

19.8 Environmental and Social Consideration

19.8.1 Initial Environmental Examination (IEE)

The official IEE has to be done with the procedure adopted by Mongolian government. The results of IEE described in this paragraph is the output from the JICA Study team member. It does not mean the decision of the authority of the Mongolian government. Thus, the official IEE results need to be introduced through the Mongolian government procedure.

1) Initial Environmental Examination (IEE) for ULAANBAATAR Tourism Area

Table 19.8.1 shows the results of IEE for proposed projects/programs in Ulaanbaatar tourism area. In addition, the detail results of the IEE by environmental check item for each proposed project/program are shown in the appendix Table A19.8.1.

(1) Natural Environment

It is obvious that precise EIA is needed for Golf course and skiing resort development due to their impacts on the natural environment. Some projects may induce excessive concentration of people. Appropriate management plan for the development is needed to mitigate negative impacts such as sewerage, soil compaction, and air and water pollution during the construction.

All projects/programs are to be developed in the Tuul river basin. Thus, present background environmental load to the river ecosystem is needed to be evaluated for the assessment of the additional load by the projects/programs.

(2) Social Environment

No major negative social impact is foreseen in proposed projects/programs in Ulaanbaatar tourism area. The proposed projects/programs will bring considerable socio-economic benefit not only for tourism sector but also for residents in Ulaanbaatar as a whole.

Adequate environmental management on implementation is, however, needed in order not to damage the social environment by increased tourist litter and traffic congestion due to the increase of tourist passengers around the tourist trail and major museums at peak season.

Table 19.8.1 Environmental Screening for Proposed Projects/Programs in Ulaanbaatar Area

Target Term	Project / Program Title	ND	MND	DA
	Tourism Promotion Program			
	1) Design and beautification of Tourist Trail (TACIS scope: design of trail)		○	
	Tourism Facility Development			
	1) Improvement of Bogd Khaan Museum		○	
	2) Development of Mongolian Culture Park		○	
Short Term to 2005	3) Development of Souvenir & Handicraft Center		○	
	4) Hotel Development	○		
	5) National Bird Watching Circuit Sites		○	
	6) Horse Park		○	
	Supporting Infrastructure Development			
	1) Development of Tourist Street in Ulaanbaatar		○	
	2) Guide Book of Bus Route, Guidance at Bus Stop	○		
	3) Tourism School in Ulaanbaatar	○		
	4) Development of Nature Reserve Rangers Training	○		
	5) Visitor Center in Terelj			○
	Tourism Promotion Program			
	1) Construction of International Convention Center		○	
	Tourism Facility Development			
	1) Upgrading of Other Museums		○	
Medium to Long Term beyond 2005	2) Gandantegchilen Monastery (renewal of precincts)	○		
	3) Development of Chinggis Khaan Museum		○	
	4) Golf Course for UB Residents			○
	5) Skiing Resort for UB citizen : Near UB			○
	Supporting Infrastructure Development			
	1) Improvement of UB Airport/new UB airport (after 2010)			○
	2) Development of Terelj Area		○	
	3) Road Improvement			○

Note:

ND = Negative Declaration: No further study required.

MND = Mitigative Negative Declaration: No further study required.

DA = Detailed Assessment: EIA will be required.

Source: JICA Study Team

2) Initial Environmental Examination (IEE) for Omnogovi Tourism Area

Table 19.8.2 shows the results of IEE for proposed projects/programs in Omnogovi tourism area. In addition, the detailed results of the IEE by environmental check item for each proposed project/program are shown in the Table appendix Table A 19.8.2.

(1) Natural Environment

The preliminary results of IEE on proposed projects/programs are indicated in the table although their location, scale and design have not specified yet. Following the environmental laws, EIA is needed on the projects inside National Conservation Parks.

The precise mitigating measures are needed to be identified prior to the basic designing of the air strip improvement especially fuel/oil spill and soil compaction.

(2) Social Environment

The proposed projects/programs will bring considerable socio-economic benefit to the local

tourism sector and the nomadic community, and give no major negative social impact on the traditional nomadic socio-cultural structure.

Social considerations are, however, needed sufficiently in order not to damage the sensitive nomadic socio-cultural structure by increased tourists.

Table 19.8.2 Environmental Screening for Proposed Projects/Programs in Omnogovi Area

Target Term	Project / Program Title	ND	MND	DA
	Tourism Facility Development			
Short Term	1) Govi Visitor Center (information center) at the Valley of Eagles			○
to 2005	Supporting Infrastructure Development			
	1) South Gobi Steppe Air Strip improvement			○
	1) Nature Reserve Rangers Training : Dalanzadgad	○		
	Tourism Promotion Program			
	1) Development of Severe Area (central area)			○
Medium to	and western area of Govi Gurvanssaihan National Park			
Long Term	Supporting Infrastructure Development			
beyond 2005	1) Dalanzadgad Airport Improvement			○
	2) Development of commuter air route between Dalanzadgad, Sevrey and western area			○
	3) Road Improvement (Dalanzadgad - Sevrey)			○

Note:

ND = Negative Declaration: No further study required.

MND = Mitigative Negative Declaration: No further study required.

DA = Detailed Assessment: EIA will be required.

Source: JICA Study Team

3) Initial Environmental Examination (IEE) for Tourism Areas

Table 19.8.3 shows the results of IEE for proposed projects/programs in tourism area. In addition, the detailed results of the IEE by environmental check item for each proposed project/program are shown in the appendix Table A 19.8.3.

(1) Natural Environment

The development of tourist road has potential impacts by increasing surface run-off and splitting ecosystems depend on the location, route, and size. The proposed area and routes include wet lands and wild bird habitats. Therefore, an EIA is needed while basic designing of the road to find and implement precise mitigating measures.

Upgrading of Harhorin Airport also has potential to increase surface run-off, fuel/oil spills and human aggregation depend on its scale. Therefore, mitigation measures need to be identified and implemented based on the upgrading scale on the potential impacts.

The scientific surveys which involve with soil excavation and compaction need to have mitigation measures to avoid negative impacts by soil erosion. The appropriate management plan on excavated soil is indispensable for these surveys.

Similar to Ulaanbaatar area, some of the projects such as upgrading of Hujirt Spa, Visitor Center and improvement of Orkhon falls surrounding have potential to assemble people in rather small areas. The appropriate management plans are to be specified while designing.

(2) Social Environment

The nomadic communities as well as the Som centers in Harhorin tourism area will receive considerable socio-economic benefit from the proposed projects/programs without major negative social impact.

Adequate social considerations are, however, needed in order not to damage the social environment especially in nomadic area by increased tourist.

