Japan's Role
in
Building India's Economic Infrastructure

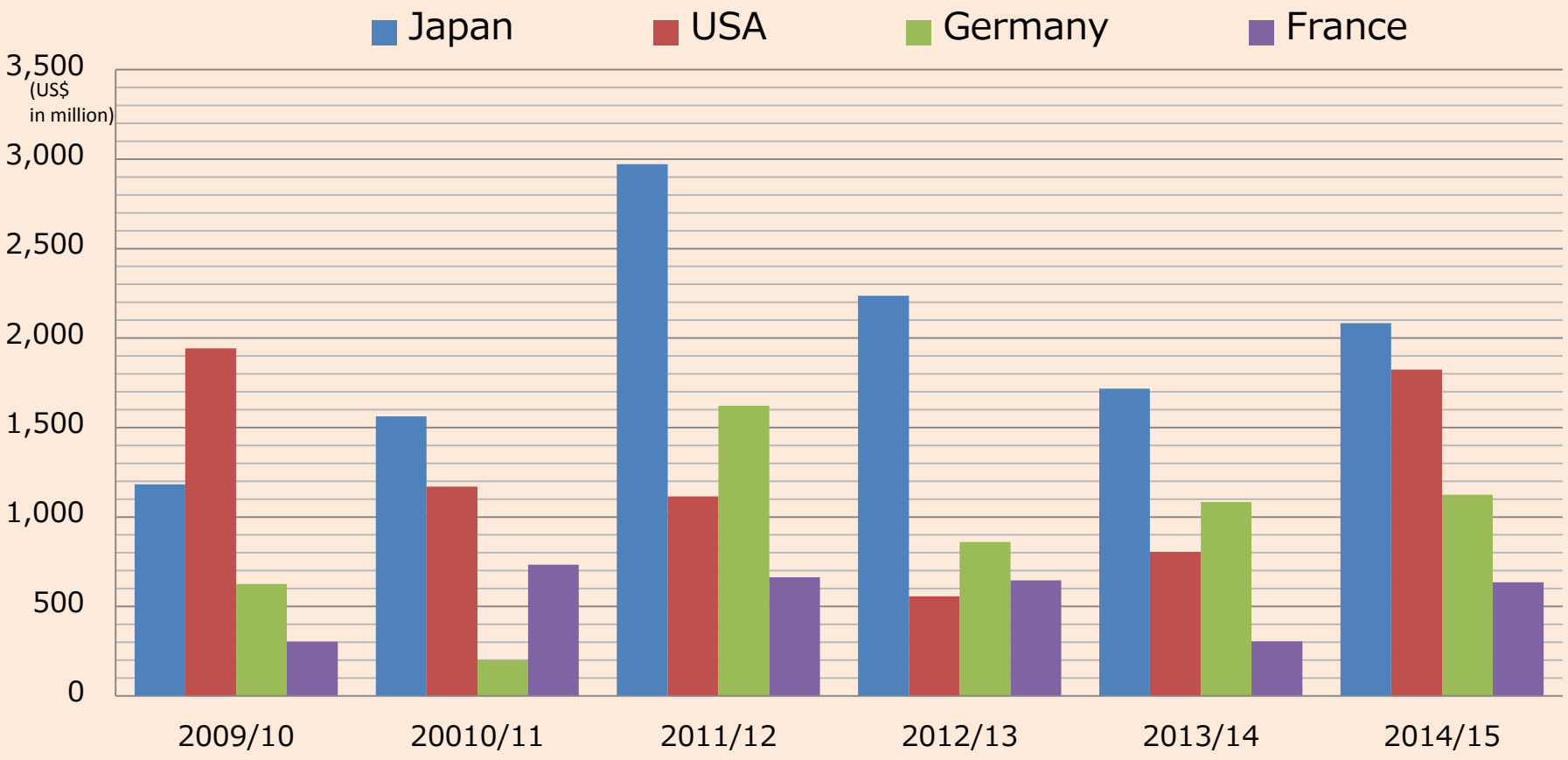
Katsuo Matsumoto

South Asia Department

Japan International Cooperation Agency

Direct Investment from Japan

- Japan > Other countries in direct foreign investment
- Ranked at 4th, 7.4% out of total investment 2000-2015



Source: Department of Investment Policy and Promotion, Ministry of Industries and Commerce, India

Tokyo Declaration for Japan-India Special Strategic and Global Partnership

- 1 September 2014, Prime Ministers called their meeting **the dawn of a new era in Japan-India relations**.
- Developed from "Strategic and Global Partnership" since 2006
- Main Pillars:
  - Political, Defence and Security Partnership
  - Global Partnership for Peace and Security in the Region and the World
  - Civil Nuclear Energy, Non-proliferation and Export Control
  - Partnership for Prosperity
    - ◆ Ambitious vision for **accelerating inclusive development** in India, by **transforming the infrastructure and manufacturing sectors**
    - ◆ **3.5 trillion Yen of investment and financing in 5 years**

      (JICA: DMIC, DFC, CBIC, Investment Promotion, HSR, Northeast connectivity, etc)
    - ◆ "Japan Industrial Townships"
  - Exploring Science, Inspiring Innovation, Developing Technology, Connecting People
  - Leading for the future

Challenges for Investment (1) – Doing Business

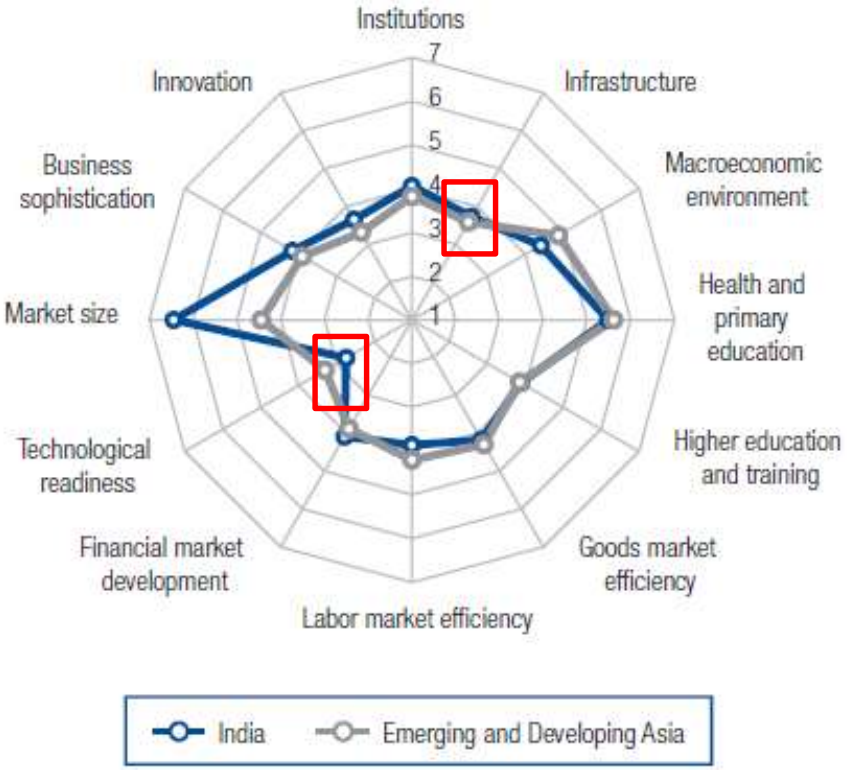
Behind ASEAN and other emerging coutries

	Rank
Thailand	26
Russia	62
China	90
Vietnam	78
Brazil	120
India	**142**
Indonesia	144
Bangladesh	173

Challenges for Investment (2) – Global Competitiveness

Global Competitiveness Index

	Rank (out of 140)	Score (1–7)
GCI 2015–2016	**55**	**4.3**
GCI 2014–2015 (out of 144)	71	4.2
GCI 2013–2014 (out of 148)	60	4.3
GCI 2012–2013 (out of 144)	59	4.3
Basic requirements (60.0%)	**80**	**4.4**
1st pillar: Institutions	60	4.1
2nd pillar: Infrastructure	81	3.7
3rd pillar: Macroeconomic environment	91	4.4
4th pillar: Health and primary education	84	5.5
Efficiency enhancers (35.0%)	**58**	**4.2**
5th pillar: Higher education and training	90	3.9
6th pillar: Goods market efficiency	91	4.2
7th pillar: Labor market efficiency	103	3.9
8th pillar: Financial market development	53	4.1
9th pillar: Technological readiness	120	2.7
10th pillar: Market size	3	6.4
Innovation and sophistication factors (5.0%)	**46**	**3.9**
11th pillar: Business sophistication	52	4.2
12th pillar: Innovation	42	3.6



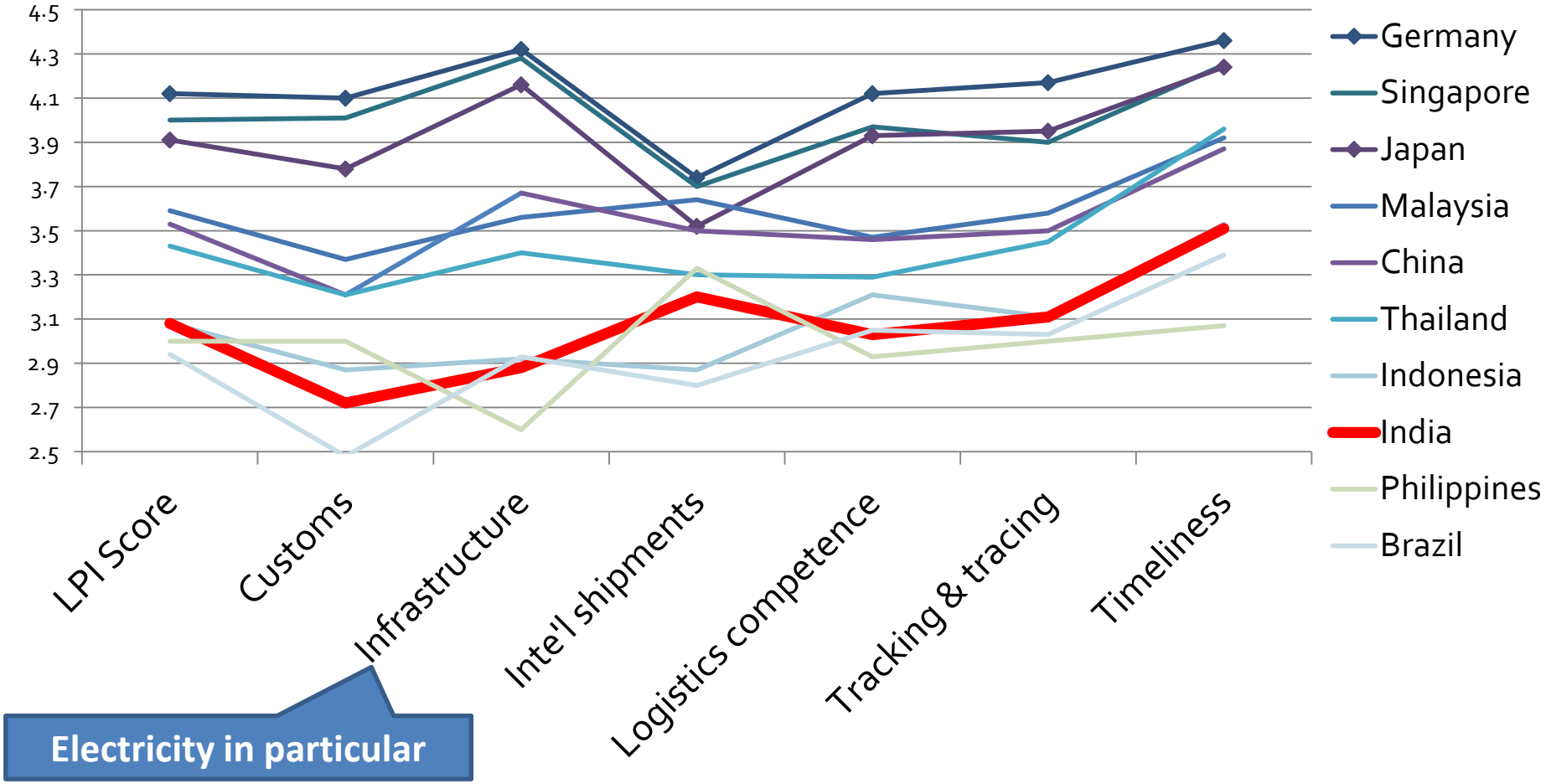
Stage of development

Source: Global Competitiveness Report 2015-16, World Economic Forum

Challenges for Investment (3) – Logistics Performance

Custom: Efficiency of the clearance process (i.e., speed, simplicity and predictability of formalities) by border control agencies, including customs

Infrastructure: Quality of trade and transport related infrastructure (e.g., ports, railroads, roads, information technology)



Electricity in particular

Source: Logistics Performance Index 2014, World Bank

Challenges for Investment (4) – Japanese Manufacturers

Infrastructure and legal enforcement are major obstacles

	India		Indonesia		China	
1	**Infrastructure**	**51.6**	Labour Cost	44.1	Labour Cost	75.4
2	Competitive Environment	36.7	Legal System	41.0	Competitive Environment	58.8
3	**Legal Enforcement**	**35.1**	Competitive Environment	32.4	Legal System	54.3
4	Taxation System	28.2	Infrastructure	32.4	Intellectual Property Right	47.2
5	Labour Conflict	24.5	Human Resources (Management level)	27.1	Regulation on Remittance	32.7

