

**Directors of change in Surabaya in the context of
mega-urbanization, The case of the Surabaya-Madura
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► **To cite this version:**

Manuelle Franck. Directors of change in Surabaya in the context of mega-urbanization, The case of the Surabaya-Madura Bridge. P. Nas (Ed), Directors of urban change in Asia, Routledge, 2005, pp. 205-226, 2005. hal-02568574

HAL Id: hal-02568574

<https://hal-inalco.archives-ouvertes.fr/hal-02568574>

Submitted on 9 May 2020

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Accepted version, maps at the end of the file.

Franck Manuelle, " Directors of change in Surabaya in the context of mega-urbanization, The case of the Surabaya-Madura Bridge ", in P. Nas (Ed), *Directors of urban change in Asia*, Routledge, 2005, pp. 205-226

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**Directors of change in Surabaya in the context of mega-urbanization
The case of the Surabaya-Madura Bridge**

Manuelle Franck

Introduction

Surabaya, Indonesia's second city, with a population of 2.5 million inhabitants (year 2000) is East Java's provincial capital. Although Surabaya was among the major ports of the Indonesian archipelago, before and during the colonial era, and one of its prominent industrial cities, far ahead of Jakarta, it's since been overshadowed by the national capital. Today, political and economic power is concentrated in Jakarta and this city is the major interface between global and national logics and flows. The primacy of the national capital is the consequence of excess-centralization, as examples from Thailand or the Philippines also demonstrate. However, this is somewhat curbed by the archipelago's size and the tradition of its port cities that were linked within a little-hierarchised network (Charras and Franck, 2000). Surabaya has become a conjunct of Jakarta, but as a gateway to Eastern Indonesia, it shares with Jakarta the serving of the national territory. Despite its secondary town characteristics, rapid urban expansion has occurred around Surabaya, shaping urban corridors integrated by communication infrastructures. The 'Suramadu Bridge', a project that involves national and local interested parties, contributes to orientate this urban expansion.

Surabaya: East Java's service centre

In East Java, the high population density and the intensity of interactions between the cities and the rural hinterland, sustained by a dense communication network, has contributed to shape a well-developed and balanced urban system that is hierarchically organized and historically dominated by Surabaya. The role of Surabaya over its surroundings has not fundamentally changed since the colonial period, in spite of the reorientation of the economy, which was mostly international-oriented during the colonial times and since independence has been more domestic-oriented (Mackie, 1993). The city still takes the products from inside the province and redistributes manufactured goods, which have been made in its industrial zones or imported through its port. During colonial times, Surabaya was an important service and industrial centre servicing the rich plantation sector. Its metallurgical industry was developed for the construction of the railway network and to provide and repair the machinery of the

sugar industry (Charras, 1990). Surabaya drew by then a large share of the province's plantation crop, which was then exported to Europe. After the collapse of the plantation economy in the 1930s, the economy of the province, further damaged by the Second World War, had difficulties recovering. It was only in the 1970s that East Java resumed its economic growth thanks to the green revolution that helped to increase food crop production. The industrial sector then began to recover with a demand-led industrialisation that answered the needs of a population with higher living standards (Dick, Fox and Mackie, 1993). In the 1990s, a more export-oriented industrial production began to challenge this domestic market orientation.

Similar to a century ago, Surabaya is the main national and international sea gate of the province¹ and has become a land and air transport hub. Surabaya also remains the major service centre of East Java. Its administrative rank as a provincial capital gave the city important administrative functions and commanding power over its territorial unit. Surabaya is the leading commercial and financial centre, with national and foreign bank branches and a stock exchange. In addition, its level of social infrastructures is by far the highest of the province. Surabaya's primacy isn't as obvious in the industrial sector, as industrial activities have spilled over the municipal limits. The scatterings of agro-industries all over the province, especially around Jember, together with the existence of specialised industrial centres, such as Kediri (*kretek* cigarette industry), are also factors limiting Surabaya's industrial primacy.

Patterns of contemporary expansion: the polycentric agglomeration

The emergence of urban corridors in East Java and the pattern of Surabaya's recent development show a marked convergence, although at a lower scale, with the dynamics and patterns of growth of the Southeast Asian metropolitan areas, including Jakarta (Goldblum, 1998). The tendency toward homogenization of land uses and society in the city centres and their specialisation in the modern service sector explains the transformation of the urban core landscapes, as high rise office buildings or shopping malls are being built. Meanwhile, industrial activities and residential estates are spreading into the peripheries. The compared land value in the core and urban fringes, together with less restrictive environmental or zoning regulations in the fringe areas, explain much of these dynamics. The industrial activities tend to disappear from the city centres, thus favouring the expansion of smaller towns in the surrounding area. In the peripheries, this mixture of activities (which has often led to land use conflicts) and the employment structure of the population, have contributed to the blurring of the rural-urban distinction, typical of what McGee calls the 'kotadesasasi' process (McGee, 1991).

These dynamics are consequences of the metropolitan areas integration into the international economy. The Indonesian economy became more integrated into the world economy in the mid-1980s following the shift in economic policies, from import

¹ Although during colonial times, Surabaya shared the export functions with other ports of the northeast coast, mostly those of the eastern tip of Java. However, since the beginning of the twentieth century, Surabaya managed to become the main port of importation of the province, and the main port for its exports as early as after independence (Dick, 2002).

substitution to export promotion. Investments poured into the industrial sector as part of the international division of labour and investment strategies of the corporate firms. The development of industrial and service activities also stimulated investments in the real estate sector, while liberalisation in banking allowed easy access to credit and speculative investments in the private construction sector (Tardiyana, 2000). Until the 1997 economic crisis, the promoters of the ‘verticalization’ and horizontal extension of the cities were the big Sino-Indonesian or Suharto family conglomerates, which were closely linked to the previous New Order regime.

