

# **Final Meeting Report**

## **Fourth Regional Environmentally Sustainable Transport (EST) Forum in Asia**

24-26 February 2009  
Seoul, Republic of Korea

### **Introduction**

1. The United Nations Centre for Regional Development (UNCRD), the Ministry of Land, Transport, and Maritime Affairs (MLTM)-Republic of Korea (hereinafter, Korea), and the Ministry of the Environment-Japan (MoE-Japan), jointly organized the Fourth Regional Environmentally Sustainable Transport (EST) Forum from 24 to 26 February 2009 in Seoul, Korea. The Forum was supported by various international organizations such as the World Health Organization (WHO), German Agency for Technical Cooperation (GTZ), Swedish International Development Agency (Sida), Global Transport Knowledge Partnership (gTKP), Japan International Cooperation Agency (JICA), Asian Development Bank (ADB), World Bank, Clean Air Initiative for Asian Cities (CAI-Asia) Center, and the Korean Transport Institute (KOTI). The Forum was attended by approximately 150 participants, comprising government representatives from twenty-two Asian countries (including members of the Association of South East Asian Nations (ASEAN), Mongolia, People's Republic of China (hereinafter, China), Korea, and Japan, and the SACEP member countries from South Asia, Subsidiary Expert Group Members, international resource persons, representatives from various UN and international organizations, and local observers from Korea.

### **Opening Session**

2. In welcoming the participants, Mr. Kazunobu Onogawa, Director of UNCRD, expressed his deepest appreciation to MLTM-Korea for hosting the Fourth Regional EST Forum in Seoul. He also acknowledged the valuable contributions of the various supporting organizations and Expert Members. He observed that the complex issues in the environment and transport sectors are gaining increased attention from policymakers in Asia, and stated that there is increasing momentum towards the realization of EST and its essential elements underlined in the *Aichi Statement*. He drew attention to the fact that the Forum has gradually grown to accommodate twenty-two Asian countries and that interagency cooperation has also been strengthened over time, in particular among the transport, environment, and health ministries. Referring to the growing concern over climate change as well as the ongoing global economic recession, he underscored the significant role the various EST measures could play in addressing transport *and* climate change concerns. He stressed the need for political will and strong leadership in materializing EST by highlighting the case of the Philippines where the President recently ordered transport authorities to develop a National EST Strategy, and also the progresses made in Viet Nam, Lao PDR, Cambodia, Indonesia, and Bangladesh, with the support of UNCRD. He also expressed his wish to see the Regional Forum serve as an effective platform to help facilitate cooperation and partnership among the developing countries and the donor agencies to promote EST, and urged the countries to develop relationships of mutual understanding and cooperation with the participating donor agencies. He also encouraged them to take advantage of the various financial mechanisms related to climate change that are applicable to the transport sector. Finally, he thanked the Government of Japan for its continued and valuable support in carrying out this Asian EST Initiative since 2004.
3. Mr. Junichi Shiraishi, Director General of MoE-Japan, welcomed the twenty-two country representatives, experts, and international organizations. He expressed his appreciation to the Government of Korea for hosting the Fourth Forum in Seoul, and to UNCRD for its continued commitment towards conducting the Regional EST Forum. Referring to the recent statistics compiled by the World Energy Outlook, he informed

that the world's primary energy demand will increase by 45 per cent from 2006 to 2030 if government policies remained unchanged. Global energy-related CO<sub>2</sub> emissions would also increase at the same rate during the same period. He reiterated the critical importance of promoting EST to curb GHG emissions from the transport sector. Referring to the increased recognition of EST among Asian countries through past EST Forums, he stressed the need now to move forward in implementing effective EST measures. He encouraged the participating countries to utilize this Forum to provide advice to one another and to foster mutual cooperation. Referring to the recent global recession which has had a significant impact on the automobile industry, he said that the time has come to tackle the new challenges by introducing the "Green New Deal". In this context, he emphasized the potential role EST promotion could play not only in creating a cleaner environment, but also in revitalizing the economy. He also stressed the advantages of fostering partnership between developed and developing countries through the co-benefits approach, which is being promoted by the Government of Japan. Encouraging the participating countries to join hands in moving forward to realize human and environmentally friendly sustainable development, Mr. Shiraishi concluded his opening remarks wishing for the success of this Forum, and active deliberations and information exchange.

4. Upon extending his warm welcome to all the participants, Mr. Jong Hwan Chung, Minister of Land, Transport and Maritime Affairs of Korea, explained how the Regional EST Forum has evolved into a significant meeting that has led to the formulation of sustainable transport policies in Asia since its inauguration in 2005. Referring to the recent economic downturn, he underlined the significance of the Green Growth concept, which goes beyond the simple concept of environmental friendliness, and which might be the only option for recovery from the economic crisis as well as for next generation growth. He mentioned that the new government of Korea has set Low Carbon Green Growth as its main vision in order to join the ranks of advanced countries, and that it has a wide range of plans to facilitate the use of public transport, eco-friendly transport modes, and NMT modes. Korea has also formed a national organization to push forward government-wide policies to reduce GHGs. In view of recent global trends, he reiterated that the EST Forum in Seoul had been held at an important time when sustainable development policies are being given increasing global attention more than ever before. Underscoring the significance of the EST Forum as a venue for high-level delegates to hold practical discussions, to share and exchange experiences, and to suggest new paradigms in green transport, the Hon. Minister concluded by expressing his appreciation to UNCRD and all other organizations, and wishing the success and prosperity of the Regional EST Forum.

### **Plenary Session 1: Aichi Statement and Co-benefits: Win-Win Solutions for Transport and Climate Change**

5. At the first plenary session of the Fourth Regional EST Forum, Dr. Lloyd Wright, Executive Director, Viva and Expert Member of the Forum, introduced the UNCRD study on "*Win-win Solutions to Climate Change and Transport*," which examined how win-win solutions can be materialized in the transport sector in relation to climate change, health, improvement of livelihoods, etc. Dr. Wright introduced his paper and explained that it focused on co-benefits (multiple benefits) that can be achieved with a single strategy/investment. On the basis of the twelve thematic areas defined under the Asia EST Initiative, his study examined the following five areas in depth, i.e.: (a) Vehicle Efficiency Improvements; (b) Public Transport; (c) Non-Motorized Transport; (d) Transport Demand Management; and (e) Land Use, and analysed the wide range of economic, environmental, and social benefits that could be achieved through the specific measures under the respective categories. He then briefly touched upon the issue of carbon market and explained that emission reductions from the transport sector can be achieved through the management of three key factors: (a) number of vehicles, (b) distance travelled, and (c) emissions per vehicle kilometre. He also highlighted the fact that there were only two CDM projects in the transport sector among the 4,474 registered projects, as of February 2009. While this may be due to the difficulties in establishing a baseline and in addressing the additionality requirements, he reiterated the importance of the transport sector entering the carbon market over the long term, including the post-Kyoto framework under discussion. He concluded his presentation by encouraging the countries to improve networking and to explore the financial and technical resources available, so that the necessary cooperation can be materialized to implement various EST measures to achieve co-benefits.

6. Following Dr. Wright's presentation, three Expert Members (Mr. Narayan Iyer, Mr. Cornie Huizenga, and Ms. Marie Thynell) made interventions as outlined below:
  - The question remains as to how BRT, NMT etc. can be introduced and established as a workable system. For example, BRT was introduced in Delhi and Pune in India some time ago, but they have not been popular. Another point is that motorized two-wheelers could be a bridge in changing the four-wheeler-dominated societies to becoming non-motorized societies. It was stressed that there is a need to recognize these vehicles as important modes of urban transport, now and in the foreseeable future. It is, however, necessary to take steps to improve overall system efficiency through rationalized traffic engineering and management. To minimize their environmental impacts, it is also necessary to improve their energy efficiency and reduce pollutant emissions through progressive technological improvements. It will also be necessary to take urgent steps towards introducing effective Inspection & Maintenance (I&M) systems for two-wheelers.
  - There is a need to strengthen the integration of the transport agenda more effectively in the climate change negotiations. At the same time, transport policymakers must also fully understand the cause and impact of climate change issues and integrate them into transport policies and decisions. In order to bring the concept of "co-benefits" into practice, there is a need to: (a) learn how to quantify co-benefits; (b) identify specific policy instruments and measures to accomplish them; (c) establish/strengthen effective institutional arrangements; and (d) secure the needed resources for implementation.
  - There is a historical lack of social aspects in urban transport planning and development, and we need to learn more about the social behaviours of transport users in order to make the co-benefits a reality. User experiences of different user groups must be examined and reflected into transport planning. Institutional capacity-building is required, and there should be a specific institution responsible for the social aspects of transport.
7. During open discussion, participants remarked that the win-win approach would be more persuasive if the "trade-offs" were also properly explained, as there would always be counterforces in reality. Referring to the Expert's intervention that pointed out the difficulties cities are facing to "reverse" the accelerating trend, a comment was made that post-war cities which must establish the system from scratch, have a unique opportunity to develop new systems with the support of the international community based on scientific approaches. A number of country delegates expressed the importance of action-oriented strategies in order to make a difference. It is hoped that the Forum could become a platform to translate the concept into tangible actions for the promotion of EST. A suggestion was also made to involve the Ministry of Local Governments/Ministry of Urban Development into the policy dialogue, so that city mayors (who are the key players in implementing EST) could come on board. Another point was made that land use might be the best solution among the five key areas highlighted in the "*Win-win Solutions to Climate Change and Transport*," as it could prevent the problems from occurring instead of trying to tackle them after they arose.
8. The Chair of the session, Mr. Kazunobu Onogawa of UNCRD, agreed with the participants that an action-oriented approach was important. He reiterated that the challenges before us now are how the concept can be materialized and how the various EST measures and strategies can be implemented on the ground. He concluded the session by urging government representatives to express their interest and to invite international donors to join in their national and local efforts towards putting the concept into action.

