

People's Republic of China

Wanxian-Liangping Highway Construction Project

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Field Survey: August-October 2006

1. Project Outline and Japan's ODA Loan



Project Area Map



Elevated Bridge near Wanzhou,
end-point of the Wanxian -
Liangping Highway

1.1 Background

China planned to create a national trunk highway network comprising “five longitudinal and seven latitudinal” highways to promote national economic development and economic development of the nation’s interior regions. The 12 highways planned for development will form arterial highways through the coastal regions and link the interior with the coastal regions and harbor cities. Of the 12 highways, seven routes, referred to as the “two longitudinal, two latitudinal, and three routes” were to be coastal artery highways and will link interior regions with coastal regions and harbor cities. The objective was that by 2000, the Beijing-Zhuhai, Beijing-Shenyang and Beijing-Shanghai highway routes would traverse the country. With the establishment of this highway network, the aim was to move toward a balanced development level between coastal cities and the underdeveloped interior regions and thereby create a harmonious society. In particular, maximum priority was given to one longitudinal route and two latitudinal routes in order to advance construction of the 12-highway network. Furthermore, construction of eight planned western corridors, with an expected total of 1.6 million km of extended roads and 25,000 km of expressway, was also scheduled to be completed by the end of 2005.

1.2 Objective

The project objective was to improve traffic conditions in eastern Chongqing City in order to cope with future increased passenger and cargo demand and to ensure road safety by constructing a 67 km expressway extension linking Wanxian in Chongqing City, China's fourth-largest municipality, to Liangping, and thereby promote the economic development of Chongqing City. The project location is shown in Map 1.

1.3 Borrower / Executing Agency

Ministry of Foreign Trade and Economic Cooperation, and Ministry of Transport, People's Republic of China

(Chongqing City Department of Transport is responsible for management of highway construction and Chongqing Dongyu Company becomes responsible for operation and maintenance upon completion.)

1.4 Outline of Loan Agreement

| | |
|---------------------------------------|---|
| Loan Amount / Disbursed Amount | 20,000 million yen / 17,684 million yen |
| Exchange of Notes / Loan Agreement | December 1998 / December 1998 |
| Terms and Conditions | Main contract: 1.8% interest rate, 30 years repayments (grace period:10 years), general untied Consultants: 0.75%, 40 years repayments (grace period: 10 years), bilateral tied |
| Main Contractors | Chongqing Yuda Highway Construction General Company (China); First Engineering Bureau, Bridge Engineering Office of the Ministry of Railways (China); 13 other companies |
| Consulting Services | Chongqing Municipal Communication Engineering Supervision Consultant Ltd. (China); Katahira Engineering International / Halcrow China |
| Feasibility Study (F/S) | Chongqing City Transport Department / Sichuan Provincial Institute of Survey and Design for Highway Engineering (April 1997) |

2. Results and Evaluation

2.1 Relevance

2.1.1 Project Relevance at Time of Appraisal

Under the ninth Five Year Plan (1996-2000), China planned to construct a network of five longitudinal and seven latitudinal motorways, with the objective of promoting economic development of the nation's interior regions. Of the 12 national trunk highways planned for construction (five longitudinal and seven latitudinal), the seven routes referred to as the "two longitudinal, two latitudinal, three routes" were to be coastal artery highways and that would link interior regions with coastal regions and harbor cities. The objective was that by 2000, the Beijing-Zhuhai, Beijing-Shenyang and Beijing-Shanghai highway routes would essentially traverse the country.

The project was part of China's national trunk highway between Shanghai and Chengdu and aimed to stimulate economic development in the interior regions. Currently, only a mountain road exists and transport costs (time and money) are high. The construction of a highway between the project starting point of Wanxian and end-point of Chongqing City area was given high priority due to expectations that construction of this segment would contribute significantly to a drastic reduction in transport costs and induce demand for road transport, as well as contributing highly to the activation of the regional economy.