In Surabaya, private investment in the property sector began in the mid-1980s and became highly speculative during the 1990s. Land speculation and the number of land development projects increased with the rising demand from an expanding middle class, enriched by the economic growth related to the export-oriented policy. In the mid-1990s, almost all the property development projects were concentrated in the hands of about ten conglomerates, from Jakarta and Surabaya (Dick, 2002). This process led to the physical restructuring of the city centre and to the acceleration in the spatial expansion of the city within and outside the municipality boundaries. This followed a mainly north-south direction later reinforced by an east-west expansion. The population growth has been quicker in the urban fringes and in the neighbouring districts than in the municipality itself.²

The business district has tended to extend and then split into several districts following the same north-south direction as the city’s general expansion direction (map 2). This direction follows the Kalimas River, from the coastal settlements towards the southern area of Wonokromo. In the beginning of the twentieth century, the construction of the first steam tramway line, later developed into an electric tramway line (which operated until 1968) linked the Tanjung Perak port to the rest of the city and reinforced the river line direction. The business district, situated in the Jembatan Merah area during colonial times, moved to north Tunjungan and more recently to the area of Tunjungan-Basuki-Rachmat-Pemuda. Although different types of land uses and dwelling units can still be found around these central business districts, the construction of shopping malls or of integrated ‘superblocks’³ symbolise their functions. Examples of this process are the Surabaya Plaza shopping mall on Pemuda Street which faces the World Trade Centre building, and located nearby, the Tunjungan Plaza complex which has a shopping mall, an international hotel, two high rise office buildings and two

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Municipality/District	Population				Growth rate (% /year)		
	1971	1980	1990	2000	1971-80	1980-90	1990-00
Surabaya	1556255	2017527	2483821	2588816	2,93	2,10	0,41
Gresik	610944	728570	856853	996608	1,98	1,64	1,52
Sidoarjo	667639	853685	1167467	1549883	2,77	3,18	2,87

Source : BPS, Population census

³ The superblocks are integrated estates, which associate a shopping mall with office and residential buildings. This model of high-rise buildings has been exported by property developers, often of Asian origin, in the largest cities of Asia.

condominiums.

Traditional dwellings in rehabilitated kampungs⁴ or informal settlements are found extensively in Surabaya. New types of dwellings of various sizes, built in housing estates, also contribute to the city expansion process. Favoured by Surabaya's upper and middle classes, expatriates, and members of the business community from southern Kalimantan or eastern Indonesia who settle in Surabaya, are the modern, exclusive residential estates of a few hectares and the huge integrated new towns.

Following the 1978 Surabaya Master Plan, land redevelopment has been rapid towards the East, dedicated to education and residential uses. The southeastern tip of the city benefited from its proximity to the industrial zone of Rungkut and the airport, while education facilities and good water supply helped attract new settlements elsewhere in the east. Almost all areas assigned by the plan in the eastern sub-districts have now been built and the built environment reaches the shore in the northeast and has begun to encroach further southeast. Expansion towards the west, following the master plan dedicated to industrial and residential uses, only begun in the 1980s because of poor infrastructures, including water supply, and dry land conditions. However, the conversion of land to industrial and residential uses, around the new town of Darmo Satellite has been rapid since the 1990s, boosted by the completion of the city's first western toll road. (Silas, 2002; Dick, 2002; Kotamadya Surabaya, 1978). Pakuwon, Dharmala and Ciputra groups, all big players in the property development business and listed on the Jakarta Stock Exchange, are developing their self-contained satellite cities, endowed with every high class facility, including an international school (in Ciputra Citra Raya) and golf courses. Five years after the 1997 crisis, which slowed the process of new real estate development and froze many projects, observers found the property market gloomy (Kompas, 21 October 2002). Nevertheless, new estates that opened were quickly sold, as land remained a security investment for the upper-middle classes. Therefore, the old southwards linear expansion of Surabaya is still active as many of the small and medium size housing estates that are built in Sidoarjo are now being challenged by those east and west lateral developments. Location of new malls or shopping centres⁵ indicate these new directions of urban expansion.

Industrial activities are located in clusters situated around the old Ngagel industrial zone dating back from the colonial times, the Rungkut industrial area in the southeast and in dry lands of the western district of Tandes (Dick, 2002; Kotamadya Surabaya, 1978). Within the municipality, almost all the new industrial plants have been built in the fringes of the core urban area as the municipality boundaries were extended in 1965, and because the first Surabaya Master Plan drafted in the 1970s segregated the residential and industrial land uses.

⁴ Kampungs, or 'urban villages' are traditional living quarters in Indonesian towns. Indonesia, and especially Surabaya, is famous for its kampung improvement programs (KIP), which began in the 1970s and emphasized community participation to the kampung upgrading. In central Jakarta where the pressure for land is the strongest, these kampung areas were often redeveloped in the 1990s.

⁵ Like Galaxy mall, built near Kertajaya Street in the east or the planned H.R. Muhammad Square or Pakuwon Trade Centre in the west side. House-shops, (or *ruko*, *rumah-toko*) and shops in modern trade centres are the new types of shops favoured by tradespeople in Surabaya today .

However, most of the industrial spread is happening outside the municipality boundaries. The rapid industrial expansion since the mid-1980s has led the planned industrial zones to a quick congestion and to the development of private industrial estates outside the municipality boundaries. The Gresik northern district is a cluster for heavy, and often polluting industries, following the setting up of a cement plant in the late 1950s, a thermal power station and a fertiliser plant in the 1970s. The district of Sidoarjo has been the site of no less than 3000ha of industrial zones projects, all approved and realised, between 1984 and 1994 (Dick, 2002). Factories have been set up in the Pandaan area, halfway between Surabaya and Malang, and since the 1970s their numbers have greatly increased. Therefore, the industrial activities have tended to spill over from the municipality limits and to settle, in a thin strip, along the main communication axis leading toward Gresik northwestwards and Malang southwards, but also more recently towards Pasuruan eastwards and along the two banks of the Brantas River towards Mojokerto westwards.