### **Plenary Session 2: EST Promotion vis-à-vis National EST Strategy Development in the Philippines**

9. On behalf of the Philippines delegation, the Undersecretary of the Department of Transportation and Communications (DOTC), Ms. Anneli R. Lontoc, made a presentation on the formulation of a National EST Strategy for the Philippines. Starting from the current conditions in the Philippines, she presented the National EST Strategy in detail, including the process of its formulation, composition, strategies, and

indicators. She also explained the expected outcomes of the strategic planning and the overall timetable. The key significance of introducing the National EST Strategy in the Philippines was to determine a clear vision for the country, i.e., where the Philippines wants to head, based on a good understanding of where the Philippines is currently heading. The Strategy sets its overall goals on: (a) reduction of the annual growth rate of energy consumption and associated GHG emissions from the transport sector in urban areas of the country; and (b) mainstream EST, which involves the promotion of transportation systems of low-carbon intensity and a shift towards the use of more sustainable transport modes. Led by the two national focal agencies (DOTC and DENR) and the National Collaborating Center (UP NCTS), the formulation process involves a wide range of government agencies and the private sector. The presentation also touched on the financial resources aspect, and provided an explanation on the Special Vehicle Pollution Control Fund (SVPCF), which is derived from the motor vehicle users' charge and administered by the Road Board under the DOTC. With regards to political commitment, it was highlighted that the Philippines is receiving the highest-level political support in the form of an Administrative Order by the President. In Administrative Order No. 254, it is stated that "The new paradigm in the movement of men and things must follow a simple principle: Those who have less in wheels must have more in road." In concluding the presentation, the Undersecretary stressed that EST should be like an epidemic: i.e., it must be contagious, initiatives must translate into big impacts, and critical mass must be reached, in order to have it mainstreamed.

10. Below are the key issues discussed during the Open Discussion following the presentation.

- In response to a question as to how the highest level of political commitment could be attained, the Philippines representative responded that the President had been informed on the significance of EST by the DOTC after various international meetings (e.g., MEET Conference in Japan in January 2009) had been held, and that the DOTC has attempted to formalize and strengthen the interagency coordination by means of the Administrative Order. The formulation process which involves a wide range of stakeholders must have also been acknowledged by the President, and might be another reason for it having gained the political support. The archipelago is prone to being struck by typhoons, which have been more frequent and intense in recent years, likely induced by climate change. This may be another element directing the country towards EST, which would eventually lead to the reduction of fossil fuel use and CO<sub>2</sub> emissions.
- The Philippines representative informed the Forum that the country has also established Task Forces for Climate Change. Each cabinet member is in charge of a specific task force, and almost all areas that have links to climate change are covered. In this way, it can be said that the transport sector is really a part of the climate change discussion in the Philippines.
- The Philippines representative provided additional details about the SVPCF, which is collected from vehicle owners at the time of registration. The collected money is divided into four trust funds, and 7.5 per cent of the total amount is allocated to the SVPCF, which can be used for strategy planning, consultation with stakeholders, institutional strengthening, etc. The total budget of the SVPCF is approximately \$175 million per year, and the use of the fund is decided not just by the government representatives, but also involves public transport groups, etc.
- The Chair of the Session, Mr. Peter G. Midgley of gTKP, commented that financial mechanisms such as the SVPCF is a workable one, referring also to Brazil's case where a 5 per cent gasoline tax was collected to initiate the BRT system in the 1975-80 period. He however cautioned that generally these funds have a relatively short life (do not last forever) and urged countries to use the fund strategically and wisely. In concluding the session, the Chair praised the progress being made in the Philippines, which could be attributed to the change in thinking and behaviour, and to the collaboration and involvement of the people, among others.

## **Breakout Session: Country EST Initiatives / Plenary Session 5: Reports from Breakout Groups**

11. The objective of the breakout sessions was to look into and share country EST initiatives, urban transport master plans, innovative city development strategies, best practices, policies and programmes, country's progress, significant achievements, and future strategy in addressing the following four key EST areas of the *Aichi Statement*: (a) public transportation planning, multi-modal integration, and transport demand management (TDM); (b) non-motorized transport (NMT); (c) land-use measures for pollution reduction in the transport sector; and (d) road safety measures and public health issues related to transportation. The key features of the country presentations are outlined below, together with the summary of the experts' strategic interventions and recommendations that were reported back in the Plenary Session on Day Two.

### **Breakout Session 1: Thailand, Mongolia, Afghanistan, and Lao PDR**

12. Breakout Session 1 involved presentations from Thailand, Mongolia, Afghanistan, and Lao PDR. The Undersecretary of the Philippines Department of Transportation and Communications, Ms. Anneli R. Lontoc, as Chair, explained the objectives of the session and emphasized the need to assess existing policy and institutional gaps in EST areas so that this session could make strategic recommendations to the countries. The Chair requested C.R.C. Mohanty of UNCRD to moderate the policy dialogue consultations.
13. The Thailand presentation mainly focused on air pollution from the transport sector and on Mass Rapid Transit (MRT). Among the air pollutants, PM is of the highest concern, as both the roadside and ambient concentration are above WHO standards. There is a wide range of air pollution control strategies in place to tackle this issue. Meanwhile, there is an ongoing effort to improve the mass-transit system (BTS, subway, rail, etc.), and CNG is being promoted as an alternate fuel. From the presentation, it was noted that Thailand has succeeded in its attempts to resolve air pollution problems from the transport sector by formulating aggressive and effective programmes, laws, and regulations. However, an observation was made that the country's efforts in the transport sector appears to be still largely skewed towards motorized and infrastructure-oriented solutions to improve air quality and traffic congestion. The experts recommended that: (a) NMT needs to be considered in planning and development; (b) infrastructure development is not the full solution for liveable cities; (c) cities need to have a clear vision in terms of quality of life; and (d) social indicators be used for evaluation of the effectiveness of public transport systems.
14. In Mongolia, dust and smoke pollution from road traffic, particularly in the capital city of Ulaanbaatar, is the main issue of concern that has a serious impact on human health. Mongolia has many government strategies and plans for the transport sector such as the National Transport Strategy for Mongolia (NTS), "Transit Mongolia" programme (2008-2015), the Mongolian Road Master Plan 2008-2020 (RMP), and the ambitious Eco-Transport Strategy. While the country is attempting to move forward towards sustainable transport development, there appears to be numerous institutional, legal, policy, and technical gaps. Among the challenges, appropriate coordination among the line ministries/stakeholders in land-use planning appeared to be a major challenge in improving the situation of urban transport. Expert members commented that: (a) the Eco-Transport strategy is in line with the concept of EST, and that it needs to be translated into practical actions; (b) privatization could help increase efficiency of the public transport system; and (c) building capacity for improved air quality monitoring and data is crucial for keeping track of the progress.
15. The Deputy Minister of Urban Development, Afghanistan, Dr. Qiamuddin Djallalzada, spoke on the general problems facing the capital city of Kabul. There has been a rapid increase in motorized vehicles since 2002. Public transportation has not been sufficiently developed, and there are a large number of mini-buses/small vans which contribute to air pollution. The lack of pedestrian walkways and poor road conditions are creating a very dangerous situation for the people. Law enforcement is also not highly effective, and there is a large proportion of taxis that are on roads without proper registration. From the presentation, it was observed that there are numerous institutional, policy, and technical gaps in dealing with traffic management issues. At the

end of the presentation, a number of long-term recommendations, medium-term solutions, and short-term actions were proposed, among which the development of NMT and a public transport system were listed as short-term measures. The Experts recommended that plans for centralized commercial districts could be integrated into the land use and transport planning during the ongoing reconstruction phase, and that priority should be given to the necessary institutional capacity-building to deal with traffic safety issues and accidents.