2.1.2 Project Relevance at the Time of Evaluation

China's tenth Five Year Plan (2006-2010) for national economic and social development aims for social harmony by shifting toward a balanced development level between the coastal cities and the underdeveloped interior regions. An important theme is to promote development of the western, north-eastern and interior regions through mutual exchange, complementation and integration, whilst at the same time preserving the competitiveness of the eastern region. Furthermore, transport continues to be a priority sector and the setting of a comprehensive plan is necessary for the provision of safe, smooth and rapid transport services and to ensure the gradual complementation of China's internal road traffic network. By facilitating construction of the planned five longitudinal and seven latitudinal motorways, the objective is to promote economic development in the interior regions and to put in place a safer highway traffic network. Particular priority has been given to completing one longitudinal route and two latitudinal routes so as to promote swift construction of the 12 national trunk highways. Further, construction of the 8 planned western corridors, with an expected total of 1.6 million km of extended road and 25,000 km of expressway, was scheduled to be completed by the end of 2005. The project is part of the national trunk highway from Shanghai to Chengdu, one of the three

longitudinal, two latitudinal routes, which continues to have high priority.

Establishment of infrastructure is a priority task under Chongqing City’s Tenth Five Year Plan (2006-2010) for economic and social development. In particular, construction of a highway network continues to be a high priority, with a target of 1,914 km of expressway and 39,000 km of highway to be completed by 2010. Road development will promote economic development with maximum priority being given to the Three Gorges Dam vicinity. Targeted for completion in 2020, the “three longitudinal, ten latitudinal, three routes” concept provides for three ring highways and ten highways linking Chongqing to major cities as well as three longitudinal highways to connect with existing highways. The Wanxian-Liangping Expressway Construction Project is one of the 10 trans-city highways linking Chongqing to other major cities and is a priority project.

Further, under the National Expressway Development Plan (NEDP) formulated in 2004, the target is to complete an extension of the highway network with a total length of 85,000 km by 2020, with nine north-south and 18 east-west routes to have maximum priority. The project at hand is one of these east-west routes, and its construction has been given priority.

2.2 Efficiency

2.2.1 Output

The project plan outline and output is shown in Table 1. In general, output was almost completely as initially planned.

Table 1: Project Outline and Output

| Item | Plan (time of appraisal) | Result |
|-----------------------|---|-------------------|
| 1. Highways | Total length 67.4 km, 4 lane section 67.4 km, Width 21.5m - 24.5 m | Almost as planned |
| 2. Bridges | 60 locations in total, Total length 10,900 m Large 47 locations 10,200 m Medium 9 locations 580 m Small 4 locations 110 m | Almost as planned |
| 3. Tunnels | 6 Locations 10,700m | As planned |
| 4. Interchanges | 5 Locations | As planned |
| 5. Toll Plazas | 4 Locations | As planned |
| 6. Service Areas | 1 Location | As planned |
| 7. Consulting Service | 48MM | As planned |

2.2.2 Project Period

At the time of appraisal, the planned implementation period was to be from December 1998 to April 2003 (four years and four months), whilst the actual implementation period was from December 1998 to July 2004 (five years and eight months).

Extension of the implementation period was primarily due to delayed commencement of construction work. Initially, the plan was to utilize local funds, however, upon determination of ODA loan financing it was necessary to make modifications to meet JBIC provisions, including new tender documentation, examination of qualifications and tender evaluation processes. Although this resulted in delay, it was considered reasonable since it allowed the introduction of competitive tenders, enabled elimination of arbitrary evaluations and ensured the efficiency and transparency of procurement.

Following commencement of construction work, an attempt was made to accelerate the construction schedule. The result was that the expressway was opened to traffic in December 2003, a reduction of two months from the planned schedule of four years. The project was in an area affected by construction of the Three Gorges Dam and it was necessary to complete construction prior to the high water levels that would be caused by damming. Despite this, commencement of construction was delayed due to the reasons detailed above, and thus the schedule was reduced by means of additional resource investment in personnel and equipment. This accelerated construction schedule was a great credit to the initiative of the executing agencies.

2.2.3 Project Cost

At the time of appraisal, the planned total project cost was 45,491 million yen (Yen loan portion of 20,000 million yen), whilst the actual cost was 39,056 million yen (Yen loan portion of 17,684 million yen). The foreign currency portion was 11% lower than planned. This result demonstrates how it was possible to reduce the provision cost of equipment such as traffic surveillance and management systems, which were procured



Liangping Service Area,
Wanxian-Liangping Expressway

through the international competitive bidding instead of domestic competitive bidding and increase of availability of locally manufactured equipment. The slight increase in local currency was due to a mid-construction revision of the compensation basis for relocations and land acquisitions, which resulted in the planned figure of 70 million yuan

eventually increased to nearly 200 million yuan.¹ Also, urgent additional works were required in approximately 80 locations where serious landslides occurred.

