

**NEW INITIATIVES FOR  
INDUSTRIAL UPGRADING IN  
THE PEARL RIVER DELTA**

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*EAI Background Brief No. 464*

Date of Publication: 17 July 2009

## **Executive Summary**

1. The export-oriented Guangdong whose trade accounted for 26.6% of China's total in 2008 has been hard hit by the current global economic crisis as indicated by the sharp falls in its total exports and foreign capital inflow since 2008. The annual growth in exports in Guangdong decreased to 5.6% in 2008 from 22.3% in 2007.
2. Particularly, economic growth in the Pearl River Delta (PRD) region decelerated considerably in the first quarter of 2009. Indeed, many municipalities within this region even recorded negative growth. As a result, GDP growth in Guangdong fell to only 5.8% down from 10.5% a year ago.
3. On 8 January 2009, National Development and Reform Commission released a 12-year development outline for the PRD region, mapping out comprehensive development schemes, such as industry upgrading, infrastructure modernization, technology promotion and social reforms among others.
4. Unlike the earlier initiative of "Pan-Pearl River Delta" proposed in 2004 by the then Party Secretary of Guangdong, Zhang Dejiang, this new development outline initiated by the current Party Secretary Wang Yang adopts an outward-oriented strategy and covers a broader scope of reform with industrial upgrading as the focal point.
5. The policy of "double transformation of industries and labour forces", as stipulated in the Outline, essentially centred on industrial upgrading and strengthening of the long-term competitiveness of the region. The low-end manufacturing industries in this region are expected to be relocated to the under-developed periphery while the PRD will focus on high-end manufacturing and modern service industries.

6. The implementation of this Outline remains challenging as promoting new technology and industrial restructuring in the PRD region is not easy. The existing industrial structure and particularly the enterprises that have benefited from industrial agglomeration in the region tend to resist changes.
7. Moreover, the PRD over the years has established itself as a low value-added, labour-intensive manufacturing base. The development of high value-added technological industries is seriously lagging behind.
8. There is a lack of specific measures to promote industrial upgrading and restructuring. The local government of Guangdong urgently needs to add substance to the documents by providing detailed working plans on tax incentives, manpower training, capital subsidies and Research and Development (R&D) assistance.
9. Economic incentives in tax regimes and loan provision would be desirable to mitigate the financial difficulty encountered by local enterprises; the lack of high-tech industries and skilled labour in the region calls for government-led investment in R&D and upgrading of manpower skills.

