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Urban Corridors

Strategies for
Economic and Urban
Development



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Urban Corridors: Strategies for Economic and Urban Development

Final Report

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1. Introduction

1.1 Background

Recent industrial policies and plans have emphasised the need to develop infrastructure for ensuring growth in the manufacturing sector. In the mid-2000s, the UPA government initiated the process of planning and developing a set of Dedicated Freight Corridors that would run along the Golden Quadrilateral highway network. The Delhi-Mumbai Industrial Corridor (DMIC) was conceptualised in the mid-2000s to leverage the improved connectivity from the Western Dedicated Freight Corridor. The DMIC is being developed by the Department of Industrial Promotion and Policy (DIPP), Ministry of Commerce and Industry, Government of India in partnership with the Government of Japan and was partially modelled on the Japanese Taiheiyo Belt running roughly from Tokyo to Osaka (also known as the 'Pacific Belt' or 'The *Tokaido* Corridor') (The Hindu, 2007; Dhaliwal, 2008; Mangaonkar, 2009; Sanjai, 2013; Nikkei Asian Review, 2014).

At the national level, a special purpose vehicle called the Delhi-Mumbai Industrial Corridor Development Corporation (DMICDC) acts as the nodal agency for the project¹. However, different states have appointed different agencies (or set up new organisations) to manage the project at state levels. For example, in Gujarat, the state government has appointed the Gujarat Infrastructure Development Board (GIDB) as the nodal agency while in Rajasthan, the corresponding agency is the Bureau of Investment Promotion (BIP).

The project influence area of the DMIC is a buffer area of approximately 150 to 200 kms on either side of the freight corridor. The goals of the project include doubling employment potential, tripling of industrial output, and quadrupling of exports from the region (Department of Industrial Policy and Promotion, 2014). This will involve creating industrial infrastructure by developing a set of nodes imagined variously as Special Investment Regions (SIRs), industrial clusters, and large industrial cities, which will benefit from improved connectivity in the region.

¹ Please see www.dmicdc.com for more information on this organisation

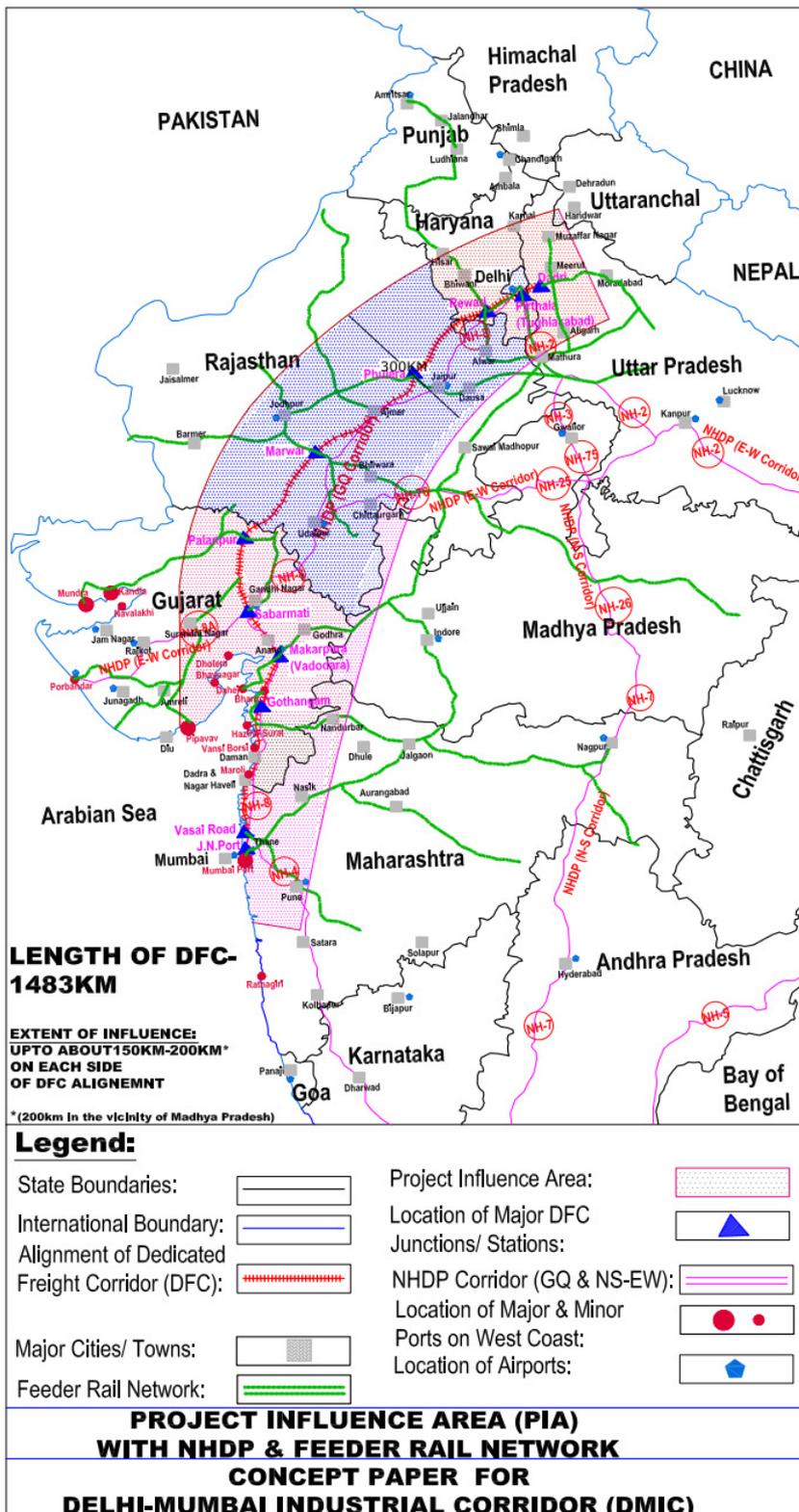


Figure 1 Map of the DMIC Project Influence Area with National Highways Development Project, and Feeder Rail Network (Source: Dept. of Industrial Policy and Promotion, 2007, DMIC Concept Paper)

While the DMIC project has multiple stated goals, our research here focuses on its relationship with urbanisation. The DMIC website explicitly states that “the programme will provide a major impetus to planned urbanization in India with manufacturing as

the key driver”, highlighting a link between industrial policy and urbanisation. The early documentation for the DMIC provided the motivation for this research project, which examines the integration of urbanisation into the planning processes for the DMIC. Reiterating from our proposal, the aim of the project and our research questions were as follows:

Aim: To investigate the impact of India’s corridor model as a strategy for urbanisation and urban development through the lens of land and economic development.

Research Questions: Is India’s corridor development policy a strategy for urbanisation (inter alia), or is urbanisation a by-product? What is the interplay between corridor development and land dynamics, economic processes and policies? More specifically, how will the development of the Delhi-Mumbai Industrial Corridor (DMIC) impact existing settlements within the area of impact of the corridor? How are local state and non-state stakeholders in these regions engaging with these plans, and how will they be affected?

We attempted to answer these questions by studying planning processes and governance structures in two existing cities that were within the area of influence of the corridor: Vadodara in Gujarat and Jodhpur in Rajasthan. These locations were selected based on their population and their proximity to proposed industrial areas of the DMIC. Our findings are based on over 50 semi-structured interviews carried out over multiple visits to Vadodara, Ahmedabad, Gandhinagar, Jodhpur, Jaipur, and Delhi over a span of 18 months. Our interviews during the first round of fieldwork revealed that the cities were involved in a very limited way in planning for the DMIC, and that most of the decision-making was taking place at the national and state level. This necessitated an expansion in focus to study planning structures at the state government level, and also at the national level. While our intent was not a direct comparison of the two states, some comparative observations have emerged as a result of this re-focusing.

