2. Mounting infrastructure needs along with economic growth

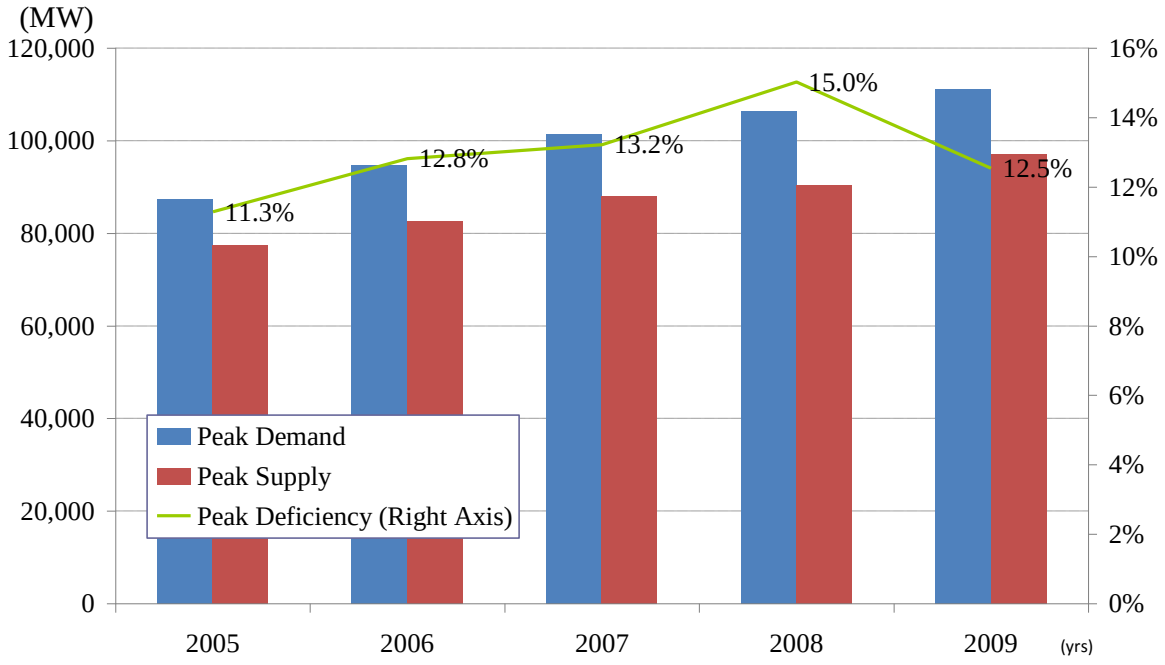
(1) Development of industry infrastructure required to achieve potential growth

To achieve further growth in Asia, it is needed to develop industrial infrastructure which is a foundation for corporate activities such as electric power network and logistics network as well as social infrastructure that supports urbanization.

In India, demand for electricity that is rising every year along with economic growth does not match with supply. As a result, it is causing the shortage of power supply which is a source of industrial activities (see Figure 2-4-2-1).

