Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (1/23)

Country/Region	1997	Leisure	ALS	Tourist-Nights	VFR	ALS	Tourist-Nights	Business	ALS	Tourist-Nights	Other	ALS	Tourist-Nights	Total Tourist-Nights
Americas	701	301	17.0	5,124	91	16.5	1,504	245	15.5	3,803	63	24.5	1,546	11,977
USA	4,318	1,857	17.0	31,565	561	16.5	9,262	1,511	15.5	23,425	389	24.5	9,521	73,773
East Asia/Pacific	1,650	644	7.0	4,505	116	14.5	1,675	842	10.5	8,836	50	20.5	1,015	16,030
Japan	11,077	9,748	8.0	77,982	111	14.5	1,606	1,108	10.5	11,631	111	20.5	2,271	93,490
Korea rep	3,294	1,285	7.0	8,993	231	14.5	3,343	1,680	10.5	17,639	99	20.5	2,026	32,001
China	32,531	65	7.0	455	651	14.5	9,434	31,165	1.5	46,748	651	20.5	13,338	69,974
Australia	1,004	371	15.0	5,572	141	16.5	2,319	442	14.5	6,406	50	24.5	1,230	15,527
Cen/East Europe	2,538	939	7.0	6,573	355	16.5	5,863	1,117	14.5	16,192	127	24.5	3,109	31,738
Russian Fed	8,708	9	6.5	57	1,306	16.0	20,899	6,958	13.5	93,935	435	24.0	10,450	125,341
Northern Europe	2,790	1,535	15.0	23,018	279	16.5	4,604	865	14.5	12,541	112	24.5	2,734	42,896
UK	2,497	799	15.0	11,986	275	16.5	4,532	1,273	14.5	18,465	150	24.5	3,671	38,654
Southern Europe	1,139	626	15.0	9,397	114	16.5	1,879	353	14.5	5,120	46	24.5	1,116	17,512
Western Europe	1,579	868	15.0	13,027	158	16.5	2,605	489	14.5	7,098	63	24.5	1,547	24,277
France	1,816	1,271	18.0	22,882	91	16.5	1,498	400	16.5	6,592	54	24.5	1,335	32,307
Germany	3,339	1,469	13.0	19,099	534	16.5	8,815	1,102	14.0	15,426	234	24.5	5,726	49,067
Switzerland	1,088	598	15.0	8,976	109	16.5	1,795	337	14.5	4,891	44	24.5	1,066	16,728
East/Med Europe	329	122	15.5	1,887	46	17.0	783	145	15.5	2,244	16	25.0	411	5,325
Middle East	63	23	15.5	361	9	17.0	150	28	15.5	430	3	25.0	79	1,020
South Asia	504	186	15.5	2,890	71	17.0	1,200	222	15.5	3,437	25	25.0	630	8,157
Africa	81	30	15.5	465	11	17.0	193	36	15.5	552	4	25.0	101	1,311
	81,046	22,747		254,812	5,258		83,959	50,317		305,410	2,725		62,922	707,103

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (2/23)

Country/Region	AAG of Total (1990-1997)	AAG of Leisure (1990-1997)	AAG of Business (1990-1997)	Proportion of Total	Proportion of Leisure	Proportion of Business
Americas	32.1%	32.0%	32.0%	0.9%	1.3%	0.5%
USA	27.2%	27.2%	27.2%	5.3%	8.2%	3.0%
East Asia/Pacific	49.3%	49.3%	25.7%	2.0%	2.8%	1.7%
Japan	30.7%	31.8%	23.4%	13.7%	42.9%	2.2%
Korea rep	*47.3%*	*47.3%*	*47.3%*	4.1%	5.6%	3.3%
China	*-1.9%*	*0.0%*	*-1.9%*	40.1%	0.3%	61.9%
Australia	*19.0%*	*19.0%*	*19.1%*	1.2%	1.6%	0.9%
Cen/East Europe	-16.3%	6.2%	-22.3%	3.1%	4.1%	2.2%
Russian Fed	-31.6%	-31.3%	-32.1%	10.7%	0.0%	13.8%
Northern Europe	*12.3%*	*12.3%*	*12.3%*	3.4%	6.7%	1.7%
UK	19.9%	19.9%	19.9%	3.1%	3.5%	2.5%
Southern Europe	*29.9%*	*29.9%*	*29.9%*	1.4%	2.8%	0.7%
Western Europe	*27.4%*	*27.4%*	*27.3%*	1.9%	3.8%	1.0%
France	*22.7%*	*22.7%*	22.8%	2.2%	5.6%	0.8%
Germany	15.7%	22.6%	15.7%	4.1%	6.5%	2.2%
Switzerland	*52.7%*	*31.5%*	*52.7%*	1.3%	2.6%	0.7%
East/Med Europe	*26.4%*	*26.7%*	*26.3%*	0.4%	0.5%	0.3%
Middle East	*54.7%*	*56.5%*	*58.7%*	0.1%	0.1%	0.1%
South Asia	*-6.4%*	-6.4%	26.0%	0.6%	0.8%	0.4%
Africa	*243.4%*	*210.7%*	*230.2%*	0.1%	0.1%	0.1%
	-7.3%	31.1%	-10%	100.0%	100.0%	100.0%

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (3/23)

Country/Region	1998	Leisure	ALS	Tourist-Nights	VFR	ALS	Tourist-Nights	Business	ALS	Tourist-Nights	Other	ALS	Tourist-Nights	Total Tourist-Nights
Americas	806	347	17.0	5,899	90	16.5	1,485	306	15.5	4,748	63	24.5	1,544	13,676
USA	4,966	2,235	17.0	37,995	461	16.5	7,607	1,877	15.5	29,094	393	24.5	9,629	84,324
East Asia/Pacific	1,597	603	7.0	4,220	112	14.5	1,621	834	10.5	8,762	48	20.5	982	15,585
Japan	10,500	9,240	8.0	73,920	99	14.5	1,436	1,061	10.5	11,135	100	20.5	2,050	88,541
Korea rep	3,366	1,263	7.0	8,841	231	14.5	3,350	1,767	10.5	18,550	106	20.5	2,173	32,913
China	35,133	65	7.0	455	650	14.5	9,425	33,768	1.5	50,652	650	20.5	13,325	73,857
Australia	1,155	427	15.0	6,405	140	16.5	2,310	530	14.5	7,685	58	24.5	1,415	17,815
Cen/East Europe	2,640	777	7.0	5,439	355	16.5	5,858	1,384	14.5	20,068	124	24.5	3,038	34,403
Russian Fed	8,743	9	6.5	57	1,300	16.0	20,800	6,997	13.5	94,460	437	24.0	10,492	125,808
Northern Europe	3,209	1,809	15.0	27,135	230	16.5	3,795	1,058	14.5	15,341	112	24.5	2,744	49,015
UK	2,872	1,034	15.0	15,510	160	16.5	2,640	1,528	14.5	22,156	150	24.5	3,675	43,981
Southern Europe	1,310	764	15.0	11,460	100	16.5	1,650	400	14.5	5,800	46	24.5	1,127	20,037
Western Europe	1,816	999	15.0	14,985	158	16.5	2,607	594	14.5	8,613	65	24.5	1,593	27,798
France	2,088	1,462	18.0	26,316	90	16.5	1,485	482	16.5	7,953	54	24.5	1,323	37,077
Germany	3,773	1,890	13.0	24,570	300	16.5	4,950	1,348	14.0	18,872	235	24.5	5,758	54,150
Switzerland	1,251	732	15.0	10,980	65	16.5	1,073	404	14.5	5,858	50	24.5	1,226	19,137
East/Med Europe	342	127	15.5	1,969	46	17.0	782	152	15.5	2,356	17	25.0	428	5,534
Middle East	66	24	15.5	369	9	17.0	157	29	15.5	450	3	25.0	83	1,058
South Asia	524	194	15.5	3,007	73	17.0	1,247	231	15.5	3,574	26	25.0	655	8,483
Africa	84	31	15.5	474	12	17.0	200	37	15.5	573	4	25.0	105	1,352
	86,240	24,031		280,004	4,681		74,476	54,787		336,700	2,742		63,362	754,541

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (4/23)

