



# Social Monitoring Report

---

Project Number: 34097  
June 2008

## PRC: SHANXI ROAD DEVELOPMENT II PROJECT Project Performance Management System and Social Development & Poverty Alleviation Report (2008)

Prepared by Shaanxi Kexin Consulting Service Ltd.  
Shaanxi, People's Republic of China

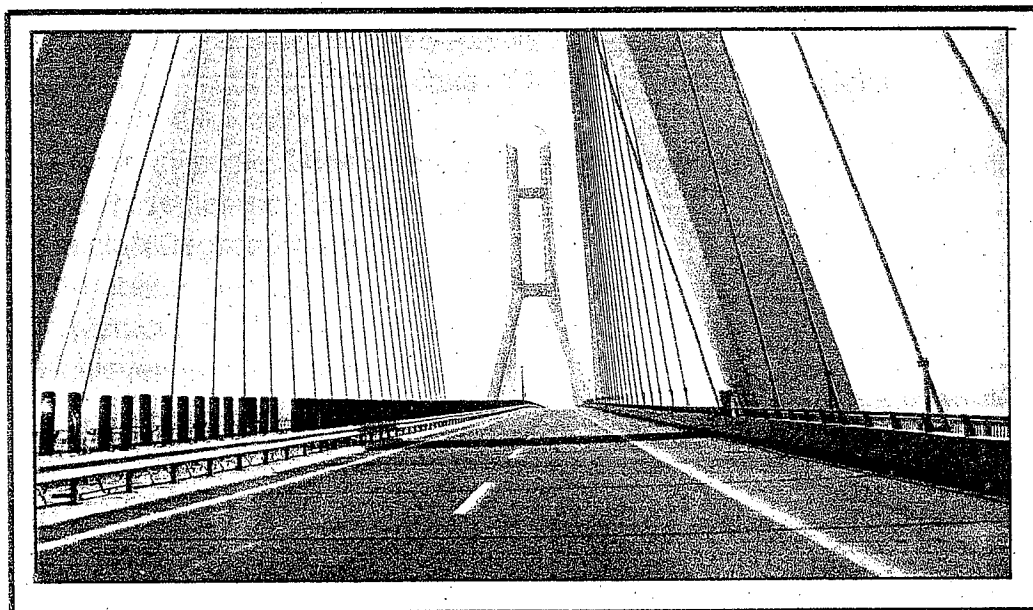
For Shanxi Hou-yu Expressway Construction Co. Ltd.

This report has been submitted to ADB by the Shanxi Hou-yu Expressway Construction Co. Ltd. and is made publicly available in accordance with ADB's public communications policy (2005). It does not necessarily reflect the views of ADB.

Asian Development Bank

Shanxi Houma-Yumenkou Expressway

**Project Performance Management System  
and  
Social Development & Poverty Alleviation  
Report  
(2008)**



Shanxi Houyu Expressway Construction Ltd.

Shaanxi Kexin Consulting Service Ltd.

30 June 2008

## Contents

- I. Introduction
- II. Operation Status of Houyu Expressway
  - 1. Work Opportunity Provided during Construction and Maintenance
  - 2. Cost and Time of Various Vehicles and Transportation Route
  - 3. Accident Rate
  - 4. Test Result of Vehicle Emission Control and Action Taken
  - 5. Financial Indicator of Expressway Operation Company
  - 6. Traffic Volume Coefficient
- III. Construction Status of Local Roads
  - 1. Local Roads Distribution
  - 2. Construction Period
  - 3. Village Transportation
- IV. Implementation Result of Regional Social Development Plan
  - 1. Basic Data of Social Development
  - 2. Women Development
  - 3. Business
  - 4. Achievement of Social Development Action Plan
- V. Monitoring Result of Poverty Alleviation
  - 1. Poverty Alleviation Basic Data of Xinjiang, Jishan and Hejin
  - 2. Poverty Alleviation
- VI. Affected People Economical Recovering Analysis of Land Acquisition and Resettlement for Expressway (2007)
  - 1 Affected Degree Analysis
  - 2 Preparation and Implementation of Living Recovering Plan
  - 3 Infrastructural Facilities Recovering
  - 4. Achievements of Living Recovering

Appendix      Photoes

### Contents of Charts and Table

- Table-1      Employed Labors Statistics during Expressway Construction
- Table-2      Employed Labors Statistics during Expressway Operation
- Table-3      Employed Labors Statistics during Expressway Maintenance
- Table-4      Expressway Toll Standard Table
- Table-5      Toll Statistics of Toll Stations in Quarter I-IV in 2007
- Table-6      Toll Statistics of Toll Stations from January to April 2008
- Table-7      Toll Comparison in Quarter I-IV in 2007
- Table-8      Expressway Vehicle Volume Statistics from January to December in 2007

Table-9	Expressway Vehicle Volume Statistics from January to April in 2008
Table-10	Taffic Volume at Exits of Expressway in Quarter I-IV of 2007
Table-11	Taffic Volume at Exits of Expressway from January to April in 2008
Table-12	Taffic Volume at Entrance of Expressway in Quarter I-IV of 2007
Table-13	Taffic Volume at Entrance of Expressway from January to April in 2008
Table-14	Interprovincial Traffic Volume Statistics from January to December in 2007
Table-15	Interprovincial Traffic Volume Statistics from January to April in 2008
Table-16	Taffic Volume at 3 Monitoring Stations on NH 108 from January to December in 2007
Table-17	Taffic Volume at Baidi Monitoring Station from January to December in 2007
Table-18	Toll Standard of Yunmenkou Toll Station on NH 108
Table-19	Local Roads Distribution
Table-20	Vehicle Statistics in Villages (2008)
Table-21	Intervillage Taffic Statistics (2008)
Table-22	Village Taffic Volume Statistics
Table-23	Social-economic Development Statistics in Project Influence Area
Table-24	Loan Statistics in Project Influence Area (2004-2007)
Table-25	Village Women Training Statistics in Project Influence Area (2004-2007)
Table-26	Stall Statistics Kept by Village Women in Project Influence Area (2004-2007)
Table-27	Store Statistics Kept by Village Women in Project Influence Area (2004-2007)
Table-28	Implementation Achievement of Social Development Action Plan
Table-29	Poverty Status in Project Influence Area
Table-30	Poor Village Distribution in Project Influence Area (2001-2007)
Table-31	Summary of Poverty Alleviation Monitoring and Investigation (2002-2007)
Table-32	Summary of Poverty Alleviation Monitoring and Investigation (2007)
Table-33	Statistics of Average Farmland Decreasing Ratio in Affected Villages
Table-34	Change Comparison of Average Farmland and Composition
Table-35	Change Comparison of Average Grain Output and Composition
Table-36	Basic Information Statistics of Villages Affected by Farmland Decreasing (2007)
Table-37	Basic Information Survey Seet of Affected Households (2001-2007)
Table-38	Basic Information of Affected Households (2001-2007)
Chart-1	Toll Trend in Quarter I-IV in 2007
Chart-2	Traffic Volume Change Graph of Baidi Monitoring Station (2007)
Chart-3	Average Proportion Fan-shape Chart of 4 Type Vehicles (2007)

- Chart-4 Distribution of Local Roads
- Chart-5 Basic Information Sketch of Affected Villages (2001-2007)
- Chart-6 Basic Information Sketch of Affected Households (2001-2007)

Shanxi Houma-Yumenkou Expressway

**Project Performance Management System and Social  
Development & Poverty Alleviation Report  
(2008)**

**I. Introduction**

Shanxi Houma-Yumenkou expressway is a project financed by Asian Development Bank (ADB) loan. The project expressway was completed on January 2007 and open to traffic, and the supporting local roads was completed in the corresponding period. According to the requests of ADB mission in July 2007, the project performance management system (PPMS) and social development & poverty alleviation should be monitored continuously and reported to ADB in the three years after project completion. Shanxi Houyu Expressway Construction Ltd. (SHEC) entrusted Shaanxi Kexin Consulting Service Ltd. (SKCC), which has experience in land acquisition & resettlement and social development & poverty alleviation of this project, to conduct investigation and report preparation. In long-term, SKCC engaged in land acquisition & resettlement and social development & poverty alleviation investigation and monitoring of international loan project. From 2003 to March 2007, SKCC conducted investigation and monitoring to Houma-Yumenkou expressway and the supporting local roads, and completed its work according to contract.

The monitoring investigation and report preparation for PPMS and social development & poverty alleviation of this project was commenced in July 2007. With the assistance of SHEC, the staff from SKCC conducted a whole investigation to the construction and operation of expressway and local roads, and the social-economic development and poverty alleviation in influence area. SKCC also went deep into the 35 poor villages in influence area to collect the basic data. On this base, the report of 2007 was prepared. According to the requests of the ADB fax in May 2007 and the ADB memoire in April 2008, the social and economic investigation of project area was conducted again, and this report was prepared.

**II. Operation Status of Houyu Expressway**

Houyu expressway was completed and was open to traffic on January 2006, and now is in good operation. The following basic data reflects the expressway operation status.

**1. Work Opportunity Provided during Construction and Maintenance**

According to monitoring investigation, the 7 contractors employed 78863 person-months labors totally during Houyu expressway construction May 2004

to December 2006. 47020 person-months non-technical workers were employed, in which, 7150 person-months non-technical workers were female and accounting for 15.2% of all non-technical workers; 34844 person-months non-technical workers were poor villagers and accounting for 74% of all non-technical workers. The wage of non-technical workers was 817 RMB YUAN per person-months (27.23 RMB YUAN per day), and the male and female workers gained equal pay for equal work. The Detail is shown in following table.

**Table-1 Employed Labors Statistics during Expressway Construction**

Contract	Total employed labor (person-month)	Non-technical worker		Female labor		Poor labor			
		Person-month	%	Quantity	Person-month	Person-month	% of non-technical worker	Wage per month (RMB YUAN)	Total wage (10000 RMB YUAN)
1	8458	6562	75	10	300	3810	58	880	335.28
2	10483	9260	88	42	1008	6500	70	600	390.00
3	7522	4915	65	122	3172	4350	89	775	337.03
4	16470	7630	46	18	390	5874	77	715	420.28
5	15690	10029	64	36	1080	7820	78	7925	723.35
6	7846	3494	45	28	750	2620	75	875	229.25
7	12394	5130	41	18	450	3870	75	950	367.65
<b>Total</b>	<b>78863</b>	<b>47020</b>	<b>60</b>	<b>274</b>	<b>7150</b>	<b>34844</b>	<b>74</b>	<b>817</b>	<b>2802.94</b>

During the operation period from January 2007 to April 2008 after Houyu expressway open to traffic, 266 persons was employed, in which, 163 of them were female, accounting for 61.2% of total. In all of them, 21 management staff, 180 toll collectors, 32 cleaners, and 14 gardeners came from local poor villages. The 245 poor villagers accounted for 92.1% of total, and the wage of them was 650 RMB YUAN per person-month and the annual income reached 7800 RMB YUAN. Details are shown in following table.

**Table-2 Employed Labors Statistics during Expressway Operation**

Year	Number of expressway staff		Management staff	Toll collector	Service staff	Cleaner	Gardener	Wage per month (RMB YUAN)		
	Total	Female						Toll collector	Service staff	Cleaner and Gardener
2007	240	162	20	155	19	32	14	640	700	600
2008	266	163	21	180	19	32	14	640	700	600
2009										

During the maintenance period from January 2007 to April 2008, 585 labors were employed, in which, 116 of them were female, accounting for 19.8% of total. In all of them, 63 management staff, 104 technical workers,

and 418 non-technical workers came from local poor villages, and the number of non-technical worker accounted for 80.1% of total. The wage of non-technical worker was 880 RMB YUAN per person-month, and the annual income reached 9000 RMB YUAN. Details are shown in following table.

**Table-3 Employed Labors Statistics during Expressway Maintenance**

Year	Total employed		Management staff	Technical worker	Non-technical worker	Wage per month (RMB YUAN)		
	Total	Female				Management staff	Technical worker	Non-technical worker
2007	577	82	47	82	366	1760	1320	880
2008	585	116	63	104	418	1760	1320	880
2009								

## 2. Cost and Time of Various Vehicles and Transportation Route

### Toll standard

The toll standard of Houyu expressway adopted the Class II standard of *Shanxi Province Expressway Toll Standard of Vehicle Type*, which is shown as follows:

**Table-4 Expressway Toll Standard Table**

Unit: RMB YUAN/vehicle-km

Class	Limit of axle and wheel	Total height limit at front axle	Toll standard
A	2 axles 4 wheels	≤ 1.3m	0.36
B	2 axles 4 wheels	> 1.3m	0.54
C	2 axles 6 wheels	≤ 2.5m	0.87
D	2 axles 6 wheels	> 2.5m	1.41
	3 axles ≤ 8 wheels	-	
E	≤ 4 axles > 8 wheels ≤ 10 wheels	-	1.86
F	≤ 4 axles > 10 wheels ≤ 14 wheels	-	2.41
G	≥ 5 axles	-	3.20

In toll calculation, the mantissa of toll should be 5 RMB YUAN. The toll will be calculated as 0 when the mantissa is 0.2, the toll will be calculated as 1 when the mantissa is 0.8, and the toll will be calculated as 0.5 when mantissa is 0.3 or 0.7. The lowest toll is 5 RMB YUAN every time.