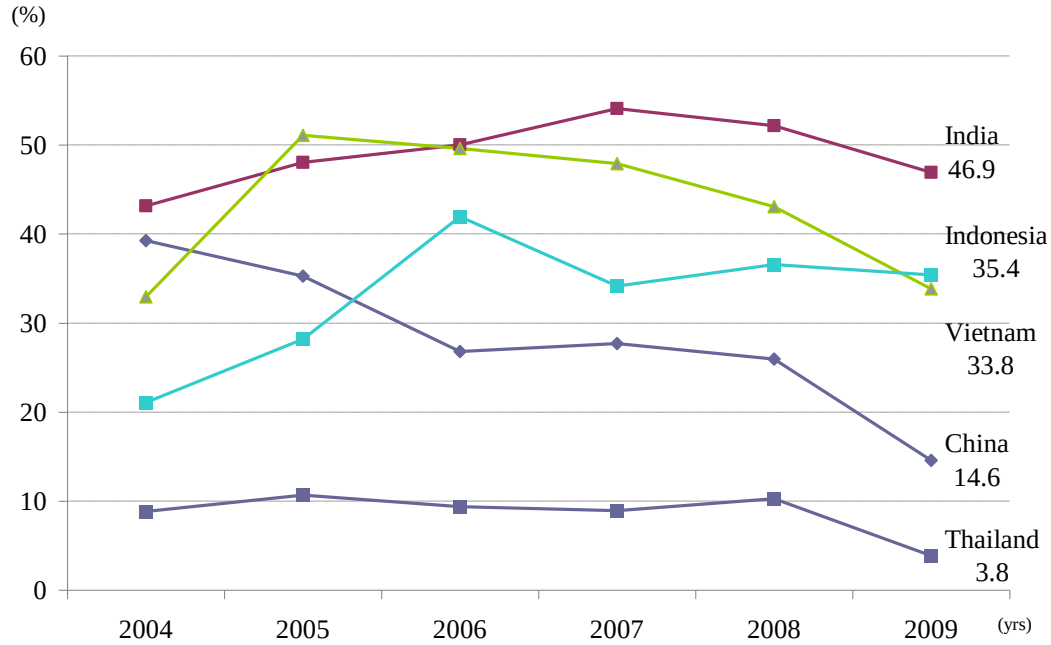
A questionnaire survey for Japanese companies that are going to establish operations in Asian countries shows that many companies indicate underdeveloped infrastructure as a challenge in its investing country (see Figure 2-4-2-2). Although the ratio of companies that raise underdeveloped infrastructure as an issue for China and Vietnam is decreasing, almost a half of respondents find the infrastructure of India an issue. As for the detail of infrastructure, many companies view the underdevelopment of roads and power supply as issues (see Figure 2-4-2-3). Since infrastructure conditions of the area significantly influence a company at the selection of location to establish its overseas operation, it is required to promptly arrange the development of infrastructure in each Asian country.

Figure 2-4-2-1: Trends in India's electrical power supply and demand gap during peak times



