

From **Vision** to **Viability**:

Financing Infrastructure for Kerala's Growth and Modernisation



Why Infrastructure Matters: Growth, Productivity & Welfare

Infrastructure investment has amongst the **highest economy –wide multipliers**

Enables productivity, market access, and private sector growth

Foundational for delivery of health, education, and basic services

Time Horizon	Average Fiscal Multiplier
Short Term (~1 year)	~0.8x
Medium Term (~2 - 5 years)	~1.5x

Source: Global Infrastructure Hub (2020);

Access to transport, energy, water, and digital infrastructure is **directly linked to poverty reduction, health outcomes, and education access**

World Bank: Infrastructure & Poverty Reduction (2025)

Meta-analysis covering transport, energy, and digital infrastructure shows **positive and statistically significant impacts on output, employment, and welfare outcomes**

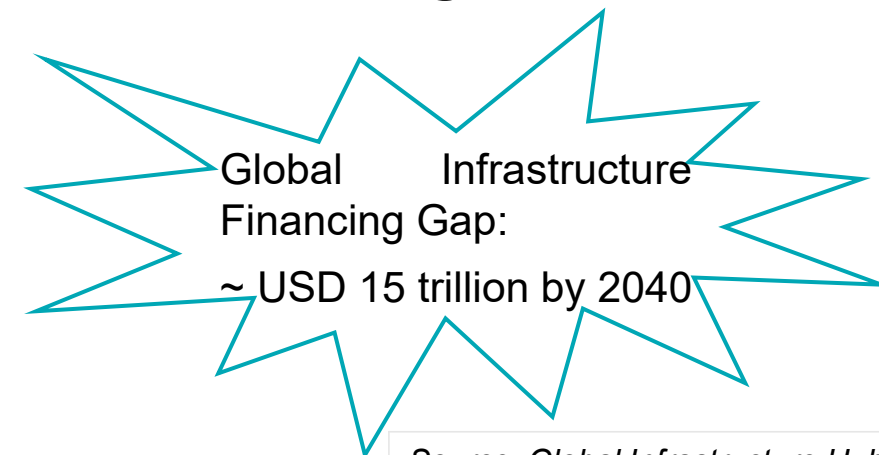
World Bank Research Observer (2025)

The Infrastructure Gap: Why Public Budgets Alone were Not Enough

1 Infrastructure needs grew faster than public revenues

2 Fiscal constraint & competing social priorities limit budgetary funding

3 Result: a persistent infrastructure financing gap across economies



Source: Global Infrastructure Hub;

Historical Context (OECD Economies)

Period	Public Investment (% of GDP)
1980s to early 1990s	~5.0%
Post 1990s	~4.0 - 4.5%

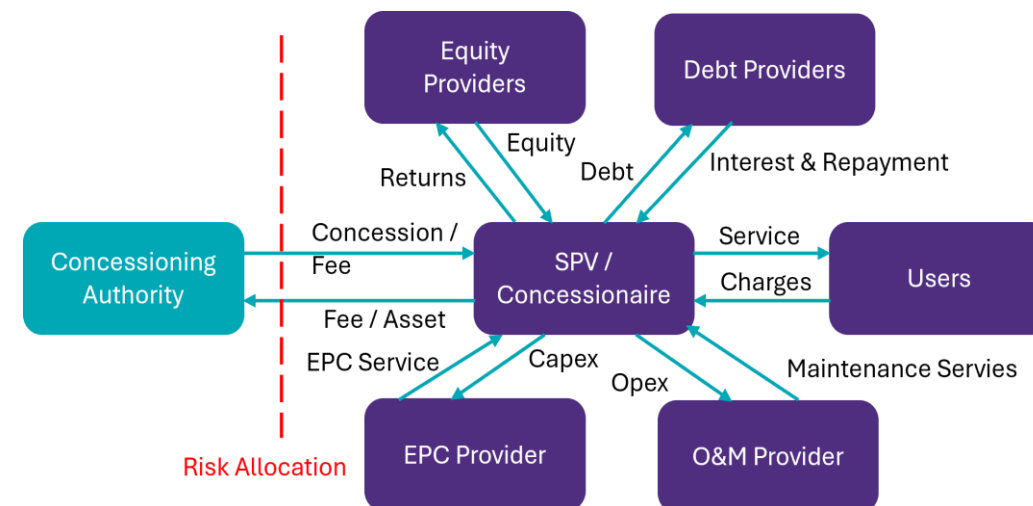
Faced with persistent gap, governments globally began exploring mechanisms beyond traditional budgetary funding

Emergence of PPPs: Mobilising Private Capital for Public Infrastructure

Why PPPs Emerged

- 1 Demand for infrastructure scaled faster than fiscal capacity
- 2 Governments sought delivery speed + lifecycle performance guarantees
- 3 Contractual route to bring private finance + capability into public infrastructure

PPP Structure



OECD estimate of infrastructure needs: ~USD 6.3 Trillion per year (2016-2030)