### Special Vehicles

When passing expressway, the special vehicle must apply to the special management department of Shanxi Communication Department (SCD) for approval. When passing road section, the special vehicle should be escorted



by the management vehicle from highway department, and the standards of cost per km are 30, 40 and 50 RMB YUAN according to various vehicle type. The standards of total cost of 66 km long Houyu expressway are 1980, 2640 and 3300 RMB YUAN. The speed of special vehicle should be controlled in 50 km per hour to ensure safety.

### Toll

In Quarter I-IV in 2007, the Xinjiang, Jishan, East Hejin and Longmen Bridge toll stations of Houyu expressway collected the toll amounted to 200,300,105 RMB YUAN. Detail of toll is shown as follows:

**Table-5 Toll Statistics of Toll Stations in Quarter I-IV in 2007**

Unit: RMB YUAN

Month	Xinjiang TOLL Station	jishan TOLL Station	East Hejin toll station	Longmen bridge toll station
1	419830	152860	537770	1033785
2	836140	2502400	2506263	3023663
3	2284160	3018190	3847335	5407520
4	2934810	3263555	3370315	5537905
5	2733335	2593870	3400500	6559375
6	2612140	1850700	2998655	6081145
7	2974415	2566425	3349590	6530085
8	2529305	3274345	3646450	7158165
9	1157505	3989185	4900700	8577645
10	1268515	4997220	7350155	8059300
11	1803680	5371280	10628020	8036880
12	2053945	5633085	16882040	8062655
Total	23607780	39213115	63414445	74064775

**Table-6 Toll Statistics of Toll Stations from January to April 2008**

Unit: RMB YUAN

Month	Xinjiang TOLL Station	jishan TOLL Station	East Hejin toll station	Longmen bridge toll station
1	1756070	4762445	13155305	4064175
2	2262225	4335990	16316420	5858130
3	3630440	8503095	18183820	8388620
4	3339390	6598690	17020070	8886720
Total	10988125	24200220	64675615	27197645

In April 2008, compared with the same period of last year, the toll collection of toll stations was increased, including: 13.8% in Xinjiang, 102.2% in Jishan, 405% in East Hejin, and 60.5% in Longmen Bridge.

Though analysis to toll according to vehicle type in Quarter I-IV 2007, it

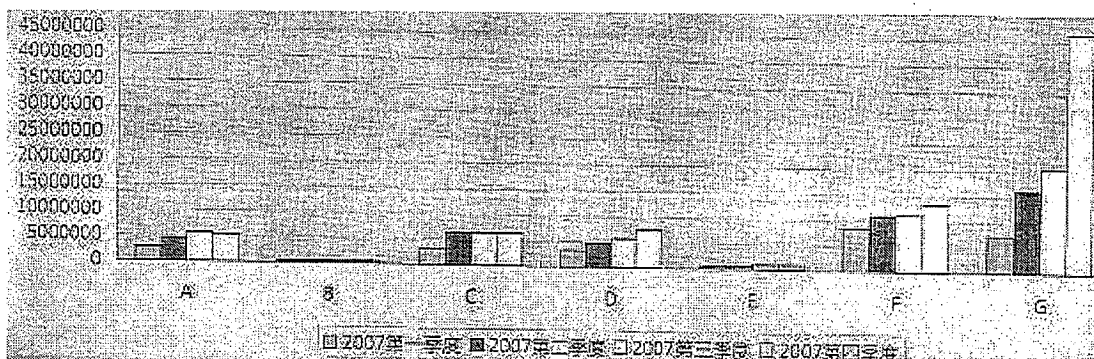
shows that the toll in Quarter IV was increased by 213.44% compared with Quarter I, as following table.

**Table-7 Toll Comparation in Quarter I-IV in 2007**

Unit: RMB YUAN

Quarter	Total	A	B	C	D	E	F	G
1	25569916	2748590	235405	3167691	3247355	454945	8365175	7350725
2	43936305	4558125	325255	6358205	4793850	815145	11020160	16065565
3	50653815	5585510	366955	6415795	5677395	980040	11168960	20459160
4	80146775	5283365	375190	6418320	7360270	1010070	13286015	46413545
Total	200306801	18175590	1302805	22360011	21078870	3260200	43840310	90288995
Increasing (4 and 1)	54576859	2534775	139785	3250629	4112915	555125	4920840	39062820
+-%	+213.44	+92.22	+59.38	+102.62	+126.65	+122.02	+58.83	+531.41

**Chart-1 Toll Trend in Quarter I-IV in 2007**



### 3. Accident Rate

#### 3.1. Safety Precautions during Construction

Due to the detailed safety management measures prepared by contractors, no serious casualty accident occurred during Houyu expressway construction. Main content includes:

a) Works general situation, including site, work quantity, work characteristics and so on; b) Safety target; c) Safety responsibility system, including safety organization, safety ensurance system, and safety responsibility of all-level staff; d) Safety management measures, including safety management system, safety education, safety inspection and accident report; e) Safety technical standard of special work and equipment; f) Safety technical standard during construction; and g) Safety inspection table.

#### 3.2. Accident Rate and Safety Measures during Operation

From January 2007 to March 2008, on Houyu Expressway, 29 traffic accidents with property loss were occurred, in which, 4 persons died and 9 persons were injured. The main reasons for accidents includes: 13 accidents

due to wearing driving, 9 accidents due to overspeed, 3 accidents due to scatterbrain, 2 accidents due to vehicle fault, and 2 accidents due to overload.

SHEC prepared *Safety Management and Control Procedure*, *Safety Management Measure*, *Safety Inspection Management Measure*, *Emergency Preplan for Traffic and Yellow River Bridge Jam*, *Implementation Program of Traffic Control of Expressway in Bad Weather*, *Site Rescue and Clearing for Sudden Occurrence*, and *Snow Removing Preplan of Houyu Expressway*, to regular safety production activities. The main content is shown as follows:

*Safety Management and Control Procedure*: 1) Purpose. Systematize and standardize the safety production management work to prevent all safety accident effectively and ensure the staff's personal security and state property safety; 2) Scope. The procedure is applicable to the safety management of SHEC; 3) Management responsibility; 4) Work procedure, including organization, plan and cost of safety work, safety management system, safety measures, check, rewards and punishment and so on.

*Safety Management Measure*: 1) Purpose; 2) Guidelines. Implement the national *Safe Production Law* strictly and establish scientific safety management system; 3) Principle. Implement the guideline of "Safety first, precaution crucial" and insist that production and safety are same important. 4) Application scope; 5) Organization and responsibility. SHEC established safety production committee to take charge of safe production management; 6) Safety management responsibility pledge. SHEC signed the responsibility pledges with every toll station, and the implementation was regarded as an important content of annual check; 7) Establish and perfect the safety management system; 8) Hold safe production meeting regularly; 9) Conduct education and training of safe production; 10) Fire control management; 11) Safe production inspection; 12) Accident report, survey and treatment of safe production; and 13) Safety management requirements, including the installation of monitoring equipments and alarm system, watch system and so on.

*Safety Inspection Management Measure*: Chapter I, General Rules, including 4 principles of responsibilities at all levels, supervise emphasis, attach great importance to actual effect, and the checking person takes the responsibility. Chapter II, Classification of Safety Inspection includes ordinary inspection, quarterly inspection, special inspection and self-examination. Chapter III, Composition of safety inspector. Chapter IV, Safety inspection content includes management, system, site, hidden trouble, correction and accident treatment. Chapter V, Methods and forms of safety inspection.

*Emergency Preplan for Traffic and Yellow River Bridge Jam*: 6 measures should be taken when accident or paroxysmal natural disaster cause the traffic jam: call the expressway traffic police and expressway management workers; the removing workers with formulated dressing place the safe operation signs

according to the regulations; mobilize all available removing vehicles and workers to participate removing; assist traffic police to disperse vehicles; if there are persons died or injured, the preplan of person died or injured should be taken; and communicate with information center as soon as possible to inform the nearest toll station to open more toll gates. If part of the carriageways of Yellow River bridge were blocked, the patrolman should place the signs to distribute the traffic on the same direction to ensure the carriageways in good order. When all of the carriageways were blocked on the same direction and can't be cleared in short time (in 30 minutes), according to the *Preplan of Traffic Control*, the emergent movable guardrail and the plaza out of the toll stations, where are near to the accident place and safe, should be opened and use the carriageways on the other side to distribute the traffic.

*Site Rescue and Clearing for Sudden Occurrence:* 1) The rescue and cleaning of sudden occurrence will be completed by traffic police, expressway management staff and removing worker together; 2) Site treatment management. The removing worker takes charge of normal removing, the traffic police takes charge of site management of slight, normal, serious and extra accident, and the fireman takes charge of command on dangerous goods accident; 3) Treatment procedure on accident site includes traffic signs placing, traffic management, rescuing, stamping out fire, finding out the accident reason, checking damaged road, and the clearing of hindrance, accident vehicles and sundries on road; 4) Site treatment procedure of normal accident; 5) Site treatment procedure of hindrance clearing; 6) Site treatment procedure of dangerous goods clearing; and 7) Site treatment procedure of sudden occurrence clearing.

*Implementation Program of Traffic Control of Expressway in Bad Weather:* the 15 types of weather condition includes: light snow, snow, heavy snow, snowstorm, light rain, rain, heavy rain, rainstorm, light fog, fog, heavy fog, dense fog, mass fog, freezing on pavement, and strong wind. The measures will be taken, such as caution reminding and traffic control.

*Snow Removing Preplan of Houyu Expressway* includes: purchasing the equipments for snow removing, strengthening patrolling in snow, removing snow at the key points, such as the bridge, as soon as possible, and ensuring to clear up the snow in the two-way four lanes in 24 hours after snowing.

#### **4. Test Result of Vehicle Emission Control and Action Taken**

##### **4.1. Vehicle Emission Test**

To implement *Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution*, the *Notice about Issuing Inspection Institutions Technical Criterion for Present Vehicle Pollutants Discharge* issued by State Environmental Protection Administration and other regulations, the emission test of Houyu expressway adopted No.181[2005] document issued

by Shanxi Environmental Protection Bureau, named *Notice about Further Strengthen Present Vehicle Pollutants Discharge Inspection Institutions Consign Management*. The main content includes: 1) Conduct vehicle discharge pollutants test work strictly, establish the vehicle discharge pollutants test program in district, and confirm vehicle discharge pollutants test line in district. In principle, a testing unit should be established for 10000 vehicles. 2) Vehicle discharge pollutants test should meet the requirements of national vehicle pollutants discharge standard and technical criterion; 3) Give the *Vehicle Discharge Pollutants Test Unit Consign Certification* to the monitoring unit which meets the requirements of *Issuing Inspection Institutions Technical Criterion for Present Vehicle Pollutants Discharge*, and publicated the list of the qualified test units; 4) All the person engaging vehicle pollutants discharge test must obtain the Shanxi Vehicle Discharge Pollutants Test Technical Qualification Certificate issued by Shanxi Environmental Protection Bureau; 5) Strengthen supervision and management to test unit. For the irregular activities, such as not implementing national standards and technical criterion or provide false statements, the local environmental protection department should punish them according to the clause 55 of *People's Republic of China on the Prevention and Control of Atmospheric Pollution*.

Accoding to the No.181[2005] document issued by Shanxi Environmental Protection Bureau, Yuncheng Environmental Protection Bureau and Yuncheng Traffic Police Detachment established *Yuncheng Present Vehicle Discharge Pollutants Test Line Construction Program* on 23 May 2007. On the base of original present vehicle discharge pollutants test units, it is planned to build 2 test units with 10 test lines in vehicle annual examination area programmed by city government, in which, Yuncheng Jiu'an Vehicle Test and Service Ltd. has 6 test lines, Taiyuan Tong'an Environmental Protection Ltd. in Nancun in Yaomeng Urban Neighborhood Office of Yuncheng Yanhu Distirct, has 4 test lines. At present, the 10 test lines is still in building, and will be put into use soon. At sametime, a annual vehicle examination area will be established in Hejin, and the vehicle discharge pollutants test line will also be installed.