# NEW INITIATIVES FOR INDUSTRIAL UPGRADING IN THE PEARL RIVER DELTA

YU Hong & ZHANG Yang\*

## New Development Outline Unveiled

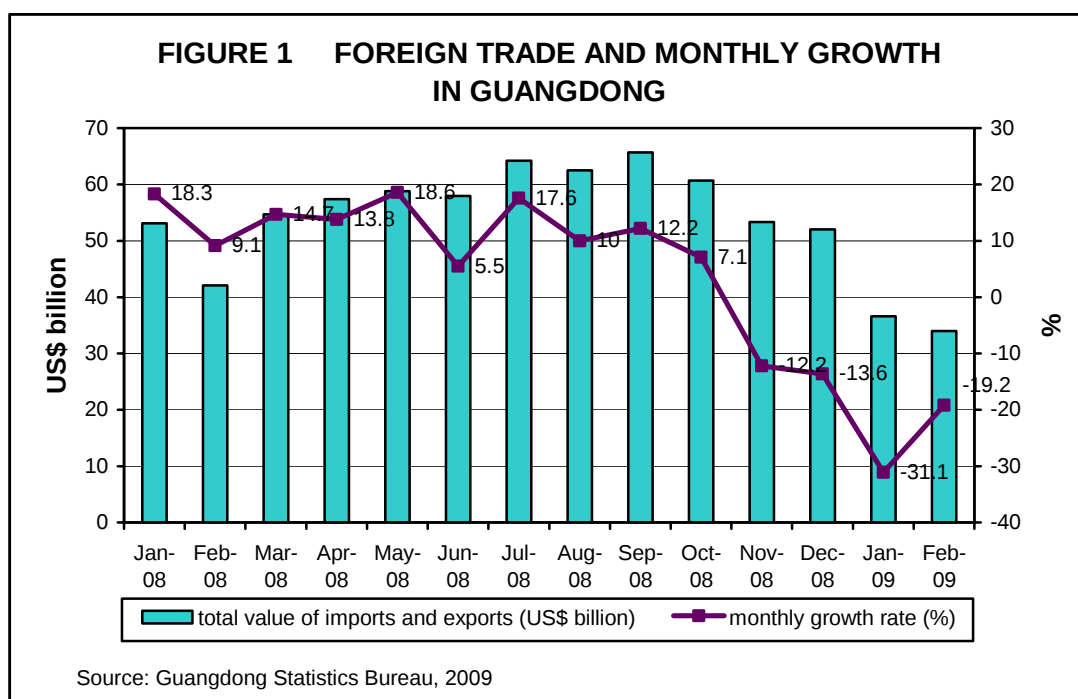
- 1.1 The Pearl River Delta (PRD) region includes nine municipalities of Guangzhou, Shenzhen, Zhuhai, Foshan, Jiangmen, Dongguan, Zhongshan, Huizhou and Zhaoqing in Guangdong province. The region has a land area of 24,437 square kilometres, which is 14% of Guangdong. It has enjoyed prosperity in the past 30 years with an impressive 15% annual growth rate. In 2007, Gross Domestic Product (GDP) for the PRD region reached RMB2.5 trillion, 83% of Guangdong's total.
- 1.2 The export-oriented Guangdong whose trade accounted for 26.6% of China's total in 2008 has been hard hit by the current global economic crisis, as indicated by the sharp fall in its total exports (see Figure 1) and foreign capital inflow since 2008. The annual growth in exports in Guangdong decreased to 5.6% in 2008 from 22.3% in 2007. Consequently, GDP growth slowed to 10.1% in 2008, compared to 14.7% in 2007.<sup>1</sup> Particularly, the PRD region was most adversely affected. It is believed that around 590,000 migrant workers lost their jobs due to widespread factory closures in the PRD region in 2008.<sup>2</sup>

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<sup>1</sup> 'Guangdong GDP, export growth tumbles in 2008', <http://paper.sznews.com/szdaily/20090109/ca2907596.htm>

<sup>2</sup> "Impacts of global economic crisis on Guangdong and its counter-crisis strategies", *Lianhe Zaobao*, Singapore, 19 March 2009. An earlier study conducted by Huang and Chen offers detailed discussion of the negative impacts on the PRD region brought about by the crisis. See Huang Yanjie and Chen Shaofeng. (2009) "Crisis of industrialization in the Pearl River Delta", *EAI Background Brief* No. 444, National University of Singapore, Singapore.



1.3 In the first quarter of 2009, economic growth in the PRD region decelerated considerably. Indeed, many municipalities within this region even recorded negative growth (see Table 1). As a result, GDP growth in Guangdong fell to only 5.8% down from 10.5% a year ago.<sup>3</sup>

**TABLE 1 ECONOMIC GROWTH IN THE PEARL RIVER DELTA IN THE FIRST QUARTER OF 2009**

| Municipality | GDP (100 million Yuan) | Growth Rate (%) |
|--------------|------------------------|-----------------|
| Guangzhou    | 1837.88                | 5.23            |
| Shenzhen     | 1740.90                | 3.38            |
| Foshan       | 981.04                 | 7.57            |
| Dongguan     | 770.59                 | -3.51           |
| Zhongshan    | 330.58                 | 3.53            |
| Jiangmen     | 286.05                 | 4.09            |
| Huizhou      | 259.08                 | 5.15            |
| Zhuhai       | 204.81                 | -6.99           |
| Zhaoqing     | 142.36                 | -0.45           |
| Provincial   | 7687.73                | 5.80            |

Source: Mingpao News, 29 May, 2009,  
<http://news.mingpao.com/cfm/Print.cfm?Publishdate=20090529&File=ca/ca/caa1h.txt>

<sup>3</sup> 'Guangdong sees signs of hope', *China Daily*, 15 April 2009.

