

Building transport research capacity in the developing world

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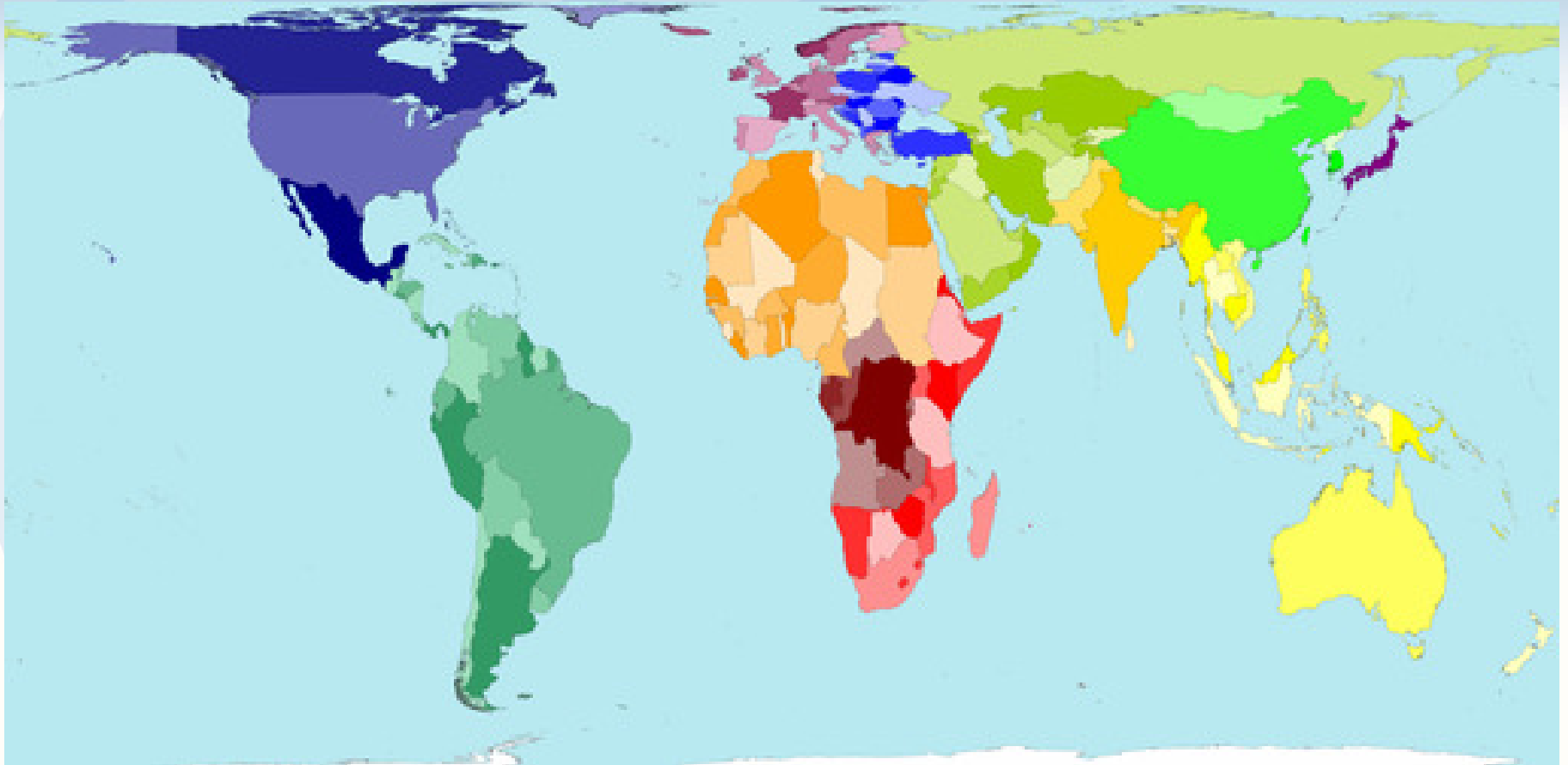
*AFCAP Meeting
Addis
November 23-25, 2010*