2.3 Effectiveness

2.3.1 Traffic Volume of the Project Expressway

Table 2 shows annual average daily traffic. At the time of appraisal, transportation between Chongqing and Wanxian took two full days by land or about a day utilizing a boat on the Yangtze River. As such, the majority of passengers and cargoes were transported via the Yangtze. Initially, it was estimated that construction of an expressway between Chongqing and Wanxian (Wanzhou) would reduce the time required for a one way trip to three hours. At appraisal, road and water transport were taken to be the standard mode of transport² and traffic volumes were counted establishing seven counting stations, including the Wanxian-Liangping section and the Wanxian-Changshou section on National Highway 318, and traffic volumes were projected. The index for growth rate of traffic volume was taken as the GDP growth rate for both Chongqing City and Wanxian districts, where it was estimated that yearly growth rate of traffic volumes would reach 11-13% until 2010.

The main reason actual annual average daily traffic was lower than estimated is thought to be due to overestimation of the GDP growth rate index. This occurred because at the time of the feasibility study it was presumed the eastern section of the Wanxian would have been completed. At the present time, traffic volumes remain low since the eastern section of Wanxian of the expressway has not yet been completed. However, with the scheduled opening of the completed Chongqing-Suining Expressway in 2010, it is expected that traffic volume will exceed projected figures.

In addition, Table 3 shows the traffic volume on the expressway and that of the existing parallel road (National Highway 318).

Table 2: Annual Average Daily Traffic on Wanzhou-Liangping Expressway
(unit: vehicles/day)

| | 2000 | 2010 | 2020 |
|---------|-------|--------|--------|
| Planned | 7,378 | 20,206 | 34,028 |

¹ New Law No. 84 (2000), notification of compensation for appropriation of land for construction of high-grade roads and railroads in Chongqing City (11 September 2000).

² With regard to this section, use of railways nor planes is not expected.

| | | | |
|--------|-------|-------|-------|
| | 2004 | 2005 | 2006 |
| Actual | 5,392 | 5,551 | 5,848 |

Note: 2006 figure is the average value for January-June 2006

Table 3: Annual Average Daily Traffic on Existing Road (National Highway 318)³ between Wanzhou-Liangping (unit: vehicles/day)

| | | | | | | | |
|-------|-------|-------|-------|-------|------|------|------|
| 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| 1,450 | 1,389 | 1,676 | 2,719 | 2,198 | 636 | 557 | 647 |

Note: The Wanzhou-Liangping section of the expressway was opened in December 2003

2.3.2 Internal Rate of Return

Assuming a project life of 25 years, the financial internal rate of return (FIRR) at the time of appraisal was calculated to be 14.81%, counting road construction costs, road operation and maintenance expenses, tax expenses and highway toll as profits. Under this evaluation, FIRR was recalculated using the actual construction cost figure and actual figures for road operation and maintenance expenses, tax expenses, and highway toll revenue from the period December 2003 to 2006. As for the remaining project life period, the estimated figures were used for these expenses and revenue. As a result, FIRR turned out to be 4.92%. The primary reason for the low FIRR was lower traffic volume than the estimated figures. Due to completion of the Three Gorges Dam, the level of the Yangtze has risen to allow passage of large ships all year round. This increased ship transport capacity has provided competition to truck transportation. In the long-term, when the Chongqing-Yichang-Wuhan-Shanghai route opens, it is thought that there will be a sudden increase in traffic volume linked to the reduction in travel costs, and so financial internal rate of return will improve.

At the time of appraisal, economic internal rate of return (EIRR) was determined to be 16.66% via economic analysis of project construction costs, road operation and maintenance costs, and the quantitative benefits of reducing transport costs through road improvements, reducing transport costs by shortening travel distances, reducing transport costs by eliminating congestion, and the economic outcome of reducing travel times (passenger and cargo). At the recent evaluation, EIRR was recalculated under the same conditions and was found to be 16.72%, which is generally considered to be equivalent to the planned figure. As such, the objective is being met at time of appraisal. However, it can be said that decrease in the investment cost (project cost) compensated for the profits lost as a result of low estimated traffic volume figures. Even so, investment in the

³ Ordinary class 2 roads have two lanes, one lane for each direction.

highway linking industrial Chongqing City with Shanghai, a city that continues to see remarkable economic growth, is considered to be appropriate. This is because opening of the route is expected to contribute to the region by rapidly increasing traffic volumes, activating local economic development along the route, and strengthening cooperation between cities and regional areas.