Source:「わが国製造業企業の海外展開に関する調査報告2014年度　海外直接投融資アンケート結果（第26回）」（JBIC)

JICA's Operation

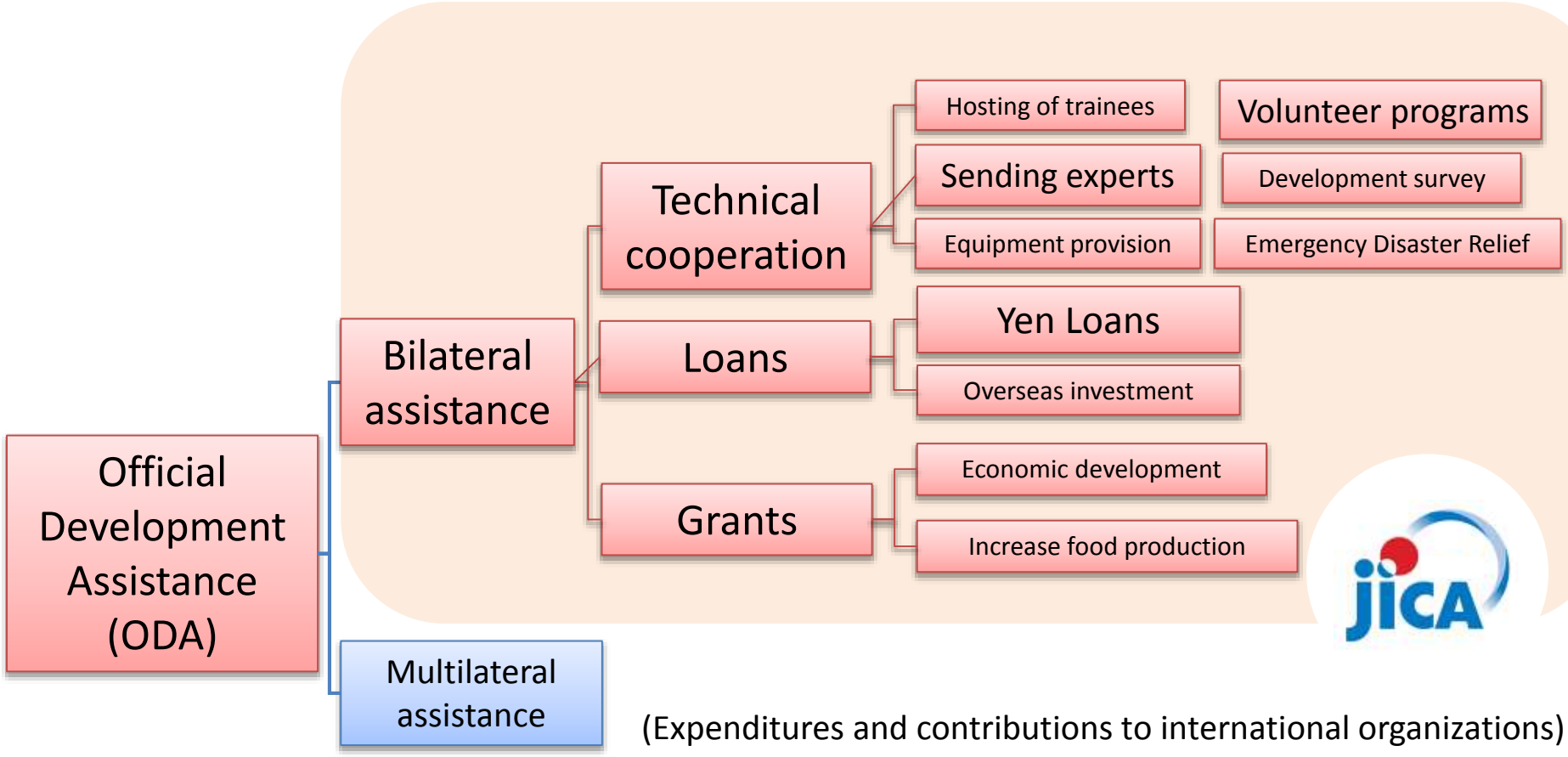
"Infrastructure Development"

"Capacity Building"

Support to Faster and Inclusive Growth

Official Development Assistance and JICA

JICA is “One Stop Shop” of Japan’s Bilateral ODA.



JICA at a glance

Japan International Cooperation Agency

- President: Shinichi Kitaoka
- Establishment: August 1974 Reorganized 2008
- Staff: 1,827 (Full time)
- Recipient Countries: 150
- Overseas Offices: 92
- Offices in Japan: HQ (Tokyo) and 17 sites

JICA's Vision

Inclusive and Dynamic Development

Mission 1

Addressing Global Agenda

Mission 2

Reducing Poverty through Equitable Growth

Mission 3

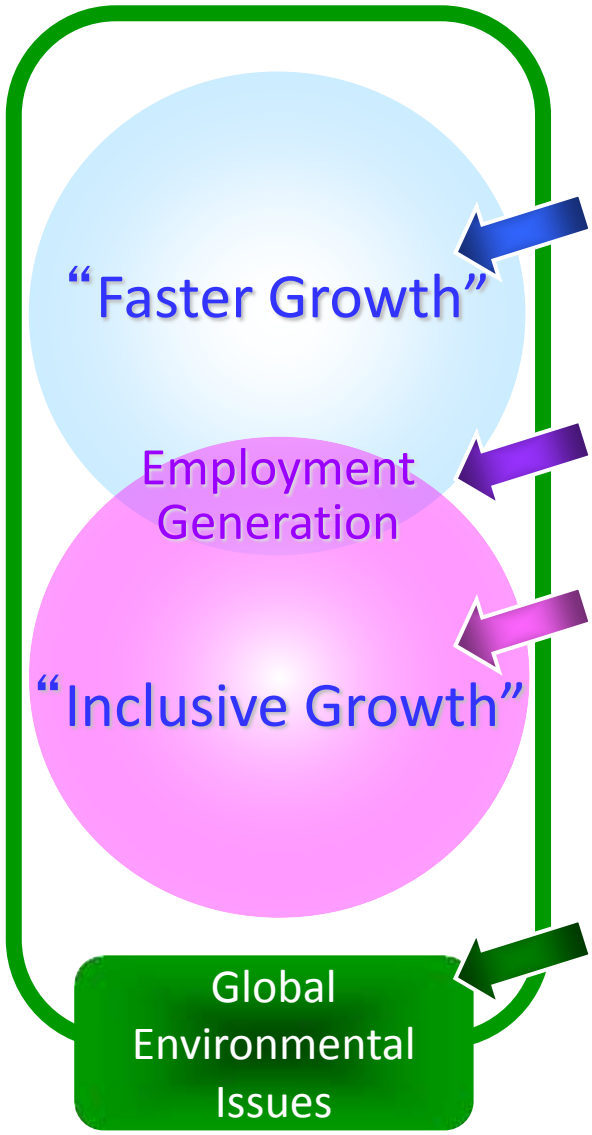
Improving Governance

Mission 4

Achieving Human Security

JICA's Cooperation Strategy for India

India's Development Strategy



JICA's Cooperation Strategy for India

Stable Energy Supply **Improvement of Transportation Networks**	**- Improvement of Energy Supply Capacity,** **- Strengthening Major Transport Networks (Railways/Roads/Airports/Ports)** **- City Transport System (Metro/Outer Ring Roads)**
Employment Generation	**- Private Sector Assistance**
Income Generation in Rural Areas Improvement of Basic Social Services	- Improvement of Agricultural Productivity - Improvement of Basic Social Services (Health and Sanitation)
Conservation and Improvement of Urban Environment Environmental Conservation	- Pollution Prevention and Management - Water Resources Management - Afforestation, Forest Preservation, Bio-diversity Conservation - Energy Efficiency and Conservation - Renewable Energy

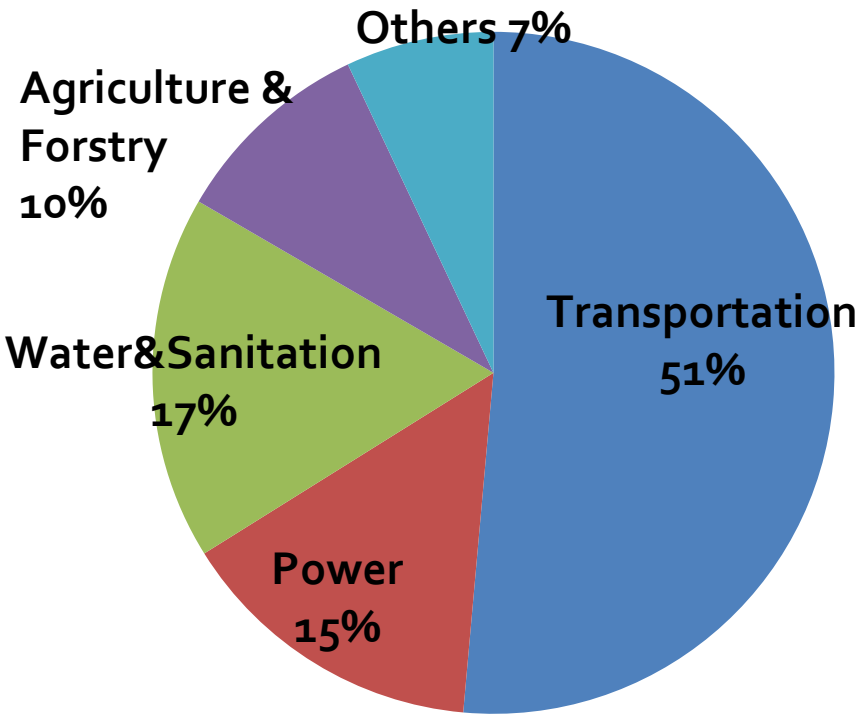
Achievements in India (Loan) (1)

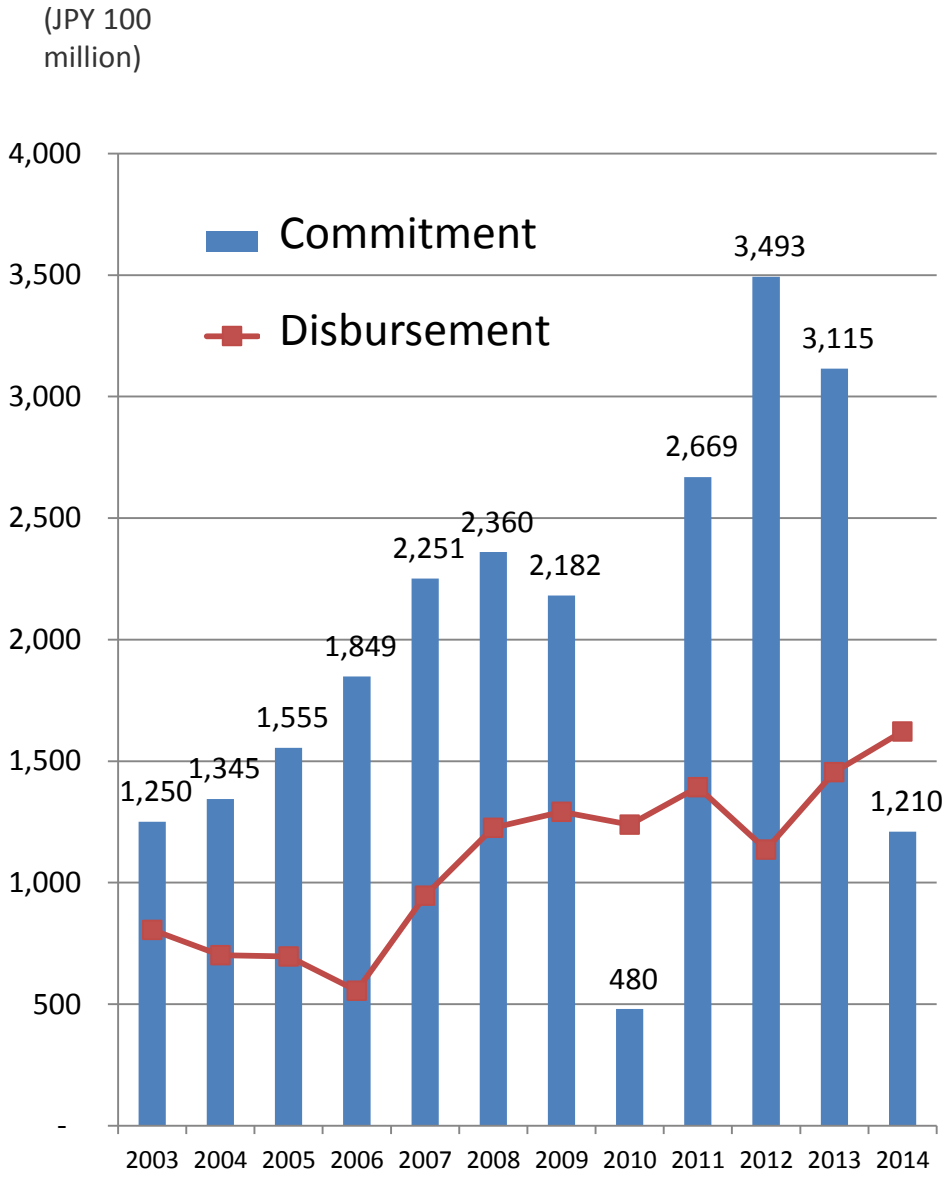
Trends in Commitment by Sector (2003/04～2014/15)

