTEN) thanked the Government of Nepal and UNCRD for organizing the stakeholders consultation. He further acknowledged UNCRD's technical support to the Government of Nepal on the formulation of the National EST Strategy. He mentioned that the Strategy would provide good policy input for the sustainable transport development in Nepal. He further assured that SOTEN would continue supporting the formulation of the National EST Strategy for Nepal.

Mr. Shanta Bahadur Shrestha, Secretary, Ministry of Federal Affairs and Local Development (MoFALD), Government Nepal, thanked MoPIT and UNCRD for inviting his Ministry to be part of the Nepal EST process. He informed that out of 52,000 Km of road network in Nepal, about 32,000 Km was rural /local road, and there were 814 VDC (Village Development Committee) still needed to be connected with national road network. About 8000 Km of rural road and 2800 bridges are required to be connected to those unlinked VDCs. MoFALD allocated the required budget for those roads and bridges construction in coordination with

District Development Offices and Municipalities. He observed that the rural, inter-city or intra-regional connection was still poor in Nepal and needed to be improved by implementing district level transport master plans.

Mr. Krishna Hari Baskota, Secretary, Office of the Prime Minister and Council of Ministers Nepal, expressed his strong disagreement with ongoing transport infrastructural development in Nepal. He expressed his concern that urban and rural both areas of Nepal were degrading very much, and they needed to be fixed urgently. He made an appeal to the engineers and technicians to make all necessary transport development by preserving the environment of Nepal. Without preserving environment, the development would not be sustainable, he added. He further cites some examples on how local environment and fragile ecosystem were being destroyed due to haphazard road construction in the hilly and mountainous regions of Nepal. He urged the government officials and technocrats not to compromise with quality of infrastructure and environmental protection during the new infrastructural development. Among a number of examples, he pointed out two unprivileged districts, namely Dolpa and Humla, which are still not connected with national road network. It should be the first priority to connect those remote and underdeveloped districts in the national transport network of Nepal.

Mr. Tulasi Sitaula, Secretary of the Ministry of Physical Infrastructure and Transport, Nepal, appreciated UNCRD's technical support to the Government of Nepal. He highlighted that environmental condition of Nepal was at risk and it was timely that the National EST-Strategy for Nepal was taken up. The Strategy would not only help preserve the environment but also contribute to Nepalese economy and improve regional connectivity, social inclusion and integration. He also shared that there were 73 districts of Nepal well connected with the national road network, and only two districts need to be connected. He further emphasized that although the development initiative was going well in Nepal, still there were a lot of challenges to make Nepalese cities more livable and resilient. He expressed hope that the National EST-Strategy would significantly help introduce sustainable transport system in Nepal.

3. Session-1: Urban Transport Towards Sustainable Cities

The session was chaired by Mr. Tulasi Sitaula, Secretary, Ministry of Physical Infrastructure and Transport (MoPIT), Government of Nepal and facilitated by Mr. CRC Mohanty, UNCRD. Introducing the first draft National EST Strategy for Nepal, Dr. Surya Raj Acharya, International Consultant, presented the overall vision, objective, challenges and opportunities of the transport sector of Nepal. He highlighted the conceptual framework of strategy with targets and indicators in economic, social and environmental dimensions. Along with the major trends, issues and opportunities in the transport sector of Nepal, he recommended that the strategic prospective of the sustainable transport system of Nepal should be based on three key pillars, namely environmentally sound, economically efficient, socially acceptable. Since Nepal is a least developed country in the world, there are several opportunities for inclusion of EST in overall policy, planning and development. Nepal can learn from both the best and bad examples and cases of developed countries. He further elaborated on several transport challenges including land use and transport planning integration, transport financing and infrastructure development, and transport management, among others. Nepal has a good opportunity to realize a zero pollution transport system if Nepal could develop its hydropower sources and use them to its fullest potential in transport sector. He further stressed that the land use plan and settlement plan are essential to go hand-in-hand for the realization of sustainable transport development in the Nepalese cities and rural areas.

4. Session-2: Inter-Cities Transport/Connectivity for Regional Development

This session was chaired by Mr. Tulasi Sitaula, Secretary, Ministry of Physical Infrastructure and Transport (MoPIT), Gov. of Nepal and facilitated by Mr. CRC Mohanty, UNCRD. Continuing his presentation in second session, Dr. Surya Raj Acharya highlighted the inter-city transport trends, issues and opportunities in Nepal. He mentioned that road transport is always a priority investment in Five Year Plans of the Government of Nepal. However, two districts of Nepal are yet to be connected to strategic road network (SRN) which provides the standard basic mobility of the people. Only 47% of SRN is paved road and remaining 53% still need to be improved. Poor condition of bus services in inter-city routes, haphazard settlement along national highways, ecological damage from new constructions, and increased landslide vulnerability due to haphazard and unplanned road construction in hilly and mountainous regions are major issues