#### **4.2. Limit Measures to Vehicles Discharging Excessive Emission**

Yuncheng Government established YZF No.18 [2006] Document, named *Implementation Scheme for Yuncheng City Blue Sky and Clear Water Project*, to ensure achieve the target of "Environment is improved remarkably, and the ecological environment is protected and restored effectively." The scheme prescibles that the environmental protection bureau should combine the traffic police and expressway administration department to carry out the vehicle environmental protection test and environmental protection sign system. From January 2007, the vehicles, which discharge excessive emission or without environmental protection sign, were forbiddent to drive in city zone or on expressways.

### **4.3. Facilities of Noise Reduction**

To reduce disbursing to the both sides of expressway effectively, the tall broad-leave tress were planted within 50 m out of fense to reduce noise. This measure can also prevent wind and sand to reduce dust pollution.

### **4.4. Drainage Facilities**

Houyu expressway is located in arid region in north of China. The annual rainfall is littlie and concentrated in September and October, and the short-term rainstorm occurs infrequently. To prevent water-logging and the water discharged form expressway scouring farmland, the following measures were taken:

1) The stone drain was constructed on high subgrade to discharge the water into channel; 2) The surface logging water on low subgrade was scattered and directly discharged into farmland for irrigation; 3) The catch drain and rapid-flow conduit were constructed at excavation road section to discharge the water into channel; 4) At the road section with large water logging area and consentrated drain, the 71 vapping ponds were built along the alignment for flood control and water storage to prevent the waster discharge from expressway damaging farmland during storm; 5) The central reservation was afforested, the shrubs and grass were planted at the road sides, and trees were planted on both sides of side ditches to prevent soil and water loss; and 6) The sewage disposal systems were established in all living and service areas, the sewage was not discharged out directly, and the water after disposal was used to irrigation.

### **4.5. Afforesting to Reduce Atmospheric Pollution**

To reduce the atmospheric pollution from vehicles driving on expressway, the afforestation is the most effective method. The following methods were taken on Houyu expressway:

1) According to design requests, the afforestation investment reached 11.60 million RMB Yuan (including mainline, slip-roads and bridge), and 116,696 arbor trees, 3,144,457 shrubs, and 159,208 m<sup>2</sup> grass were planted in central reservation, side slope in filling section and berms, 4 interchanges area and 1 service area. 2) Paving protection was adopted in part of excavation section to prevent soil and water loss. 3) Local government planned to build shelter belt along Houyu expressway alignment (out of expressway area), and plant trees in 50 m out of fense. Form 2006 autumn to 2007 spring, the planting area reached 6,100,000 m<sup>2</sup>, including cedar, chinara, willow, Koelreuteria paniculata, Chinese white poplar and other tall broad-leaf trees. These trees gained good effect in aspects of landscaping, noise reducing, temperature regulation, preventing soil and water loss, defensing wind and sand, and reducing expressway pollution.

## **5. Financial Indicator of Expressway Operation Company**

### **5.1. Asset-liability Ratio**

On 31 May 2008, the asset-liability ratio of SHEC was 59%, in which, the liabilities was 1367.36 million RMB Yuan and the total assets was 2317.56 million RMB Yuan.

### **5.2. Factor of Loan Repaying**

Shanxi Road Development Project II (Loan 1967-PRC) is an important component of Erlianhor-Hekou highway of National Trunk Highway System), the aim is to promote the social-economical development in project area, especially through improving the traffic condition in village area, to keep sustained economy development and reduce poor population in Shanxi Province. The project expressway is 66.584 km, and the estimated investment is 2273.53 million RMB Yuan. 65% of the investment is loan, including 124 million dollar from ADB loan and 480 million RMB Yuan from domestic Minsheng Bank.

#### **■ Resource of Loan Repaying**

1) Steady growth of toll income; and 2) Through business service along expressway, searching economical benefit growth points continuously, such as service area, advertisement and so on.

#### **■ Major Factor Influencing Loan Repaying**

1) Strictly control project cost to reduce work cost; 2) Improve work quality and reduce maintenance cost; 3) Streamline the organizational structure, conduct network toll collection, and improve passing efficiency to reduce operation cost; and 4) Promote knight service to increase incomen and reduce cost.

### **5.3. Work Efficiency**

The toll from January to May 2008 reached 172.45 million RMB Yuan, and will increase continuously in the future.

By appointment, SHEC had repaid the principal amounted to 2.8925 million dollar (equivalent to 21.40 million RMB Yuan) to ADB by May 2008 on schedule, repaid the interest amounted to 5.942 million dollar (equivalent to 43.18 million RMB Yuan), and paid 92,585 dollar as the commitment fee accumulatively (equivalent to 0.68 million RMB Yuan). Refer to the traffic volume of 108 National Trunk Highway, which is parallel with project expressway, was increased by 2.5% in 2002 and increased 4.7% in 2005, the traffic volume of expressway is expected to increased by more than 5% from 2008 to 2026, so this can ensure the steady growth of toll income and repay the principal and interest on schedule.

SHEC will continue strengthen financial management, regular system, and try for better economic benefit.

## 6. Traffic Volume Coefficient

### 6.1. Traffic Volume of Expressway

Houyu expressway has 4 toll stations, including Xinjiang, Jishan, East Hejin and Longmen Bridge. In Quarter I-IV of 2007, 1,700,627 vehicles passed at entrances, and 1,673,702 vehicles passed at exits. Detail is shown as follows:

**Table-8**

**Expressway Vehicle Volume Statistics from January to December in 2007**

month	at entrnce				at exit			
	Xinjiang	Jishan	East Hejin	Longmen Bridge	Xinjiang	Jishan	East Hejin	Longmen Bridge
1	9411	3922	19820	18698	10383	3859	18936	18585
2	10028	15153	40917	36047	10251	14974	40678	35584
3	15856	22745	47253	44164	16131	20769	46688	42665
4	18814	26854	49045	45090	18894	23939	47848	44844
5	19408	27934	52411	50334	19314	25163	50977	50484
6	17433	20873	48025	45304	17293	20081	45523	45351
7	19565	28223	53691	48944	19127	26136	51334	49363
8	18030	32690	58855	56782	18478	31142	56298	56756
9	15784	32184	54754	54356	15893	31014	53979	53734
10	16920	33733	61217	57966	17276	33001	60464	56868
11	18298	38503	62105	54675	19544	35505	64047	53873
12	18053	38838	70741	52909	19590	35195	74339	51532
Total	197602	321652	619104	565269	202174	300778	611111	559639

**Table-9**

**Expressway Vehicle Volume Statistics from January to April in 2008**

month	at entrnce				at exit			
	Xinjiang	Jishan	East Hejin	Longmen Bridge	Xinjiang	Jishan	East Hejin	Longmen Bridge
1	11706	23587	42678	28151	13706	22394	46506	27532
2	16784	25082	59052	41628	17546	24186	60692	39772
3	26817	38561	78489	58723	27899	37121	77887	55504
4	29262	36716	82322	62236	28216	35609	81291	60187
Total	84569	123946	262541	190738	87367	119310	266376	182995

According to vehicle type statistics, in Quarter I-IV of 2007, the total number of various vehicles passing at exits of Houyu expressway reached 1,673,702, in which, the number of Quarter IV was increased by 86.49% compared with Quarter I. The vehicle type statistics is shown in following table.



**Table-10 Traffic Volume at Exits of Expressway in Quarter I-IV of 2007**

Type	Total	A	B	C	D	E	F	G	H*
Quarter I	279503	123803	10607	45147	17835	4486	36124	33049	8452
Quarter II	409711	180903	12983	73279	24323	5104	40091	61963	11065
Quarter III	463254	207612	14225	75308	27542	5636	46040	73110	13781
Quarter IV	521234	191057	12857	68190	34650	5824	52712	139923	16021
Total	1673702	703375	50672	261924	104350	21050	174967	308045	49319
Increasing (4 and 1)	241731	67254	5250	23043	16815	1338	16588	106874	7569
%	86.49	54.32	49.50	51.04	94.28	29.83	45.92	323.38	89.55

\*Type H points the vehicles free for toll, mainly including the vehicles transporting fresh farm produce (fruit, vegetable and so on), the army and police vehicles on duty, and other approved vehicles free for toll.

**Table-11 Traffic Volume at Exits of Expressway from January to April in 2008**

Type	total	A	B	C	D	E	F	G	H*
Jan	115829	37638	2292	11751	7755	1474	12699	39155	3065
Feb	142106	57861	3554	10308	8310	1436	11397	45461	3779
Mar	198411	66701	4080	21073	12068	2353	17594	68942	5672
Apr	205303	70552	4247	20832	11627	2347	17344	73320	5034
Total	661649	232752	14173	63964	39760	7610	59034	226878	17550

According to vehicle type statistics, in Quarter I-IV of 2007, the total number of various vehicles passing at entrances of Houyu expressway reached 1,703,627, in which, the number of Quarter IV was increased by 84.31% compared with Quarter I. The vehicle type statistics is shown in following table.

**Table-12 Traffic Volume at Entrance of Expressway in Quarter I-IV of 2007**

Type	Total	A	B	C	D	E	F	G	H*
Quarter I	284280	130100	11382	47577	18143	4518	34803	35820	1937
Quarter II	451525	187794	14309	81155	23874	5168	40783	67050	1391
Quarter III	473858	216857	16364	83069	27976	5584	46274	76562	1172
Quarter IV	523958	199062	14152	76383	35671	5702	53070	138605	1313
Total	1703627	733813	56027	288185	105666	20972	174930	318037	5817
Increasing (4 and 1)	239678	69062	2770	28806	17528	1184	18267	102785	-624
%	84.31	53.08	24.34	60.66	96.61	26.21	52.49	286.95	-32.21

**Table-13 Traffic Volume at Entrance of Expressway from January to April in 2008**

Type	total	A	B	C	D	E	F	G	H *
Jan	111711	37968	2413	12210	7586	1421	12213	37647	235
Feb	143266	60469	3864	11233	8366	1575	11959	45326	474
Mar	202590	68935	4512	24109	13196	2703	19652	68963	520
Apr	210536	72153	4788	24714	12965	2746	19270	73287	613
Total	668103	239525	15595	72266	42113	8445	63094	225223	1842

■ Average vehicles number per day from January to December 2007 is 4585 at exists and 4667 at entrances, and the number from January to April 2008 is 5468 at exists and 5522 at entrances.

■ Passenger car and trunk passing analysis. At present, the traffic volume monitoring facilities is still in installation, so this monitoring record will be submitted in next annual report.

■ Traffic volume between provinces. The traffic volume between provinces was reflected through the traffic volume of Longmen Bridge toll station. From January 2007 to April 2008, 757,418 various vehicles entered Shanxi from Shaanxi, and 744,148 vehicles entered Shaanxi form Shanxi. The two numbers are close, and the number of entrance is 0.18% than exit. Number of various vehicles is shown as follows:

**Table-14 Interprovincial Traffic Volume Statistics  
from January to December in 2007**

type	total	A	B	C	D	E	F	G	H
Entrance	565269	199437	15277	108112	56125	7594	61712	114870	2142
Exit	559639	193073	13967	98359	51899	7696	56525	120329	17791
Total	1124908	392510	29244	206471	108024	15290	118237	235199	19933

**Table-15 Interprovincial Traffic Volume Statistics from January to April in 2008**

type	total	A	B	C	D	E	F	G	H
Entrance	192194	67909	4410	25768	21691	3285	19732	48685	714
Exit	184509	65943	4010	22592	18724	2033	15062	50295	5820
Total	376703	133852	8420	48360	40415	5318	34794	98980	6564

## 6.2. Traffic Volume Investigation of 108 National Trunk Highway

Houma-Yumenkou Section of 108 National Trunk Highway is a chunnel that is parallel with Houyu expressay. Before expressway completion, it shouldered the transportation between Shanxi and Shaanxi. Shanxi Yuncheng Highway Bureau established 3 continuous monitoring stations at Gujiao, Xiafei and Baidi to monitor the traffic volume. In 2007, the natural number of passing vehicles per day was 9862, which was decreased by 3.40% than 2006. The equivalent number was 20652, in which, the natural number of autocar was

7266 and the equivalent number was 11580.

**Table-16 Traffic Volume at 3 Monitoring Stations on NH 108  
from January to December in 2007**

station	Autocar										tractor		vehicle total*	
	Smalltruck	Mediumtruck	Big truck	Extra big truck	Trailer	Container car	Big passenger car	Small passenger car	Subtotal		Natural number	Equivalent number	Natural number	Equivalent number
									Natural number	Equivalent number				
Gujiao	895	860	1096	397	752	181	647	1773	6603	11114	1564	6255	8917	18120
Xiafei	1059	547	673	228	516	155	562	1139	4879	7906	827	3309	6268	11777
Baidi	629	1244	1285	599	1088	4	230	5238	10316	15720	4085	16339	14401	32058
Average	861	884	1018	408	785	113	480	2717	7266	11580	2159	8634	9862	20652

\* The number of autocycle was included in the Vehicle Total.