Total

JPY 2,400 billion

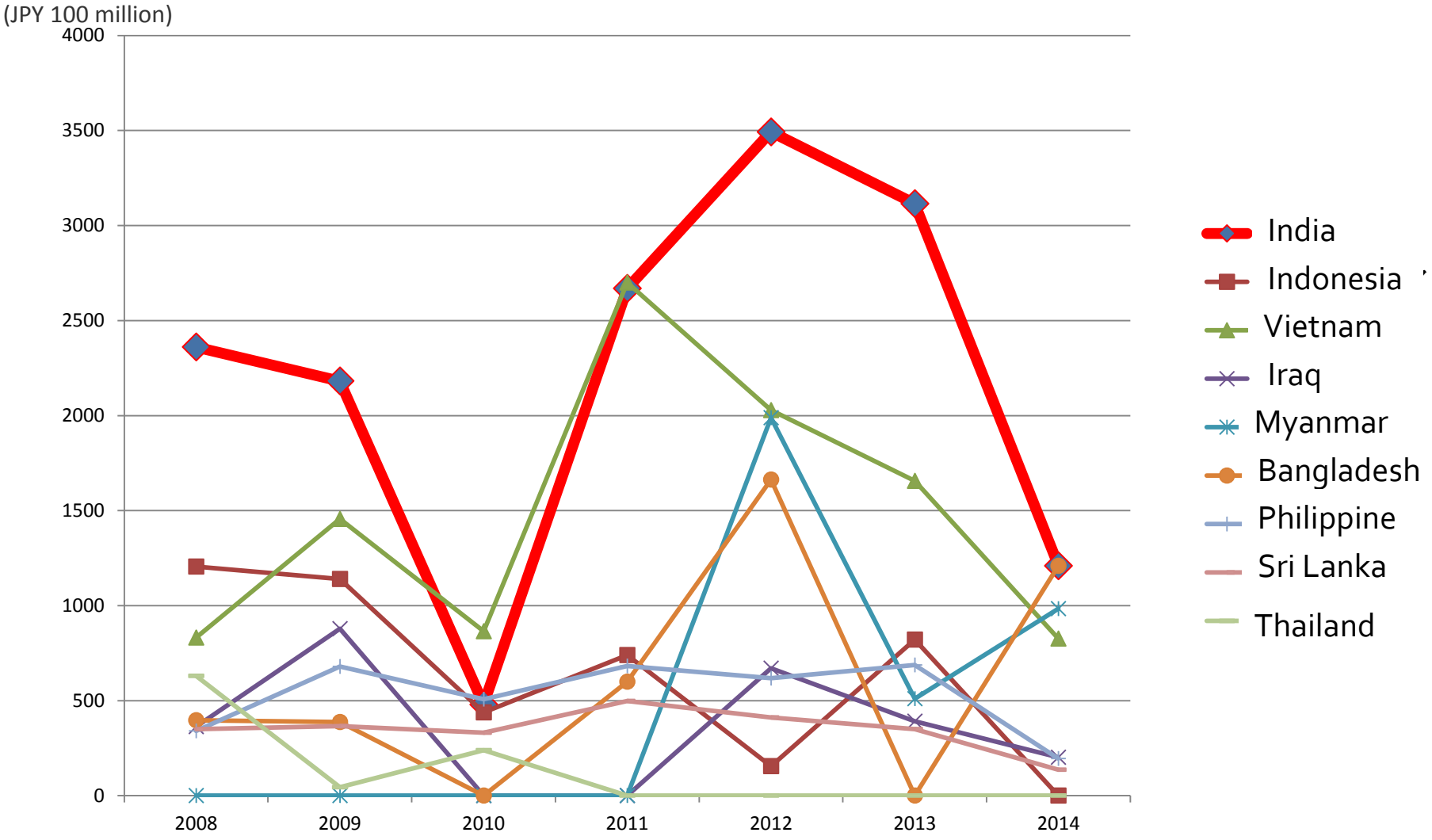
(Approx. **Rs.126,000 crore**) *JPY1.9/INR





Achievements in India (Loan) (2)

Comparison to other countries



ODA Loan Project List (since 2013/14)

●2015/16（as of October）

Project	Commitment Amount (JPY million)
Odisha Transmission System Improvement Project	21,787

●2014/15

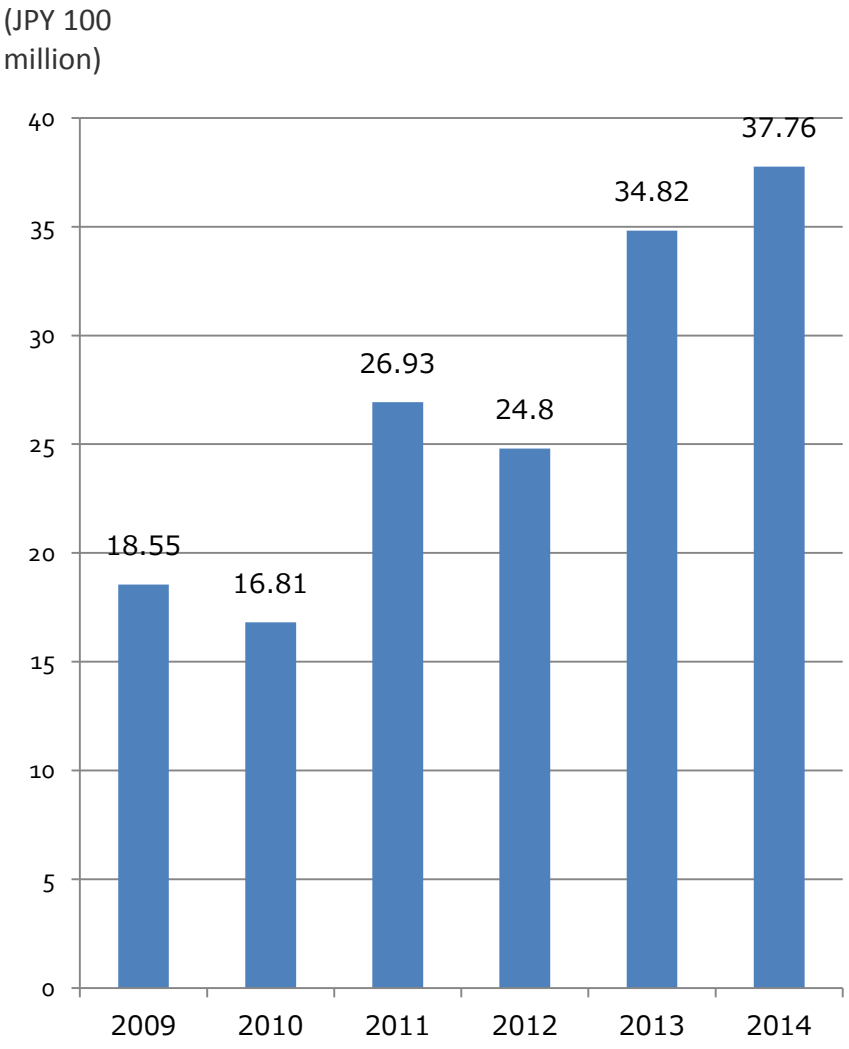
Project	Commitment Amount (JPY million)
Rengali Irrigation Project (Phase 2)	33,959
Guwahati Sewerage Project	15,620
Uttarakhand Forest Resource Management Project	11,390
New and Renewable Energy Development Project (Phase 2)	30,000
Micro, Small and Medium Enterprises Energy Saving Project 3	30,000

●2013/14

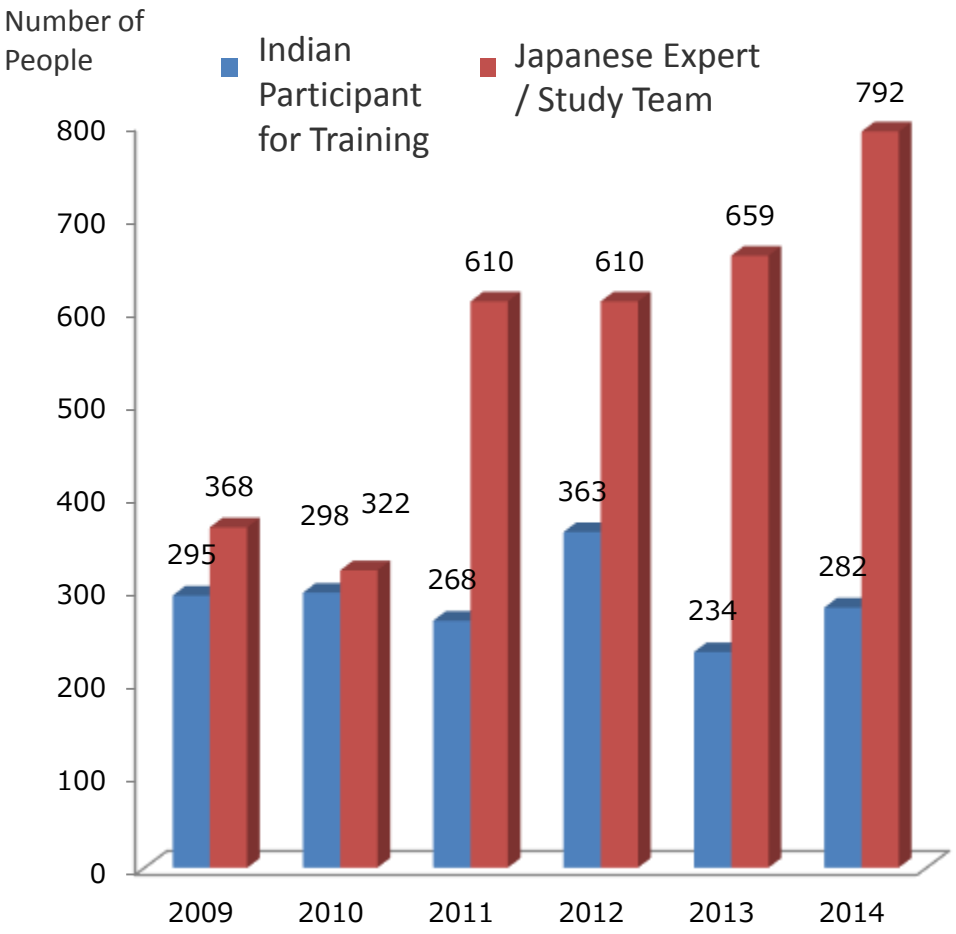
Project	Commitment Amount (JPY million)
Mumbai Metro Line 3 Project	71,000
Tamil Nadu Investment Promotion Program	13,000
Campus Development Project of IITH	5,332
Bihar National Highway Improvement Project (Phase 2)	21,426
Campus Development Project of IITH (Phase2)	17,703
Delhi Mass Rapid Transport System Project Phase 3 (II)	148,887
Agra Water Supply Project (II)	16,279
Haryana Distribution System Upgradation Project	26,800

Achievements in India (Technical Cooperation)

Commitment Amount (FY)



Number of People Exchange(FY)



Implications of JICA Good Practices in India to other Emerging Countries

1. Quality Infrastructure

- Massive demand for Infrastructure
- Key driver for direct investment & economic development
- Life-cycle Cost Saving backs country economy in a long run

2. Corridor Approach

- Suitable allotment of resources: shortcut for development
- Project prioritization at the level of semi-region (corridor)

3. Alignment with "Make in India"

- Policy promotion and easing regulations
- Delivering real private sector's voices to Government
- Timely input and support when required (urgent small infra.)
- Manufacturing Sectory↑ = Employment↑ = Consumption↑ = Boost in economy↑

Delhi Mass Rapid Transport System Project

■Background

- Sharp increase in the population of urban Delhi 9.42 M in 1991 → 16.75 M in 2011
- Deterioration of environmental damage and traffic congestion due to an increased number of automobiles.

  Number of registered cars in Delhi: 1.83 M in 1990 → 6.93 M in 2011

■Project summary

The project consists of the construction of a rapid transport system (public works, electric / telecommunication / signal works, etc.) and the procurement of vehicles.

- Phase 1 (65 km) from October 1998 to November 2006.
- Phase 2 (125 km) from April 2006 to August 2011.
- Phase 3 (116 km) from June 2011 to April 2016.

■Result

- 2.5 million people use the metro every day
  (cf. 3 million people use underground railways per day in London).
- The system has contributed to decreasing the number of vehicles by 120,000.
- "Regenerative brake system" , introduced to metro as Japanese company's energy-efficient technology is expected to reduce CO_2 emission by 22 million tons (total reduction between 2002 and 2032), which was registered in the United Nations as the world's first CDM project in the railway sector.