Further, we found that much of the investment and planning was directed either towards greenfield sites (such as the Dholera Special Investment Region in Gujarat), or towards existing industrial clusters outside cities (such as the Khushkera-Bhiwadi-Neemrana region in Rajasthan). Existing cities were involved in a limited way, because they did not anticipate any immediate direct impacts through either funding or projects within their boundaries. Our interviews in Vadodara and Jodhpur showed that local bodies are not planning for possible changes in regional employment patterns, migrant flows, land market impacts, and environmental consequences. Additionally, our fieldwork showed that the attention of the state governments is currently focused towards the development of nodes that are being imagined as industrial cities, and not on the existing cities which fall within the project influence area. Building on this, we included an analysis of governance arrangements at the state level for the development of new and existing nodes as a way to understand planning processes for DMIC.

In addition to interviews with key stakeholders at the local and state levels, we also relied on news reports, policy documents, and texts of relevant Acts. One of the gaps in our research was our inability to secure an interview with officials of the DMICDC in Delhi, despite several attempts over the course of our research. However, we did interview informants at the Dedicated Freight Corridor Corporation of India Limited (DFCCIL) in Delhi, and the master project consultants for the DMIC, IIDC (formerly IL&FS Infrastructure Development Corporation Limited). We also extensively used publicly available DMIC documents, industrial policy documents, and published interviews with the former chairman of the DMICDC, Mr Amitabh Kant, to piece together the central government perspective on the project.² In addition, we relied on the new Make in India website (launched by the DIPP in September 2014) to glean focus areas for the new central government.

1.2. Current Status of the DMIC as per DIPP *pro forma* document

Even though the Concept Note for the DMIC was released in 2007, at the time of our fieldwork, the project was still at an early stage in its implementation. Therefore, we were unable to assess in detail, the impacts of the project at that stage.

Some new information has been released since the culmination of our fieldwork. According to a *pro forma* document recently made available on the DIPP website (*Pro forma for Reporting to the Delivery Monitoring Unit – DMIC Project*)³, as of 31st July 2015, perspective planning of the overall DMIC region has been completed and approved. Meetings between the DMICDC and DMIC consultants were held in December 2014 regarding the adoption of international benchmarks, standards, and best practices for creating smart and sustainable cities in the region. Benchmarking frameworks were discussed for sectors including roads, utilities, transportation systems, water supply, storm water drainage and sewer systems, power, and solid waste management systems.

The document goes on to add that certain preliminary projects (titled “Early Bird Projects” or EBPs) planned by the Indian government have been finalised for all DMIC states. Among others, these projects include an expressway (Gujarat), a water supply project (Madhya Pradesh), exhibition-cum-convention centres (Haryana and Maharashtra), a Multi-modal logistics hub (Uttar Pradesh) and Road Links (Rajasthan). The document mentions that other EBPs to be planned by the Japanese government have been announced but are at an early stage of implementation.

The document also has a section on ‘Eco-Cities in the DMIC Region’ which contained some details on smart city/smart community planning in the DMIC region. It mentioned

² Mr. Kant was the chairman of the DMICDC until March 2014, after which he was appointed Secretary, Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce and Industry, Government of India.

³ Link: [http://dipp.nic.in/English/Schemes/DMIC/MonitoringFormat DMU PMO 31July2015.pdf](http://dipp.nic.in/English/Schemes/DMIC/MonitoringFormat%20DMU%20PMO%2031July2015.pdf)

that studies for Eco-Cities were being conducted at four sites – Dahej (Gujarat), Changodar (Gujarat), Shendra (Maharashtra) and Manesar (Haryana), with two new locations – Neemrana (Rajasthan) and Jhajjar (Haryana) being taken up for discussion with the Japanese Ministry of Economy, Trade and Industry (METI). According to the document, METI has been requested to finance the implementation of pilot projects.

With regard to implementation in Gujarat, much of the progress mentioned seems to be focused on the planning and implementation of the Dholera Special Investment Region. The development plan for the Dholera Special Investment Region was reported to have been approved by the state government of Gujarat, who has also transferred 70,430 acres to a Regional Development Authority or RDA for Phase 1 of the Dholera project. In Rajasthan, it was reported that the state government had notified the master plan for Shahjahanpur-Neemrana-Behror Urban Complex 2041 which also included the master plan of Khuskhera-Bhiwadi-Neemrana Investment Region (KBNIR). The Government of Rajasthan was also reported, in 2014, to be in the process of formulating a new act to help in the governance of the DMIC. In addition to these items, several projects in both states were being formulated or in the process of approval including waste water conveyance systems, integrated multimodal passenger hubs and power, and ICT projects.

1.3. An Urban Phenomenon?

Much of the information in the previous section was publicly released after the conclusion of our fieldwork and had not been available during our study period. However, during and after our fieldwork, we have been able to interrogate the planning processes and structures that are being put in place for the development of the DMIC. We ascertained that the DMIC and its experiences will also be used as a model for the development of other proposed industrial corridors. These include the Bengaluru-Mumbai Economic Corridor (BMEC), Amritsar – Kolkata Industrial Development Corridor (AKIC), Chennai-Bengaluru Industrial Corridor (CBIC), and the East Coast Economic Corridor (ECEC) with Vishakapatnam-Chennai Industrial Corridor (VCIC) as the first phase (Department of Industrial Policy and Promotion, 2014), thus making our research relevant for future policy as well.

While we have been able to provide preliminary answers to our research questions, our fieldwork has raised a further set of questions, and we use this report to synthesize our learnings and propose an agenda for further research. Therefore, this project has provided us with an opportunity to seed a larger research agenda around the questions raised here, leading to a greater impact than the life of this project. Through the course of the project, we wrote a policy paper on the planning of new settlements such as SIRs and SEZs as part of the Rockefeller Foundation – IIHS Urban India Policy Support

Partnership (2012-14).⁴ Going forward, while we will continue to monitor the progress and development of the DMIC, we would also like to begin examining the plans and proposals for the other proposed industrial corridors. In particular, we are interested in understanding the implications of the development of mega-projects such as the industrial corridors for already existing micro, small, and medium enterprises (MSMEs) and for the informal sector in these regions. We would also like to further investigate the role of industrial and transportation infrastructure in addressing the question of economic inequality between states in India. Finally, a third strand of research that we would like to pursue focuses on questions of regional planning and governance. We have already begun to develop research projects that focus on specific questions in these broad areas.

Broadly, we find that despite the rhetorical focus on ‘urbanisation’ and ‘cities’, the DMIC is being planned and implemented with limited coordination with the urban development departments. Instead, much of the implementation is being carried out by the industrial and economic development agencies of governments at the centre and state, leading us to assume that urbanisation is currently being viewed through the lens of industrialisation. We find that urban local bodies in existing cities are informed only in a limited way about the project, and the ULBs themselves are not incorporating the DMIC into their future plans. While this is not new in post-independence India, and precedents do exist for building new towns for specific industries, the scale and scope of this project is much larger than previous attempts.

Further, the DMIC project also marks the emergence of new types of actors through special purpose vehicles, private and international consultants, and public-private partnerships, which are playing increasingly critical roles in urban, industrial, and economic development. National, state, and local governments are now evolving new mechanisms of regulating and co-ordinating with these emergent actors. These observations are fleshed out in greater detail in the following sections. Some of our learnings have been captured in the first and second fieldwork reports, as well as the earlier synthesis report. Instead of repeating these here, we include all these documents as annexes to this report. We use this final report to summarize the most salient arguments and synthesize, as well as to step back from the DMIC and ask broader policy questions and propose a set of recommendations. Our discussion is organised into the following sections: planning and governance, land, and economic development.