- 1.4 Against this backdrop, on 8 January 2009, China's top economic planning body, National Development and Reform Commission (NDRC), released a 12-year development outline for the PRD region which, together with Hong Kong and Macau, will be built into "a globally competitive" and "vigorous area in Asia Pacific" by 2020.
- 1.5 The Outline of the Reform and Development Plan of the PRD (珠江三角洲地区改革发展规划纲要(2008-2020), hereafter referred to as the Outline) maps out comprehensive development schemes for the region, such as industry upgrading, infrastructure modernisation, technology promotion and social reforms among others. What is more, the region is expected to take the lead in building a resource-conserving and environment friendly society. Specifically, the Outline has stipulated explicit goals as compiled in Table 2.

**TABLE 2 DEVELOPMENT GOALS FOR THE PRD**

|                                                         | <b>2007</b>                                                            | <b>By 2012</b>                                                                                   | <b>By 2020</b>                                                                 |
|---------------------------------------------------------|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| Per capita GDP                                          | RMB 54721<br>(US\$ 7,153)                                              | RMB 80,000<br>(US\$ 11,708)                                                                      | 135,000<br>(US\$19,757)                                                        |
| Contribution of service sector to GDP                   | 38.9%                                                                  | 53%                                                                                              | 60%                                                                            |
| Expansion of infrastructure projects                    | 600 miles of highways                                                  | 1,864 miles of highways;<br>683 miles of rail                                                    | 1,367 miles of railway                                                         |
| Strengthening of capabilities of independent innovation | High-tech manufacturing accounted for 27.5% of total industrial output | To set up some 100 state laboratories three to five industrial clusters will come into operation | High-tech manufacturing will generate at least 30 % of total industrial output |
| Average life expectancy                                 | 67.3 years                                                             | 78 years                                                                                         | 80 years                                                                       |
| Urbanization rate                                       | 79%                                                                    | 80%                                                                                              | 85%                                                                            |

Source: 2007 data is obtained from Guangdong Statistical Yearbook 2008

- 1.6 With regard to industrial upgrading, the region aims to become a centre of advanced manufacturing and modern service industries, as well as a centre for international shipping, logistics, trade, conferences and exhibitions and tourism. On infrastructure modernization, the Outline will promote regional economic integration through unifying energy prices and the establishment of

an intercity mass transit system, a distribution network for natural gas and refined oil and a public information database.

- 1.7 According to the Outline, the implementation of the “double transformation of industries and labour forces” policy (“emptying the cage for new birds to come in”) in the PRD region will be hastened over the next 12 years. This policy essentially centres on industrial upgrading and aims to strengthen the long-term competitiveness of the region. The low-end manufacturing industries in this region are expected to be relocated to the under-developed periphery while the PRD will focus on high-end manufacturing and modern service industries.
- 1.8 In contrast to the earlier initiative of “Pan-Pearl River Delta” (also known as 9+2) proposed in 2004 by Zhang Dejiang, the then Party Secretary of Guangdong, this new development outline initiated by the current Party Secretary Wang Yang follows an outward-oriented strategy and covers a broader scope of reform with industrial upgrading as the focal point. The Outline also aims to facilitate development of the province’s less developed peripheral region.

### **The PRD Region—a Pioneer Area for Reform**

- 2.1 Guangdong province has experienced dramatic annual GDP growth rates of 13.5% for the last two decades, 3.5 percent point higher than the national average. Total GDP of Guangdong exceeded that of Taiwan in 2007, reaching RMB3.06 trillion (US\$448 billion), accounting for one eighth of China’s total.
- 2.2 Within the province of Guangdong, the PRD region in particular has been at the vanguard of China’s economic reforms that began in 1978; it will continue its role as a testing area for nationwide reform, taking the lead in further opening itself to the world and seeking deeper reforms.
- 2.3 In fact, the rapid economic growth in PRD is not without its problems. The region is highly dependent on export and thus is vulnerable to external demand

shocks. For example, in 2008, export to GDP ratio reached 85%. Inevitably, the current financial crisis and resultant falling external demand from recession-plagued markets hit the region hard.