Table 19.8.3 Environmental Screening for Proposed Projects/Programs in Harhorin Area

Target Term	Project / Program Title	ND	MND	DA
	Tourism Promotion Program			
	1) Excavation and Preparation of the Harhorin Ruin (Interpretative Panels)		○	
	2) Excavation and Preparation of the Ancient Sites in the Selenge Basin (Interpretative Panels)		○	
Short Term to 2005	Tourism Facility Development			
	1) Harhorin Visitor Center near Erdenezuu		○	
	2) Improvement of Erdenezuu Surroundings		○	
	3) National Bird Watching Circuit Sites		○	
	Supporting Infrastructure Development			
	1) Tourist Roads in Harhorin (to Uigur Fort)			○
	2) Tourist Roads in Harhorin (to Turk monuments)			○
	Tourism Promotion Program			
	1) Excavation and Preparation of the Harhorin Ruin (Excavation & reservation)		○	
	2) Excavation and Preparation of the Ancient Sites in the Selenge Basin (Excavation & reservation)		○	
Medium to Long Term beyond 2005	3) Upgrading of Hujirt Spa area		○	
	Tourism Facility Development			
	1) Improvement of Orkhon Falls Surroundings		○	
	Supporting Infrastructure Development			
	1) Tourist Roads in Harhorin (Other roads)			○
	2) Upgrading of Harhorin Airport			○

Note:

ND = Negative Declaration: No further study required.

MND = Mitigative Negative Declaration: No further study required.

DA = Detailed Assessment: EIA will be required.

Source: JICA Study Team

19.8.2 Natural Environmental Consideration

Environmental surveys should ideally be done during all seasons to estimate impacts of implementing the projects in different seasons. However the study schedule did not allow repeated surveys in different seasons. The following analyses were made based on the actual survey done in fall/winter and existing survey results about the project areas.

The most important characteristics of Natural Environment in Mongolia are the fragility of the ecosystems. The low precipitation will provide very little physical diffusion of any pollutants in surface, ground water and soil. Biological processing of any pollutants will not work in the most of year due to the low temperature. Biological concentration will not take place due to low reproduction of creatures. The permafrost will not permit the diffusion toward underground. Therefore, any additional load to the natural environment by any human development or activities will remain and be concentrated at the spots and will cause significant impacts not only to nature but also to people.

The capacity of the natural environment per an area in Mongolia is very low. Thus, tourism development and activities could not be concentrate in an area unless the expected impacts are controlled by the basis of the natural environment characteristics. The appropriate treatments of any pollutants from the human aggregation must meet within the environment capacity in Mongolia. The precise treatment does, however, require a lot of energy on which Mongolian government has constrained. The nature of tourism development is to aggregate people at certain level. Therefore, this fact has to be always taken care of in any development of tourism in Mongolia.

Fire wood demand for tourist is relatively small, compared with that of regional demand, however future demand is appropriately estimated as ten-times. In order to protect natural environment, especially deforestation, dung of livestock should be encouraged to utilize as fuel. Moreover, enforcement of the Forest Law and promotion of forestation are necessary.

19.8.3 Social Environmental Consideration

1) Attitude toward tourism development for nomads

The social survey tells almost all nomadic respondents in priority areas supported tourism development and expected positive effects through tourism development, especially generation of job opportunities and income generation due to the serious unemployment situation.

Unemployment condition is shown in the table below. Compared to near 30 % of national average, the unemployment rates of the survey districts except Harhorin and Burd districts are quite high. Although the unemployment rate is 20.4 % in Harhorin district, the rate are increasing rapidly, 7.9 % in 1995, 10.2 % in 1996, 16.1 % in 1998.

Unemployment Rate

Ulaanbaatar area		Harhorin area				Omnogovi aimag
Nalaikh	Terelj	Harhorin	Hujirt	Bat-Ulziit	Burd	
67.9% (*1)	50% (*1)	20.4% (*2)	45.2% (*3)	54.8% (*3)	16.7% (*1)	5.6%(*1)

Note: All figures are public data (*1) only potential work force, 16 - 54 years old, (*2) total population, (*3) not officially registered work
Source: Social environmental survey implemented by the local consulting firm, January 1999

Over 70% of nomadic respondents in Ulaanbaatar and Omnoovi areas thought establishment of shops, restaurants and rest houses were possible to attract more tourists to their areas. The establishment of them will produce more job opportunities in their areas compared to the other actions. Cultural program was also supported by about 15-30% of the respondents in all priority areas. Their nomadic socio-culture was recognized as one of effective tourism resources.

What would you like to be done to attract more tourists to your area ?

	Ulaanbaatar area		Harhorin area					Omnogovi area
	Undurdov	Terelj	Burd	Harbalgas, Khosho, Tsaidam	Hujirt (suburbs), Orkhon	Hujirt (center)	Harhorin (suburbs)	Yol valley, Bayanzag, Gurvansaikhan
Shops, Restaurants, Rest houses	71.4%	80.0%	42.9%	28.6%	28.6%	28.6%	30.8%	71.4%
Cultural program	28.6%	20.0%	14.3%	14.3%	14.3%	14.3%	15.4%	28.6%
Others			42.9%	57.1%	57.1%	57.1%	53.8%	

Note 1: Choices were prepared as follows:

1. Maintenance & beautification in/around tourist sites
2. Hygienic & recreational facilities
3. Shops, restaurants & rest houses
4. Cultural program
5. Better public relation
6. Training of tourism
7. Others

Note 2: The respondents were only nomads/herders.

Source: Social environmental survey implemented by the local consulting firm, January 1999

While, about 30 % of the respondents of Ulaanbaatar tourist trail area expected the following negative impacts by promotion of tourism development: increase of prices because of tourists paying higher rates for goods and services, increase of prostitution problems, and pollution of the surrounding environment and the Tuul river. In Harhorin area, 6 % of the respondents expected the negative impacts on pollution of surrounding environment and western influence through promotion of tourism development to the local people and their traditions.

2) Attitude toward participation in tourism sector for nomads

According to social survey, many of unemployed respondents, especially the young nomadic people, told that they were willing to work to get cash income in tourism sector and felt that they need to take vocational training for tourism sector.

The unemployment rate of total potential work force, 16 – 54 years old, in Nalaikh and Terelj districts are quite high even near the capital, 67.9 % and 50 % respectively as shown in the table above. In Hujirt and Bat-Utziit, only 54.8 % and 45.2 % of total population are officially registered workers. 80 % of unemployed respondents in Harhorin area expressed under 40 years old as a result of the survey.

Two tables below show that all of nomadic respondents in Harhorin area and Terelj district, 85.7% of them in Undurdiv district, and 78.6% in Omnogobi area were interested in tour coordinator such as conductor, interpreter and guide. The respondents considered that tour coordinator was suitable for them because they had various knowledge and information in/around tourist area. Thus, 71.4% of the respondents in Ulaanbaatar and Omnogobi priority areas and Burd district would like to take training course of English language to be a tour coordinator.

The respondents in Harhorin area excepting Burd district wanted to participate in any training courses, 71.4% of them in Harbalgas, Khosho and Tsaidam, 42.9% in the suburbs of Hujirt and Orkhon, 38.5% in the suburb of Harhorin and 28.6% in the center of Hujirt. Irrespective of the type of occupation, the respondents were eager to take training in tourism sector under the severe situation of job opportunity. However, educational opportunities to participate in tourism sector were quite limited in nomadic area especially.

