

# RURAL TRANSPORT



Indispensable  
to achieve the  
Sustainable  
Development  
Goals

# Why Rural Development is Indispensable

1. Rural development is a **catalyst** for a country-wide growth. (China/South Korea).
2. The growing urban areas have an **increasing demand** for high quality food products.
3. Increasing rural-urban **disparities** are neither sustainable nor desired.





# End Poverty in All Its Forms Everywhere

## India:

A single investment of 1000 US\$ in rural roads India lifted 7 people out of poverty, which equals only 111 \$ per person

Fan et al. 1999, IFPRI

## Ethiopia:

Access to all-weather roads reduces the incidence of poverty by 6.7%.

Dercon 2007



## End Hunger, Achieve Food Security and Improved Nutrition, and Promote Sustainable Agriculture

**Improving rural access** leads to

- increased agricultural production,
- lower costs for farm inputs and
- lower transport costs for marketed outputs.
- price changes in inputs and outputs, and
- affects cropping patterns, land prices and land ownership.

Starkey and Hine (2014)  
in a literature review  
assessing 360 documents





## Ensure Healthy Lives and Promote Well-Being for All at All Ages

### India:

#### The provision of rural roads

- decreases infant and child mortality,
- increases the use of preventive health care by women and households,
- improves the management of infectious diseases,
- increases the attendance to emergencies and the frequency of visits by health workers,
- improves antenatal and post-natal care, and
- decreasing obstetrics emergencies.

Banerjee et al. 2015, Mohapatra 2007





## **Ensure Inclusive and Equitable Quality Education and Promote Life-Long Learning Opportunities for All.**

### **Impacts of rural access improvements**

- Increased school enrolment and attendance
- Reduced school drop-out rates
- Positive impacts on primary school completion rates
- Better staffing at schools
- Reduced absenteeism of primary and secondary teachers due to bad weather.

Bangladesh (Kandler/Bär 2004), Bangladesh (Khandker 2006), Brazil (Atsushi et al 2015), Cambodia (KfW 2013), China (Cook et al 2005), India (Bell and van Dillen 2012, Mohapatra 2007), Morocco (Levy 2004), Papua New Guinea (Gibson et al 2002), Peru (Escobal 2003), Pakistan (Essakali 2005), Philippines (Balisacan 2002), Viet Nam (Mu Ren 2008), Zambia (Starkey (2007).



## Achieve Gender Equality and Empower All Women and Girls

**Zambia, Uganda,  
Burkina Faso, Tanzania:**

Women carry three to five fold the transport load, measured in tonne-km compared to men.

Women in rural areas are up to three times more likely to die while giving birth than women living in urban centers.

<http://www.un.org/sustainabledevelopment/inequality/>

Barwell 1996, p. 27



## Promote Sustained, Inclusive and Sustainable Economic Growth, Full and Productive Employment and Decent Work for All

### India:

New road constructions to previously unconnected villages led to a 10% point increase in wage labor market participation.

Asher et al. (2015) using large datasets from India's rural road construction program that has built paved roads to over 100,000 previously unconnected villages

### China:

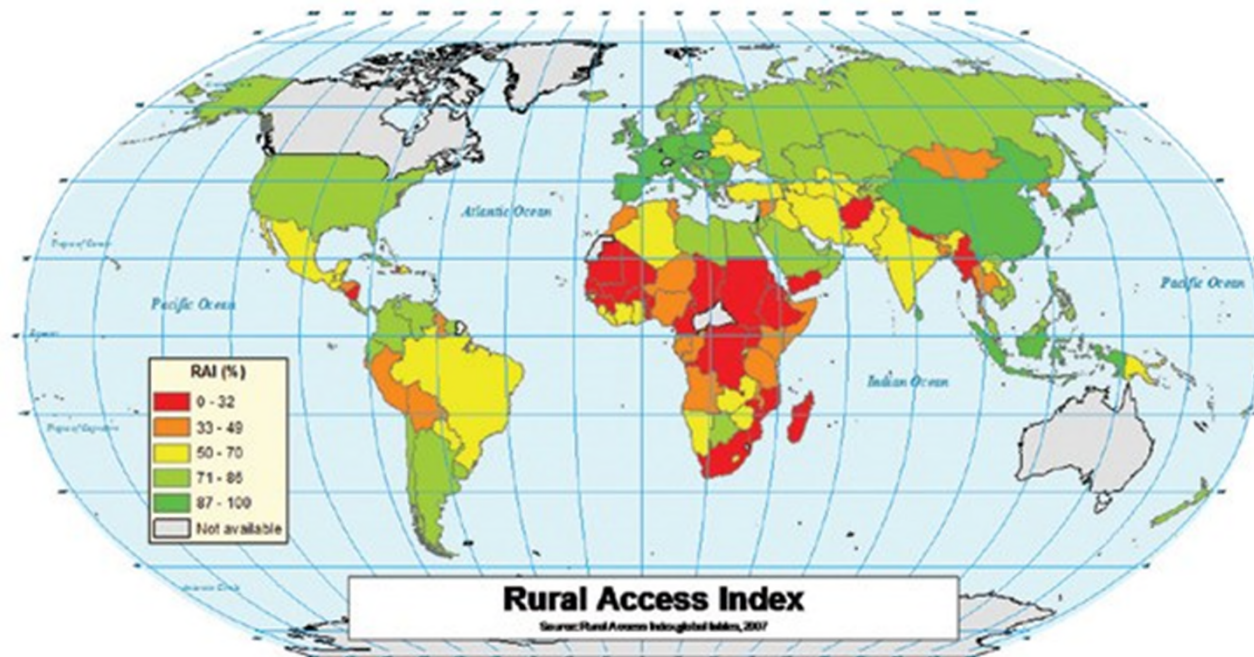
For every Yuan invested in rural roads, 9 Yuan in rural GDP is produced. Roads yielded the largest return to rural nonfarm GDP, 35% higher than the return to education investment.

Fan 1999, 2000, IFPRI





## Build Resilient Infrastructure, Promote Inclusive and Sustainable Industrialization and Foster Innovation



**One billion people** live more than two kilometres (25-30 minutes walking) from an all-season road, which refers to **31%** of the rural population.

Roberts 2005



## Build Resilient Infrastructure, Promote Inclusive and Sustainable Industrialization and Foster Innovation

### Maintenance of existing roads:

For every US \$1 not invested in road maintenance, road users waste US \$3 on **extra transport costs** - and the road must still be repaired.

Source: DFID/PIARC 2000.

### Roads are not enough:

**Transport Services** need to be improved since ownership of private vehicles is scarce in rural areas.



## Reduce Inequality within and Among Countries

### Poverty is predominantly rural!

About 70% people affected by extreme poverty live in rural regions. Essential disparities exist in the field of education, nutrition, and health care, as well as for mortality and fertility rates. Access to safe water, sanitation, and health services plays a critical role.

**Improved rural access reduces disparities.**



## Take Urgent Action to Combat Climate Change and Its Impacts

### Current and future climate threats pose a significant risk to rural access.

Low volume roads are presently justified if they are designed, constructed and maintained using low-cost methods. This makes low volume roads more vulnerable to climate risk than high volume roads. **Therefore climate adaptation is imperative.**

**Source:**

Sieber, Niklas and Allen, Heather (2016): Impacts of Rural Roads on Poverty and Equity, in: Transport and Communications Bulletin for Asia and the Pacific. No.86 Sustainable Rural Access.

<http://niklas-sieber.de> => Publications



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