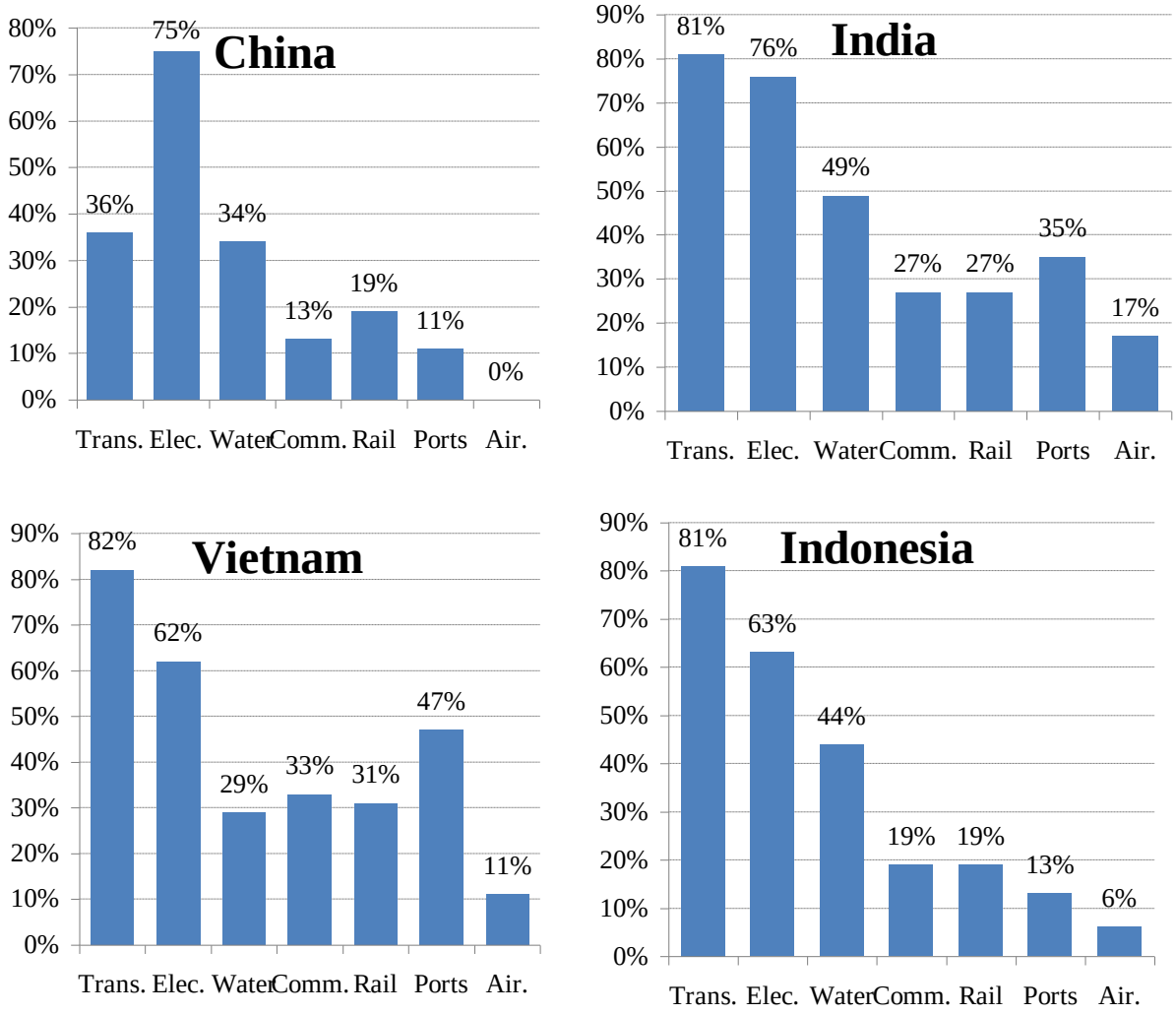
Source: Created from CEIC Database.

Figure 2-4-2-2: Trends in the percentage of Japanese companies citing lack of infrastructure development as an issue in countries of investment



Source: Created from Bank for International Cooperation (2009) "Foreign Direct Investment Survey".

Figure 2-4-2-3: Types of infrastructure for which development is desired by Japanese companies operating in those countries (multiple answers permitted)



Source: Created from Bank for International Cooperation (2009) "Foreign Direct Investment

(2) Development of life infrastructure required along with the progress of urbanization

As mentioned earlier, city population in Asia is estimated to increase by 670 million people within 20 years from 2005[2]. This means that further facilitation of urban infrastructure is needed to support residents in cities. As for power supply, having current average consumption per capita of developing country as base, city areas will require newly over 600,000MkWh of power supply. The added amount is equivalent to India's total power plant capacity with load factor 50% in 2002. Similarly, it is calculated that newly 85 million of communication lines will be needed in cities[3].

Issues created with the rapidly progressing urbanization of Asia such as the shortage of utility

[2] Refer to previously listed figure.
[3] Atsushi Iimi (2004) "HIGASHIAJIANI OKERU TOSHIKATO INFURASEIBI" : Journal of Research Institute for Development and Finance

services including electricity and water supply and sewage services and insufficient housing supply are forecasted to offset part of the benefit from the high productivity improved by urbanization. Furthermore, as well as the contamination of air and water, it will likely worsen the housing environment for poverty-ridden citizens in cities.