The pattern of urban expansion is therefore one of a ‘thickening’ in every direction of the core areas, giving it a halo shape, to be added to the older north-south expansion direction and occurring at two different scales: within the municipal boundaries, and at the scale of the province. A star shaped core area with its commanding centre in Surabaya, organises and polarises the province’s space (map 3). It extends along the north-south axis Gresik-Surabaya-Malang, and the east-west axis Surabaya-Pasuruan and Surabaya-Mojokerto, most of it located in the rich agricultural area of the Brantas River valley. The villages and cities located along these axis have registered the quickest population growth rates since the 1960s (Franck, 1993; map 4). The history of some of the bigger cities of this core area, like Gresik, Mojokerto, Pasuruan, or Malang, can be traced back to pre-colonial or colonial times, and their central position has long been reinforced by administrative functions or the municipality status. Their growth has been recently boosted by industrial expansion. Smaller towns, such as Gempol, are growing thanks to their location at the crossroads of communication routes, or because of their locations along the main roads, which direct much of the built environment’s expansion. The new clusters usually have more specialised residential,⁶ industrial or leisure functions.⁷ These urban dynamics, which have benefited from the spreading of industrial activities outside of Surabaya, ends up meeting Malang to shape an urban corridor. In fact, the concentration of manufacturing activities in this corridor has increased, as can be seen from the data of the economic censuses from 1986 and 1996. These showed that in 1986 52 per cent of employment in large and medium industries were found in the corridor, and in 1996, 62 per cent (Dick, 2002). Since then, more than 80 per cent of the new domestic approved investments between

⁶ Property developers call ‘clusters’ exclusive housing estates where entrance is often only possible through one gate.

⁷ The leisure clusters can be associated with golf courses or theme parks. New settlements are also developing along the Pandaan, Tretes or Trawas route, where the main upland stations are located.

1996 and 2000 were located in this core area⁸ (data BKPM). This corridor takes the shape of a polycentric agglomeration linking the coast and the inside territories. It represents a new scale of urban organisation⁹ regrouping various sizes of towns and the countryside, integrated within a common dynamic - scheme widely found in other Asian densely populated metropolitan areas (Sanjuan, 2000).

The Suramadu project: Between national and local visions of development

The structuring process of the urban corridors is highly shaped and spatially oriented by the communication networks, giving access to new portions of the territory which, if needed because of the pressure of investors for land, could be developed and integrated to the dynamic described above. The bridge project linking the island of Madura to Surabaya, called the Suramadu bridge, would allow the western part of Madura to integrate the expansion dynamic of Surabaya as an outlet for activities and populations originating from Surabaya, which could settle on the Madurese dry and cheaper land. This project was part of the Gerbangkertosusila, the planning region for Greater Surabaya, which groups Surabaya and the cities of Gresik and Lamongan in the north-west, Mojokerto in the west, Sidoarjo in the south and Bangkalan, on Madura Island. The Gerbangkertosusila concept was first proposed in the early 1980s by the Japanese cooperation agency JICA. Associated with the development of industrial zones in Madura, which would increase the bridge's traffic and ensure its profitability, as the bridge was to be partly financed by the private sector. However, this bridge has encountered strong opposition from the Madurese population, led by some of their Islamic Ulama.

This project is one of the huge New Order Indonesia mega-projects, significant of the top-down planning process, which symbolise the central government's will to lead the nation towards modernisation and development by rapid industrialisation, within the context of growing integration to the world economy. Supported by a nationalist rhetoric emphasising the necessity of modernising Indonesia, these projects also involve important private financial interests. As seen before, private investors are partly responsible for the extension of the built environment shaping urban corridors around Surabaya. They are also involved in big development projects, which closely intermingle public authorities visions and private interests.

Suramadu: A central government led project involving key New Order actors

The idea to link Madura and Surabaya with a bridge can be traced back to the 1960s, but it really took shape in the mid-1980s when President Suharto asked BPPT, the state Agency for Applied Technologies, headed by B.J. Habibie, to coordinate a feasibility study for bridge linkage of the Indonesian islands of Sumatra, Madura and Bali to Java (a project called Tri Nusa Bima Sakti). The conclusions recommended

⁸ For the foreign approved investments, the percentage is only 20 per cent because of huge investments occurring in Tuban (see note 16 and 21 below).

⁹ This scale of urban organisation is the object of theoretical debates which won't be discussed here. See for example Mc Gee and Robinson, 1995 or Scott, 2001.

beginning with the Surabaya-Madura bridge, easier technically and with better profitability prospects.

The Suramadu Bridge would be the longest Indonesian bridge, the design planned for a 5.4km long and 21m wide bridge, built 35m over the sea level. This was to ensure easy navigation around its piles, especially for the navy frigates, as Surabaya is also a navy base. The design has recently been updated by teams from the Ministry of Equipment (Departemen Kimpraswil), the East Java Government and the Technologic Institute Sepuluh November of Surabaya (ITS). The bridge project, using cable stay technology, has been enlarged to allow four additional lanes for two-wheeled vehicles and pedestrians. The distance between piles has also been enlarged, from 200m to 600m on request of the navy.

On the Surabaya side, the bridge is located in the sub-district of Kenjeran, where 7.85ha of land is needed for its development. It should be connected to the eastern Surabaya toll ring road, which when completed, will allow travel from Madura or the Surabaya port of Tanjung Perak to the airport in the southeast without conveying through the city centre. Since 1987, the western toll ring road already allows travel from Gresik or the port of Tanjung Perak, to Waru in the south, giving access to the new towns and industrial areas of the northwest and west of Surabaya.

On the Madurese side, 35ha are needed in the sub-district of Labang located in the western Bangkalan district. The first project was part of the planning guidelines for East Java and the outline plans for Surabaya and Bangkalan (Pemerintah Propinsi Daerah Tingkat I Jawa Timur, 1990 and Pemerintah Kabupaten Daerah Tingkat II Bangkalan, 1991). It planned for a package linking the construction of the bridge and the development of industrial zones. In Madura, 3000ha would be developed near the bridge as an industrial zone for clean industries and housing estates. In a second step, industrial zones for heavy industries and port infrastructures would concern all the north coast of Madura. In a third step, development projects would extend to the rest of the island, especially in the sectors of tourism and energy. Madura has many unspoiled beaches and huge offshore gas deposits have been discovered in the eastern tip. For those second and third steps, 12,000ha would be necessary.

The Presidential decree (Keppres) No. 55/1990 gave the Minister of Research and Technology B.J. Habibie the responsibility for the construction of the bridge and the industrial zones. The governor of East Java, then Soelarso, shared with another influential East Java personality, Mohammad Noer, the responsibility for the local coordination of the project. Soon after, B.J. Habibie appointed the private enterprise P.T. Dhipa Madura Pradana, headed by M. Noer, as the prime contractor of the project (*pelaksana proyek*).