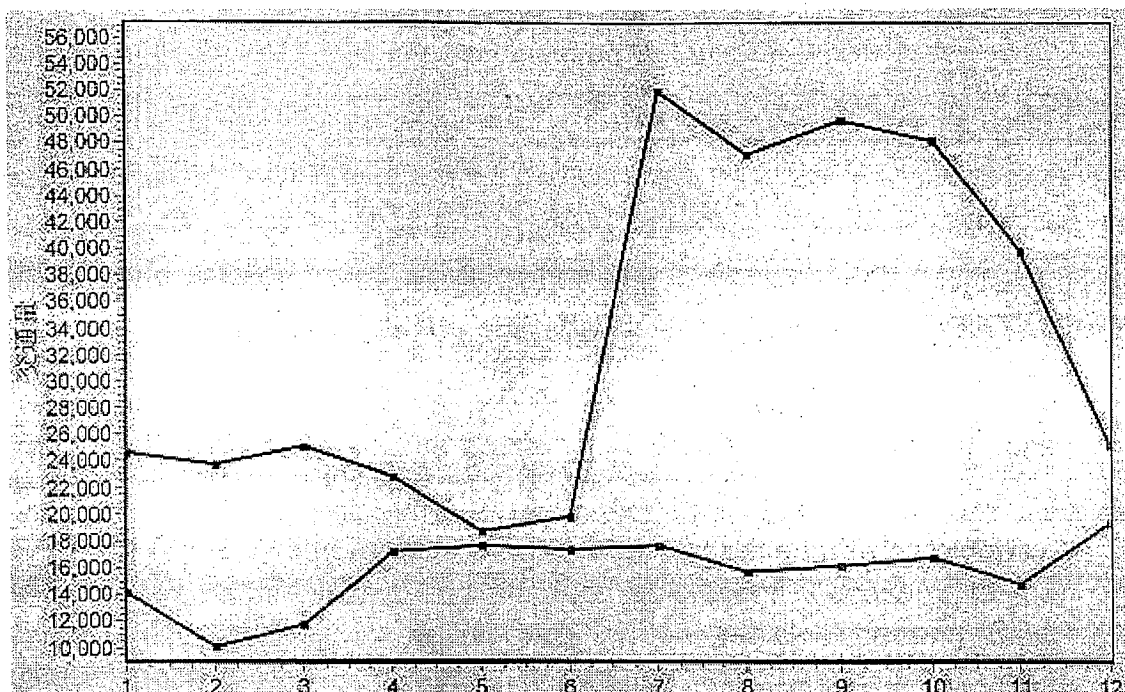
Baidi monitoring station located in Hejin takes charge of a 29 km long road section. This section of 108 national trunk highway is the only chunnel between Shanxi and Shaanxi, and the industry of Hejin is developed, so the traffic volume was bigger than the other two stations. According to the record of 2007, the natural number of passing vehicles per day was 14401 and the equivalent number was 32058, in which, the natural number of autocar was 10316 and the equivalent number was 15720. The numbers of 2007 are similar to 2006. Detail is shown in following table.

**Table-17 Traffic Volume at Baidi Monitoring Station  
from January to December in 2007**

Station	Autocar								Tractor			Vehicle total		
	Smalltruck	Mediumtruck	Big truck	Extra big truck	Trailer	Container car	Big passenger car	Small passenger car	Subtotal		Natural number	Equivalent number	Natural number	Equivalent number
									Natural number	Equivalent number				
1	634	1262	1587	640	825	19	287	3625	8879	14209	2294	9176	11173	23385
2	448	1429	809	367	448	0	464	2677	6642	10028	3065	12260	9707	22288
3	582	1409	1068	573	576	0	418	2856	7482	11762	2982	11928	10464	23690
4	748	1121	2064	1104	1069	24	208	3725	10063	17186	1247	4988	11310	22174
5	728	958	2503	1319	1171	0	181	2705	9565	17618	162	648	9727	18266
6	750	1038	1988	1272	1121	0	200	3560	9929	17322	507	2028	10436	19350
7	474	1539	681	160	1358	0	149	8706	13067	17628	8281	33124	21348	50752
8	619	993	671	149	1157	0	131	8149	11869	15714	7536	30144	19405	45858
9	458	1571	475	134	1448	0	115	7500	11701	16183	8090	32360	19791	48543
10	467	1414	508	133	1509	0	136	8088	12255	16822	7568	30272	19823	47094
11	645	991	583	252	1146	0	226	6951	10794	14782	5951	23804	16745	38586
12	994	1198	2483	1089	1224	0	249	4314	11551	19384	1333	5332	12884	24716
Total	7547	14923	15420	7192	13052	43	2764	62856	133797	188635	49016	196064	172813	384699
Average	629	1244	1285	599	1088	4	230	5238	10316	15720	4085	16339	14401	32058

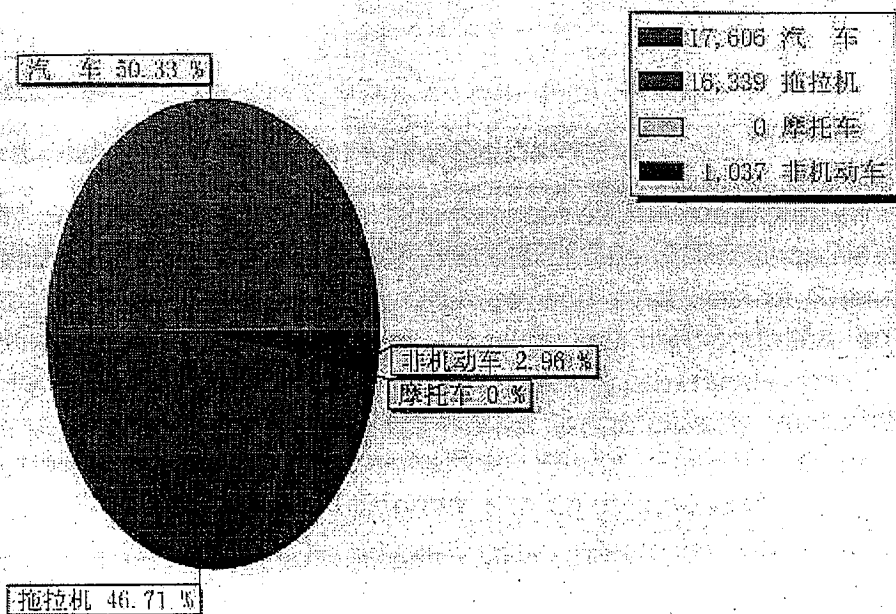
*\*The unit of traffic volume in statistics is natural number (vehicle per day). The "equivalent number" refers to convert the natural number of various vehicles into the traffic volume of standard small passenger car (vehicle per day) according to the corresponding conversion coefficient.*

Chart-2 Traffic Volume Change Graph of Baidi Monitoring Station (2007)



\* The upper curve refers to autocar equivalent number, and the lower curve refers to mixing equivalent number.

Chart-3 Average Proportion Fan-shape Chart of 4 Type Vehicles (2007)



汽车-autocar, 拖拉机-tracotr, 摩托车-motorcycle, 非机动车-non-autocar

■ Toll standard of 108 National Trunk Highway

The toll standard of Yumenkou toll station on 108 National Trunk Highway

is shown in following table, the toll road section includes 29 km highway in Hejin and Yunmenkou Yellow River Bridge.

**Table-18 Toll Standard of Yunmenkou Toll Station on NH 108**

Vehicle classification	Toll standard (RMB Yuan)
≤2.5 ton	10
>2.5 ton ≤5 ton	15
>5 ton ≤10 ton	20
>10 ton ≤20 ton	25
>20 ton ≤30 ton	50
>30 ton	60

■ Traffic and trade volume between provinces on 108 national trunk highway

For the traffic volume between provinces on 108 national trunk highway, there is no special monitoring and statistics at present. According to the observation and analysis for years, 30% of the vehicles passing Baidi monitoring station in Hejin went in or out between provinces; According to such estimate, the traffic volume between provinces of 2007 was 3095 vehicle per day (autocar, natural number). The trade volume between provinces from January to December 2007 was 5.13 million ton.

■ Freight price on 108 national trunk highway

Price of passenger transport: the ticket price from Xinjiang (Houma) to Yumenkou is 15-18 RMB Yuan per person-time.

Price of freight transport: 0.5 RMB Yuan/km.

### **III. Construction Status of Local Roads**

The construction of Houma-Yumenkou expressway will promote the economic and social development in south of Shanxi Province, and play an important role on connect north, northwest and southwest of China; shorten the transportation distance; improve synthetical transportation ability; and promote western China development. To drive the poverty alleviation in project area (mostly in Yuncheng city) and speed up the poverty alleviation, at the same time of expressway construction, Shanxi Province Communication Department (SCD) arranged to improve a batch of provincial, county, town and village roads in Xinjiang, Jishan, and Hejin, where the expressway passes through, to improve the local traffic situation, connect the project expressway and the national highway better, and form the all-weather highway network.

#### **1. Local Roads Distribution**

The local roads of Shanxi Road Development Project II includes 3 roads (4 sections) financed by ADB loan, the length is 46.4 km (Class II); 3 roads

financed by local governments, the length is 51.6 km (Class III); and total length is 98 km. The estimated cost is 66.35 million RMB Yuan, including 2 million US dollar from ADB.

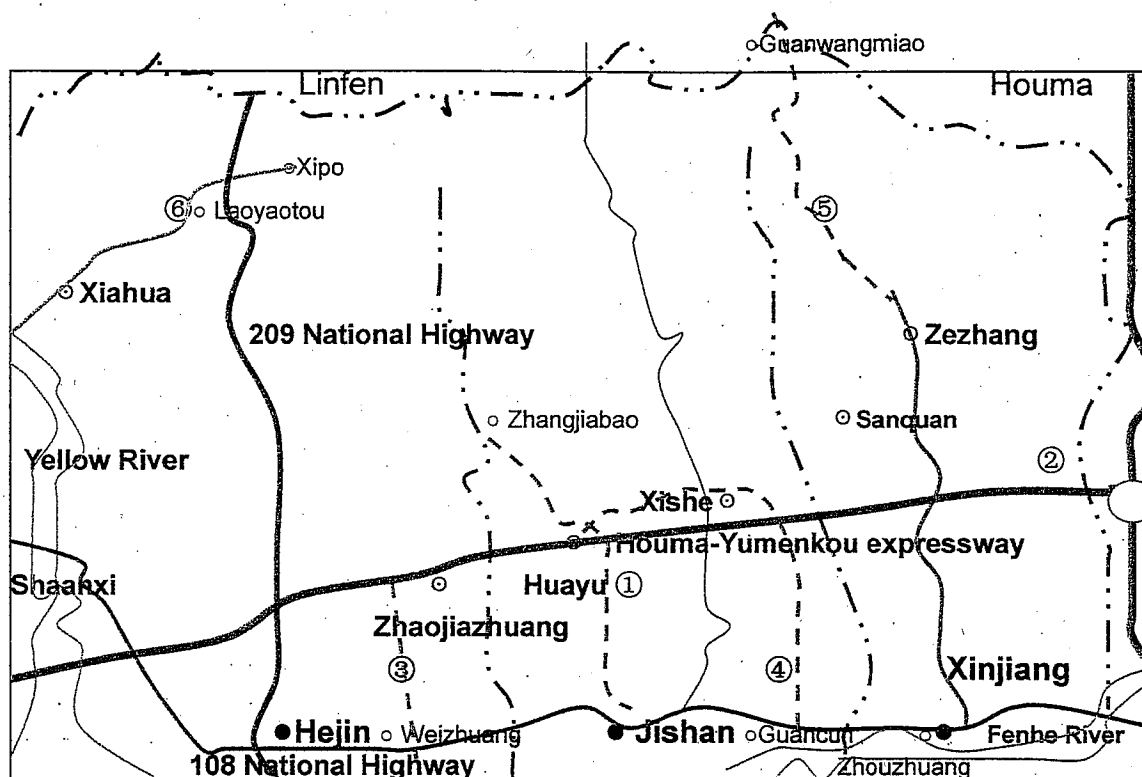
The local roads are distributed in 9 towns and 43 villages of the 3 county, Xinjiang, Jishan and Hejin. In most of these villages, the natural condition is bad, drought and short of water. Through some villages is near to coal mine, but it is difficult to shake off poverty due to bad traffic conditions. In recent 4 years, though the number of poor village was reduced, but the poverty status is still serious. The shortage of good roads limits the local village economic and social development strictly. The construction of local roads improves the local traffic condition, and play an important role in poverty alleviation.