Country/Region	1999	Leisure	ALS	Tourist-Nights	VFR	ALS	Tourist-Nights	Business	ALS	Tourist-Nights	Other	ALS	Tourist-Nights	Total Tourist-Nights
Americas	908	379	17.0	6,444	95	16.5	1,568	369	15.5	5,720	65	24.5	1,593	15,324
USA	7,350	4,292	17.0	72,966	465	16.5	7,673	2,200	15.5	34,100	393	24.5	9,629	124,367
East Asia/Pacific	1,650	624	7.0	4,365	118	14.5	1,708	858	10.5	9,012	50	20.5	1,035	16,121
Japan	15,405	13,471	8.0	107,770	161	14.5	2,337	1,697	10.5	17,819	76	20.5	1,558	129,483
Korea rep	3,373	1,275	7.0	8,922	241	14.5	3,492	1,754	10.5	18,421	103	20.5	2,116	32,950
China	37,941	62	7.0	432	660	14.5	9,570	36,559	1.5	54,839	660	20.5	13,530	78,371
Australia	1,303	467	15.0	7,002	150	16.5	2,475	620	14.5	8,990	66	24.5	1,627	20,094
Cen/East Europe	2,702	822	7.0	5,757	360	16.5	5,940	1,382	14.5	20,039	137	24.5	3,363	35,098
Russian Fed	8,778	8	6.5	54	1,317	16.0	21,067	7,014	13.5	94,690	439	24.0	10,534	126,345
Northern Europe	3,587	1,957	15.0	29,348	249	16.5	4,109	1,256	14.5	18,212	125	24.5	3,063	54,731
UK	3,239	1,194	15.0	17,907	180	16.5	2,970	1,710	14.5	24,795	155	24.5	3,798	49,470
Southern Europe	1,464	806	15.0	12,096	100	16.5	1,650	503	14.5	7,294	55	24.5	1,348	22,387
Western Europe	2,031	1,091	15.0	16,365	160	16.5	2,640	713	14.5	10,339	67	24.5	1,642	30,985
France	2,318	1,597	18.0	28,752	100	16.5	1,650	555	16.5	9,158	66	24.5	1,617	41,176
Germany	4,160	1,972	13.0	25,641	350	16.5	5,775	1,588	14.0	22,232	250	24.5	6,125	59,773
Switzerland	1,395	837	15.0	12,561	70	16.5	1,155	430	14.5	6,235	58	24.5	1,410	21,361
East/Med Europe	348	125	15.5	1,934	50	17.0	845	156	15.5	2,421	18	25.0	444	5,644
Middle East	67	24	15.5	370	10	17.0	162	30	15.5	464	3	25.0	85	1,081
South Asia	535	192	15.5	2,969	76	17.0	1,297	240	15.5	3,717	27	25.0	681	8,665
Africa	86	31	15.5	479	12	17.0	209	39	15.5	600	4	25.0	110	1,399
	98,641	31,226		362,134	4,923		78,290	59,673		369,094	2,819			874,823

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (5/23)

Country/Region	2000	Leisure	ALS	Tourist-Nights	VFR	ALS	Tourist-Nights	Business	ALS	Tourist-Nights	Other	ALS	Tourist-Nights	Total Tourist-Nights
Americas	1,039	431	17.0	7,332	100	16.5	1,650	412	15.5	6,386	96	24.5	2,353	17,721
USA	7,650	4,272	17.0	72,620	465	16.5	7,673	2,500	15.5	38,750	413	24.5	10,118	129,161
East Asia/Pacific	1,660	623	7.0	4,363	119	14.5	1,726	867	10.5	9,104	51	20.5	1,046	16,237
Japan	17,553	15,329	8.0	122,631	165	14.5	2,393	1,959	10.5	20,570	100	20.5	2,050	147,643
Korea rep	3,434	1,289	7.0	9,023	246	14.5	3,569	1,793	10.5	18,828	105	20.5	2,162	33,582
China	40,976	61	7.0	428	680	14.5	9,860	39,565	1.5	59,348	670	20.5	13,735	83,370
Australia	1,481	719	15.0	10,786	100	16.5	1,650	605	14.5	8,773	57	24.5	1,397	22,605
Cen/East Europe	2,801	852	7.0	5,964	400	16.5	6,595	1,406	14.5	20,390	143	24.5	3,497	36,446
Russian Fed	8,813	8	6.5	54	1,322	16.0	21,151	7,042	13.5	95,067	441	24.0	10,576	126,848
Northern Europe	4,094	2,325	15.0	34,878	250	16.5	4,125	1,369	14.5	19,851	150	24.5	3,675	62,529
UK	3,696	1,596	15.0	23,947	190	16.5	3,135	1,750	14.5	25,375	160	24.5	3,920	56,377
Southern Europe	1,672	962	15.0	14,426	105	16.5	1,733	536	14.5	7,772	69	24.5	1,698	25,629
Western Europe	2,315	1,335	15.0	20,030	170	16.5	2,805	740	14.5	10,730	70	24.5	1,715	35,280
France	2,646	1,817	18.0	32,713	138	16.5	2,279	623	16.5	10,280	68	24.5	1,666	46,937
Germany	4,679	2,181	13.0	28,349	360	16.5	5,940	1,888	14.0	26,432	250	24.5	6,125	66,846
Switzerland	1,593	974	15.0	14,611	85	16.5	1,403	468	14.5	6,786	66	24.5	1,622	24,422
East/Med Europe	362	129	15.5	1,995	52	17.0	881	163	15.5	2,523	19	25.0	463	5,861
Middle East	69	25	15.5	383	10	17.0	169	31	15.5	484	4	25.0	89	1,125
South Asia	554	197	15.5	3,057	79	17.0	1,349	249	15.5	3,867	28	25.0	709	8,982
Africa	89	32	15.5	491	13	17.0	217	40	15.5	621	5	25.0	114	1,442
	107,178	35,158		408,080	5,049		80,300	64,007		391,934	2,964		68,728	949,042

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (6/23)

Country/Region	Proportion of Total	Proportion of Leisure	Proportion of Business	AAG of Total (1997-2000)	AAG of Leisure (1997-2000)	AAG of Business (1997-2000)
Americas	1.0%	1.2%	0.6%	14.0%	12.7%	18.9%
USA	7.1%	12.2%	3.9%	21.0%	32.0%	18.3%
East Asia/Pacific	1.5%	1.8%	1.4%	0.2%	-1.1%	1.0%
Japan	16.4%	43.6%	3.1%	16.6%	16.3%	20.9%
Korea rep	3.2%	3.7%	2.8%	1.4%	0.1%	2.2%
China	38.2%	0.2%	61.8%	8.0%	-2.0%	8.3%
Australia	1.4%	2.0%	0.9%	13.8%	24.6%	11.1%
Cen/East Europe	2.6%	2.4%	2.2%	3.3%	-3.2%	8.0%
Russian Fed	8.2%	0.0%	11.0%	0.4%	-1.6%	0.4%
Northern Europe	3.8%	6.6%	2.1%	13.6%	14.9%	16.5%
UK	3.4%	4.5%	2.7%	14.0%	25.9%	11.2%
Southern Europe	1.6%	2.7%	0.8%	13.7%	15.4%	14.9%
Western Europe	2.2%	3.8%	1.2%	13.6%	15.4%	14.8%
France	2.5%	5.2%	1.0%	13.4%	12.7%	16.0%
Germany	4.4%	6.2%	2.9%	11.9%	14.1%	19.7%
Switzerland	1.5%	2.8%	0.7%	13.6%	17.6%	11.5%
East/Med Europe	0.3%	0.4%	0.3%	3.2%	1.9%	4.0%
Middle East	0.1%	0.1%	0.0%	3.3%	1.9%	4.1%
South Asia	0.5%	0.6%	0.4%	3.2%	1.9%	4.0%
Africa	0.1%	0.1%	0.1%	3.2%	1.8%	4.0%
	100.0%	100.0%	100.0%	9.8%	15.6%	8.4%

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (7/23)

Country/Region	2001	Leisure	ALS	Tourist-Nights	VFR	ALS	Tourist-Nights	Business	ALS	Tourist-Nights	Other	ALS	Tourist-Nights	Total Tourist-Nights
Americas	1,155	553	17.0	9,406	101	16.5	1,667	420	15.5	6,515	80	24.5	1,960	11,808
USA	8,176	4,362	17.0	74,159	510	16.5	8,418	2,889	15.5	44,780	415	24.5	10,168	71,784
East Asia/Pacific	1,794	709	6.5	4,606	130	14.5	1,881	900	10.5	9,450	56	20.5	1,140	14,352
Japan	20,170	17,723	7.5	132,921	165	14.5	2,393	2,171	10.5	22,793	111	20.5	2,276	29,854
Korea rep	3,716	1,379	6.5	8,964	268	14.5	3,888	1,954	10.5	20,515	115	20.5	2,356	30,648
China	44,255	62	6.5	402	885	14.5	12,835	42,423	1.5	63,635	885	20.5	18,147	107,452
Australia	1,677	722	15.0	10,836	103	16.5	1,702	764	14.5	11,082	87	24.5	2,128	16,615
Cen/East Europe	2,915	1,034	7.0	7,239	420	16.5	6,932	1,320	14.5	19,146	140	24.5	3,430	36,441
Russian Fed	9,253	9	6.5	56	1,388	16.0	22,210	7,394	13.5	99,813	463	24.0	11,105	155,337
Northern Europe	4,608	2,696	15.0	40,443	383	16.5	6,320	1,398	14.5	20,274	131	24.5	3,210	36,123
UK	4,190	1,761	15.0	26,414	207	16.5	3,417	2,062	14.5	29,897	160	24.5	3,925	40,656
Southern Europe	1,897	1,154	15.0	17,308	120	16.5	1,980	568	14.5	8,234	55	24.5	1,348	13,541
Western Europe	2,632	1,546	15.0	23,184	170	16.5	2,805	806	14.5	11,686	110	24.5	2,706	20,001
France	2,999	2,120	18.0	38,166	135	16.5	2,228	649	16.5	10,704	95	24.5	2,334	17,493
Germany	5,225	2,744	13.0	35,670	400	16.5	6,600	1,800	14.0	25,197	282	24.5	6,904	45,301
Switzerland	1,797	1,117	15.0	16,759	89	16.5	1,469	536	14.5	7,771	55	24.5	1,348	12,055
East/Med Europe	373	131	15.5	2,033	54	17.0	914	169	15.5	2,619	19	25.0	480	4,927
Middle East	72	25	15.5	392	10	17.0	176	33	15.5	505	4	25.0	93	949
South Asia	573	201	15.5	3,123	83	17.0	1,404	260	15.5	4,024	30	25.0	738	7,570
Africa	93	33	15.5	508	13	17.0	228	42	15.5	655	5	25.0	120	1,232
	117,571	40,082		452,588	5,635		89,466	68,557		419,295	3,297		75,912	674,139