Private infrastructure investors' AUM tops ~USD 2 trillion (2024), across 2,869 assets in 68 countries – *GIIA*

Countries with PPP regulatory reforms: Average, ~USD 488 million increase in PPP infra investment (1990–2022)

Infrastructure Financing Ecosystem: Funding, Delivering, Risk Sharing

Funding

- **Public Budgets & State Owned Enterprises (SOEs)**
 - taxes, budget allocations, borrowing capacity of govt./SOEs
- **Corporate Balance Sheets**
 - Energy Companies, metro/urban corporations, airport/port operating companies
- **Private Capital**
 - Project equity, project finance debt, bonds, pooled vehicles

Delivery

- **Public Delivery**
 - PWDs, public agencies, SOEs
- **Hybrid Delivery**
 - SPVs, HAM Concessionaires, O&M contracts
- **Private Delivery**
 - Regulated operators, Concessioned Operators

Risk Sharing

- **Public Risks**
 - Policy, land, approvals, social obligations
- **Shared Risks**
 - Construction interface, revenue risk, force majeure
- **Private Risks**
 - Construction Execution, O&M Performance, lifecycle efficiency

Globally, PPPs and private finance typically account for only ~5–10% of total infrastructure investment; public and corporate funding remains dominant.

Emerging Trends in Global Infrastructure Financing

1 Sustainability / ESG Considerations

More than 50% of private investment in Infra was 'green' investment –(*GI Hub*); Also ESG impact is measured not just 'claimed'

3 Primary Markets taking precedence

Primary market transactions like IPOs, bond raises, InvITs gaining precedence over secondary market transactions

2 Guarantees & Blending Finance scale

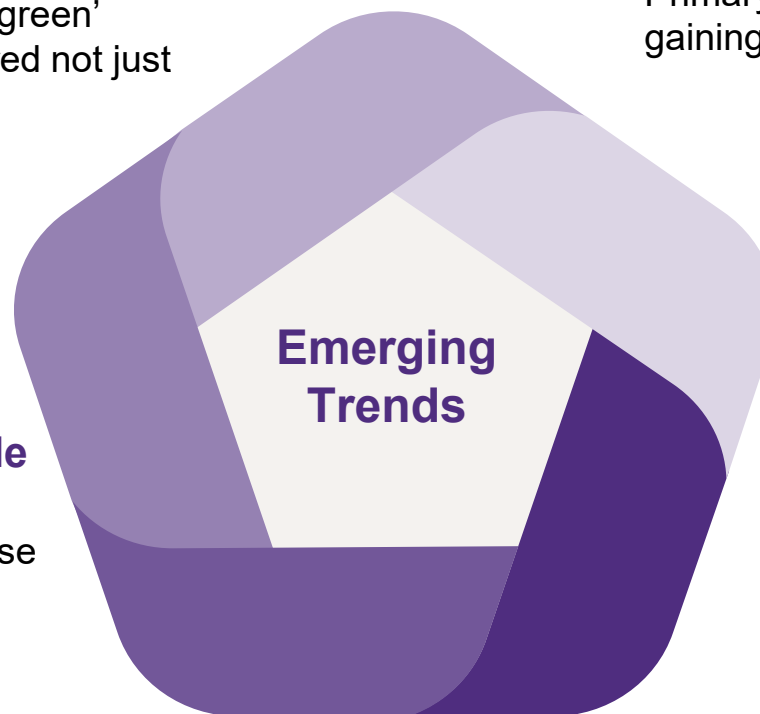
Public / Multilateral finance being used to mobilise private capital

4 Regulation & Project-prep quality

Projects and markets with stronger regulatory frameworks and clearer enabling rules attract investment faster and at better terms.

5 Digital & Grid Assets are now 'core' infra

Definition of Infrastructure is expanding beyond traditional roads, energy, ports etc. to include digital infrastructure and AI/energy-transition enabling systems (data centers, fiber, towers, EV charging etc.)



Global Financing Models and the Kerala Context: A Comparative View

Global Infrastructure Financing	Kerala Context
Infrastructure is financed because it drives growth, productivity and welfare	Vision 2031 positions development as people-centred Human development (health, education, social protection) is treated as the core objective of public investment, not a by-product
Public budgets alone have not been sufficient to meet infrastructure needs	Vision 2031 recognises fiscal limits and the need for sustainability Emphasis on outcome-oriented spending, better revenue mobilisation, prudent borrowing, and medium-term fiscal discipline
PPPs emerged as a contractual response to fiscal and delivery constraints	Kerala treats PPPs as a selective instrument, not a default model Sector visions (e.g., ports & coastal shipping) identify PPPs where suitable, alongside strong public oversight
Infrastructure financing is an ecosystem, not just private capital	Kerala's delivery model is decentralised and institution-led Local self-governments and state institutions are central to planning, implementation, and service delivery
Global financing is being reshaped by new trends	Vision 2031 already incorporates many of these shifts Strong emphasis on sustainability, climate resilience, digital systems, grid/energy transition, and future-ready infrastructure

