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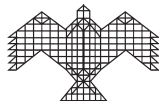
Narendar Dani

# TOWARDS A STRATEGY FOR MANUFACTURING IN KARNATAKA



# TOWARDS A STRATEGY FOR MANUFACTURING IN KARNATAKA

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PROGRAMME FOR INTERDISCIPLINARY APPROACHES TO ECONOMIC ISSUES  
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# EXECUTIVE SUMMARY

Karnataka has been among the worst hit by the slowdown in Indian industrial growth that followed the global economic crisis of 2007-08. Given Karnataka's long record as one of the country's more industrialized states, going back to the pre-independence era, it is tempting to treat this as no more than a short-term aberration. But if we look beyond these growth rates at the economic processes underlying these trends there is greater cause for concern. This paper uses a theoretical framework drawn from New Economic Geography to understand this process and suggest policy initiatives to revive manufacturing in the state.

Karnataka's economic success has been disproportionately dependent on Bengaluru. The city has seen three distinct phases of growth in the years after independence: the first led by the public sector, the second led by small scale industries including garment manufacturers, and third the

information technology led boom. These three phases of Bengaluru's economic growth were not matched by similar processes of agglomeration elsewhere in the state. Though there were examples of processes of agglomeration being initiated in other cities in the state, they did not turn out to be sustainable.

The primary consequence of resources being concentrated in Bengaluru is that it set off what can be termed a real estate spiral. The higher land prices had, and continue to have, at least two important consequences for the growth of manufacturing. First, since manufacturing typically requires more land than services, high real estate prices contribute to a preference for services over manufacturing. Second, sky-rocketing land prices also make it very difficult for micro businesses to expand into medium and then large units. And the problem is not just one of land becoming unaffordable. The

booming real estate market also opens up investment opportunities for micro businesses. Rather than going through the effort for the relatively limited profit margins of manufacturing, they now have the opportunity to generate much greater speculative profit through real estate investments.

In addition to these two direct effects, the higher land prices contribute to a more widespread increase in the cost of living of labour. The rate of increase in prices is higher in the cities of Karnataka than those of Tamil Nadu over the three decades since 1982. What is more, in the years after 2006, the rate of increase in the consumer price index numbers for industrial workers is in general significantly higher in Karnataka's cities than in those of Tamil Nadu.

Meaningful prescriptions for a revival of manufacturing in Karnataka must be consistent with our diagnosis of the disease. The diagnosis that emerged from the discussion demanded measures to deal with three main issues: reducing Bengaluru-centricity; encouraging capital to move from real estate to manufacturing; and providing labour accessibility to training and jobs.

Reducing the state's dependence on

Bengaluru for its growth requires at least three urgent steps. First, the government must launch a series of townships, each with a strong manufacturing centre and all other facilities for those working in them. This effort can be built around the strategy based on NIMZs but need not be confined to them. Second, policy makers should ensure that the focus of the townships is consistent with the type of labour available in the region. This will help the township grow in the initial stages and once it takes off, it will be able to attract labour from elsewhere. And third, the infrastructure that is provided in each township much be sensitive to the effects it has on the prices of the products produced in them. Care must be taken to ensure that the cost of infrastructure does not contribute to the products being priced out of the global market.

The process of encouraging capital to move from real estate to manufacturing would involve at least two steps. First, there would have to be administrative measures to ensure that land meant for manufacturing is not diverted to real estate. This would include ensuring there is no change in land use. Second, the real estate opportunities of the new townships should be linked to

their manufacturing activities, so that at least a part of real estate capital can be diverted to manufacturing.

An effective policy to increase the availability of labour would involve three steps. First, it would develop low-cost-low-facilities public transportation both within the city and from villages

to urban centres. Second, it would develop a network of effective skill training centres located at places which minimize the costs to those who are being trained. And third, it would invest in the lower end of the rental market for accommodation that is used by the poor.





# TOWARDS A STRATEGY FOR MANUFACTURING IN KARNATAKA

Narendar Pani

## INTRODUCTION

Karnataka has been among the worst hit by the slowdown in Indian industrial growth that followed the global economic crisis of 2007-08. By the time of the advanced estimates for 2010-11 the rate of industrial growth in the country as a whole had declined by a third to 7.9 per cent from 12 per cent recorded in 2006-07. During the same period Karnataka had slipped from being far above the national average to being well below the national average, with its industrial growth rate dropping from 21 per cent in to just 7 per cent.<sup>1</sup> Given Karnataka's long record as one of the country's more industrialized states, going back to the pre-independence era, it is tempting to treat this as no more than a short-term aberration. But if we look beyond these growth rates at the economic processes underlying these

trends there is greater cause for concern. The industrial slowdown in the state may well be the early signs of a deeper malaise, where Karnataka's strategy of industrial growth as if location does not matter is beginning to unravel.