16. Lao PDR reported that they have completed the second draft of the National EST Strategy, which is being developed with the support of UNCRD. The Strategy follows an integrated approach in an attempt to cover all EST elements spelled out in the *Aichi Statement*. A detailed description was also made on the “Master Plan on Comprehensive Urban Transport in Vientiane,” which also integrates EST elements. It is an ambitious transport plan which includes provisions for BRT and LRT that would require support from donor communities. The plan provides a good vision on integration of land-use and transport planning, with provisions for NMT and pedestrian facilities. Lao PDR is fortunate to have the strong political will to promote EST as a preventive measure to be introduced before traffic conditions worsen. Commending the ongoing efforts by the government, the Experts recommended that the social aspects of transport need to be addressed with due consideration given to the mobility of transport-sensitive groups. They also pointed out the importance of defining the type of cities the country wishes to have in the future, keeping in mind the quality of life.

### **Breakout Session 2: Korea, Indonesia, Bangladesh, and Nepal**

17. Four presentations were made in Breakout Session 2, which reported on the country initiatives of Korea, Indonesia, Bangladesh, and Nepal. H.E. Mr. Rohana Kumara Dissanayake, Minister of Urban Development of Sri Lanka, as Chair, opened the session and requested Mr. Johannes Heister, World Bank, to lead the discussion as the moderator.
18. Korea was the most advanced country in this breakout group, which has successfully turned the deteriorating transport situation around through the comprehensive reform of Seoul and other cities. Under the overall vision of “Transportation System for Human & Environment,” the transport strategies of Korea apply three key measures, which are TDM, NMT, and transport and land-use coordination. Korea has introduced a wide range of TDM measures, including BRT and various pricing measures. Following the public transit reform in Seoul in 2004, there was a notable increase in the number of passengers as well as improvements in speed and punctuality of public transport, while traffic accidents were reduced significantly. Regarding NMT, Korea is placing efforts on installing improved pedestrian facilities in priority zones and introducing/expanding public bike systems. The representative of Korea also introduced their Transit-Oriented Development (TOD) Strategies for new town development, which aim to integrate transport into land-use planning in the context of newly developed towns.
19. The Indonesian presentation shared with the audience the general issues and problems of the land transport sector. Private vehicle ownership is growing rapidly at a rate of 8 per cent to 13 per cent per year, and fuel consumption by land transport alone accounts for almost 50 per cent of the national total. To improve the current situation, the country is trying to undertake a strategy for comprehensive mobility by applying various approaches, including mass transit, pedestrian facilities, and non-motorized vehicles (NMV), in addition to traffic restraints. As a short-term measure, the country is focusing mainly on BRT, which is being introduced in cities such as Jakarta, Yogyakarta, and Bogor (expected to be implemented in other big- and medium-sized cities in the future). As additional measures to support a sustainable urban transportation system, Indonesia is planning on fuel diversification (CNG, bio-fuels), encouragement of the use of NMVs (regulations, installation of pedestrian facilities and bike lanes, facilities for disabled persons), promoting traffic safety, and improving urban air quality through the ongoing Blue Sky City Programme. In closing the presentation, the Indonesian representative touched on their policies and action plans to deal with climate change and air quality issues.

20. In Dhaka, the capital city of Bangladesh, there were around 450,000 registered vehicles in 2007 (of which approximately 75 per cent were private vehicles), totalling approximately 36 per cent increase in four years. There are a number of transport-related strategies in Bangladesh, such as the Strategic Transport Planning for Dhaka (2005), National Land Transport Policy (2004), and Integrated Multi-Modal Transport Plan (pending approval). While the country does not have a coherent/overall EST Strategy as such, there are some notable efforts being made in line with the EST principles, such as the introduction of unleaded gasoline in Bangladesh in 1999, phasing out diesel-run two stroke three-wheelers by replacing them with CNG-fuelled three-wheelers in Dhaka (2003) and in Chittagong (2005), and replacement/conversion of all diesel buses/minibuses with CNG-fuelled ones in Dhaka and Chittagong (2008). With regards to NMT, the Bangladesh representative mentioned that it played a very important role in the overall transportation system of the country, especially in rural areas – for example, there are more than 2 million rickshaws in the country. He concluded the presentation by pointing out the challenges ahead, i.e., coping with increasing transport demand and land use, finding ways to identify and introduce public transport measures applicable in the local context, maintaining stringent vehicular exhaust standards in view of the existence of old vehicles and limited urban transport infrastructures, and maintaining effective physical multi-modal integration.
21. Nepal is confronted with unique challenges due to its complex topography, which limits transport modes to road and air, and traditional modes such as walking and the use of animals. The presentation mainly focused on sharing the government's transport management plan and policy which places emphasis on issues concerning development and administration of the road transport system. The public transportation system is mainly provided by the private sector, and is available in urban areas that have a motor road network. Road maintenance and replacement of old vehicles were highlighted in the presentation as among the key problems the country is facing. The improvement of laws and regulations for sustainable transport, establishment and enforcement of proper vehicle registration, and introduction of modernized transport management were pointed out as the major future challenges facing Nepal, which would require adequate financial resources and human capacity improvement.
22. The Experts made interventions following the presentations. Below is a summary of their comments.
- Due attention should be given to solutions that are “implementable” within a relatively short time frame. Transport sector decisions should be made based on the peoples’ needs. Basically people want to move from one point to other in a safe, comfortable, and affordable way, and as long as these conditions are met, they do not consider the mode to be important. But the different transport modes must be integrated into a system.
  - The best use of public space is a critical issue. There needs to be a change in the mind-set to provide the best space for pedestrians, then cycles, and finally motor vehicles.
  - It is difficult to reverse/overcome transport problems once they arise. For example in Japan, efforts were made beginning in the 1960s to provide space for walking and cycling, but they were not highly successful, and the rate of road accidents involving bikes and pedestrians remain high. Developing countries are encouraged to make good policy decisions and introduce appropriate measures from the outset.
  - High-tech, high-cost solutions are not necessary. There are successful experiences from developed countries that are not too costly and can be applicable in developing countries – for example, countries can provide cycling and walking solutions at low cost, by using their own means (labour).
  - Motor vehicles are taking over public spaces in the cities of developing countries, and walking has become inconvenient and dangerous. One of the major reasons why the cities are too congested with a large number of vehicles may be the lack of appropriate integration in land-use and transport planning.
  - It is worth highlighting the successful examples of EST measures in developing countries, such as the case of replacement/conversion to CNG vehicles in Bangladesh. The policy tools adopted by the government, i.e., to provide land to private entrepreneurs to establish CNG-refuelling stations, and to

provide funds to convert government vehicles to CNG-fuelled vehicles, played an instrumental role in bringing about this change.