B.J. Habibie was a key figure of the New Order regime, ending his New Order political career as president of Indonesia as he occupied the function of vice-president when Suharto was forced to step down from power in 1998. He is famous for promoting the vision of a national development based on national industry and technology, and for pushing for the development of high tech national industries, even at huge cost (Hill, 1992). As a close connection of Suharto's, who has never

failed to support him, his power extended over several institutions related to technology and industry. Apart from his ministry of Research and Technology, he headed the Agency of Applied Technology (BPPT), involved in research and technology transfer activities. He also headed the BPIS, a board coordinating national high technology and strategic enterprises among which are found IPTN, the national aeronautic industry and PT PAL, the national shipyard located in Surabaya.

Mohammad Noer is an influential personality of Madurese origin, and a former governor of the province of East Java between 1967 and 1976. His governor's mandate has been considered quite positive for East Java's development, plunged by then into poverty and economic recession (Dick, Fox and Mackie, 1993), especially because of its commitment to infrastructure development and industrialisation. This reputation has assured him a long-lasting popularity in East Java. Among his achievements related with today's Suramadu project, he thought to ease the relations between Surabaya and Madura by moving the ferry terminal of Surabaya to Tanjung Perak where it could stay open 24 hours a day.¹⁰ He also initiated the development of the 200ha industrial zone in Rungkut (P.T. SIER), southeast of Surabaya, to decongest the old industrial zone of Ngagel, developed by the municipality in 1916, and to attract industrial investments as a first step towards a renewal of industrialisation in the province after years of recession. Mohammad Noer is also keeping close relations with the national and provincial business circles and his name appears among the commissioners of enterprises operating in East Java, such as P.T. Berlina, or East Java private television station SCTV owned by one of Suharto's children, Bambang Trihatmodjo (Kitley, 1994).

The financing scheme of the project and the companies involved show the prominent role of Japan as a main business partner for New Order Indonesia. Since the collapse of Bank Summa in 1992, which was supposed to fund the project, its financing rested mainly (80 per cent) on a soft loan from OECF, the Japanese development aid fund, to Japanese and Indonesian public and private companies grouped in a consortium. Japanese companies were already involved in upstream operations. JICA, the Japanese cooperation agency has long been active in planning projects in East Java. For instance, the JICA feasibility study for the construction of a second bridge linking Madura to Gresik was completed in 1996. Japanese consultants took part in the feasibility and technical studies under the supervision of JIF, the Japan Indonesia Science and Technology Forum, in close cooperation with BPPT. A number of Japanese companies were involved in the financing scheme or in the tendering process like Sumitomo Corp, Mitsubishi or Shimizu Corp. In return for the OECF loan, the Japanese government claimed for its company's priority access to Madura¹² (Muthmainnah, 1998). The Indonesian public and private companies were all well connected companies. M. Noer's P.T. DMP, public Indonesian companies controlled by B.J. Habibie's BPIS (P.T. Pal, Krakatau Steel),

¹⁰ The previous ferry terminal was located on a navy land. As such, its access was forbidden at night between 6pm and 6am.

¹² Sumitomo Corp. submitted in 1996 a project for developing 2000ha of land as a kind of 'Disneyland' in Madura.

the public toll road company P.T. Jasa Marga and P.T. SIER which operates the industrial zone of Surabaya were part of the Indonesian consortium. Prominent Indonesian groups Jaya and Bimantara¹³ were in a good position to be awarded the contract for the bridge building in the mid-1990s (McMichael, 1998).

The central government's vision: To overcome archipelagic division and promote a modern and balanced development

Uniting and managing an archipelago as wide and diverse as Indonesia has always been a challenge for its central governments. Apart from centralisation, a political life under close supervision, the spreading of the national language, and the Pancasila principles,¹⁴ the New Order regime favoured territorial integration as a guarantee to national unity. Many development projects involved communication infrastructures, from satellites to sea, air or land networks. Even though the archipelago's history has demonstrated the sea was more a unifying than a dividing factor, the bridge between the islands will erase the various constraints caused by the sea. In a country where the maritime area is almost three times the size of the land area, the country seems to have turned its back on the sea. No New Order Ministry of Maritime Affairs was in charge of coordinating its exploitation. The merchant fleet is still under-developed, as is the fishing fleet. The sea transport system, although upgraded in the mid-1980s, is still not sufficient to serve the eastern part of the archipelago. Indonesia's claim to become an archipelagic state, ensuring its sovereignty over the seas and the land, as well as the concept of the 'maritime continent', popular in the mid-1990s, show more security and sovereignty concerns than the acknowledgement of a maritime specificity (Raillon, 1997). The bridges could ensure continuity instead of division, but at huge cost.

The Madurese project is also one of the typical New Order symbol plans - windows of a modern and productive Indonesia. Development (*pembangunan*) has been the motto of the New Order with industrialisation becoming an important issue. After years of import substitution policies, protecting emerging national industries, the policies were shifted in the mid-1980s towards industrial export promotion and the competition to attract foreign investments. With its modern bridge linking the island to the mainland, its container handling port, industrial and residential estates and leisure resorts, Madura could become an attractive location for investors and contribute as such to national development. The scheme has often been compared to the Batam Island development project (where B.J. Habibie headed the central government agency in charge of its development) which transformed this Riau Island into an industrial and resort extension for Singapore.

¹³ The Jaya group is a venture between Jakarta local government (40 per cent) and P.T. Pembangunan Jaya founded in 1961 by Ir. Ciputra, who later created the Ciputra Group involved in real estates activity. Bimantara is Suharto's son Bambang Trihatmodjo's company. The crisis froze the project and these companies were not awarded the contract.

¹⁴ The five principles of the *Pancasila* are: to believe in god, humanity, national unity, consensus and representation, social justice.

