# ASIAN EVALUATION WEEK 2024

## Innovations for Influential Evaluation

2–5 September | Conrad Hotel Shanghai, People's Republic of China

#AsianEvaluationWeek #AEW2024

Independent Evaluation ADB

亚太财经与发展学院
Asia-Pacific Finance and Development Institute

# Mapping Impact: Leveraging Geospatial Data in Evaluation Practice

Session 17: Leveraging data science to evaluation World Bank's spatial targeting and partnering at the country-level: The case of Nepal
05 September 2024 (9:00 to 10:30 am)

Maya Vijayaraghavan, Asian Development Bank

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# Leveraging Geospatial Data: Examples

- Assessing performance of climate-proofed roads
- Evaluating wetland restoration
- Evaluating economic growth along road transport corridors

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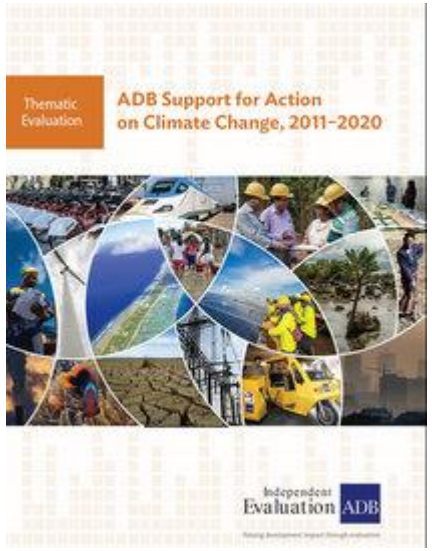
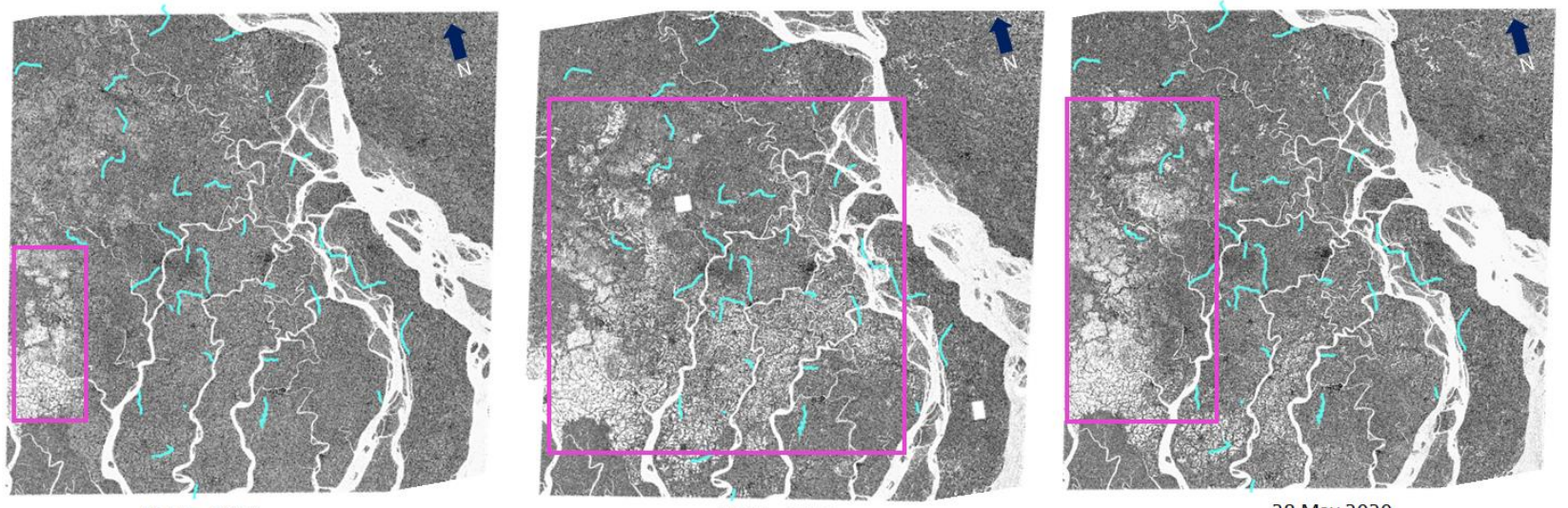
# Assessing performance of climate-proofed roads in Bangladesh




**Results using remote sensing to assess performance of ADB climate-proofed roads after Cyclone Amphan in May 2020 (Coastal Climate-Resilient Infrastructure Project in Bangladesh)**

Sentinel-1 Satellite RADAR can penetrate clouds and detect inundated areas by comparing before and after scenarios of flooding in south central Bangladesh on 16, 22, and 28 May 2020, representing before, during, and after duration of Cyclone Amphan.