This paper begins by first briefly outlining a framework drawn from the literature on New Economic Geography to understand how and why centres of industrial growth emerge. It then uses that framework to explain the tendency for Karnataka's industrialization to gravitate excessively towards Bengaluru. It then argues that in this Bengaluru-centricity lies the seeds of the industrial crisis in the state. The paper finally outlines some of the measures needed to take location on board when determining policy to regenerate a more broad-based industrial growth.

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<sup>1</sup> Data from the Directorate of Economics and Statistics, Government of Karnataka, cited in Government of Karnataka, 12 Five Year Plan (2012-17) Sector Paper: Manufacturing, p 5.

## DYNAMICS OF ECONOMIC AGGLOMERATION

The emergence of new economic geography has brought issues of location onto the centre-stage of our understanding of the development process. The work of Paul Krugman and others has helped understand why some cities emerge as economic centres while others don't.<sup>2</sup> In grasping the dynamics of this process it is useful to adopt a model of agglomeration that draws on this body of work.

In this adapted model a city grows through a series of backward and forward linkages. As is depicted in the dark boxes of Figure 1, the dynamics of the growth of an economic centre can be depicted as a self-reinforcing cycle. The first step towards the emergence of an economic centre could be at any point in the cycle, typically one where the city has already established an advantage. If we were to begin with a city that has a well-established labour force with particular skills, it would be attractive to those seeking to set up units requiring those workers. This contributes to firms with the same worker profile being set up in the city. This in turn leads to an increase in job options for individual

workers, enabling them to raise their nominal wages. At the same time the availability of the products of these firms improves the capabilities of the worker as a consumer. The increase in the nominal wage together with a greater availability of products at closer-to-cost prices leads to a significant increase in the real wages of the workers. This encourages more workers to move to the city, thereby attracting more firms, and the cycle continues.

The working of this cycle is not independent of the conditions around it. The significance of each stage in the cycle would depend on the extent to which it is supported by the larger environment in which the cycle is operating. The light boxes in Figure 1 identify the external factors influencing each stage of the cycle.

We began our exploration of the cycle at the point where there is a large number of workers with the skills a particular industry requires. The existence of this labour force would, however, itself depend on the larger economic environment created by historical and social circumstances.

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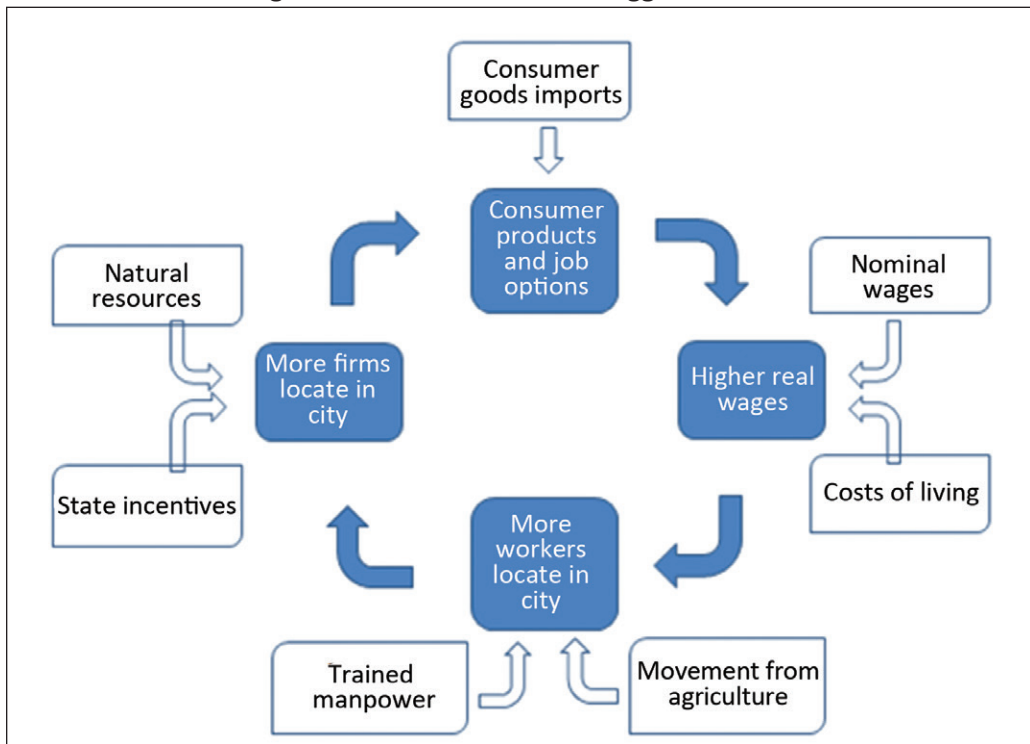
<sup>2</sup> Fujita, Masahisa, Paul Krugman and Anthony J Venables (2001) *The Spatial Economy: Cities, Regions, and International Trade*, Massachusetts: The MIT Press.