Cooperation on Metro Projects

Japan is supporting metro projects in 5 major cities in India

Delhi Metro

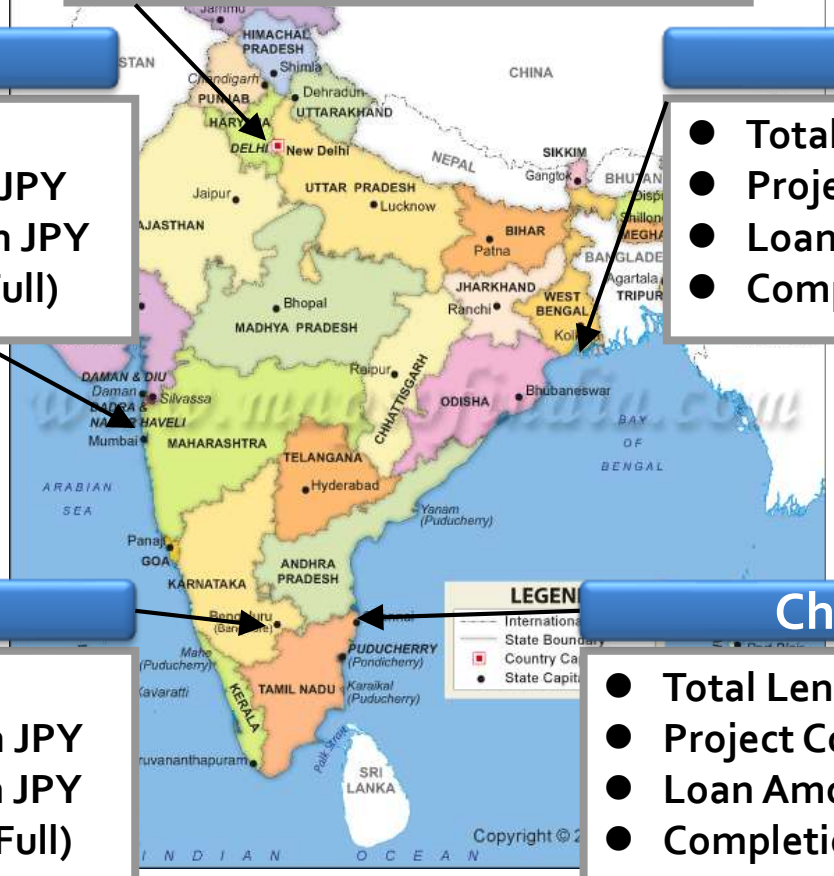
- Total Length: 329km
- Project Cost: 1,274 Billion JPY
- Loan Amount: 684 Billion JPY
- Completion Year: 2016 (Full)

Mumbai Metro

- Total Length: 33 km
- Project Cost: 347 Billion JPY
- Loan Amount: 188 Billion JPY
- Completion Year: 2019 (Full)

Kolkata Metro

- Total Length: 14 km
- Project Cost: 140 Billion JPY
- Loan Amount: 82 Billion JPY
- Completion Year: 2017 (Partial)



Bangalore Metro

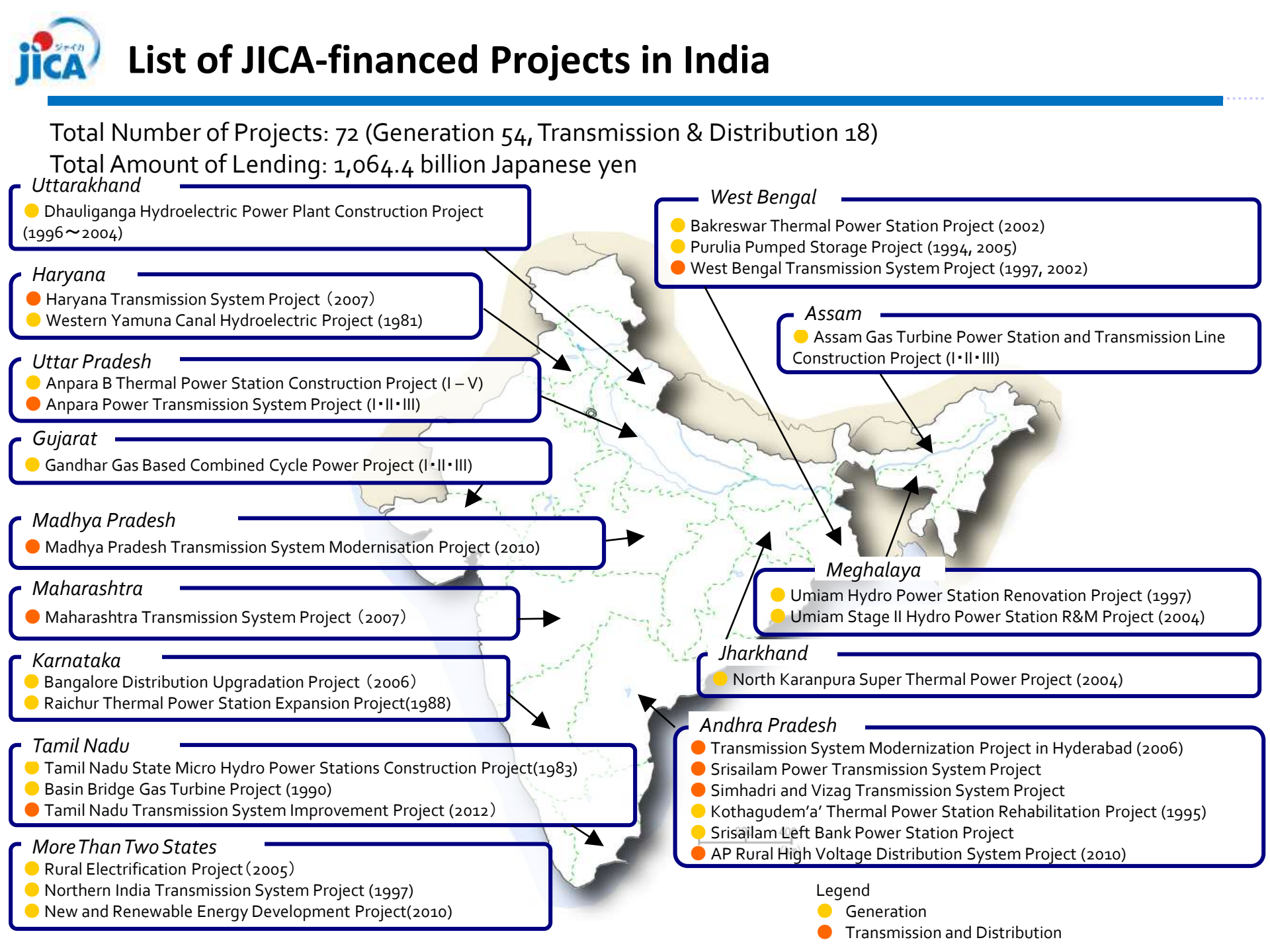
- Total Length: 42 km
- Project Cost: 307 Billion JPY
- Loan Amount: 65 Billion JPY
- Completion Year: 2017 (Full)

Chennai Metro

- Total Length: 45 km
- Project Cost: 331 Billion JPY
- Loan Amount: 150 Billion JPY
- Completion Y

List of JICA-financed Projects in India

Total Number of Projects: 72 (Generation 54, Transmission & Distribution 18)
Total Amount of Lending: 1,064.4 billion Japanese yen



Uttarakhand
- Dhauliganga Hydroelectric Power Plant Construction Project (1996～2004)

Haryana
- Haryana Transmission System Project（2007）
- Western Yamuna Canal Hydroelectric Project (1981)

Uttar Pradesh
- Anpara B Thermal Power Station Construction Project (I – V)
- Anpara Power Transmission System Project (I･II･III)

Gujarat
- Gandhar Gas Based Combined Cycle Power Project (I･II･III)

Madhya Pradesh
- Madhya Pradesh Transmission System Modernisation Project (2010)

Maharashtra
- Maharashtra Transmission System Project（2007）

Karnataka
- Bangalore Distribution Upgradation Project（2006）
- Raichur Thermal Power Station Expansion Project(1988)

Tamil Nadu
- Tamil Nadu State Micro Hydro Power Stations Construction Project(1983)
- Basin Bridge Gas Turbine Project (1990)
- Tamil Nadu Transmission System Improvement Project (2012）

More Than Two States
- Rural Electrification Project（2005）
- Northern India Transmission System Project (1997)
- New and Renewable Energy Development Project(2010)

West Bengal
- Bakreswar Thermal Power Station Project (2002)
- Purulia Pumped Storage Project (1994, 2005)
- West Bengal Transmission System Project (1997, 2002)

Assam
- Assam Gas Turbine Power Station and Transmission Line Construction Project (I･II･III)

Meghalaya
- Umiam Hydro Power Station Renovation Project (1997)
- Umiam Stage II Hydro Power Station R&M Project (2004)

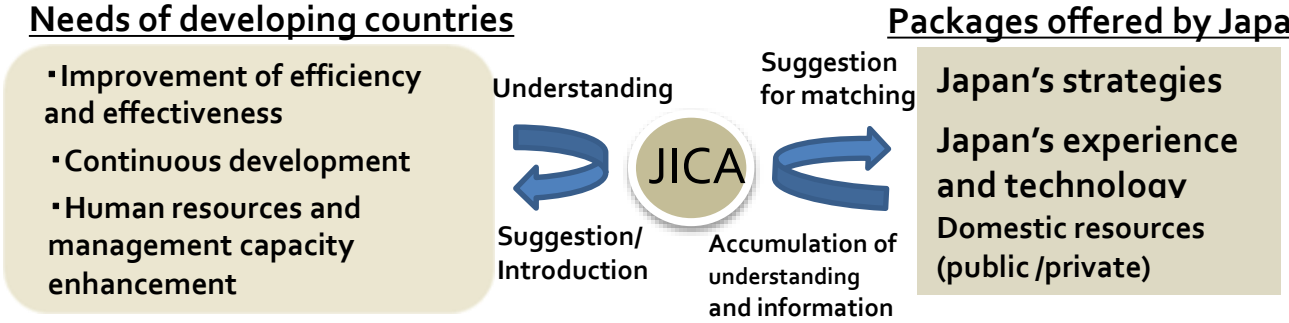
Jharkhand
- North Karanpura Super Thermal Power Project (2004)

Andhra Pradesh
- Transmission System Modernization Project in Hyderabad (2006)
- Srisailam Power Transmission System Project
- Simhadri and Vizag Transmission System Project
- Kothagudem'a' Thermal Power Station Rehabilitation Project (1995)
- Srisailam Left Bank Power Station Project
- AP Rural High Voltage Distribution System Project (2010)

Legend
- Generation
- Transmission and Distribution

Cooperation Strategy(Transport)

- **Measures in the priority areas from the upstream stage:** Dialogue to study priority development areas and growth strategy, high regards for plans and visions including formulation of master plan (M/P) in developing countries, incorporation of diverse tools of support for development, approaches from a comprehensive and borderless viewpoint such as development of international corridors
- **Development of human resources:** In each stage of the cooperation, implement technical cooperation and trainings for regulation formulation, operational and maintenance, and management, taking advantage of Japan's experiences
- Utilization of ICT: By using ICT tools for improving efficiency and effectiveness of cooperation, realization of **safety, timeliness and comfortableness**
- Japanese technology/financial resources: Information sharing and coordinated collaboration with the Public Works Research Institute, universities, the private sector, railway/airport corporations and municipalities



Japan's technology/ JICA's approaches

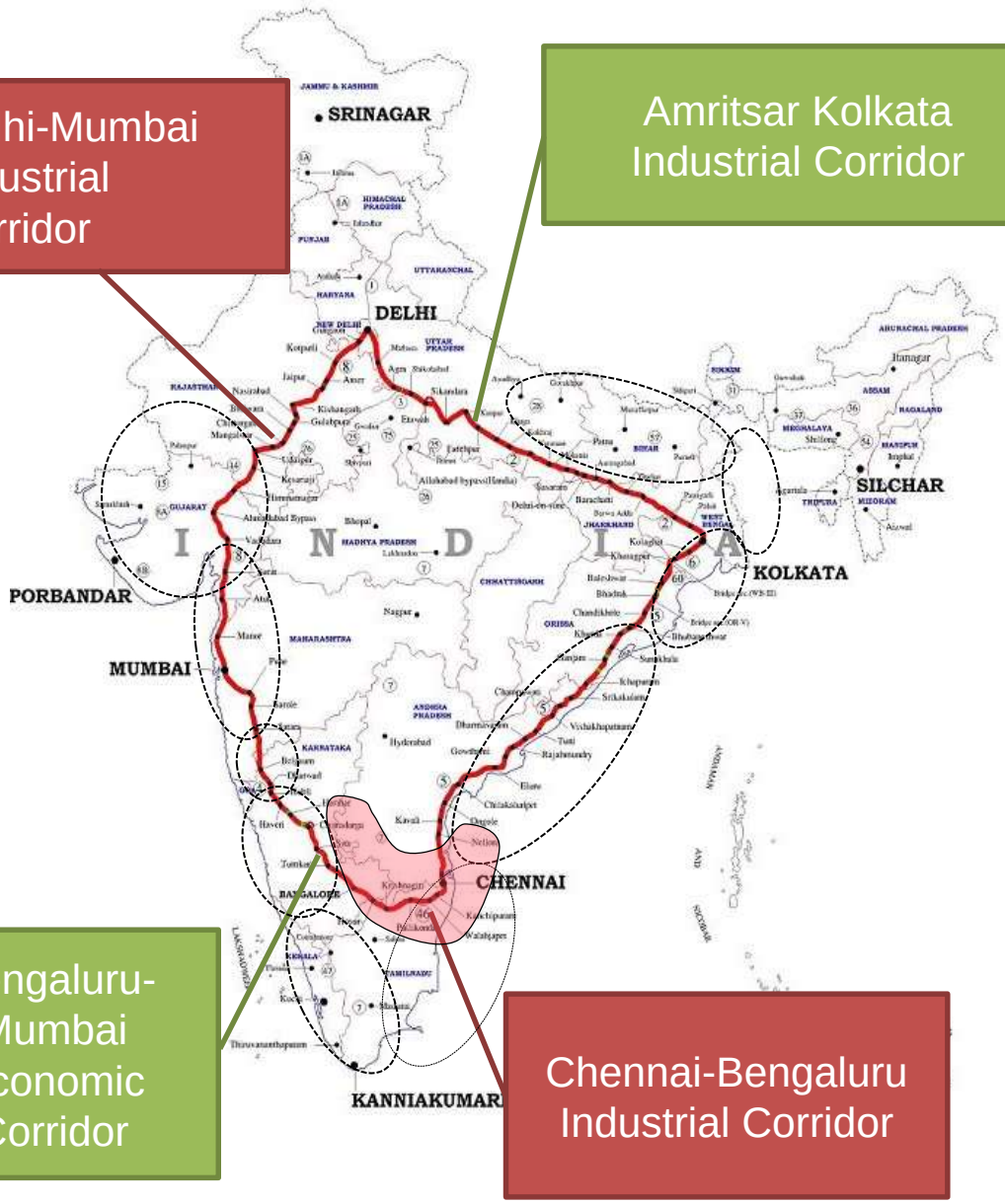
High quality growth (pursuit of subsumption, strength and sustainability)