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (8/23)

Country/Region	2002	Leisure	ALS	Tourist-Nights	VFR	ALS	Tourist-Nights	Business	ALS	Tourist-Nights	Other	ALS	Tourist-Nights	Total Tourist-Nights
Americas	1,295	619	17.0	10,520	100	16.5	1,650	476	15.5	7,378	100	24.5	2,450	21,998
USA	8,740	4,500	17.0	76,503	598	16.5	9,862	3,225	15.5	49,981	418	24.5	10,241	146,587
East Asia/Pacific	1,945	713	6.5	4,634	141	14.5	2,050	1,030	10.5	10,817	61	20.5	1,242	18,744
Japan	23,167	20,215	7.5	151,615	170	14.5	2,465	2,667	10.5	28,002	115	20.5	2,358	184,440
Korea rep	4,019	1,504	6.5	9,775	265	14.5	3,843	2,130	10.5	22,362	120	20.5	2,460	38,440
China	47,783	59	6.5	382	880	14.5	12,760	45,959	1.5	68,939	885	20.5	18,143	100,223
Australia	1,893	824	15.0	12,356	110	16.5	1,815	871	14.5	12,626	88	24.5	2,156	28,953
Cen/East Europe	3,040	1,062	7.0	7,436	441	16.5	7,279	1,386	14.5	20,103	150	24.5	3,675	38,494
Russian Fed	9,716	9	6.5	57	1,457	16.0	23,318	7,763	13.5	104,805	486	24.0	11,664	139,844
Northern Europe	5,187	3,050	15.0	45,746	400	16.5	6,600	1,607	14.5	23,304	130	24.5	3,185	78,835
UK	4,770	1,773	15.0	26,592	205	16.5	3,383	2,528	14.5	36,650	265	24.5	6,493	73,117
Southern Europe	2,158	1,272	15.0	19,087	120	16.5	1,980	710	14.5	10,298	55	24.5	1,348	32,713
Western Europe	2,993	1,729	15.0	25,932	170	16.5	2,805	984	14.5	14,272	110	24.5	2,695	45,703
France	3,369	2,324	18.0	41,834	150	16.5	2,475	795	16.5	13,115	100	24.5	2,450	59,875
Germany	5,870	2,897	13.0	37,666	550	16.5	9,075	2,037	14.0	28,524	385	24.5	9,433	84,698
Switzerland	2,042	1,108	15.0	16,614	200	16.5	3,300	669	14.5	9,700	65	24.5	1,593	31,207
East/Med Europe	386	134	15.5	2,076	56	17.0	952	176	15.5	2,728	20	25.0	500	6,256
Middle East	74	26	15.5	400	11	17.0	183	34	15.5	525	4	25.0	96	1,204
South Asia	591	205	15.5	3,182	86	17.0	1,459	270	15.5	4,181	31	25.0	766	9,587
Africa	96	33	15.5	519	14	17.0	238	44	15.5	682	5	25.0	125	1,564
	129,134	44,056		492,928	6,124		97,492	75,361		468,992	3,592		83,071	1,142,482

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (9/23)

Country/Region	2003	Leisure	ALS	Tourist-Nights	VFR	ALS	Tourist-Nights	Business	ALS	Tourist-Nights	Other	ALS	Tourist-Nights	Total Tourist-Nights
Americas	1,463	705	17.0	11,991	105	16.5	1,733	543	15.5	8,409	110	24.5	2,695	24,827
USA	9,348	4,846	17.0	82,386	600	16.5	9,900	3,481	15.5	53,962	420	24.5	10,290	156,539
East Asia/Pacific	2,108	764	6.5	4,968	154	14.5	2,235	1,123	10.5	11,792	66	20.5	1,354	20,349
Japan	26,671	23,241	7.5	174,309	180	14.5	2,610	3,104	10.5	32,596	145	20.5	2,982	212,497
Korea rep	4,337	1,617	6.5	10,512	270	14.5	3,915	2,313	10.5	24,290	136	20.5	2,790	41,506
China	51,614	58	6.5	376	890	14.5	12,905	49,776	1.5	74,664	890	20.5	18,245	106,190
Australia	2,140	944	15.0	14,161	115	16.5	1,898	993	14.5	14,393	88	24.5	2,156	32,607
Cen/East Europe	3,173	1,089	7.0	7,625	463	16.5	7,641	1,456	14.5	21,105	165	24.5	4,052	40,424
Russian Fed	10,201	9	6.5	59	1,500	16.0	24,000	8,206	13.5	110,775	486	24.0	11,664	146,498
Northern Europe	6,268	3,722	15.0	55,835	410	16.5	6,765	1,986	14.5	28,792	150	24.5	3,675	95,067
UK	5,402	2,133	15.0	31,988	210	16.5	3,465	2,790	14.5	40,450	270	24.5	6,615	82,518
Southern Europe	2,451	1,480	15.0	22,197	150	16.5	2,475	767	14.5	11,115	55	24.5	1,348	37,134
Western Europe	3,400	2,033	15.0	30,499	170	16.5	2,805	1,082	14.5	15,691	115	24.5	2,818	51,813
France	3,784	2,636	18.0	47,451	170	16.5	2,805	854	16.5	14,094	123	24.5	3,021	67,371
Germany	6,574	3,367	13.0	43,776	580	16.5	9,570	2,207	14.0	30,894	420	24.5	10,290	94,530
Switzerland	2,310	1,251	15.0	18,767	220	16.5	3,630	764	14.5	11,080	75	24.5	1,838	35,314
East/Med Europe	399	137	15.5	2,123	58	17.0	990	183	15.5	2,837	21	25.0	520	6,471
Middle East	77	26	15.5	408	11	17.0	190	35	15.5	546	4	25.0	100	1,244
South Asia	612	210	15.5	3,256	89	17.0	1,518	281	15.5	4,351	32	25.0	798	9,924
Africa	101	35	15.5	536	15	17.0	250	46	15.5	716	5	25.0	131	1,633
	142,432	50,305		563,224	6,361		101,300	81,989		512,553	3,777		87,380	1,264,457

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (10/23)

Country/Region	2004	Leisure	ALS	Tourist-Nights	VFR	ALS	Tourist-Nights	Business	ALS	Tourist-Nights	Other	ALS	Tourist-Nights	Total Tourist-Nights
Americas	1,662	810	17.0	13,767	110	16.5	1,815	622	15.5	9,646	120	24.5	2,940	28,168
USA	9,981	5,346	17.0	90,877	595	16.5	9,818	3,611	15.5	55,967	430	24.5	10,535	167,196
East Asia/Pacific	2,283	819	6.5	5,324	168	14.5	2,436	1,224	10.5	12,852	72	20.5	1,476	22,088
Japan	30,692	26,760	7.5	200,702	180	14.5	2,610	3,602	10.5	37,816	150	20.5	3,075	244,203
Korea rep	4,729	1,697	6.5	11,029	270	14.5	3,915	2,618	10.5	27,486	145	20.5	2,973	45,402
China	55,742	60	6.5	387	880	14.5	12,760	53,905	1.5	80,858	897	20.5	18,389	112,393
Australia	2,421	1,069	15.0	16,031	120	16.5	1,980	1,133	14.5	16,422	100	24.5	2,450	36,883
Cen/East Europe	3,313	1,124	7.0	7,871	470	16.5	7,755	1,552	14.5	22,506	166	24.5	4,067	42,198
Russian Fed	10,711	9	6.5	61	1,500	16.0	24,000	8,714	13.5	117,642	487	24.0	11,688	153,391
Northern Europe	6,610	3,859	15.0	57,888	411	16.5	6,782	2,170	14.5	31,464	170	24.5	4,165	100,299
UK	6,118	2,543	15.0	38,140	220	16.5	3,630	3,105	14.5	45,027	250	24.5	6,125	92,922
Southern Europe	2,786	1,693	15.0	25,389	150	16.5	2,475	889	14.5	12,886	55	24.5	1,348	42,097
Western Europe	3,864	2,366	15.0	35,491	180	16.5	2,970	1,203	14.5	17,438	115	24.5	2,818	58,717
France	4,258	2,919	18.0	52,550	185	16.5	3,053	1,029	16.5	16,970	125	24.5	3,063	75,635
Germany	7,360	3,879	13.0	50,421	590	16.5	9,735	2,462	14.0	34,467	430	24.5	10,535	105,158
Switzerland	2,611	1,424	15.0	21,358	230	16.5	3,795	873	14.5	12,653	85	24.5	2,083	39,889
East/Med Europe	413	140	15.5	2,173	61	17.0	1,031	191	15.5	2,953	22	25.0	541	6,698
Middle East	79	27	15.5	417	12	17.0	198	37	15.5	566	4	25.0	104	1,284
South Asia	632	215	15.5	3,327	93	17.0	1,578	292	15.5	4,522	33	25.0	829	10,255
Africa	106	36	15.5	557	16	17.0	264	49	15.5	757	6	25.0	139	1,717
	156,372	56,794		633,758	6,440		102,598	89,277		560,897	3,862		89,340	1,386,592

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (11/23)