2. Planning and governance

The industrial corridor development policy has multiple stated goals, which include improving infrastructure, enabling exports, generating employment, and linking fast-growing regions to relatively poorer regions. While primarily focused on building

⁴ The paper is titled *Manufacturing Cities: Industrial Policy and Urban Growth*, and is currently under review with the Rockefeller Foundation. It will be disseminated to policy makers through the upcoming IHS India Policy Dialogues, planned in May 2015.

manufacturing and industrial centres, the corridor policy represents an attempt by the Indian national government to explicitly link economic and industrial development to urbanisation (Anand and Sami, 2014).

The governance structure of the Delhi-Mumbai Industrial Corridor (DMIC) is complex, involving multiple domestic and international stakeholders from the public and private sector, across different scales. Conceptualised by the Department of Industrial Policy and Promotion (DIPP), the planning and development of the corridor is managed by the Delhi-Mumbai Industrial Corridor Development Corporation (DMICDC), which was set up in 2008. It is a Special Purpose Vehicle constituted as a public corporation with the Government of India represented by the Department of Industrial Policy and Promotion (DIPP), as the single largest shareholder.⁵ In 2012, a separate DMIC Project Implementation Trust was set up to oversee project approval and fund project implementation (Department of Industrial Policy & Promotion, 2014).

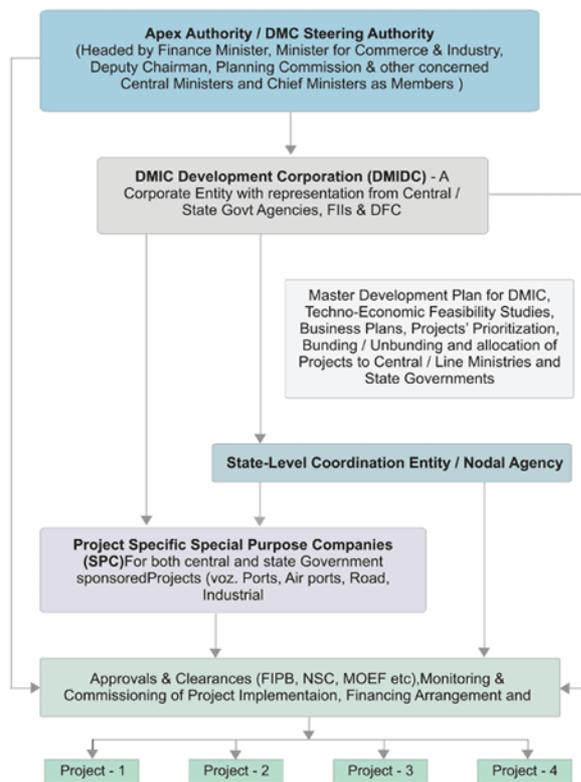


Figure 2 Project Implementation Framework for DMIC. Source: www.dmicdc.com (Section: About DMIC)

⁵ The DIPP was established in 1995 and is responsible for the formulation and implementation of promotional and developmental measures for growth of the industrial sector, keeping in view national priorities and socio-economic objectives. The DIPP is responsible for the overall Industrial Policy while individual Administrative Ministries look after the production, distribution, development and planning aspects of specific industries allocated to them. The DIPP holds a 49% stake in the DMICDC, and other shareholders include the Japan Bank for International Cooperation or JIBC (26%), the Housing and Urban Development Corporation Ltd or HUDCO (19.9%), the India Infrastructure Finance Company Ltd or IIFCL (4.1%) and the Life Insurance Corporation of India or LIC (1%) (Delhi-Mumbai Industrial Corridor Development Corporation, 2014).

While the DMICDC is the nationwide nodal agency for the DMIC, the overall institutional framework for the project's execution is much more complicated. The DMIC's Project Influence Area covers major portions of seven states (some of which are the largest states in the country in terms of both size and population). This fact, combined with the federal nature of India's governance structure (which devolves several powers and functions to state governments), implies a large number of stakeholders spanning several regions that the DMICDC is required to engage with.

The management of the project at the state level is undertaken by nodal agencies appointed by the state governments, for example the Gujarat Infrastructure Development Board (GIDB) in Gujarat, or the Bureau of Investment Promotion (BIP) in Rajasthan. Our interviews showed that individual states are responsible for activities like land acquisition and the setting up of local-level infrastructure and governance systems.

The central government, through the DMICDC, co-ordinates DMIC development across the six-state project influence area. Furthermore, the DMICDC acts as a financial intermediary, developing and disseminating financial instruments, negotiating loans and advances, as well as formulating schemes for mobilization of resources and extension of credit for infrastructure⁶. In addition, we learned through our interviews that state government agencies have also received central assistance for the planning of these projects through consultants that are hired and paid for by the DMICDC. Separately, the central government provides transportation infrastructure through the Ministry of Railways, thereby enabling connectivity between the nodes.

Despite the urban rhetoric of the industrial corridor policy, our fieldwork has shown that in the context of the DMIC, this project is being largely planned and managed by industrial and economic development agencies. There are disconnects at two levels: across scales and across sectors. Our primary fieldwork showed that in Gujarat, much of the DMIC work is being handled directly by state industrial agencies such as the Gujarat Infrastructure Development Board (GIDB) while in Rajasthan, the corresponding agency was the Bureau of Investment Promotion (BIP), with some involvement from the Rajasthan state Investment and Industrial development Corporation (RIICO).

All three agencies function under their states' respective industry ministries, with few links to the urban development ministries. At the Town Planning Department of one state, a senior official mentioned that the department provides inputs to local urban development authorities but is not involved in areas that fall under the jurisdiction of the department of industry, unless there are manpower requirements. He went on to say that existing cities are still not aware of the impact of the DMIC and have not felt the need to start planning for it. Our interviews with officials at other agencies in both

⁶ Source: dmicdc.com

states corroborate this statement as there was often little mention of involving urban development agencies.

Across scales, there is little coordination between state and city governments on this project, while our interviews showed close co-operation between the national and state governments. Our interviews with the GIDB and BIP revealed that the DMICDC collaborates closely with nodal agencies at the state level (though states do not usually interact with each other). Most of the decision-making is taking place at the level of the state government, even though the project will have significant impacts at the local level.

2.1. Planning and governance at different scales

Each state has evolved specific mechanisms to implement DMIC projects within its jurisdictions. Our research work in Gujarat and Rajasthan showed that such mechanisms typically involve the state nodal agency engaging with a variety of governmental and non-governmental actors to carry out particular functions and execute specific projects.

While the coordination mechanism between the central government and its agencies, particularly the DMICDC, and the state governments, has been specified in detail in the DMIC policy documents, the third tier of government (i.e. at the local/city level) has largely been ignored. This was also reflected in the responses of different actors during our interviews: while the central and state level agency representatives we interviewed had very similar responses to our questions about the planning of the DMIC, the selection of sites for investment, the project influence area, the phasing, and other questions related to the operationalization of the DMIC; the city level planning agencies had little awareness about the plans for the DMIC. Their perceptions of the plans were often very different from those stated by the central and state level agencies.

