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Thematic discussion 2: Reaching the most remote: rural transport challenges and opportunitiesⁱ

Saturday, 26 November, 3:00 – 4:30 P.M.

Lead entity: Department of Economic and Social Affairs

Transport is a key enabler of multiple SDGs, allowing people—including women, smallholder farmers and other inhabitants of rural areas—to access markets, employment, health and education services, social interaction and the world beyond their village or local community. To ensure that such access is *sustainable*, economic, social and environmental priorities must be taken into account in a manner that advances the development objectives of current generations without undermining the wellbeing of future generations. Sustainable transport priorities for rural areas must therefore go beyond simply building more all-weather roads. At the same time, viable solutions to transport gaps must be an integral part of any strategies that seek to ‘leave no one behind.’

Depending on the context, road, water and air links can all be vital for rural areas – but both coverage and quality tends to be poor. For example, estimates using the World Bank’s Rural Access Index (RAI) and 2015 population data suggest that over 1.3 billion people worldwide lack access to roads in rural areas. In Sub-Saharan Africa, lack of access affect 66 per cent of the rural population, or about 411 million people. Lack of accessibility is also high in Asia-Pacific region (37 per cent of rural population or 794 million people), in Latin America and the Caribbean (40 per cent or 50 million people), and in the Middle-East and North Africa region (40 per cent or 60 million people), and relatively lower in Europe and Central Asia (18 per cent or 47 million people).

Achieving the 2030 Agenda in the rural context will require a holistic approach to transport, and other complementary interventions: infrastructure improvements, technology transfer and innovation, policies and planning that encourage smooth inter-modal connections, promotion of health and safety an emphasis on active mobility, and local economic and social development. Opportunities for a green path to these objectives must be maximized, with an eye to leapfrogging over unsustainable practices when possible.

Remote rural areas are often cut off from economic opportunities, markets, and public services. While other forms of communication—such as mobile phones—have shown great success in connecting the ‘last mile’, this remains a particularly acute challenge for the physical movement of people and goods in the rural context of developing countries. Such deprivation can lock people into low productivity and poorer outcomes for wellbeing along many dimensions, with disproportionately large effects for women, children, the elderly and the disabled.

Evidence shows that levels of poverty among rural people in remote areas frequently increase in proportion to how far they must walk to get to the nearest road or waterway. In sub-Saharan Africa, agricultural production in areas more than eight hours' travel time from a town of 100,000 people is reported to be at five per cent of its potential, compared with 45 per cent of its potential in areas less than four hours' travel time away. Poor access to transport is a major cause of peri-natal mortality resulting from inadequate transport to access basic health facilities and transport for referrals to hospitals. The consequences of such limited options for transport compound the catastrophic effects of natural disasters.

Challenges to establishing appropriate transport solutions can become self-perpetuating. Low population densities and low income levels in rural areas can make certain transport options economically unviable—but the lack of such options can lead to the migration of productive workers and their families to urban areas, further lowering the prospects for economic viability. Difficult terrain, fragile ecosystems or a relative lack of voice in the decision-making process can all add to the challenge of finding effective solutions.

If properly designed and implemented, rural infrastructure investment can help to reduce inequality. However, investments can disproportionately benefit the upper socio-economic strata if the needs of marginalized groups are not taken into account. Indeed quite often, transport planning and decision making tend to be conducted as a technocratic process with minimal information released to the public until construction begins.

Infrastructure investment in rural areas has received much attention over the last three decades. New designs of trail bridges and footpath construction have been developed and tested by local communities. Some countries, such as Lesotho and Nepal, even have specific units responsible for installing and maintaining rural footbridges. A rural transport project in Peru rehabilitated and maintained 7000 km of trails, primarily used by women and children. The government of India has made a policy decision to connect all villages with more than 500 inhabitants (250 inhabitants in the remoter areas) to an all-weather road. China also aims to connect all "administrative villages" to all-weather roads.

