

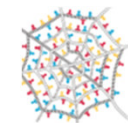
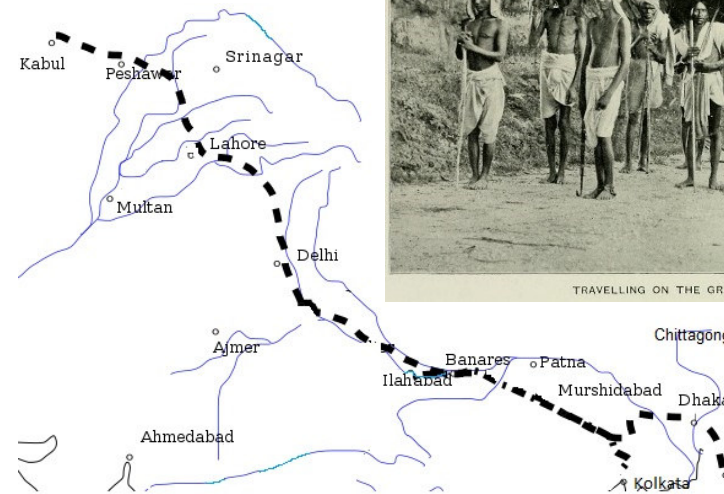
THE WEB OF **TRANSPORT CORRIDORS** *IN SOUTH ASIA*

Report by ADB, DFID, JICA, WBG

Transport corridors are increasingly seen as a tool to spur regional trade and foster development

The Grand Trunk Road during the Maurya Empire (322-185 BCE).

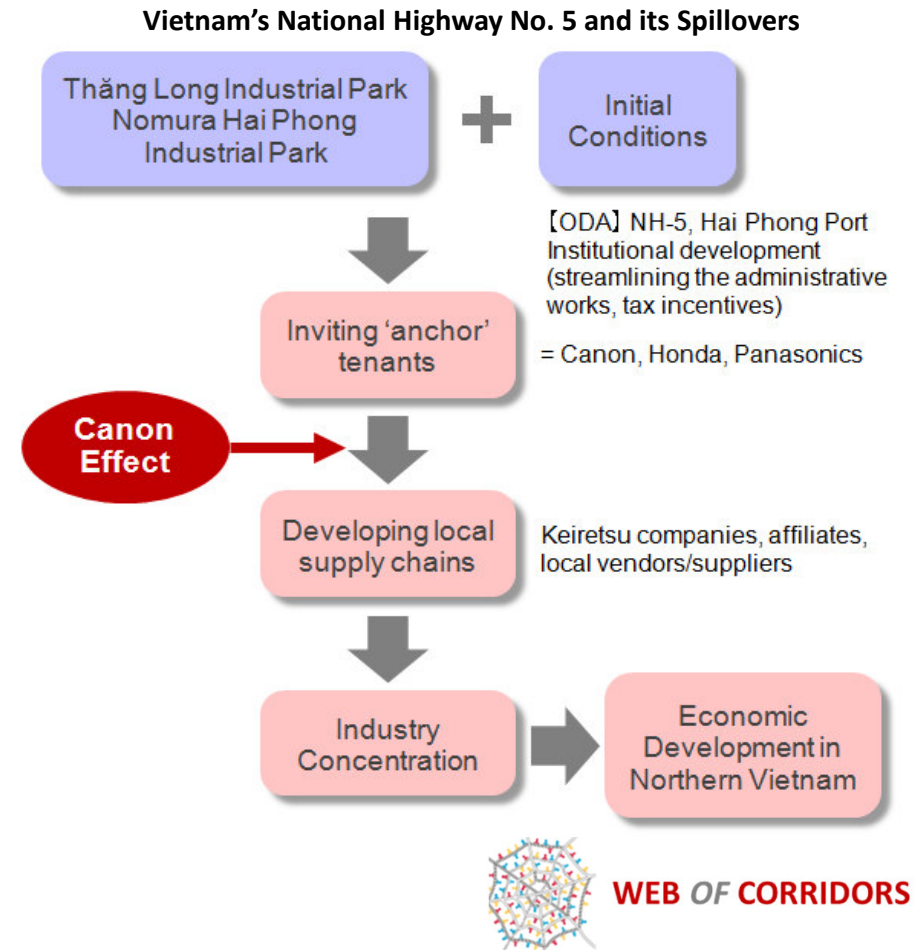
- Countries invest in these corridors hoping to create **large economic surpluses** that can spread throughout the economy and society.
- **But** if the corridors do not generate the expected surpluses, they can become **wasteful white elephants**—transport infrastructure without much traffic.
- **And**, if any net benefits are not fairly distributed across the population, corridors risk becoming **inequitable investments**.