**Breakout Session 3: Japan, Malaysia, Pakistan, and Viet Nam**

23. Breakout Session 3, which was chaired by Mr. Bharat Bhushan of the Ministry of Environment and Forests of the Government of India and facilitated by Mr. Cornie Huizenga, showcased the achievements of, and plans for, EST in Japan, Malaysia, Pakistan, and Viet Nam.
24. Japan, as the most advanced country among the four in this breakout session, provided a holistic overview on their efforts for promoting EST. Public transport measures are well established and are still evolving with improvements in the electronic money system, bus location systems, etc. In terms of NMT, infrastructure and systems need to be improved for promoting bicycle use, as the ratio of bicycle lanes per road remains low at 0.2 per cent (2007). Meanwhile, the number of traffic accident fatalities have been decreasing steadily, which can be attributed to the reduced number of automobile riders, tightened regulation on fastening seatbelts, and reinforcement of drunk driving penalties. The Japanese presentation also touched on the air quality situation which has shown improvement in general, and also on their recent efforts aimed at further improvements mainly in metropolitan areas. Finally, the presentation mentioned CO<sub>2</sub> emissions in the transport sector, and the country's plans and measures towards realizing a green economy and society. Environmental technologies have become the new competitive force. Japan is targeting a significant increase in the use of next-generation cars through appropriate government support. The cumulative number of new generation cars such as electric and hybrid vehicles is now 1 million. By 2020, Japan targets making next-generation cars account for 50 per cent of new car sales in order to promote emission cuts. Japan uses the Top-runner Approach for fuel-efficiency regulations which ensures a progressive improvement in technologies to improve fuel efficiency.
25. The presentation by Malaysia provided an overview of the country's policies and current status on air quality, and the measures they have been implementing towards its improvement, such as the enforcement of regulations, vehicle emission control, and I/M (EURO 1 for diesel vehicles and EURO 2 for petrol vehicles), and on the introduction of cleaner fuel and alternative fuels. Malaysia is also actively promoting public transport, and this effort is being backed by the national budget – e.g., RM31.8 billion has been allocated for the transport sector under the 9<sup>th</sup> Malaysia Plan (2006-2010), and an additional RM35 billion is provided under the 2009 budget for improving public transport for the period 2009-2014. Recent efforts in progress include the establishment of the Public Transport Commission (institutional change), improvement of rail transportation, introduction of an integrated transport terminal, and formation of light rail systems and BRT in some cities.
26. In Pakistan, the public transport system is largely owned and operated by the private sector. The government, which is the regulatory body, has been trying to tackle the transport problems in the country, which can be characterized by the growing number of private vehicles, serious congestion, ineffective enforcement, and the lack of sufficient infrastructure in terms of both quality and quantity. The Pakistan delegate introduced a wide range of strategies, including those for vehicle emission control and ambient air quality. Introduction of CNG buses was given as a practical example of an ongoing effort, where the government is supporting cash grants and sharing loan payments. In ending his presentation, the delegate mentioned that private-public partnerships are the key to advancing the transport sector, and at the same time, institutional capacity-building and R&D would be critical for enhancing sector efficiency. In the coming years, Pakistan will further promote BRT as means of public transportation, and will aim to establish fast-filling CNG stations.
27. The delegate from Viet Nam provided an overview of the current situation of transport in Viet Nam, mainly in the large cities. The high number of motorcycles in the major cities is among the most serious problems, and it continues to show an increasing trend. Meanwhile, public transport meets only 7.4 per cent of travel

demands in Hanoi and 5 per cent in HCM City. Traffic congestion and air pollution are becoming increasingly severe, and NMT is becoming less of an option for the public. Several actions have been taken in Viet Nam to address these issues, such as the introduction of time limits, improvements in public transport systems (including pilot MRT), and various capacity-building activities for transport management. As Viet Nam is currently in the process of formulating a National EST Strategy with the support of UNCRD, the delegate from Viet Nam introduced some of the key future strategies in the area of transport planning and transport demand control (e.g., developing a public transport network, restriction/control of private means), infrastructure and land-use planning, and traffic safety.

28. The Experts observed that the three developing nations that reported at this session had achieved notable progress, when comparing this year's presentation with those given at the previous three Forums. All countries were moving towards taking action by planning/introducing substantive EST measures, for example, by promoting a mode shift from private vehicles (cars and motorcycles) to public transport (rail, bus, etc.). Institutional structures have been changed in countries such as Pakistan and Malaysia, which have good implications in terms of promoting EST. It was also encouraging to note that some countries are making financing available for EST activities. Meanwhile, it was also observed that NMT still has only a modest priority and should be integrated further into city planning. Another comment was made that EST is not yet driven by climate change, but by considerations for the local environment, safety, and economy.
29. Based on the above observations, the Experts made the following recommendations. The Experts felt that the success of the EST plans of developing countries will depend on how these countries deal with the rapidly increasing number of motorized two-wheelers. With the introduction of low-emission and fuel-efficient technologies, these countries must ensure that leapfrogging for fuel and vehicle standards is an essential part of the plans. The Experts further recommended that EST planning be linked to comprehensive Urban Mobility Plans. Further, there is a need to link increased funding to quality of public transport services, along with required improvements in the institutional framework. It is necessary to ensure that the institutions involved in the implementation of EST-related policies have adequate capacity to do the job. The Experts also pointed out that these countries should not underestimate the complexity of EST planning and acknowledge the vital role of land-use planning. An important lesson that must be learnt by the developing countries from Japan is the need to have built-in progress monitoring mechanisms with clear indicators and measurement methodologies.

#### **Breakout Session 4: Sri Lanka, Brunei, and the Maldives**

30. Breakout Session 4, which was chaired by H.E. Sommad Pholsena, Minister of Public Works and Transport of Lao PDR and moderated by Mr. Jamie Leather of the Asian Development Bank, discussed the trends and developments of EST in Sri Lanka, Brunei, and the Maldives. H.E. Rohana Kumara Dissanayake, Minister of Urban Development of Sri Lanka stated that walking is the main mode of transport, particularly in rural areas, as in many other developing nations. Eighty per cent of the population travels by bus and only 10 per cent uses private cars. Meanwhile, motorcycles and three-wheelers are increasingly gaining popularity as a means of transport for lower- and middle-class citizens. Under the leadership of His Excellency, the President of Sri Lanka, the government has approved a 10-year national development plan called "Mahinda Chinthanaya" under which steps are being taken to formulate new policies for the transport sector. The government is also planning/exploring the potentials of various EST-related measures such as transport system management, alternative transport measures, and traffic calming measures. Sri Lanka is also planning to introduce a Car Free Day once a month, as a means to raise the awareness of the public. In closing his presentation, Minister Dissanayake emphasized that the socioeconomic needs of development must be balanced with environmental sustainability, and that the huge and increasing number of motorcycles, being an issue unique to Asia, requires specific attention and guidance.

31. Building on the presentation made at the Third Regional EST Forum in Singapore (2008) which highlighted the challenges, Brunei's presentation at this Forum focused mainly on the strategies. A wide range of strategies are in place, including: support to the private sector in alternative fuel vehicle ventures; increasing public transport efficiency and coverage; enforcement of tighter regulatory requirements regarding PM emissions; and vehicle licensing. There is also a study currently being undertaken to move to a Euro IV fuel standard. Notable efforts are being undertaken with regards to road safety by enhancing driver training, increasing police enforcement, enhancing awareness and education at schools, etc. Brunei is also keen to introduce the Intelligent Transport System (ITS) as a means of traffic management. With regards to vehicle inspection, Brunei is planning to introduce a mandatory inspection system within the next one to three years.
32. The Maldives, primarily an atoll island system, where sea transport plays a major role in trans-island transport, has a significantly low emission of GHGs. Motorcycles are the most popular mode of transport in the islands. In terms of public transport, taxis are popular in the capital city of Male, while buses play a significant role in other atolls and islands. The main challenges the country faces include road maintenance, effective inter-modal integration, and efficient public transportation that meet users' demand. Nearly 43 per cent of the primary energy in the Maldives is used for transport and fishing, which presents another important challenge in the context of energy security. The Maldives has recently gone through government reformation, and the Ministry of Housing, Transport and Environment, which is responsible for making policies and national strategies on transport development, has been newly established. The new government has set policies to provide pedestrian friendly and environmentally friendly transport in the Maldives, which provides the needed political support to promote EST further. In concluding the session, the new plans of the government were shared, such as the introduction of bus systems in Male and other islands, and the ambitious plan for an integrated transport network, including intra-atoll, intra-province, and national links.
33. Below is the summary of the interventions made by the Experts.
- Countries must start thinking about how to reduce travel demand. Telecommuting, flexi hours, and peak spreading (time spacing) could be useful options.
  - Urban transport issues are complicated, and improvements cannot be made just by improving capacity and/or expanding coverage. Thorough analyses are needed at the planning stage on human physiology and behaviour, so that the newly established/improved systems are found to be attractive by the people who actually use them. The challenge is that people will not use them unless they are of reasonably high quality, while user price often has to be increased in order to offer high quality means of transport, which then may result in their becoming unaffordable.
  - In addition to land transport, which has been the major focus of the Regional EST Forums, other modes of transport such as water transport and railways play significant roles in some countries. These modes should also be given due recognition. As for railways, rehabilitation of existing ones by adopting new (but not too costly) technologies would be useful and should be considered.
  - In countries such as the Maldives where the tourism industry is strong, cycling has high potential as a means of transport (can be promoted not just for tourists but also for local people).
  - In view of the significant impacts that island nations may face from increasingly intense and frequent storms, sea-level rise, etc., appropriate attention must be given to climate change *adaptation* in the context of the transport sector, in addition to *mitigation*.
  - Regulations on imported second-hand cars should be reinforced in order to reduce the negative impacts on the environment (e.g., in Brunei, second-hand cars used more than three years (for private use) and for five years (for commercial use) are not allowed to enter the country).

