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**Major issues in transport****Rural connectivity to wider networks****Note by the secretariat***Summary*

Most of the poorest people live in rural areas, isolated by long distances and difficult terrain from markets, hospitals and schools. This problem is acute in the Asia-Pacific region, where almost 700 million people have no all-season road access. There is clear evidence that rural isolation is associated with poverty mainly as a result of low agricultural productivity and lack of access to wider economic opportunity. Isolation is also linked with poor health outcomes and low school enrolment.

The present document outlines the role of rural transport connectivity in reducing poverty and generating positive health, education and economic outcomes. It suggests ways to improve rural connectivity to wider networks such as the Asian Highway, the Trans-Asian Railway and dry ports. It also recommends key areas to improve rural transport connectivity, such as the identification of wider benefits, strategies to improve rural access coverage, financing options, regional review of progress and capacity-building.

**I. Introduction**

1. Physical connectivity to rural areas remains a problem in the region. Approximately 30 per cent of the regional population lives in rural communities, many of which are remote and not connected to a wider transport network. These communities are often marginalized owing to the lack of connectivity to larger areas of activity and opportunities that wider national or regional networks, such as the Asian Highway and the Trans-Asian Railway, would enable. This indicates the need to address resulting social and economic issues arising from isolation by creating sustainable rural connectivity.

2. The Sustainable Development Goals include two rural access-associated goals, namely, ending poverty (Goal 1) and ending hunger (Goal 2), where transport is a major contributor to their achievement. Prior to

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\* E/ESCAP/MCT(3)/L.1.

the adoption of the Goals, the Asia-Pacific region had achieved substantial and continuing progress towards Millennium Development Goal targets, particularly in reducing poverty.<sup>1</sup> Despite this achievement, nearly two thirds of the world's poor still live in the Asia-Pacific region and most of them are not connected to all-weather road access. Progress in reducing poverty has shown that it is more likely to be effective when communities have all-weather road access, at all hours to essential services and to markets. The studies by the Government of Viet Nam and the World Bank estimate that for every 1 per cent of gross domestic product (GDP) invested in rural transport, poverty is reduced by 1.5 per cent.<sup>2</sup>

3. An estimated 700 million people in the Asia-Pacific region, or approximately 40 per cent of rural populations, lack direct access to an all-season road. Farmers with poor access are constrained to subsistence production, preventing their escape from poverty. In many developing countries of the region, lack of sustainable and sufficient rural connectivity infrastructure is an obstacle to pro-poor growth.

4. Expenditures on roads have been found to have the largest impact on rural poverty compared with other types of public expenditure. For every 1 million Indian rupees (\$22,000) invested in rural roads, 163 people were lifted out of poverty.<sup>3</sup> Recent empirical studies also provide evidence that the impact of transport infrastructure on sustained growth in output, employment and income is essential for achieving long-term poverty reduction. For example, a study<sup>4</sup> on the poverty impact of roads in Indonesia found that road investments improved the contribution of provincial economic growth to reducing poverty: every 1 per cent of growth in provincial GDP led to a decline in poverty incidence by 0.33 per cent in “good road” provinces and 0.09 per cent in “bad road” provinces.

5. Rural connectivity coverage varies greatly among the countries of the region. An estimated 36 per cent of Nepal's 24 million people live at least two hours' walk from the nearest all-weather road, and Nepal is still working to connect all 75 district headquarters by road. Nepal's total road network density and quality are among the lowest in the region. Approximately 60 per cent of the main road network and almost all rural roads are not all-weather access. In India, there are still 25 per cent of remote communities that are not connected by road access.<sup>5</sup>

<sup>1</sup> Economic and Social Commission for Asia and the Pacific, Asian Development Bank and United Nations Development Programme, *Making It Happen: Technology, Finance and Statistics for Sustainable Development in Asia and the Pacific – Asia-Pacific Regional MDGs Report 2014/2015* (Bangkok, 2015).

<sup>2</sup> Viet Nam, Transport Development and Strategy Institute, *Updating of the Rural Transport Development Strategy in Vietnam: Final Report* (Hanoi, 2006).

<sup>3</sup> World Bank, “IDA at work: connectivity – providing access that links people to opportunities of health, education, social needs, trade and services” (Washington, D.C., World Bank, 2009). Available from [http://siteresources.worldbank.org/EXTRURALT/Resources/515369-1264605855368/IDA\\_tr.pdf](http://siteresources.worldbank.org/EXTRURALT/Resources/515369-1264605855368/IDA_tr.pdf).