What kind of job in tourism sector are you interested in?							
	Ulaanbaatar area		Harhorin area				Omnogobi area
	Undurdiv	Terelj	Burd	Harbalgas, Khosho, Tsaidam	Hujirt (suburbs), Orkhon	Hujirt (center) Harhorin (suburbs)	Yol valley, Bayanzag, Gurvansaikhan
Conductor	42.9%						35.7%
Interpreter		40.0%	14.3%	14.3%	14.3%	28.6%	7.1%
Tour guide	42.9%	60.0%	85.7%	85.7%	85.7%	71.4%	35.7%
Cooker	14.3%						21.4%

Note 1: Choices were prepared as follows:

1.Souvenir shops 2.Tour guide/Conductor/Interpreter 3.Travel agent 4.Restaurant & Bar 5.Hotel & Ger camp 6.Public sector 7.Others: (please specify)

Note 2: The respondents were only nomads/herders.

Source: Social environmental survey implemented by the local consulting firm, January 1999

What kind of training course would you like to participate in?

	Ulaanbaatar area		Harhorin area				Omnogobi area	
	Undurdov	Terelj	Burd	Harbalgas, Tsaidam	Hujirt (suburbs), Orkhon	Hujirt (center)	Harhorin (suburbs)	Yol valley, Bayanzag, Gurvansaikhan
English	71.4%	71.4%	71.4%					71.4%
Manager	14.3%	14.3%				14.3%		14.3%
Cooker	14.3%	14.3%	14.3%	14.3%	28.6%	14.3%	15.4%	14.3%
Guide								
Driver					14.3%	14.3%		
Tourism			14.3%	14.3%	14.3%	14.3%	15.4%	
Hairdresser						14.3%		
Any course				71.4%	42.9%	28.6%	38.5%	

Note 1: Choices were not prepared.

Note 2: The respondents were only nomads/herders.

Source: Social environmental survey implemented by the local consulting firm, January 1999

3) Problems for community and its measures

Poverty and unemployment have become two of the most difficult problems of the nomadic community as well as urban society under the transition to the market economy from the centrally planned one. As shown in table below, Even in famous tourist site and near the capital 2.9 % of total households in Telerj is registered by government as very poor and 17.6 % as poor. Nevertheless Harhorin and Hujirt districts have industrial and commercial areas, 37.3 % and 36.8 % of total households are poverty respectively.

Poverty Rate

district	Ulaanbaatar area	Harhorin area			
	Terelj	Harhorin	Hujirt	Bat-Ulziit	Burd
very poor	2.9%	5.7%	23.6%		
poor	17.6%	31.6%	13.2%	23.1%	41.2%
total	20.5%	37.3%	36.8%	23.1%	41.2%

Note: Poverty lines are defined by government.

Source: Supplemental social environmental survey implemented by the local consulting firm, January 1999

Under the above-mentioned condition, many nomadic communities were eager to promote tourism development without socio-cultural considerations. Local governmental authorities are especially to be planned and managed a development project/program in consideration of socio-cultural impacts as well as natural environment.

4) Problems for nomads and its measures

The table of Poverty Rate shows that the poverty rates in Bat-Ulziit district including Harbalgas, Khosho and Tsaidam tourism sites and Burd district are 23.1 % and 41.2% respectively. However, 76% and 97.5% of the poor households have livestock more than 4 big cattle as the survey. Even small herder respondent who owned two horses and four cows in Terelj showed the possibility of meats and dairy products supply to tourism sector. The poor nomads/herders may be possible to sell livestock production in tourism sector as tourists increase rapidly. A tourism development

project/program for nomadic people or livestock production is to be focused on the poor against poverty alleviation in respect to their socio-culture.

Though nomadic people are possible to encounter traffic congestion of tourists on the local tourist trails and roadways in their pasture as tourists increase, almost all of them are not anxious about it according to our social survey. Yet, pasture use pursuant to traditional nomadic system is to be studied and coordinate not to impact negatively on their livestock husbandry by tourism.

5) Other problems and its measures

Out of 13.2 % of the poor households in Hujirt district as shown in table of Poverty Rate, 4.3 % of them is single mother or female headed household. Survey in Omnogobi area as well expressed out of 25 interviewed families, 6 families were women heads of family. Since matriarch is one of the biggest social problems, gender issues, especially for vulnerable groups, are to be considered to promote tourism development.

As tourists increase rapidly at tourist peak season, negative impacts such as tourist litter and traffic congestion are expected around tourism sites. Trash and waste management for both sanitation and beautification and traffic safety management are to be implemented as a project/program component for domestic people as well as foreign tourists.

19.9 Cost Estimation and Financial Arrangement for the Priority Projects and Programs

Development cost of the priority projects and programs excluding the policy programs is estimated.

19.9.1 Conditions of Cost Estimate

Major conditions applied for the cost estimate are summarized below:

- (1) The construction cost will cover the preparation work, main work, engineering service cost, and physical contingencies.
- (2) The cost of the main work will cover the expenses for labor, materials, construction equipment, and the contractor's indirect cost (including overhead, profit, etc.)
 - Labor cost is estimated on the basis of 8 working hours per day.
 - The imported material costs are estimated on the basis of C.I.F. (Cost, Insurance and Freight) price plus inland transportation cost.
 - The foreign currency portion includes the cost of imported machinery, materials and equipment, while the local component includes the cost of mechanics, labor, and machinery to be procured in Mongolia.
- (3) Prices are based on labor, materials and equipment prices as of October 1998. The exchange rate applied in the estimate is 1 US\$ = 870 Tg.

Additionally, it should be noted that the cost has been estimated on the basis of the following assumptions:

- a. Land acquisition: it is assumed that the land value is negligible outside the UB center.
- b. Engineering service expense: The engineering service expense is estimated in proportion to the direct construction cost to cover the engineering work such as detailed design and construction supervision. 7% and 5 % of the total direct cost are estimated for the detailed design and supervision work respectively.
- c. Contingency: The physical contingency is estimated at 10 % of the direct construction cost and engineering service expenses. The price contingency is estimated on the basis of price escalation at a rate of 3 % per annum for the foreign currency portion and 15 % per annum for the local currency portion.
- d. The foreign currency portion is defined as the cost of equipment, materials and services which are specially imported for the purpose of the project and the local currency portion is the cost of that which can be directly purchased in the domestic market.
- e. Taxation: It is assumed that VAT, etc. are included in the cost estimated.

19.9.2 Cost Estimate

The development cost of the priority projects and programs is estimated at US\$ 37.1 million or 32.3 trillion Tg as summarized below. Detailed cost estimate by project and program is shown in Table 19.9.2.

Development Cost Estimation of Priority Projects/Programs

Priority Projects / Program	Development Cost		Remarks
	(million Tg)	Equivalent to (US\$1,000)	
1 Programs	11,536	13,260	Details is shown in Table 19.9.1
2 Public Projects	16,730	19,230	
3 Private Project	4,046	4,650	
Grand Total	32,312	37,140	

Note: Engineering cost, physical contingency are included. Price contingency is not included. 1\$=870Tg
Source: JICA Study Team

Cost disbursement by anticipated finance source is planned as shown in Table 19.9.3 on the basis of the implementing schedule of the projects and programs.