#### **Breakout Session 5: Singapore, Myanmar, and Bhutan**

34. Breakout Session 5, which was chaired by H.E. Idevkhten Doloonjin, Vice Minister of Nature, Environment and Tourism of Mongolia and facilitated by Mr. Simon K.W. Ng, included presentations from Singapore,

Myanmar, and Bhutan. As a leader of EST in the region, Singapore formulates its transport strategies based on four aspects: (a) practicing integrated planning through long-term land-use and transport plans; (b) making public transport a choice mode by rail network expansion, bus priority schemes, travel information provision, and enhanced physical accessibility; (c) managing road usage through demand management and the use of technology; and (d) promoting green transport through tighter emission standards, rebate scheme, fuel economy labelling scheme, and the promotion of NMT.

35. Myanmar is a country that has been experiencing increased motorization in recent years. Major cities such as Yangon are being served by a variety of public transport modes such as buses, taxis, rail and ferries. Bicycles are also commonly used in Nay Pyi Taw, Yangon, and Mandalay, but as vehicles are taking over part of the cities, the environment for cycling is becoming unsafe and this prohibits the use of NMT. The National Road Safety Action Plan is implemented to reduce traffic accidents and casualties. In addition, roadside air quality measurements were taken in Yangon and Mandalay in 2007 and 2008, but so far the readings have not been used to link traffic emission and public health risks.
36. Mountainous Bhutan is served by a rather limited road network and accessibility is low. Motorization is at a modest level, and by the end of 2008 there were about 40,000 vehicles. NMT is almost nonexistent, with cycling only limited to a few towns. A footpath network is only provided in the capital city of Thimphu. The accident rate has been very high, despite showing a slight improvement in 2007. There is a lack of transport professionals, as well as financial support, to implement transport improvement programmes.
37. Expert members made the following comments and interventions:
  - Dual approach to EST: while we acknowledge that hardware such as infrastructure, technology, and equipment are important for achieving EST, at times we need to place equal importance on the development of software such as policy, education, public awareness and participation, capacity-building, and information. This applies to all countries.
  - Data: data collection, management, analyses and dissemination are all important components of a successful EST strategy. On the one hand, information provided to the public would be useful for them to understand the state of the problems; on the other hand, information could be used by government agencies as a driving force for policy change. Besides, we need data to assess the effectiveness of EST plans.
  - Air quality standards: for countries without a standard, ambient air quality standards could be set as yardsticks for short- and long-term air quality management. For countries with a standard in place, regular review and revision of air quality standards may serve as a policy driver, especially when air quality improvement has been gradually flattening out over a period of time.
  - Vision of your city: ultimately, it is the kind of city you aspire to build that determines the land-use plan and the type of transport system/service that your city requires to function. If you are putting the movement of vehicles ahead of the accessibility of the city and its people, you are deemed to be building a city for vehicles, rather than one for people. Is this something you really want, or are you looking to create quality urban living space?

#### **Breakout Session 6: China, India, and Cambodia**

38. Breakout Session 6, which was chaired by H.E. Qiamuddin Djallalzada, Deputy Minister of Urban Development of Afghanistan and facilitated by Ms. Sophie Punte of CAI-Asia, included presentations from China, India, and Cambodia. From the country presentations, it was observed that the two big countries of Asia are facing similar problems/pressures, such as rapid population growth accompanied by urbanization, urban sprawl, vehicle growth, increasing demand on roads, railways, and infrastructure, increasing fuel consumption, heavy traffic congestion, high number of traffic accidents, GHG and air pollutants, etc. While

vehicle ownership is quite low in Cambodia, there are still a number of pressing issues in the environment and transport sectors.

39. The responses to the common problems/pressures listed above were quite different among the three countries. China is focusing on integration of their transportation system, transport planning, and their administrative system. This requires the government's strong commitment and investment to make it work. Five "low" principles have been adopted, which involves low energy use, pollution, resource use, accidents, and financial burden. Improvement of fuel economy and fuel quality is also being considered, with targets to reduce energy consumption per unit turnover volume of commercial trucks by 16 per cent, and emission of main pollutants of commercial vehicles by 30 per cent. In terms of public transport, China's priority is on extending BRT and urban rail systems. Meanwhile, an auto and steel revitalization plan is used to promote smaller cars and technological innovation. While a major challenge lies ahead in promoting EST, China has proven that national efforts work through its experiences in reducing traffic congestion and emissions during the Beijing Olympics in 2008.
40. In India, liveable cities and citizens are recognized as development partners under the current policy. Major EST-related efforts undertaken by the country include strengthening regulation/standards, introduction/improvement of public transport systems, establishment of an independent road safety organization, and public awareness campaigns. The municipal authorities are also given responsibilities, as it has become mandatory for all big cities to develop comprehensive mobility plans – here one can see an example of how national policies and its implementation at the municipal level can be effectively linked. In the presentation, the successful case of the Delhi metro was shared, where journey time had been reduced 50 per cent to 75 per cent, and road accidents and pollution both reduced by 30 per cent, in addition to fuel savings.
41. Cambodia is at the start of a motorization curve, which provides a huge opportunity to "prevent" many problems instead of trying to tackle them after the problems become aggravated. With the support of UNCRD, the country is currently in the process of developing a comprehensive National EST Strategy which addresses all twelve EST thematic areas with problem analyses and responses. The Strategy and its formulation process shows strong government commitment and stakeholders' involvement. Meanwhile, as is very common in other developing nations, Cambodia faces the challenges of limited data availability, lack of institutional capacity, and financial constraints to support EST implementation.
42. The following recommendations were made by the Expert Group members:
  - New indicators/targets are needed, such as targets for mode split, energy use per urban trip, and social indicators to evaluate the effectiveness of the public transportation system.
  - More focus on, and planning for, cycling and walking is needed. This should be integrated into the overall transport planning and development. In addition, TDM, land-use and urban planning, impact of proposed strategies and measures, and linkage with changing social needs should be addressed.
  - Unless car usage (not ownership) is addressed, it would be difficult to solve public transport issues.
  - Developing metros (subways) may not be the solution, and there is a need to adopt outstanding sustainable transport modes with emphasis on mode shifts, NMT facilities, and infrastructure, and linking them to public transport facilities and efficient city master plans which integrate urban design/development aspects with transport planning.
  - What kind of improvement in air quality would the cities like to achieve? What kind of cities should the local authorities build? Cities need to be designed for the public, not for private cars.
  - There is a need for the active involvement of vehicle industries under the overall framework of the urban transport policy, planning, and development.

### **Plenary Session 3: Linkages and Synergies for EST Promotion**

43. In this session, the United Nations Environment Programme (UNEP) and the Clean Air Initiative for Asian Cities (CAI-Asia) Center presented overviews of their programmes and activities that have close linkages and synergies to the objectives of the Asia EST Initiative.

- Ms. Mary Kimotho M'Mukindia of UNEP Nairobi introduced the Partnership for Clean Fuels and Vehicles (PCFV), which was set up at the World Summit on Sustainable Development in September 2002. It is a public-private partnership with the objective of promoting clean fuels and vehicles in developing and transition countries for better air quality. Currently, the PCFV is involved in global campaigns towards the elimination of lead in gasoline and phasing down of sulphur in diesel and gasoline fuels to 50ppm, concurrent with the adoption of cleaner vehicle technologies and the development of fuel and vehicle efficiency policies and strategies. She mentioned that the Regional EST Forum under the Asia EST Initiative led by UNCRD was a valuable platform for international organizations such as UNEP/PCFV to come to learn the countries' challenges and priorities, and to conduct bilateral discussions to explore potential areas of cooperation in EST areas. She pointed to EST thematic areas 8 (Cleaner Fuel), 10 (Vehicle emission control, standards, and inspection and maintenance (I/M)), and 12 (Strengthening knowledge base, awareness and public participation) as being areas within PCFV objectives that PCFV could work in collaboration with UNCRD. Ms. M'Mukindia reaffirmed PCFV's willingness to partner on the clean fuels and vehicles component of the National EST Strategies (Lao PDR and Mongolia have already been given support, and there are plans to support Indonesia, Viet Nam, and Cambodia), provide technical policy assistance, assist in data identification/collection, etc. In concluding her presentation, she encouraged the countries to approach UNEP/PCFV as they are willing to collaborate and provide assistance.
- Mr. Herbert Fabian of the CAI-Asia Center made a presentation on the Sustainable Urban Mobility in Asia (SUMA) Program and its EST Linkages. The SUMA Program is supported by ADB through a grant from Sida, and its objective is to accelerate capacity development for urban air quality management (AQM) and sustainable urban transport (SUT) in Asia through better integration of AQM and SUT in the strategies, policies, programmes, and projects of developing Asian countries and development agencies. The presenter shared with the Forum the various activities undertaken by SUMA to assist in improving public transport, developing cycling inclusive guidelines, training urban transport professionals, institutionalizing policies, partnering with cities and civil society, and in reducing emissions. He explained that the EST elements and future priorities that have linkages with the SUMA Program are: (a) comprehensive land-use planning; (b) roadside air quality monitoring; (c) pedestrianization; and (d) partnerships in Asia among experts, NGOs, academia, etc. He encouraged the country delegates to take advantage of the Forum and to get information on potential future assistance from international agencies and others. He ended the presentation by stressing the importance of having a holistic/integrated approach in policies/plans for sustainable transport system, and urged the developing nations to come up with "workable" plans/technologies instead of "best" ones that may not work in their countries' context.