Safe, Clean, Affordable
TRANSPORT

Facts Sheet

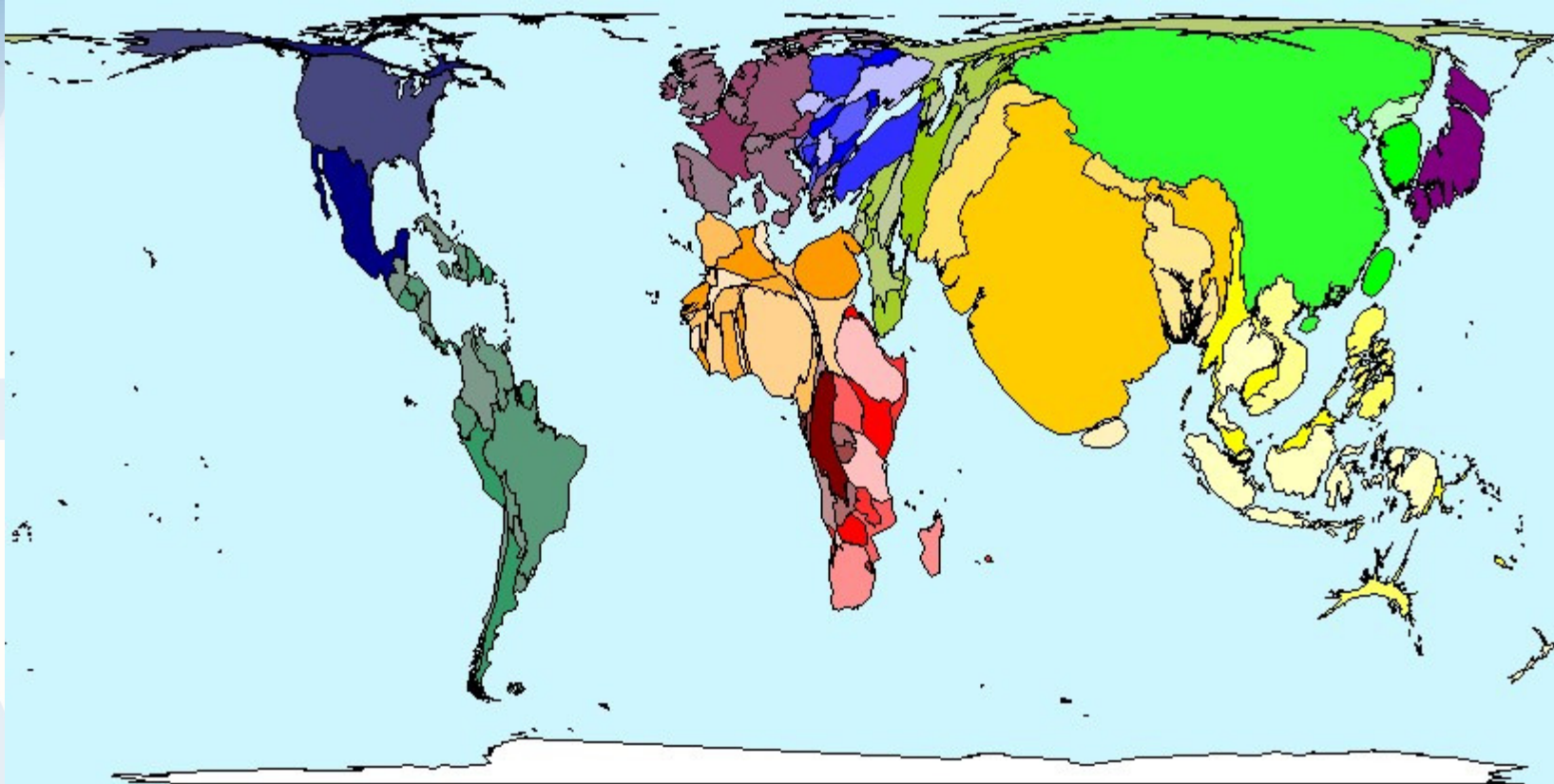
- 1.2 billion of the world's poor still lack access to an all-weather road.
- Between 40 and 60 % of people in developing countries live more than 8 km from a health care facility.
- Poor urban dwellers may spend up to 5 hours on daily commutes for lack of urban transport services.
- Every day, more than 3,000 people die from road traffic injuries with low and middle-income countries accounting for nearly 85 percent of the deaths and 90 percent of the injuries.
- Transport costs represent 9% of export values on average for developing countries, against 4% for developed economies.
- Transport accounts for 15% of global greenhouse gas emissions and is the fastest growing emissions sector.
- Over the next 20 years more cars may be built than in the entire 110-year industry history.