19.9.3 Financial Arrangement

Development cost of the priority projects by public initiative, requiring foreign soft loans is estimated at US\$ 28.1 million. Price contingency of US\$ 11.1 million is estimated in addition to the above development cost. Details of soft loan is shown below table and 19.9.1.

Financial Arrangement Plan

Item	Development Cost	
	(trillion Tg)	equivalent to (million US\$)
Technical Assistance	6.1	7.0
Soft Loan Project	24.5	28.1
Private Project	1.8	2.0
Total	32.3	37.1

Note: 1) 1\$=870Tg (as of October 1998)
2) Price contingency is not included.

Source: JICA Study Team

Details of Soft Loan Requirement

	Development Cost	
	(trillion Tg)	equivalent to (million US\$)
Construction Cost	24.4	28.1
Price Contingency	9.7	11.1
Total	34.1	39.2

Note: 1\$=870Tg (as of October 1998)

Source: JICA Study Team



Table 19.9.1 Financial Arrangement Plan for Priority Projects/Programs

Priority Projects/Programs	Development Cost		Implementing Method
	(million Tg)	equivalent to (US\$1,000)	
I Mongolian Government Finance (PROGRAMS)			
1 Government Administration Strengthening			
A-1 Smooth Operation of the National Tourism Council	-	-	- MOID
2 Regulatory Improvement			
A-6 Investment Incentive in Tourism Sector	-	-	- DOT
A-7 Land Development Control Measures	-	-	- DOT
A-8 Licensing System	-	-	- DOT
A-9 Safety Standards	-	-	- DOT
4 Development Programs			
A-12 International Air Service Development	-	-	- MOID, MIAT
A-13 Domestic Air Service Development	-	-	- MOID, MIAT
A-14 Railway Service Upgrading (Ger camp development)	-	-	- Mongolian Railways
A-20 UB Hotel Development Guideline	-	-	- NTC
A-21 Ger Camp Development Guideline by Zones	-	-	- NTC
A-22 UB Bus Guidebook	-	-	- UB City
A-23 Convenient Ticket for Bus and Museum	-	-	- NTC
II Foreign Technical Assistance			
1 Human Resource Development			
A-4.5 Upgrading of Tourism Education/Development of Park Ranger Training	5,516	6,340	
Subtotal	5,516	6,340	
Physical contingency	552	634	
Total	6,067	6,974	
III Foreign Financial Assistance (Soft Loan) (PROGRAMS)			
A-2 Strengthening of Tourism Administration by coordination of the Tourism Department and NTC	49	56	TACIS will participate
A-3 Strengthening of Aimag Government	30	35	
A-10 Mongolian Culture Preservation Program	191	220	
A-11 Ancient Sites Presentation	6	7	
A-15 Nomads Integration System	653	750	
A-16 National Illustrated Checklist and Maps of Archaeological and Wildlife Resources	244	280	
A-17 Production of Information Materials for Eco-tourism	9	11	
A-18 Surveys for Integrated Environmental Management	2,775	3,190	
A-19 Overseas Marketing	1,014	1,165	
Subtotal	4,971	5,714	
Physical contingency	497	571	
Total	5,468	6,285	
(PUBLIC SECTOR PROJECTS)			
1 Culture Tourism Enhancement			
B-1 Improvement of Bogd Khan Museum	1,293	1,486	
B-2 Mongolian Culture Park	2,538	2,917	
B-3 Erdenezuu Surrounding Improvement	151	174	
B-4 Harhorin Visitor Center	5,644	4,188	
2 Development of Gateway Tourism in UB			
B-5 UB Tourist Trail Development	187	215	
B-6 UB Tourist Street	514	591	
B-7 UB Souvenir and Handicraft Center	420	483	
3 Nature Tourism Development			
B-8 Terelj Visitor Center	261	300	
B-9 Govi Visitor Center	611	702	
B-10 Bird Watching Site Preparation	27	31	
4 Others			
B-11 Harhorin Tourist Road	2,297	2,640	
B-12 Traffic Sign Facilities along UB-Harhorin Highway	6	7	
B-13 Upgrading of Major Spas	1,629	1,872	
B-14 Loan Facility for Tourism Private Sector (C-1 Upgrading of highway rest area(S40), C-2 Ger camp upgrading(1,580))	1,844	2,120	
Subtotal	15,422	17,726	
ES Cost	1,851	2,127	
Physical contingency	1,727	1,985	
Total	18,999	21,838	
Total of Foreign Financial Assistance	24,467	28,124	
IV Private Investment (PRIVATE SECTOR PROJECTS)			
C-3 South Govi Air Strip Improvement	572	657	
C-4 Sporting Activities Strengthening	-	-	- NTC, etc.
C-5 Horse Park	867	997	
Subtotal	1,439	1,654	
ES Cost	173	198	
Physical contingency	161	185	
Total	1,773	2,038	
D Grand Total	26,240	37,155	