- 2.4 It is against this backdrop that the Outline was unveiled to achieve industrial upgrading and economic restructuring, and to address other serious social issues like widening regional inequality within the PRD region. This region, according to the Outline, will continue to be the test field for the country's economic and social reform and opening to the outside world.
- 2.5 Given the region's comparative advantage, the PRD over the years has established itself as a low value-added, labour-intensive manufacturing base. The development of high value-added technological industries is seriously lagging behind. In the past, the competitiveness was based primarily on cheap labour, cheap land, under-priced resources and lax environmental regulations. Unsustainable in the long run, the region needs to re-orientate its industrial and economic structure.
- 2.6 However, the implementation of this Outline remains challenging as promoting new technology and industrial restructuring in the PRD region is not easy. The existing industrial structure and particularly the enterprises that have benefited from industrial agglomeration in the region tend to resist changes. Such resistance endangers the region's competitive edge over other regions in China. What is more, there is a lack of specific measures to promote the upgrading of the industrial structure and the development of high-tech enterprises in this region.

### **From “9+2” to the New “Outline”**

- 3.1 A regional development blueprint like this is not new. Indeed, the earlier initiative of ‘Pan-Pearl River Delta’ (PPRD) was proposed in July 2004 by Zhang Dejiang, the then Party Secretary of Guangdong, to extend regional cooperation in trade and investment from the south and southeast of the country to the inland region. Also known as the “9+2”, it planned to link nine

provinces (Guangdong, Fujian, Jiangxi, Hunan, Guangxi, Hainan, Guizhou, Yunnan and Sichuan) with the two special administrative regions (SARs) of Hong Kong and Macau via a new web of road, rail and air routes. Simultaneously, trade and non-tariff barriers between the provinces were expected to be eliminated to allow the PRD to develop new markets and free up the movement of labour.

- 3.2 On close examination, Zhang's plan was mainly an "inner-oriented development" strategy focusing on intra-regional cooperation within the PPRD. The key objective of "9+2" is to balance regional development between the eastern, central and western regions of China. Some low-end manufacturing industries from Guangdong will be relocated to the under-developed western provinces. The goal was to construct a fair, open and integrated regional market architecture and to open up the massive consumer markets of the eight interior provinces to manufacturing goods produced in Guangdong.
- 3.3 The new Outline initiated by Wang Yang, the present Party Secretary of Guangdong, however, follows a different "going out" development strategy. Wang hopes to develop the PRD region into an advanced and globally competitive region. The Outline has implicitly reflected a reorientation of the Guangdong government towards deeper regional economic cooperation within the larger PRD including Hong Kong and Macau. Please see Appendix 2 for specific development goals.
- 3.4 The future success of the PRD region will largely depend on the extent to which it can deepen its integration and economic cooperation with the two SARs. Through their cooperation on regional economic development planning and comparative advantages utilization, the integrated larger PRD region is expected to become one of the most dynamic places in the world.
- 3.5 Moreover, the "9+2" did not include issues of administrative system reforms. According to the Outline however, the municipal- and county-level governments within the PRD region need to strengthen their capability to

provide public services. Places such as Shenzhen will be permitted to take a lead in implementing a new administrative system with “Super-ministries”.

- 3.6 Specifically, based on the new mechanism which puts county and township governments within the PRD region under the direct administration of the provincial government, responsibilities of the former will be expanded in the field of socio-economic affairs. Further improvements of public services and reform of administrative approval systems are also on the agenda of the Outline.
- 3.7 Thus, the Outline has provided greater development opportunities for Guangdong as the central government has recognized the reform of the PRD as a national strategy for the first time. More preferential policies such as tax reduction and technological support are likely to be offered for the advancement of manufacturing and high-end service industries. The development of these industries will be hastened over the next 12 years.
- 3.8 According to the Outline, the newly built industrial transfer parks are expected to become an “economic growth engine” for the periphery. These industrial parks will be capable of absorbing a large amount of unemployed migrant workers and provide more tax revenues for the poor periphery. Meanwhile, investment on transportation and infrastructure is believed to boost the development of other industrial sectors in the periphery.