**Table-19 Local Roads Distribution**

No.	Project name	Class	Length (km)	Location		
				County	Township	Village
1	Jishan-Zhangjiabao	2	16.89	Jishan	Jifeng	Xijie, Pinglong
					Huayu	Hujiashuang, Chengshe, Liangcun, Liangjiabao, Nanbao, Huayu town, Lucun, Ningzhai, Yangping
2	Fenhe Bridge-Zezhang	2	15.7	Xinjiang	Longxing	Zhouzhuang, Zhaili, Zhuang'ertou, Wangzhuang
					Sanquan	Xiaolingzhuang, Gudui
					Zezhang	Zezhang
3	Zhaojiazhuang-Weizhuang (old name is Zhangcai highway)	2	15	Hejin	Zhaojiazhuang	Zhaojiazhuang, Shihuizhuang, Nanli
					City zone	Baidi, Weizhuang
4	Guancunbao-Huayu town	3	18	Jishan	<u>Jifeng</u>	Guancun town, Guancun, Taidu
					Xishe	Dongzhuang, Zhongshe, Xishe, Renyi, Xuejiazhuang
					<u>Huayu</u>	Fujiashuang, Xingbao, <u>Chengshe</u> , Huayu, <u>Huayu town</u>
5	Zezhang-Guanwangmiao	3	20.1	Xinjiang	<u>Zezhang</u>	<u>Zezhang</u> , Nanyuanzhuang, Xiaonie, Zhangjiashuang
6	Laoyaotou (Xipo)-Xihua	3	11.5	Hejin	Xiahua	Laoyaotou, Zhoujiawan, Chenjialing, Nansangyu, Shanghua

\* The villages underlined means them were recorded repeatly on different roads.

**Chart-4 Distribution of Local Roads**



## 2. Construction Period

Local roads of Shanxi Road Development Project II was commenced from 2003, and were completed in 2006.

## 3. Village Transportation

### 3.1. Direct Monitoring Data of Small Truck Cost and Transportation Time

According to the investigation to local roads area, the transportation costs were different due to the different road classes. In area with good road condition, the cost per ton-km was 0.35 RMB Yuan, but the cost per ton-km was 0.45 RMB Yuan in the area with bad road condition. The driving speed was 50 and 30 km per hour separately.

### 3.2. Vehicles Ownership in Villages

According to statistics in April 2008, Xinjiang, Jishan and Hejin in influence area had 38,947 vehicles, including 25,575 vehicles for agricultural use.

**Table-20 Vehicle Statistics in Villages (2008)**

County/City	Total	Truck	Passenger car	Saloon car	Agricultural-use vehicle
Xinjiang	5527	831	162	3687	847
Jishan	28302	2013	918	1726	23645
Hejin	5118	1154	343	2538	1083
Total	38947	3998	1423	7951	25575



### 3.3. Traffic among Villages

According to the statistics in April 2008, in Xinjiang, Jishan and Hejin in project influence area, there were 595 villages, in which, 548 villages were accessible by automobile and access ratio reached 92.1%; and the number of villages without allweather roads was 17, accounting for 4.5% of all villages.

**Table-21 Intervillage Taffic Statistics (2008)**

County/city	Total number of village	Number of villages accessible by automobile	Number of village with allweather roads	Number of village without allweather roads (%)
Xinjiang	220	219	218	0.9
Jishan	227	181	202	11.0
Hejin	148	148	148	0
Total	595	548	568	4.5

### 3.4. Ticket and Freight Price of Selleded Roads in Poor Area

According to the investigation in April 2008, the ticket price from poor village to township were 0.2 RMB Yuan/person-km for Xinjiang, 0.2 RMB Yuan/person-km for Jishan and 0.17 RMB Yuan/person-km for Hejin. It reflected that passenger ticke price changed due to the difference of economic development degree and road condition.

### 3.5. Traffic Volume of Village Roads

The statistics data provided by all county traffic bureaus shows that the traffic volume of village roads was increased rapidly from 2003 to March 2008, and all kinds of vehicles were increased by 50%.

Table-22 Village Traffic Volume Statistics

Unit: vehicle per day

Year	Road	Small car	Passenger car	Small truck	Medium truck	Big truck	Trailer	Container car
2003	Fenhe bridge-Zezhang	251	22	136	105	135	80	0
	Guancun-Xishe	246	18	125	110	160	90	0
	Zhaojiazhuang-Chaijia	289	15	276	291	301	11	0
2004	Fenhe bridge-Zezhang	281	23	141	112	178	98	0
	Guancun-Xishe	269	18	130	126	280	107	0
	Zhaojiazhuang-Chaijia	308	18	294	308	312	18	0
2005	Fenhe bridge-Zezhang	301	25	150	145	221	102	0
	Guancun-Xishe	289	20	145	140	295	109	0
	Zhaojiazhuang-Chaijia	324	22	315	324	337	21	0
2006	Fenhe bridge-Zezhang	325	30	165	154	258	115	2
	Guancun-Xishe	305	20	160	155	308	124	0
	Zhaojiazhuang-Chaijia	378	35	358	376	395	26	3
2007	Fenhe bridge-Zezhang	385	32	201	168	287	152	0
	Guancun-Xishe	323	20	178	159	338	133	0
	Zhaojiazhuang-Chaijia	404	42	376	391	416	28	5
Jan-Mar of 2008	Fenhe bridge-Zezhang	415	35	236	175	325	167	3
	Guancun-Xishe	347	20	187	165	356	146	0
	Zhaojiazhuang-Chaijia	420	45	382	397	425	32	8
Increasing %	Fenhe bridge-Zezhang	65.3	59.1	73.5	66.7	140.7	108.8	300.0
	Guancun-Xishe	41.1	11.1	49.6	50.0	122.5	62.2	0
	Zhaojiazhuang-Chaijia	45.3	200	38.4	36.4	41.2	190.9	800.0
Average increasing %		50.6	90.1	53.8	51.0	101.5	120.6	-

#### IV. Implementation Result of Regional Social Development Plan

##### 1. Basic Data of Social Development

In 2002, ADB prepared the Social Development Action Plan for the influence area of the project, in which it was requested to monitor the social development in project area. In the last 6 years, the counties in the project influence area combined their own social-economic development program, coordinated the expressway construction, implemented the social action plan prepared by SHEC, and gained good result. In the aspect of regional social development, the main social development indicators showed a fast growth tendency: the total population of the 3 counties has increased from 0.976 million in 2001 to 1.045 million, and the annual population growth proportion was controlled lower than 1.5%; in 2007, the gross domestic product (GDP) reached 22.89 billion RMB Yuan, an increase of 306.8% than 2001. The

proportion of primary, secondary and tertiary industry was adjusted from 9.26:61.60:29.1 to 4.69:71.26:25.23, and this reflected the industrial structure was further optimized. The people's living standard was further improved, the per-capita net incomes of villagers in the 3 counties has increased from 2274 RMB Yuan in 2001 to 4322 RMB Yuan, the growth rate is 90.06%, in which, the per-capita net incomes of villagers in the 35 poor villages was increased from 1543 RMB Yuan in 2002 to 2738 RMB Yuan, the growth rate is 77.4%; the enrollment ratio for children of school age reached 100%, the proportion of population with running water was increased from 65.98% to 99%; the population with phone was increased from 64% to 95%, and all of these shows the improvement of living standard.

**Table-23 Social-economic Development Statistics in Project Influence Area**

Monitoring indicator	Year	Xinjiang	Jishan	Hejin	Total
Total population (10,000 persons)	2001	29	32.5	36.1	97.6
	2007	32.2	33.8	38.5	104.5
	Increase %	10	3.7	8.0	7.07
GDP (10,000 RMB Yuan)	2001	107499	93893	361295	562687
	2007	242360	280000	1766678	2289038
	Increase %	125.0	162.0	337.3	306.80
Primary industry (10,000 RMB Yuan)	2001	26133	15609	10380	52122
	2007	27463	50000	29807	107270
	Increase %	40.9	79.5	107.2	105.81
Secondary industry (10,000 RMB Yuan)	2001	45150	42988	258490	346628
	2007	138669	150000	1342575	1631244
	Increase %	135.9	248.9	237.2	370.60
Tertiary industry (10,000 RMB Yuan)	2001	36216	35296	92425	163937
	2007	97428	80000	400198	577626
	Increase %	172.3	92.7	643.2	624.97
Net income per capita of villagers (RMB Yuan)	2001	2011	2080	2731	2274
	2007	3616	3100	6250	4322
	Increase %	52.2	41.8	112.4	90.06

## 2. Women Development

### ■ Small loan for villages

According to investigation, in the 4 years of 2004-2007 during expressway construction, the loan with total amount of 5433.78 million RMB Yuan was provided to the 3 counties in project influence area, including the loan for the 58 affected villages and 35 poor villages. The purpose of the loan includes purchasing small processing machine, building aquaculture area, building vegetable greenhouse, and building farm products market. In 4 years, 98676 households had obtained the loan from the rural credit cooperative, and the average loan of every household is 55000 RMB Yuan. The number of poor

households gained loan is 25% of all the households gained loan. Due to the small amount of loan and suitable to develop family economic, the object of the loan was mostly women, and the householders of 47.5% of households gained loan were female.

**Table-24 Loan Statistics in Project Influence Area (2004-2007)**

County/city	Total amount of village loan (10,000 RMBY)	Loan target		
		Number of village	Number of household	Number of household with the female householder
Xinjiang	83982	220	45075	23522
Jishan	289396	200	46551	22100
Hejin	170000	141	7050	1250
Total	543378	561	98676	46872

■ Training

In 2004-2007, 84445 woman villagers received various technical training in the project influence area, and the training covered 595 villages in 3 counties, including 58 affected villages and 35 poor villages. The number of the women trained from affect villages and poor villages are 1288 and 533 separately. Generally, every family had 1 woman trained, and some families had 2 women trained. As the average cost of 500 RMB Yuan for every woman trained, the total cost for the women training reaches 42.23 million RMB Yuan. In Xinjiang County in 2006, the technical training of vegetable, Chinese traditional medicine planting and aquaculture was provided to 800 women, and the training made them to become the leaders of industrial structure adjustment in their own villages.

**Table-25 Village Women Training Statistics in Project Influence Area (2004-2007)**

County/city	Total person-time of women training	Planting	Breed aquatics	Industrial technology	Business and service
Xinjiang	23522	5008	17518	0	996
Jishan	27293	8932	13248	3872	1241
Hejin	33630	2357	9852	12688	8733
Total	84445	16297	40618	16560	10970

The women after training with certain skill, not only work in industrial enterprises, but also participate the market business. Investigation shows that, in the 64 markets built in project influence area, the number of the stall kept by women is 4450, which is 58.8% of the total stalls; the annual average turnover from the stall kept by women is 56.52 million RMB Yuan, which is 58.8% of the total turnover. Furthermore, in the 58 villages and 35 poor villages that expressway passes through, the number of shops was increased from 507 in 2001 to 732 in 2006, 90% of the shops were kept by women, and the annual turnover of every shop was about 25000 RMB Yuan.

**Table-26 Stall Statistics Kept by Village Women in Project Influence Area  
(2004-2007)**

County/city	Year	Total of market	Number of stall and turnover amount		
			Total	Kept by women	Average annual turnover
Xinjiang	2004	5	280	90	0.8
	2007	10	860	230	1.0
Jishan	2004	22	3750	2230	1.7
	2007	27	5360	3200	2.0
Hejin	2004	23	1150	910	0.6
	2007	27	1350	1020	0.8
Total	2004	50	5180	3230	1.03
	2007	64	7570	4450	1.27

### 3. Business

Including the county and town wholesale center, 1870 stores were distributed in villages in project influence area, most of which were kept by women, accounting for 83.90% of all stores.

**Table-27 Store Statistics Kept by Village Women in Project Influence Area  
(2004-2007)**

County/city	Year	Store in counties		
		Total	Kept by women	Average annual turnover (10,000 RMBY)
Xinjiang	2004	360	348	2.0
	2007	480	460	3.0
Jishan	2004	720	530	3.6
	2007	940	700	5.0
Hejin	2004	430	380	1.2
	2007	450	410	1.5
Total	2004	1510	1258	2.27
	2007	1870	1570	3.17

### 4. Achievement of Social Development Action Plan

On base of the framework of Social Development Plan provided by the social specialist from ADB in May 2002, the social development action was implemented in project influence area very well. The fund input included: 917.23 million RMB Yuan on gender aspect, which was 208 times of plan; 34.86 million RMB Yuan on poverty alleviation; and 48.00 million RMB Yuan on local economic, which was 1.6 times of plan.