Potential Challenges in Adopting Global Models at the State Level

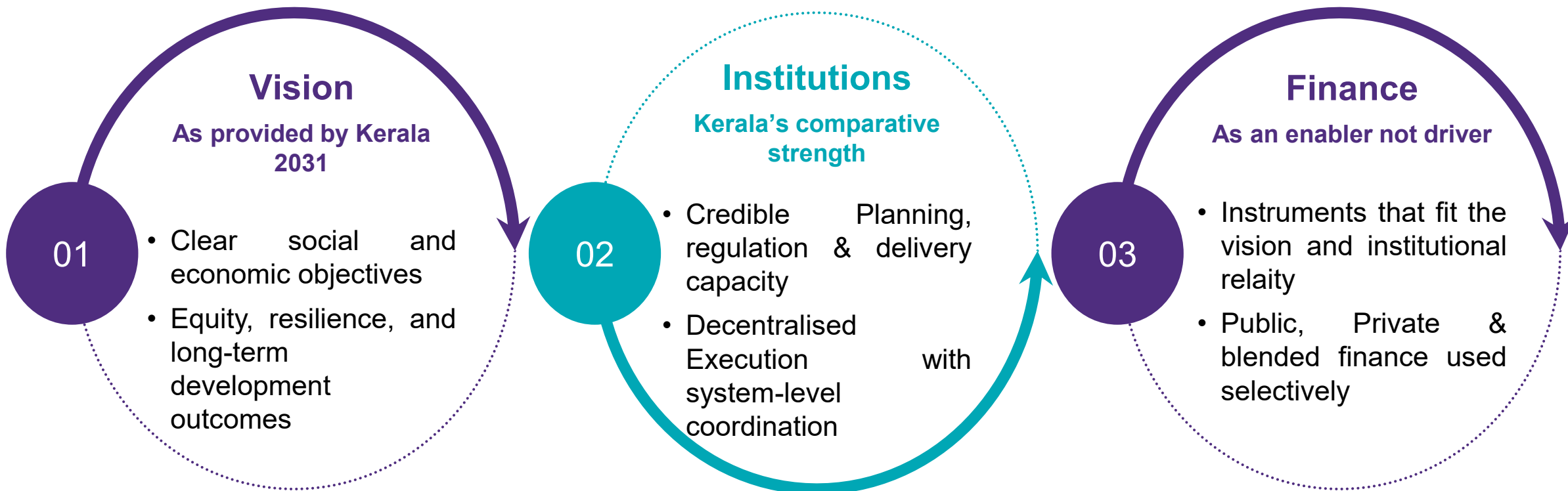
Potential Challenges	How they could manifest
Balancing welfare-led priorities with bankability requirements	<ul style="list-style-type: none"> • Kerala’s infrastructure investments are often designed primarily around equity, access, and universal service obligations. • This can create tension between social objectives and financing expectations
Fiscal space constraints at the sub-national level	<ul style="list-style-type: none"> • Global models often assume flexibility in user charges, asset monetisation, or long-term borrowing • Kerala operates within tight fiscal rules, legacy commitments, and strong expectations of affordability
PPP capacity beyond contracting	<ul style="list-style-type: none"> • PPPs require project preparation, risk allocation, performance monitoring, and dispute resolution capacity. • At the state and local level, these capabilities are uneven across sectors and institutions
Decentralised delivery versus standardised financing	<ul style="list-style-type: none"> • Kerala’s decentralised governance model prioritises local adaptation, contextual design, and participatory decision-making • This can slow aggregation of projects and complicate financing at scale
Translating emerging global trends into implementable pipelines	<ul style="list-style-type: none"> • While policy intent is strong, converting vision into bankable, well-prepared projects remains a challenge across sectors

Managing Challenges: What Global Experience Suggests

Potential Challenges	Mitigants based on global experience
Protecting welfare objectives while improving bankability	<ul style="list-style-type: none"> • Explicitly separate social service obligations from commercial project components • Fund viability gaps transparently through budgets, rather than embedding them in contracts
Managing fiscal constraints through discipline, not dilution	<ul style="list-style-type: none"> • Use medium-term sequencing of projects instead of front-loading commitments • Link borrowing strictly to capital formation and long-term outcomes
Strengthening PPP outcomes through preparation, not proliferation	<ul style="list-style-type: none"> • Invest in upstream project preparation rather than expanding PPP numbers • Use standardised contracts and monitoring frameworks to reduce renegotiation risk
Reconciling decentralised delivery with financing standardisation	<ul style="list-style-type: none"> • Provide common frameworks and toolkits centrally • Allow local flexibility in design and execution within these shared standards
Turning policy intent into bankable pipelines	<ul style="list-style-type: none"> • Create dedicated project-preparation facilities for ESG, blended finance, and digital assets • Focus on repeatable sector platforms, not one-off projects

From Vision to Viability: Aligning Finance, Institutions, and Outcomes

Global infrastructure financing works when three elements move together



Kerala does not need to import global financing models but adapt them so its vision remains intact while projects become viable, sustainable & deliverable



Thank You