In addition, Vadodara was in the process of preparing its 20-year Master Plan and obtaining approval for the same from the state government when the DMIC was announced in 2007. Despite the fact that city planning officials were aware of the DMIC and the city's proximity to a proposed industrial areas and an interchange location between road and rail for the DMIC, they had not significantly altered their Master Plan to incorporate potential externalities arising from corridor development and its related investments. This is complemented by our secondary research which showed that the institutional framework for the DMIC (see Figure 2) does not consider involving existing cities or put in place a framework to plan for the DMIC's impacts on them. Our interviews in Rajasthan revealed that the Rajasthan state government had formulated a plan for the Khushkera-Bhiwadi-Neemrana region (KBNIR), but altered this plan after the announcement of the DMIC to incorporate some changes. However, the city of Jodhpur had an experience similar

to the city of Vadodara – they had little information about the DMIC and were not reviewing their Master Plan.

There are multiple possible explanations for this. One possible explanation could be due to the fact that the new institutional frameworks established in the state governments for DMIC implementation are focusing to a greater extent on greenfield projects such as Dholera, or existing industrial clusters such as KBNIR. In doing so, they are neglecting the impacts on existing cities which themselves are not equipped to alter their plans given their limited knowledge about the project and its timelines. In addition, the planning and implementation of the DMIC is largely taking place through the institutions of industrial planning, rather than urban development, which may explain why the urban development ministry at the state level, as well as city governments, are only involved in a very limited way. This disconnect is dealt with in greater detail in the next sub-section.

Another possible explanation relates to a general failure of urban planning in Indian cities: that it is often reactive and not proactive (Roy, 2009; Sami, 2012; Weinstein et al., 2013). Master Plans are formulated based on simple population projections based on past trends, and do not take infrastructure projects or future potential for industrial growth into account. This is partly due to the fact that these projects are planned by higher levels of government such as state or national level agencies, without taking local governments into account (Anand and Wankhade, 2014). Moreover, infrastructure projects such as highways, railways, or even industrial parks are planned by different ministries that do not coordinate with the ministry for urban development.

2.2. Planning and governance across different *sectors*

The implementation frameworks at the state level have some similarities with those of the Centre. In both Gujarat and Rajasthan, our research revealed that the responsibility of developing the DMIC rests with government bodies concerned with commerce and industry that in turn carry out these responsibilities through specific, government-controlled agencies such as the Gujarat Infrastructure Development Board (GIDB) and the (Rajasthan) Bureau of Investment Promotion (BIP). As is the case in several Indian states, these agencies were incorporated to perform several functions related to the promotion of industrial and commercial growth within their respective states and are not necessarily confined to the implementation of DMIC-related projects.

However, it must also be noted that while these government departments are vested with the general responsibilities of executing the DMIC within their states, they in turn have formed (or are in the process of forming) specialised agencies, which are singularly focused on tasks related to the DMIC. Therefore, departments like the GIDB function as supervising bodies for the DMIC in Gujarat while the DMIC-specific

agencies like the Gujarat Industrial Corridor Corporation or GICC carry out more specific tasks. The GICC has several designated functions, all pertaining to the development of the DMIC in Gujarat, including the establishment of industrial corridors, investment regions, industrial areas, economic regions, industrial nodes, SEZs and townships as well as integrated infrastructure for the same (Gujarat Industrial Corridor Corporation Limited, 2014).

The Rajasthan government is considering the establishment of a similar body with a singular focus on the implementation of DMIC-related projects. However, unlike in Gujarat, this new agency is not expected to function under the aegis of an entity such as the BIP but report directly to the Rajasthan Urban Development Minister and derive its mandate from a special government act. At the time of writing, it had not yet been confirmed if this new agency had been incorporated or if the state government had passed such an act.

Thus, even though there are similarities in legal frameworks between the states and between the centre and the state, there are a few significant differences to note. Firstly, if Rajasthan does incorporate a new agency directly under the urban development minister, it will denote an expansion of focus from the original vision of the DMIC as a site and facilitator of industry to becoming a site and facilitator of urbanisation as well. Furthermore, (if this is implemented), direct accountability to a state cabinet minister also signals a prioritisation of the DMIC in Rajasthan.

In contrast, while the constitution of the GICC in Gujarat also signals a prioritisation of the DMIC, the state has chosen to place it under the GIDB, signalling intent to continue working on the DMIC through its industrial policies and institutions. This doesn't necessarily imply a lack of focus on urbanisation but it seems to signal that urbanisation processes, if any, will be managed through its industrial institutions and frameworks for now. This is further borne out in the Gujarat Special Investment Region (SIR) Act of 2009, which, while allowing for the establishment of Regional Development Authorities or RDAs for developing specific nodes such as Dholera, also appoints the GIDB as the apex authority for SIRs in the state.⁷

Therefore, while the initial policy documents for the DMIC state the importance of integrating industrial growth with urbanization, much of the planning of DMIC-related projects is being managed by the institutions responsible for industrial planning and governance, with little coordination between either the state ministries of urban development or urban local bodies. An important caveat is in order: there is some level of inter-state variation in this, with the Rajasthan state government setting up an institutional mechanism that may bring urban development to the forefront. The stated intention of linking industrialization to

⁷ Dholera is a greenfield industrial development site in Gujarat that has been planned for the first phase of the DMIC.

urbanization takes on a slightly different tone with the new government, as the agenda for urban development is now focused on the development of 'smart cities'. In the context of the DMIC in Gujarat, this is taken to mean the greenfield site of Dholera, which has been declared a smart city.

2.3. Challenges with governance and planning

India has a three-tiered government system: the national- or the federal-level government, followed by the state- or regional-level government and finally city- or municipal-level government. However, the third tier of government has been relatively weak in the early decades of newly independent India. Acknowledging this issue, the Parliament passed the 73rd and 74th amendments to the Indian constitution in 1992 that required decentralisation of government and decision-making⁸. These constitutional amendments enable both local rural and urban governments to take decisions with regard to their jurisdictions. However, there are few incentives offered to state governments to implement the reforms, or indeed few negative repercussions of not implementing them (Sami, 2012). The Government of India attempted to link the implementation of urban reform with financial incentives through the JNNURM programme, however this too met with limited success (Sami, 2012).

The governmental reaction to a rapidly weakening municipal management structure was to attempt to find substitutes for municipal institutions, often in the form of development authorities (Buch, 1987). These developmental authorities are parastatal statutory institutions responsible for the developmental aspects of planning in urban settlements, while maintenance and service provision is left to the elected municipal councils. In spite of legislation that requires decentralisation of governmental authority at the local level, state governments, and the parastatal bodies that they appoint, continue to control most of the decision-making processes with little or no input from municipal governments (Baud and de Wit, 2008).

In an extension of this trend, the newer forms of economic settlements like SEZs, industrial townships, and large SIRs along industrial corridors are emerging as spaces of exception (Ong, 2006) where the usual norms and legislations that apply in most other urban settlements are relaxed to a certain degree. These spaces are being planned and governed by specially created institutions like development authorities established under Article 243Q of the 74th CAA, which provides an exception for the establishment of locally elected bodies for areas designated as industrial townships. While there is always the possibility that these new urban-like economic spaces may one day have an elected government, there is a challenge in the interim, to ensure that their residents have access to and are governed by the

⁸ The full texts of the 73rd and 74th Amendments can be found at <http://indiacode.nic.in/coiweb/amend/amend73.htm> and <http://indiacode.nic.in/coiweb/amend/amend74.htm> respectively

same set of policies and laws as other urban settlements. It is also important to recognize that the transition to elected local government becomes difficult, as development authorities create their own domains of power and are unwilling to cede these to newer institutions, leading to fragmentation of governance and power as in the case of Bangalore (Sami, 2013).