High regard for dialogue and planning from the upstream stage, utilization of diverse tools, promotion of high quality cooperation, making use of domestic resources

Industrial Corridors under Development (DMIC & CBIC)

Delhi-Mumbai Industrial Corridor

Amritsar Kolkata Industrial Corridor



Bengaluru-Mumbai Economic Corridor

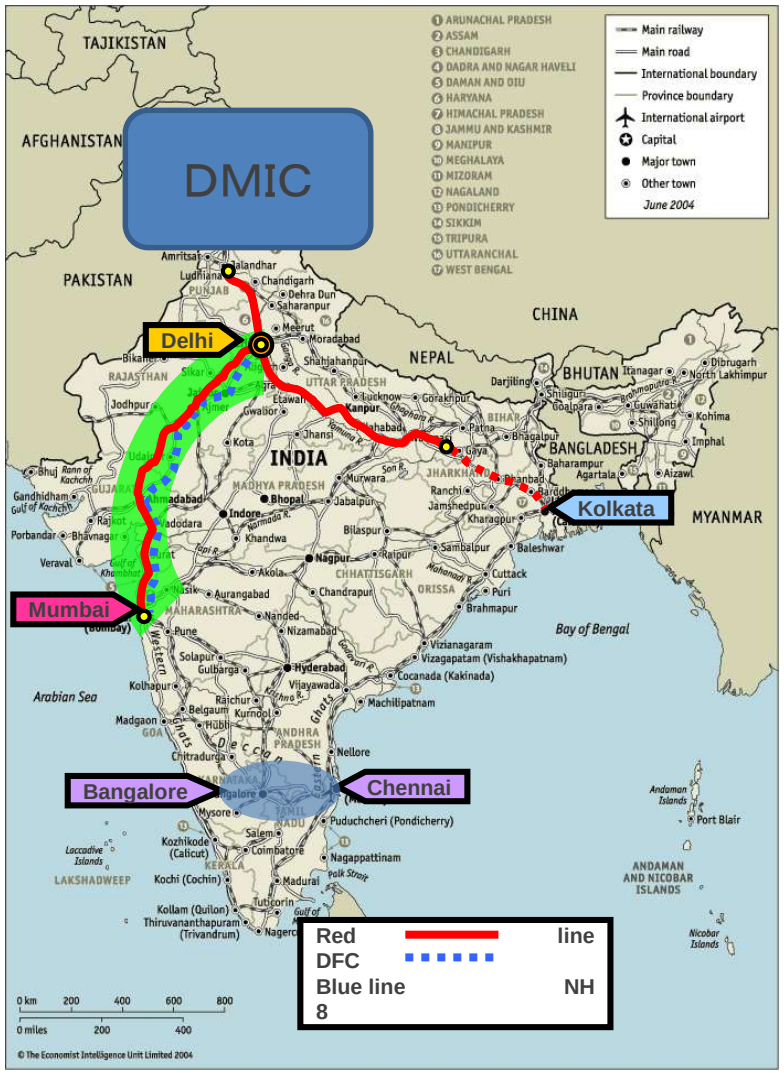
Chennai-Bengaluru Industrial Corridor

DMIC and CBIC are being supported by GoI and GoJ.

National Manufacturing Plan Targets

- *~15% y-o-y* growth in manufacturing sector to achieve *25%* contribution to GDP by 2022
- *100 million* jobs by 2022
- *Skill development* for inclusive growth
- Improved *technology* orientation *& value addition*
- Global Competitiveness
- Environmental sustainability

Delhi-Mumbai Industrial Corridor (DMIC)



- The project aims to build a freight railway line to connect Delhi and Mumbai (with yen loans of ¥650 billion). As a Japan-India joint regional development initiative, it will construct infrastructure in areas along the railway, including industrial parks, logistics bases, power plants, roads, ports, housing, and commercial facilities, mainly through private investment.
- In December 2006, during Prime Minister Singh's visit to Japan, both leaders agreed to promote DMIC. In October 2010, during Prime Minister Singh's visit to Japan, both leaders issued a joint statement in which they (1) agreed to establish a PPP dialogue between Japan and India, (2) agreed to establish a DMIC-PPP Promotion Council, and (3) welcomed the further progress of smart communities.
- In December 2011, during then Prime Minister Noda's visit to India, both leaders agreed on (1) the launch of a $9 billion financial facility, (2) Japan's active involvement in DMICDC through investment and personnel dispatch, and (3) support for specific infrastructure projects. Prime Minister Noda also draw the attention of the Indian government to the issue of financial deregulation.
- In May 2013, during Prime Minister Singh's visit to Japan, both leaders welcomed the progress and appreciated the formation of the DMIC Project Implementation Trust in India as well as the listing of possible projects for Japan's public and private financing as Japan's USD 4.5 billion facility.
- In January 2014, during Prime Minister Abe's visit to India, both leaders shared the view that all instruments of funding of JICA including STEP may be explored on mutually beneficial terms.

Western Dedicated Freight Corridor project

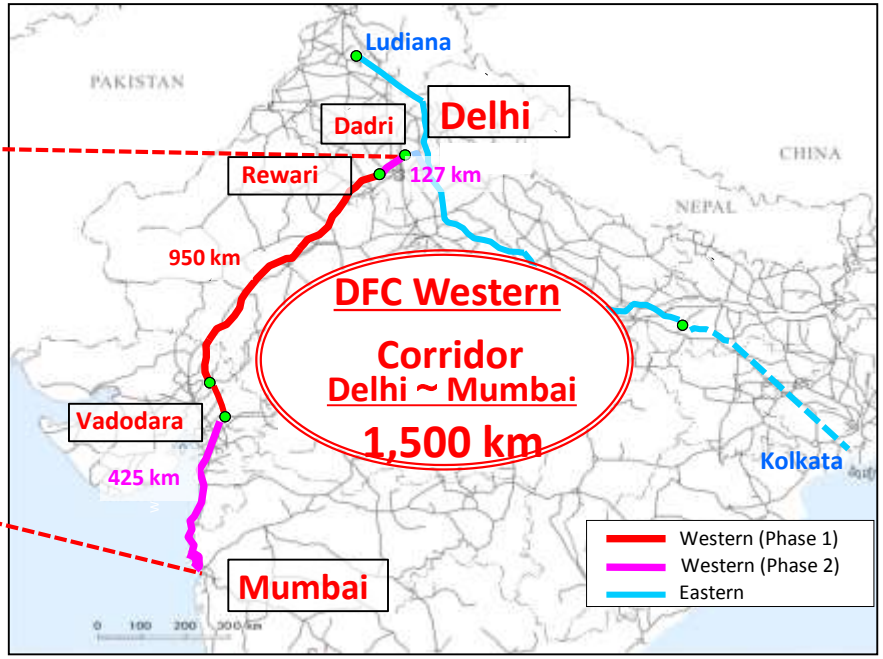
- Backbone of DMIC (Delhi-Mumbai Industrial Corridor)
- The Western DFC project (Delhi–Mumbai: 1,500 km) will focus on:

  (1) construction of new dedicated freight lines

  (2) installation of automated signal & telecommunication

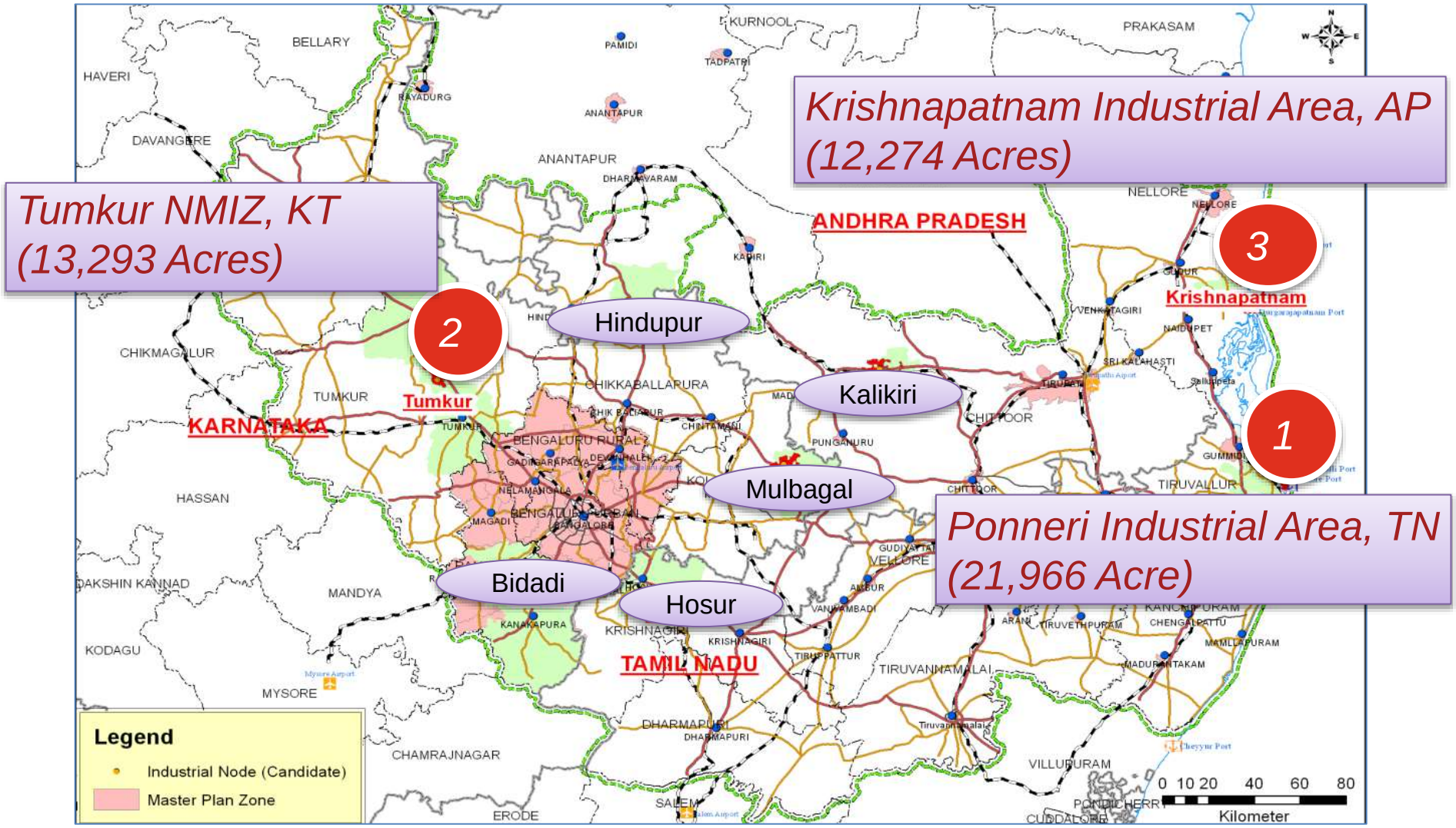
  (3) introduction of electric locomotives with high-speed & high-capacity transportation

- Procurement for Civil and Signalling Packages have been started



Chennai-Bengaluru Industrial Corridor

Eight Nodes have been identified based on land availability and growth potential.
Three Nodes have been selected for prioritised implementation