WEB OF CORRIDORS

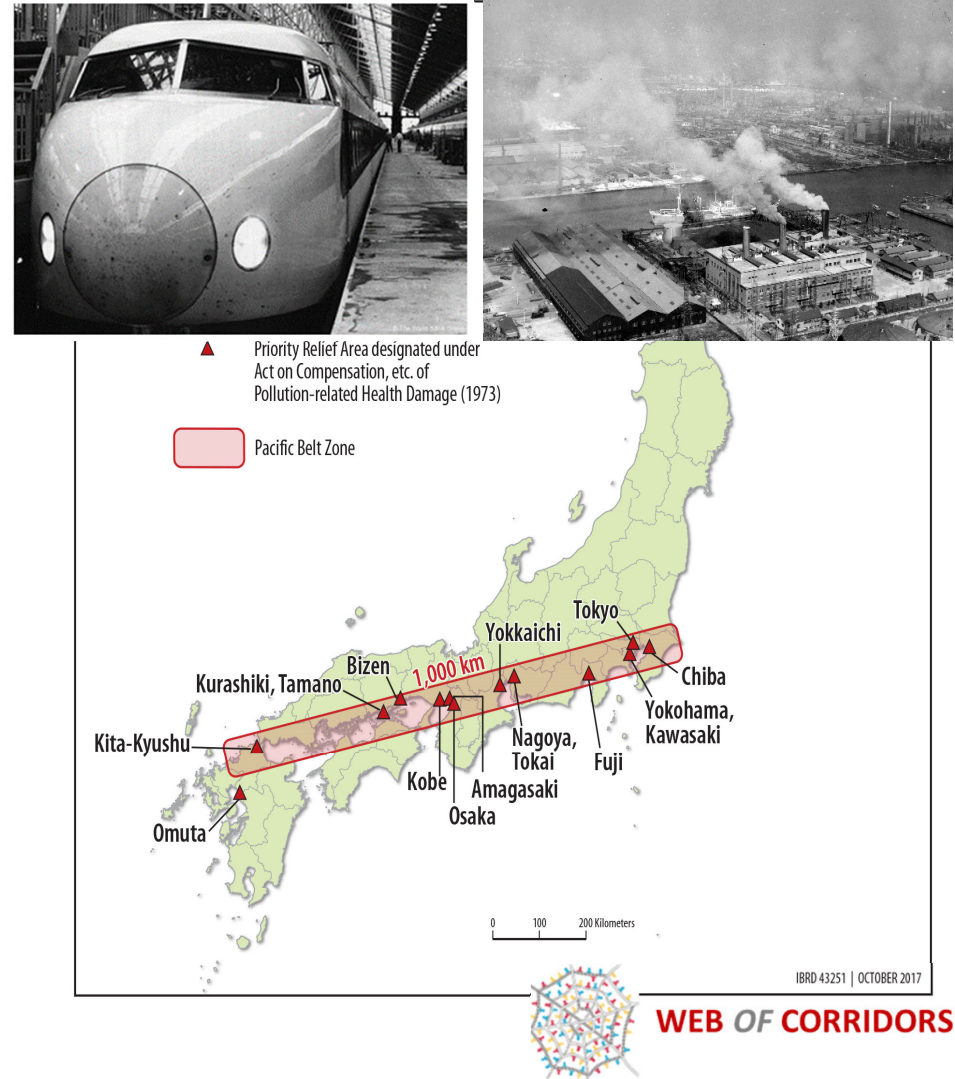
Corridor impacts: multiple, from intermediate to WEBs

- Corridors have **multiple impacts on socio-economic outcomes** beyond the narrow travel time and vehicle operating costs (VOC) that traditional cost-benefit analyses focus on.
- The impacts work through changes in trade, migration, and agglomeration effects, among others, to ultimate **Wider Economic Benefit (WEBs)** such as income growth, new jobs, as well as greater equity and economic resilience.



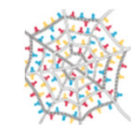
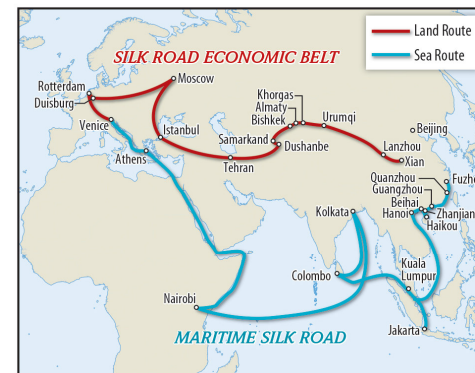
Corridor impacts: potentially varied and with tradeoffs

- Corridors can create both **winners and losers**. (Urbanization and rising income in up-and-coming regions can leave behind communities with little economic prospects).
- Aiming for multiple WEBs can involve **tradeoffs**, (Increasing average income versus deteriorating environmental quality, such as for Japan's Pacific Belt Zone, initially).



Corridor proposals: there are many, but resources are limited and Wider Economic Benefits uncertain

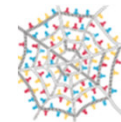
- **Many corridor initiatives** proposed or under way. *(Revival of the Grand Trunk Road from Kabul to Chittagong, the Silk Road from Beijing to Brussels, or connecting Shanghai and Mumbai)*
- **Huge gap** between investment needs and financing capacity. *(South Asia financing needs up to \$2.5 trillion in infrastructure investment by 2020, with major share of transport)*
- **Tremendous risks** and forgone development opportunities if clear economic thinking—holistic appraisal methodology—is absent. *(Corridors through low-density areas)*



WEB OF CORRIDORS

Appraisal Framework: FIT2Deeds

The **F**low, the **I**ntervention, the **T**ypology of impacts, the **2** types of public interventions, and the **Deeds** of Financing and Implementation