**Table-28 Implementation Achievement of Social Development Action Plan**

Social Aspects and Proposed Actions	Target Population	Agencies Involved	Timing	Funding Requirements/Source	Monitoring Indicators
1. Gender Aspects				4.4 million RMB Yuan	Actual input was 917.23 million RMBY, which was 208 times of plan
1.1 Provide small loans (10,000 yuan) to women to develop sideline activities (vegetables, animal husbandry, fruit processing, local crafts, shops and services business)	1) 5 % of households in 58 affected villages = 800 households 2) 5% of households in 35 poverty villages = 400 households	County Poverty Alleviation Office Agricultural Development Bank All China Women's Federation (assist with implementation and monitor)	2003 - 2007	240 households/year x 10,000 yuan = 2.4 million yuan/year (less repayments) 1) 50% from resettlement budget 2) 50% from Counties	- Actual loan, loan amounted to 561.78 million RMBY for 10,200 households in affected villages; and loan amounted to 339.01 million RMBY for 6,160 households in poor villages - Annual repay ratio was 65%
1.2 Technical training for women	1200 women (from the households targeted in item 1.1)	County Rural Enterprise Office Township Farming Technology Office	2003 - 2007	1200 x 1000 yuan = 1.2 million over 4 years Source:	- number of trainees was 1288 and the cost was 0.644 million RMBY in affected villages - number of trainees was 533 and the cost was 0.267 million RMBY in poor villages
1.3 Equal opportunity for work and pay	15% of construction labor = 900 women Operational staff: 50% of service employees 25% of management	SHEC & Contractors SHEC	2003 - 2007	Included in contract price (market rates) SHEC payroll	- number of female laborers was 7,150 - person-month during construction and 2,608 person-month during operation - wages paid was 5.842 million RMBY during construction and 1,696 million RMBY during operation
1.4 Establish areas for local markets and shops between towns and interchanges	At least 4 market areas (100 spaces each) - half of the allocated spaces for businesswomen (i.e., 200 spaces)	County Government All China Women's Federation	2004 - 2007	200,000 yuan x 4 = 0.8 million County Government	- number of markets was 6. - number of stalls/shops was 1,870. - 83.9% of shops were run by women
1.5 Encourage contractors to utilize local food, restaurants and related services	4 to 10 villages along expressway alignment (near construction camps)	SHEC & Contractors Village Committees All China Women's Federation	2003 - 2006	Indirect Project cost	- revenues generated from construction workers was about 8 million RMBY.

Social Aspects and Proposed Actions	Target Population	Agencies Involved	Timing	Funding Requirements/Source	Monitoring Indicators
1.6 Construction camps will adopt adequate health and sanitation practices, including awareness programs and environmental monitoring	All construction camps and nearby villages	SHEC Contractors County Health Dept. All China Women's Federation Environment Monitor	2003 2007	Included in environmental cost of Project	- delivery of awareness programs - health inspections - environmental inspections
2. Poverty Aspects				4.22 million RMB Yuan	Actual input was 34.86 million RMBY, which was 8 times of plan
2.1 Select 50% of the unskilled labor requirements from poverty villages	600 laborers for the expressway (4 years) 74 laborers for the local roads (3 years)	SHEC & Contractors County Dept. of Communications	2003 2007 2003 2006	Included in contract price. Included in contract price (market rates)	- number of laborers for expressway was 34,844 person-month, and number of laborers for local roads was 6,382 person-month - wages paid was 28.03 million RMBY for expressway and 3.83 million RMBY.
2.2 Technical farming training for households in poverty villages	10% of households in 35 poverty villages = 800 households (in addition to item 1)	Township Farming Technology Office	2003 2006	800 x 1000 yuan = 0.8 million over 4 years	- number of trainees was 1763 from 1048 households post-training assessment: breeding, gardening and repairing
2.3 Land development in poor villages	35 poverty villages = 8000 households	County Government	2003 2006	6,000 mu x 6600 yuan = 40 million yuan Source: Provincial Land Utilization Fund	- lack of statistics data
2.4 Credit scheme for purchase of vehicles	35 poverty villages x 4 vehicles = 140 vehicles	County Government	2003 2004	140 3-wheel vehicles x 10,000 yuan = 1.4 million in credit	- number of agricultural vehicles was 137. - Loan amount was 3 million RMBY, in which, 1.85 million RMBY had been repaid.
3. Vulnerable Groups* Affected by Land Acquisition				Item 3 is included in the Resettlement Plan budget amounted to 5 million RMBY	
3.1 Additional subsidy for transition period	500 households	SHEC	2003	1000 yuan per household x 500 = 0.5 million RMBY	- number of households was 4 - payments: 2,500 RMBY was paid

Social Aspects and Proposed Actions	Target Population	Agencies Involved	Timing	Funding Requirements/Source	Monitoring Indicators
3.2 Technical farming training for households	500 households	SHEC	2003 2004	1000 yuan per household x 500 = 0.5 million RMBY	- Training was conducted according to plan.
3.3 Assistance with house construction and moving	500 households	SHEC	2003	There was no additional cost.	- New houses were constructed for 4 households.
3.4 Health assistance	100 households	SHEC	2003 2006	Up to 5000 yuan x 100 households x 4 years = 2 million RMBY	- lack of statistics data
3.5 Education assistance	100 households	SHEC	2003 2006	5000 yuan x 100 households x 4 years = 2 million RMBY	- Assistance was conducted according to plan, The fund was provided by village committees
4. Local Economic Benefits				30 million RMBY	Actual input was 48 million RMBY, which was 1.6 times of plan
4.1 Expand county wholesale centers and local village networks for vegetables, fruits and other products marketed to other provinces	Each of the three affected counties (Xinjiang, Jishan and Hejin)	County Government	2003 2007	100% funded by counties 3 markets x 10 million RMBY = 30 million RMBY	- 4 markets were built and 48 million RMBY was raised. - GDP of counties see Table-23.
4.2 Maximize use of local materials and transport services for Project construction	- ___ % for local steel, cement, aggregates, and asphalt - ___ % by local transport services	SHEC & Contractors County Dept. of Communications	2003 2007	Included in Project cost	- lack of statistics data
4.3 Local road safety program	Each of the three affected counties (Xinjiang, Jishan and Hejin)	County Dept. of Communications	2003 2006	Local Government budget	- safety programs - accident statistics Plan was implemented, details are shown in Chapter II Section 3.
4.4 Tourism development to increase local revenue and employment	Each of the three affected counties (Xinjiang, Jishan and Hejin)	County Government	2003 2007	Local Government budget	- lack of statistics data

\* - Vulnerable Groups include the elderly, physically or mentally handicapped, and single parent households.



## Monitoring Result of Poverty Alleviation

1. Poverty Alleviation Basic Data of Xinjiang, Jishan and Hejin
2. Poverty Alleviation

## Monitoring Result of Poverty Alleviation

### V. Monitoring Result of Poverty Alleviation

#### 1. Poverty Alleviation Basic Data of Xinjiang, Jishan and Hejin

In 2000, the 3 counties had 1 poor town, 35 poor villages, and 33,965 poor population. After 7 years social-economical development and poverty alleviation, the net income of most poor population has been improved more than 1000 RMB Yuan. To 2007, the 3 counties in project area have no poor town, number of poor village was reduced to 19, and the poor population was reduce to 14106, decreased by 58.5%.

**Table-29 Poverty Status in Project Influence Area**

County	2001				2007			
	Poor town	Poor village	Poor household	Poor population	Poor town	Poor village	Poor household	Poor population
Xinjiang	1	14	2227	9260	0	0	1763	8109
Jishan	0	19	5200	23070	0	0	1156	5317
Hejin	0	2	390	1635	0	0	170	680
<b>Total</b>	<b>1</b>	<b>35</b>	<b>7817</b>	<b>33965</b>	<b>0</b>	<b>0</b>	<b>3089</b>	<b>14106</b>

**Table-30 Poor Village Distribution in Project Influence Area (2001-2007)**

2001			2007		
County	Town	Village	County	Town	Village
Xinjiang	Zhibeizhuang	Qucun, Donqucun, Beilanzhuang, Shijiaya, Liuya, Baoli, Lancun, Shijiazhuang, Dongwang, Wolongzhuang, Dongkang, Xiwang, Zhishe	Xinjiang	Zhibeizhuang	Qucun, Donqucun, Beilanzhuang, Shijiaya, Liuya, Baoli, Lancun, Shijiazhuang, Dongwang, Wolongzhuang, Dongkang, Xiwang, Zhishe
Jishan	Huayu	Foyukou, Liujiashuang, Sihezhuang, Weilin, Ningzhaibao, Lijiazhuang, Mawucun	Jishan	Taiyang	Yangjiashuang, Liujiaping, Shifogou, Sanpo, Shangwangyin, Emei
	Xishe	Shandi, Maguduo, Mashenpo, Caojiashuang, Putou, Xiaojiazhuang, Yangjiashuang			
	Taiyang	Yangjiashuang, Liujiaping, Shifogou, Sanpo, Shangwangyin			
	Zhaidian	Emei			
Hejin	Senglou	Liujiabao, Lijiabao			

#### 2. Poverty Alleviation

##### 2.1. Poverty Alleviation of Project

In the ADB *Adie Memoire of Loan Fact-finding Missioning for Shanxi Road Development Project II*, it was stated that "To maximize the poverty reduction impact of the Project, it was agreed that (i) all roads financed by SCD under the Project would utilize wage labor, wages being set at market rates that currently correspond to approximately 20 RMB Yuan per day for unskilled labor; and (ii) construction companies involved in civil works for the expressway and the Yellow River Bridge component and construction companies for the complementary road component will commit to hiring the highest possible share of labor force from poor villages." According to this clause, SHEC stipulated that the contractors must employ the poor labors from village, when signed construction agreement. We conducted a investigation to the employment of contractors after April 2004, and the investigation data showed that the contractors implemented the stipulations of *Memorie* strictly. From April 2004 to December 2006, 7 contractors employed labors of 78863 person-month, including non-technical labor of 47020 person-month. In non-technical labor, 34844 person-month were poor labors, accounting for 74% of non-technical labor. The average wage of non-technical labor was 817 RMB Yuan per person-month (27.23 RMB Yuan per day), which was more than the wage expected in *Memorie*.

## **2.2. Poverty Alleviation during Operation**

In project influence area, the toll roads take the measure of "Green chunnel", that means, the vehicles transporting vegetables, fruit and other fresh farm produce is free for toll. According to the statistics of Houyu expressway, from January to September 2007, 3988 vehicles transporting farm produce were free for toll, and the amount reached 0.88 million RMB Yuan. This measure is positive to reduce the production cost in poor villages and increase the village income.

## **2.3. Monitoring Indicators to 35 Poor Villages**

In the poverty monitoring reports of 2002-2007, 21 indicators were specialized to track the 35 poor villages. The integrated data of the 35 villages are shown in the following table:

**Table-31 Summary of Poverty Alleviation  
Monitoring and Investigation (2002-2007)**

Monitoring indicators	2002	2007	Increase of decrease proportion %
Annual income per capita (RMBY)	1543	2738	77.45
% of population with drinking water	82.1	99	20.58
% of school-age children in school	96.0	100	4.17
Number of qualified teacher	130	146	12.31
% of adult literacy	88.2	100	13.38
Number of nurse/doctor	33	33	-
% of serious disease can be treated immediately	36.9	58	57.18
Distance to the nearest hospital (km)	6.4	5	-21.88
Convenient traffic distance to the nearest city or market (km)	10	5	-50
Inconvenient traffic distance to the nearest city or market (km)	8	4	-50
Number of outgoing laborer	1161	2786	140
Number of village enterprise	14	36	157
Number of other enterprise	16	25	56
Loan amount of household (10000 RMBY)	100.3	538	436.39
Average holding of irrigated land (mu per capita)	0.7	1.2	71.43
Average holding of non-irrigated land (mu per capita)	1.44	0.9	-37.5
Average mean price of grain (RMBY/kg)	0.55	1.50	200
Average mean price of fruit, vegetable, and economic crops (RMBY/mu)	600	1600	166.67
% with phone	6.62	95	1335
% with radio	0.96	5	420.8
% with TV set	15.45	95	514.89

From the above statistical data, it is known that the basic social development indicators of poor villages have a good trend. The major indicators are:

- The net income per capita was increased from 1543 RMB Yuan in 2002 to 2738 RMB Yuan in 2007, and the growth rate is 77.45%. Viewed overall, the whole area has shaken off poverty according to the present Chinese poverty standard. In 2002, the net income per capita of 2 villages was lower than 800 RMB Yuan, that of 13 villages was lower than 1000 RMB Yuan, and that of 15 villages was lower than 1500 RMB Yuan; but in 2007, the average net income per capita of all villages was more than 1500 RMB Yuan. In 2002, there were 14 villages with the net income per capita more than 2000 RMB Yuan, but in 2007, the number of village reached 26, in which, the net income per capita of 3 villages was more than 3000 RMB Yuan.