Source: JICA Study Team

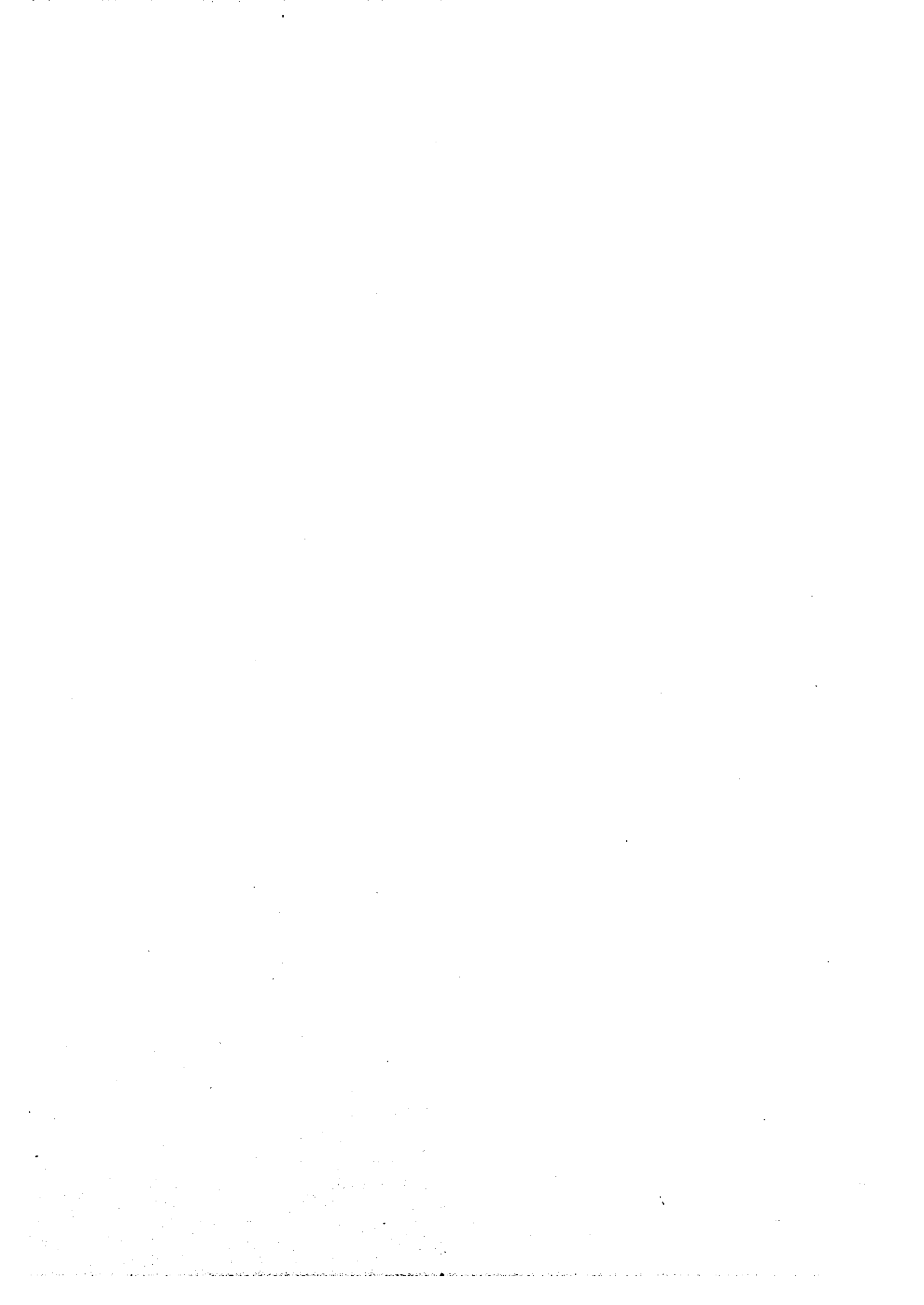


Table 19.9.2 Development Cost Estimation of Priority Projects/Programs

Priority Projects/Programs	Development Cost		Implementing Method
	(million Tg)	equivalent to (US\$1,000)	
A PROGRAMS			
1 Government Administration Strengthening			
A-1 Smooth Operation of the National Tourism Council	-	-	MOID
A-2 Strengthening of Tourism Administration by coordination of the Tourism Department and NTC	49	56	TACIS will participate
A-3 Strengthening of Aimag Government	30	35	DOT
2 Human Resource Development			
A-4.5 Upgrading of Tourism Education/Development of Park Ranger Training	5,516	6,340	
3 Regulatory Improvement			
A-6 Investment Incentive in Tourism Sector	-	-	DOT
A-7 Land Development Control Measures	-	-	DOT
A-8 Licensing System	-	-	DOT
A-9 Safety Standards	-	-	DOT
4 Development Programs			
A-10 Mongolian Culture Preservation Program	191	220	
A-11 Ancient Sites Presentation	6	7	
A-12 International Air Service Development	-	-	MOID, MIAT
A-13 Domestic Air Service Development	-	-	MOID, MIAT
A-14 Railway Service Upgrading (Ger camp development)	-	-	Mongolian Railways
A-15 Nomads Integration System	653	750	
A-16 National Illustrated Checklist and Maps of Archaeological and Wildlife Resources	244	280	
A-17 Production of Information Materials for Eco-tourism	9	11	
A-18 Surveys for Integrated Environmental Management	2,775	3,190	
A-19 Overseas Marketing	1,014	1,165	
A-20 UB Hotel Development Guideline	-	-	NTC
A-21 Ger Camp Development Guideline by Zones	-	-	NTC
A-22 UB Bus Guidebook	-	-	UB City
A-23 Convenient Ticket for Bus and Museum	-	-	NTC
Subtotal	10,487	12,054	
Physical contingency	1,049	1,205	
Total	11,535	13,259	
B PUBLIC SECTOR PROJECTS			
1 Culture Tourism Enhancement			
B-1 Improvement of Bogd Khan Museum	1,293	1,486	
B-2 Mongolian Culture Park	2,538	2,917	
B-3 Erdenezuu Surrounding Improvement	151	174	
B-4 Harborin Visitor Center	3,644	4,188	
2 Development of Gateway Tourism in UB			
B-5 UB Tourist Trail Development	187	215	
B-6 UB Tourist Street	514	591	
B-7 UB Souvenir and Handicraft Center	420	483	
3 Nature Tourism Development			
B-8 Terelj Visitor Center	261	300	
B-9 Govi Visitor Center	611	702	
B-10 Bird Watching Site Preparation	27	31	
4 Others			
B-11 Harborin Tourist Road	2,297	2,640	
B-12 Traffic Sign Facilities along UB-Harborin Highway	6	7	
B-13 Upgrading of Major Spas	1,629	1,872	
Subtotal	13,577	15,606	
ES Cost	1,629	1,873	
Physical contingency	1,521	1,748	
Total	16,727	19,227	
C PRIVATE SECTOR PROJECTS			
C-1 Rest Areas along UB-Harborin Highway	470	540	
C-2 Upgrading of Ger Camp	1,375	1,580	
C-3 South Govi Air Strip Improvement	572	657	
C-4 Sporting Activities Strengthening	-	-	NTC, etc.
C-5 Horse Park	867	997	
Subtotal	3,283	3,774	
ES Cost	394	453	
Physical contingency	368	423	
Total	4,045	4,650	
D Grand Total	32,308	37,135	

Note: Price contingency is not included.

Source: JICA Study Team





20. FEASIBILITY OF THE PLAN

20.1 Methodology of the Economic Evaluation

20.1.1 Projection of Economic Benefits from the Priority Programs and Projects

Programs and Projects benefits are measured in the form of difference in value added caused by foreign leisure tourists between the cases of “with” and “without Programs and Projects”. The direct difference was assumed to be 2.5 percent increment in the annual growth of leisure tourist arrivals between “with” and “without” implementation between 1999 and 2015. After the implementation of the priority projects from 2006, the difference was assumed to be 4.5 percent increment in the annual growth rate between “with” and “without” cases. (See Appendix 20.1 for the derivatives of growth rate differential.) As shown in Chapter 14 and Appendix A 14.1.1, this assumption is in the side of conservative one, rather than optimistic one, considering actual effects of tourism development experienced elsewhere in the world, in order not to overstate benefits. Actual benefits realized by the Programs and Projects could well be much higher than shown in this Chapter.

In this economic evaluation, the definition of “with” and “without Programs and Projects” is as follows:

“Without Programs and Projects”:

This case holds true if various priority programs and projects proposed by JICA Study Team would not be implemented. However, this is by no means the “do nothing” case. Various investments to accommodate increase in demand following the past trend will have to be made, including construction of additional hotel rooms and ger camps, and increased international and domestic air services. If such investments are not done and the capacity of tourism sector in Mongolia stay stagnant, there will be little increase in the number of tourists visiting Mongolia. More specifically, the “without case” assumes the following::

- Various investments primarily by the private sector will be made in order to keep pace with the expected growth of tourist demand, in the expansion of accommodation capacity and the supply of tourism service personnel. (Detailed explanation in Chapter 14)
- No complete “Cooperative Air Policy” is adopted by the government. Thus no induced demand materializes. However, investment in air service expansion will be made to the extent not to hinder the natural demand increase.
- Promotion and marketing effort will be made in line with the past trend.