Another dominant trend is that of setting up new institutions (such as Special Purpose Vehicles) for managing projects, bypassing the current institutional structure. Further, our initial research also showed that non-state actors such as consultants are formally part of the planning process, and are playing an increasingly important role in facilitating coordination between various levels of government, as well as between different agencies. At this point, we are unable to comment on this in greater detail because this was not within the scope of this project, however, this is an important area for further research that we would like to explore.

3. Land

It is common for land to play a major role in determining the location and development of projects such as the DMIC. For instance, our fieldwork in Gujarat showed that a key factor in selecting Dholera as an area for SIR development was the availability of government land, thereby reducing the need for acquisition and compensation. Land availability and acquisition are frequently cited as difficult hurdles for infrastructure projects in India to surpass, and our interviews in both Gujarat and Rajasthan revealed officials having multiple concerns about managing the process.

Additionally, several studies including those by Levien (2011), Raghuram et al. (2011), and Patil et al. (2013) have shown that land acquisition processes (along with environmental clearances) are often held to be primarily responsible for the delays in project completion. The India Infrastructure Report 2009 notes that 70% of delays in infrastructure and other development were caused due to issues related to land acquisition (Sivam, 2002; Sarkar, 2009; Anand et al., 2014).

It must be noted here that under the Constitution of India, acquisition and management of land comes under the jurisdiction of the state government and thus, in the case of projects conducted jointly by centre and state (such as the DMIC), acquisition of land often becomes the responsibility of the state government. Given the criticality of land for such projects, the success or failure of these projects may depend on the state government's ability to provide land. The Indian government's earlier attempt at encouraging SEZ development had not appropriately considered either the availability of land or the difficulty of its acquisition which in turn led to several conflicts at proposed SEZ sites across the country (Palit and Bhattacharjee, 2008).

Private bodies may often find it difficult to acquire land on their own – Levien (2011) for instance, mentions interviews in Rajasthan with both government officials and

industry representatives who bemoan the difficulties associated in negotiating with multiple landholders. Thus there are incentives for private bodies to rely on the state for supplying land rather than obtaining it through the market. Therefore government-acquired land is often preferred by industry in India.

However, even the state often finds it difficult to obtain fresh land for industrial or infrastructure development. Our interviews with officials in Rajasthan brought to light difficulties encountered by state agencies in acquiring land for DMIC projects in the KBNIR node. Interviewed officials were concerned that given the existing industrial areas in KBNIR, high levels of private development, and low supply of government-owned land, the rates for acquiring private land were likely to be expensive. In Gujarat, officials often adopt a land-pooling technique called a Town Planning Scheme to develop land without directly acquiring the same.

In both Gujarat and Rajasthan, our interviews showed that The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013 (RFCTLARR Act) was believed to have compounded problems.⁹ An official in Rajasthan mentioned how different rates of compensation for rural and urban areas have led to problems over declaring certain land as urban. Another issue regarding the RFCTLARR Act were the long delays in the land acquisition which often took four or five years.

Both our primary work and secondary research reveal that the difficulty of exercising eminent domain has resulted in government agencies trying to find ways to reduce land conflicts, sometimes by avoiding outright acquisition or displacement. Levien (2011) shows how, during the construction of Mahindra World City (an SEZ near Jaipur, Rajasthan), officials tried to include the displaced in the stream of benefits accruing from rising land values by allotting them small parcels of land around the periphery of the SEZ. Another strategy to reduce conflicts is to pay compensations at rates higher than those found in the market. The latter strategy was also included as a formal mechanism in the RFCTLARR Act by increasing the compensation rates for rural and urban land to up to four times and two times the market value of the land respectively.

High compensation has also remained a key component of the Ordinance currently pending in Parliament that seeks to amend the 2013 Act. Yet another strategy is to increase the cut-offs for consent before acquisition. The RFCTLARR Act 2013 requires consent from 70% of the landowners for public projects and 80% consent for PPP projects before industries can buy land to set up factories along with social impact assessments of the areas affected (Government of India, 2013).

⁹ The Modi government that came to power in May 2014 has attempted to modify some of the provisions of the RFCTLARR Act through an Ordinance which is currently pending in Parliament. While this has been passed unanimously in the Lok Sabha, it is currently facing fierce opposition in the Rajya Sabha. Recent news reports indicate that this Ordinance will likely be reissued before it lapses in April 2015.

Similar practices to avoid land conflict while obtaining adequate land have also been practiced in Gujarat. The popularity of the state's Town Planning (TP) schemes with government agencies can be largely attributed to the fact that it serves as a mechanism to avoid the hurdles of outright acquisition. Similarly, Gujarat's Special Investment Region (SIR) Act 2009, which is being used in the development of the DMIC, allows for villages to be incorporated into the development plan by creating designated buffer zones.

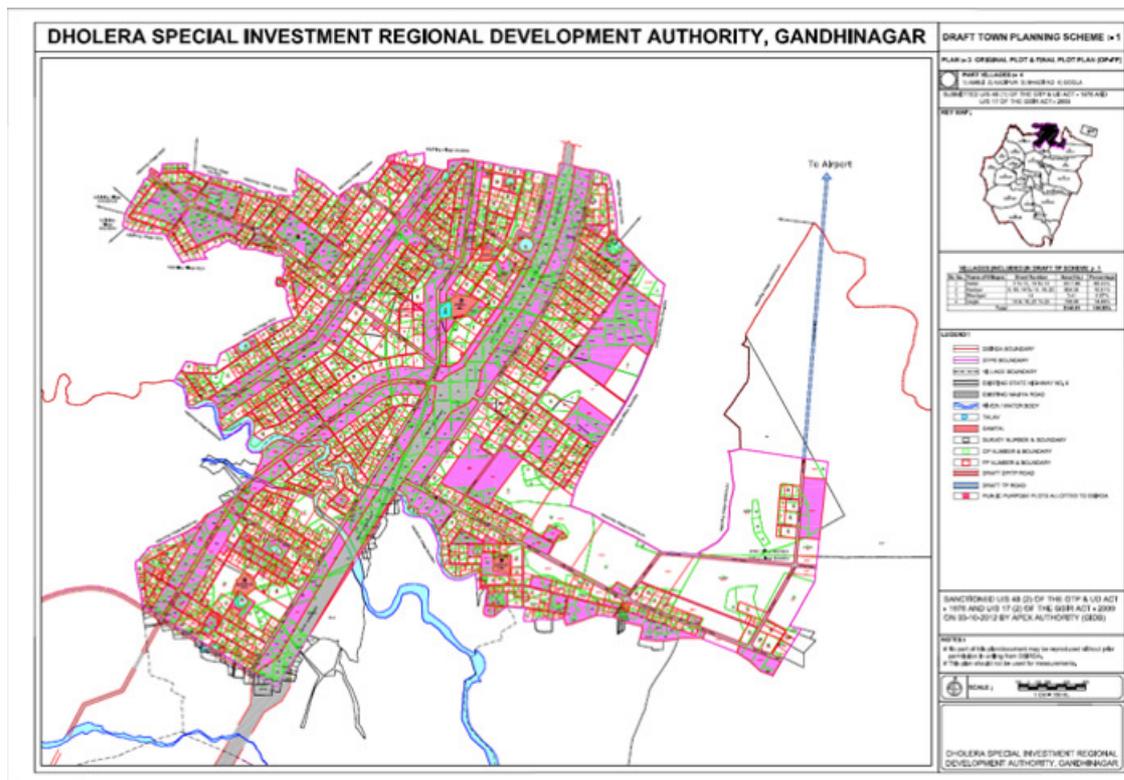


Figure 3. An example of a Draft Town Planning Scheme for Dholera SIR. The green lines show original boundaries and plot lines while red lines show the final plot boundaries. The pink patches show public purpose plots allotted to the Dholera SIR Development Authority (DSIRDA). Source: <http://dholerasir.com/OP-FP-Plan-DTPS-1.aspx>

However, few of these strategies can conclusively ensure an absence of conflict. It is not uncommon for landholders hold onto their land and not sell, either due to cultural or sentimental attachments, or in anticipation of better offers in the future. There are restrictions on acquisition in certain regions such as tribal and forest areas, and attempts to acquire such land has resulted in large-scale conflicts (as in the case of Vedanta mines in Orissa). Even in Gujarat, there is opposition to takeover of land for SIRs, represented through movements like the Jameen Adhikari Andolan Gujarat (JAAG) (Dasgupta, 2013; Persis Ginwalla and Rabari, 2014) which is trying to have the SIR Act repealed. In 2015, farmers who were planning to organise a protest rally at the same time as a major investment summit were detained in Gandhinagar (Chakravarty, 2015).