and concern for transport development in Nepal. Similarly, lack of vehicle inspection and maintenance (I/M) and large number of old and polluting vehicles on the road significantly contribute to air pollution, noise pollution, excess PM 10/2.5 in Kathmandu and other major cities. Road safety in public transport system of Nepal is also a critical public concern. Share of transport CO₂ in Nepal is 45% which is very high compared to other nations. He further highlighted the recent transport initiative for high grade inter-city road, e.g., Kathmandu-Terai-Fast-Track (KIFT), Kathmandu-Kulekhani-Hetauda-Tunnel (KKHT), East-West Railways (EWR) and Mid-Hill Highway, which are under planning and development stage. He recommended that there was a need to acquire right-of-way for by-pass roads in towns along national highways, construct service stations on national highways. Construction of the Mechi-Mahakali-Kathmandu-Pokhara electric railways and Kathmandu-Hetauda high speed railways might be best options for the physical integration and good connectivity of the highways, railways and airports with the provision of inter-modal facilities and integration. It is essential to give priority for improving public transport and non-motorized transport (NMT) along the major inter-city express ways and national highway corridors. Travel demand management (TDM), plans for regional economic zones, and good connectivity to minimize inter-city travel is crucial to increase the efficiency of the transport system in Nepal. Environment and social safeguards such as application of the green roads, bio-engineering concepts, provisions of service lane, provision of under and over pass on national highways and railways are equally important to develop for the sustainable inter-cities transport connectivity. Similarly, investment for essential and sustainable transport infrastructure, operational subsidies in public transport, plan for MRT, and introduction of the research institution and establish a dedicated think-tank in transport are other necessary initiatives need to be considered by the government.

5. Session-3: Rural Transport for pro-poor development

This session was chaired by Mr. Rashmi Raj Pandey, Joint Secretary, Ministry of Federal Affairs and Local Development (MoFALD), Government of Nepal and facilitated by Mr. CRC Mohanty, UNCRD. Given the rural transport network of Nepal is a major transport concern, Dr. Surya Raj Acharya presented the rural transport trends, issues and opportunities in Nepalese transport system. He informed that rural road initiative programs had started since 1970s under IRDP which was followed by DoLIDAR from 1997. The major issues of the rural road of Nepal

are ecological damage, landslide hazards, road safety hazard, poor service and maintenance problem, low quality of rural road and farm roads with limited connectivity and poor transport services. It is necessary to invest for the essential and sustainable transport infrastructure development for the significant improvement of rural transport system. It is important to develop agricultural roads and rural roads in villages, and integrate them with District Roads and National Highways. Improvement of existing rural roads, especially in hilly and mountainous region, is equally crucial. This should include upgrading the design and engineering standards for the rural/agricultural roads, and integrating these rural roads with public transport system. To this regard, it is essential to undertake settlement planning and restructuring the villages and towns in such a way that rural roads are integrated with rural economic activities and eco-tourism areas. He informed that by technological enhancement and introduction of the green technology and bio-engineering it is possible to minimize ecological impact and landslide hazards in mountainous regions. By making provision for public transport in rural areas which is essentially integrated with dedicated bicycle lane and walkway facilities, it would serve a greater need. Enhancement of the institutional capacity and undertaking overall reform in the public transport policies and institutions are equally important.

6. Discussions/comments/questions raised during Sessions 1, 2 and 3:

- a. Mr. Keshab Sharma, Department of Road (DoR) asked “Is it possible to give subsidy for public transport system in Nepal?”
- b. Mr. Prasant, Clean Air Networking, Nepal questioned since Government of Nepal is making several transport strategies such as Transport Management Strategy, Transport Safety Strategy and now government is going to formulate the National EST Strategy, so could you explain us how other Strategies are differ from National EST Strategy? He further asked that MRT is very expensive for developing countries like Nepal, so how Nepal could introduce MRT system in Kathmandu? He recommended that for Nepal the most appropriate transport system would be BRT with dedicated NMT facility.
- c. Mr. Vijaya Man Serchan, (Private sector) engineer and expert of transport highlighted that the Kathmandu valley transport situation is significantly improved by *Safaa Tampo* (electric vehicle). He mentioned that Safaa Tampo significantly contributed as a safe and non-polluted public transport system in Kathmandu. He further suggested that

Trolley Bus would be best option for Kathmandu valley and MRT for inter-city connection.