### **Plenary Session 4: Cities with Successful NMT (Non-Motorized Transport): Social Benefits and Equity**

44. The session was chaired by Mr. Sunil Kanti Bose, Secretary, Ministry of Posts and Telecommunications, Bangladesh. The Chair mentioned that NMT is a cheap and relatively safe mode of transport that is environmentally friendly; however, it has gradually diminished its role in Asia, particularly in the past few decades. Taking note of the current situation and associated problems of NMT in Asia – i.e., safety standards, social equity and benefits, inappropriate integration with motorized transport, etc. – he introduced the speakers of this Plenary Session and requested them to share the experiences and lessons from Asia and other parts of the world.

- Mr. Jeroen Buis, Interface for Cycling Expertise (ICE), made a presentation on the critical importance of NMT planning for modern Asian cities. He summarized that transport in low- and middle-income Asia can be characterized as being income dependent (i.e., income determines the mode), extremely high in motorcycle use, and having inadequate public transport with rapidly decreasing NMT use. He then referred to the case of the Netherlands in the 1960s to the 1970s, during which the vicious circle (constructing more roads which led to more cars, leading to more roads, etc.) was experienced. While this trend was experienced all over the world, many European cities have managed to partly reverse their policy and have re-directed their cities towards establishing a more sustainable and people friendly transport system. Referring to the high urban density that is common in many Asian cities, the presenter stressed that cities are the least appropriate places for public vehicles, but ideal for NMT and mass public transport. Public transport alone is also not the solution, as NMT is faster and more appropriate for short trips, and is more flexible than other means of transport. He concluded the presentation by providing the following advice: (a) make spaces for walking, cycling and public transport at the expense of spaces used by cars and motorcycles; (b) restrict car and motorcycle use and access in the city centres; (c) avoid road widening and construction of elevated highways in cities; (d) provide good and sufficiently wide footpaths along all urban roads; (e) create low speed zones (e.g., 30km/h zones); and (f) create cycle networks.
- Mr. Karl Fjellstrom, Institute for Transportation and Development Policy (ITDP), shared the examples of NMT and urban design best practices and applications in Asian cities. He introduced the recent success of New York City where 49 acres of road space were reallocated for bike lanes, pedestrian areas, and public plazas, and 255km of bike lanes were newly established, contributing to a 35 per cent increase in bike ridership over the past year. He then presented a wide range of good examples of NMT and urban design from Asian cities, mainly from China, including those from Hangzhou (shading for bicycle lanes, bicycle lanes extending into intersections, pedestrian refuge islands, bike rental programmes), Beijing (bike parking near metro station, pedestrian bridges, newly designed roads with bike lanes), and in the historical city of Guangzhou where they banned motorcycles in 2007, thus providing safe conditions for pedestrians and children. He made a point that best practices do exist in Asian cities, and that the challenge is how to maintain them. He made recommendations to Asian cities in terms of BRT and NMT integration, introduction of shared streets for traffic calming, designing appropriate block sizes, revitalization through ground-level activities, new road and city designs, and bike parking/bike sharing. The presentation was concluded by emphasizing the critical role of city and district governments in realizing sustainable transport, and the importance of learning from best practices.
- Mr. Peter Midgley from the global Transport Knowledge Partnership (gTKP), introduced Shared Bicycle Schemes in European cities. He introduced the definition of “bike-sharing,” which is short-term bicycle rental available at unattended urban locations. “Smart-bikes” refers to bike-sharing that makes use of applied technology. While bike-sharing dates back to the 1960s, the new generation “smart-bikes” evolved in the late 1990s. By 2008, there were seventy-four European cities in twelve countries with Smart Bike schemes, 35 per cent of which are operated by the public sector and 65 per cent by the private sector. The presenter identified the key conditions for implementing shared bike schemes, which are: (a) strong commitment to sustainable urban mobility and the promotion of cycling; (b) integration with overall urban transport planning; (c) a minimum standard of bicycle infrastructure; (d) appropriate topography and climate; (e) sufficient resources to achieve a real impact; and (f) sufficient space for racks/parking to guarantee access to bicycles. In addition to these conditions, he referred to a checklist prepared in 2007, which refers to some key checkpoints such as city size, implementation time, stakeholders’ involvement, and costs. In terms of costs, he added that the shared bicycle systems in Europe are normally financed by a combination of user fees, general revenues, and outdoor advertising rights. In concluding the session, the positive impacts of the shared bicycle system was reiterated, which includes impact on climate change, health, and traffic congestion (also recession friendly option).
- Dr. Marie Thynell from Goteborg University made a presentation focusing on Social Equity and Gender Benefits of NMT. She began her presentation by reminding the audience that mass-motorization is creating a social and spatial divide which is impeding societal development. Sustainable transport should

aim for 100 per cent mobility with a vision of zero fatalities. She then highlighted that children in developing countries are increasingly at risk, and also pointed out that the disabled and physically weak are not mobile, and that the poor, particularly women, children, and the elderly are deterred from making trips due to their exposure to possible traffic accidents and other violence. The general condition of children was stressed as follows by *The Guardian* of 10 December 2008: "Poorer children do not share equally in progress of society; persistent and strong social divide are masked by statistics." This is clearly evident in street spaces and systems of transport. So far there are very few surveys which provide statistical information on the transport conditions of children in different socioeconomic environments. Addressing social issues in transport means to: (a) confront the negative side-effects of economic growth models; (b) assure connectivity; (c) ensure equity in investment; and (d) reduce health impacts and insecurities, and ensure human security and eco-securities. Referring to the experiences of Europe and other parts of the world, she pointed out that the top-down approach dominates transport planning, while the bottom-up approach that involves a wide range of users adds to the quality of the systems. Underscoring the importance of establishing appropriate indicators for social sustainability, she concluded the presentation by highlighting the need to learn about the travel demand and preferences of the users, taking into consideration the reality that the social divide is growing.

45. Below are the main points of discussion that followed the presentations.

- While acknowledging the importance of promoting NMT and bicycles in particular, a point was made that encroachment is very common in Asian cities and therefore sidewalks often result in not being usable. In response to this comment, Mr. Buis suggested that certain areas be determined as multi-utility zones; making the sidewalks wide enough could be another option.
- Referring to the comment that most of the shared bicycle schemes are not self supporting (and therefore may not be a sustainable solution), Mr. Midgley responded that it is not sustainable in terms of user fees, but can be financed through other mechanisms such as advertisement fees. He also mentioned that the subsidy from governments can be lessened in the future as the cost of bicycles become cheaper.
- Considering the point made by the Bangladesh delegate that there are many other NMT modes in developing countries in addition to bicycles (such as rickshaws and animal-driven vehicles), Mr. Buis responded by saying that extra-wide lanes can be provided to cater to several different modes, as all modes of transport may not be able to be provided with separate lanes.
- The delegate from Afghanistan pointed out that in addition to the topography, speed, and travel distance, the negative image of NMT (i.e., the impression that NMT is for poorer people) might be a hindrance in promoting this mode of transport.
- A comment was made that the significance of NMT was well presented at this Forum, and that perhaps equal importance could have been given to public transport (mass transit).

#### **Plenary Session 6: Low Carbon and Green Development in Transportation**

46. Plenary Session 6 was divided into two consecutive sessions. Dr. Supat Wangwongwatana, Director General of the Ministry of Natural Resources and Environment, Thailand, chaired the first half of the session. The Chair referred to the first Plenary Session on Day 1, in which Dr. Lloyd Wright made a presentation on co-benefits, and participants shared their views on economic, social, and climate change benefits of various EST measures. Building on it as well as on the discussions that followed during the past two days, he reminded the delegates that the objective of this Plenary was to focus on the development of low-carbon and green transportation, from the viewpoint of international organizations and countries.