World Land Area



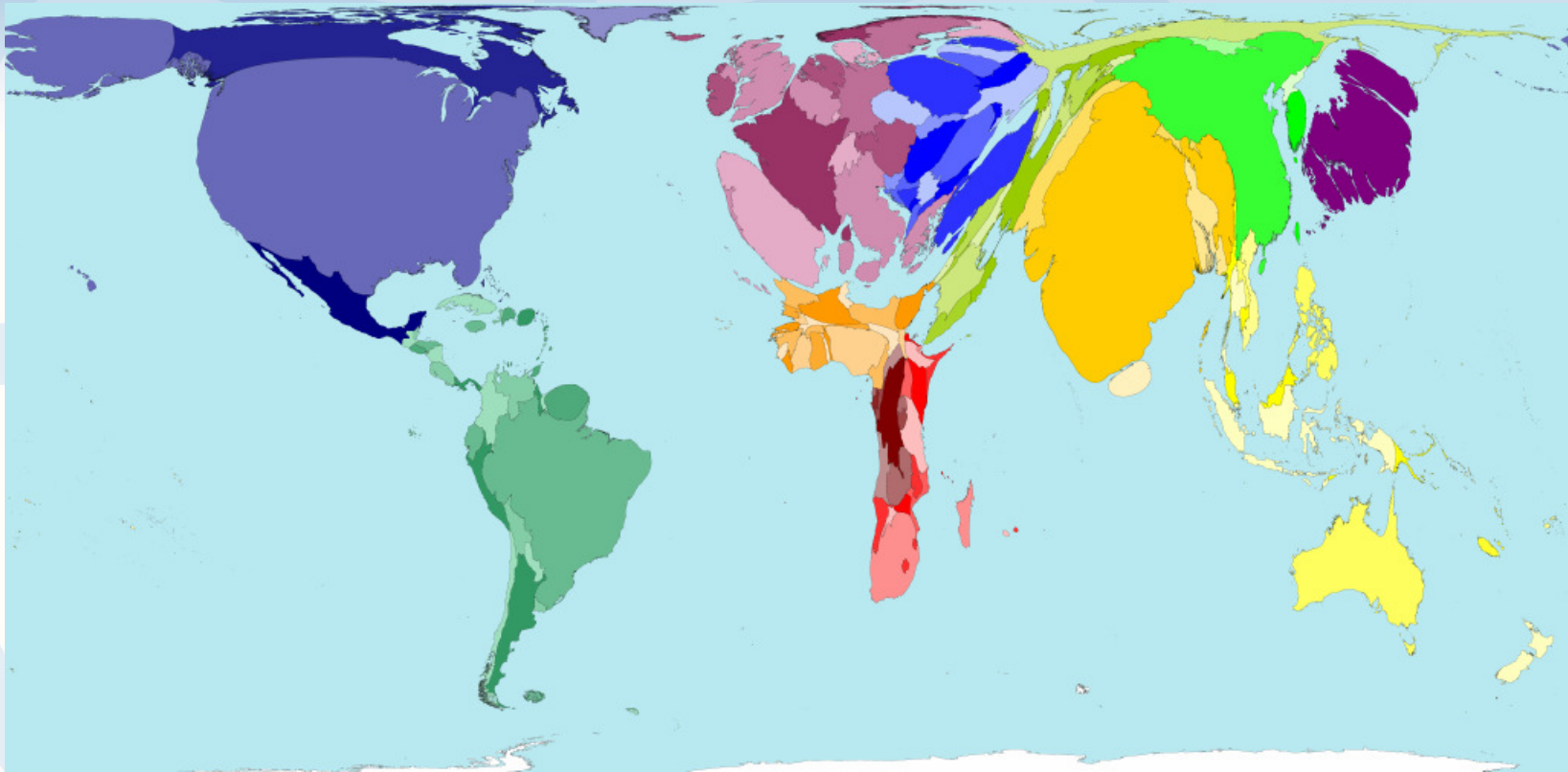
3 Source: Worldmapper (<http://www.worldmapper.org>)