The opposition to land acquisition is reflected heavily in the debates on a central government ordinance seeking to amend the RFCTLARR. The ordinance, passed by the Government of India's Executive in late 2014, sought to, among other things, remove mandatory consent for five types of projects including Industrial Corridors, perhaps reflecting the new government's concerns about acquiring land for projects like the DMIC; expand the definition of "public purpose" to include projects such as private hospitals and educational institutions; and allowing a greater diversity of private entities to benefit from land acquisition and protecting government officers from prosecution in case of faulty land deals. However, many of these clauses were met with strident opposition both within and outside the parliament (Press Trust of India, 2015; Shrivastava, 2015) and parliament did not notify the ordinance into a law. At the time of writing, the question of land acquisition is still an open one, with uncertainty over the nature and structure of future processes.

In conclusion, issues of land acquisition are likely to remain a binding constraint on infrastructure and industrial development. Though new laws or mechanisms may perhaps reduce the size or scale of such conflicts, a trade-off between efficiency and equity is likely to remain. The integrated development of large land parcels in partnership with private bodies remains an economically efficient way to promote industrial growth but it comes at the cost of depriving landowners of crucial assets. Levien (2011) also highlights how the distribution of benefits upon land acquisition is often dependent on social and economic networks within local communities as well as one's "social capital" i.e. their position of power within these networks. Therefore, the cost of land acquisition is often borne disproportionately.

Much of this may also hold true for the DMIC, though it is likely that different DMIC states may encounter different issues due to varying geographical conditions, holding patterns and land record practices. Nevertheless, land will continue to remain a critical resource for large scale projects and the constraints and conflicts regarding land are not likely to be solved in haste.

4. Economic development

Policy in India, in recent years, has focused on trying to spur export and manufacturing led growth in order to achieve high economic growth rates. A significant chunk of literature has argued for an increase in the share of manufacturing in India's growth composition in order to achieve higher economic growth and generate employment (Bajpai, 2001; Maira, 2014). Many attribute the decline in the manufacturing shares and the inability of industries to move up the global value chain to the country's large infrastructure deficits. Keeping this in mind, industrial policy over the last decade has emphasised the need for massive infrastructure development, in terms of both physical infrastructure like transport, land, electricity and water supply to assist industrial growth and to attract investments. The DMIC is being showcased as the flagship programme of the current manufacturing policy and the "Make in India" pitch.

This is a significant move from the post-independence industrial policy which emphasised centrally directed industrialisation. This vision, largely crafted by Nehru's ideologies, focused on creating vital infrastructure and import substitution (Panagariya, 2008). The shift towards export oriented industrial policies happened from the Sixth five year plan onwards, with partial liberalisation initiated by the Indira Gandhi government. The first Export Promotion Zone (EPZ) was set up in Kandla, Gujarat during this period. The reforms in the early 1990s brought in the liberalisation of capital flows and the push for export oriented growth strengthened further. The centre had a lesser say in the kind of industries that could be set up in any particular region unlike earlier where industrial location was in the hands of the central government.

The SEZ Act of 2005 allowed private players to set up industrial enclaves by providing a number of sops on taxation and infrastructure and simplification of regulatory requirements (SEZ Act, 2005). However, this policy did not manage to achieve its targets of boosting industrial exports. Land acquisition was the biggest hurdle for private players and the provision of infrastructure for the enclave by the private developers entailed very high costs. The National Manufacturing Policy 2011 (NMP) tried to address these issues by making the provision of vital infrastructure like land, transport connectivity and the required regulatory and governance frameworks a priority of the state and central government. The National Investment and Manufacturing Zones and the corridor policy emerged from this.

Interviews suggest that the DMIC and the various state governments evolved plans to use the corridor to attract large scale, high technology and high value added industries to the Special Investment Regions or SIRs. SIRs were conceived with the expectation of promoting regional economic growth by enabling the development of global hubs of economic activity supported by 'world-class infrastructure', 'premium civic amenities', 'centres of excellence' complemented by a 'proactive policy framework' (Gujarat Special Investment Region Act, 2009).

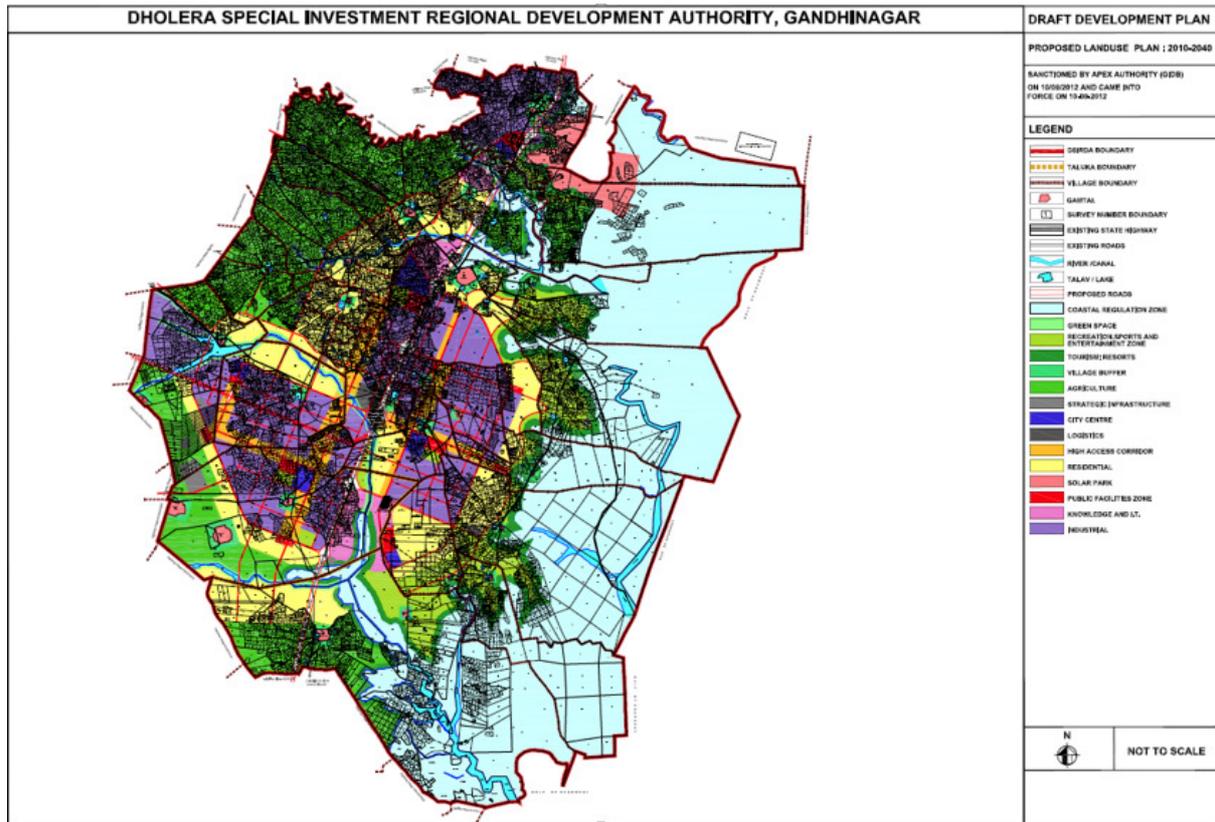


Figure 4. Screenshot of the Final Proposed Land Use Plan for Dholera SIR. Regions coloured purple show land earmarked for industry while green shows agricultural and village lands. Yellow and pink show planned residential and Knowledge/IT clusters respectively. Source: <http://dholerasir.com/Final-Proposed-Land-Use-Plan.aspx>