Country/Region	2005	Leisure	ALS	Tourist-Nights	VFR	ALS	Tourist-Nights	Business	ALS	Tourist-Nights
Americas	1,901	942	17.0	16,012	115	16.5	1,898	719	15.5	11,143
USA	10,563	5,564	17.0	94,587	650	16.5	10,725	3,914	15.5	60,669
East Asia/Pacific	2,472	877	6.5	5,701	168	14.5	2,436	1,334	10.5	14,003
Japan	35,317	30,755	7.5	230,659	180	14.5	2,610	4,227	10.5	44,388
Korea rep	5,117	1,923	6.5	12,498	270	14.5	3,915	2,769	10.5	29,078
China	60,201	56	6.5	363	885	14.5	12,833	58,280	1.5	87,420
Australia	2,744	1,213	15.0	18,191	125	16.5	2,063	1,294	14.5	18,764
Cen/East Europe	3,459	1,161	7.0	8,126	470	16.5	7,755	1,653	14.5	23,970
Russian Fed	11,259	10	6.5	63	1,500	16.0	24,000	9,254	13.5	124,932
Northern Europe	7,453	4,424	15.0	66,360	410	16.5	6,765	2,434	14.5	35,288
UK	6,950	2,872	15.0	43,083	220	16.5	3,630	3,583	14.5	51,956
Southern Europe	3,174	1,890	15.0	28,343	150	16.5	2,475	1,079	14.5	15,652
Western Europe	4,411	2,607	15.0	39,103	180	16.5	2,970	1,499	14.5	21,733
France	4,766	3,386	18.0	60,954	185	16.5	3,053	1,070	16.5	17,654
Germany	8,237	4,451	13.0	57,860	589	16.5	9,719	2,757	14.0	38,604
Switzerland	2,944	1,660	15.0	24,893	250	16.5	4,125	946	14.5	13,722
East/Med Europe	427	143	15.5	2,219	63	17.0	1,071	198	15.5	3,069
Middle East	82	27	15.5	424	12	17.0	205	38	15.5	587
South Asia	654	220	15.5	3,403	97	17.0	1,642	304	15.5	4,706
Africa	110	37	15.5	572	16	17.0	276	51	15.5	791
	172,240	64,215		713,413	6,535		104,163	97,404		618,128

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (12/23)

Country/Region	Other	ALS	Tourist-Nights	Total Tourist-Nights	AAG of Total (2001-2005)	AAG of Leisure (2001-2005)	AAG of Business (2001-2005)
Americas	125	24.5	3,063	32,115	2475.8%	14.2%	2060.0%
USA	435	24.5	10,658	176,638	2379.0%	6.3%	3767.0%
East Asia/Pacific	93	20.5	1,916	24,056	2214.8%	5.5%	6176.0%
Japan	155	20.5	3,178	280,834	1705.0%	14.8%	5425.8%
Korea rep	155	20.5	3,178	48,668	2028.1%	8.7%	6051.9%
China	980	20.5	20,090	120,706	1024.9%	-2.5%	8892.0%
Australia	112	24.5	2,744	41,761	2232.8%	13.8%	2817.3%
Cen/East Europe	175	24.5	4,288	44,138	2676.0%	2.9%	3411.9%
Russian Fed	495	24.0	11,880	160,875	2289.0%	3.2%	14018.3%
Northern Europe	185	24.5	4,533	112,945	2578.5%	13.2%	3458.3%
UK	275	24.5	6,738	105,407	1903.9%	13.0%	3861.8%
Southern Europe	55	24.5	1,348	47,817	2516.5%	13.1%	2670.3%
Western Europe	125	24.5	3,063	66,869	2397.0%	14.0%	3002.5%
France	125	24.5	3,063	84,723	2568.7%	12.4%	3002.4%
Germany	440	24.5	10,780	116,963	2614.5%	12.9%	3373.1%
Switzerland	88	24.5	2,156	44,896	3056.7%	10.4%	2844.0%
East/Med Europe	23	25.0	563	6,922	2777.8%	2.2%	2102.7%
Middle East	4	25.0	108	1,323	2776.8%	2.0%	1161.2%
South Asia	35	25.0	863	10,614	2777.0%	2.2%	2437.5%
Africa	6	25.0	145	1,784	2817.8%	3.0%	1306.1%
	4,086		94,348	1,530,053	1760.5%	12.5%	12628.5%

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (13/23)

Country/Region	2006	Leisure	ALS	Tourist-Nights	VFR	ALS	Tourist-Nights	Business	ALS	Tourist-Nights	Other	ALS	Tourist-Nights	Total Tourist-Nights
Americas	2,007	978	17.0	16,624	116	16.5	1,914	788	15.5	12,217	125	24.5	3,063	33,818
USA	11,239	6,156	17.0	104,659	610	16.5	10,065	4,022	15.5	62,346	450	24.5	11,025	188,095
East Asia/Pacific	2,648	896	6.5	5,824	166	14.5	2,407	1,491	10.5	15,653	95	20.5	1,948	25,831
Japan	36,806	31,815	7.5	238,613	185	14.5	2,683	4,646	10.5	48,783	160	20.5	3,280	293,358
Korea rep	5,225	1,768	6.5	11,493	250	14.5	3,625	3,037	10.5	31,890	170	20.5	3,485	50,493
China	63,809	52	6.5	338	885	14.5	12,833	61,872	1.5	92,808	1,000	20.5	20,500	126,479
Australia	2,913	1,339	15.0	20,085	130	16.5	2,145	1,329	14.5	19,272	115	24.5	2,818	44,320
Cen/East Europe	3,561	1,138	7.0	7,969	470	16.5	7,755	1,760	14.5	25,523	192	24.5	4,711	45,959
Russian Fed	11,483	9	6.5	60	1,500	16.0	24,000	9,489	13.5	128,104	485	24.0	11,640	163,804
Northern Europe	8,376	5,237	15.0	78,549	400	16.5	6,600	2,552	14.5	37,009	187	24.5	4,582	126,740
UK	7,691	3,409	15.0	51,129	200	16.5	3,300	3,807	14.5	55,200	275	24.5	6,738	116,367
Southern Europe	3,716	2,370	15.0	35,543	155	16.5	2,558	1,136	14.5	16,469	56	24.5	1,372	55,942
Western Europe	5,003	3,148	15.0	47,226	185	16.5	3,053	1,545	14.5	22,401	125	24.5	3,063	75,742
France	5,446	3,984	18.0	71,718	188	16.5	3,102	1,147	16.5	18,929	126	24.5	3,087	96,836
Germany	8,969	4,868	13.0	63,278	590	16.5	9,735	3,061	14.0	42,855	450	24.5	11,025	126,892
Switzerland	3,369	2,016	15.0	30,242	265	16.5	4,373	1,001	14.5	14,509	87	24.5	2,132	51,255
East/Med Europe	442	141	15.5	2,188	67	17.0	1,135	210	15.5	3,253	24	25.0	596	7,173
Middle East	84	27	15.5	418	13	17.0	217	40	15.5	621	5	25.0	114	1,368
South Asia	677	216	15.5	3,354	102	17.0	1,740	322	15.5	4,985	37	25.0	914	10,993
Africa	114	36	15.5	564	17	17.0	293	54	15.5	839	6	25.0	154	1,850
	183,577	69,604		789,874	6,494		103,530	103,310		653,668	4,169		96,244	1,643,315

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (14/23)

Country/Region	2007	Leisure	ALS	Tourist-Nights	VFR	ALS	Tourist-Nights	Business	ALS	Tourist-Nights	Other	ALS	Tourist-Nights	Total Tourist-Nights
Americas	2,759	1,643	17.0	27,925	116	16.5	1,914	876	15.5	13,572	125	24.5	3,063	46,473
USA	11,791	6,483	17.0	110,207	600	16.5	9,900	4,258	15.5	65,997	450	24.5	11,025	197,129
East Asia/Pacific	2,855	1,006	6.5	6,537	165	14.5	2,393	1,593	10.5	16,724	92	20.5	1,886	27,539
Japan	40,364	35,058	7.5	262,934	188	14.5	2,726	4,968	10.5	52,167	150	20.5	3,075	320,902
Korea rep	5,405	1,989	6.5	12,926	220	14.5	3,190	3,026	10.5	31,777	170	20.5	3,485	51,378
China	67,636	55	6.5	359	850	14.5	12,325	65,736	1.5	98,604	995	20.5	20,398	131,686
Australia	3,219	1,400	15.0	20,994	125	16.5	2,063	1,580	14.5	22,911	114	24.5	2,793	48,760
Cen/East Europe	3,739	1,185	7.0	8,297	470	16.5	7,755	1,889	14.5	27,393	195	24.5	4,778	48,223
Russian Fed	11,714	9	6.5	60	1,555	16.0	24,880	9,663	13.5	130,452	487	24.0	11,688	167,080
Northern Europe	8,749	5,464	15.0	81,956	410	16.5	6,765	2,691	14.5	39,014	185	24.5	4,533	132,267
UK	8,158	3,591	15.0	53,860	210	16.5	3,465	4,082	14.5	59,184	276	24.5	6,762	123,271
Southern Europe	3,825	2,494	15.0	37,415	156	16.5	2,574	1,119	14.5	16,230	55	24.5	1,348	57,566
Western Europe	5,220	3,381	15.0	50,717	188	16.5	3,102	1,525	14.5	22,106	126	24.5	3,087	79,012
France	5,688	4,260	18.0	76,674	187	16.5	3,086	1,116	16.5	18,421	125	24.5	3,063	101,243
Germany	9,579	5,269	13.0	68,503	600	16.5	9,900	3,269	14.0	45,772	440	24.5	10,780	134,955
Switzerland	3,538	2,227	15.0	33,411	267	16.5	4,406	958	14.5	13,895	85	24.5	2,083	53,794
East/Med Europe	466	148	15.5	2,288	71	17.0	1,202	222	15.5	3,444	25	25.0	625	7,559
Middle East	89	28	15.5	439	14	17.0	231	43	15.5	662	5	25.0	121	1,453
South Asia	715	227	15.5	3,511	109	17.0	1,845	341	15.5	5,286	39	25.0	969	11,610
Africa	121	38	15.5	594	18	17.0	312	58	15.5	893	7	25.0	164	1,962
	195,630	75,954		859,608	6,518		104,031	109,013		684,502	4,145		95,722	1,743,863