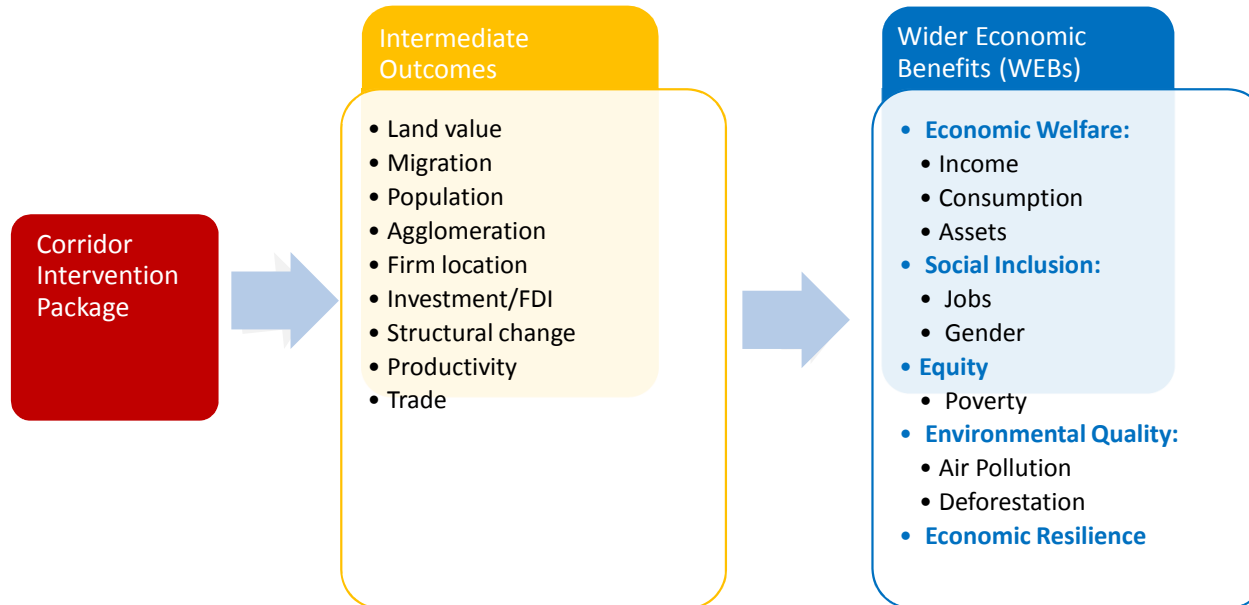


WEB OF CORRIDORS

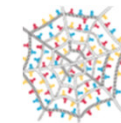
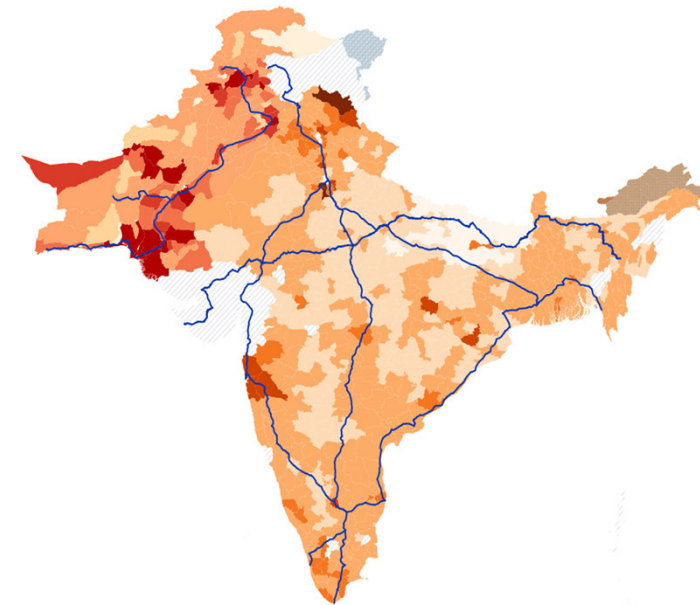
The “Flow”:

A causal link from corridor to economic benefits

- Corridor interventions generate WEBs through intermediate outcomes



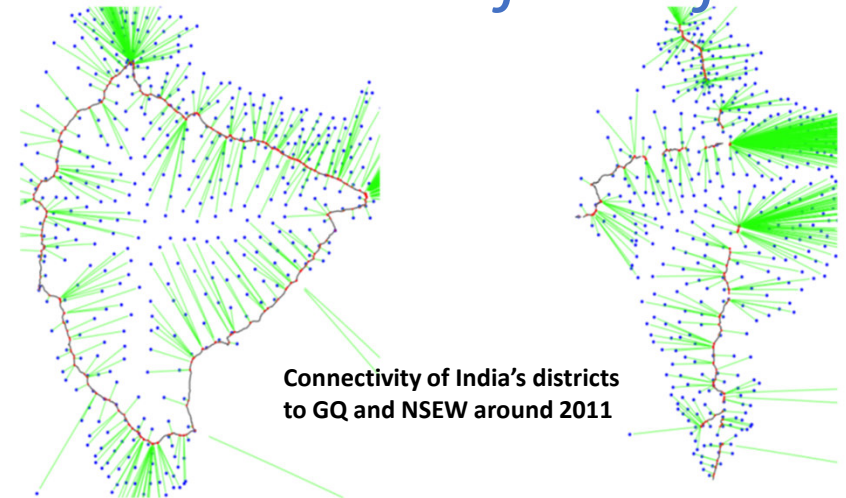
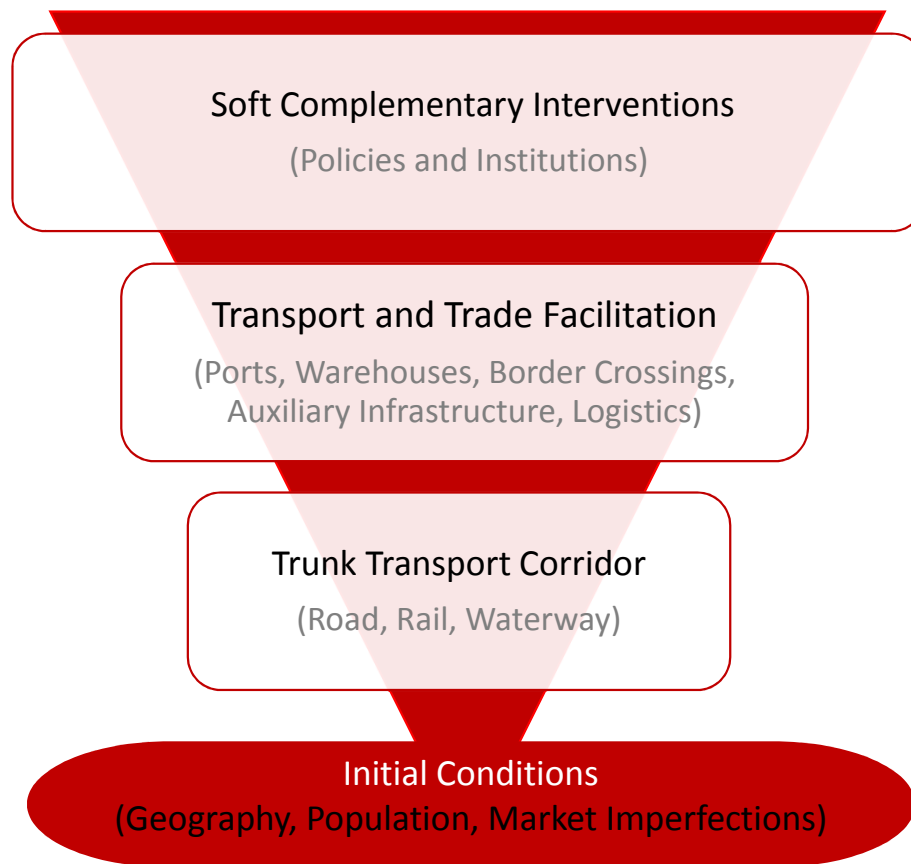
GDP per capita by district near and far from GQ, NSEW (India), CPEC (Pakistan), Kolkata –Dhaka Corridor (Bangladesh) (2011-2016)