These circumstances would determine not just the size of the labour force that would be available, but also the kind of industry it would support. A larger economic environment characterised by a rural economy that can no longer absorb its entire labour force, would encourage these workers to migrate to urban centres. The labour force generated by such migration from agriculture would be of interest to industries that need skills that are relatively less time consuming

to develop. In contrast, a larger economic environment characterised by institutions of technical education would throw up a workforce rich in technical manpower. This would attract industries seeking technically qualified manpower.

External influences can play a significant role in all the other stages of the cycle as well. At the next stage there is also a role for the extent to which a particular location allows industry access to resources. Indeed, in

**Figure 1: Process of industrial agglomeration**



some industries that are heavily based on natural resources this can be as significant a factor as the availability of labour. It would appear obvious that natural factors would play a critical role in the availability of resources. But it is possible for the natural availability to be enhanced or curtailed by state policies. A state government offering highly subsidised prices for a particular natural resource could attract companies if the benefit of lower prices more than makes up for the transportation of the resource from other areas. It must be noted, though, that the role of the state need not always work in favour of growth. It is possible for an effective and desirable state policy to raise the cost of a resource and hence act as a disincentive for growth. This is particularly true of situations where increased availability of a resource can be damaging to the environment.

The availability of products that serve to enhance real wages is also dependent on the larger economic environment. The specific products that attract workers would depend on the profile of the workers. Workers would be attracted to products they can relate to. Those migrating from villages have been known to prefer investing in

televisions that allow them to keep in touch with the culture of the rural setting from where they have come. Employees of more high technology industries on the other hand would prefer products with more advanced technologies and a closer link to fashions in the developed world. In the latter case they would be influenced by whether the larger policy environment encourages the availability of imported products and lifestyles.

The improvement in the real wages of workers too could be influenced by other external factors. In an environment with significant inflationary pressures, it would require a very substantial increase in nominal wages for real wages to grow. Cities that can manage the cost of living better would then have a greater advantage. This factor can be critical as an increase in nominal wages could lead firms to consider setting up shop elsewhere. And in an era of globalization the alternative locations need not be in the same country, let alone the same state.

The growth of a state's industrial sector would then depend on the success of its economic centres. In an accounting sense it would not matter if the overall growth came from the massive growth of a single metropolis or

from the growth of multiple economic centres. But these patterns can affect the process of agglomeration. For instance, an excessive concentration in a single city can raise the costs of land and infrastructure in that city. The higher

costs may not have too adverse an effect on cities that compete on the basis of quality and cutting edge technological change, but it could be a debilitating weakness for industries competing primarily on the basis of low costs.

## THE KARNATAKA EXPERIENCE

When using this framework of agglomeration to understand the nature of industrialization in Karnataka's cities there is little doubt about the effectiveness of the process in Bengaluru. The economic growth of Bengaluru in the years after independence can be seen in terms of the working of the cycle of agglomeration in at least three different phases. The first phase was led by the public sector. Bengaluru's focus on public sector investments began even before independence. The city's experience with public sector units in princely Mysore helped build its case to be considered a natural destination for some of the major public sector investments made by the Central government after independence. The inflow of central public sector investments on a large scale saw the emergence of a number of townships

on the periphery of the then Bengaluru.<sup>3</sup> These well designed townships, together with the higher wages and better labour conditions ensured by trade unions, made Bengaluru a sought-after destination for workers. The availability of a skilled workforce may well have influenced the decision of the Central government to expand public sector investment in the city.