Development Plan of Ponneri node

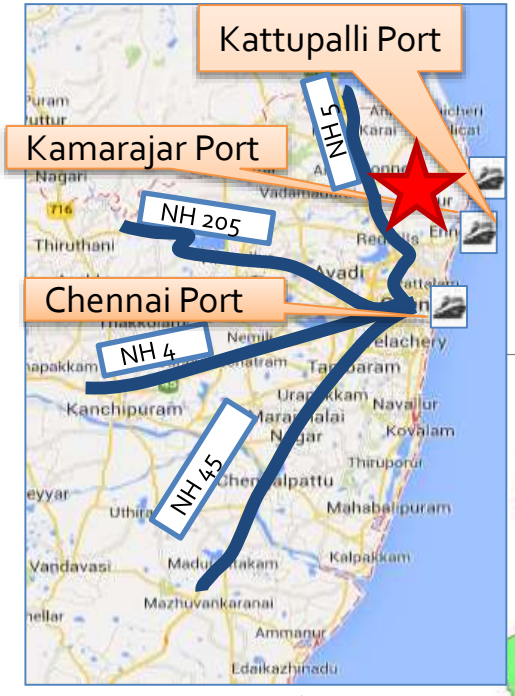
Infrastructure Plan

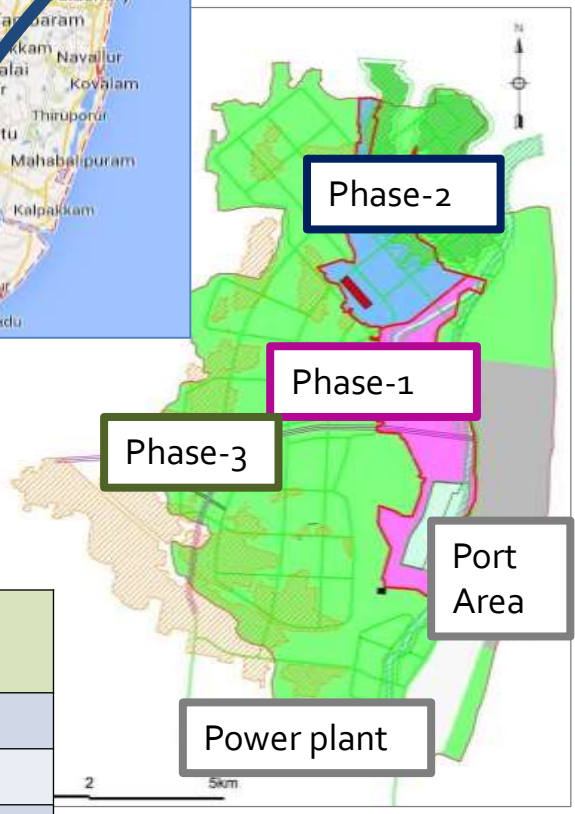
Road / Rail Connectivity :
- Direct Road access to Chennai
- Northern Port Access Road
- New line from logistics hub to Ennore Port

Water supply:
- New desalination plant
- TTRO plant at Kodungaiyur

Solid Waste Management:
- Regional waste treatment facility

Power :
- Prioritized supply for 24 X 7 reliable supply





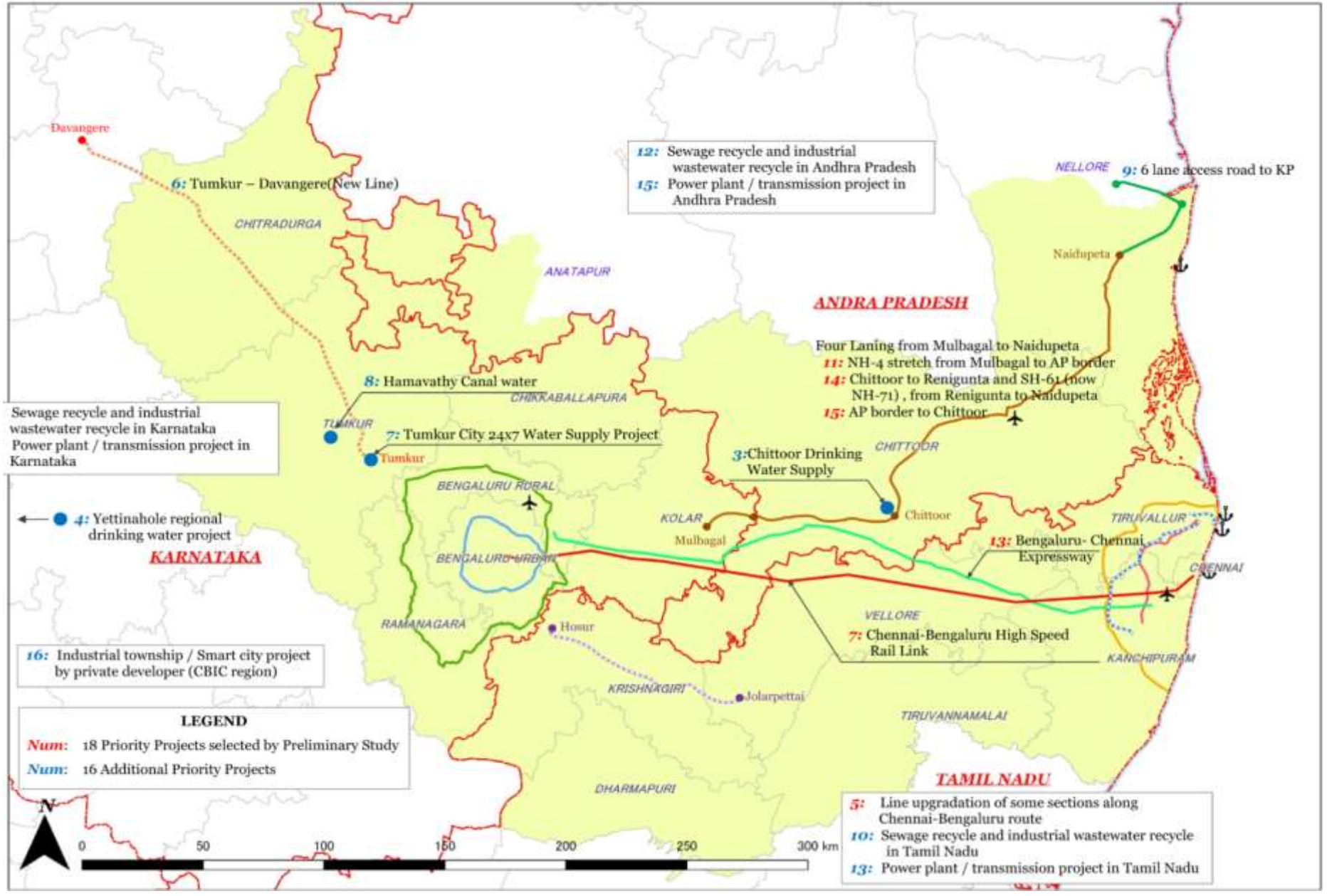
Economic Impact

1. Total direct employment: 337,000
2. Industrial investment: Rs. 201,000 crore

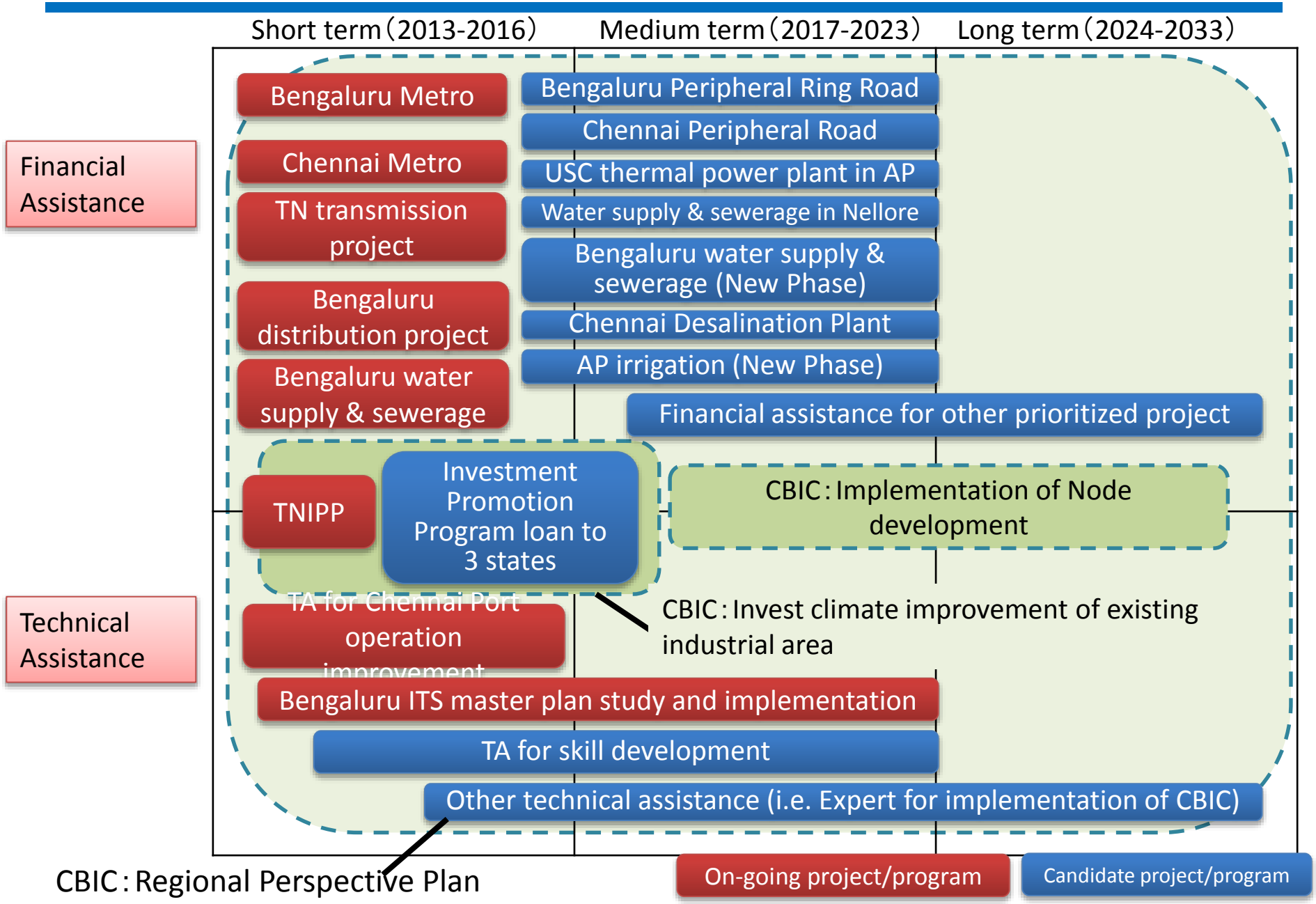
Land Acquisition Status of Ponneri Node

Phase	Area (ha)	Area (acre)	Nature of Land	Status
Phase 1 & 2	385	950	Land owned by TIDCO	Completed
	1,100	2,720	Central Gov and Private Land	To be acquired
	330	810	Others	-
Phase 3	8,565	21,163	Central Gov and Private Land	To be acquired

Regional M/P : Priority Infrastructure (Road, Water Supply, Power, etc)



JICA's assistance in CBIC area



Tamil Nadu Investment Promotion Program

◆ Program Description :

- To further improve the investment climate through strengthening the policy framework and enhancing the quality of urban infrastructure mainly of roads, power, waterworks, sewerage, and other infrastructure facilities thereby attempting to increase foreign direct investments in the state.

- Government of Tamil Nadu and JICA monitor progress of action plans in the agreed policy matrix. Based on achievement, JICA disburses the loan amount by dividing into three tranches (corresponding to each fiscal year action plan).

◆ Loan Amount and Disbursement :

- JPY 13 billion

(7 billion for 1st tranche and 3 billion for 2nd & 3rd tranche)

◆ Program Duration :

- 3 years (FY2012/13 - 2014/15)

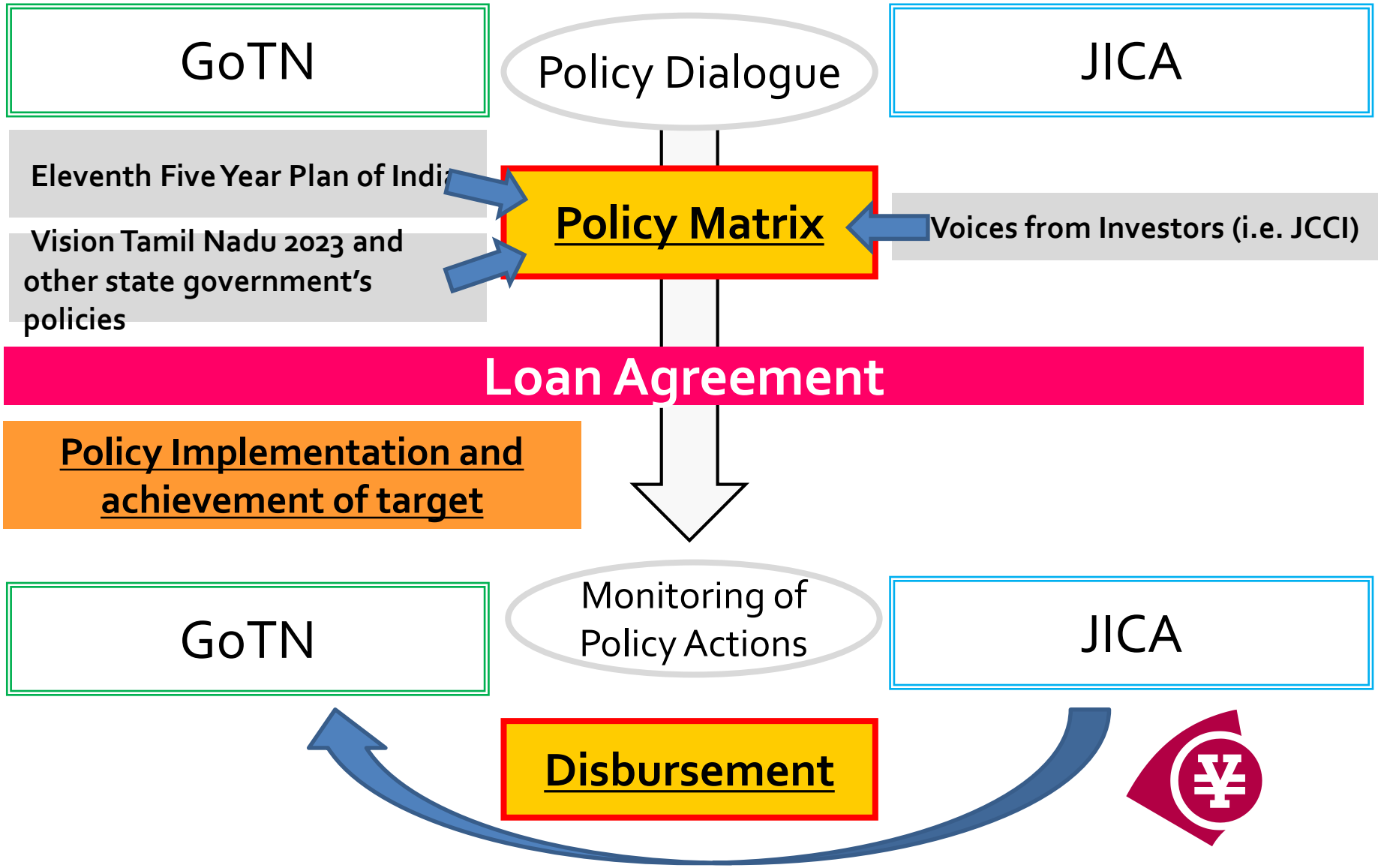
◆ Achievement :

- A comprehensive action plan for ease of doing business has been elaborated.
- Global Investors Meet is to be held in September 2015.
- Development of industry related infrastructure (road, water supply, sub-station) has been accelerated.