The state government arrives at the mix of industries in this model in consultation with the private sector, through large scale investment promotion programmes like the bi-annual Vibrant Gujarat Summit¹⁰ in Gujarat. The Dholera Special Investment Region is an example of this development, an experiment in economic, industrial and urban planning.

Being developed as a Greenfield industrial city, it hopes to attract industries by leveraging the availability of contiguous tracts of land for industrial and urban development, access to transportation networks like highways, freight rail lines and ports, proximity to vital resources like petroleum and major urban centres.

The Dholera SIR was also believed to have been co-opted as part of the Smart Cities Initiative of the new government (Nair, 2015; Surabhi, 2015) but the released list of nominations under the Indian government's Smart Cities Challenge in September 2015 does not mention Dholera as a candidate.¹¹

¹⁰ Please see <http://www.vibrantgujarat.com/> for more information on the Vibrant Gujarat Summit.

¹¹ Please see <http://smartcitieschallenge.in/cities> for full list of nominations under the Smart Cities Challenge.

The DMIC envisions the creation of ‘manufacturing cities’ like Dholera (Department of Industrial Policy and Promotion, 2014) that are well connected by different modes of transport. The central and state governments are the main decision makers while urban local bodies and panchayats have a lesser voice. Planning of the corridor has been undertaken by consortiums of private consultants along with the inputs from state and regional authorities. The new areas are being governed by parastatals and other special bodies. Special Purpose Entities or SPEs have also been created to carry out projects and make the process efficient. At this stage, the DMIC seems to be largely operating as a strategy for economic development, with urbanisation taking place as a by-product.

In this section, we question some of the assumptions underlying the development of the corridor, and assess these against the economic goals of the project which include export-oriented industrialisation and employment generation. It is important to critically analyse these trends since DMIC will act as a precedent to the other industrial corridors which are being planned across the country like the proposed Amritsar Kolkata Industrial Corridor.

4.1. Industrialisation

4.1.1. Export Oriented Industrialisation

The DMIC’s focus is explicitly on manufacturing, though the infrastructure that will develop as part of it is expected to have spillover effects for other sectors like services as well. With the globalisation of manufacturing, studies suggest that it is necessary for emerging economies to adapt to the export oriented manufacturing strategy to make inroads into global value chains and to increase productivity (The Economist, 2015). India’s strategy to improve productivity in manufacturing seems to be influenced by the East Asian model of export led industrialisation. The East Asian model focused on bringing in foreign direct investment through the establishment of spaces like SEZs which offer tax subsidies and other incentives to manufacturers (Anand et al., 2015) along with, *inter alia*, developing export friendly exchange rate regimes.

In India, the SEZ policy was developed to encourage investment from the private sector, by providing incentives to private developers to establish industrial enclaves. This policy however, was found to be inadequate given the high up-front costs of acquiring land, and building industrial and transport infrastructure (Anand et al., 2015). The corridor policy along with the establishment of SIRs, influenced by Japan’s industrial corridors (refer to the first fieldwork synthesis report) appears to have evolved from this model. In the corridor model, the state assumes a more prominent role in providing transportation infrastructure, and the assumption is that increased transport connectivity, augmented by industrial cities and SIRs, will help boost exports by reducing the delays currently faced by the export sector in the country.

There are a few pressing issues with this model of industrial growth, one being the feasibility of the export oriented strategy of the government and its applicability to the current Indian and global economic context. There is growing evidence to support the fact that manufacturing shares are declining in employment as well as output in many developing countries including India (Felipe et al., 2014; Rodrik, 2015b). There has been a trend of premature deindustrialisation in developing countries where there is a lessening amount of specialisation in manufacturing, increasing automation and lesser amounts of labour allocated (Rodrik, 2015b). Another trend that has been observed is increased capital flows to smaller manufacturing economies like Bangladesh and Vietnam, over emerging countries like India, given their competitive advantages like lower labour costs (Rodrik, 2015a). Also, while growth rates of East Asian manufacturing, especially China, have fallen marginally, they still produce a large proportion of the world's goods and their share is not expected to fall in the near future (The Economist, 2015).

Keeping these trends in mind, export led growth might not work out as well for developing countries now as it did for the South East Asian nations in the 1970s or for China since the late 1990s because of slowing global demand. However, manufacturing for domestic demand holds promise, though the strategies that would need to be followed for this are very different and would involve lowering of internal barriers (Rajan, 2014). SEZs in India have had a poor performance over the last decade in facilitating industrialisation [See (Anand et al., 2014) for a more detailed critique of the SEZ model]. 63.5% of the SEZs that were set up were in the IT-ITeS sector, 9.5% in the existing export sectors leaving only 27% of the SEZs to promote new export sectors (Mukhopadhyay and Pradhan, 2009). In Gujarat itself, the SEZ model has not seen much success. In 2009-10, almost 80% of Gujarat's SEZ exports came from a single SEZ (Mukhopadhyay et al., 2014). The failure of SEZs in Gujarat and other parts of the country acts as a warning to the possible fate of the proposed investment regions. To some extent, the provision of transport and other supporting infrastructure might facilitate industrialization in a way that the SEZ policy was unable to do, however, a greater focus on the role of domestic demand in spurring growth might be necessary.

4.1.2. Implications for Employment Generation

The second issue is about the mix of industries being promoted by this set of policies. The rationale behind an industrial policy of this kind is to increase productivity of the manufacturing sector by inviting medium and large industries which have higher levels of productivity as compared to micro and small firms (Bloom et al., 2014). However, large firms in India employ very low numbers of people, with 84 per cent the workforce in the industrial sector being concentrated in enterprises with less than 50 workers (Hasan and Jandoc, 2010).

As mentioned earlier, state governments aspire to invite high value, capital intensive manufacturing firms to set up shop in the SIRs along with other industries, in order to boost productivity. Further research is required to understand the implications of this strategy for the already existing industries in these areas which are dominated by MSMEs (especially in the case of JPM), for employment and for the traditional economies of the regions.

A key issue of interest will be the effect of the corridor on these industries and on those employed in the MSMEs. In Rajasthan, the JPM node has a large number of micro, small and medium enterprises which are the backbone of the region's economy and the main source of industrial employment. On one hand, the corridor could help increase synergies between the existing and new industries and increase the dynamism of the region. Proximity to transportation networks could allow smaller manufacturing hubs to reach out to new and bigger export markets more efficiently and allow them access to new resource networks, as in the case of the Jodhpur-Pali-Marwar node.