WEB OF CORRIDORS

The “Intervention”:

Program design to support a fair distribution of benefits



The “Typology” of Impacts:

Organizing the multiple economic impacts into a hierarchy

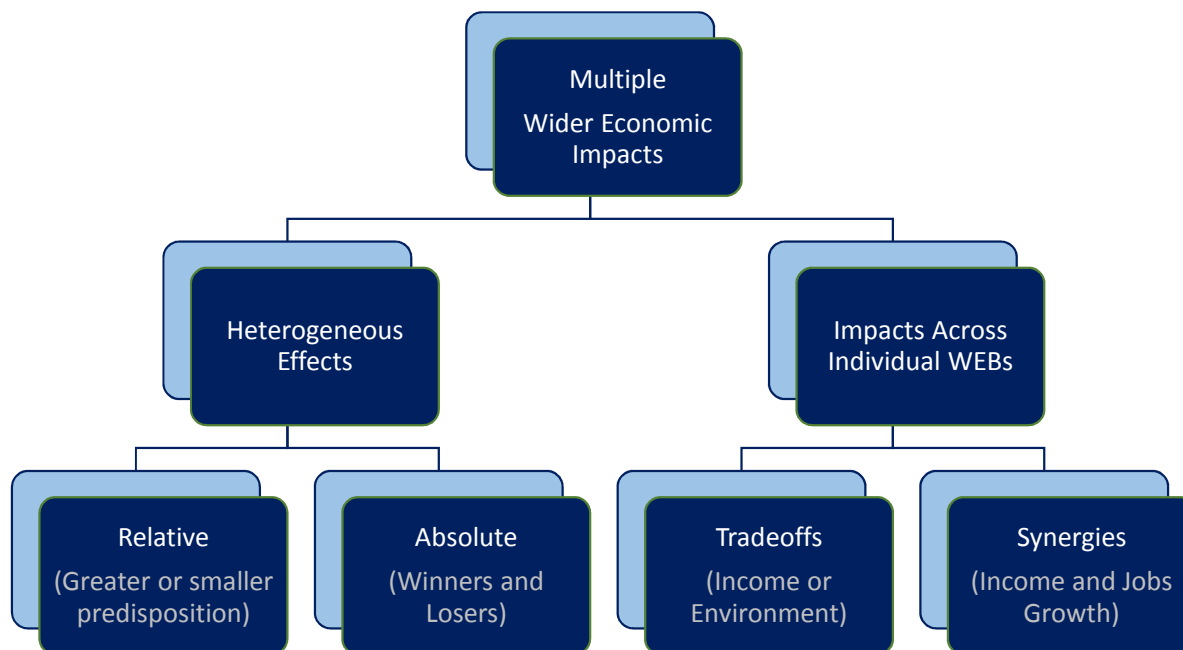
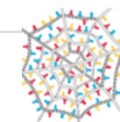
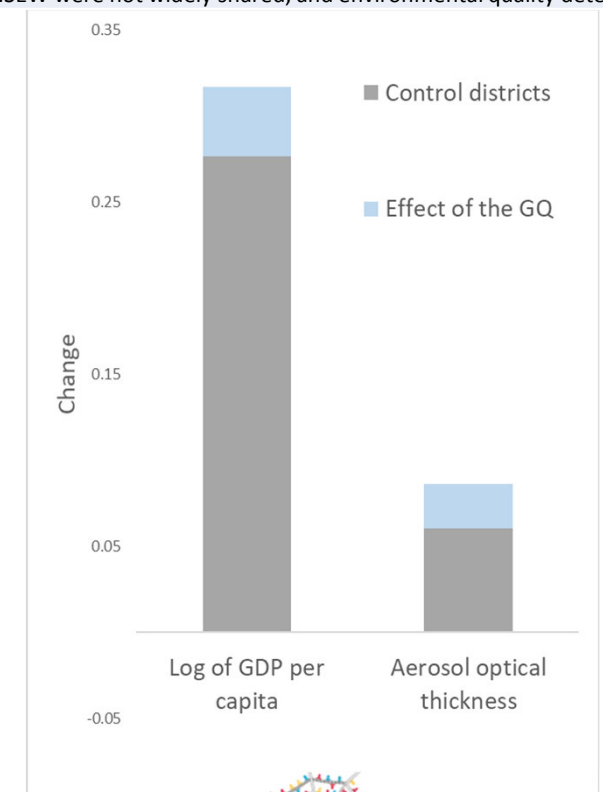


Figure 6.5. While the average income grew, other benefits from GQ and NSEW were not widely shared, and environmental quality deteriorated

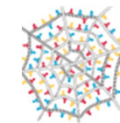


WEB OF CORRIDORS

The “2” Sorts of Complementary Interventions: *Policies and institutions to reinforce WEBs in design*

	Achieve multiple WEB	Manage trade-off impacts	Support possible losers
Trunk infrastructure	?	?	?
Transport and trade facilitation	?	?	?
Complementary market policies and institutions	?	?	?

- How does the design of trunk infrastructure (transport and trade facilitation) impact multiple WEBs? Is it likely to generate tradeoff impacts? Are there likely losers, could they be identified?
- How can institutions and complementary policies be used to amplify and spread multiple WEBs, and mitigate tradeoff impacts? Which complementary policies could work best to curb the number of losers and support them?