The issue of a more balanced spatial distribution of development, especially for eastern Indonesia, has often been discussed among Indonesian power circles, especially since 1990 when the concept of the 'Eastern part of Indonesia' (*Indonesia Bagian Timur*) began to have a budgetary content. The strategic location of Madura, in the geographic centre of the archipelago, halfway between the two mythic ends of the country, Sabang and Merauke, has not escaped the planners and consultant's attention (JIF and Parsons Polytech, 1993). Endowed with adequate infrastructures, among which a new harbour offering container-handling facilities, Madura could become a new hub for the Indonesian economy, polarising its share of national and international trade and, as a new growth pole, promoting the integration of eastern Indonesia to the national economy. One can doubt this sole localisation advantage, based on geographic considerations, could be sufficient to turn the poor and underdeveloped island of Madura into a new economic centre. It seems more reasonable to consider the development of the island in relation to Surabaya's expansion.

At the regional scale: to promote Madura's development and redirect Surabaya's spatial expansion

Since the recessions in the 1960s and 1970s and until the 1997 economic crisis, the province of East Java enjoyed a booming economy, growing at a fast rate of 7 to 8 per cent a year. New investments that poured into the province in the 1990s were mainly directed towards the industrial sector. They allowed Surabaya and its surroundings to retain their position as the second industrial cluster after Jakarta, and led to Surabaya's endowment with some of the symbols associated with world cities. Today, the industrial fabric includes a wide range of products and size of enterprises. These include basic industries, labour industries and more sophisticated activities in chemicals or consumers goods, both private and public. The value of industrial production and exports grew quickly, as did the workforce employed in the manufacturing sector (Statistic Yearbook of East Java, annual). The intermediate 1995 population census (SUPAS) showed the province's positive migration balance, reversing for the first time the years-old-trend of out-migration (BPS, 1997).¹⁵

In this context of growth, the built environment and industrial plants have spilled over Surabaya boundaries. The encroaching of non agricultural land use on precious irrigated rice fields of the Brantas river valley has led the planning provincial teams to look towards the dryer Rembang limestone hills, in the districts of Lamongan and Tuban,¹⁶ as potential sites for industrial developments and to spare the irrigated rice lands. The Rembang hills extend into Madura Island, which is also suffering from drought, scarcity of water resources and infertile soils (most of its soils are classified as poor soils, *tanah kritis*). In spite of these natural constraints, the population density is high (in 2000, almost 3.2 millions inhabitants and a mean density of 650

¹⁵ A trend which is not confirmed by the 2000 population census held after the 1997 crisis.

¹⁶ A new abbreviation calls Gelangban the area of Gresik, Lamongan and Tuban, planned by provincial authorities to become a new industrial area. P.T. Semen Gresik has already moved a Gresik plant to Tuban, as an alternate location to Madura.

inhabitants per km²). The mean education level and purchase power are among the lowest of East Java. Poverty and population pressure have fuelled migration streams to East Java and to the rest of Indonesia. To industrialise Madura would contribute to alleviating Madurese poverty. But Surabaya's expansion issue is also at stake. Integrating Madura to the city's dynamic would create an alternative to the southward urban and industrial expansion towards Sidoarjo and Malang. The western tip of Madura Island is less than 10km from northeast Surabaya, much nearer than the Sidoarjo southern district. Surabaya's activities and population could then pour into the nearest Madurese Bangkalan district, a process that would reverse the centuries-old orientation of migration flows, but would also confirm the tradition of openness of Bangkalan towards Surabaya and the Javanese land.

Madurese opposition

Even though interesting from a planning point of view, the projects have encountered strong opposition in Madura. The bridge would certainly ease the congested traffic between Surabaya and Madura, but the Madurese have refused the industrialisation projects as formulated by the government. They believe an exogenous industrialisation would not benefit the people because of its low education level; it would also drown the Madurese under a huge stream of newcomers. The New Order regime has caused many community difficulties following development projects which were imposed from the top. In Batam, the local population were totally excluded from the development process. The same could be said of the gas field exploitation and the petrochemical downstream industry of Lhokseumawe,¹⁷ an industrial enclave that turned its back on the Acehnese people (Effendi, 1979; Fau, 2003). Even in Java, the peasants living near the Cilegon steel plant, Krakatau Steel, have sold their land but have not been employed locally (Jawa Pos, 4 July 1994). Industrialisation would confiscate Madurese peasant's land and benefit newcomers, whose traditions and religion would not necessarily fit with the Madurese.

Madura is an Islamic land and religion is an essential component of its culture where Ulama occupy a central position in the society (Van Dijk, De Jonge and Touwen-Bouwsma, 1995). Some of them, grouped in an association named Bassra, organised the resistance to the industrialisation projects. The association interestingly formulated propositions for a step by step endogenous industrialisation based on agro-industries, utilising local resources and employing local manpower, who would be given time for training, notably in the Islamic schools, the *pasantren*. The logic underlying these propositions is to ensure people's participation in the development process. This is different to the government's logic, backed up by consultants, who foresee the development of Madura as a consequence of the trickle down effects of modern and massive industrialisation. The debate hasn't reached any consensus but it has had the merit to underline the main bias and issues of those huge top-down development projects. However, the famous Madurese resistance

¹⁷ Lhokseumawe is even today the site of a scandal following the discovery of mass graves in 1998.

capacity¹⁸ has made local industrialists quite apprehensive and unwilling to invest in such a strained social context.

Central government vision would have certainly overridden this resistance capacity had the problem of financing the bridge been overcome. Negotiations with OECF were taking place at the highest level (in May 1997, B.J. Habibie and Basofi Sudirman, then Governor of East Java were again visiting Japan to discuss the matter), when the economic crisis froze the whole project. The cost of the bridge construction was then estimated at 605 billion rupiah, to which had to be added the cost of developing side infrastructures necessary to any industrial development. Among them, the water supply was a very costly one, as dams had not been constructed in Madura itself and water had to be brought from Java.

Land speculation

In spite of the uncertainty about the construction of the bridge and the industrial estates, land speculation in the areas nearing the bridge or planned industrial or residential zones has become strong. Investors gambled on an effective fulfilment of the projects and used figureheads to negotiate pieces of land, as land changed hands several times. In 1996, 300-500ha had been released, mostly on the Madurese side. But hundreds of hectares were in the hands of land speculators, waiting to negotiate them to developers (Republika, 9 July 1996). Dharmala, one of the biggest Surabaya developers with previous involvement in residential and industrial estates (for example, Graha family new town in western Surabaya or Ngoro industry park in Mojokerto), was said to already own large tracks of land. Salim group, one of the biggest Sino-Indonesian conglomerates, bought 450ha of land in 1980 to build a cement factory (Surya, 22 July 1994). This land is waiting today for conversion, as the cement factory has been constructed in Tuban. The sub-districts of Kamal, Socah and Labang that were chosen, after debates, as locations for the future industrial and residential zones, and the sub-district of Kenjeran in Surabaya, have witnessed growing transactions.