- Due to the improvement of village traffic facilities, the convenient traffic distance to the nearest city or market and the inconvenient traffic distance to the nearest city or market was decreased by 50% separately, and the percentage of serious disease can be treated immediately was increased from 36.9% to 58%. These indicators reflected the health ensuring level in poor villages had been improved obviously.

- The reasons of the net income per capita improvement can be found in the following 4 indicators: the number of outgoing laborer was increased 140%, the number of village enterprise and other enterprise was increased 157% and 56% separately, and the loan amount for household was increased about 436 times.

- The indicators showed that the villager living standard of poor village had been improved: the holding percentage of phone, radio and TV set was increased 1335%, 420.8% and 514.9% separately.

- The price of farm product was increased obviously. The grain price was increased by 200% and the price of fruit and vegetable was increased by 166.67%. It was not improved obviously due to the natural condition limitation of irrigated land, and it is need to increase input to the irrigation facilities.

According to the requests of ADB mission in 2007, we revised part of 35 monitoring indicators to 35 poor villages. According to the revised monitoring table, we conducted site investigation again and collected detailed data. The summary data are shown as follows.

**Table-32 Summary of Poverty Alleviation Monitoring and Investigation (2007)**

Monitoring indicators	2007	2008	2009	2010
<b>Infrastructure</b>				
- no. of km of good access roads to nearest urban/market center	11.5			
- % of population with phone	95			
- % of population with radio	5			
- % of population with TV	95			
- % of population with potable water	99			
- % of villages without paved roads	17			
- % of population with electricity	100			
- passenger fares and freight rates to key destinations and interchanges.	3.0RMBY/person 0.35/ton-KM			
<b>Access to health and education</b>				
- % of adult literacy	100			
- drop out rate for total students and girls	0			
- no. of villages with clinic	33			
- no. of villages with qualified midwife	0			
- no. of villages with qualified health attendant	33			
- % of infant mortality	0			
- % of school-age children in school	100			
<b>Crop production</b>				
- area under cultivation (mu)	62875			
- % of irrigated land by village	38.5			
- area of cultivated land under arrangement	62875			
<b>Per capita cash income</b>	2738			
- no. of unskilled poor workers employed on project road construction	269			
- middleperson prices for grain	1.50			
- middleperson prices for horticulture	2.00			
- average earnings from selling vegetables, herbs etc. (non-grain) to market /household	1210			
- average earning from selling grain crops /household	380			
- no. of days working in non-farm activities including road construction work per capita	200			
<b>Non-farm economic activities</b>				
- no. of township/village enterprises	16			
- no. of employees in township enterprises	399			
- no. of newly established industrial enterprises	3			

- no. of new commercial businesses around interchanges	2			
Living expenses				
- kg of meat consumption for selected villages in mountainous areas /household/year	5			
- education expenses/year/child	950			
- expenditure on food and clothing per capita	660			
Housing conditions				
- type of heating (wood, oil, etc.)	Coal			
- no. and area of rooms (brick and wood structure/reinforced concrete structure)	19/brick and wood			
- no. of rooms newly built within the year	85			
Major productive assets				
- average holding of irrigated land	0.88			
- average holding of nonirrigated land	1.44			
- no. of motor vehicles/village	17			
- no. of tractors/village	3			
- no. of water pumps/village	1			
- no. of commodity animals/village	130			
- no. carts with rubber tires/village	13			
- no. of laborers employed during construction	269			
- % of poor laborers	100			
- % of local laborers	100			
- % of women in total labor force	22			
- wage level of villagers employed on the local roads component.	630/person-month			

## **VI. Affected People Economical Recovering Analysis of Land Acquisition and Resettlement for Expressway (2007)**

### **1. Analysis of Influence Degree**

Farmland of some villagers was occupied due to the expressway construction, and this caused the average farmland per capital in affected villages reduced from 1.73 mu in 2001 to 1.56 mu. In the 58 villages, 6 villages had no farmland expropriated; 15 villages are with a decrease of less than 5%; 17 villages lost land by 6-10%; 15 villages lost 11-20%; 4 villages with 21-30% of land acquired and 1 village is with 33% of land area decrease. The farmland reduction per capita at various villages is shown as follows:

**Table-33 Statistics of Average Farmland Decreasing Ratio in Affected Villages**

Decreasing %	No.	Village
33%	1	Huayu
21-30%	4	Xishe, Dongzhuang, Xiyaotou, Junling
11-20%	15	Shicun, Taidu, Shangpai Jiayu Zhongshe Renyi Xuejiazhuang Fujiazhuang Luchun Huayuxibao Weiling Hejiazhuang Fanjiazhuang Dongxinfeng Xixinfeng
6-10%	17	Beipingyuan Wangzhuang Liujianzhuang Xixueguo Quanzhang Xiaodu Xinzhuang Yaochun Guozhuang Beiwangbao Fubai Yitang Dongzhuang Xiguan Sanqian Yongan Cangtou
Less than 5%	15	Jizhuang Xiaolingzhuang Shuixi Xicun Yongfeng Yongxing Dongxueguo Donghuan Xingjiazhuang Huayuzheng Ninzai Guanzhuang Xizhuang Dongyaotou Yangjiaxiang
0	6	Leli Fuyouzhuang Taoliang Xingjiabao Ninzaibao Taiyang

The average farmland per capital of affected households was reduced from 1.69 mu in 2001 to 1.17 mu in 2007, and the average farmland per capital of non-affected households was reduced from 1.69 mu in 2001 to 1.34 mu. Compared with the non-affected households along the alignment, the average farmland per capital of affected households was 14.5% less than the non-affected households in 2007.

**Table-34 Change Comparison of Average Farmland and Composition**

Average farmland per capital (mu)	Affected households		Non-affected households	
	2001	2007	2001	2007
< 0.5	0	13	0	12
0.5-1	0	26	0	12
1-1.5	26	26	24	24
1.5-2	52	26	48	36
>2	13	0	12	0
Total	91	91	84	84

In recent years, the output per mu of grain crops was raised greatly due to the improvement of agricultural production condition, and the output per mu was increased from 300 kg in 2001 to 520 kg. But due to the reducing of farmland, the output per capital of gain crops of affected households was 20% less than the non-affected households in 2007. The growth rate of average output per mu of affected people was also over than the non-affected people: the average grain crops output per capital in 2007 of affected people was 620 kg, increased 21.6% than 2001; the average grain crops output per capital in 2006 of non-affected people was 670 kg, increased 31.4% than 2001; and the growth rate of affected people was 9.8 point of percentage lower than non-affected people. The reasons of the low income from grain crops of affected people include: the average farmland decreasing of households

because there is no land to adjust, and output reduction of the household that got the adjusted land due to the inconvenience of farming.

**Table-35 Change Comparison of Average Grain Output and Composition**

Grain crops output per capital (kg)	Affected households				Non-affected households			
	2001		2007		2001		2007	
	No. of household	%	No. of household	%	No. of household	%	No. of household	%
< 100	1	1.1	0	-	1	1.2	0	-
100-200	3	3.3	1	1.1	2	2.4	0	-
200-300	5	5.5	3	3.3	6	7.1	0	—
300-400	5	5.5	6	6.6	13	15.5	4	4.8
400-500	27	29.7	11	12.1	15	17.9	9	10.7
500-600	36	39.6	27	29.7	31	36.9	24	28.6
> 600	14	15.4	43	47.3	16	19.0	47	56.0
<b>Total</b>	<b>91</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>84</b>	<b>100</b>	<b>84</b>	<b>100</b>
<b>Average output (kg)</b>	<b>510.0</b>		<b>620.0</b>		<b>510.0</b>		<b>670.0</b>	

## **2. Preparation and Implementation of Living Rehabilitation Plan**

In order to make life rehabilitation perfect and to minimize the loss resulting from land decrease, the affected villages timely redistributed farmland so that the villagers with land acquired got land again with an area generally equal to others. Then, the county authorities did works guiding affected villages to make economic rehabilitation plan to ensure a life standard at least not below the standard before resettlement. When making the plans, deep discussion by villagers were encouraged on how to restructure village economy and to add more value to farming products based on existing condition of the villages such as villages' geographic situations and resources.

In the process of living rehabilitation plan implementation, the offices particularly responsible for land acquisition and resettlement at county and township level gave direction by two types.

The first type is for the 34 villages redistributed lands after land acquisition, mainly focus on the measures to restructure their industries, including (i) enlarging planting area of cash crops, vegetables and fruits; (ii) developing aquatic breeding. Large amount of land compensation fees are invested in improvement of irrigation facilities, which raised greatly the average output value of farmland. According to statistics from 34 villages redistributed land, 2,990,000 RMB Yuan were invested in irrigation facilities, making up 12 % total sum of compensation. Owing to the improvement of irrigation conditions, the average output value per mu reached above 1600 RMB Y, increasing by 67 % than 2001. After industry restructuring, plant production,



livestock breeding and household based sideline in Xishe and Huayu villages of Jishan county experienced coordinated development. The annual average gross income per capita there in 2007 reached 31000 and 15600 RMB Yuan respectively, of which one third was made by each of said third industry.

In Xizhuang village of Hejin, 149 mu of land was acquired, and this made 26 households lost part of land. The village committee uses the remained mobile land to adjust to keep the affected people's land without reduction. At present, the main living resource of this village is farmland work, and half of the land is used to plant apple, and the other half is used to plant grain crops. To improve the income of villagers as soon as possible, on the one hand, the village organized 400 people to work in the near factories and arranged 150 people to participate the expressway construction; and on the other hand, the village has started the land development plan: at first, financed funds from public to repair and harden the village roads, and built a 3 km long out-village road to connect the city zone; at second, programmed a industrial park with 8 km long, built green belt, planned to attract the trade and investment promotion in 2007, and make the village become a part of city.

In Jishan county, Xinjiazhuang village utilized the waste earth from expressway to reclaim 5 mu of farmland, improved the irrigation facilities to reform 1000 mu of farmland in village into irrigated farmland, and the grain crops product value was increased by 20%. The village also encourage the villagers to work in the nearby companies, 70% of village labors became into workers, and the salary was more than 1000 RMB Yuan per month. The net income per capita reached 3500 RMB Yuan, which was increased by 2 times compared with 2001. Additionally, SHEC also invested 0.2 million RMB Yuan to help the village to built a 600 m village road, which made the villagers' living more convenient.

The second type is for the villages which are unable to do land redistribution because their have no land reserved after land acquisition. They are mostly the villages with small average farmland area per capita. Therefore, except measures same to said villages to raise output value of land, the major measures here concentrate to the development of process industry, trade and sideline so as to increase as more persons working as labor as possible. Cangtou village, Hejin county for example, the farmers here plant asparagus (a sort of vegetable) in the wasteland of Yellow River bank for processing and then sale, at same time they expand trucking trade and work as labors, which make their income increasing very soon. The area of asparagus planting enlarged from 1000 mu in 2001 to 5000 mu in 2007 with a net income of 3000 RMB Yuan per mu. The income increase resulting from only this measure reaches 15 million RMB Yuan each year for the village, 7500 RMB Yuan per capita in average. The number of motor vehicles the village has increases from 30 in 2001 to 50 now, and each contributes 10,000 RMB Yuan to annual income, transport materials for the construction of the Yellow River Bridge. In order to raise villagers' technology capability, 50,000 RMB

Yuan were expended on skill training with 300 persons trained. In 2007, the average income per capital of the village reached 8000 RMB Yuan, which is 5.7 times of 1400 RMB Yuan in 2001. The result of implementation of the economy rehabilitation program is very satisfactory. The net income per capita of 58 villages rose from 1950 RMB Yuan 2001 to 3100 RMB Yuan. The gross income in 2006 reckoned based on said net income increased by 99.68 million RMB Yuan, about 6 times of anticipated increase of 17.32 million RMB Yuan. In Shuixi village of Xinjiang county, under the condition of farmland decreasing, the furniture processing industry was developed, 80% of the villagers engaged the furniture processing and selling, and there were 9 furniture wholesale markets. The net income per capita reached 6000 RMB Yuan, which was 3 times of 2001.

The analysis of data collected from 5 villages with heavy loss of lands also witnesses the success in economic rehabilitation. Listed in the table below are the comparison of primary indicator of 5 villages between 2001 and 2007. The data in the table indicate that the margin of gross income increase in 2007 exceed the anticipated. It is observed too that income from working as labor becomes a key contribution to income increase.