Table 4 Internal Rate of Return

| | Time of appraisal | Time of ex-post evaluation |
|------|-------------------|----------------------------|
| FIRR | 14.81% | 4.92% |
| EIRR | 16.66% | 16.72% |

2.4 Impact

2.4.1 Number of Fatality Accident

Table 5 summarizes the actual incidence of highway traffic accidents. The number of accidents and fatalities per 10,000 vehicles owned dropped sharply after 2004, the second year following opening of the highway. This is a result of experience accrued by drivers as well as safety countermeasures enacted by the Chongqing Dongyu Company, such as erection of traffic signs in locations where multiple accidents have occurred.

Table 5: Highway Traffic Accidents

| | | 2004 | 2005 | 2006 |
|---|--------|------|------|------|
| Number of Accidents (accidents/100 million vehicle km) | Actual | 90 | 73 | 79 |
| Number of Fatality Accidents: persons/10,000 vehicles | Actual | 6.3 | 3.7 | 0 |

2.4.2 Economic and Social Development in the Region

At the time of appraisal, Chongqing City⁴ had risen to the status of municipality. With the assistance of favorable policy in line with policy for the Shanghai Pudong new development area, and driven by investment from foreign companies, the city is advancing as a model policy area for a reformed and liberalized China. Hereafter, as well

⁴ In March 1997 Chongqing City was promoted to the status of China's fourth municipality after Beijing, Shanghai and Tianjin. Integrated with surrounding regions, it has an area of 82,400 square km (larger than Hokkaido) and a population of 30 million people, and is now a city which carries the same jurisdiction as a province.

as activation through favorable policy measures and further investment from foreign companies, the expectation is that Chongqing City will become the core of economic development for China's interior regions through the establishment of infrastructure such as the Three Gorges Dam development and ring roads. The economic growth forecast for Chongqing City at the appraisal time is shown below in Table 6.

Table 6: Chongqing Economic Growth Forecast

| | 1995 | 1996 | 2000 (target) |
|--|----------|----------|---------------|
| Population (0,000 people) | 3,001 | 3,022 | 3,145 |
| Gross Domestic Product (,00 million yuan) | 1,009.47 | 1,179.09 | 2,220 |
| GDP per capita (yuan) | 3,372 | 3,914 | 7,060 |

Table 7 below shows the economic growth rate at post-appraisal, and Table 8 shows the changes in GDP per capita. Each of the three regions concerned have experienced continued double digit economic growth and broad increases in GDP per capita since 2002. Table 9 shows population changes for the cities along the highway.

Table 7: Economic Growth Rate in the Project Area (unit: %)

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|-----------|------|------|------|------|------|------|------|------|
| Chongqing | 8.4 | 7.6 | 8.5 | 9.0 | 10.3 | 11.5 | 12.2 | 11.5 |
| Changshou | 8.1 | 7.4 | 8 | 10.1 | 14.2 | 12.7 | 12.6 | 12.5 |
| Liangping | 9.5 | 6.4 | 9.5 | 11.2 | 11.4 | 12.3 | 14.2 | 13.2 |

Table 8: GDP Per Capita (unit: yuan)

| | 1996 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|-----------|-------|-------|-------|-------|-------|-------|--------|
| Chongqing | 5,023 | 6,176 | 6,572 | 7,238 | 8,094 | 9,221 | 10,244 |
| Changshou | 3,505 | 4,769 | 4,952 | 5,855 | 6,758 | 7,661 | 8,735 |
| Liangping | 3,664 | 5,004 | 5,529 | 6,275 | 6,961 | 7,711 | 8,540 |

Table 9: Population of Cities Along the Expressway (unit: 0,000 people)

| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Chongqing City | 3,042.9 | 3,059.7 | 3,072.3 | 3,091.1 | 3,097.9 | 3,113.8 | 3,130.1 | 3,144.2 | 3,169.2 |
| Liangping City | 86.8 | 87.3 | 87.7 | 88.0 | 88.1 | 88.2 | 88.3 | 88.5 | 88.6 |
| Wanzhou City | 163.8 | 165.0 | 166.2 | 167.3 | 167.8 | 168.8 | 169.8 | 170.7 | 171.5 |
| Sichuan Province | 8,564.2 | 8,315.7 | 8,322.4 | 8,354.1 | 8,412.8 | 8,486.6 | 8,579.3 | 8,652.2 | 8,725.0 |