Thus the “Without” case is assumed to include all the future effort to expand the capacity of the tourism sector in Mongolia under the extension of current government policy. It should be repeated here that if no further effort is made, the number of tourists would be stagnant and would not reach projected numbers as shown in this report as for the “Without” case.

“With Programs and Projects”:

In this case, proposed programs and projects by the JICA Study Team will be implemented on schedule. Thus, more tourists will be induced to visit Mongolia as a result.

The following assumptions were made for the purpose of benefit estimation:

- Expenditure including accommodation and other expenditures by a leisure tourist varies widely from US\$ 50 per day to US\$ 180 per day according to our interview survey results. The expenditure by leisure tourist¹ was estimated on the basis of data provided in the "Tourist Interview Survey Results".
- Package tour price used by most leisure tourist will decline 2 percent annually from 1999 to 2015 due to the effect of priority programs, in particular "Cooperative Air Policy. This decline of package tour price will bring about the increase of leisure tourists from 1999. Thus, expenditure per person by leisure tourists will decline 2 percent per year in accordance with the decrease of package tour price.
- Multiplier effect was taken into consideration to determine the benefit in terms of value added by adopting a factor of 2.5, which was judged reasonable under the prevailing conditions of Mongolia at present and in the near future taking into account economic effects on related services and industries. (A detailed explanation is provided in Appendix 5.5.2). In the estimation of economic effect of tourism derived from tourist receipts, a multiplier is usually applied to encompass the direct and secondary effects of tourist expenditures on the economy, less "leakage", i.e. amount paid to foreign countries. The value of the multiplier in tourism depends in large part on how well developed the supplying sectors are and how closely linked they are to tourism. The value of multiplier in tourism is typically between 1.5 and 5.0. It was assumed for simplicity that the extent of supplying sector and linkage to tourism are not significantly different among the areas of each of the component projects.
- The subject of calculation is limited to leisure tourists. Benefits brought about by other types of tourists such as business tourists, VFR (visiting friends and relatives); other purpose tourists are not included in the calculation. Thus, economic benefit shown here can be said to be conservative.

The overall estimated economic benefit generated by the implementation of the proposed programs and projects is shown in Table 20.1.1

Detailed calculation is shown in Appendix 20.1.1

¹ Detailed expenditure in each market is described in Appendix 14.1.2

Table 20.1.1 Economic Benefit Generated by Leisure Tourists

(Unit: 1,000 US\$)

Year	Value Added by "with project & program" (A)	Value Added by "without project & program" (B)	Economic Benefit (A) - (B)
1998	97,884	97,884	0
1999	136,149	131,981	4,167
2000	150,455	147,260	3,195
2001	165,078	161,887	3,190
2002	180,287	176,893	3,394
2003	204,544	201,394	3,150
2004	229,830	227,017	2,813
2005	257,619	255,207	2,411
2006	296,924	279,207	17,716
2007	322,350	305,436	16,914
2008	345,210	325,321	19,888
2009	399,840	379,501	20,338
2010	398,181	376,505	21,675
2011	421,634	400,239	21,394
2012	454,214	433,938	20,275
2013	493,563	467,789	25,774
2014	532,474	511,289	21,185
2015	580,436	558,078	22,357

Source: JICA Study Team

20.1.2 Cost

The following assumptions were applied:

- The effect of "Priority Programs" is assumed to contribute to the whole tourism industry in Mongolia. Thus, such costs as payroll of NTC, and promotion cost of Mongolian tourism conducted by NTC, are included.
- Overall project management cost is included.
- All operation cost of air services is included as the benefit borne by the effect of "policy of cooperative air services" is calculated. (Total cost of operation of air service is US\$ 33,468, in the case of 1000 mile distance between cities.)
- Construction cost of hotels and ger camps due to the increase of leisure tourist is included.
- A detailed description and costs of each priority projects and programs are described in Table 19.9.2.
- Project evaluation period is 17 years (up to 2015);
- In order to convert the financial cost to the economic cost, a factor of 0.9 was adopted primarily considering taxes;
- Price level: All estimates are based on price levels in 1998; and
- The exchange rate in October 1998, US\$ 1.00= 870Tg was applied.

20.2 Economic Evaluation

With benefits calculated, and initial costs planned and operation and maintenance costs assumed, each priority project was evaluated in terms of Economic Internal Rate of Return (EIRR).

The results are summarized in Table 20.2.1. In terms of EIRR, priority program and projects show the satisfactory values.

The package of priority program and projects, as a whole, has been determined to be feasible. The EIRR as a whole was calculated at 31.1 percent, which is to justify the package of priority programs and projects.

Table 20.2.1 Summary of Economic Evaluation

Year	Initial Cost (US\$)	O/M Cost (US\$)	Benefit (US\$)	Balance (US\$)
1998	0	0		
1999	0	190	4,167	3,977
2000	6,919	311	3,195	-4,035
2001	6,119	491	3,190	-3,421
2002	14,027	612	3,394	-11,245
2003	11,596	935	3,156	-9,375
2004	2,619	1,393	2,813	-1,199
2005	1,956	1,648	2,411	-1,193
2006		2,066	17,716	15,650
2007		2,307	16,914	14,607
2008		2,548	19,888	17,340
2009		3,030	20,338	17,308
2010		3,210	21,675	18,465
2011		3,512	21,394	17,882
2012		3,874	20,275	16,401
2013		4,355	25,774	21,419
2014		4,777	21,185	16,408
2015		5,379	22,357	16,978
			EIRR	31.1%

Sensitivity Analysis

The difference in leisure tourist arrivals due to the effect of priority programs/projects was assumed to be from 2.5 percent to 4.5 percent in terms of growth rates conservatively. The following table is the results of sensitivity analysis of the EIRR due to the difference of leisure tourist arrivals.

Conservative case: the difference was assumed to be a 2.5 percent increment in the annual growth of leisure tourist arrivals between "with" and "without" case from 1999 to 2005. After implementation of the priority projects from 2006, a difference of a 4.5 percent increment in the annual growth rate between "with" and "without" cases.

Pessimistic case: the difference was assumed to be 1.25 percent increment in the annual growth rate of leisure tourist arrivals between "with" and "without" case from 1999 to 2006. After implementation of the priority projects from 2006, a difference of a 3.25 percent increment in the annual growth rate between "with" and "without" cases.

Table 20.2.2 Sensitivity Analysis

	EIRR
Conservative Case	31.1 %
Pessimistic Case	18.0 %

As is shown in Table 20.2.2, even if the declining of package tour price were only 1 percent between 1999 and 2015, the package of priority program and projects are justified by the value of EIRR (18.0 %). Detailed calculation is shown at Table 20.2.3.