Meanwhile, there is also move in Asia that will try to achieve balanced urban development solving these issues. For example, in Thailand, to ease the overconcentration of industries in the Bangkok metropolitan area, Eastern waterfront development plan has been promoted at the location which is 80km to 200km southeast of Bangkok to build a machinery and electric device industry cluster since the 1980s. It is said that this plan has been efficient for some extent for the balanced population transfer from rural areas. In addition, the Philippines has been developing growth bases besides the Manila metropolitan area and implementing population and industrial dispersion policy since the 1970s.

Moreover, the development of the service industry is also one of essential factors required along with the progress of urbanization. Growth of the service industry generates employment in cities and contributes for the improvement of self-reliant local economy. Therefore, for the cities to exert highly-sophisticated concentration effect, the development of the service industry which is not dependent on the geographical concentration is required. Thus, it is essential to promote infrastructure that realizes efficient logistics services in cities. In addition, cities are the center of consumption as well as production. Therefore, another important element of life infrastructure is the materialization of diversified consumption options through the development of commercial and leisure facilities including department stores and movie theaters.

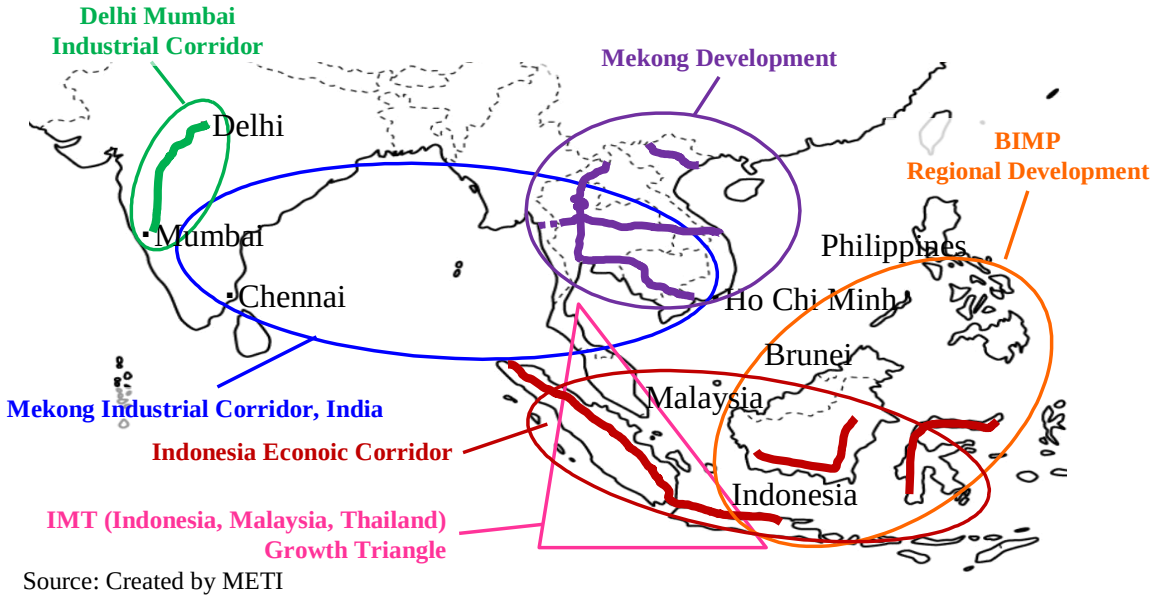
(3) Measures to develop infrastructure to link clusters, Comprehensive Asian Development Plan (CADP)

In Asia, a plan is progressing to connect industrial clusters by developing distribution infrastructure aiming at further economic growth and vigorous innovation.

Base on the summit agreement at East Asia Summit of October 2009, Economic Research Institute for ASEAN and East Asia (ERIA) is producing a draft of Comprehensive Asian Development Plan (CADP) in cooperation with Asia Development Bank (ADB) and ASEAN Secretariat. According to schedule, the draft consolidated by ERIA will be presented to government and industries of each country for coordination before the submission to East Asia Summit of October 2010. With the cooperation from Japan, some plans are already under progress to connect industrial clusters; such plans include the Mekong-Japan Economic and Industrial Cooperation Initiative, the Delhi-Mumbai Industrial Corridor Project and the Indonesia Economic Development Corridors (see Figure 2-4-2-4).