<sup>4</sup> Paul J. Gertler and others, “The role of road quality investments on economic activity and welfare: evidence from Indonesia's highways”, working paper (Boston, Boston University, 2014). Available from [http://sites.bu.edu/neudc/files/2014/10/paper\\_250.pdf](http://sites.bu.edu/neudc/files/2014/10/paper_250.pdf).

<sup>5</sup> Available from [web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:21322050~menuPK:141310~pagePK:34370~piPK:34424~theSitePK:4607,00.html](http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:21322050~menuPK:141310~pagePK:34370~piPK:34424~theSitePK:4607,00.html).

6. For the region overall, there have been significant improvements in rural peoples' health and access to education through investment in infrastructure that have shown increasing labour productivity and development outcomes. In a review of the literature relating to infrastructure and growth,<sup>6</sup> 63 per cent of the empirical papers found a positive and significant link between infrastructure and some development outcome. A study on Indonesia<sup>7</sup> also showed provincial roads directly improved the wages and employment of the poor in Indonesia. There is also evidence from the Lao People's Democratic Republic that all-weather road access for all rural households would reduce the incidence of rural poverty significantly and, in many cases, rural poverty alleviation can be attributed to improved road access alone.<sup>8</sup>

7. In this context, the present document outlines issues and challenges faced by member States in improving rural connectivity, and offers some of the policy options to improve rural connectivity. It proposes elements for inclusion in the draft regional action programme for sustainable transport connectivity in Asia and the Pacific, phase I (2017-2021).

## II. Issues of inadequate rural connectivity

### A. Lack of access to markets and economic opportunity

8. Isolation from external markets results in most small rural communities relying on subsistence farming only, and growing a surplus adds no value. As rural communities have little opportunity to generate income, goods or produce from elsewhere are often unaffordable, and inputs that would increase production or variety have high costs owing to the low purchasing power of isolated or sparsely populated communities.

9. Some communities have unreliable and good weather-dependent road access, resulting in food security problems that create scarcities and raise urban food prices. Food spoilage and post-harvest losses are high, owing to a lack of reliable transport options, as well as a lack of storage facilities. Often, intermediate means of transport, including bicycles, motorcycles, pack animals and carts, are required to transport produce between farms and secondary roads; however, this has a high unit cost and consumes time. This "first-mile" stage of transport can account for up to 20 per cent of total transport costs, and can result in loss of value to the produce owing to handling.<sup>9</sup> When there is access to external markets, such as access to wider transport networks such as the Asian Highway or the Trans-Asian Railway, rural residents are better able to sell and trade, which therefore increases economic production. They are also able to diversify their production as demand increases.

<sup>6</sup> Stéphane Straub, "Infrastructure and growth in developing countries: recent advances and research challenges", Policy Research Working Paper, No. 4460 (Washington, D.C., World Bank, 2008). Available from <http://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-4460>.

<sup>7</sup> Eunkyung Kwon, "Infrastructure, growth and poverty reduction in Indonesia: a cross-sectional analysis", paper presented at the ADBI Workshop on Transport Infrastructure and Poverty Reduction, Manila, July 2005.

<sup>8</sup> Peter Warr, "Roads and poverty in rural Laos", Departmental Working Papers, No. 2005-04 (Canberra, Australian National University, Arndt-Corden Department of Economics, 2005). Available from <https://crawford.anu.edu.au/acde/publications/publish/papers/wp2005/wp-econ-2005-04.pdf>.

<sup>9</sup> See [www.slocat.net/sites/default/files/recap\\_factsheet\\_2\\_-\\_final\\_-\\_english.pdf](http://www.slocat.net/sites/default/files/recap_factsheet_2_-_final_-_english.pdf).