### **Challenges for Guangdong’s Industrial Restructuring**

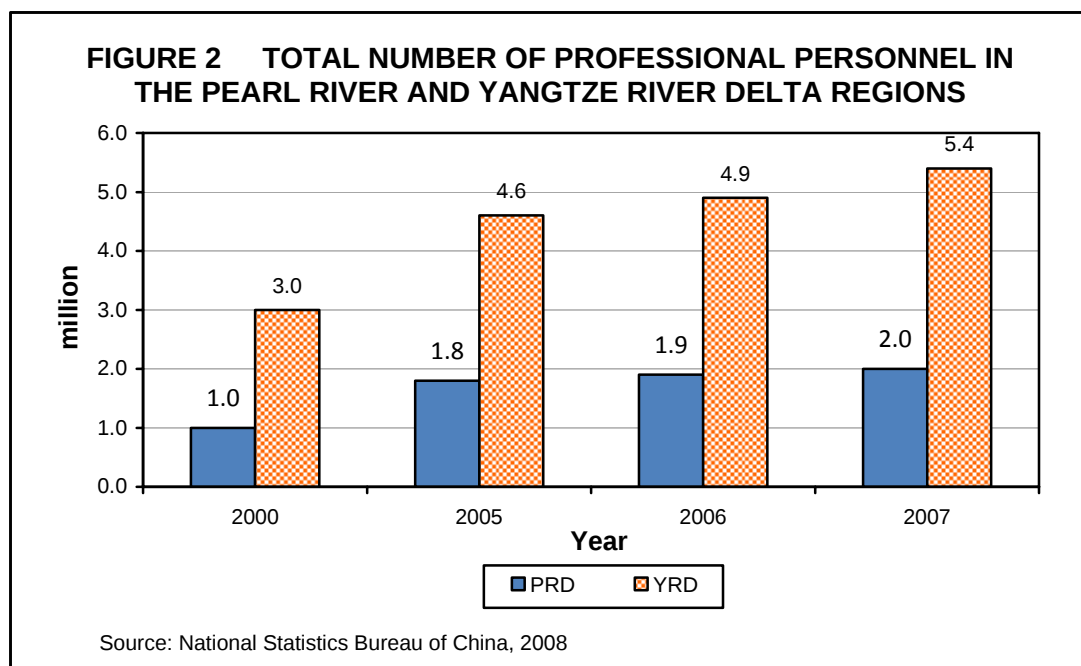
- 4.1 The main goals set by this Outline regarding industrial restructuring of PRD are indeed ambitious. The main objective is to transform “Made in Guangdong” products to “Invented in Guangdong” products by 2020. However, it would not be easy to transform local industries from labour intensive, low value-added to high value-added, technology-based manufacturing, and to strengthen its industrial competitiveness. In fact the existing structure may create serious obstacles for the realization of the goals.

- 4.2 The traditional industrial structure is a double-edged sword. The export-oriented and low-end manufacturing industries have contributed greatly to the fast economic growth of the PRD region since 1980. However, this model is unsustainable due to environmental pollution and land shortage. The backward industrial structure has become a roadblock to the local industrial restructuring of the PRD region.
- 4.3 The PRD region has suffered from the underdevelopment of high technology industries for years. In 2007 the average ratio of high-tech industries to total industrial output was 26.5% in the PRD, compared to 31.5% in the Yangtze River Delta (YRD)<sup>4</sup>. Many of the science and industrial parks in the PRD, initially set up to house high technological industries, such as Songshan Science Park in Dongguan,<sup>5</sup> are only sparsely occupied. Therefore, the implementation of this Outline might be undermined by the lack of high-end industries in Guangdong.
- 4.4 The shortage of trained and skilled workers is another roadblock for industrial upgrading in the PRD region. Human resource is essential for the success of economic restructuring and PRD has been lagging far behind the YRD in this aspect too. Since 2007, the total number of professionally qualified workers in the YRD region has been more than twice that of the PRD region. In 2007, for instance, the PRD and YRD regions had 2 million and 5.4 million professionally qualified workers respectively (see Figure 2).
- 4.5 The potential “Industrial Hollowing Out Effect” is another serious concern to the PRD. A large number of low-end and labour-intensive manufacturing industries in this region have, due to state policies and the global economic crisis, been shut down. Therefore, an industrial “hollowing out” in the PRD could emerge owing to the shortage of both low-end manufacturing and high-end technological industries.