(A) The Mekong-Japan Economic and Industrial Cooperation Initiative (MJ-CI)

Figure 2-4-2-4: A comprehensive development plan for Asia



Source: Created by METI

In East Asia that has been increasing its presence since the global financial crisis, Mekong area has potential for growth based on an industrial cluster. A challenge is how to achieve further development based on an industrial cluster in Mekong area. JETRO's research[4] points out that among various ongoing "industrial corridor" projects, there are some corridors including Southern industrial corridor, East-West industrial corridor and Vietnam North-South route (see Figure 2-4-2-5) that are closely related and important to the strategies of companies operating in Mekong area. This research also presents basic direction as followings: (i) To reduce production and logistics costs, try to implement the cross-border division of labor and enhance production network. (ii) To make advancement to major economic blocks such as the U.S., Japan and Europe and external emerging markets including China and India. (iii) To expand industrial cluster and industrial frontier to rural areas and neighboring countries, and (iv) To develop new businesses not only in the manufacturing industry but also in the service industry. At the same time, the followings were cited as issues that companies should tackle with as they operates taking advantage of industrial corridors: (i) To build the infrastructure that links major industrial zones and surrounding areas (ii) To promote trade and improve logistics issues (iii) To cultivate small-to-medium sized companies and related industries and assist business start-up, and (iv) To develop the service industry and new industries.

At Japan-Mekong Economic Ministers' Meeting of October 2009, MJ-CI, which is a cooperative package to solve these issues, was consolidated. Furthermore, at "The First Mekong-Japan Summit Meeting" held in Tokyo in November 2009, a summit agreement was made to promote the framework based on MJ-CI.

[4] Report on JETRO's Survey on the Business Needs and Strategies in the Mekong Region" that was presented by JETRO at The Mekong-Japan Economic Ministers' Inaugural Meeting in October 24, 2009

Figure 2-4-2-5: The Mekong Economic Corridor

Source: Created by METI.

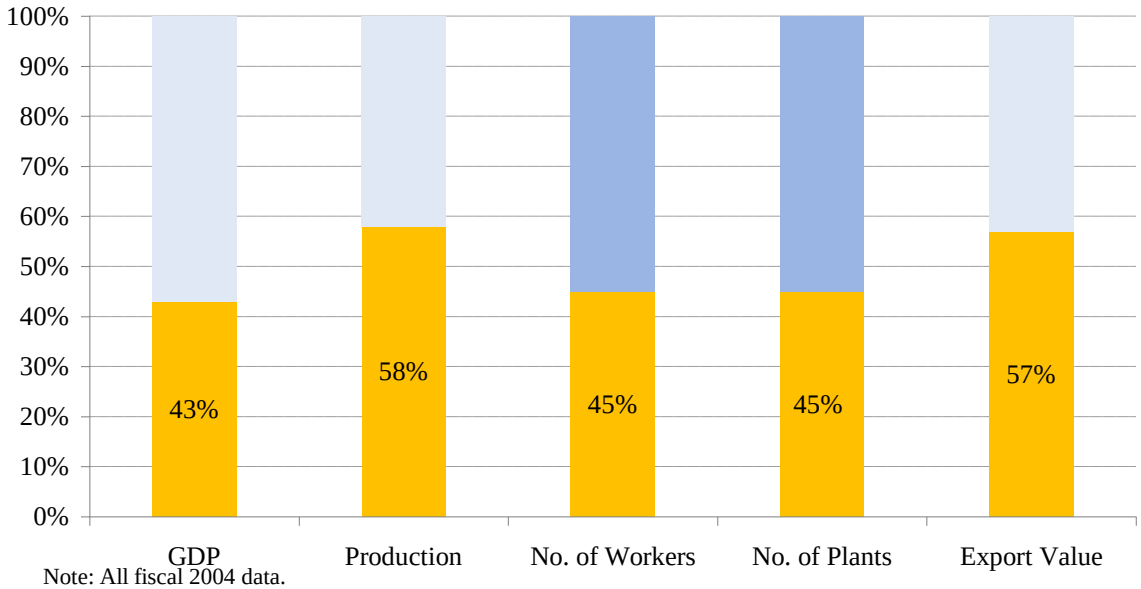
Moreover, as for MJ-CI, the establishment of "Mekong-Japan industry government dialogue" that constitutes of industrial circle and related government organizations was proposed to reflect the needs of industries in Mekong area to industrial policies and retain the attention of industries to the progress of Mekong area. "Mekong-Japan industry government dialogue" will reflect the strategies of companies in the area and the characteristics of industrial corridors and clarify the priorities among roads, ports, industrial railroads, airports, power plants, industrial park and IT. Not only infrastructure as hardware, it will also discuss on the progress of various measures for trade promotion including the standardization and facilitation of trade related procedure, the utilization of electric custom clearance, the unification of Green Lane systems and its application forms and the GMS Cross-Border Transport Agreement (CBTA). Besides, the dialogue is expected to cover business environment improvement, promotion of business start-up, cultivation of small-to-medium sized businesses through human resource training and development of various industries[5].