**B. Lack of access to social needs**

10. Access to health services is essential to improving the overall well-being of people living in rural areas. Women are at high risk of complications from pregnancy and childbirth when they lack ease of access to prenatal and postnatal care, with a resulting high infant mortality rate in rural areas, as well as higher rates of maternal mortality. A lack of emergency care also has an effect on the most vulnerable, and travel times to access medical care limits access to vaccines, resulting in overall lower life expectancy than in urban areas. Countries with a higher percentage of unpaved roads tend to have higher rates of maternal and infant mortality. As an example, in Papua New Guinea, 42 per cent of births outside the home occur in church-run facilities, not government health facilities, indicating a lack of provision of adequate health services for women.<sup>10</sup>

11. Access to education is often a key indicator for breaking the cycle of poverty. However, schools may be too far to reach, and children may work instead of attending school. A Papua New Guinea case study<sup>11</sup> shows that attendance at school is hindered by a travel time of, on average, three hours, and it is argued that by raising the average school leaving age to a minimum primary school graduation level, poverty would be reduced by 10 per cent as a result. Rural communities can also struggle to attract quality teachers owing to living conditions. Education, as well as leading to better access to job opportunities, also links to health and hygiene improvements, higher literacy and a general improvement in exposure to information, as well as contemporary technology for farming.

12. Often, women and children are the worst affected by a lack of access to services. An example is when they are required to collect water, often located a long distance from villages. The time taken to complete journeys can make school attendance minimal or non-existent, and safety can also be compromised in isolated areas. Social isolation also makes access to political and community activities much more difficult.

13. Where new roads are built for rural and remote communities, road crashes and resulting increased road injuries and deaths are often an issue owing to the fact that rural populations share the roads with motor vehicles, and a lack of timely advocacy and public education on road safety. This is exacerbated by poor road conditions, or inadequate geographical and topographical planning, a situation that can also result in higher costs for maintaining and repairing vehicles.

**C. Funding challenges facing greater rural access coverage**

14. The construction and maintenance of rural roads is expensive, and the rate of return on capital and the amount of people it directly benefits is much lower than if the money were spent on urban or inter-urban transport infrastructure. When looking at the cost-benefit analysis of a rural infrastructure project, the full measure of economic benefits includes agricultural productivity gains, employment diversification, resource-use opportunities, social gains, better health and an educated population,

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<sup>10</sup> John Gibson and Scott Rozelle, "Poverty and access to infrastructure in Papua New Guinea", Working Paper, No. 02-008 (Davis, University of California, Davis, 2002). Available from <http://ageconsearch.umn.edu/bitstream/11944/1/wp02-008.pdf>.

<sup>11</sup> Ibid.

and reduces unwanted social practices and many other impacts and externalities that are not usually accounted for in a value-for-money analysis.

#### **D. Increasing frequency of extreme weather events**

15. In 2016, the Asia-Pacific region has witnessed an increased frequency of extreme weather events and natural disasters. These extreme weather events can affect planning and construction of rural transport infrastructure and consequently, human mobility.

16. These events have had widespread impacts on human and natural systems, amplifying existing risks such as food security, public health and social inclusiveness. Indeed, many developing countries of the region are working hard to lift themselves out of poverty, but these extreme events in turn diminish the outcome of such efforts. On average, floods in the Asia-Pacific region cost developing countries from 3 to 5 per cent of their GDP, cancelling out significant efforts that have been made towards poverty eradication and social development.<sup>12</sup>

17. A reliance on local resources can lead to overexploitation and less resilience or adaptation to external shocks, including climate change, severe weather scenarios and natural disasters. For example, without year-round, reliable access to rural communities, severe weather such as drought can result in a lack of water delivery, putting remote communities at risk. Topography also presents many challenges, with areas in mountainous terrain posing particular threats to road maintenance and safety, and low-lying areas prone to inundation. Most importantly, extreme events can destroy rural transport infrastructure; therefore, better design and more resilient rural road access are needed, with a consequent increase in cost of construction and maintenance.

### **III. Policy options to improve rural connectivity**

18. In order to improve rural connectivity, appropriate policies and strategies need to be in place and implemented. Authorities need to prioritize rural connectivity and adopt appropriate policies and innovative technologies for its development.

19. Based on the foregoing review of rural access in the region, some of the policy options for consideration are: identification of the wider benefits of connectivity; methods of improving rural transport connectivity and their impact on poverty alleviation, health, education and employment generation; utilizing a regional strategy/master plan/policy framework to improve rural transport connectivity to wider local, national and regional transport; the various financing options and funding methodologies for improving rural connectivity; undertaking periodic review of the region to identify advances in rural connectivity; and strengthening the capacity of institutions and stakeholders in planning, developing and implementing sustainable rural connectivity programmes. The following paragraphs provide further details on the policy elements.