**Table-36 Basic Information Statistics of Villages Affected by Farmland Decreasing (2007)**

Village	Xishe	Dongzhuang	Huayu	Xiyaotou	Junling
Population increase%	2.8	3.8	14.2	3.5	0.8
Farmland reduce%	10.4	23.7	8.1	6.1	20.0
Farmland decreasing per capital%	21.4	25.92	33.33	28.6	20.0
Average output value increase per mu %	136	149	150	60	129
Net income increase per capita %	130	96	88	91	160
No. of persons working as labor in 2007	223	300	164	330	300
Income from working as labor in 2007 (10000 RMB Y)	210	180	75	198	210
Gross income increase in 2007 (10000 RMB Y)	314	287	102	230	428

Xiyaotou village in Hejin was one of the villages which the average farmland per capital reduced most, and the average farmland per capital of this village was only 0.5 mu after land acquisition. If only relying on crop planting, calculated with the highest production value 2500 RMB Yuan per mu in influence area, the average income per capital is 1225 RMB Yuan only, and the net income per capital is about 800 RMB Yuan after cost. This village utilized the convenient condition that the village is close to the city industrial park to

setup 5 small enterprises, 60 transportation specialized households, 10 shops, 10 restaurant, and feed about 900 people to the nearby factories. The average monthly wage per capital was about 800 RMB Yuan, only on this aspect, the income of the village gained 864 million RMB Yuan every year, and the average income per capital was more than 3000 RMB Yuan. Added the income from enterprise and land, the average net income per capital of the village reached 5500 RMB Yuan in 2007, increased 91% than 2875 RMB Yuan in 2001. Now, in this village, 80 households purchased cars, the number of motorcycle and motor tricycle reaches 500, the mobile phone reaches 700, 100% of households have color televisions, 90% of the households have washers and fixed-line telephones, 50% of the households have the drinking-water machines and stereos, 30% of households have iceboxes, and 10% of households have air-condition.

### **3. Rehabilitation of Infrastructure Facilities**

During expressway construction, the production facilities of villagers were damaged in different degrees, and mainly focused on temporary occupied land, production roads and irrigation ditches. SHEC paid great attention to the rehabilitation of these foundation facilities. By the end of May 2007, 1380 mu of total temporary occupied land had been recultivated completely.

SHEC also input funds to rehabilitate the production roads to promote the production convenience. The total length of rehabilitated production roads has reached 109875 m with the investment amount of 2.3887 million RMB Yuan. The irrigation ditches of 12070 m was rehabilitated with rehabilitation cost of 0.8097 million RMB Yuan.

### **4. Rehabilitation of Living**

#### **4.1. Basic Information of Affected Villages**

In the 58 affected villages, there was 96499 people in 2001 and 101923 in 2007, increased by 5.6%. Calculated with the local average production value in 2001, the reduction of land caused the income reduction with 5.45 million RMB Yuan to the villagers. Through the land adjustment, industry structure optimization and other measures, up to 2007, the average production value per mu of every village reached 1140 RMB Yuan, 19% increased than 2001. The average production value per mu of grain crops was increased from 550 RMB Yuan to 750 RMB Yuan, 36.4% increased. The net income per capital reached 3100 RMB Yuan, 57% increased than 2001. The housing area per capital reached 40 m<sup>2</sup>, 83.4% increased than 2001. The construction of foundation facilities was also speed up due to the economic development. The 58 villages had 14860 m harden road in 2001, but had 320540 m in 2007, 21 times increased. The percentage of the household with telephone was increased from 39.6% to 95%, and about 55 percentage point was increased. The number of shops was increased by 1.5 times.

Chart-5

## Basic Information Sketch of Affected Villages (2001-2007)

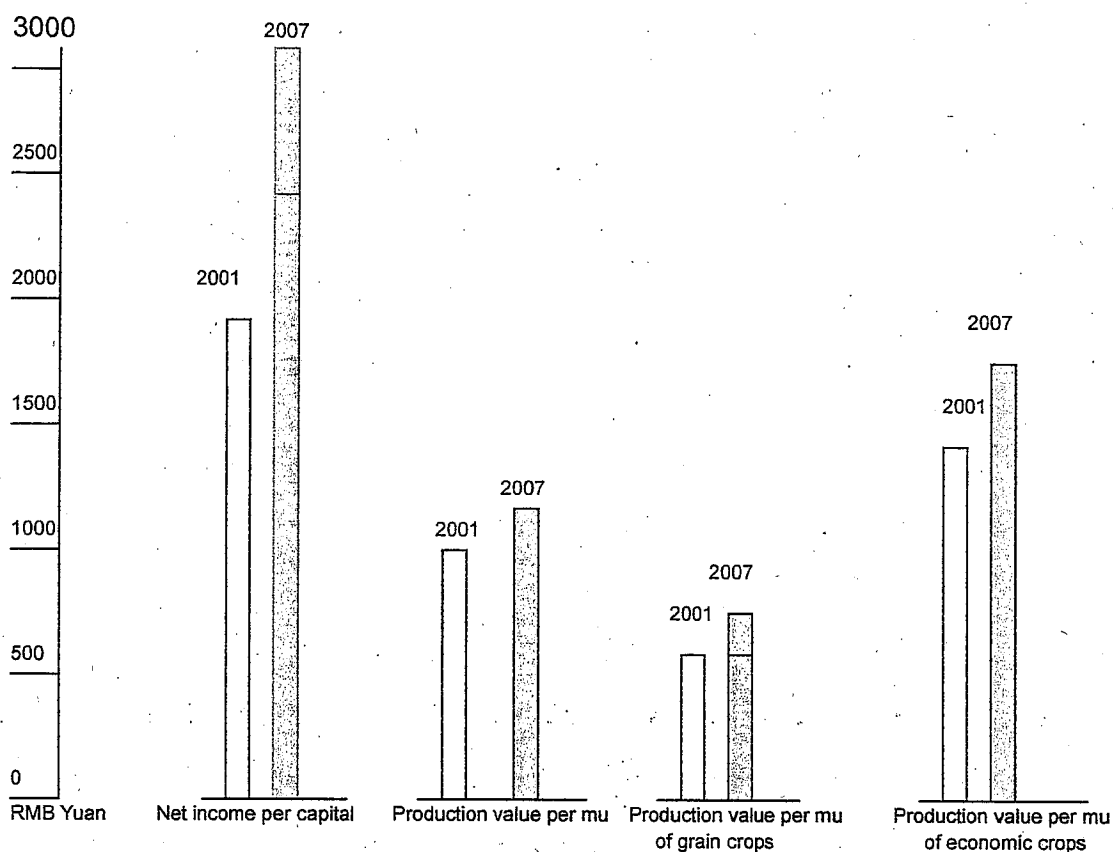


Table-37 Basic Information Survey Set of Affected Households (2001-2007)

County	Village	Population	Farmland (Mu)		Farmland per capita		Net income per capita		Housing area per capita	
			Quantity	+-%	Quantity	+-%	Quantity	+-%	Quantity	+-%
Xinjiang	16	26366	45695	-5	1.73	-6.1	2980	35.7	38	72.7
Jishan	22	37221	66691	-8	1.79	-13	2410	68.6	36	89.5
Hejin	20	38336	41935	-4	1.08	-13	3920	71.0	47	88
<b>Total</b>	<b>58</b>	<b>101923</b>	<b>154321</b>	<b>-6</b>	<b>1.56</b>	<b>-9.8</b>	<b>3100</b>	<b>58.4</b>	<b>26</b>	<b>83.4</b>

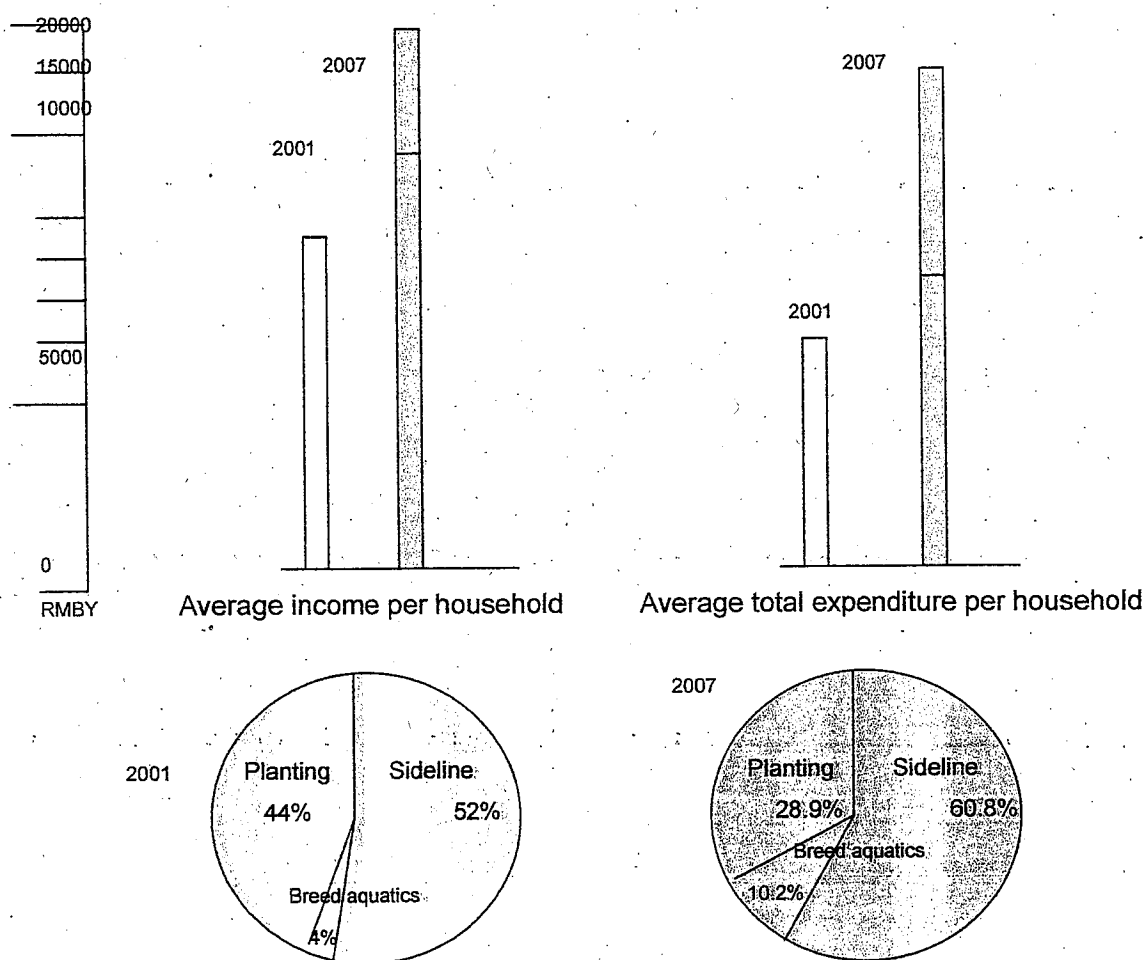
## 4.2. Basic Information of Affected Households

The basic data determined in 2001 covers 175 households in 7 villages. In May 2008, a survey was conducted to track 175 households. The outcomes show that the amount of main data items in 2007 increase more or less except the area of cultivated land per capita that decreased. Of the amount increased, the household income increased largest. This suggests that the adverse affection of the project is not as large as to make the living standard declining for the villagers. Instead, the positive economy rehabilitation measure taken by the villagers made their living standard raised more or less.

**Table-38 Basic Information of Affected Households (2001-2007)**

Surveyed item	2001	2006	+-%
Population	927	978	5.50
Labor	552	571	3.40
Agricultural population	507	460	-9.30
Per capita farmland (mu)	1.69	1.35	-20.12
Housing area per capita (m <sup>2</sup> )	36.5	41.6	13.97
Total income per household (Yuan)	7204	19840	175.40
Total expenditure per household (Yuan)	5854	18710	219.60
Value of production machine (10000 Yuan)	2398249	3902800	62.74
Value of major living goods (10000 Yuan)	1726688	4232930	145.15

**Chart-6 Basic Information Sketch of Affected Households (2001-2007)**



It is also a fact exposed by the survey that income structure of the villagers is experiencing change because of the adjustment of industry structure as followings: Of total household income, the income resulting from planting decreased from 44% to 28.9%; while the income from breed/aquatics

rose from 4% to 10.2%. The income created by transport business, trade and sideline, etc. rose from 52% to 60.8%. Of total household expenditures, production cost rose from 21.1% to 31.3%; living expenditure rose from 35.9% to 52.45%. The other living expenditures decreased from 43% to 16.3%.