

# ECONOMIC RISKS OF ROADS

## 1. Road construction and maintenance costs are higher in steep terrain

- ◆ Roads in steep terrain require more cut-and-fill operations, ditches, bridges, and tunnels, which can be very expensive
- ◆ It can be very expensive to limit or pay for landslides, soil erosion, stream siltation, reduced water quality, and other impacts of roads

## 2. Road costs are higher in wet regions

- ◆ Roads in wet areas, such as swamps and wetlands, require heavy subgrading and expensive drainage and earthworks
- ◆ Potholes in roads form quickly in wet environments: each decade, repair costs can exceed US\$11,000 per kilometer
- ◆ The usable lifetime of a road can be cut by more than 90% by heavy rainfall and flooding

## 3. Road investments are hugely eroded by poor governance

- ◆ Political instability, corruption, conflict, and nepotism can all sharply increase road-construction costs
- ◆ Bribes to government officials in exchange for awarding a road contract can approach 15% of the contract's value
- ◆ Political conflicts can increase road-building costs by 30% or more
- ◆ Up to 20% of a project's budget can be consumed by fraudulent costs
- ◆ Cartel demands can increase costs by 8-60%



## 4. Road impacts are high in wet tropical regions

- ◆ Roads built in inappropriate locations, such as floodplains or steep mountains, can cost governments and investors billions of dollars
- ◆ Downstream fisheries, agriculture, recreation, and aesthetics can be severely damaged by poor road building
- ◆ In sensitive ecosystems such as peat swamps, the costs of repairing road damage can be greater than the economic benefits generated by the road
- ◆ Reduced water quality and flooding can cost local governments up to US\$15 million per year

## 5. Most road-risk assessments are inadequate, creating big risks for investors

- ◆ Many risks are not apparent or explained clearly by road proponents
- ◆ Environmental and social protections are often poorly assessed in large road projects
- ◆ The high mitigation costs of poor road building can greatly increase economic risks for investors
- ◆ Investors are often reluctant to fund mitigation or offset measures

**THE GREATEST ECONOMIC RISKS COME FROM BUILDING ROADS IN INTACT FOREST TRACTS, IN AREAS WITH WET OR STEEP TERRAIN**