The benefits from such developments—particularly for the poor—is also well documented. In Viet Nam, poor households living in rural communes with paved roads have a 67 per cent higher probability of escaping poverty than those in communes without paved roads; an evaluation of a World Bank-funded rural road rehabilitation project found that the strongest positive impact was for the poorest households. In particular, the time saved in reaching habitual destinations was highly significant for the poorest 40 per cent of households. Many studies linking road access to agriculture have shown that the construction of rural roads has led to increased agricultural production: one review of 25 studies relating to rural transport in various countries found that investment in this type of infrastructure enhanced agricultural production, employment, living standards and poverty reduction. Others have shown that new roads are correlated with lower input prices and freight costs in India, with increasing crop outputs in Ethiopia and increasing cultivated farm areas in Nicaragua.

Such improvements are not confined to incomes alone. In Peru, a program that aimed to maintain rural pathways and feeder-roads also increased primary school enrolment for girls by seven per cent, and secondary school attendance for boys by 10 per cent. School attendance increased by 22 per cent as a result of an Indian project building new village roads. In particular, enrolment from disadvantaged groups increased significantly, and there was a five per cent improvement in primary educational enrolment for children ages five to 14, without significant gender differences.

Better rural infrastructures facilitate women's movement, empowerment and overall emancipation. In Peru, rural road projects increased women's income by 14 per cent, primary school attendance by girls by seven per cent, and the number of visits by women and children to health centers by 55 per cent. Reducing the cost and time to reach health centers through improved transport frequently leads to an increase in timely access of the poor to health care.

Regional transit corridors including the Northern Corridor in Africa and the "One Belt One Road" project in China combine road, rail and waterway transport to facilitate regional trade. These transit corridors can also serve to connect rural communities and enhance their access to markets and services. Some countries, including in the Amazon Basin, are working to use inland waterways and coastal marine transport to connect communities in remote and low population areas.

A richer understanding of these multifarious benefits can help improve the design and effectiveness of interventions, and strengthen the case for making them in the first place. Indeed, experiences from Bangladesh, Cameroon, China, Ethiopia, India, Viet Nam and other countries have shown that investment in secondary rural roads tends to have a high positive impact on many areas compared to investment in higher-volume roads.

Rural transport investments are most effective when devoted to rural community roads, paths and trails. A study from Nepal has shown very high benefit-cost ratios for new rural roads. A study of public investments in rural Uganda suggested that the most basic 'feeder' roads had a benefit-cost ratio of 7.2, with 34 people taken out of poverty for each million shillings invested. In contrast, the benefit-cost ratios of gravel roads were not significant. The greatest returns to investments in China have come from construction of low-volume rural roads, as their benefit-cost ratios were found to be four times greater for national GDP than investments in high-volume roads.

Rural infrastructure projects need to be included in participatory processes that involve local communities. Participatory planning tools such as the Sustainable Transport Appraisal Rating (STAR), developed by the Asian Development Bank, and the Integrated Rural Accessibility Planning (IRAP) allow consulting with local communities when preparing investment plans based on multi-dimensional measurement tool that includes economic, poverty and social, environmental and sustainability risk criteria. In its recent report, *Mobilizing Sustainable Transport for Development*, the Secretary-General's High-Level Advisory Group on Sustainable Transport recommends that governments "seek inputs, buy-in and, when possible, co-creation, from a wide range of stakeholder groups when making transport planning, policy, infrastructure and system decisions."

Possible questions for discussion:

1. How can local and regional communities become more engaged in designing and attracting rural transport solutions that would enable them to increase their productivity and incomes?
2. How can a holistic approach to rural transport both increase and benefit from the development of gender equality and women's empowerment?
3. How can technology and rural transport initiatives better connect smallholder farmers to markets?
4. How can transportation initiatives in remote areas work to enhance environmental sustainability?
5. What kinds of partnership are needed between public and private actors to deliver on the potential and promise of rural transport solutions for the SDGs?

ⁱ Source material for this concept note was taken from inputs to the 2016 Global Sustainable Development Report (GSDR).