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (15/23)

Country/Region	2008	Leisure	ALS	Tourist-Nights	VFR	ALS	Tourist-Nights	Business	ALS	Tourist-Nights	Other	ALS	Tourist-Nights	Total Tourist-Nights
Americas	2,533	1,415	17.0	24,047	115	16.5	1,898	879	15.5	13,618	125	24.5	3,063	42,626
USA	12,320	6,730	17.0	114,418	610	16.5	10,065	4,560	15.5	70,672	420	24.5	10,290	205,446
East Asia/Pacific	3,072	1,080	6.5	7,022	165	14.5	2,393	1,731	10.5	18,180	95	20.5	1,948	29,542
Japan	43,855	37,806	7.5	283,542	185	14.5	2,683	5,665	10.5	59,480	200	20.5	4,100	349,805
Korea rep	5,628	2,040	6.5	13,260	220	14.5	3,190	3,181	10.5	33,399	187	20.5	3,836	53,685
China	71,694	50	6.5	325	850	14.5	12,325	69,844	1.5	104,766	950	20.5	19,475	136,891
Australia	3,524	1,506	15.0	22,585	150	16.5	2,475	1,749	14.5	25,354	120	24.5	2,940	53,354
Cen/East Europe	3,912	1,218	7.0	8,528	450	16.5	7,425	2,048	14.5	29,702	195	24.5	4,778	50,433
Russian Fed	11,951	9	6.5	60	1,500	16.0	24,000	9,957	13.5	134,414	485	24.0	11,640	170,114
Northern Europe	9,658	6,047	15.0	90,704	420	16.5	6,930	3,006	14.5	43,585	185	24.5	4,533	145,752
UK	8,847	3,828	15.0	57,416	215	16.5	3,548	4,529	14.5	65,676	275	24.5	6,738	133,378
Southern Europe	4,145	2,752	15.0	41,278	160	16.5	2,640	1,168	14.5	16,933	65	24.5	1,593	62,443
Western Europe	5,686	3,629	15.0	54,441	200	16.5	3,300	1,727	14.5	25,037	130	24.5	3,185	85,963
France	6,214	4,611	18.0	82,990	187	16.5	3,086	1,286	16.5	21,219	130	24.5	3,185	110,479
Germany	10,331	5,758	13.0	74,859	600	16.5	9,900	3,523	14.0	49,320	450	24.5	11,025	145,104
Switzerland	3,837	2,390	15.0	35,852	270	16.5	4,455	1,089	14.5	15,788	88	24.5	2,156	58,251
East/Med Europe	490	153	15.5	2,367	75	17.0	1,276	236	15.5	3,656	27	25.0	670	7,968
Middle East	93	29	15.5	450	14	17.0	243	45	15.5	696	5	25.0	128	1,516
South Asia	752	234	15.5	3,630	115	17.0	1,956	362	15.5	5,606	41	25.0	1,028	12,220
Africa	127	40	15.5	614	19	17.0	331	61	15.5	948	7	25.0	174	2,066
	208,669	81,325		918,390	6,521		104,116	116,644		738,049	4,180		96,481	1,857,036

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (16/23)

Country/Region	2009	Leisure	ALS	Tourist-Nights	VFR	ALS	Tourist-Nights	Business	ALS	Tourist-Nights	Other	ALS	Tourist-Nights	Total Tourist-Nights
Americas	3,113	1,927	17.0	32,766	115	16.5	1,898	945	15.5	14,653	125	24.5	3,063	52,378
USA	14,517	7,682	17.0	130,589	612	16.5	10,098	5,798	15.5	89,870	425	24.5	10,413	240,969
East Asia/Pacific	3,354	1,097	6.5	7,130	166	14.5	2,407	1,993	10.5	20,921	99	20.5	2,030	32,488
Japan	48,121	41,462	7.5	310,965	188	14.5	2,726	6,262	10.5	65,746	210	20.5	4,305	383,741
Korea rep	5,968	1,952	6.5	12,687	200	14.5	2,900	3,628	10.5	38,098	188	20.5	3,854	57,538
China	75,994	53	6.5	346	845	14.5	12,253	74,139	1.5	111,209	957	20.5	19,619	143,425
Australia	3,876	1,664	15.0	24,963	150	16.5	2,475	1,937	14.5	28,085	125	24.5	3,063	58,585
Cen/East Europe	4,109	1,268	7.0	8,876	455	16.5	7,508	2,188	14.5	31,725	198	24.5	4,851	52,959
Russian Fed	12,192	9	6.5	60	1,550	16.0	24,800	10,146	13.5	136,973	487	24.0	11,688	173,521
Northern Europe	11,797	7,542	15.0	113,127	415	16.5	6,848	3,655	14.5	53,005	185	24.5	4,533	177,512
UK	10,732	4,749	15.0	71,241	220	16.5	3,630	5,486	14.5	79,552	276	24.5	6,762	161,185
Southern Europe	5,277	3,511	15.0	52,660	170	16.5	2,805	1,531	14.5	22,195	66	24.5	1,617	79,277
Western Europe	7,170	4,572	15.0	68,579	210	16.5	3,465	2,253	14.5	32,673	135	24.5	3,308	108,025
France	7,856	5,880	18.0	105,844	188	16.5	3,102	1,653	16.5	27,272	135	24.5	3,308	139,525
Germany	12,641	6,965	13.0	90,541	610	16.5	10,065	4,610	14.0	64,533	457	24.5	11,197	176,336
Switzerland	4,845	3,084	15.0	46,260	280	16.5	4,620	1,394	14.5	20,207	87	24.5	2,132	73,218
East/Med Europe	518	160	15.5	2,476	80	17.0	1,352	250	15.5	3,874	28	25.0	710	8,411
Middle East	99	31	15.5	475	15	17.0	259	48	15.5	743	5	25.0	136	1,614
South Asia	794	245	15.5	3,796	122	17.0	2,073	383	15.5	5,940	44	25.0	1,089	12,898
Africa	135	42	15.5	645	21	17.0	352	65	15.5	1,009	7	25.0	185	2,192
	233,109	93,894		1,084,025	6,611		105,634	128,364		848,283	4,240		97,858	2,135,800

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (17/23)

Country/Region	2010	Leisure	ALS	Tourist-Nights	VFR	ALS	Tourist-Nights	Business	ALS	Tourist-Nights	Other	ALS	Tourist-Nights	Total Tourist-Nights
Americas	3,072	1,867	17.0	31,737	116	16.5	1,914	964	15.5	14,947	125	24.5	3,063	51,661
USA	14,338	7,492	17.0	127,357	605	16.5	9,983	5,811	15.5	90,071	430	24.5	10,535	237,946
East Asia/Pacific	3,639	1,171	6.0	7,025	165	14.5	2,393	2,203	10.5	23,136	100	20.5	2,050	34,604
Japan	52,310	44,976	7.0	314,830	189	14.5	2,741	6,925	10.5	72,710	220	20.5	4,510	394,791
Korea rep	6,285	2,022	6.0	12,133	201	14.5	2,915	3,875	10.5	40,686	187	20.5	3,834	59,567
China	80,554	48	6.0	289	855	14.5	12,398	78,693	1.5	118,040	958	20.5	19,639	150,365
Australia	4,247	1,823	15.0	27,346	151	16.5	2,492	2,148	14.5	31,141	125	24.5	3,063	64,041
Cen/East Europe	4,302	1,306	7.0	9,140	455	16.5	7,508	2,344	14.5	33,983	198	24.5	4,851	55,481
Russian Fed	12,438	9	6.5	60	1,550	16.0	24,800	10,392	13.5	140,286	487	24.0	11,688	176,834
Northern Europe	11,622	7,354	15.0	110,303	420	16.5	6,930	3,661	14.5	53,092	187	24.5	4,582	174,906
UK	10,620	4,635	15.0	69,532	210	16.5	3,465	5,500	14.5	79,755	274	24.5	6,713	159,464
Southern Europe	5,225	3,338	15.0	50,066	174	16.5	2,871	1,646	14.5	23,862	68	24.5	1,666	78,465
Western Europe	7,045	4,513	15.0	67,700	210	16.5	3,465	2,186	14.5	31,702	135	24.5	3,308	106,175
France	7,710	5,759	18.0	103,671	189	16.5	3,119	1,626	16.5	26,827	136	24.5	3,332	136,948
Germany	12,448	6,880	13.0	89,438	610	16.5	10,065	4,502	14.0	63,021	457	24.5	11,197	173,721
Switzerland	4,779	2,991	15.0	44,864	280	16.5	4,620	1,421	14.5	20,598	87	24.5	2,132	72,214
East/Med Europe	545	165	15.5	2,562	84	17.0	1,433	265	15.5	4,106	30	25.0	753	8,853
Middle East	104	32	15.5	489	16	17.0	274	51	15.5	784	6	25.0	144	1,691
South Asia	835	253	15.5	3,928	129	17.0	2,197	406	15.5	6,295	46	25.0	1,154	13,573
Africa	142	43	15.5	668	22	17.0	374	69	15.5	1,071	8	25.0	196	2,309
	242,260	96,677		1,073,139	6,632		105,952	134,687		876,113	4,264		98,406	2,153,610