- Mr. Johannes Heister of the World Bank presented the Overall Strategy and Programmes of the World Bank in Carbon Financing and Climate Change Mitigation Measures in the Transport Sector. As he explained the challenges of the transport sector in relation to climate change mitigation, he pointed out that GHG emission reductions in the transport sector are often expensive, and that quantifying GHG

reductions is difficult. In terms of specific programmes, the Global Environmental Facility (GEF) Fourth Strategic Programme, which has the funding of US\$1 billion over four years, has spelled out the importance of the transport sector. The World Bank is operating the Carbon Partnership Facility (CPF), which includes transportation as one of the key sectors. The World Bank also has the Clean Technology Fund, a trust fund of US\$5.2 billion over four years, which lists the transport sector as a priority area. After referring to project examples from Mexico, the Philippines, and China, he concluded the presentation by stressing that developing a climate-friendly transport sector is a long-term commitment, and that the effective use of financing instruments for mitigation of transport GHG emissions requires: (a) a good understanding of the role climate finance can play; (b) consideration of, and funding for, public co-benefits; (c) a strategy for integration of financial flows from different sources; (d) programmatic approaches for cost-effective replication and scaling up; (e) CDM rules and methodologies that are better suited to transport sector projects; and (f) integration of transport planning and policy making within climate constraints.

- Mr. Jamie Leather of the Asian Development Bank made a presentation on ADB's Urban Transport Strategy for Asia towards Climate Change Mitigation. He began the presentation by showing how the built-up area in Kuala Lumpur, Malaysia, doubled between 1989 and 2001 while population increased from 2.7 million to 5 million. He pointed out that many of the developing nations and their cities should start thinking about putting some system in place from the outset, while keeping in mind what kind of transport systems would be required in the future. The countries could visualize where they are today, look at the policy and investment decisions taken in other countries/cities in the world, and see how such decisions impacted the cities. The presenter then introduced the ADB's Transport Strategy, which has been aligned with the Bank's Long Term Strategic Framework or Strategy 2020, that focuses on: (a) avoid (e.g., the need to travel); (b) shift (to sustainable transport); and (3) improve (e.g., vehicle, engine, and fuel). After presenting the co-benefits of these three approaches on pollution, CO<sub>2</sub>, and traffic congestion, he encouraged Asian countries to act now towards achieving sustainable transport.
- The presentation made by Mr. Kensaku Ishibashi of MoE-Japan highlighted the government's actions in putting co-benefits into practice. He introduced the new support programme for the co-benefits CDM model projects initiated by MoE-J in 2008, whereby MoE-Japan provides matching funds (50 per cent) for initial investment in projects, under the condition that recipients will transfer 50 per cent to 100 per cent of the Certified Emission Reductions (CERs) to Japan's national registry. Two projects were supported last year: one in Malaysia (reduction of methane gas emission from landfill sites), and another in Thailand (biogas from ethanol wastewater for electricity generation). While acknowledging the challenges of the transport sector in engaging in CDM due to the difficulty in setting baselines and in calculating additionality, he encouraged the Forum participants to move forward by joining hands in implementing co-benefits projects in the transport sector, as there are significant gains that could be achieved in terms of reduction of air pollution, waste, and other pollutants.
- Mr. Tomonori Sudo of JICA introduced the CDM methodology for the transport sector, specifically with regards to the energy recovery break system applied in the Delhi Metro system in India. The project was registered under CDM on 29 December 2007, and it is expected to reduce 41,160 tons of CO<sub>2</sub> per year via energy saving using a regenerative brake system. Also, approximately 38,000 tons of CO<sub>2</sub> is estimated to be reduced by the modal shift from vehicles, as it will carry 2 million passengers per day. Referring to JICA's experience in submitting another methodology for CDM in the field of mass rapid transit (which was rejected), he pointed out that the challenges to develop CDM methodology for the transport sector was on how to address the rebound effect, how to set system boundaries, and how to show leakages. In the second half of his presentation, he shared with the Forum the recent study on reduction of CO<sub>2</sub> emissions by underground rail development in the Seoul metropolitan area. The study calculated CO<sub>2</sub> emissions reduction between 1972 and 2008, and concluded that net savings on CO<sub>2</sub> emissions was achieved within several years of metro construction, and that the accumulative CO<sub>2</sub> emission reduction was 24.71 million tons. In concluding the presentation, he suggested that more CDM methodologies for the transport sector need to be developed, and that calculation tools for CO<sub>2</sub> emission reduction must also be improved further.

- Mr. Norifumi Idee of MLIT-Japan reported on the outcomes from the Ministerial Conference on Global Environment and Energy in Transport (MEET), which was held from 14 to 16 January 2009. MEET was attended by twenty-one countries (G8, Australia, India, Korea, and ASEAN 10), and nine international organizations, which together accounts for around 70 per cent of the world's transport CO<sub>2</sub> emissions. MEET adopted the Ministerial Declaration, which delivered a strong political message from the transport sector to combat climate change and air pollution. The Declaration shared a long-term global vision of realizing low-carbon and low-pollution systems, proposed a set menu for effective policy measures for domestic transport, and encouraged continuous dialogue for enhanced international collaboration. The presenter informed that the second MEET Conference is planned at the end of this year or early next year in Italy, and in preparation for this event, a Senior Officials Meeting will be held in Japan in June. He mentioned that the countries that were not involved in the first MEET were welcomed to join. He further reiterated that the Asian EST Initiative and MEET are no doubt sharing a common vision and goal, and that the two can complement and collaborate in their efforts to achieve greater synergies. In concluding the presentation, he expressed MLIT-Japan's readiness to provide Asian countries with multifaceted assistance.

47. The second half of Plenary Session 6 was resumed, with Mr. Iskandar Abubakar, Special Assistant to the Minister, Ministry of Transportation-Indonesia, serving as Chair.

- Building on the presentations made in the earlier half of the Plenary, Mr. Cornie Huizenga reiterated that more needs to be done regarding climate change and transport. To this end, he stressed the importance of coordinated actions among international and regional organizations in support of actions by developing countries. He then shared the objective of the proposed Action Plan to make Transport in Developing Countries more Climate Friendly, which was to "provide regional and global stakeholders on Transport and Climate Change with a coordinated agenda and approach to put their regional and national actions on Transport and Climate Change in a larger context and to implement part of their activities in a (more) coordinated manner and thereby increase their impact and reduce transaction costs". The key actions for the period 2009-2011 were: (a) a common policy framework on transport and climate change; (b) development and harmonization of methodologies and implementation modalities; and (3) dialogues. Establishment of a Forum on Transport and Climate Change in Developing Countries was suggested for the implementation of the Action Plan, and the participants were encouraged to comment on the Action Plan by 10 March 2009.
- Making reference to the eco-deficits of the Asia-Pacific region, Mr. Lorenzo Santucci mentioned that the region must try to achieve rapid growth without compromising environmental sustainability – which is the key concept of "Green Growth," adopted at the 5th Ministerial Conference on Environment and Development organized by ESCAP in March 2005 in Seoul (5<sup>th</sup> MCED). He mentioned that 26.6 per cent of the world's energy was consumed by the transport sector (of which 77.6 per cent is from road transport), and pointed out that transport was key to economic growth. Hence, in order to "decouple" economic development and increases in the ecological footprint, the transport sector would play a critical role. He then introduced the ESCAP Programmes in relation to Green Growth, including the Seoul Initiative on Green Growth (SINGG – an outcome of the 5<sup>th</sup> MCED), Trans-Asia Railway Network, Kitakyushu Initiative for a Clean Environment, Eco-efficient and Sustainable Urban Infrastructure Project, and the Asia-Pacific Mayors' Forum on Sustainable Infrastructure.
- Mr. Jin Young Park introduced the recent public transport policies for Green Growth in Korea. He mentioned that the President of Korea announced "Low Carbon & Green Growth" as a National Strategy for the future in August 2008. Giving the overview on the current status of GHG emissions from the transport sector in Korea, the presenter highlighted that Korea had a two-fold increase of GHG emissions from 1990 to 2005, compared to other OECD countries. Towards achieving Green Growth in the transport sector, the government has the objectives of improving 'Efficiency', 'Environment', 'Equity', and 'Safety,' focusing on the following four areas: (a) balanced investment for road and rail; (b) vitalizing public and green transportation; (c) improvement of facilities for the vulnerable; and (d) enhancement of

traffic safety. After sharing the successful experiences of Korea in improving the bus system and the fare and smart card integration, he briefly touched on the CDM projects in Korea, and explained that improvement of bus systems in several cities are being prepared as potential projects.

- Mr. Jong Choon Kim shared with the Forum the control measures and strategies adopted/practiced in Korea for the reduction of pollutants from automobiles. In Korea, there are over 16 million registered vehicles, and they are the major source of air pollution. The number of vehicles per road in Korea, as well as the number of cars per GDP, both ranks high among the OECD nations. Korea has introduced a wide range of policy measures to promote environment-friendly transportation, such as promotion of low- and zero-emission vehicles; enhancement of emission standards; introduction of retrofitting programmes for diesel vehicles; introduction of oil quality standards; introduction of emission standards for heavy duty construction vehicles; enhancement of quality standards for automotive fuel; introduction of legal measures to control/ban idling; strengthening of the recall system; and on-board diagnostics (OBD).