Because of land speculation, the price of the land increased heavily, hindering the profitability prospect of the future industrial zones and making it difficult for public authorities to free the necessary land for the physical infrastructures. Prices reported by the press or civil organisations, although sometimes whimsical, showed a strong tendency towards a rapid increase. In Kenjeran, Surabaya, the value of 1m² of land was about 4000 rupiah at the beginning of the 1990s. After the 1993 presidential decree (Keppres 55/1993) requiring the price of land to be fixed by consensus between the owner and the buyer, prices went up to 25,000 rupiah per m². In 1996, some owners claimed up to 500,000 rupiah per m². Meanwhile, BPPT negotiated the land necessary to implant the bridge feet at a comparative low price of 7000 rupiah per m². On the Madurese side, land valued at 4000 rupiah per m² in 1994 and went up to 80,000 rupiah in 1997. Today, there is still a ten-fold gap between public administration's offers and the market price. In 2002, the province government

¹⁸ There was a strong resistance in Madura to the construction of a dam in Nipah, in Sampang District in the early 1990s. The dam project was scrapped.

offered 25,000 rupiah per m², and the owners claimed 250,000 rupiah (various issues of Jawa Pos, Surabaya Pos; Kompas, 10-10-2002).

The project since the 1997 crisis

In order to calm Madurese opposition and unlock the situation, the government had agreed in 1996 to dissociate the 'bridge-industrial zones package', a dissociation that has been confirmed since (Suara Pembaruan, 3 January 1996). The crisis stopped several big infrastructure projects (Keppres No. 39/1997), including the Suramadu Bridge. In 2002 the project was unearthed again with a presidential decree (Keppres N°15/2002, dated 22 March 2002). Seven years have passed since the crisis. Since the implementation of the 1999 decentralization law some of the excesses of centralization and of top-down planning has diminished. However, the bridge project stays a central government matter, under the responsibility of the Ministry of Equipment (Departemen Kimpraswil), which is in charge of all the big infrastructure projects, even though, like in the 1990s, the provincial authorities showed marked signs of impatience.

The financing scheme of the bridge has not yet been settled. After the devaluation of the rupiah, the cost now reaches 2.3 trillion, to be shared between the national budget (APBN), the provincial budget (APBD), the Indonesia Highway Corporation (P.T. Jasa Marga), and by a foreign loan for the largest part of the cost (1.5 trillion). The share of APBN has not been determined yet, as East Java's authorities are pressing upon central government to increase its share from 200 billion rupiah as a whole, up to 200 billion per year during four years. Japan has disappeared from the project's scene. As for the foreign loan, a loan from Kuwait collapsed but the press have reported on the eventuality of a barter trade agreement with China (Kompas, 28-11-2002). As local authorities have not been allowed by the Ministry of Finance to issue municipal bonds or to negotiate a long term loan abroad, due to it being too risky in the context of the devaluating rupiah, the situation seems to be locked again, as are other big costly infrastructure projects equally urgent in the province and elsewhere in Indonesia.

The bridge issue has recently been the subject of many forums and presentations in East Java, the principle of its fulfilment seldom challenged as the multiplier effects on Madurese economy would be obvious. Surabaya and Madura could nevertheless be brought together at lower cost, by improving the ferry navigation. This could be done by modernising and increasing the number of decks and ferries, and by developing the roll-on roll-off means of transport. As for the population, the cost of crossing through the toll bridge would probably far exceed the cost of crossing by ferry. The timing of the resurgence of this project raises doubts about whether it would be an electoral argument in the 2004 presidential election. The dramas of the bridge have lead to strange rumours that have spread as far as Mojokerto or Sidoarjo, attesting to a thousand children heads should be sacrificed to ensure its construction.

Toward Madura's integration into the world economy?

The Suramadu Bridge project is symbolic of processes and people shaping the mega-urban regions, which involve powerful private and public interested parties, the later sometimes fighting over the leadership of the project.¹⁹ It reflects the New Order vision of development based on modern and exogenous industrialisation and private capital's appetite for land development and infrastructure projects. The first stone of the bridge is not yet laid, but the project has already increased land value and land transactions. It has also made the eastern toll ring road of Surabaya a high priority, and has accelerated the urban expansion towards the northeast of the city.²⁰

There is a conflicting vision of development between central government, represented in this case by B.J. Habibie, famous for his involvement in mega-projects and connected with Japanese companies, and the Madurese people led by their Ulamas. The New Order's development achievements are far from insignificant, especially in Java, as the oil revenues have fuelled public investments in agriculture and industry sectors, as well as in infrastructures and social services. But public investments retreated with the drying up of this financial manna in the 1980s. In the 1990s, the development motto benefited mostly well-connected private companies.

East Java's province authorities and the Surabaya municipality support the project as they are eager to stick to their commitment to infrastructure development, in order to offer a business attractive environment in the area. They take the most active part in today's budget research to finance major infrastructure projects, among which is the Suramadu Bridge, and the completion of several toll roads to upgrade Surabaya's linkages with other cities of the province's core area (Surabaya-Mojokerto, Gempol-Pasuruan and Gempol-Malang). The implementation of these projects would probably help East Java resume with the international part of its economy, hit hardly by the 1997 crisis and by internal political uncertainty. Surabaya could then go on competing for its international status beside its well secured national status.

Bangkalan district authorities also defend the project and do not try to protect Madurese insularity. East Java is a theatre of strong competition between districts for the attraction of industrial investments and public infrastructures. Many undeveloped districts, among which Lamongan and Tuban, have welcomed industrial projects and received huge investments.²¹

¹⁹ See Muthmainnah, 1998, for a detailed chronology of the project, showing frictions between BPPT and the Ministry of Public Works for the leadership of the project. Habibie's BPPT was also allied to the Japanese companies, opposing M. Noer's PT DMP as allied to the Bupati of Bangkalan for the choice of the location of the industrial and residential estates in the north or the south of Madura.