- d. Mr. Bijaya Bahadur Swar (Private sector) questioned how to manage existing transport vehicle if Nepal Government would like to introduce new transport system like BRT or MRT in Kathmandu and other major cities in Nepal? He further asked - “Does government have any policy and planning in this regard?” He suggested that government need to make good policies first, and the policy should be well guided by best rules, regulations. Planning should be comprehensive and project should be integrated. He assured to help the formulation and implementation of the National EST-Strategy on behalf of the private sectors.
- e. Mr. Vishnu Sibakoti (Private sector). He suggested that the Government of Nepal should make all transport policies, planning and development with the close cooperation of private sectors and concern stakeholders. He asked how to accommodate existing transport vehicles if government would like to introduce new public transport system in Kathmandu and other cities? He suggested that transport policies should be implemented in consultation with the private sectors especially transport organizations.
- f. Mr. Saroj Pradhan, Joint Secretary, Ministry of Physical Infrastructure and Transport (MoPIT) recommended that it is better if the title of the National EST Strategy will be changed from “Environmentally Sustainable Transport (EST) Strategy for Nepal” to “Sustainable Transport Strategy for Nepal”. He further mentioned that existing title “Environmentally Sustainable Transport” mainly emphasize environmental dimension rather other two dimensions (social & economic) of the transport sector, if the National Strategy need to be implemented by the Ministry of Physical Infrastructure and Transport, as the lead agency, it is important to change the title. Many other government officials were agreed with this proposal.
- g. The strategy needs to consider multi-city road sector development linking major eco-tourism areas, agro-tourism areas, and hydropower generation areas. Apart from that consideration should be given to utilization of renewable energy sources to support rural transport.
- h. Responding to the questions, Dr. Surya Raj Acharya, mentioned that subsidy was very common system applied in the public transport system in many countries, so Nepal can

introduce some kind of subsidy but government need to study beforehand what type of subside would best fit for Nepal. Giving example of Japan he suggested a mixture of puss-and-pull policies/strategies would be beneficial to introduce transport subsidy in public transport system. He mentioned that motorcycle was a great hinderance to the public transport system and it is very important to discourage the growth of motorcycles in Nepalese cities. While it is very difficult to stop motorcycles once they come on the road, Nepal can learn from the mistake of others countries like Indonesia and other ASEAN countries in handling motorcycle problems. It could be highly beneficial to introduce dedicated bicycle facilities in comparatively flat Terai region of Nepal. It is important for Government of Nepal to realize that public transport should not be viewed as revenue earning source for the government, rather it is important to devise sound policies and regulations on private car or vehicle import as the major revenue generating source. .

- i. Mr. Mohanty, UNCRD, mentioned that to make Nepalese cities, more productive, resilient, sustainable and livable it is very important to make a good balance in terms of economic progress, social equity, environmental protection, public health through environment and people-friendly transport infrastructural development in Nepal. The National EST Strategy calls for all these essential elements in transport system which might be not included in other strategies. He further informed that the Nation EST Strategy needs to provide synergic with other strategies rather than competing with other strategies. He further emphasized that introduction of dedicated bicycle lanes and walkway facilities in the Kathmandu and other cities of Nepal are essential to make Nepalese cities more safe, equitable, vibrant and livable. Dedicated bicycle lanes and walkway facilities further provide facilities for all categories of travelers, old people, children, women, physically disabled, farmers, etc.
- j. Chair of the sessions, Mr. Sitaula, Secretary of Ministry of Physical Infrastructure and Transport (MoPIT), acknowledged UNCRD's technical support for the formulation of the National EST Strategy of Nepal. He also thanked the presenter and participants for their support to the Government in formulating the Strategy in a participatory way. He further highlighted that the National EST Strategy would be complimenting rather duplicating other strategies. He mentioned that the Government of Nepal strongly

believed that National EST Strategy would significantly contribute to the development of national transport policy and planning. He further urged that walkability and bicycle facilities should be an integral part of the transport strategy, and government is committed to promote NMT in Kathmandu and other cities in Nepal.

7. Session-4: Green Freight, Fuel Economy and Energy Security

The session was chaired by the transport expert and former Director General of Department of Road, Mr. Madan Maleku, and facilitated by Mr. CRC Monanty, UNCRD. Highlighting the freight condition and fuel economy in Nepal, Mr. Robert Early of Clean Air Asia (CAA) delivered a presentation on Green Freight, Fuel Economy and Energy Security for EST in Nepal. He informed that more than 50% of pollution in Asia was contributed by trucks but the share percentage of truck was only about 10% of total vehicles in the region. The same could also apply to Nepal. Safety measures and proper inspection and maintenance of heavy duty vehicles could significantly reduce the loss of economy/fuel as well as reduce CO₂ emissions. He introduced two initiatives on the promotion of green freight in Asia – (a) Green Freight and Logistic Programme across Asia and (b) moving towards a Regional Green Freight Agreement in Asia initiated by UNCRD in close cooperation with UN ESCAP, GIZ, Clean Air Asia, and others. He further recommended that establishment of comprehensive data collection system for freight and logistics and introduction of the energy saving technology in heavy duty vehicles were necessary component for the improvement of freight sector of Nepal. Giving examples of Thailand, China and other countries, Mr. Early recommended that the technological improvement of the trucks and tankers and quality upgrading of roads, load management of freight vehicles could significantly improve the quality of freight transport and logistics.