On the other hand, if the new industries which get set up in the SIRs are very different in nature from the existing industrial ecosystem i.e. if the industries are highly capital intensive and are closed in nature without depending on the existing firms, it could result in a significant amount of unemployment. Achieving a sustainable mix of industries will be necessary to offset these changes.

One of the reasons offered for the low employment generation potential of the industrial sector has been cumbersome labour regulations (Panagariya, 2008). Even though the SEZ policy was expected to improve employment, the job generation record was dismal. According to a CAG report, SEZs fell short of their targets for employment generation by about 90% (Comptroller and Auditor General of India, 2014). To address this concern, labour reforms have been announced in both the states being studied here. The reforms in Rajasthan allow firms more flexibility in hiring and firing by waiving of compulsory and prior approval from the government before layoffs, retrenchment and closure of industrial establishments employing more than 100 workers along with changes in terms of contractual labour and work hours among other changes (Sahoo, 2014; Mallet, 2015). Gujarat too, which is lauded for having industry friendly labour laws, has formalised the passage of similar reforms (Vishwa Gujarat, 2015).

While governments are easing labour regulations to facilitate industrialisation in their respective states, it is too early to assess the impacts of these policies on employment trends in the region. Whether the SIRs will cause unemployment and whether they will absorb the displaced labour is unclear. The DMIC Concept Paper (Department of Industrial Policy and Promotion, 2007) emphasises on

development of skill centres to equip job seekers, especially from acquired regions, to gain employment in the upcoming industries.

However, as we found out in our interviews with officials in Gujarat and Rajasthan, a large part of industrial labour comes from other states and not from within either of the two states, especially in the case of Gujarat. A critical challenge will be the ability of government agencies to accommodate the transition that is happening from traditional agricultural occupations of residents to non-agricultural occupations in anticipation of industrial development. In case of Dholera, which is a greenfield site, it is unclear whether the occupants of the acquired villages will be absorbed into workforce once the industries come in. Further research is necessary to understand the impact of the corridor on employment patterns.

The government has introduced schemes to promote MSMEs like the MUDRA bank which aims to provide funding to these enterprises. Skill development has also been taken seriously by the current government with the forthcoming launch of the National Skill India programme. In order to meet the employment goals of the DMIC, the national and the state governments will need to work with the private sector to create a sustainable industrial mix and provide adequate skills to aid the transition from traditional occupations to industry.

4.2. Regional disparities

Gujarat and Rajasthan are considerably different in terms of levels of economic development and their institutional and governance mechanisms. Gujarat has been lauded for its model of development which promoted large scale industrialisation. Gujarat has historically been a fairly industrialised state and has certain mechanisms and policies in place to facilitate this. The state makes use of the Town Planning Schemes for land acquisition; the Gujarat Industrial Development Corporation (GIDC) has developed industrial infrastructure in Gujarat on a large scale and has assisted in diversifying the industrial base in the state; Gujarat is also the first state in the country to come up with the SIR Act. Rajasthan, once part of the BIMARU states, on the other hand, has lower levels of economic development and has a relatively weaker industrial base which is dependent on its abundant mineral wealth. However, industrial growth in the state has been increasing in recent years. Keeping in mind the varying capacities and historical growth trajectories of individual states, the policy is expected to affect each state differently even though one of its stated aims to connect leading regions to lagging regions and promote regional development.

While the corridor policy is a centrally led policy, states have to compete to attract industries by framing industrial friendly policies. Environmental, labour and land acquisition regulations among others are enforced differently in different states in order to increase competitiveness. Gujarat being highly

developed and being a preferred destination for industries can enforce pollution control norms strictly and allow the setting up of mostly non polluting industrial units in its SIRs; Rajasthan has lesser incentive to enforce such strict regulations in order to attract new industries and retain the ones that show interest in setting up establishments in the state. In order to avoid these disparities, the centre will have to enforce regulations uniformly across all the states.

Therefore, the central government might have to play a more pro-active role in order to enable states to leverage this investment and not worsen inter-state disparities.

5. Conclusion

In this project, we set out to better understand the impact of the Delhi-Mumbai Industrial Corridor on urbanisation and urban development, especially on existing cities. As we found, it is difficult to draw conclusions about the impact of the DMIC, since it is in very early stages of implementation. However, we were able to study and analyse the planning and governance processes at the national, state, and sub-state levels. Our research revealed that while the national and state governments were well aligned, there was little coordination between the state and local governments regarding the planning and development of the DMIC. Moreover, we found that the entire process of corridor development was in the hands of the Ministry of Commerce and Industry and its agencies, with little involvement from the Ministry of Urban Development or its agencies. Urbanization, therefore, featured only as a by-product of this process, and the main focus was on developing new industrial and manufacturing centres.

Further, these new centres are being developed away from existing cities, and under 243Q, an exclusion to the 74th Constitutional Amendment which allows them to be established by a development authority, and without an elected local government. A few important caveats should be added here. Firstly, the move away from existing settlements may also have been motivated by factors other than regional development and our interviews brought out implications of several such issues. For instance, the acquisition of land for development can be much more difficult in existing settlements in terms of both supply and cost – there may not be enough available land for projects and available land may have high acquisition costs.

Secondly, existing settlements are also governed by a number of planning processes, laws, rules and regulations that may hinder or prohibit certain activities envisioned in the DMIC nodes. For instance, a 1996 Supreme Court ruling¹² directed certain hazardous or polluting factories located in Delhi to cease operations and relocate outside the city, specifically stating that their continuing presence was not in consonance with the Delhi Master Plan. The presence of master plans and zoning laws,

¹² Reference: 1996 SCC (4) 750 (Link: <http://judis.nic.in/supremecourt/imgst.aspx?filename=15490>)

urban local bodies and most importantly, high levels of existing human habitation may often entail higher costs for industrial planning and development in existing cities. This in turn may make the move away from existing settlements attractive, particularly to regions governed by an authority such as the RDA that has relative freedom to formulate its own rules and regulations that can suit industrial and economic requirements (though the SIR law requires some forms of adherence to existing town planning laws). However, as discussed earlier, the setting up of these development authorities makes it difficult to transition to elected local government, and can lead to fragmentation as witnessed in the case of Bangalore.

In some senses, this is not new in post-independence India. Several towns and cities post-independence were built with considerations of industry in mind such as the steel towns of Bhilai and Bokaro. The country's Special Economic Zone (SEZ) policies in the late 1990s can also be thought of as a precursor to the trends of industrial corridors and investment regions where large spaces with integrated infrastructure were created away from existing settlements to encourage industrial production within the country.

However, industrial corridors introduce some new aspects to these trends of industry-led development. The industrial corridor reiterates the growing prominence of the special purpose vehicle and public (and public-private) corporations such as the DMICDC and GICC in facilitating large-scale development in the country, which is a significant shift from the model of the steel towns built in the 1960s. Over the years, SPVs and PPPs have dramatically gained prominence, becoming important actors in governance structures across various scales and levels ranging from local initiatives to large-scale projects of national importance. Such bodies are likely to continue playing critical roles in urban, industrial and economic development in the country, thereby requiring more conventional actors such as municipal corporations or state government departments to regularly engage in creating, co-ordinating and working with these actors.

The implementation of a project of this scale has implications for multiple sectors and across different scales. New planning and governance mechanisms are being set up that do not take representative democracy into account at this point in time; land acquisition, compensation, resettlement and rehabilitation remain challenges; and there are repercussions for the kind of manufacturing and employment that these new industrial areas will generate. As highlighted earlier, the research carried out for this project has led to the creation of a larger research agenda that focuses on some of these questions.

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