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<sup>4</sup> National Statistics Bureau of China, 2008

<sup>5</sup> ‘Dongguan: the overestimated lies and underreported truth’, Southern Metropolitan Newspaper, 18 September, 2008, [http://epaper.nddaily.com/D/html/2008-09/18/content\\_575825.htm](http://epaper.nddaily.com/D/html/2008-09/18/content_575825.htm)



4.6 Moreover, the local enterprises' resistance to industrial modernization should not be underestimated. For enterprises in low-end industrial sectors, the transformation will be a long drawn-out process.

4.7 These companies had built their past successes largely on the export of cheap and low-end manufacturing products. The low requirement for capital and human resource makes it an attractive option. On the other hand, industrial upgrading is costly as many firms in the PRD region are already facing financial difficulty in their efforts to enhance productivity.<sup>6</sup>

4.8 The self-reinforcing clustering of low-end industries could generate strong resistance to industrial restructuring. Economies of scale and other economic externalities generated by the industrial clusters and agglomeration are important characteristics of the development in the PRD region. Industrial agglomeration exhibits strong self-reinforcing features and has led to the dominance of low-end industries in the PRD region.

<sup>6</sup> 'The truth of Dongguan: only 3.2% of enterprises have shut down', [http://epaper.nddaily.com/D/html/2008-09/08/content\\_566635.htm](http://epaper.nddaily.com/D/html/2008-09/08/content_566635.htm)

- 4.9 Indeed, the proposals unveiled by the Outline are still at a very preliminary stage; there is a lack of specific measures to promote industrial upgrading and restructuring. The local government of Guangdong needs to provide detailed working plans in areas such as tax incentives, manpower training, capital subsidies and Research and Development (R&D) assistance.
- 4.10 Specifically, economic incentives in tax regimes and loan provision would be desirable to mitigate the financial difficulty encountered by local enterprises in their efforts to acquire new technology. In addition, the lack of high-tech industries and skilled labour in the region calls for government-led investment in R&D and skills upgrading.
- 4.11 The Singapore industrial upgrading model of the 1970s and 1980s can provide very useful lessons for the PRD region. Pro-industrial upgrading measures, such as tax incentives (e.g. the investment tax-credit scheme introduced in 1979),<sup>7</sup> state capital subsidies and skills upgrading schemes (e.g. Singapore Workforce Skills Qualifications), are certainly worthy of consideration.

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<sup>7</sup> Sandhu, Kernial Singh. and Wheatley, Paul. eds. (1989) *Management of Success: The Moulding of Modern Singapore*. Singapore: Institute of Southeast Asian Studies.

## Appendix 1

### MAIN JURISDICTIONS IN THE PEARL RIVER DELTA, HONG KONG AND MACAU



Source: <http://www.hydrocarbons-technology.com/projects/guangdong/guangdong5.html>