The second and third phases of Bengaluru's economic growth grew out of the first. As the public sector grew with a unionized labour force it ensured that the nominal wages paid to its workers as well as the facilities available were noticeably above those of the rest of the working class, particularly workers in the unorganized sector. This created a situation where it was attractive for the public sector to outsource the manufacture of

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<sup>3</sup> Nair, Janaki (2005) *The promise of the metropolis: Bangalore's twentieth century*, New Delhi: Oxford University Press.

some of its components to small scale private units who relied extensively on unorganized labour. This process was enabled by the creation of large industrial estates in Bengaluru.<sup>4</sup> This created the infrastructure needed for a rapid growth in the small scale sector in the city. This process received a further boost in the 1970s from global trends. In this decade it became fashionable to celebrate the clothes of the working class in the developed world, particularly those made from denim. The making of these clothes no longer needed the high degree of skill and technology that was available in the developed world. The manufacturing process thus moved out of the developed world, seeking manufacturers in alternative sites that could provide both the physical infrastructure as well as low cost labour. Bengaluru, with its large industrial estates and unorganized workforce, met this demand.<sup>5</sup> This export-garment led growth provided the second phase of industrial agglomeration in the city.

The third phase too was a combination of the by-products of

the public sector boom and global change. Workers in the public sector, who were relatively better off than their counterparts elsewhere, were in a position to tap the educational opportunities Bengaluru offered their children. The townships themselves had well developed health and schooling infrastructure. And once out of school the children of public sector employees had the opportunity to access the well-developed and heavily subsidized engineering education system developed since the days of princely Mysore. This created a large body of technical manpower that the state could not initially absorb. Many of these engineers sought to migrate out of the country. With the coming of the communication revolution in the mid-1980s however, it became possible for global players to tap this manpower even as the workers remained located in Bengaluru. The resultant widely recognised information technology boom led the third phase of agglomeration in Bengaluru.<sup>6</sup>

These three phases of Bengaluru's economic growth were

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<sup>4</sup> Sudhira, HS, TV Ramachandra and MH Bala Subrahmanya (2007) "City Profile: Bangalore" *Cities*, Vol. 24, No. 5, p. 379–390

<sup>5</sup> Pani, Narendar and Nikky Singh (2012) *Women at the threshold of globalization*, New Delhi: Routledge

<sup>6</sup> Heitzman, James (2004) *Network City: Planning the Information Society in Bangalore*, New Delhi: Oxford University Press

not matched by similar processes of agglomeration elsewhere in the state. There were examples of processes of agglomeration being initiated in other cities in the state, but they did not turn out to be sustainable. The mining boom in Bellary could have begun a sustained process of agglomeration. But the environmental degradation and subsequent health hazards it brought with it limited its potential to attract other industries. And the mining boom itself came up against a moral and legal barrier.<sup>7</sup> Other potential centres on the coast, particularly Mangalore, were not able to get the full benefit of agglomeration because of inadequate access to the rest of the state.<sup>8</sup> As a result Karnataka's growth has tended to become Bengaluru centric.

The Bengaluru centrality of Karnataka's economic growth is perhaps best reflected in the patterns of urbanization, particularly the increase in urban population between 2001 and 2011. During this decade Bengaluru accounted for more than half of the increase in urban population in Karnataka. And there was no

**Table 1: Share of districts in increase in urban population between 2001 and 2011**

State / District	Percentage Share in New Urban Population
<b>KARNATAKA</b>	<b>100.00</b>
Bengaluru	52.70
Dakshina Kannada	4.67
Mysore	4.56
Bellary	3.78
Gulbarga	3.57
Belgaum	3.53
Dharwad	2.98
Kolar	2.44
Udupi	2.27
Bengaluru Rural	2.27
Bagalkot	2.14
Bijapur	1.86
Tumkur	1.70
Davanagere	1.53
Bidar	1.40
Hassan	1.29
Raichur	1.19
Haveri	1.02
Chitradurga	0.96
Shimoga	0.93
Gadag	0.67
Koppal	0.63
Uttara Kannada	0.55
Chamarajanagar	0.48
Mandya	0.47
Chikmagalur	0.30
Kodagu	0.10

Source – Calculated from Census of India, GoI (2001, 2011)

NOTE - The Population data has been calculated as per 2001 districts

<sup>7</sup> “SC clamps mining .lary” *The Telegraph*, July 30 , 2011

<sup>8</sup> The Ghat section of the highway connecting Mangalore to Bangalore has been very vulnerable to monsoons and it is not unknown for train services too to be interrupted during the monsoons.

other district that was even close. As can be seen in Table 1, Bengaluru's contribution of 52.7 percent of the increase in urban population in the state was more than ten times greater than the district with the next highest contribution, Dakshina Kannada. It is also interesting to note that the other major point of urban attention in the state, at least in terms of JNNURM recognition, Mysore, contributed less than Dakshina Kannada. And the other district that has often been suggested as a focus of Karnataka's urbanization, Dharwad, ranks even lower at seventh.