²⁰ The proximity to the future eastern toll ring road is an advertisement selling point for real-estate developers.

²¹ In the mid-1990s, B.J. Habibie was toying with the competition between the districts, telling Madura that the development projects will be moved to other more willing localities. While negotiating with Madurese Ulamas, he publicized his touring with Lamongan Bupati in search of 7000ha for industrial development (Muthmainnah, 1998). On the industrialisation point of view, Madura has actually missed opportunities. Probolinggo has gained the Paiton coal-fired steam power plant project, Tuban a cement plant, an olefin and an ethylene plant (McMichael, 1998). Lamongan is

Today, the construction of the bridge has been dissociated from the development of industrial zones and the Madurese Ulama's and the people's opposition has eased up. But the financing scheme of the bridge relies on its profitability prospects, which depend on activity expansion into Madura. When the province recovers from the crisis, the western end of Madura could well become the next contiguous area of urbanization, as urbanization would spill over from Surabaya, adding a northeastern branch to the East Java star shaped core area. Madura could become an extension of Surabaya's maritime,²² industrial and residential activities and uses, as well as a main area for tourism.²³ This process would extend into Madura the land use, economic and social mixing like modalities of urban sprawl found elsewhere in Surabaya's periphery. Madura Island might by then come under the impact of the global economy, which will lead to important physical, economic and social transformation.

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also an interesting alternative location for industrial plants even though the water supply remains one of the main industrial development constraints.

²² One of the options to help solve the problem of the regular silting up of Surabaya's port, as well as alleviating Surabaya's ports from the 1.3 million containers Tanjung Perak receives each year, would be the construction of a deep sea port in Tanjung Bumi in Madura's north coast.

²³ Many projects concern leisure development and the planning guidelines for Madura will be modified to allow the zoning of port, fishing and tourism areas on the island.

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Legends of the photos (unavailable)

1 : Shophouses of Jalan Nyamplungan, near the old business district of Jembatan Merah

to be placed p. 3

2 : High rising city center landscape : a view from Tunjungan Plaza

to be placed p. 3

3 : A new real estate in Simomulyo, built between the western toll road and Darmo Satellite new town .

to be placed p. 4

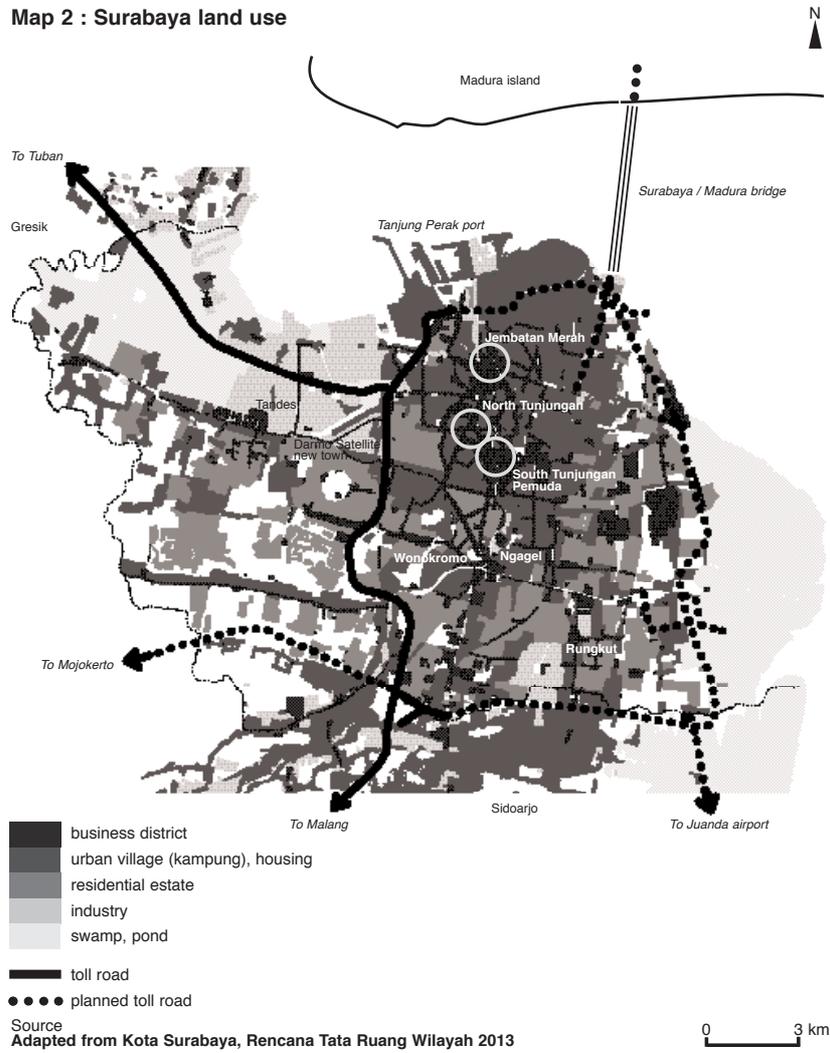
4 : One of the luxury houses on Jalan Raya Darmo Permai in Darmo Satellite new town