16 May 2020 | 22 May 2020 | 28 May 2020

Backscattering*

Low — High

ADB Project Roads

Areas with Low Backscattering

32 road segments funded by ADB were evaluated for flood inundation by comparing intersected pixels of RADAR images before (16 May), during (22 May), and after (28 May) Cyclone Amphan duration.

| Total Number of Road Segments Observed | Number of Road Segments with Some Evidence of Flooding May 22 | Number of Road Segments with Some Evidence of Flooding May 28 |
|---|---|---|
| 32 | 10 | 1 |

Note: Backscattering is the portion received of the transmitted energy (from the radio waves), this quantifies the strength (detection) and time delay (ranging) of the returned signal.

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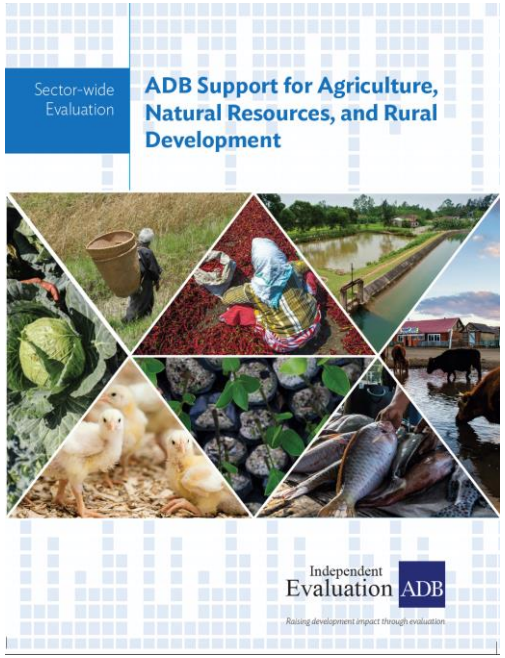
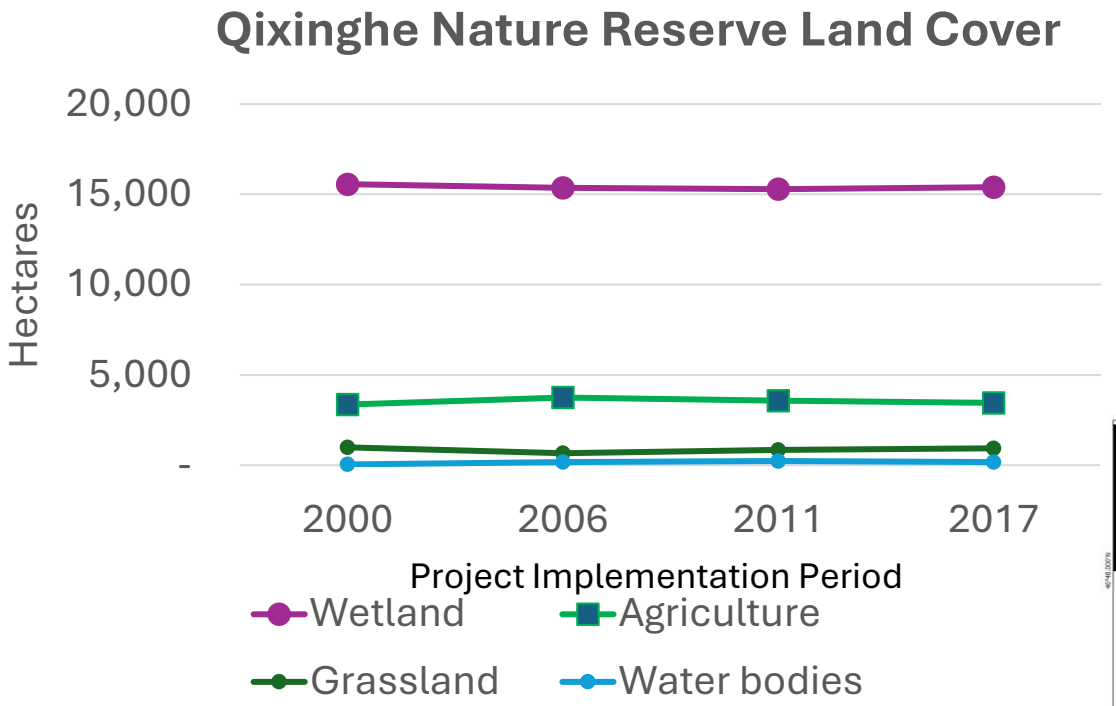
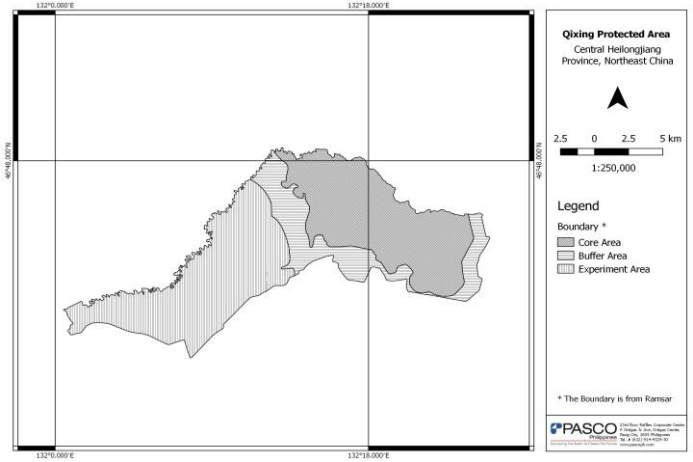
# Evaluating wetland restoration in the People's Republic of China