WEB OF CORRIDORS

“Deed” One: developing a financing strategy

Financing strategy:

- Assess **expected revenues** that could be monetized directly (fees) and indirectly (taxes), and **social returns** of a non-monetary nature.
- Realize **social preferences** may shift the sharing of funding cost between users and taxpayers.
- Devise financing strategy **mobilizing**: public (donor) and private capital.



Financing instruments:

- *New or reallocated public spending, new public debt (market, regional pooling, concessional), grants,*
- *Leveraged public equity (SPVs), mobilized private equity and debt, PPPs (BOT), private co-investment.*

Contingent liabilities:

- *Shifting risks and financing requirements onto the private sector requires government capacity.*
- *If capacity is low the result can be worse (bad PPPs - >no infrastructure+bad loans).*

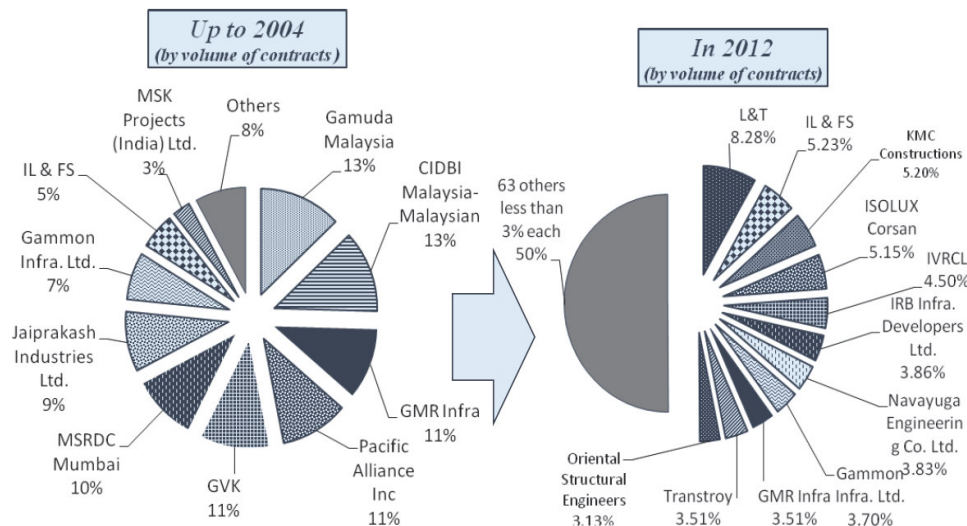


Figure S5.5. Pakistan's market for corridor PPPs fragmented as it expanded—and quality suffered

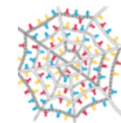
“Deed” Two: managing implementation

- **Applying cross-sectoral expertise:** Team composition for corridor (design and) implementation. (“Tiger Corridor Teams @ Gs and IOs”)
- **Boosting local delivery:** Local and central government collaboration to optimize administration capacity and legitimacy.
- **Leveraging private sector in delivery:** Engaging private sector in delivery (strong governance and administration capacity, timely and transparent tenders, clear plans and sequencing); At the grass root level, maintain regular dialog (business associations) for co-investing.
- **Managing cross-border complexity:** Supranational public institutions to partition, sequence, track comprehensive delivery, and enforce performance accountability. Internalizing geographical constraints of different financing sources.

Spotlight 8. Challenges and Lessons Learned in the Unrealized Sava Waterways Rehabilitation Program in Southeast Europe



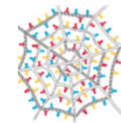
Main Takeaways



WEB OF CORRIDORS

1. Understand the challenge at hand before proceeding with large transport investments

- **Countries invest in transport corridors to create economic surpluses.** *These big investments have big opportunity costs, so be sure to avoid white elephants!*
- **Often, the aggregate surpluses are not fairly distributed.** *WEB are imperative for economic viability, their fair distribution is critical for the political sustainability of corridor investments!*
- **Corridors can spur equitable growth only when taking spatial impacts seriously.** *Look close and nearby corridors, as well as across different population groups!*