### **CONSEQUENCES OF BENGALURU-CENTRICITY**

The primary consequence of resources being concentrated in Bengaluru was that it set off what can be termed a real estate spiral. The concentration of resources into Bengaluru increased the demand for land in the city, with the consequent effect on land prices. The term "speculators heavens" was soon being used in official circles.<sup>9</sup> The sharpness of this spurt in land prices set up the possibility of

land being an avenue for speculative investment. This investment, sometimes by investors who had no intention of living in Bengaluru, provided a further impetus to land prices. The higher land prices had, and continue to have, at least two important consequences for the growth of manufacturing.

First, higher land prices affect the composition of investment in Bengaluru. It forces investors to get more conscious of the land element in their investments. This generates a clear preference for less land intensive economic activities. Since manufacturing typically requires more land than services, high real estate prices contribute to a preference for services over manufacturing. This preference is strengthened by the tendency for smaller information technology firms to be set up in residential areas, an option that is typically not open to manufacturing.

Second, sky-rocketing land prices also make it very difficult for micro businesses to expand into medium and then large units. And the problem is not just one of land becoming unaffordable. The booming real estate

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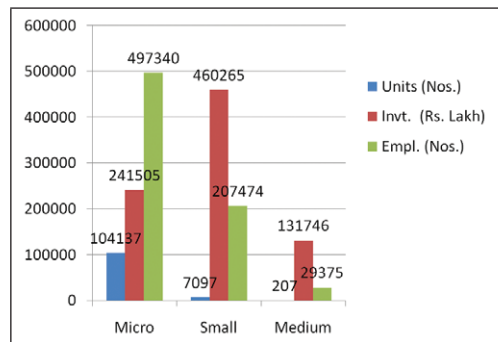
<sup>9</sup> For instance, Ravindra, A, B.K. Chandrashekar, V. Govindraj and P.S.S. Thomas (1997) Report of the Committee on Urban Management of Bangalore City, submitted to Government of Karnataka, November 1997.



market also opens up an investment opportunity for micro businesses. Rather than going through the effort for the relatively limited profit margins of manufacturing, they now have the opportunity to generate much greater speculative profit through real estate investments. And this trend may well be immune to government initiatives to offer land for manufacturing. Indeed, there is a risk of misuse of state incentives. Those who do receive land at subsidized rates from the government to set up a manufacturing unit have an incentive to allow their industry to turn sick and book the profits available on converting the land to various forms of real estate. This preference for real estate over manufacturing has contributed to the employment in Karnataka being concentrated in micro businesses and large businesses. The inability of micro enterprises to grow into small and medium enterprises is reflected in the patterns of investment, number of units and levels of employment in micro, small and medium industries.<sup>10</sup> As can be seen in Chart 1, the decline

from micro to small and then to medium is consistent and sharp in the case of both the number of units and employment. The total investment does show a sharp increase as we move from micro to small, only to drop even more dramatically when we come to medium industries.

**Chart 1: Distribution of Micro, Small and Medium Units in Karnataka**



Source: Presentation to the first meeting of the Manufacturing Task Force by the Commissioner of Industries, Government of Karnataka, at Bangalore on 12<sup>th</sup> July 2013.

In addition to these two direct effects, the higher land prices contribute to a more widespread increase in the cost of living of labour. The city economy is an arena where the larger inflationary pressures play out. And these pressures

<sup>10</sup> The categories of micro, small and medium industries are defined differently for manufacturing and services. According to a presentation of the Commissioner of Industries, Government of Karnataka, made on manufacturing units with an investment in plant and machinery up to Rs 25 lakhs are classified as micro, Rs 25 lakhs to Rs. 500 lakhs as small, and between Rs 500 lakhs and Rs 1000 lakhs as medium. In services the limits are Rs 10 lakhs, Rs 10 lakhs to Rs 200 lakhs, and Rs 200 lakhs to Rs 500 lakhs respectively.

are not helped by the emphasis on world class infrastructure at any cost. This cost is invariably transferred to the consumer. This can be done by charging higher rates as in the case of toll roads or higher priced tickets for buses. Or it can be done indirectly as when the government bears the cost, thereby reducing the resources available for more effective infrastructure such as filling potholes on roads or subsidising housing for the poor. The extent of the effects of higher costs of living in Bengaluru and other cities in Karnataka are best seen when we compare the consumer price index for industrial workers in the cities of the state with that of cities in the neighbouring Tamil Nadu. As can be seen in Table 2 if we

extend the series with 1982 = 100, the rate of increase in prices is higher in the cities of Karnataka than those of Tamil Nadu in the long term, that is over the three decades since 1982. What is more, in the years after 2006, the rate of increase in the consumer price index numbers for industrial workers is in general significantly higher in Karnataka's cities than in those of Tamil Nadu.