<sup>12</sup> Economic and Social Commission for Asia and the Pacific, *Overview of Natural Disasters and their Impacts in Asia and the Pacific, 1970-2014* (Bangkok, 2015). Available from [www.unescap.org/sites/default/files/Technical%20paper-Overview%20of%20natural%20hazards%20and%20their%20impacts\\_final.pdf](http://www.unescap.org/sites/default/files/Technical%20paper-Overview%20of%20natural%20hazards%20and%20their%20impacts_final.pdf).

**A. Identification of the wider benefits of connectivity**

20. The benefits of constructing and maintaining rural roads go beyond purely directly attributable financial and economic returns for the Governments. The wider benefits of connecting rural communities include both direct and indirect impacts that should be accounted for when planning for rural connectivity provision in these areas. However, it remains the norm for rural access projects to be assessed on a simple rate of return basis and hence investment in rural access remains low in many countries of the region for that reason.

21. A normal cost-benefit analysis approach is that the perceived benefits (particularly in respect of addressing rural poverty issues) of rural roads can rarely be accurately quantified in monetary terms. By contrast, construction and maintenance costs are relatively robust and easily aggregated. As a result of this imbalance, cost-benefit analysis is often unable to provide a good estimate of the relative worth of different rural road projects or indeed the absolute rate of return compared with other initiatives. The solution to this problem usually takes the form of using some form of multi-criteria analysis, which tries to combine both monetary and quality valuations for the project impacts. Community participation is often linked to this analysis in order to determine local priorities and needs, and to get wide acceptance of the quality indicators and their measurement, as well as actually being the method for deriving the final criterion for assessment of project worth.

22. The wider benefits of rural access need to be more generally known and understood and more appropriate techniques in estimating benefits need to be customized to the rural situation, especially understanding the known and unknown opportunities for rural productivity and economic activity, some of which may take years to emerge and may be the result of recent knowledge and advocacy. For example, in rural Viet Nam, the Third Rural Transport Project<sup>13</sup> resulted in many more locals being able to make trips to health centres, and an increase in the number of people using roads to access markets (39.8 per cent of women compared with 14 per cent in control villages). Approximately 85 per cent of people in the Viet Nam study said they had increased well-being as a result of the improved roads, including being able to sell products at better prices owing to markets being able to access their produce.

23. The benefits of being connected to a wider regional network are demonstrated in financial terms in a study in India,<sup>14</sup> which observed the effect of the India part of the Asian Highway route No. 1 on rural populations living in its proximity. The study found that the road is extensively used by the rural population for various social-economic activities, and proximity to the highway has significant influence on major aspects of social-economic well-being, such as income level and poverty reduction (see figures I and II). Their econometric results indicated that greater opportunities of employment and earning in non-farm activities are generated. Access to education and

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<sup>13</sup> Ren Mu and Dominique van de Walle, "Rural roads and local market development in Vietnam", Policy Research Working Paper, No. 4340 (Washington, D.C., World Bank, 2009). Available from <https://openknowledge.worldbank.org/bitstream/handle/10986/6878/wps4340.pdf?sequence=1&isAllowed=y>.

<sup>14</sup> Ramprasad Sengupta, Dipankor Coondoo and Bhisna Rout, "Impact of a highway on the socio-economic well-being of rural households living in proximity", *Contemporary Issues and Ideas in Social Sciences*, vol. 3, No. 3 (December 2007). Available from <http://journal.ciiss.net/index.php/ciiss/article/view/47/41>.

health facilities improve. Household incomes increase and so do asset holdings. It has been shown that a poor rural household living in the vicinity of route No. 1 has derived considerable benefits.