An ex-post evaluation interview survey was conducted with project beneficiaries in

regions along the constructed expressway⁵ According to the survey, 75% of respondents reported an improvement of employment and business opportunities. Further, most respondents saw an improvement in transport capacity, improved investment climate and an increase in tourist numbers, and so concluded that there had been an economic development outcome. Furthermore, over 60% of respondents indicated that an outcome of building the expressway was increased volume, variety and scope of trade in industrial products, general goods and agricultural produce and supplies. Moreover, 97% of respondents reported improved access to markets, agricultural support centers, and public facilities such as hospitals and government agencies. As such, this project has realized a contribution to improving the living environment and economic development of the local people.

Construction of the expressway has also been a benefit to farmers. According to the beneficiary survey, by reducing travel times, construction of the expressway has enabled livestock raised in Liangping to be transported to regional areas in a healthy condition. Table 10 below shows the average income of farmers. According to the table, it is evident that there was a surge in farmer’s average incomes following opening of the expressway (2003).

Table 10: Average Income of Farmers (unit: yuan)

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|-----------|-------|-------|-------|-------|-------|-------|-------|--------|
| Chongqing | 1,801 | 1,836 | 1,892 | 1,971 | 2,098 | 2,215 | 2,510 | 2,809 |
| Changshou | 1,762 | 1,804 | 1,849 | 1,906 | 2,010 | 2,135 | 2,521 | 2,,813 |
| Liangping | 1,636 | 1,615 | 1,651 | 1,708 | 1,807 | 1,925 | 2,287 | 2,582 |

In an interview with the Head of Wanzhou Traffic Bureau, it was confirmed that “construction of the expressway has expanded opportunities for students in the project area to attend school and has made it easy for students living in Laingping and Wanxian to access higher education in Chongqing City. In addition to confirming reduced commuting time to school, there has also been an increase in the number of students entering prestigious schools such as Beijing University and Tsinghua University.” Table 11 below shows the rate of school advancement rate in the relevant area.

⁵ A random interview survey of businesses, public organizations and households along the expressway resulted in 100 valid responses. Respondents were 20-60 years of age and 11% were women.

Table 11: High School Advancement Rate (unit: %)

| | | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|-----------|-------|------|------|------|------|------|------|------|------|
| Chongqing | Boys | 19 | 20.5 | 23.5 | 25.5 | 30 | 42 | 45 | 46 |
| | Girls | 16 | 18.5 | 22 | 24 | 28 | 40 | 43 | 44 |
| Changshou | Boys | 17 | 19.5 | 22 | 25 | 28 | 40 | 43 | 41 |
| | Girls | 15 | 18 | 21 | 23.5 | 25 | 37.5 | 40.5 | 40 |
| Liangping | Boys | 18 | 20 | 21.5 | 23 | 29 | 39.5 | 44 | 45 |
| | Girls | 16.5 | 18 | 20 | 22 | 25 | 38 | 42 | 43 |

2.4.3 Impacts on the Environment

Land acquisition for the expressway was based on relevant regulations and was completed in March 1998 by a highway construction project team (sub-group, High-Grade Highway Construction Management Group), commissioned by the Chongqing City government. Further, relocation of residents (580 households, 2,610 people), seedling costs and compensation for houses and structures were also provided according to the relevant regulations. According to the executing agency, there have so far been no complaints from residents.

During construction there were thorough environmental measures and management in place such as environmental conservation works, dust control, and water treatment. Environmental measures taken during construction include treatment of water prior to drainage and the process of holding waste water in a storage tank for treatment, particularly with tunnel construction works. Landscape beautification works were conducted at borrow pits and waste dumping sites upon completion of construction. Large-scale planting of vegetation (grass) and trees on cut and embankment slopes serves not only to beautify the landscape, but also to reduce maintenance costs on slope protection. Noise barriers were constructed close to schools and hospitals in order to reduce traffic noise.

2.5 Sustainability

2.5.1 Executing Agency (Chongqing Dongyu Company: CDC)

Chongqing City Department of Transport was responsible for management of expressway construction⁶ and the Chongqing Dongyu Company (CDC) becomes responsible for operation and maintenance upon completion. The details of CDC are discussed below.