8. Discussion & comments:

- a) Mr. Kamal Raj Pandey suggested that in case of Nepal there is need to look into the geographic conditions and their impact on fuel consumption. In Nepal, the fuel consumption is very differ in mountainous, Hilly and Terai regions compared to India, which is mainly attributed to different terrain.

- b) Mr. Lal KC, President of SOTEM, informed that Department of Road was major source of data and information in transport sector of Nepal. I/M are very poor in Nepal. The efficiency of heavy trucks are usually very low. Speed of the trucks also depends on places like whether it is Terai region, Mid-hill, or mountainous regions. That affects the speed and thereby, the fuel consumption. To conduct credible and reliable research on freight and logistic, appropriate data should be collected by the relevant Ministry and the private sectors.
- c) Mr. Madan Maleku, chair of the session sought clarification whether it is good or bad to allow the heavy trucks to enter into Kathmandu core area at night time only? Giving examples from different parts of the world, Mr. Early clarified that it depends on various aspects such as geographic condition, population density, infrastructural development and climatic condition of the city. In case of Kathmandu, considering the lack of appropriate research/study and data, it is difficult to say whether it is good or bad to ban heavy trucks in core Kathmandu city. Detail study should be conducted to figure out the impact of the heavy trucks ban in city centre in Kathmandu.

9. Session-5: Climate and Disaster Resilience -Making Nepal Climate and Disaster Resilience Through Sustainable Urban Transport

The session was chaired by transport expert and former Directed General of Department of Road, Mr. Madan Maleku and facilitated by Mr. CRC Monanty, UNCRD. Introducing the urban development and growth of vehicle ownership in Nepal, Mr. Kamal Pande, Transport Infrastructural Specialist and the National Consultant presented on Climate and Disaster Resilience -Making Nepal Climate and Disaster Resilience through Sustainable Urban Transport. Outlining the disaster events from 1971 to 2011 in Kathmandu city, Mr. Pande mentioned that there was a huge challenge to manage pre-and-post disaster recovery in Kathmandu city. Exponential growth of population and vehicles, haphazard growth of cities and towns, low investment on transport infrastructure development and inadequate public transportation system, and high contribution of CO₂ emission from transport sector are the major challenges for the sustainable urban development and to make Nepalese cities resilient. It is therefore important to make Nepalese cities and towns environmentally

friendly, socially equitable, and economically efficient and productive with the application of the EST policies and measures. In this regard, adequate financial investment in the transport infrastructural development, introduction of sufficient capacity of public transport system with good mobility, promotion of the walkways and cycling facilities, strengthening transport management activities such as traffic management, enforcement of road safety and surveillance by CC-TV, and developing and implementing risk sensitive land use plan are essential requirement to make Nepalese cities more disaster and climate resilient.

He emphasized the need for both pre-disaster and post-disaster resiliency consideration in transport policy, planning, design, and infrastructure development. In terms of pre-disaster resiliency, it is important to consider planning, design, evaluation of the effectiveness of the transport system against major natural disasters and climate change. In terms of post-disaster resiliency, efficient relief distribution and evacuation, efficient drainage facilities to prevent urban flooding, etc., need to be considered.

a. Discussion & comments:

Mr. CRC Mohanty suggested that for the development of the sustainable transport system, it is essential to plan for a transport system which is people centric rather vehicle centric, together with the civil engineering part (infrastructure design and construction), social and environmental aspects should be equally considered to make Nepalese cities more climate and disaster resilient. Session chair Mr. Madan Maleku and facilitator Mr. CRC Mohanty thanked Mr. Pande for his insightful presentation.

10. Session-6: Discussion and Closing Remarks

Mr. Indu Sharma Dhakal, Joint Secretary of Ministry of Physical Infrastructure and Transport (MoPIT) chaired the session. Mr. Lal KC summarized the meeting and Mr. CRC Mohanty remarked on the output of the meeting. Giving concluding remark on the meeting, Joint Secretary, Mr. Dhakal thanked UNCRD and all the participants, presenters, private sectors and other stakeholders. He mentioned that the consultation meeting was very much successful and would help produce a comprehensive National EST Strategy for Nepal that is accepted by all stakeholders. He further requested all the participants and stakeholder to

provide their comments/inputs/recommendations within two days so that the first draft National EST Strategy for Nepal could be significantly improved.