World Population



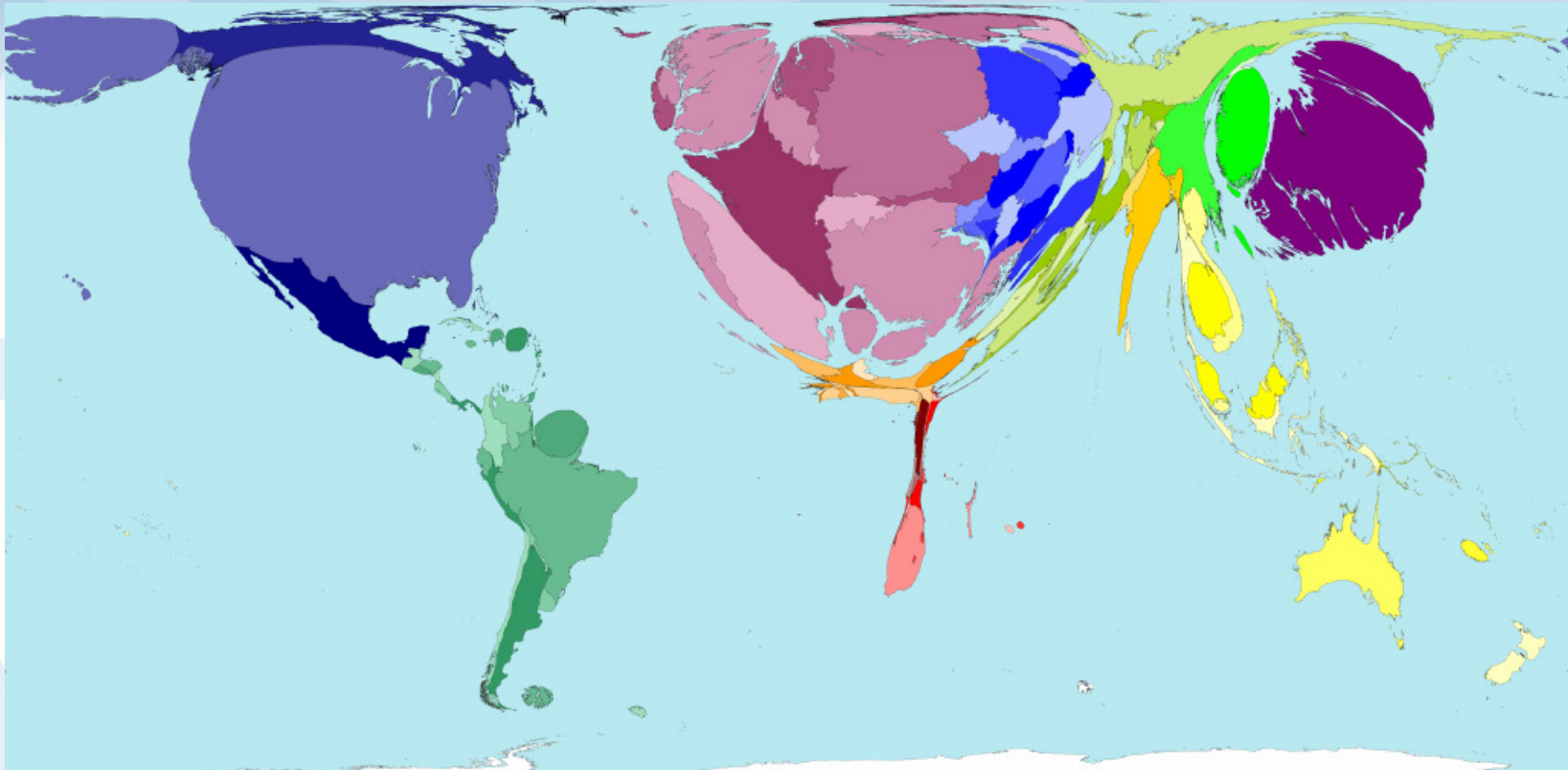
4 Source: Worldmapper (<http://www.worldmapper.org>)