(B) The Delhi-Mumbai Industrial Corridor Project and Southern area infrastructure development

A Japan-India joint project, the Delhi-Mumbai Industrial Corridor Project (DMIC), is a plan to form a major industrial area by establishing a dedicated freight train railroad between Delhi and Mumbai and developing infrastructure including industrial parks, logistics bases and power plants along with the route having private investment as its main financial source. GDP and industrial production in 6 States between Delhi and Mumbai account for about a half of India total (Figure 2-4-2-6). The linkage of industrial clusters in the region is highly expected to deepen the ties between industries, improve productivities and attract companies to start business in the area.

[5] For example, the industries includes the service industry and the high-technology industry that attract investments from out of Mekong area as well as the industries that utilize the characteristics of each country in Mekong area such as tourism, clothing food process and wood process.

Figure 2-4-2-6 Share of 6 States between Delhi and Mumbai in India's GDP



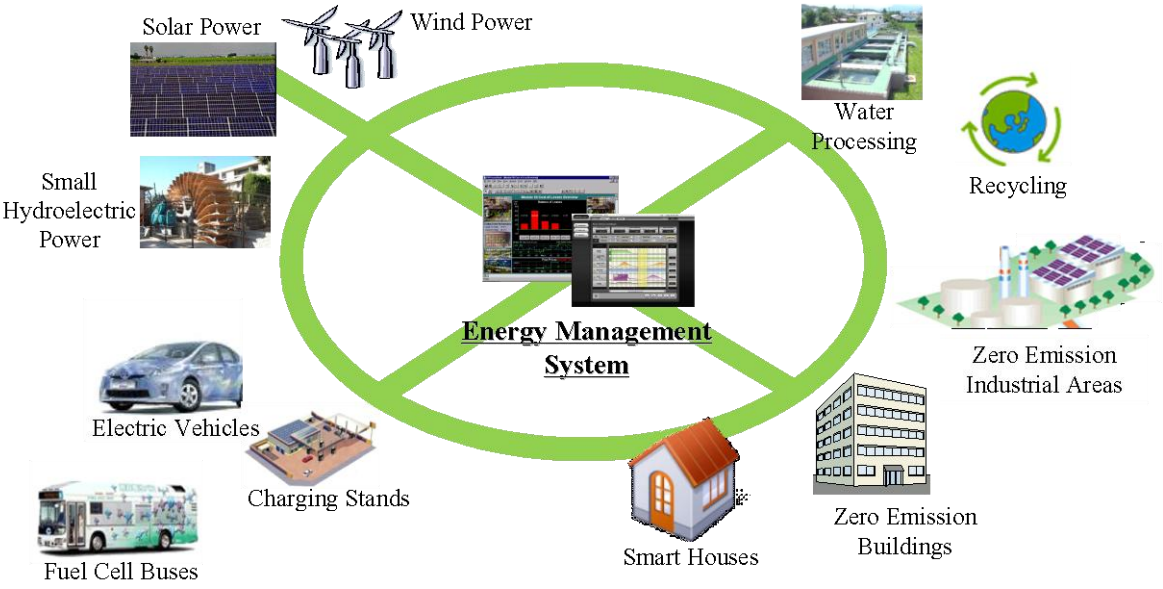
Note: All fiscal 2004 data.
Source: Created from Delhi, Mumbai Development Authority (DMICDC) Documents
Original Source: India Census, Department of Labor.