Table 20.2.3 Economic Evaluation of Priority Project
(Pesimistic Case)
(Unit:1,000U)

Year	Initial Cost (US\$)	O/M Cost (US\$)	Benefit (US\$)	Balance (US\$)
1998	0	0	0	0
1999		190	5,213	5,023
2000	6,919	511	4,286	-2,944
2001	6,119	491	3,045	-3,566
2002	14,027	612	1,525	-13,114
2003	11,596	935	1,621	-10,910
2004	2,619	1,393	604	-3,408
2005	1,956	1,648	502	-3,102
2006		2,066	9,346	7,280
2007		2,307	12,089	9,782
2008		2,548	13,025	10,477
2009		3,030	11,248	8,218
2010		3,210	13,957	10,747
2011		3,512	14,198	10,686
2012		3,874	12,785	8,911
2013		4,355	12,990	8,635
2014		4,777	11,120	6,343
2015		5,379	31,368	25,989
				18.0%

Source: JICA Study Team

Table 20.2.3 Economic Evaluation of Priority Projects
(Conservative Case)
(Unit:1,000US\$)

Year	Initial Cost (US\$)	O/M Cost (US\$)	Benefit (US\$)	Balance (US\$)
1998	0	0	0	0
1999		190	4,167	3,977
2000	6,919	311	3,195	-4,035
2001	6,119	491	3,190	-3,421
2002	14,027	612	3,394	-11,245
2003	11,596	935	3,156	-9,375
2004	2,619	1,393	2,813	-1,199
2005	1,956	1,648	2,411	-1,193
2006		2,066	17,716	15,650
2007		2,307	16,914	14,607
2008		2,548	19,888	17,340
2009		3,030	20,338	17,308
2010		3,210	21,675	18,465
2011		3,512	21,394	17,882
2012		3,874	20,275	16,401
2013		4,355	25,774	21,419
2014		4,777	21,185	16,408
2015		5,379	22,357	16,978
				31.1%

Source: JICA Study Team

20.3 Repayment of Soft Loan

If the Mongolian government borrows fund under the following conditions from a foreign aid organization to implement the projects of the public sector, it can pay back the loan entirely by proceeds of a tax on accommodation of foreign leisure tourists.

Loan amount: US\$ 39,256 thousands

Interest Rate (%): 2.6 %

Repayment Period/Grace Period (Years): 30 / 10

The loan is only applied to "Soft Loan" projects described in Table 19.9.3. Only the revenue generated by hotels and ger camps for accommodation of foreign leisure tourists is considered as the source of repayment of the soft loan. The average accommodation rate is estimated at approximately US\$ 38 per night, (hotel at \$50 per night, ger camp at \$25 per night). Hence, the revenue can be considered as direct foreign exchange earnings only from accommodation. (Detail of revenue per person per night of each market is described in Appendix 14.1.2. The projection of leisure tourist and tourist-nights is described in Chapter 12.)

The relationship of repayment and revenues from accommodation of foreign leisure tourist is summarized in Table 20.3.1.

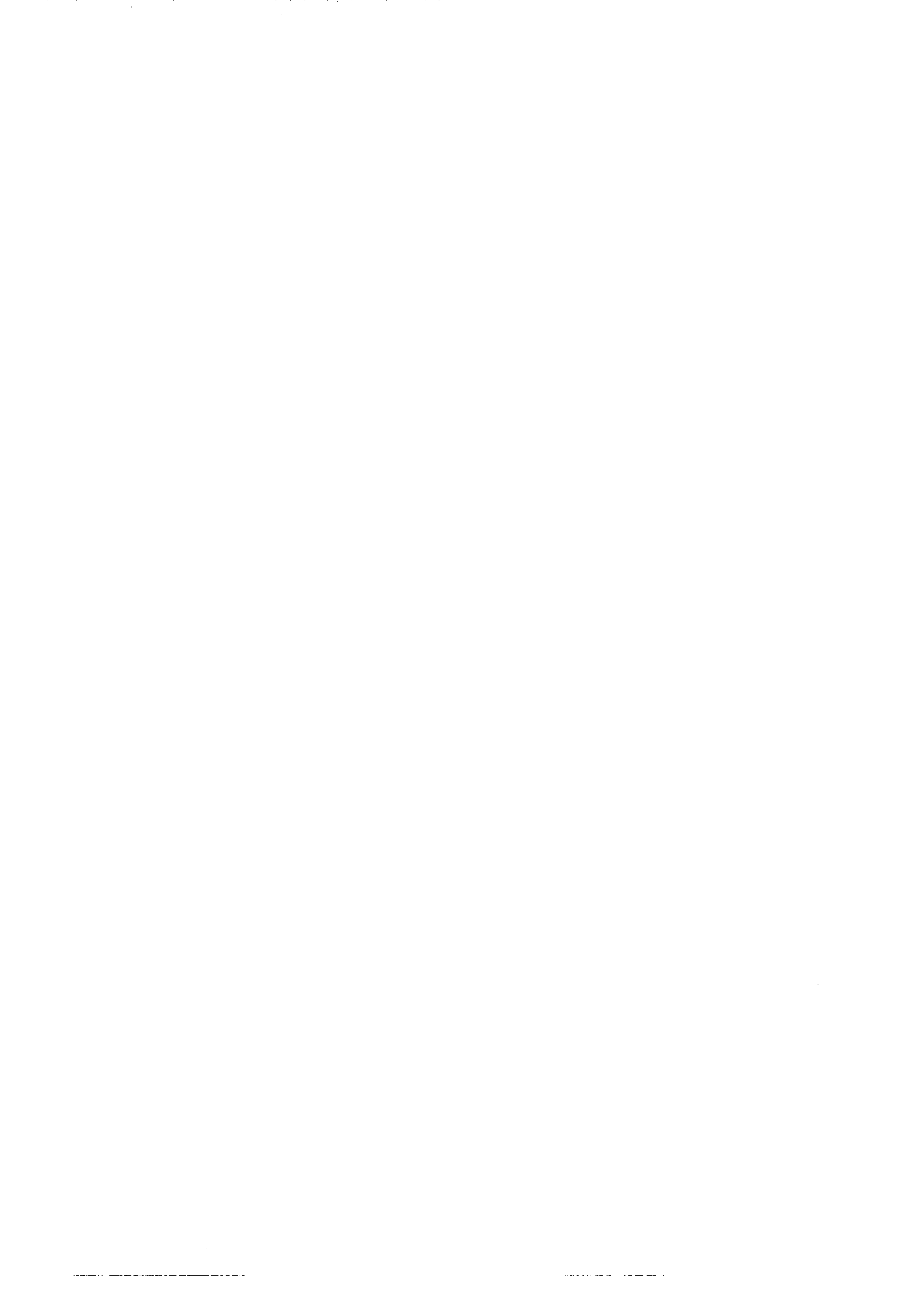
Table 20.3.1 Repayment Schedule of Soft Loan