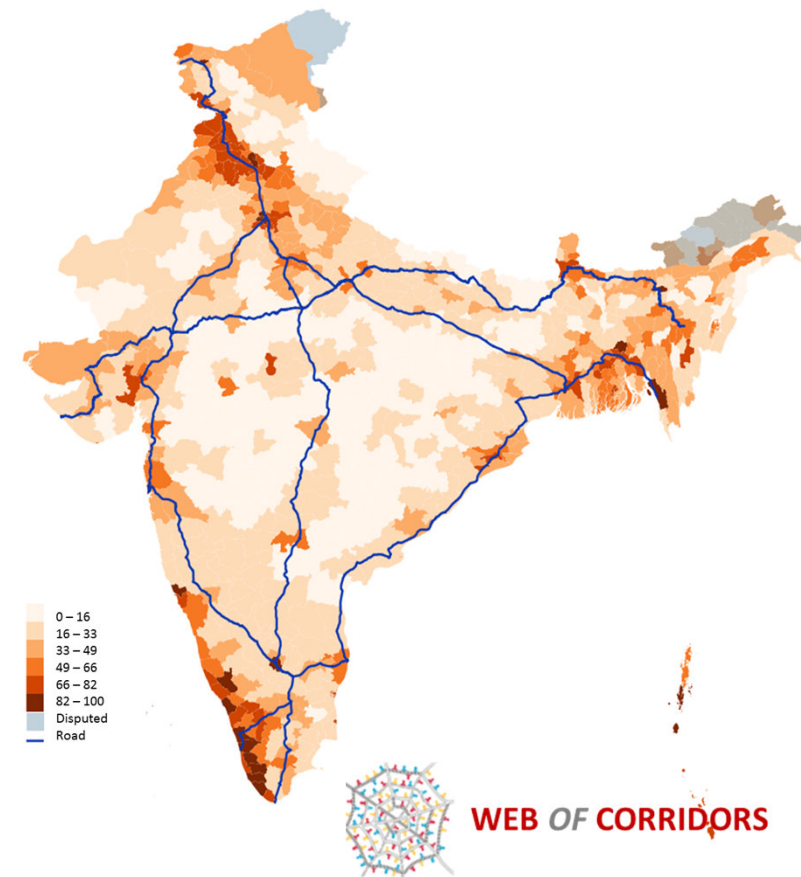


WEB OF CORRIDORS

2. Focus on WEB in designing corridor programs right from the start.

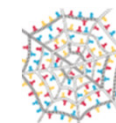
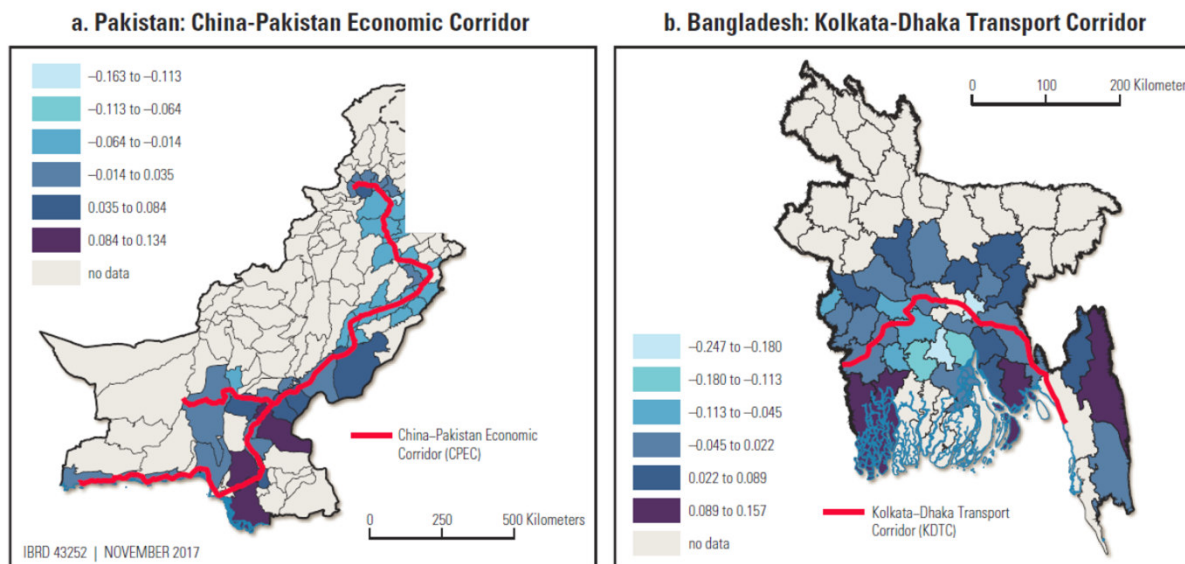
- **Design for WEBs from the start.** If the design is narrowly focused on reducing VOCs, ultimate benefits may not be widely shared, tradeoff impacts could arise and, along with winners, losers can emerge.
 - ❖ Corridors can trigger economic restructuring (from agriculture to manufacturing) and leave unskilled workers jobless.
- **Manage tradeoffs.** The literature shows that WEBs are multiple and that tradeoffs in impacts on different WEBs can occur and must be managed.
 - ❖ The most common tradeoffs are between income (district GDP) on one hand, and environment (increasing air pollution) and social inclusion (not creating enough formal jobs for women) on the other.

Map. 6.2: Female Regular Wage Employment around GQ and NSEW in 2011



- **Use key complementary interventions to minimize tradeoffs and support losers.** Economic benefits could be amplified and more fairly distributed with the help of complementary interventions.
 - ❖ Promising complementary interventions: Improving education (vocational training in select trades) and strengthening public sector governance around the corridors (administration capacity and governance effectiveness).
 - ❖ Other promising complementary policies include increasing openness to foreign trade and promoting industry and trade competitiveness.

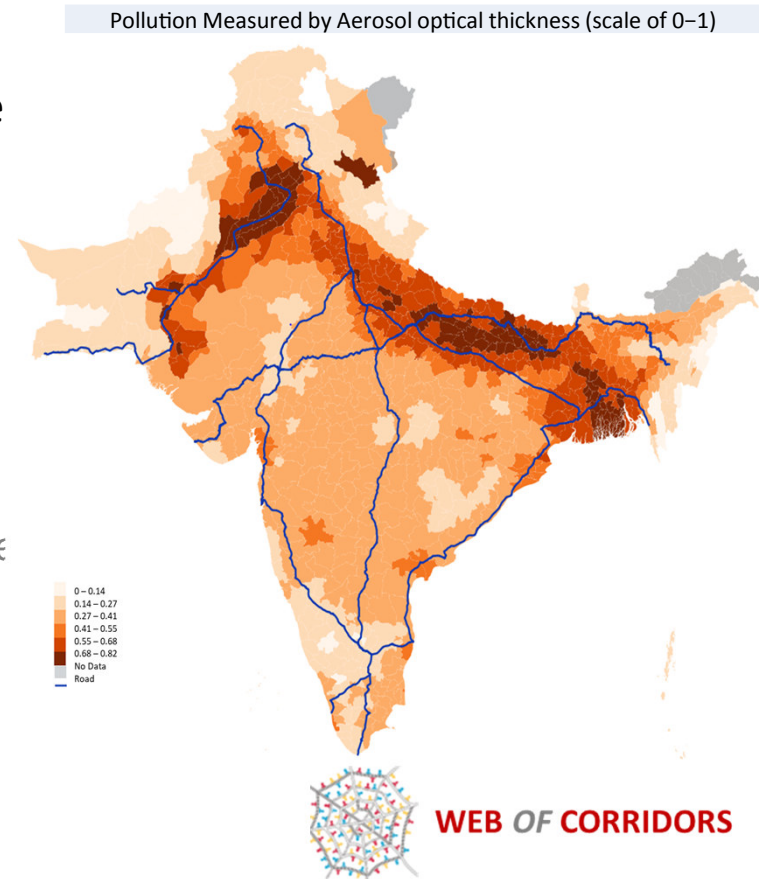
MAP 0.6 Simulated Impact on Per Capita Household, by District, in Pakistan and Bangladesh



WEB OF CORRIDORS

3. Appraise the potential for WEB with spatial data and reliable economic methods.

- **Avoid assumptions, use spatial data—if not available take the time to collect it.** Realize that the transport infrastructure will last for decades, one extra year to collect data is worth it.
- **Use more than one rigorous method for sound economic appraisals:**
 - ❖ **Network econometrics** could be best for appraising corridor placement.
 - ❖ **Reduced form regressions** could be best for rapidly assessing the potential for WEBs of corridors with decided placement.
 - ❖ **Structural general equilibrium modeling** could be best for capturing indirect and general equilibrium impacts on WEBs.