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (18/23)

Country/Region	2011	Leisure	ALS	Tourist-Nights	VFR	ALS	Tourist-Nights	Business	ALS	Tourist-Nights	Other	ALS	Tourist-Nights	Total-Tourist-Nights
Americas	3,316	2,051	17.0	34,863	120	16.5	1,980	1,020	15.5	15,814	125	24.5	3,063	55,719
USA	15,043	7,772	17.0	132,126	600	16.5	9,900	6,271	15.5	97,205	400	24.5	9,800	249,031
East Asia/Pacific	3,972	1,264	6.0	7,584	155	14.5	2,248	2,428	10.5	25,498	125	20.5	2,563	37,893
Japan	56,753	48,793	7.0	341,552	180	14.5	2,610	7,580	10.5	79,590	200	20.5	4,100	427,852
Korea rep	6,674	2,124	6.0	12,743	200	14.5	2,900	4,166	10.5	43,739	185	20.5	3,793	63,174
China	85,387	47	6.0	285	850	14.5	12,325	83,532	1.5	125,298	958	20.5	19,639	157,547
Australia	4,672	2,014	15.0	30,203	150	16.5	2,475	2,383	14.5	34,560	125	24.5	3,063	70,301
Cen/East Europe	4,516	1,355	7.0	9,486	450	16.5	7,425	2,512	14.5	36,431	198	24.5	4,851	58,193
Russian Fed	12,688	9	6.5	60	1,550	16.0	24,800	10,641	13.5	143,651	488	24.0	11,712	180,224
Northern Europe	12,394	7,775	15.0	116,628	400	16.5	6,600	4,033	14.5	58,484	185	24.5	4,533	186,245
UK	11,359	4,942	15.0	74,130	200	16.5	3,300	5,942	14.5	86,164	275	24.5	6,738	170,332
Southern Europe	5,440	3,401	15.0	51,009	180	16.5	2,970	1,790	14.5	25,956	69	24.5	1,691	81,625
Western Europe	7,438	4,730	15.0	70,949	210	16.5	3,465	2,362	14.5	34,253	136	24.5	3,332	111,999
France	8,118	5,953	18.0	107,161	159	16.5	2,624	1,870	16.5	30,858	135	24.5	3,308	143,950
Germany	13,194	7,277	13.0	94,600	620	16.5	10,230	4,842	14.0	67,789	455	24.5	11,148	183,766
Switzerland	4,988	3,092	15.0	46,380	280	16.5	4,620	1,529	14.5	22,169	87	24.5	2,132	75,301
East/Med Europe	574	172	15.5	2,671	89	17.0	1,518	281	15.5	4,351	32	25.0	798	9,338
Middle East	110	33	15.5	511	17	17.0	290	54	15.5	832	6	25.0	153	1,786
South Asia	880	264	15.5	4,094	137	17.0	2,328	430	15.5	6,670	49	25.0	1,223	14,315
Africa	150	45	15.5	699	23	17.0	397	73	15.5	1,139	8	25.0	209	2,444
	257,668	103,114		1,137,735	6,571		105,005	143,742		940,452	4,241		97,842	2,281,034

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (19/23)

Country/Region	2012	Leisure	ALS	Tourist-Nights	VFR	ALS	Tourist-Nights	Business	ALS	Tourist-Nights	Other	ALS	Tourist-Nights	Total-Tourist-Nights
Americas	3,567	2,087	17.0	35,483	125	16.5	2,063	1,233	15.5	19,106	122	24.5	2,989	59,641
USA	16,240	8,394	17.0	142,690	610	16.5	10,065	6,826	15.5	105,809	410	24.5	10,045	268,610
East Asia/Pacific	4,360	1,375	6.0	8,247	156	14.5	2,262	2,704	10.5	28,397	125	20.5	2,563	41,468
Japan	61,729	53,010	7.0	371,069	185	14.5	2,683	8,284	10.5	86,986	250	20.5	5,125	465,862
Korea rep	7,139	2,251	6.0	13,504	201	14.5	2,915	4,500	10.5	47,246	188	20.5	3,854	67,518
China	90,506	58	6.0	346	851	14.5	12,340	88,657	1.5	132,986	940	20.5	19,270	164,941
Australia	5,149	2,228	15.0	33,425	152	16.5	2,508	2,647	14.5	38,382	122	24.5	2,989	77,304
Cen/East Europe	4,746	1,410	7.0	9,872	451	16.5	7,442	2,685	14.5	38,938	199	24.5	4,876	61,127
Russian Fed	12,944	9	6.5	61	1,555	16.0	24,880	10,881	13.5	146,893	499	24.0	11,976	183,810
Northern Europe	13,712	8,534	15.0	128,013	410	16.5	6,765	4,580	14.5	66,404	188	24.5	4,606	205,788
UK	12,409	5,251	15.0	78,768	214	16.5	3,531	6,670	14.5	96,715	274	24.5	6,713	185,727
Southern Europe	5,929	3,696	15.0	55,446	179	16.5	2,954	1,984	14.5	28,765	70	24.5	1,715	88,879
Western Europe	8,182	5,089	15.0	76,340	210	16.5	3,465	2,750	14.5	39,874	133	24.5	3,259	122,938
France	8,991	6,567	18.0	118,206	159	16.5	2,624	2,140	16.5	35,305	125	24.5	3,063	159,196
Germany	14,373	8,201	13.0	106,608	620	16.5	10,230	5,096	14.0	71,341	457	24.5	11,197	199,375
Switzerland	5,333	3,223	15.0	48,350	280	16.5	4,620	1,742	14.5	25,259	88	24.5	2,156	80,385
East/Med Europe	606	180	15.5	2,791	89	17.0	1,513	303	15.5	4,703	34	25.0	845	9,853
Middle East	116	34	15.5	533	18	17.0	306	57	15.5	880	6	25.0	161	1,880
South Asia	929	276	15.5	4,282	135	17.0	2,295	466	15.5	7,227	52	25.0	1,296	15,101
Africa	159	47	15.5	731	25	17.0	421	78	15.5	1,207	9	25.0	221	2,581
	277,120	111,921		1,234,764	6,625		105,879	154,283		1,022,423	4,291		98,917	2,461,982

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (20/23)

Country/Region	2013	Leisure	ALS	Tourist-Nights	VFR	ALS	Tourist-Nights	Business	ALS	Tourist-Nights	Other	ALS	Tourist-Nights	Total-Tourist-Nights
Americas	3,983	2,297	17.0	39,042	123	16.5	2,030	1,438	15.5	22,296	125	24.5	3,063	66,430
USA	17,333	9,173	17.0	155,944	605	16.5	9,983	7,154	15.5	110,893	400	24.5	9,800	286,619
East Asia/Pacific	4,792	1,481	6.0	8,888	158	14.5	2,291	3,027	10.5	31,786	125	20.5	2,563	45,528
Japan	66,320	56,766	7.0	397,362	188	14.5	2,726	9,111	10.5	95,663	255	20.5	5,228	500,979
Korea rep	7,659	2,368	6.0	14,208	200	14.5	2,900	4,904	10.5	51,489	187	20.5	3,834	72,431
China	95,934	60	6.0	357	852	14.5	12,354	94,086	1.5	141,129	936	20.5	19,188	173,028
Australia	5,646	2,429	15.0	36,437	152	16.5	2,508	2,942	14.5	42,663	123	24.5	3,014	84,622
Cen/East Europe	4,968	1,447	7.0	10,131	455	16.5	7,508	2,866	14.5	41,553	200	24.5	4,900	64,091
Russian Fed	13,206	9	6.5	60	1,525	16.0	24,400	11,172	13.5	150,818	500	24.0	12,000	187,278
Northern Europe	15,050	9,265	15.0	138,968	400	16.5	6,600	5,196	14.5	75,345	189	24.5	4,631	225,543
UK	13,560	5,633	15.0	84,501	205	16.5	3,383	7,447	14.5	107,978	275	24.5	6,738	202,598
Southern Europe	6,377	3,867	15.0	57,999	180	16.5	2,970	2,253	14.5	32,662	78	24.5	1,911	95,542
Western Europe	9,007	5,533	15.0	82,991	212	16.5	3,498	3,127	14.5	45,344	135	24.5	3,308	135,141
France	9,864	7,131	18.0	128,356	156	16.5	2,574	2,442	16.5	40,300	135	24.5	3,308	174,537
Germany	15,650	8,852	13.0	115,082	623	16.5	10,280	5,717	14.0	80,031	458	24.5	11,221	216,614
Switzerland	5,825	3,487	15.0	52,305	281	16.5	4,637	1,969	14.5	28,549	88	24.5	2,156	87,647
East/Med Europe	637	186	15.5	2,878	88	17.0	1,496	315	15.5	4,890	48	25.0	1,200	10,464
Middle East	122	35	15.5	550	19	17.0	323	60	15.5	934	7	25.0	171	1,979
South Asia	977	285	15.5	4,412	136	17.0	2,312	484	15.5	7,495	73	25.0	1,824	16,043
Africa	167	49	15.5	755	26	17.0	442	83	15.5	1,282	9	25.0	235	2,714
	297,075	120,352		1,331,224	6,584		105,212	165,793		1,113,101	4,346		100,289	2,649,826