At the heart of Karnataka's recent slowdown in manufacturing is the Bengaluru-centricity of its development experience. The excessive emphasis on Bengaluru has accentuated two other trends that have had a serious negative effect on manufacturing. First, the tendency for real estate to draw capital

**Table 2: Consumer price index numbers for industrial workers converted from index with base 2001=100 to base 1982 = 100**

CITY	Conversion factor	JAN-06	NOV-13	Rate of increase
BELGAUM	5.02	607.42	1249.98	105.79
BENGALURU	4.51	545.71	1113.97	104.13
HUBLI-DHARWAD	4.71	555.78	1210.47	117.80
MADIKERI	4.47	500.64	1121.97	124.11
CHENNAI	4.95	584.10	1123.65	92.37
COIMBATORE	4.49	520.84	1010.25	93.97
COONOOR	4.58	526.70	1044.24	98.26
MADURAI	4.51	523.16	1028.28	96.55
SALEM	4.45	511.75	1001.25	95.65
TIRUCHIRAPALLY	5.01	611.22	1197.39	95.90
ALL INDIA	4.63	550.97	1125.09	104.20

Source: Labour Bureau, Government of India, downloaded from <http://labourbureau.nic.in/indtab.html>. Accessed on 10<sup>th</sup> February 2014.

away from manufacturing has severely restricted the flow of capital into the industrial sector. Second, the higher costs of living both because of the real estate boom as well as the high cost infrastructure forces Bengaluru into a labour trap. If the nominal wages are increased to cover these costs, the

city runs the risk of becoming less competitive in the global race of cost-effective manufacturing centres. And if the costs are not covered, workers prefer to shift back to the relatively low personal cost economy in rural areas, even if the earning capacity there is substantially lower.

## THE WAY FORWARD

The above discussion provides clear pointers to the direction in which policy has to move if there is to be a recovery in manufacturing in Karnataka. Before identifying the precise steps that could be productive it would be useful to first explicitly recognise that some of the knee-jerk reactions to the crisis can be counter-productive. The most serious risk here is in the approach to infrastructure. There can be no doubt that infrastructure needs to be significantly improved if Karnataka is to return to the high growth path, especially if it seeks a prominent place for manufacturing. There are serious infrastructure deficits in a variety of areas ranging from power to transportation. Effective management of this deficit would ideally involve initiatives on both the supply and

demand sides. In practice, however, the focus in recent years has been almost entirely on the supply side. For instance during the IT boom there was little effort to ensure that the houses the IT employees prefer came up in adequate numbers close to their place of work. This substantially increased the demand for transportation. By ignoring the potential to manage demand in a way that enhances growth, policy makers have tended to discard, unused, an important policy instrument.

The limitations of a focus on supply alone have been compounded by the approach to the task of improving infrastructure. First, the emphasis has been on world class infrastructure rather than cost effective infrastructure. It is not unknown when deciding on individual infrastructure projects, such

as airports, to keep in mind images of similar projects in the developed world. This would necessarily raise the costs of infrastructure to levels that are comparable to that in the developed world. Foreign investors seeking to escape the costs of the developed world would have little incentive to invest in Karnataka if the costs are not substantially lower than that in the developed world. It is then not entirely surprising that the initial promise of investing in Karnataka that can be seen in the signing of MOUs in global investors meets, does not always translate into real investments once the foreign investors are confronted with the real costs of investing in the state. Second, official efforts to get investors to overcome their hesitation by offering greater concessions can also, in some cases, be counterproductive. This is particularly true when infrastructure projects are offered more land than they, strictly speaking, require. Using the promise of real estate profits to woo investors may appear an attractive option, but it is in fact counterproductive. It increases the resistance to projects from those whose land is being taken away and, equally important in terms of the effect on growth, it contributes to even foreign

capital being diverted into the real estate market and away from manufacturing.

More meaningful prescriptions for a revival of manufacturing in Karnataka must then be consistent with our diagnosis of the disease. The diagnosis that emerged from the discussion in the earlier sections demanded measures to deal with three main issues: reducing Bengaluru-centricity; encouraging capital to move from real estate to manufacturing; and providing labour accessibility to training and jobs.

### **REDUCING BENGALURU-CENTRICITY**

The need to develop manufacturing centres outside Bengaluru has been recognised by the Karnataka government. There has been a concerted effort to tap the Government of India's efforts to set up National Investment and Manufacturing Zones (NIMZs) in Karnataka. Three NIMZs have been approved in Tumkur, Gulbarga and Bidar. The Central government has also decided to provide the proposed Information Technology Investment Region (ITIR) near the Kempegowda International Airport in Bengaluru the facilities available to NIMZ. While these initiatives indicate a welcome effort to develop multiple growth centres in

Karnataka, it is not yet clear whether the economic environment in these regions will lead to the individual units taking off.