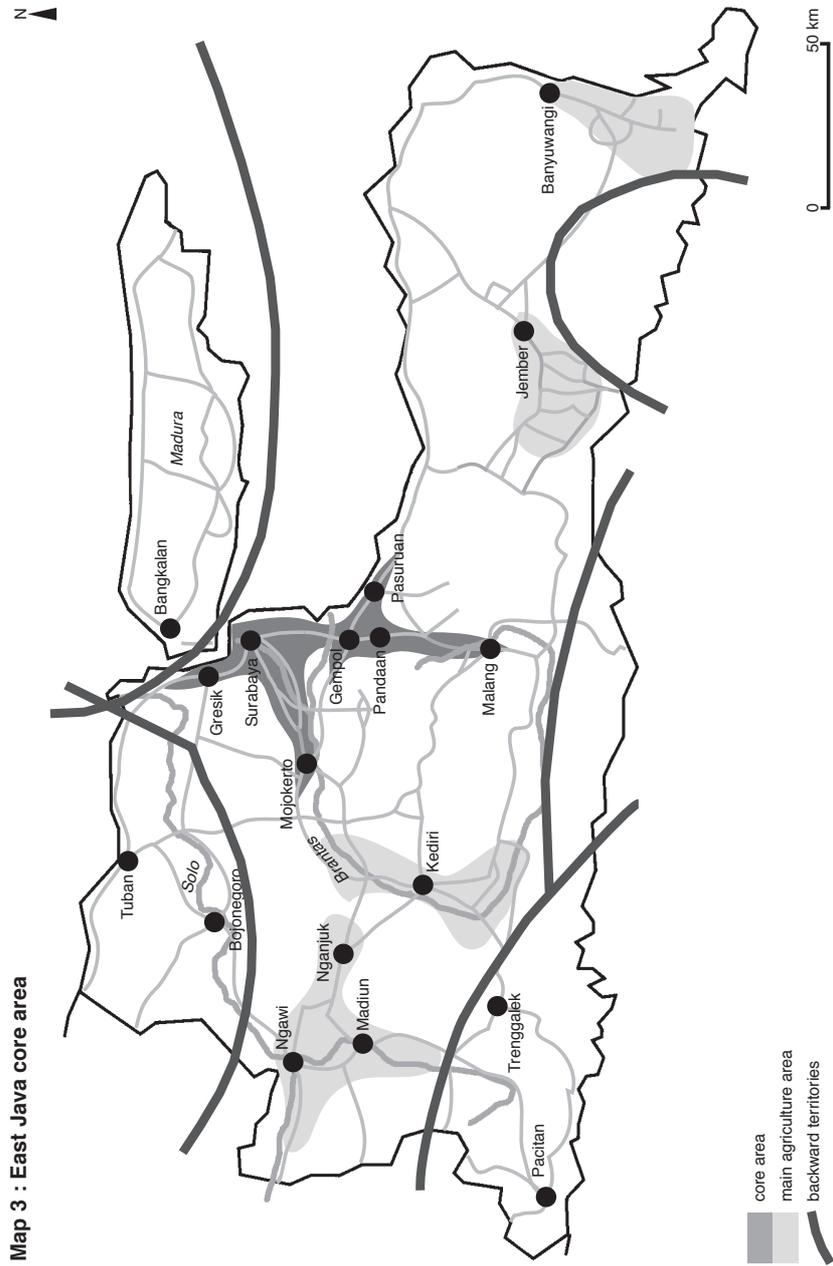
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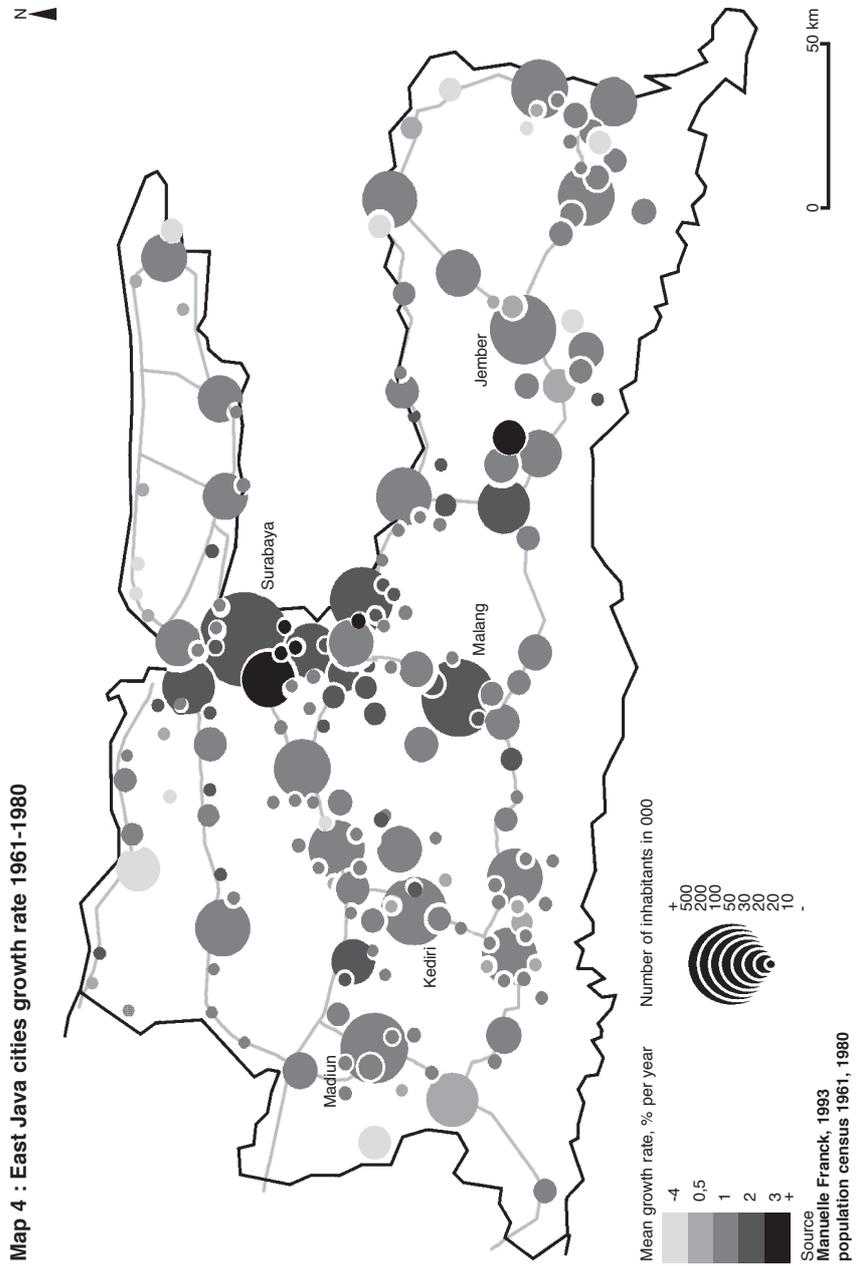
Map 1 : Location map



Map 2 : Surabaya land use







Map 4 : East Java cities growth rate 1961-1980