World Road Network



5 Source: Worldmapper (<http://www.worldmapper.org>)

World Passenger Cars

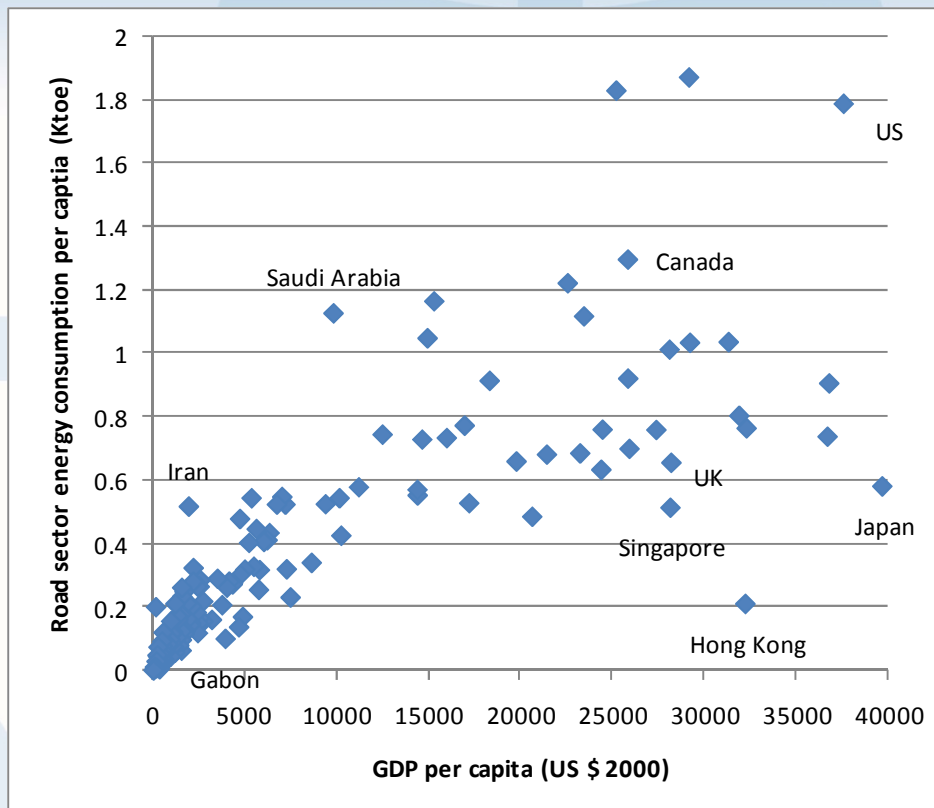


6 Source: Worldmapper (<http://www.worldmapper.org>)

Road Transport

Demand for mobility and vehicle ownership are also projected to grow

Road Sector Energy Consumption Per Capita (ktoe)