When Prime Minister Hatoyama visited India in December 2009, Japan Bank for International Cooperation (JBIC) agreed on a loan contract for the project development fund. Moreover, based on the comprehensive development masterplan[6] which was finally adopted in the same month, it was decided that the city development plans for 24 individual areas would be established. For each infrastructure project/development project that was composed based on these city development plans, Delhi Mumbai Industrial Corridor Development Corporation Limited (DMICDC) will make a package including feasible study, authorization and land. Then, it will sell the packages to private operators through bidding. In this way, each project of DMIC will be achieved with private investment.

Moreover, when Prime Minister visited India, JETRO and DMICDC signed MOU (Memorandum of Understanding) to promote "Smart Community Scheme" which is an environment friendly city development plan that utilizes Japanese environment and infrastructure technologies such as smart grid, water process, recycling and urban transportation at DMIC. In addition, when Mr. Naoshima, Minister of Economy, Trade and Industry visited India in May 2010, core companies of Japanese company consortia, DMICDC and industrial development public corporation of concerned States signed MOU on the execution of feasible study. Four Japanese company consortia will start feasible study in four locations in DMIC (see Figure 2-4-2-7).

[6] DMIC's comprehensive development plan that includes newly establishment and enhancement of industrial park, logistic bases, ports and airports

Figure 2-4-2-7: "Smart Communities" in the Delhi-Mumbai Industrial Corridor



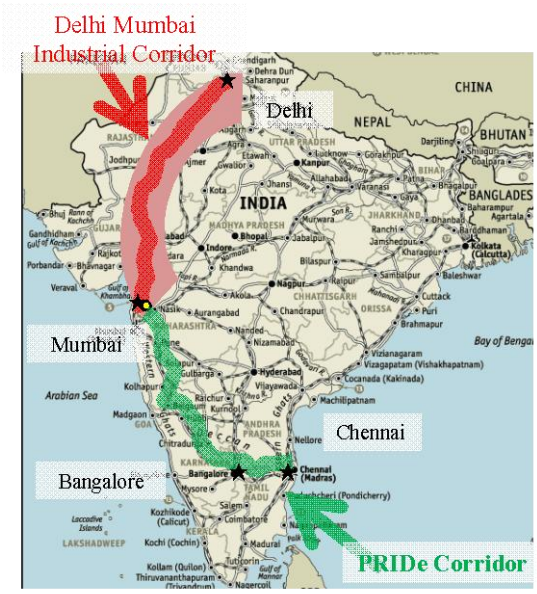
Source: Created by METI.

Furthermore in southern region, concerned State governments are considering projects including "PRIDe Corridor[7]" to promote industrial corridor (see Figure 2-4-2-8). This is to develop infrastructure for industrial clusters between Mumbai and Chennai in terms of both hardware and software and has a plan to facilitate a highway to connect Chennai and Bangalore. While Japanese companies' move to establish their operations in southern India is notable, DMIC industrial zone and southern area are expected to serve as the engine to drive the Indian economy progressing infrastructure development. In May 2050, Minister Naoshima visited Chennai to attend an opening ceremony of JETRO Chennai office. He also had a meeting with Vice Prime Minister of Tamil Nadu State government and requested for the promotion of infrastructure development.