For the investment in NIMZ to become the starting points for a self-sustaining manufacturing boom in these regions at least two broad principles will have to determine the course of implementation of these projects. First, there must be a broad compatibility between the type of labour available in these regions and the economic character of the NIMZ. Gulbarga and Bidar belong to the north-east region of the state that is now officially recognised as being much more backward than other parts of the state. The labour force that is available in these regions is relatively less educated. Tumkur may be in the relatively less backward southern Karnataka, but Census data tells us that that there is a major movement of labour in this district away from agriculture.<sup>11</sup> For the NIMZs to be able to make the best use of the labour available in their vicinity, they would need to focus on industries which use relatively less educated labour with limited training. For such industries the backwardness

of the region will provide advantages in terms of the availability of cost-effective trainable labour in adequate quantities. This labour advantage can however be quickly and dramatically lost if the NIMZ focus on industries that have no place for locally available labour. In that case the industries would have to import not just their capital equipment into the region, but also their technical labour. While such technical labour may be willing to move into cities that have already established themselves as economic powerhouses, they are less likely to move into areas they perceive to be backward. To make these backward areas attractive to technical manpower the industries would have to offer higher wages. This would dramatically reverse the cost-advantage of a NIMZ in a backward region.

Second, the infrastructure that is provided must be cost-effective. The infrastructure must be provided at a cost that does not make it difficult for the industries located in the NIMZ to compete with manufacturers located elsewhere. This would require a number of factors to be kept in mind when

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<sup>11</sup> For a detailed analysis of the shift away from agriculture in the districts of Karnataka see, Pani, Narendar and Chidambaran Iyer (2013) *Evaluation of the Processes in the Implementation of Jawaharlal Nehru National Urban Renewal Mission in Karnataka*, Karnataka Evaluation Authority, Government of Karnataka.

making infrastructure decisions. While the infrastructure would have to enable effective manufacturing as well as provide the education, health and social facilities needed to attract workers, it is also necessary to be sensitive to the overall cost that is passed on to the price of the final product. This sensitivity could be addressed by looking at low cost options, including alternative technologies. It is also possible not to transfer the entire infrastructure cost on to the final consumer, by maintaining a general infrastructure subsidy.

This is not to suggest that the economic revival must be confined to industries that make use primarily of labour that is relatively less educated. The proposed Information Technology Investment Region near Bengaluru is recognition of the scope for industries requiring high technology manpower. And there is scope for industries using technical manpower in manufacturing as well. Since such initiatives will be competing in a relatively higher cost market and need to attract technical manpower, the social infrastructure requirements may be different. In particular, the recreational and cultural infrastructure the technical manpower demand may be different from what

workers from other social backgrounds in the NIMZs would like. While these industries may be able to absorb higher infrastructure costs, there would be a need to be sensitive to these costs too in a competitive global market. There would then be an advantage in locating these initiatives too in areas where high technology manpower is easily available. The coastal Karnataka districts of Dakshina Kannada and Udipi have consistently demonstrated their potential in terms of the availability of educated manpower. Locating a high technology township in that region is likely to prove more rewarding.

In short, reducing the state's dependence on Bengaluru for its growth requires at least three urgent steps. First, the government must launch a series of townships, each with a strong manufacturing centre that also provides all other facilities for those working in them. This effort can be built around the strategy based on NIMZs but need not be confined to them. Second, policy makers should ensure that the focus of the townships is consistent with the type of labour available in the region. This will help the township grow in the initial stages and once it takes off, it will be able to attract labour from

elsewhere. And third, the infrastructure that is provided in each township much be sensitive to the effects it has on the prices of the products produced in them. Care must be taken to ensure that the cost of infrastructure does not contribute to the products being priced out of the global market.

### **ENCOURAGING REAL ESTATE CAPITAL TO MOVE TO MANUFACTURING**

The challenge of getting capital, especially small local capital, to move from real estate to manufacturing is a particularly difficult one. It involves reversing a trend that has taken root for two decades if not more. Real estate also has the ability to attract capital in very wide scale of investment, from investment in single sites to larger integrated townships. As a first step it would be useful to at least plug the loopholes that allow land allotted for manufacturing to be diverted to real estate by changing the land use permissions. Allowing such a transfer implies the diversion of concessions offered by the government for manufacturing into activities that the government has no reason to support. Strict administrative measures to prevent a change in land use should help limit such a diversion

even if it cannot be stopped altogether.