Outlook:

- Rapid urbanization and rising incomes
- Population growth
- Increased vehicle ownership
- Rising travel distances (vehicle km per person)

Need:

- Harness technological change
- Change behaviors
- Integrate land-use and transport planning
- Recognize value of mobility for development

Source: Transport and Climate Change Flagship (forthcoming)

BENEFITS FROM RESEARCH

- UK Government research 1995 concluded that for every £1m spent on R&D , UK society benefited by over £20m annually
- Economic growth is directly proportional to investment in research
- Research and researchers add to government decision making

How can research help

Advancement of knowledge

Development of new ideas

Testing innovative solutions

Collecting and collating information

Finding LOCAL solutions

Relative Spend on road transport research (EU)

- Total annual spend on road transport in the EU is 20% of GDP (\$16.6 trillion) = \$3.32 trillion
- Research and Development (R&D) spend is 28 billion Euros = \$35 billion (approx 1%)
- Developing country spend on transport research is very much less: often almost zero
- Developing countries have the greatest need for research

Requirements for a sustainable research effort

- Strong and respected institution
- Sustainable funding for projects
- Staff motivated by research and innovation
- Assured career paths
- Competitive remuneration
- Opportunities for partnering with other researchers and institutions
- Interesting and rewarding projects

Sustainability needs for research projects

Politically supported

Institutionally embedded

Environmentally sustainable

Financially sound

Economically viable

Technically appropriate

Socially acceptable

Road safety research needs in Developing Countries

- RTA's in developed countries are decreasing but in developing countries:
- 3300 people die each day in road accidents, (more than Malaria) and are increasing
- 85% of fatalities worldwide are in developing countries
- 30 000 injuries reported every day (probably about 5 times this figure)
- Pedestrians 13%-20% casualties in USA and Europe but 50% -60% in developing countries
- Impact on household poverty greatest for vulnerable road users
- **Cost to developing countries over 2% GDP**

RESEARCH-BASED IMPACTS IN THE SEACAP PROGRAMME

Benefits in Vietnam 20% – 50%

Loads increase by 2 – 5 times

Agricultural surpluses increase by 61%

Market traffic between villages increases to 80%

55% vendors sell goods at lower prices

600% increase in volume of trade

Revised Lao PDR framework for standards and specifications

Additional modules in engineering courses to include innovation

Improved bio-engineering for landslip management



Research into practice

Resistance to change

- Political apathy
- Inappropriate focus on risk
- Resistance to new technologies

Solutions

- Research carried out by local practitioners
- consultation with communities
- ownership by stakeholders
- demonstration projects
- consultant/contractor training

An example from Africa Trans-Kalahari Highway (After research)

- New laboratory tests and specifications for sand as sub-base material
- Provision of sealed shoulders giving drier road environment that allows use of “ sub-standard materials for road base
- Revised specifications and techniques (Otta Seals) developed for surfacings
- **SAVINGS > US\$20 million**