⁶ This is because prior to Chongqing becoming a municipality, the project (Wanxian-Liangping section) belonged to Wanxian City, Sichuan Province.

2.5.1.1 Technology

CDC's technical competency and skills are at a level sufficient for operation and maintenance of the WLE. Of the 135 senior level personnel in the company, 33 have qualifications (Engineer). For operation and maintenance, CDC has adopted a competitive employment model, advertising publicly for positions, and also programs such as employee training. Road surface repairs are conducted by two specialty teams. Technical improvements are thorough, and include maintenance of technical manuals (Chongqing City Highway Regulations for Conducting Safety and Construction Management (Chongqing Traffic Committee, Roads [2005], No. 253), Chongqing City Highway Regulations for Management of Dust Proofing (Chongqing Traffic Committee, Roads [2005], No. 245), etc.) and training. CDC possesses specialised knowledge and high technical capabilities, and also operates and maintains the Liangping-Changshou Expressway in addition to the WLE.



Traffic Control Center in the Liangping toll plaza of Wanxian-Liangping Expressway

2.5.1.2 Organization

There are 84 people employed at the Chongqing City headquarters where the Operations and Maintenance Department supervise all operations and maintenance. In addition, there are branch offices in Changshou, Dianjiang, Liangping and Wanxian employing a total of 211 people. There are 11 toll plazas (four locations have been constructed within the Wanxian-Liangping Expressway section), which employ 405 people.

Further, teams in charge of road surface maintenance and repairs have been deployed to Dianjiang and Liangping. In addition to this expressway, CDC is also responsible for operation and maintenance of the Liangping-Changshou Expressway.

2.5.1.3 Financial Status

The financial status of CDC is shown in Table 12 below. There are no perceived problems concerning sustainability of project outcomes since an adequate budget has been allocated to cover operations and maintenance.

Table 12: Financial Status of CDC (unit: ,000 yuan)

| | Revenue (tolls) | Operation Cost | Operation & Maintenance Cost |
|----------------|--------------------|-------------------|---------------------------------|
| 2004 | 135,969 | 12,192 | 2,501 |
| 2005 | 133,913 | 17,716 | 4,977 |
| 2006 (Jan-Jun) | 70,189 | 5,610 | 2,404 |

2.5.2 Operation and Maintenance

All maintenance tasks other than paving work are outsourced to local private contractors. Furthermore, selection of contractors is by competitive bidding. There are multiple private contractors with generally four or five bidders. Outsourced tasks include grass cutting, drain cleaning, and repair of collapsed embankment slopes. A drive was taken on the constructed expressway at the recent appraisal and no driving impediments were encountered. As such, the status of operation and maintenance was deemed to be satisfactory.

3. Feedback

3.1 Lessons Learned

This project saw a large gap between estimated traffic volume and actual volume. Estimated traffic volumes are not only used as a project investment determination basis for financial and economic analysis, but also as a basis for enforcing technical considerations such as design standards and construction period, and they are an important factor in determining operation and maintenance systems once a highway is opened. Accordingly, it is important that a high-quality feasibility study report is completed at the project preparation and appraisal stage, including traffic volume estimates, that the document be adequately reviewed, and that appropriate technical guidance is carried out.

Comparison of the Original and Actual Scope

| Item | Plan | Actual |
|---|--|--|
| 1. Output | | |
| Highways | Total length 67.4 km, 4 lane section 67.4 km, Width 21.5m - 24.5 m | Almost as planned |
| Bridges | Large 47 locations 10,200 m Medium 9 locations 580 m Small 4 locations 110 m | Almost as planned |
| Tunnels | 6 Locations 10,700m | As planned |
| Interchanges | 5 Locations | As planned |
| Toll plazas | 4 Locations | As planned |
| Service Areas | 1 Location | As planned |
| Consulting Service | 48MM | As planned |
| 2. Period | December 1998–March 2003 (4 years and 4 months) | December 1998– December 2003 (5 years and 1 month) |
| 3. Project Cost (total project cost) | | |
| Foreign currency | 20,000 million yen | 17,684 million yen |
| Local currency | 1,593 million yuan | 1,649 million yuan |
| Total | 45,491 million yen | 39,056 million yen |
| ODA loan portion | 20,000 million yen | 17,684 million yen |
| Exchange rate | 1 yuan = 16.0 yen | 1 yuan = 16.0 yen |