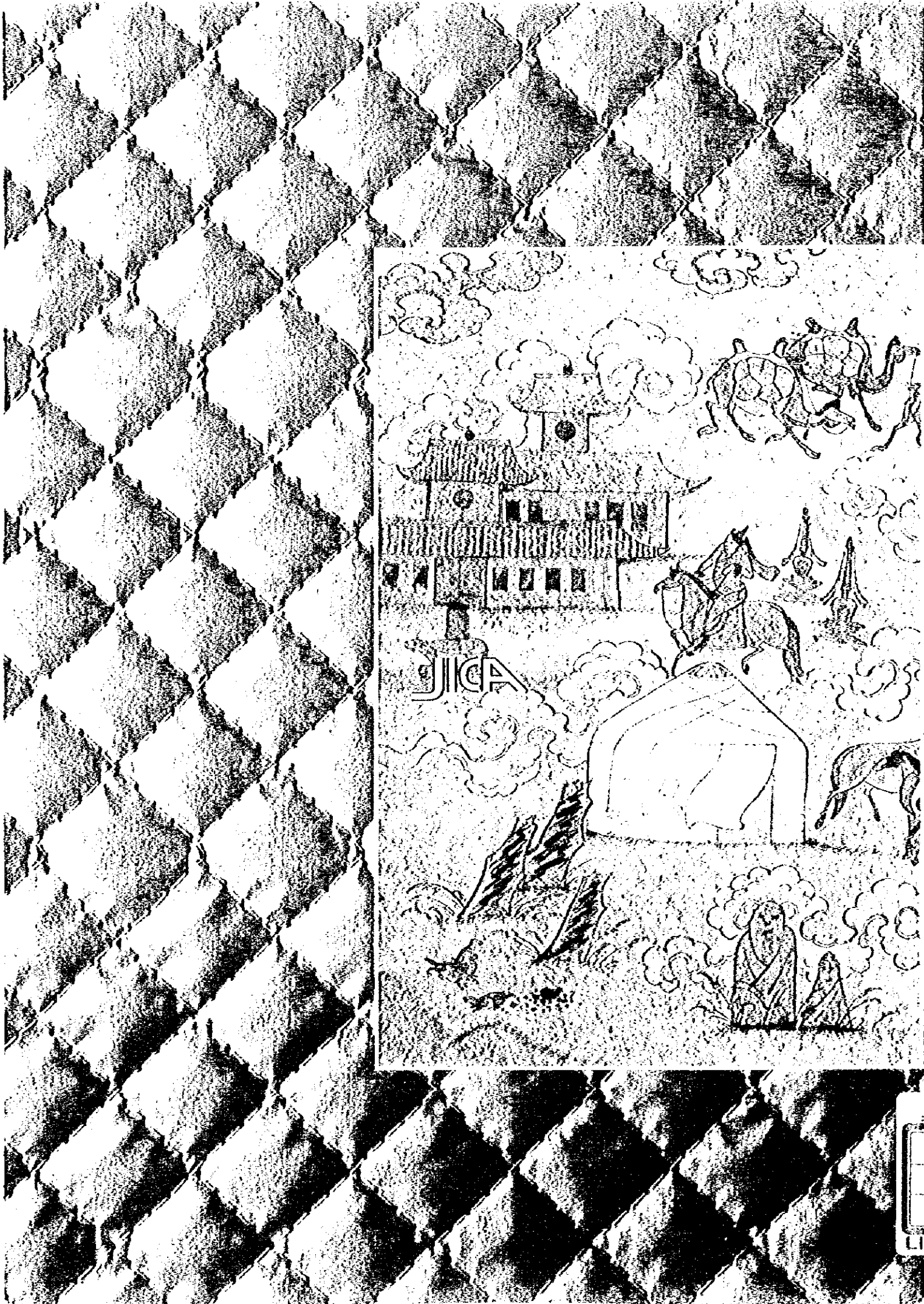
(Unit: US\$ 1000)

	Year	A Principal	Interest Payment	Principal and Interest Payment	Balance	Revenue from accommodation of foreign leisure tourists	Proportion of principal and interest payment to total revenue
2000	1		\$1,020.66	\$1,020.66	\$39,256.00	\$16,225.00	6.29%
2001	2		\$1,020.66	\$1,020.66	\$39,256.00	\$18,322.00	5.57%
2002	3		\$1,020.66	\$1,020.66	\$39,256.00	\$20,357.00	5.01%
2003	4		\$1,020.66	\$1,020.66	\$39,256.00	\$23,660.00	4.31%
2004	5		\$1,020.66	\$1,020.66	\$39,256.00	\$27,087.00	3.77%
2005	6		\$1,020.66	\$1,020.66	\$39,256.00	\$31,031.00	3.29%
2006	7		\$1,020.66	\$1,020.66	\$39,256.00	\$36,944.00	2.76%
2007	8		\$1,020.66	\$1,020.66	\$39,256.00	\$40,718.00	2.51%
2008	9		\$1,020.66	\$1,020.66	\$39,256.00	\$44,637.00	2.29%
2009	10		\$1,020.66	\$1,020.66	\$39,256.00	\$53,393.00	1.91%
2010	11	\$1,521.35	\$1,020.66	\$2,542.01	\$37,734.65	\$54,137.00	4.70%
2011	12	\$1,560.91	\$981.10	\$2,542.01	\$36,173.74	\$58,341.00	4.36%
2012	13	\$1,601.49	\$940.52	\$2,542.01	\$34,572.25	\$64,200.00	3.96%
2013	14	\$1,643.13	\$898.88	\$2,542.01	\$32,929.12	\$71,199.00	3.57%
2014	15	\$1,685.85	\$856.16	\$2,542.01	\$31,243.27	\$78,463.00	3.24%
2015	16	\$1,729.68	\$812.33	\$2,542.01	\$29,513.59	\$87,325.00	2.91%
2016	17	\$1,774.65	\$767.35	\$2,542.01	\$27,738.93		
2017	18	\$1,820.80	\$721.21	\$2,542.01	\$25,918.14		
2018	19	\$1,868.14	\$673.87	\$2,542.01	\$24,050.00		
2019	20	\$1,916.71	\$625.30	\$2,542.01	\$22,133.29		
2020	21	\$1,966.54	\$575.47	\$2,542.01	\$20,166.75		
2021	22	\$2,017.67	\$524.34	\$2,542.01	\$18,149.08		
2022	23	\$2,070.13	\$471.88	\$2,542.01	\$16,078.95		
2023	24	\$2,123.96	\$418.05	\$2,542.01	\$13,954.99		
2024	25	\$2,179.18	\$362.83	\$2,542.01	\$11,775.81		
2025	26	\$2,235.84	\$306.17	\$2,542.01	\$9,539.98		
2026	27	\$2,293.97	\$248.04	\$2,542.01	\$7,246.01		
2027	28	\$2,353.61	\$188.40	\$2,542.01	\$4,892.40		
2028	29	\$2,414.81	\$127.20	\$2,542.01	\$2,477.59		
2029	30	\$2,477.59	\$64.42	\$2,542.01	\$0.00		

Note: Accommodation revenues are estimated only up to 2015 (16 years), as shown in Chapter 12 in this report. However, there is little possibility of the revenue declining from the level of 2015.

As shown in Table 20.3.1, the proportion of principal and interest payment to accommodation revenue decreases from 6.29 % to 1.91 %. In short, if a maximum of 6.29 % special tax is imposed on hotel bills to foreign leisure tourists, the loan amount (US\$ 39,256 thousands) can be easily paid back.





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