Figure I  
**Proportion of poor households based on the poverty line**

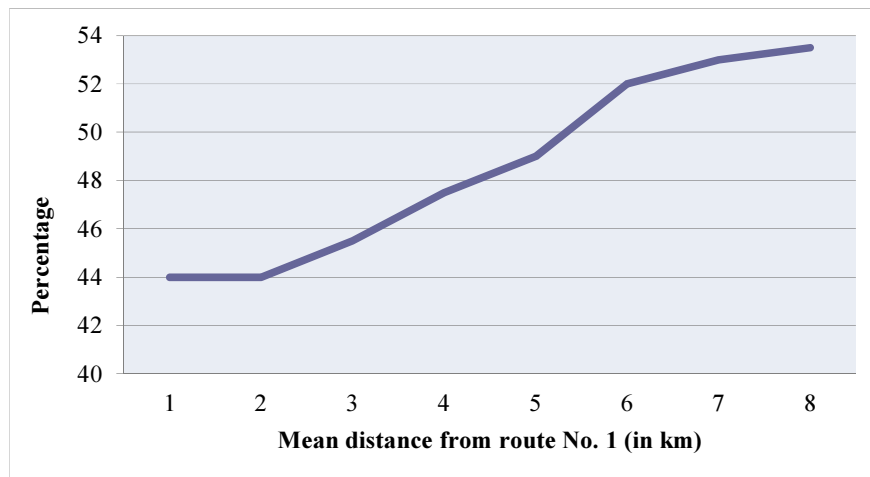
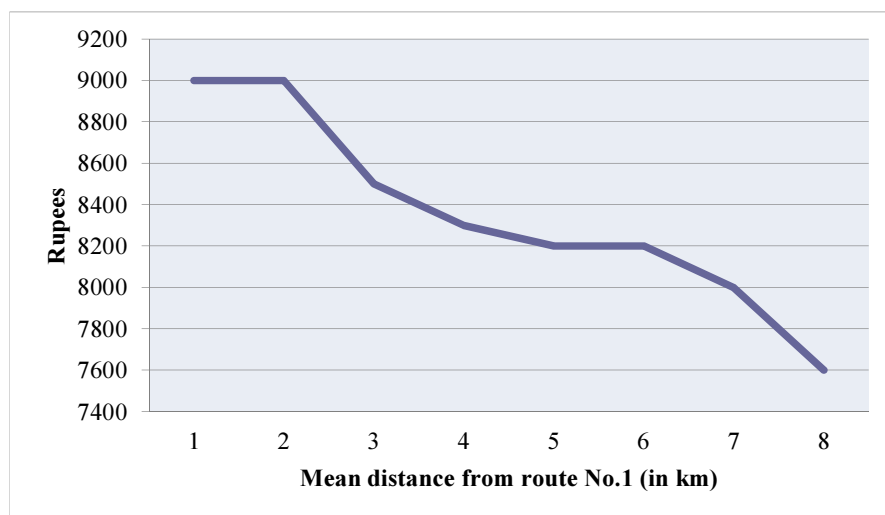


Figure II  
**Per capita income (annual)**



## B. Improving rural connectivity and impacts

24. Several empirical studies confirm that transport infrastructure contributes to economic growth. But they also reveal that while it may be a necessary condition for poverty reduction, it is not sufficient. This suggests that greater poverty reduction through improved infrastructure can be achieved through designing investments that are more pro-poor. Infrastructure investments should include a focus on poor people, and should involve poor people in the entire process – from planning and implementation to management and maintenance – to reflect their needs and address the possible positive and negative impacts.

25. In order to achieve the potential that rural road development has to reduce transport costs and generate market activity, complementary inputs and policies may be required to achieve the full benefits from improved roads, focusing less on the catalytic and more on the complementary role of rural roads for development and market activity and assisting better health outcomes, education for all and greater employment opportunities.

26. In Viet Nam, road rehabilitation increased the variety of goods that households sold in the market, including primary fruits, vegetables and meat, and encouraged greater participation in trade and services. These effects will be mediated by specific geographic, political and economic settings.

27. In many systems of assessing the feasibility of projects, a minimum monetary rate of return is required and usually rural road investments are included in this process, though it is important to recognize that there are potentially important benefits to which monetary values cannot be assigned. The benefits from rural access provision depend heavily on the cultural, social and geographical context and the complementary connection with other infrastructure provision. For example, one study in Viet Nam<sup>15</sup> found that four to six years after road rehabilitation, road transport services were more likely to respond where markets were functioning and interruptions to infrastructure availability were relatively infrequent.

28. A study of the examples of improving rural connectivity and the policies behind the advancement would help policymakers and planners in shaping a range of policies supporting planning, development and maintenance of rural connectivity programmes. The regional study may investigate emerging trends in rural connectivity in the region and present initiatives that are making rural access systems safer, more efficient, appropriate and more affordable whilst at the same time utilizing the local people and local material resources. The study could include collection of good practice case studies of rural connectivity and show how greater connectivity has had an impact on rural communities.