A more meaningful push to capital to move from real estate to manufacturing would however require more than administrative measures. There would have to be economic opportunities to be gained by shifting at least a part of the capital into manufacturing. One way of achieving this would be to develop a close link between the real estate opportunities of the new townships to their manufacturing cores. It could be a condition for real estate investors that a part of the investment in the township must be directed to the manufacturing centres that are at the core of the townships. The real estate investor could invest in a manufacturing centre of her own or contribute a specified amount of capital to a larger investment. Such a process would also create a mechanism through which the capital of multiple local investors could contribute to a single large project. In the process it would help those investing in micro enterprises grow into investing in small and then medium enterprises.

In short, the process of encouraging capital to move from real estate to manufacturing would involve at least two steps. First, there would have to be administrative measures to ensure



that land meant for manufacturing is not diverted to real estate. This would include ensuring there is no change in land use. It would also be necessary to ensure that large investors in infrastructure are not given vast amounts of extra land that can later be used, directly or indirectly, as real estate. Second, the real estate opportunities of the new townships should be linked to their manufacturing activities, so that at least a part of real estate capital can be diverted to manufacturing.

### **IMPROVING AVAILABILITY OF LABOUR**

There are at least three policy initiatives that are needed to improve the availability of labour for manufacturing: removing constraints on mobility of workers; creating a system of cost-effective training; and an effective investment in the housing market for the poor.

**Mobility constraints** can play a critical role in limiting the availability of labour for manufacturing. In the effort to ensure public transport networks are profitable, there has been a tendency to raise the cost of public transport in Bengaluru and some other cities to a level where significant sections of urban workers are forced to walk to

work. This ensures the worker can only seek employment from sources within walking distance of her residence. This limits her employment opportunities even as it reduces the availability of labour in other parts of the city. There is thus a need for an effective low cost transportation for workers within cities. It is possible to also ensure that the facilities offered are such that those who can afford higher fares would not take these forms of transport. For instance, buses with only standing room at very low prices may be acceptable to lower-end workers seeking employment in other parts of the city but are unlikely to be attractive to others.

Effective mobility can also be used to extend the economic frontiers of the city at a relatively low cost. An effective local transport network could be used to allow the workers to continue to live in nearby villages and commute to the city for work every day. As the costs of continuing to live in the village are likely to be well below that of migrating to the city, this arrangement could help raise the real wages of labour without an increase in the nominal wage.

**Cost-effective training** can also play a critical role in improving the availability of labour. When considering



the challenge of generating a skilled workforce it is important to focus not only on issues related to the size of such a potential workforce and their training but also on the effective cost of training to the workers. These effective costs include not just the amount paid out for the training but also the costs of getting to the point of training and what is given up in order to spend time training. Locating training centres close to the place of residence of those who are to be trained can make a substantial difference to the costs the trainee has to bear. A dispersed network of skill development catering to remote rural areas can serve this purpose. It is also possible to develop industry specific training programmes in regions where labour is available. The trained workers are then taken to the location of the industries that need them. Such centres have been developed in Odisha to cater to the garment industry in Kerala. There should be no reason why they cannot be developed in the backward regions of north-east Karnataka to meet labour shortages in other parts of the state.

**Investment in the housing market for the poor** is another area that requires attention. The current strategy of building houses for the poor only

meets a limited part of the demand. And this is not only because of the limited financial resources available. It is also because the nature of employment in a globalized economic environment is built around flexibility. Workers need the flexibility to change jobs and also the place of residence. They might also want to shift the cities in which they work. The major demand for housing is then for rented rather than owned accommodation. There is thus a need for an increase in the availability of rented accommodation. An effective intervention must then be made in the housing market for workers so as to increase the availability of housing. This investment must take place at the level at housing of the poorest. In order to expand the effect of state resources, this initiative could include state financial support for those building houses of a type that only the poor will occupy.

In short an effective policy to increase the availability of labour would involve three steps. First, it would develop low-cost-low-facilities public transportation both within the city and from villages to urban centres. Second, it would develop a network of effective skill training centres located at places which minimize the costs to those who

are being trained. And third, it would invest in the lower end of the rental

market for accommodation that is used by the poor.

## CONCLUSION

Reviving manufacturing in Karnataka thus calls for an approach that goes beyond individual incentives to also intervening in the macroeconomic processes at work. And for a number of these incentives the location can be an important factor. The location of manufacturing units as well as skill development centres has to take into account the availability and needs of

labour. Indeed in the overall strategy for the revival of manufacturing in Karnataka, the location dimension could be as critical as the size of the support the state government is willing to provide.

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