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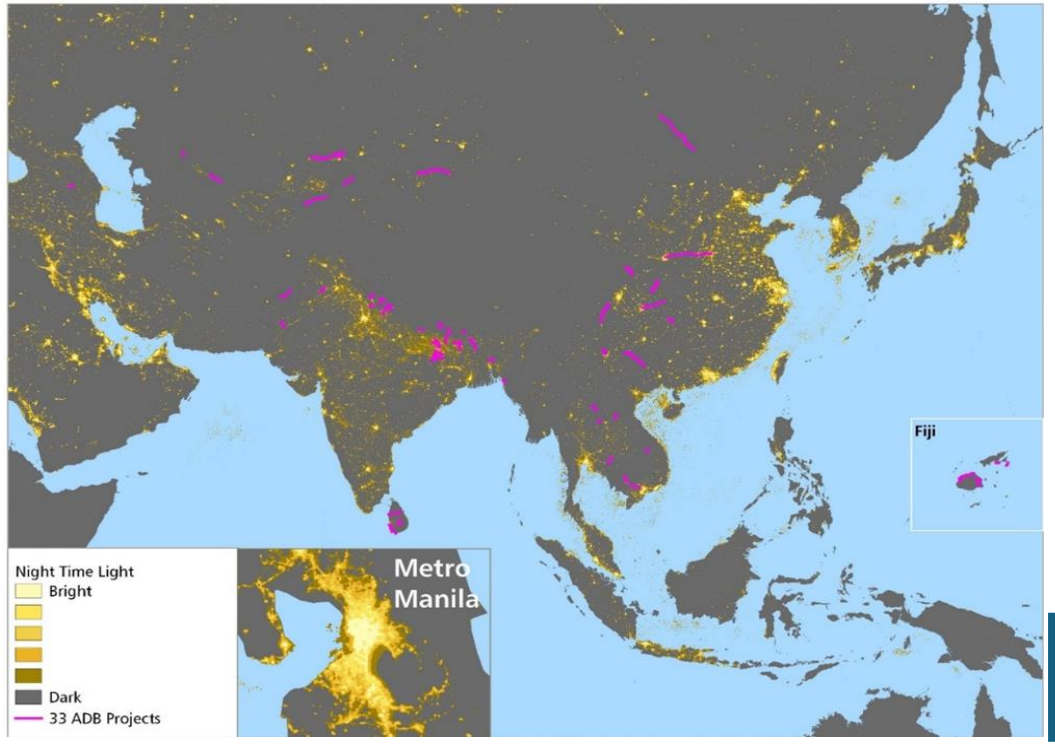
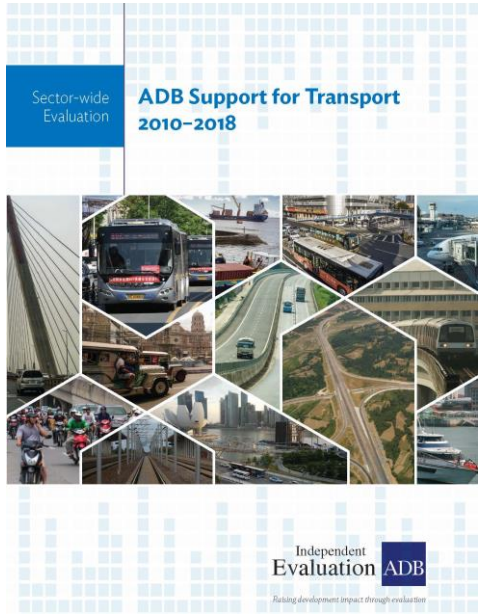
# Evaluating economic growth along road transport corridors in Asia and the Pacific




**Locations of 33 ADB-supported Projects**




| Economic growth Without Project | Economic growth With Project | Difference-in-Difference |
|---|---|---|
| 6% | 11% | 5% |

On average, 45% of the growth rate can be attributed to the 33 projects

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# Key takeaways

- Variety of data types and sources
- Consistent and comparable data across geographies
- Extensive time series data
- Cost and time efficient
- Useful for all levels of evaluation

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