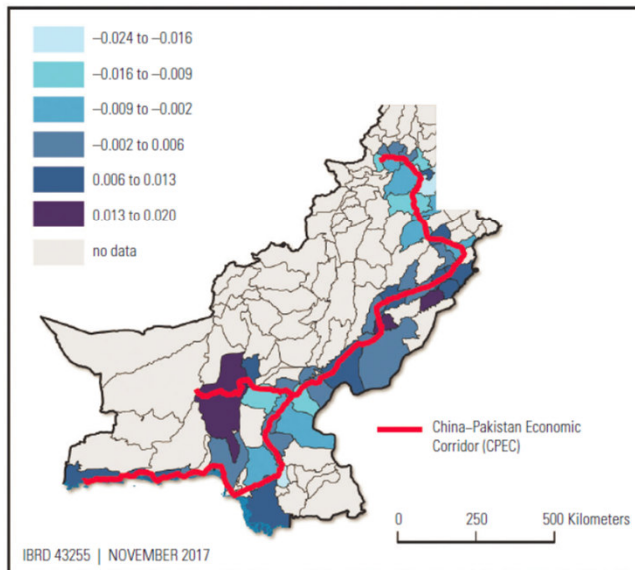


- **Multiple methods with different strengths give options:**

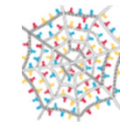
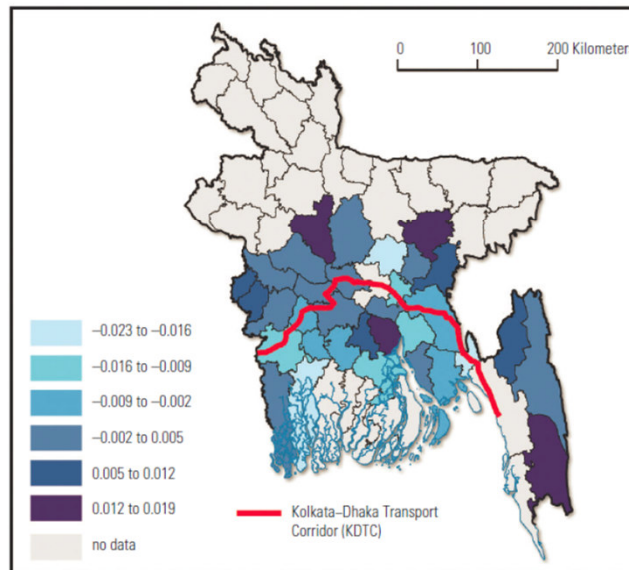
- “rapid, low capacity” appraisals including in prefeasibility studies
- “strategic, high capacity” appraisals, and
- sequencing of more reliable (robust) methods before more efficient but risky ones.

MAP 6.7 Simulated Relative Impact on Air Pollution (Aerosol Optical Thickness) (Scale of 0–1)

a. China-Pakistan Economic Corridor (CPEC)
(Pakistan segment)



b. Kolkata-Dhaka corridor (Bangladesh segment)

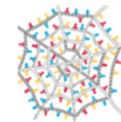
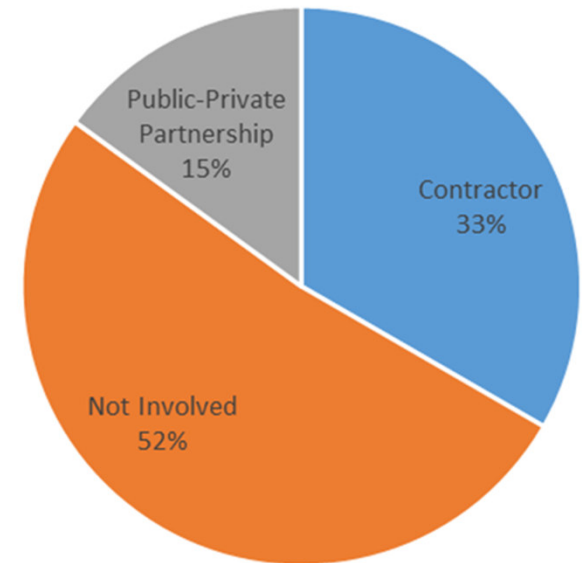


WEB OF CORRIDORS

4. Engage the private sector better, considering disparities in regional development.

- The success of a transport corridor intervention could depend on **how well the private sector and civil society organizations are integrated** into program design and implementation.
- Policy makers thus need to **ensure that the private sector understands the corridor program**, takes ownership, and is not overwhelmed by the risks.
- Data on transport corridor projects suggests that **private sector engagements have been modest in volume**, while questions arise about their quality.