110kV Substation at OneHub Chennai Industrial Park

Access Road to Kamarajar Port

Basic Concept of Program Loan



Policies and Infrastructure projects under TNIPP

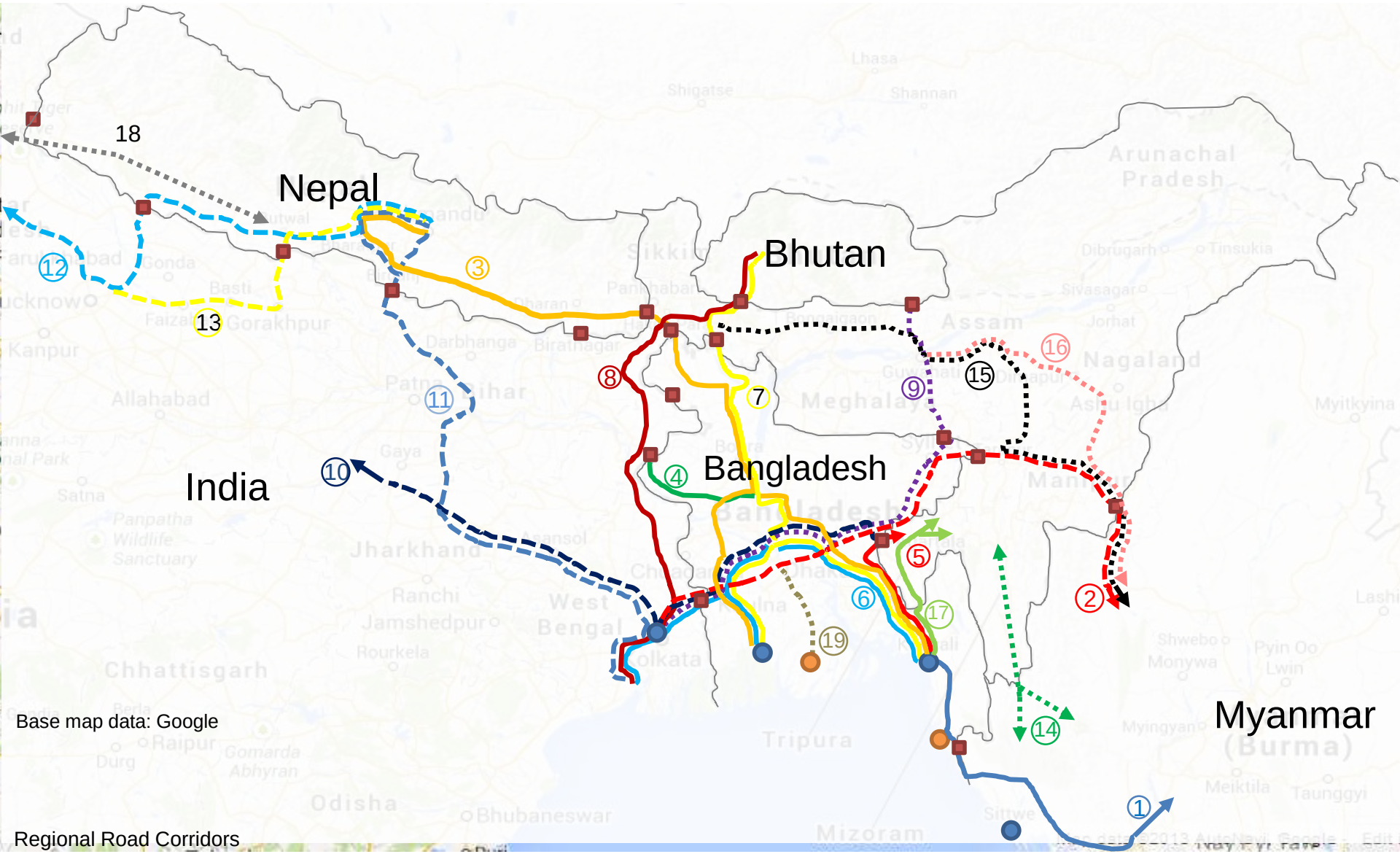
Policies integrated in TNIPP

Infrastructure Project Coordination and Prioritization
Investment Application Process
System Integration for Investors
Promotion of business environment for MSMEs
Human Resource Development
Land Pooling System
Master Planning/Land-Use Conversion

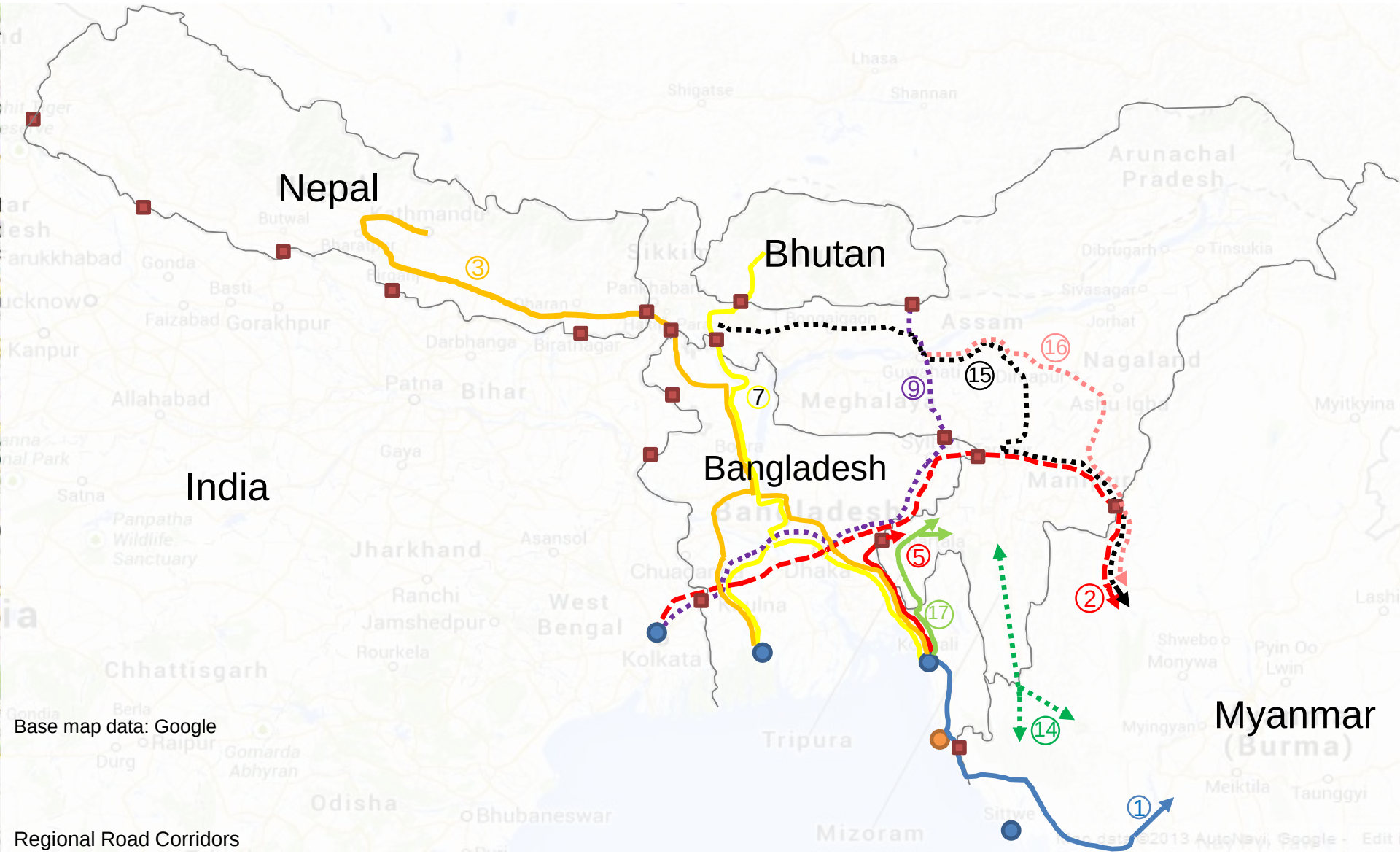
Prioritized small infrastructure project