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (21/23)

Country/Region	2014	Leisure	ALS	Tourist-Nights	VFR	ALS	Tourist-Nights	Business	ALS	Tourist-Nights	Other	ALS	Tourist-Nights	Total-Tourist-Nights
Americas	4,518	2,588	17.0	43,997	125	16.5	2,063	1,679	15.5	26,018	126	24.5	3,087	75,164
USA	18,923	9,784	17.0	166,335	600	16.5	9,900	8,129	15.5	125,999	410	24.5	10,045	312,279
East Asia/Pacific	5,334	1,641	6.0	9,847	160	14.5	2,320	3,407	10.5	35,774	126	20.5	2,583	50,524
Japan	72,548	62,080	7.0	434,557	187	14.5	2,712	10,031	10.5	105,327	250	20.5	5,125	547,720
Korea rep	8,337	2,565	6.0	15,390	205	14.5	2,973	5,379	10.5	56,481	188	20.5	3,854	78,697
China	101,679	61	6.0	367	855	14.5	12,398	99,829	1.5	149,744	934	20.5	19,147	181,655
Australia	6,252	2,702	15.0	40,523	153	16.5	2,525	3,273	14.5	47,454	125	24.5	3,063	93,564
Cen/East Europe	5,235	1,517	7.0	10,622	456	16.5	7,524	3,061	14.5	44,391	200	24.5	4,900	67,437
Russian Fed	13,473	9	6.5	61	1,526	16.0	24,416	11,436	13.5	154,387	502	24.0	12,048	190,912
Northern Europe	16,819	10,130	15.0	151,946	410	16.5	6,765	6,092	14.5	88,332	187	24.5	4,582	251,625
UK	14,965	6,177	15.0	92,650	200	16.5	3,300	8,315	14.5	120,564	274	24.5	6,713	223,227
Southern Europe	7,266	4,435	15.0	66,528	187	16.5	3,086	2,556	14.5	37,058	88	24.5	2,156	108,828
Western Europe	10,090	6,077	15.0	91,160	222	16.5	3,663	3,655	14.5	52,993	136	24.5	3,332	151,148
France	11,021	7,851	18.0	141,312	155	16.5	2,558	2,883	16.5	47,565	133	24.5	3,259	194,693
Germany	17,357	9,564	13.0	124,328	625	16.5	10,313	6,713	14.0	93,979	455	24.5	11,148	239,768
Switzerland	6,447	3,853	15.0	57,795	282	16.5	4,653	2,223	14.5	32,230	89	24.5	2,181	96,859
East/Med Europe	674	195	15.5	3,029	85	17.0	1,445	334	15.5	5,183	59	25.0	1,475	11,132
Middle East	129	37	15.5	578	20	17.0	345	64	15.5	989	7	25.0	181	2,093
South Asia	1,033	300	15.5	4,643	136	17.0	2,312	513	15.5	7,945	85	25.0	2,131	17,032
Africa	177	51	15.5	797	28	17.0	476	88	15.5	1,364	10	25.0	250	2,887
	322,278	131,618		1,456,466	6,617		105,743	179,658		1,233,776	4,385		101,258	2,897,243

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (22/23)

Country/Region	2015	Leisure	ALS	Tourist-Nights	VFR	ALS	Tourist-Nights	Business	ALS	Tourist-Nights	Other	ALS	Tourist-Nights	Total-Tourist-Nights
Americas	5,072	2,959	17.0	50,311	126	16.5	2,079	1,858	15.5	28,802	128	24.5	3,136	84,328
USA	20,369	10,753	17.0	182,799	610	16.5	10,065	8,601	15.5	133,316	405	24.5	9,923	336,103
East Asia/Pacific	5,963	1,811	6.0	10,863	165	14.5	2,393	3,860	10.5	40,525	128	20.5	2,624	56,405
Japan	78,572	67,095	7.0	469,667	188	14.5	2,726	11,034	10.5	115,854	255	20.5	5,228	593,474
Korea rep	9,120	2,769	6.0	16,615	206	14.5	2,987	5,956	10.5	62,534	189	20.5	3,875	86,010
China	107,798	44	6.0	266	857	14.5	12,427	105,939	1.5	158,909	958	20.5	19,639	191,240
Australia	6,896	2,968	15.0	44,517	156	16.5	2,574	3,643	14.5	52,826	129	24.5	3,161	103,078
Cen/East Europe	5,499	1,573	7.0	11,010	459	16.5	7,574	3,266	14.5	47,350	202	24.5	4,949	70,882
Russian Fed	13,747	9	6.5	61	1,560	16.0	24,960	11,669	13.5	157,532	509	24.0	12,216	194,769
Northern Europe	18,636	11,071	15.0	166,063	400	16.5	6,600	6,977	14.5	101,172	188	24.5	4,606	278,441
UK	16,556	6,480	15.0	97,195	213	16.5	3,515	9,585	14.5	138,979	279	24.5	6,836	246,524
Southern Europe	8,047	4,862	15.0	72,927	188	16.5	3,102	2,897	14.5	42,011	100	24.5	2,450	120,490
Western Europe	11,199	6,698	15.0	100,475	225	16.5	3,713	4,140	14.5	60,032	136	24.5	3,332	167,552
France	12,151	8,692	18.0	156,455	158	16.5	2,607	3,165	16.5	52,221	136	24.5	3,332	214,615
Germany	18,947	10,667	13.0	138,675	628	16.5	10,362	7,194	14.0	100,715	458	24.5	11,221	260,973
Switzerland	7,091	4,210	15.0	63,157	285	16.5	4,703	2,507	14.5	36,348	89	24.5	2,181	106,388
East/Med Europe	711	203	15.5	3,152	88	17.0	1,496	355	15.5	5,497	65	25.0	1,625	11,770
Middle East	136	39	15.5	602	22	17.0	367	68	15.5	1,050	8	25.0	193	2,212
South Asia	1,090	312	15.5	4,830	173	17.0	2,939	543	15.5	8,423	62	25.0	1,544	17,736
Africa	187	53	15.5	829	30	17.0	505	93	15.5	1,446	11	25.0	265	3,045
	347,789	143,269		1,590,469	6,736		107,690	193,349		1,345,542	4,434		102,332	3,146,034

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (23/23)

Country/Region	Proportion of Total	Proportion of Leisure	Proportion of Business	AAG of Total (2011-2015)	AAG of Leisure (2011-2015)	AAG of Business (2011-2015)	AAG of Total (2006-2015)	AAG of Leisure (2006-2015)	AAG of Business (2006-2015)	AAG of Total (1997-2015)	AAG of Leisure (1997-2015)	AAG of Business (1997-2015)
Americas	2.7%	3.2%	2.1%	10.9%	9.6%	16.2%	10.7%	13.1%	10.0%	11.5%	13.5%	11.9%
USA	10.7%	11.5%	9.9%	7.8%	8.5%	8.2%	6.7%	6.4%	8.8%	8.8%	10.2%	10.1%
East Asia/Pacific	1.8%	0.7%	3.0%	10.5%	9.4%	12.3%	9.1%	7.2%	11.1%	7.2%	5.0%	8.8%
Japan	18.9%	29.5%	8.6%	8.5%	8.3%	9.8%	8.1%	7.8%	10.1%	10.8%	10.5%	13.6%
Korea rep	2.7%	1.0%	4.6%	8.0%	6.9%	9.3%	6.1%	4.2%	7.8%	5.6%	3.5%	7.3%
China	6.1%	0.0%	11.8%	5.0%	-1.7%	6.1%	4.7%	-2.6%	6.2%	5.7%	-2.9%	7.0%
Australia	3.3%	2.8%	3.9%	10.0%	10.2%	11.2%	9.8%	9.2%	11.9%	11.1%	12.2%	12.4%
Cen/East Europe	2.3%	0.7%	3.5%	5.1%	3.8%	6.8%	4.9%	3.7%	7.1%	4.6%	2.9%	6.1%
Russian Fed	6.2%	0.0%	11.7%	2.0%	0.3%	2.3%	1.9%	0.2%	2.3%	2.5%	0.4%	2.9%
Northern Europe	8.9%	10.4%	7.5%	10.6%	9.2%	14.7%	9.1%	8.7%	11.8%	11.0%	11.6%	12.3%
UK	7.8%	6.1%	10.3%	9.7%	7.0%	12.7%	8.7%	7.4%	10.8%	10.8%	12.3%	11.9%
Southern Europe	3.8%	4.6%	3.1%	10.2%	9.3%	12.8%	8.9%	8.3%	11.0%	11.3%	12.1%	12.4%
Western Europe	5.3%	6.3%	4.5%	10.6%	9.1%	15.1%	9.2%	8.8%	11.6%	11.3%	12.0%	12.6%
France	6.8%	9.8%	3.9%	10.5%	9.9%	14.1%	9.2%	9.1%	11.9%	11.1%	11.3%	12.2%
Germany	8.3%	8.7%	7.5%	9.2%	10.0%	10.4%	8.3%	9.1%	10.0%	9.7%	11.6%	11.0%
Switzerland	3.4%	4.0%	2.7%	9.0%	8.0%	13.2%	8.5%	8.5%	10.7%	10.8%	11.4%	11.8%
East/Med Europe	0.4%	0.2%	0.4%	6.0%	4.2%	6.0%	5.7%	4.1%	6.0%	4.5%	2.9%	5.1%
Middle East	0.1%	0.0%	0.1%	5.5%	4.2%	6.0%	5.5%	4.2%	6.0%	4.4%	2.9%	5.1%
South Asia	0.6%	0.3%	0.6%	5.5%	4.2%	6.0%	5.5%	4.1%	6.0%	4.4%	2.9%	5.1%
Africa	0.1%	0.1%	0.1%	5.6%	4.4%	6.1%	5.7%	4.4%	6.2%	4.8%	3.3%	5.5%
	100.0%	100.0%	100.0%	8.4%	8.7%	9.4%	7.5%	8.1%	8.4%	8.6%	10.7%	8.6%