29. This rural access study would be a valuable input to the biennial *Review of Developments in Transport in Asia and the Pacific*.

### **C. Strategies to improve rural connectivity**

30. Many countries in Asia and the Pacific lack the strategic rural transport policies that ensure the connectivity of rural and remote communities to wider systems, such as national and regional transport networks (Asian Highway, Trans-Asian Railway and dry ports).

31. In the region, successful outcomes, especially those generating economic growth and social welfare from investment in rural access, are increasingly linked with a range of cross-sectoral and complimentary investments. A comprehensive strategy on rural development is required that prioritizes investments, coordinates coherent developments of different sectors and creates an enabling environment for multiple sources of investments.

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<sup>15</sup> Ren Mu and Dominique van de Walle, "Rural roads and local market development in Vietnam", Policy Research Working Paper, No. 4340 (Washington, D.C., World Bank, 2009). Available from <https://openknowledge.worldbank.org/bitstream/handle/10986/6878/wps4340.pdf?sequence=1&isAllowed=y>.



32. Many countries in the region recognize that the planning of rural connectivity requires special attention. Standard economic appraisal techniques cannot adequately deal with the problems of quantifying expected impacts. As part of the decentralization process, it is now the norm to adopt participatory involvement within the process of identification and prioritization of local community needs.

33. A comprehensive national rural connectivity policy should be part of each country's overall national sustainable transport policy or strategy. National Governments may be encouraged to make a policy pledge towards rural connectivity. Where not yet in place, national Governments can define, adopt and implement a national rural connectivity policy framework focusing on extending the coverage and maximizing all-weather accessibility.

34. National Governments may encourage their rural districts to adapt national policies to the particular local circumstances with rural connectivity master plans as a coherent part of the national rural connectivity policy framework.

35. The national rural connectivity policy framework would offer opportunities for rural communities to benefit from integrated planning to provide appropriate access for a larger part of the rural disconnected. Such a strategic commitment would ensure planning and investment stability and could serve as a supporting instrument for donors and multilateral banks for investing in rural transport infrastructure.

36. The framework could provide general direction for member countries and their development partners when formulating rural connectivity master plans by promoting common approaches to ensuring cost-effective deployment strategies. The framework could also help bring together national, bilateral, subregional and regional efforts in a more coordinated way to accelerate the implementation of rural connectivity programmes and develop larger collaboration among Governments, companies, civil society organizations, international organizations, academic institutions, transport planners and rural communities.

#### **D. Financing options for improving rural connectivity**

37. Most rural transport infrastructure investments are funded from public financial resources. For example, under the past five-year national development plan, ending in 2015, Viet Nam invested approximately 2 per cent of its GDP in rural transport. This amounts to some \$4 billion, with a plan to double this amount in the subsequent cycle. The public sector financing can also have external sources through international financing institutions, such as development banks and bilateral donors. Other forms of financing exist, such as sovereign wealth funds and regional/subregional infrastructure funds. Donors, funds and banks may cooperate to offer concessional loans or grants or a mixture of both.

38. International finance institutions have supported the financing of rural transport infrastructure projects in the Asia-Pacific region for many years and while the substantial funding is loan-based, there have been significant grant resources to support rural transport initiatives in Afghanistan, Kyrgyzstan, the Lao People's Democratic Republic and Tajikistan.

39. Attention is increasingly being turned to the private sector and there is a greater expectation that public-private partnerships can complement traditional public funding.

40. It is still the case, however, that most rural connectivity and maintenance projects are financed through public sources. In more remote areas of developing countries, locals often lack the capacity to seek alternative funding measures. Alternative methods of financing projects such as public-private partnerships may be out of reach owing to the lack of interest in funding rural projects, as there is not enough return for the money invested. Creating tolls for new rural roads may also result in lack of use owing to the low socioeconomic status of the rural dwellers who are potential users of the roads.

41. A study that evaluates and investigates successful cases of various financing options of rural roads could be useful for Governments to be aware of options and costs, as well as risks and conditions involved.

#### **E. Regional review of progress on improving rural connectivity**

42. The challenge in 2016 and onward is to ensure that today's rural connectivity policies and investments will contribute towards the achievement of the Sustainable Development Goals.