(C) The Indonesia Economic Development Corridors

[7] PRIDe Corridor: (Southern) Peninsular Region Industrial Development Corridor

Figure 2-4-2-8: The Delhi-Mumbai Industrial Corridor and the PRIDe Corridor

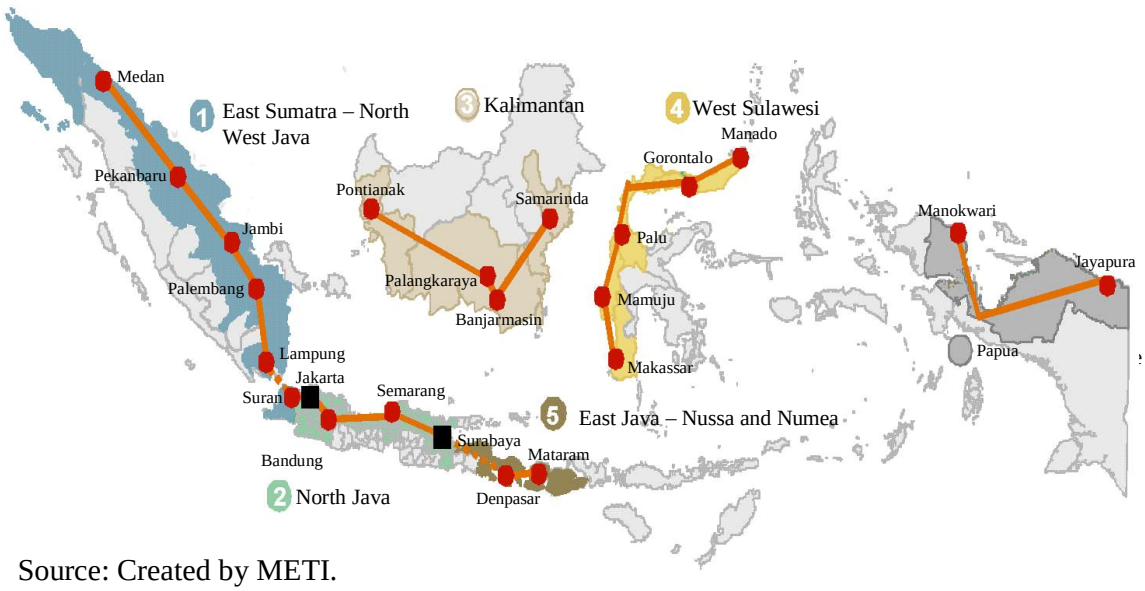


Source: Created by METI.

In January 2010, Minister Naoshima visited Indonesia and "Japan-Indonesia Joint Economic Forum" was held. The forum was attended by industry circle of both countries to confirm the cooperation in extensive areas including trade, investment, infrastructure and energy by both countries. The both countries also agreed on the promotion of the Indonesia Economic Development Corridors that is a comprehensive project for industrial promotion and infrastructure development (see Figure 2-4-2-9). It is intended to encourage focus industries of each economic corridor to grow and promote the development of infrastructure such as road, railroad, port and power plants.

While resource such as ODA is limited, the focus to the development of infrastructure for the industrial clusters that are serving as core for the growth of wide Asia region will be beneficial for Japanese infrastructure development companies, companies that are going to use the infrastructure after entering the market, concerned country and whole Asia region. From this point of view, the Ministry of Economy, Trade and Industry is approaching each government that has an industrial cluster that would become a core of the development of wide Asia region cooperating with private sector such as through policy dialogues and the dispatch of missions that consist of both private and public sector[8].

Figure 2-4-2-9: The Indonesian Economic Corridor



Source: Created by METI.