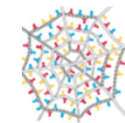
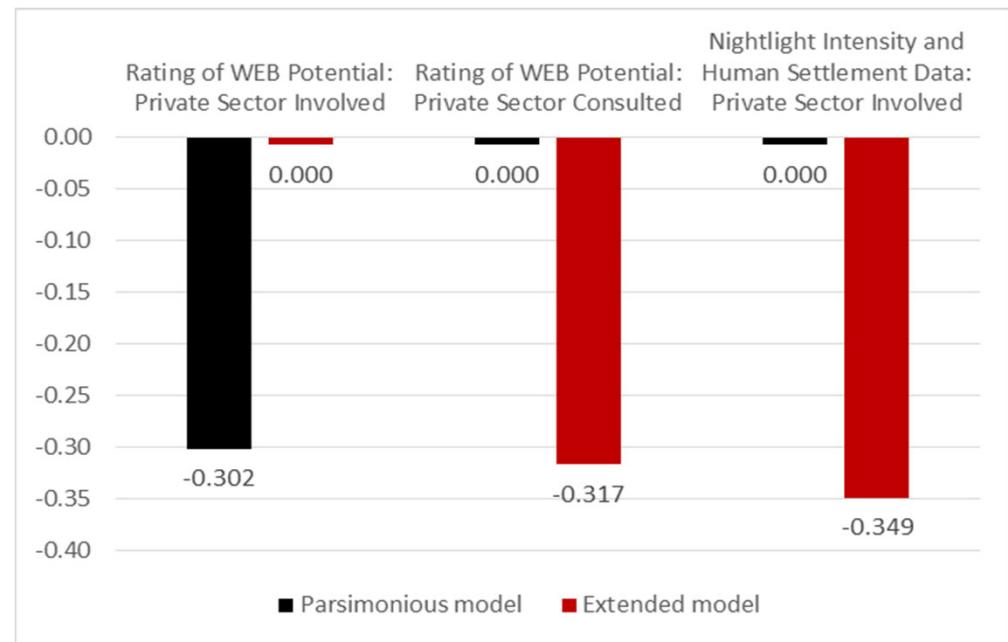
Figure O.6. Private sector involvement in corridor projects has been limited



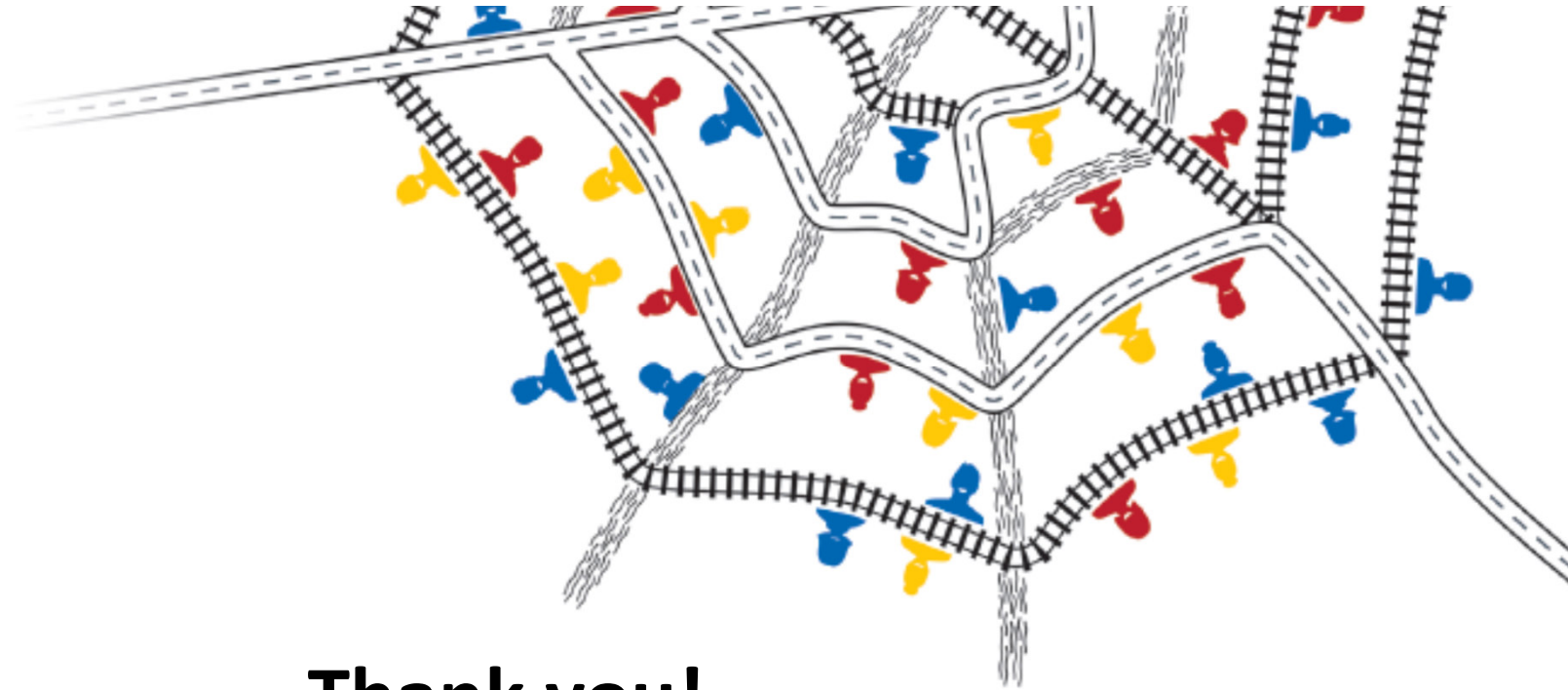
WEB OF CORRIDORS

- Analysis suggests that, so far, the engagement of **the private sector might not have contributed to the development success of corridor projects**.
- The **public sector must lead on corridors** better engaging the private sector, but understanding the implication of its profit orientation, including for risk sharing.
- **The private sector tends to cluster its investments** around fast-developing growth centers near the corridors.
- **Public investment may need to correct the ensuing disparities in spatial development**, rebalancing rapid growth in corridor nodes with slow development elsewhere.

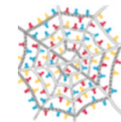
Figure O.6. Private sector consultation and involvement had low impact on the success of corridor projects (average change in ratings, and average change in nightlight intensity) and human settlement build-up



WEB OF CORRIDORS



Thank you!



WEB OF CORRIDORS