43. A review of regional progress on achieving greater rural connectivity would help policymakers and planners to monitor their progress for rural connectivity coverage and the economic, social and environmental progress resulting therefrom. It would also serve as a comparison tool for countries in the region to monitor individual progress and status against neighbouring countries, understand policies and methodologies involved in shaping a range of policies, planning, project prioritization and implementation for improving rural connectivity. The review could include a collection of examples of efficient provision of rural access being successfully implemented by developing countries. The review could further investigate innovative approaches, techniques and methodologies in rural access planning, construction, supervision and maintenance as well as the incorporation of gender mainstreaming.

#### **F. Capacity-building to support rural connectivity**

44. In order to improve the coverage of rural connectivity in the region, thoughtful decision-making on prioritizing and implementing methodologies needs to be applied in the region. The exchange of knowledge and experiences on approaches, techniques and methodologies that have been successful in improving rural connectivity would help stakeholders to consider various policy options to plan and improve rural connectivity.

45. Knowledge-sharing of research outputs is a particular area in which capacity-building workshops could add value. One example of a research programme that has been exploring the options for more sustainable methods of creating and maintaining rural connectivity is the South-East Asian Community Access Programme. Research has focused on the options for using local communities and adapting local materials and construction methods in rural areas of the subregion.

46. Workshops and seminars could also explore various construction techniques and recommended methodologies, such as labour-based construction methods, the environmentally optimized design that considers variations of road environments along the whole length of a road, accounting for steep gradients, wet and marshy areas prone to flooding and easily maintained terrain, and the spot improvement design that works on the same principle to ensure that roads have the most suitable pavement types for each section, under specific circumstances.

47. Capacity-building workshops/seminars could highlight various effective policies and strategies that could be utilized to improve rural connectivity. Some of the policies and strategies listed below could be included in a collection of case studies and shared at capacity-building workshops:

- Advocating the importance of connecting rural communities through better transport infrastructure
- Ensuring that methods of construction are suitable for the terrain and expected road use
- Using locally sourced materials that are durable and suitable for the local climate and conditions, where possible
- Building the capacity of local communities and involving them in planning, construction, upgrading and maintenance and the whole process of improving rural access as a further means of encouraging employment and ownership
- Building the capacity of local governments and communities for achieving funding and specialist knowledge of road construction and maintenance
- Making rural road maintenance manageable, affordable and efficient
- Considering life cycle costing techniques while planning and designing rural connectivity projects

#### **IV. Issues for consideration**

48. Rural connectivity that links to wider networks varies enormously in availability and quality, and suffers from challenges associated with high costs and poor performance. The demand for rural connectivity in the region is huge, but the funding available and financial returns on projects are insufficient to meet this need. Additional financial options and evaluation methodologies are required to make rural connectivity projects affordable, feasible and sustainable. In order to improve rural connectivity to wider networks, effective policies and strategies are necessary and there is a need to enhance the capacity of stakeholders and local communities to plan and implement rural connectivity programmes. Innovative and inclusive policies have shown great returns in the region and these policies need to be documented and replicated for achieving a truly integrated transport network that includes access to the Asian Highway, the Trans-Asian Railway and dry ports.

49. Governments are invited to comment on the views expressed in the present document and on the following elements suggested for inclusion in the draft regional action programme for sustainable transport connectivity in Asia and the Pacific, phase I (2017-2021).

**Immediate objective.** Member countries are to be assisted in developing and achieving greater rural connectivity coverage and connections to the wider transport networks.

#### **Outputs**

1. Study on improving rural transport connectivity and its impact on poverty alleviation, health, education and employment generation;

2. Regional strategy/master plan/policy framework to improve rural transport connectivity to wider local, national and regional transport networks (Asian Highway, the Trans-Asian Railway and dry ports);
3. Study on financing options for developing rural transport connectivity;
4. Report on regional progress on the improvement of rural transport connectivity;
5. Workshop/seminar/meeting/advisory service to support member countries on the development of rural transport access.

**Indicators of achievement**

1. Report issued to document the impact of improving rural access coverage on poverty alleviation, health, education and employment generation.
  2. Strategy/master plan to improve rural connectivity developed and used by member States to develop their own policies and plans to incorporate rural access into regional connectivity networks.
  3. Study on options for financing rural connectivity issued and the issues involved known by member States.
  4. Review of rural connectivity developments in the region prepared.
  5. Capacity-building seminar/workshops organized and capacity of transport policymakers, planners and programme implementers enhanced to plan and improve rural connectivity.
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