## Appendix 2

### **HIGHLIGHTS OF THE OUTLINE OF REFORM AND DEVELOPMENT PLAN OF THE PEARL RIVER DELTA**

| <b>Summary</b>                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General Economic Development</b>                    |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1                                                      | The PRD's per capita income is targeted to reach RMB 80,000 (US\$11,708) by 2012, with 53 percent from the service sector. By 2020, the figure is expected to rise to RMB 135,000 (US\$19,757) or 60 % by 2020.                                                                                                                                                                                                                         |
| 2                                                      | The PRD is to become a more influential "growth engine" for national development over the next decade.                                                                                                                                                                                                                                                                                                                                  |
| 3                                                      | A pioneer region for deepening reforms and widening openness to the world, the PRD is expected to play an experiential role and forge ahead in terms of modernization of economic, political, cultural and social management systems. It is likely to be given more reform autonomy in certain crucial areas of the administrative system.                                                                                              |
| <b>Economic Restructuring and Industrial Upgrading</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4                                                      | The PRD is expected to hasten the implementation of the new strategy of a "double-transfer of industries and labour force" and to upgrade local industries from labour-oriented and low value-added to high value-added and highly technological industries.                                                                                                                                                                            |
| 5                                                      | The PRD is expected to become a global base for the advanced manufacturing and modern service industries. To this end, modern equipment, automobile, steel, petroleum, chemical and ship building industries are set for further development.                                                                                                                                                                                           |
| 6                                                      | On the strengthening of capabilities of independent innovation, some 100 state laboratories for engineering innovation and research and development will be set up; three to five industrial clusters powered by high technology will go into operation by 2012; by 2020 high-tech manufacturing will generate at least 30% of total industrial output, making the region a "significant innovation centre" in the Asia-Pacific region. |
| 7                                                      | Guangzhou and Shenzhen are expected to emerge as two of the leading national high-tech industrial development areas in China.                                                                                                                                                                                                                                                                                                           |
| <b>Innovation</b>                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 8                                                      | The PRD is expected to be one step ahead in establishing a national innovation-oriented region, and to become the main innovation centre in the Asia-Pacific region.                                                                                                                                                                                                                                                                    |
| 9                                                      | Self-innovated capability enhancement and core technology skills upgrading will be implemented in the six sectors of electronic information, biology and medicine, advanced manufacturing, new materials, environment, and modern agriculture.                                                                                                                                                                                          |
| 10                                                     | Construction of a "Digitalized PRD": targets have been set for internet access and family broadband access rates to reach 90% and 65% respectively by 2012. It is anticipated that the proportion of citizens with wireless and broadband internet access will reach 60%.                                                                                                                                                               |
| <b>Infrastructure</b>                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 11                                                     | Development features major expansion of infrastructure projects of 1,864 miles of highways by 2012 and 683 miles of rail expansion by 2012 and 1,367 miles by 2020.                                                                                                                                                                                                                                                                     |

|                             |                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12                          | By 2020, an efficient and convenient public transport network linking both the rural and urban areas will be operational in the PRD, and a standardized system of public services will be established throughout this region.                                                                                                                                                |
| 13                          | Construction of a clean, safe and reliable energy supply system in the PRD: Guangdong is due to be developed into an important national base for nuclear power and nuclear equipment manufacturing.                                                                                                                                                                          |
| <b>Social Reform</b>        |                                                                                                                                                                                                                                                                                                                                                                              |
| 14                          | A comprehensive medical care system and health service is expected to be developed in the PRD. By 2020, all citizens will enjoy advanced and first class medical services.                                                                                                                                                                                                   |
| 15                          | Specific goals on social reform include extending life expectancy to 78 years by 2012 and 80 years by 2020; urbanizing 80% of the area by 2012 and 85% by 2020; expanding social security system to cover all urban and rural residents by 2012; extending pension system to at least cover 95% of urban workers, 80% of migrant workers and 60% of rural residents by 2012. |
| <b>Environment</b>          |                                                                                                                                                                                                                                                                                                                                                                              |
| 16                          | Conservation of resources and environmental protection for the PRD: by 2020, energy consumption per unit of GDP in the PRD will be reduced to 0.57 tons of standard coal equivalent. The rate of reusable industrial water will reach 80% of total industrial water waste, whilst 90% of waste water and 100% of urban waste will be disposed of harmlessly.                 |
| <b>Regional Cooperation</b> |                                                                                                                                                                                                                                                                                                                                                                              |
| 17                          | Coordinated and balanced regional development within the PRD: Guangzhou and Foshan will together build an integrated and closely connected municipal agglomeration in the region. The example of integration is expected to become a role model for general regional integration within the PRD.                                                                             |
| 18                          | The PRD is expected to bolster cooperation and push forward regional integration with Hong Kong and Macau, and transform the larger PRD into one of the most vigorous and competitive areas in the Asia-Pacific region.                                                                                                                                                      |
| 19                          | The PRD is expected to further develop economic and trade cooperation with the Association of Southeast Asian Nations.                                                                                                                                                                                                                                                       |

Source: National Development and Reform Commission, People's Republic of China, 2009.