Regional Connectivity in North East of India

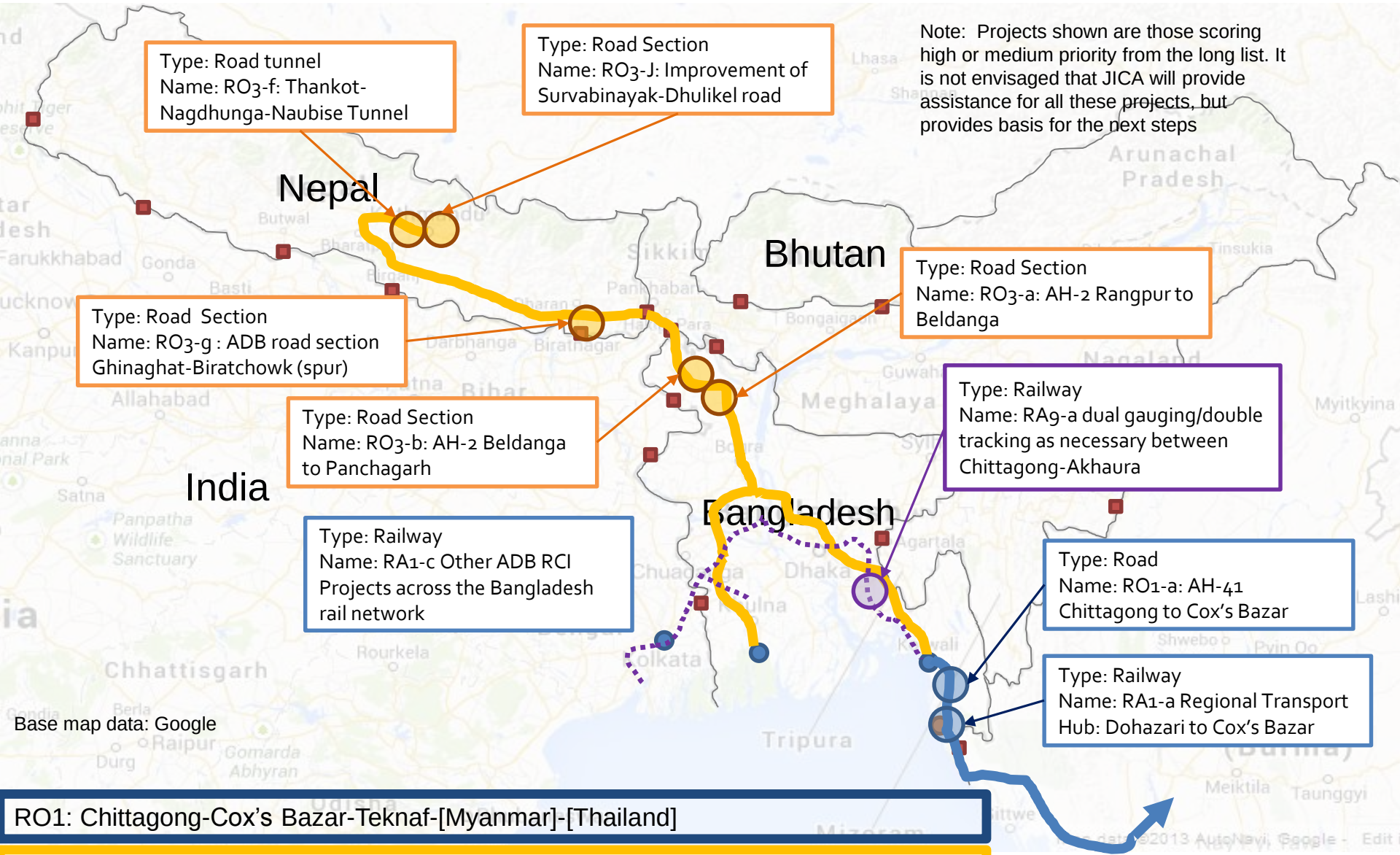
Long List – 19 Regional Road Corridors



Shortlist – 11 Regional Road Corridors

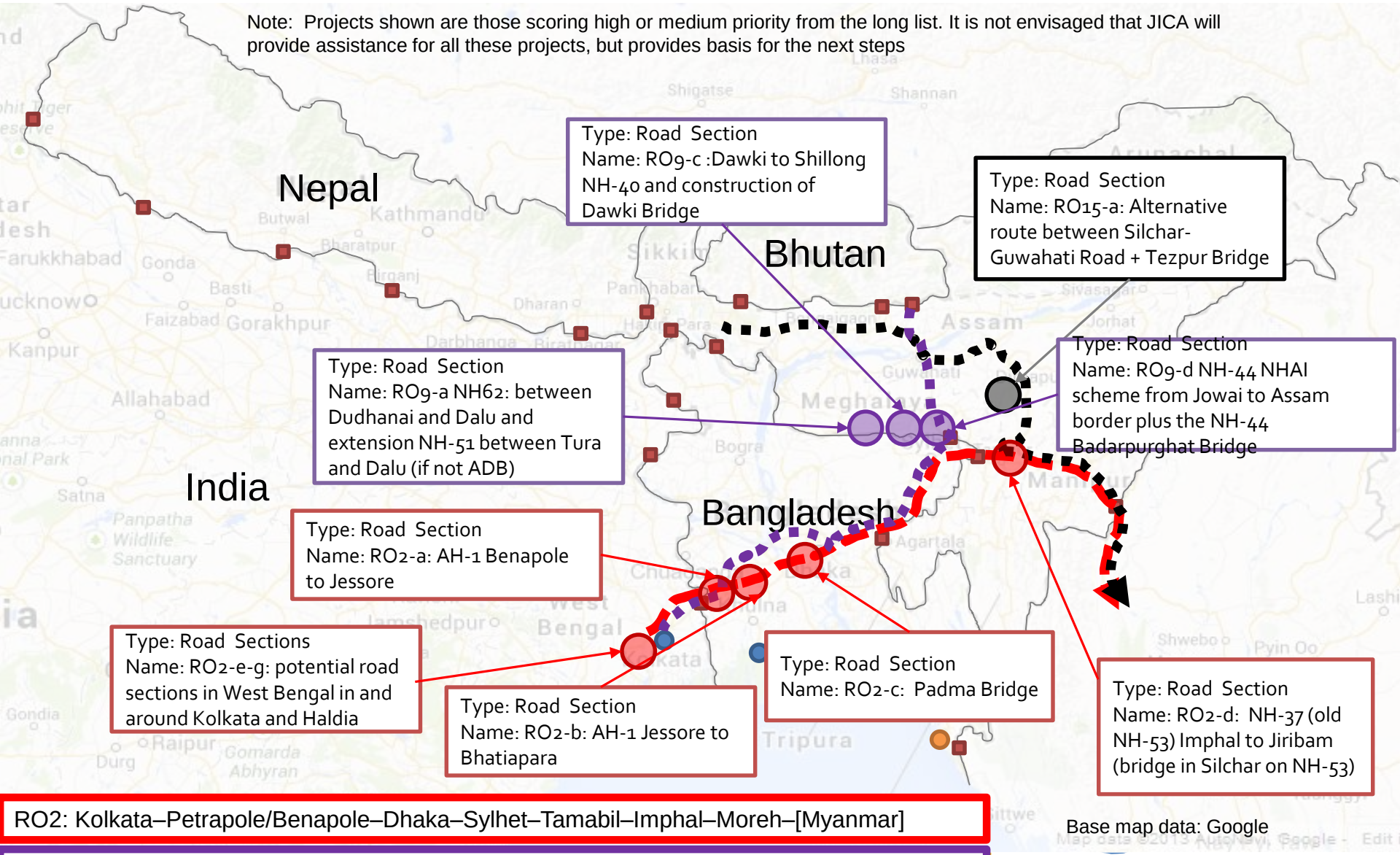


Potential Road/Rail Projects for JICA Assistance (1/3)



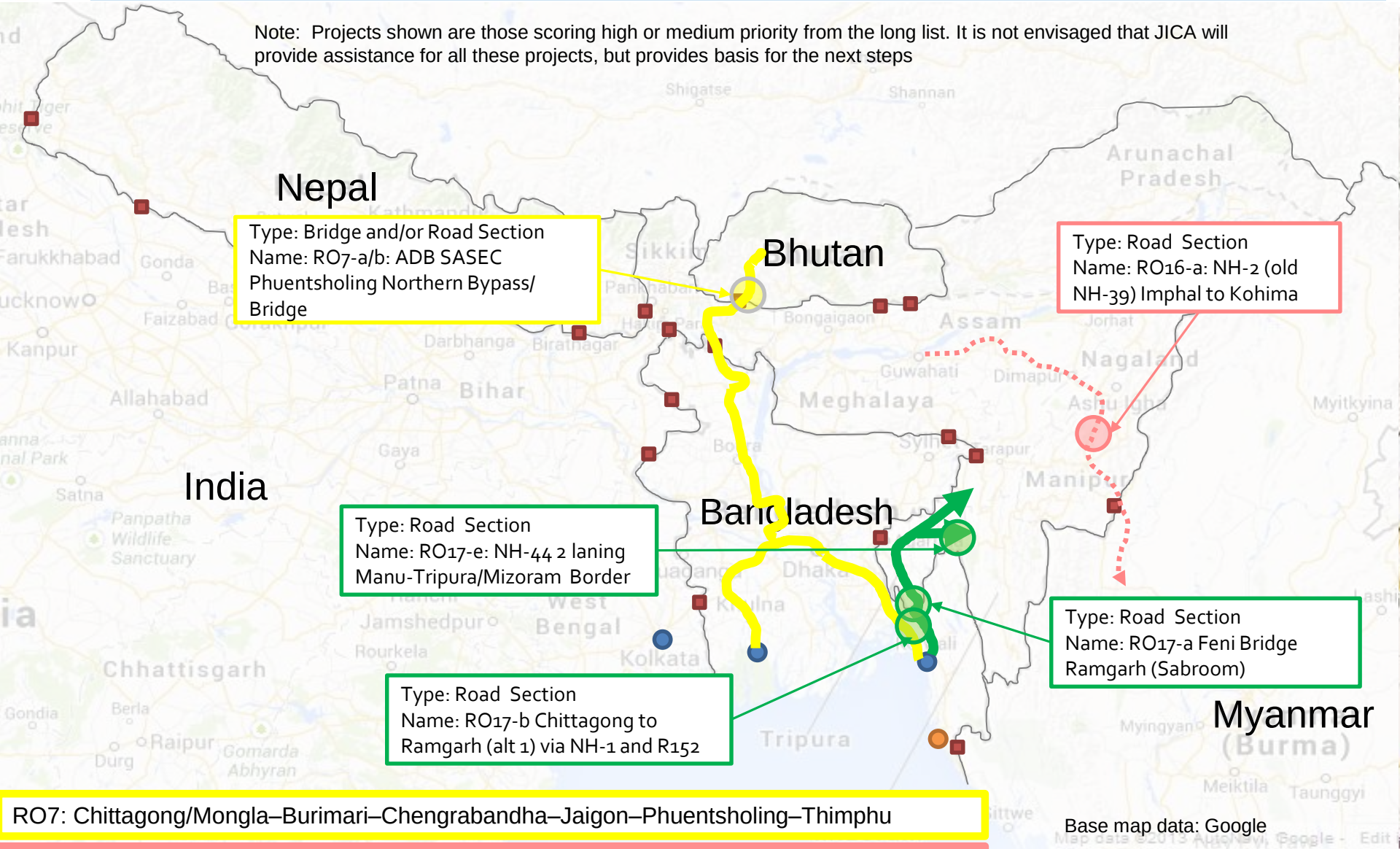
Potential Road/Rail Projects for JICA Assistance (2/3)

Note: Projects shown are those scoring high or medium priority from the long list. It is not envisaged that JICA will provide assistance for all these projects, but provides basis for the next steps

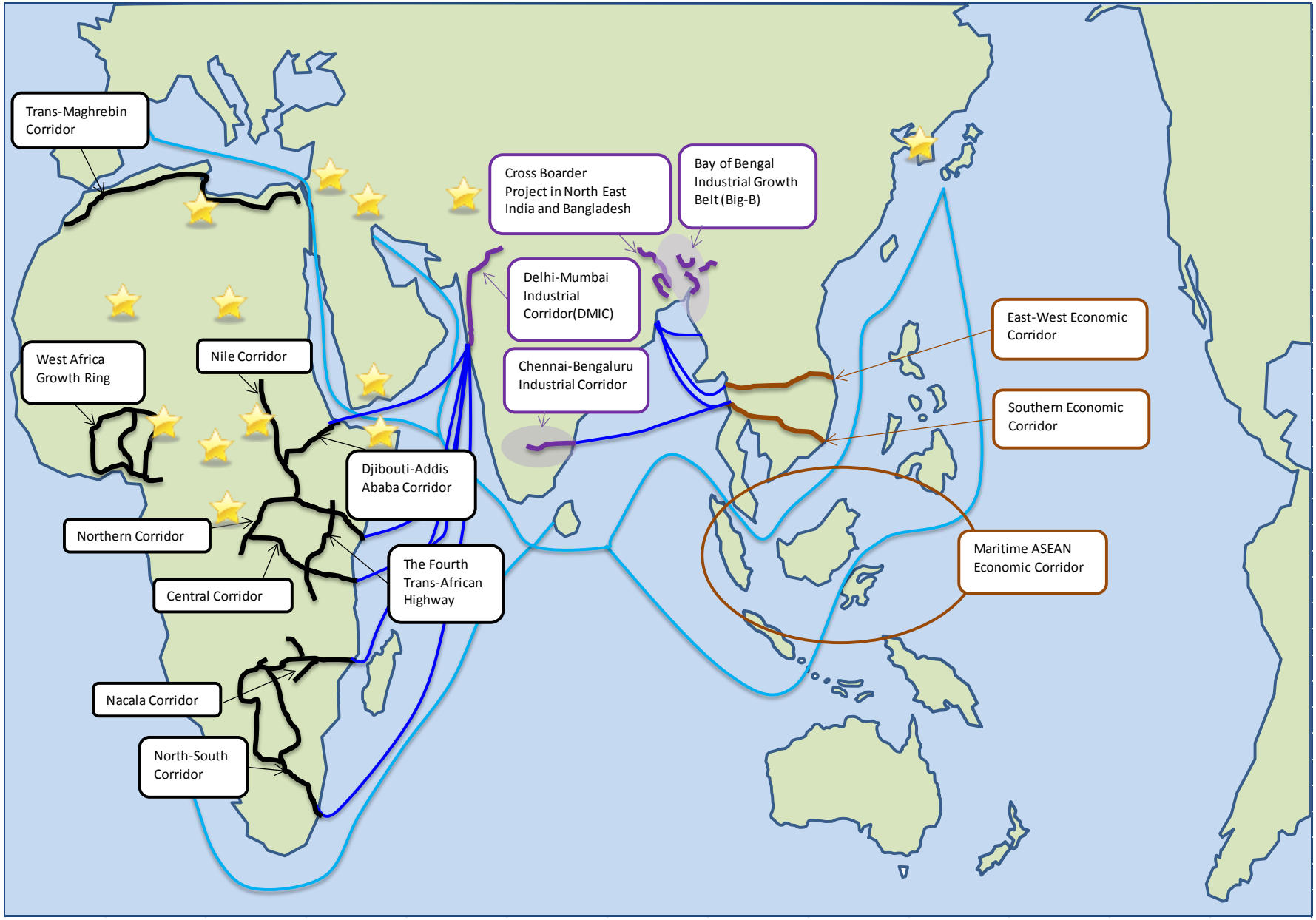


Potential Road/Rail Projects for JICA Assistance (3/3)

Note: Projects shown are those scoring high or medium priority from the long list. It is not envisaged that JICA will provide assistance for all these projects, but provides basis for the next steps



JICA's activities for prosperity of the Indo-Pacific



JICA's Main Infrastructure Projects in the Indo-Pacific

1. Southeast Asia

(1) East-West Economic Corridor
- 2nd Mekong International Bridge (Loan)
- Hai Van Tunnel (Loan)
- Da Nang Port (Loan)

(2) Southern Economic Corridor
- Cambodia National Road No. 5 (Loan)
- Neak Loeung Bridge (Grant)
- Cai Mep-Thi Vai Port (Loan)

(3) Maritime ASEAN Economic Corridor
- ASEAN RoRo Shipping Network
- Maritime Safety (Loan, Grant, Technical Cooperation)

(4) Institutional connectivity for Economic Corridors
- Projects for E-Customs and National Single Window for Customs Modernization in Vietnam and Myanmar (Grant)

2. South Asia

(1) Bay of Bengal Industrial Growth Belt (Big-B)
- Dhaka-Chittagong Railway Development (Loan)
- Matarbari Ultra Super Critical Coal-Fired Power (Loan)

(2) Cross Boarder Projects in North East India and Bangladesh
- North East Connectivity Improvement (F/S)

(3) Delhi-Mumbai Industrial Corridor
- Dedicated Freight Corridor (Loan)

(4) Chennai-Bengaluru Industrial Corridor
- Chennai Metro (Loan)
- Bangalore Metro Rail (Loan)
- Tamil Nadu Investment Promotion Program (Loan)

3. Africa

(1) Northern Corridor
- Mombasa Port Development in Kenya (Loan)
- Master Plan on Logistics in Northern Economic Corridor (Technical Cooperation)

(2) Nacala Corridor
- Nacala Port Development (Loan and Grant)

(3) Central Corridor
- Comprehensive Transport and Trade System Development Master Plan in the Tanzania (Technical Cooperation)

(4) West Africa Growth Ring
- The Corridor Development for West Africa Growth Ring Master Plan (Technical Cooperation)

Mumbai Station

धन्यवाद Thank You

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