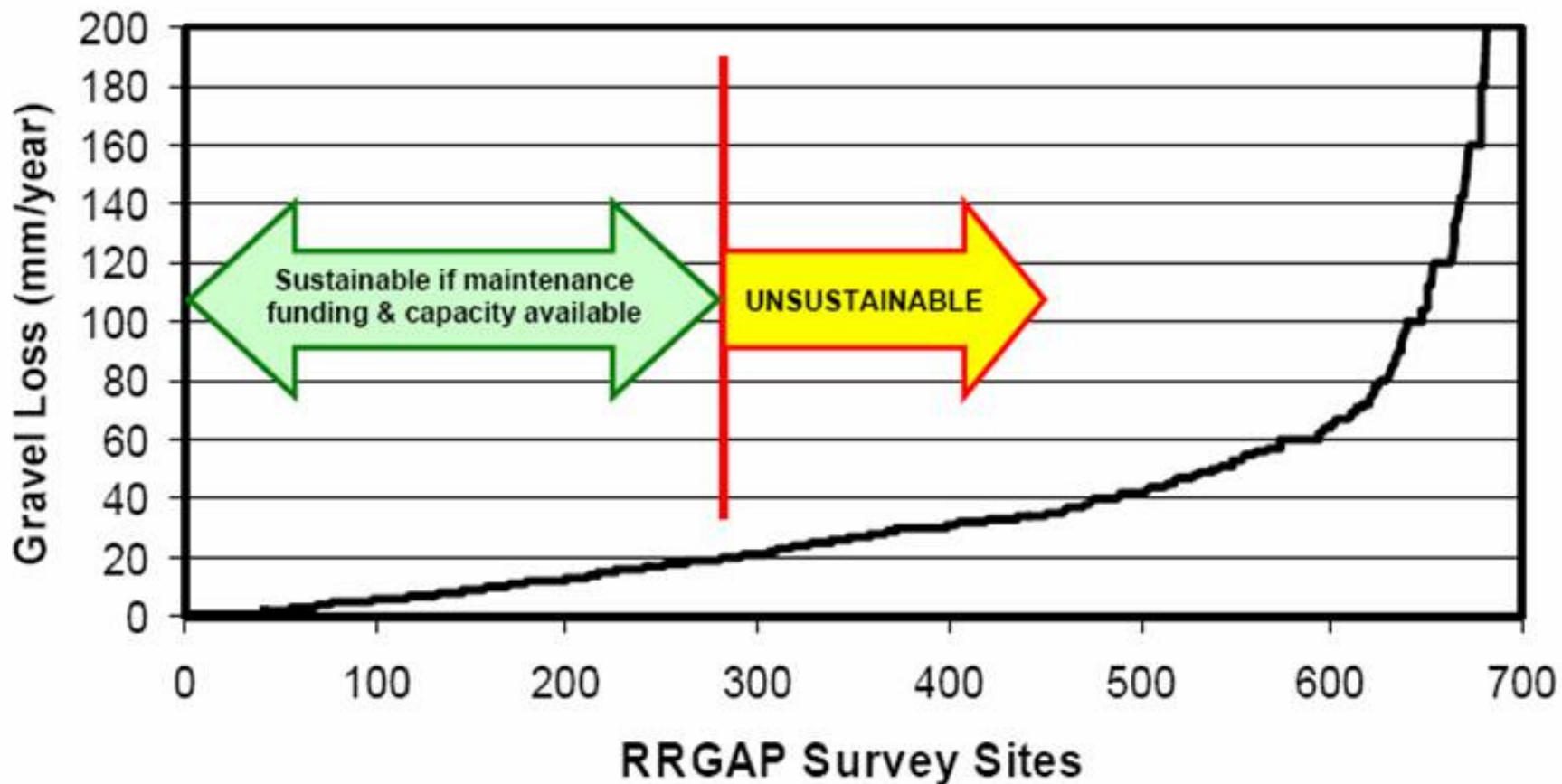
Botswana Trans-Kalahari Highway

Before

After



Annual Material Loss – All Gravel Types



Vietnam Rural Road Gravel Assessment Programme (RRGAP) 2004 – ANNUAL RATE OF GRAVEL LOSS FROM ALL SITES



TRANSPORT BUSINESS STRATEGY



Safe, Clean, and Affordable... **Transport for Development**

*The World Bank Group's
Transport Business Strategy for 2008-2012*

Questions / Thank you

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Implementing and Rolling Out Argentina's New Approach to Road Maintenance

Argentina's road traffic has been growing at an unprecedented 40 percent since 2003. [More...](#)

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Resources

- [Implementing the Recommendations of the World Report on Road Traffic Injury Prevention \(PDF, 2.3MB\)](#)
- [Transport Research Support Program](#)
- [Supply Chain Security Guide](#)
- [Transport Business Strategy](#)
- [Transport Issue Brief](#)
- [Sustainable Development website](#)