### **Plenary Session 7: Adoption of the Seoul Statement -- Towards the Promotion of Environmentally Sustainable Transport (EST) for a Low-Carbon Society and Green Growth in Asia**

48. The last session of the Fourth Regional EST Forum was chaired by Mr. Hong Soon Man, Deputy Minister of MLTM-Korea and co-chaired by Mr. Kazunobu Onogawa, Director, UNCRD. Introducing the draft *Seoul Statement*, C.R.C. Mohanty, Environment Programme Coordinator, UNCRD, explained to the country delegates that the contents of the Statement was in the same line of thinking with the discussions that were carried out during the Forum sessions for the past two days. He reiterated that the Statement was not a legally binding document – rather, it was a goodwill statement, which was developed in order to demonstrate the leadership of Asian countries towards realizing a low-carbon society and green growth in Asia. The Statement has the noble intention of demonstrating a collective wisdom towards creating a low-carbon society and growth in Asia and to strengthen the discussion on the transport sector in the climate change agenda. He then explained the participatory process in which the draft distributed to the participants had been prepared, after having inputs and suggestions of participating countries.

Further the draft Statement was introduced paragraph by paragraph by the Chairman. The Afghanistan delegation raised the specific concern of addressing the needs of the post-conflict countries. After exchanging views and comments, the Forum finally agreed to add the following text at the end of para. 5 of the *Seoul Statement*: "...including recognition of the special needs of the post-conflict countries." There were no additional comments/suggestions for further amendments of the *Seoul Statement*, and the final version of the Statement was adopted by the Forum (refer to Annex 1).

### **Closing Session**

49. In closing the Fourth Regional EST Forum, Mr. Kazunobu Onogawa, Director of UNCRD, once again conveyed his sincere appreciation to all the participants, Expert Members, supporting organizations, representatives from international organizations and donor agencies. He was pleased to have observed that the EST concepts stipulated in the *Aichi Statement* and *Kyoto Declaration* have gradually spread in Asia. He recognized that the strategy formulation process is progressing in many countries, and that the EST concept has been incorporated into these strategies as well as in other policies/plans of the countries reflecting the diverse country conditions. He was also delighted to see the Regional EST Forum grow over the years to become a venue for a truly high-level policy dialogue, with the participation of Ministers, Deputy Ministers, Undersecretaries, etc. The fact that the networking has been strengthened and collaborations among the UN agencies and other international agencies have materialized through the Forum has proven that the Regional EST Forum is an effective regional platform. Referring to the *Seoul Statement* adopted today, he expressed hope that it would stimulate and give strong support towards the promotion of EST for a low-carbon society and green growth in Asia. He informed the participants that the venue of the next (Fifth) Regional EST Forum

would be announced very soon, and closed the Forum by expressing his sincere appreciation for all the support provided by MLTM-Korea for successfully organizing the Fourth Regional EST Forum.

**Field visits:**

50. On the third and final day of the Forum (26 February 2009), a field trip was organized by MLTM to demonstrate to the participants the best practices and measures carried out by the Government of Korea in the area of EST. Visits were made to examine the following three areas.

Site Visit 1: BRT and Bus Reform

The delegates observed the BRT system as they travelled to the field visit destinations. The Seoul Bus System was reformed in July 2007 by the Seoul Metropolitan Government (SMG) to encourage more people to use public transportation and ease road congestion. The city government also introduced a Bus Management System (BMS), a computer monitoring unit in each bus that assesses the traffic situation on a minute-to-minute basis. Median bus lanes have been created on major arterial roads in the Seoul Metropolitan Area.

Site Visit 2: Cheonggyecheon River Restoration

The delegates were brought to observe the Cheonggyecheon River, a nearly 6-km long river that runs through the modern public recreation space in downtown Seoul. The massive urban renewal project was situated at the site of a stream that flowed there prior to rapid post-war economic development which required it to be covered by transportation infrastructure. The \$900 million project initially was the target of much criticism, but was successfully opened in 2005 and is now popular among Seoul residents and tourists.

Site Visit 3: ITS/SMART System in Seoul City

The delegates visited the TOPIS (Seoul Transport Operation & Information Service), which is an integrated Transport Information and Service System that collects and analyses real-time traffic data, and provides useful traffic information to citizens as well as informed effectiveness analysis data for transit operators and government officials. Major functions of TOPIS are: (a) real-time traffic/congestion management, (b) support for scientific transportation administration, and (c) provision of useful traffic information through mobile devices, the Internet, VMS, etc.

## Annex 1

### SEOUL STATEMENT

#### **Towards the Promotion of Environmentally Sustainable Transport (EST) for a Low-Carbon Society and Green Growth in Asia**

The participants, having met in Seoul, the Republic of Korea from 24 to 26 February 2009, for the Fourth Regional EST Forum, to draw up and adopt a statement for the promotion of environmentally sustainable transport in Asia,

**Noting** that Asia is experiencing the fastest economic growth and by the middle of this century, and at the current growth rate, there might be more motorized vehicles in Asia than there would be in Europe and North America combined, and that the profound impact of this trend on quality of human life and environment cannot be underestimated,

**Reaffirming and building** upon the integrated EST measures defined under the *Aichi Statement* adopted at the First Regional EST Forum in Asia, held in Nagoya, Japan, on 1-2 August 2005, and considering that efforts to promote environmentally sustainable transport will not only result in the improvement of human health through the reduction of urban air pollution, but will also have important complementary (co-)benefits, including the reduction of greenhouse gas (GHG) emissions,

**Recognizing** the outcome of the Fifth Ministerial Conference on Environment and Development in Asia and the Pacific held in Seoul in 2005, which endorsed environmentally sustainable economic growth, Green Growth, as a policy focus and important strategy for achieving the Millennium Development Goals (MDGs) as well as decoupling environmental degradation from development,

**Noting** the commitment made by the Ministries of Health in Member States in the resolution of the WHO Regional Committee for the Western Pacific in September 2008 to assess the health implications of the decisions made on climate change by the transport sector and advocate for the decision that provide opportunities for improving health,

**Realizing** that transport services affect all aspects of sustainability – social, economic, and environmental – and that there is a need for safe, clean, and energy-efficient transport in order to achieve green growth through low-carbon transport in Asia, the participants are thus called upon to:

1. address transport issues with the broader environmental aims of green growth to encompass the transport-energy-carbon emission nexus, from energy consumption to the emissions and climate change perspectives;
2. develop strategies for low-carbon transport including the increasing shift to energy-efficient and low carbon modes to mitigate the effects of transport on climate, and the effects of climate change on transport services and other socioeconomic sectors;
3. focus on sustainable mobility and transport demand management (TDM) tools and measures [such as parking controls (including parking charges and pricing), road pricing and congestion charging, fuel and

vehicle taxation, low and zero emission zones, car-free day, city centre pedestrianization, public transport priority and improvement measures, transit-oriented development, appropriate road-space allocation to high-occupancy vehicles, efficient and affordable mass transit systems (such as BRT), and measures to help and develop non-motorized transport (walking and cycling)], etc. with stakeholder consultation and participation rather than relying only on end-of-pipe solutions, so that local air pollutants and GHG emissions from the transport sector can be addressed concurrently and effectively, thereby contributing to materializing a Low-Carbon Asian Society;

4. as far as possible exploit benefits of adopting an intelligent transport system (ITS), and of utilizing market mechanisms such as tax credits for environmentally friendly technologies, to make the transport services environment and people friendly, cost effective as well as energy efficient;
5. develop city partnerships and collaboration across national boundaries within Asia and between Asian cities and cities from other regions for mutual technical assistance and cooperation on implementing environmentally sound practices in the transport sector, including recognition of the special needs of the post-conflict countries;
6. strengthen regional cooperation, in particular among the international organizations and donors active in the region and member countries, to further improve and deepen the transport agenda at energy efficiency and climate change-related fora, including the Conference of Parties (COP), for achieving a low-carbon society and green growth bearing in mind the ultimate objective of reducing global emissions under the UN Framework Convention on Climate Change (UNFCCC); and
7. request international organizations and donor communities to mobilize necessary capacity-building services and financial support to the developing member countries to enable them to overcome the complex technical barriers involved in developing transport projects for taking full benefit of the GHG market under the Clean Development Mechanism (CDM) stipulated by the Kyoto Protocol.