Source: JICA Study Team

Table A12.1.4 Projection of Tourist-Nights to 2015 ("Without project/program" case) (23/23)

Country/Region	Proportion of Total	Proportion of Leisure	Proportion of Business	AAG of Total (2011-2015)	AAG of Leisure (2011-2015)	AAG of Business (2011-2015)	AAG of Total (2006-2015)	AAG of Leisure (2006-2015)	AAG of Business (2006-2015)	AAG of Total (1997-2015)	AAG of Leisure (1997-2015)	AAG of Business (1997-2015)
Americas	2.7%	3.2%	2.1%	10.9%	9.6%	16.2%	10.7%	13.1%	10.0%	11.5%	13.5%	11.9%
USA	10.7%	11.5%	9.9%	7.8%	8.5%	8.2%	6.7%	6.4%	8.8%	8.8%	10.2%	10.1%
East Asia/Pacific	1.8%	0.7%	3.0%	10.5%	9.4%	12.3%	9.1%	7.2%	11.1%	7.2%	5.0%	8.8%
Japan	18.9%	29.5%	8.6%	8.5%	8.3%	9.8%	8.1%	7.8%	10.1%	10.8%	10.5%	13.6%
Korea rep	2.7%	1.0%	4.6%	8.0%	6.9%	9.3%	6.1%	4.2%	7.8%	5.6%	3.5%	7.3%
China	6.1%	0.0%	11.8%	5.0%	-1.7%	6.1%	4.7%	-2.6%	6.2%	5.7%	-2.9%	7.0%
Australia	3.3%	2.8%	3.9%	10.0%	10.2%	11.2%	9.8%	9.2%	11.9%	11.1%	12.2%	12.4%
Cen/East Europe	2.3%	0.7%	3.5%	5.1%	3.8%	6.8%	4.9%	3.7%	7.1%	4.6%	2.9%	6.1%
Russian Fed	6.2%	0.0%	11.7%	2.0%	0.3%	2.3%	1.9%	0.2%	2.3%	2.5%	0.4%	2.9%
Northern Europe	8.9%	10.4%	7.5%	10.6%	9.2%	14.7%	9.1%	8.7%	11.8%	11.0%	11.6%	12.3%
UK	7.8%	6.1%	10.3%	9.7%	7.0%	12.7%	8.7%	7.4%	10.8%	10.8%	12.3%	11.9%
Southern Europe	3.8%	4.6%	3.1%	10.2%	9.3%	12.8%	8.9%	8.3%	11.0%	11.3%	12.1%	12.4%
Western Europe	5.3%	6.3%	4.5%	10.6%	9.1%	15.1%	9.2%	8.8%	11.6%	11.3%	12.0%	12.6%
France	6.8%	9.8%	3.9%	10.5%	9.9%	14.1%	9.2%	9.1%	11.9%	11.1%	11.3%	12.2%
Germany	8.3%	8.7%	7.5%	9.2%	10.0%	10.4%	8.3%	9.1%	10.0%	9.7%	11.6%	11.0%
Switzerland	3.4%	4.0%	2.7%	9.0%	8.0%	13.2%	8.5%	8.5%	10.7%	10.8%	11.4%	11.8%
East/Med Europe	0.4%	0.2%	0.4%	6.0%	4.2%	6.0%	5.7%	4.1%	6.0%	4.5%	2.9%	5.1%
Middle East	0.1%	0.0%	0.1%	5.5%	4.2%	6.0%	5.5%	4.2%	6.0%	4.4%	2.9%	5.1%
South Asia	0.6%	0.3%	0.6%	5.5%	4.2%	6.0%	5.5%	4.1%	6.0%	4.4%	2.9%	5.1%
Africa	0.1%	0.1%	0.1%	5.6%	4.4%	6.1%	5.7%	4.4%	6.2%	4.8%	3.3%	5.5%
	100.0%	100.0%	100.0%	8.4%	8.7%	9.4%	7.5%	8.1%	8.4%	8.6%	10.7%	8.6%

Source: JICA Study Team

A14.1 Evaluation of Master Plan

A14.1.1 Future Economy in Mongolia and the Tourism Section

1) Impact of Promotion on Tourist Arrivals

One may wonder to what extent would the effort in tourism promotion affect the actual amount of total tourist receipt and arrivals in Mongolia. How much will the number of tourist arrivals increase compared with the case of doing nothing? In reality it is extremely difficult to answer such a question as tourist arrivals is highly depended on a host of factors, of which many are nothing to do with tourism itself such as regional security. Nevertheless it is important to know the rough range of such difference. The Study Team has attempt to carry out an analysis of NTA/NTO promotional budgets and tourist arrivals using data published by WTO titled "Budgets of National Tourism Administrations, WTO, 1996". The promotional budget of a NTA/NTO was taken to represent the level of effort in promotion in that particular country. Available data are not uniform across all countries. The subject of this analysis therefore was limited to those countries with tourism administration budget and tourist arrivals data available for both 1991 and 1995. The total number of subject countries was 98, spreading in all regions of the world.

Each of the subject country was classified into either mature market or immature market based on the Study Tea's market assessment. The designations are shown in Table A14.1.1, which presents data for each of the 98 countries. As expected, high spending countries are found primarily among mature markets, and countries with immature market spend less. It is interesting that among mature markets higher spending per tourists tends to accompany a lower growth rate, suggesting diminishing return on investment.

All countries described in Table A14.1.1 seem to indicate no relationship between the promotional budget and the tourist arrivals. However, a closer inspection of the relationship classified by world regions reveals some basic tendencies as well as regional difference.

Countries in Oceania spend a lot on promotion, indicating the importance of tourism in their respective countries. Barring New Caledonia, where political strife suppresses tourism, the general tendency is more promotion, more tourists. Except for Kiribati, all countries are in the mature market category and the difference between active promotion and not so active promotion resulted in the difference in tourist growth rate of about 3 percent. Countries in Central Europe spend next to nothing in tourism promotion and nothing can be said. African countries tend to have registered low growth and show no pattern, indicating various difficulties these countries are facing. Countries of Americas show a positive co-relationship between promotion budget and growth rate although the rates themselves are not high. The difference in growth rate between active and non-active countries is in the range of 6 percent. The most clear tendency of positive co-relationship between the promotion budget and the growth rate is found among southern European and Mediterranean countries. Here the difference between active and non-active countries is almost 10 percent.

Table A14.1.1 Tourist Arrivals and Promotion Budget (1/3)

Region and Country	Tourist Arrivals (000)		Promotion Budget (US$ 000)		Per Tourist (US$ 000)			*1	*2	*3
	1991	1995	1991	1995	1991	1995	AVG	%	%	
East Asia										
China	12,464	23,368	3,148	5,049	0.25	0.22	0.23	17.01%	12.54%	Mature
Hong Kong	6,795	10,368	16,653	28,637	2.45	2.76	2.61	11.14%	14.51%	Mature
Korea, Republic of	3,196	3,753	17,631	30,308	5.52	8.08	6.80	4.10%	14.50%	Mature
Macau	3,047	4,623	1,663	5,083	0.55	1.10	0.82	10.98%	32.22%	Mature
Taiwan	1,855	2,332	3,654	3,600	1.97	1.54	1.76	5.89%	-0.37%	Mature
Total	27,357	44,444	42,749	72,677	1.56	1.64	1.60	12.90%	14.19%	Mature
Mongolia	7	19	2	3	0.31	0.14	0.22	30.06%	6.78%	Immature
Southeast Asia										
Indonesia	2,570	4,319	2,636	4,161	1.03	0.96	0.99	13.86%	12.09%	Mature
Malaysia	5,847	6,016	22,242	23,939	3.80	3.98	3.89	0.71%	1.86%	Mature
Philippines	849	1,702	2,122	7,080	2.50	4.16	3.33	18.99%	35.15%	Immature
Singapore	4,913	6,422	37,293	53,595	7.59	8.35	7.97	6.93%	9.49%	Mature
Thailand	5,087	6,900	16,431	51,198	3.23	7.42	5.32	7.92%	32.86%	Mature
Total	19,266	25,359	80,724	139,973	4.19	5.52	4.85	7.11%	14.75%	Mature
South Asia										
Bangladesh	113	150	81	74	0.72	0.49	0.61	7.34%	-2.23%	Immature
India	1,678	2,122	12,947	18,648	7.72	8.79	8.25	6.04%	9.55%	Mature
Maldives	196	324	413	586	2.11	1.81	1.96	13.39%	9.14%	Mature
Nepal	334	346	160	1,112	0.48	3.21	1.85	0.89%	62.37%	Mature
Sri Lanka	318	451	990	1,235	3.11	2.74	2.93	9.13%	5.68%	Immature
Total	2,639	3,393	14,591	21,655	5.53	6.38	5.96	6.48%	10.37%	Immature
Oceania										
Australia	2,370	3,771	63,382	87,949	26.74	23.32	25.03	12.31%	8.53%	Mature
Fiji	259	336	1,650	2,450	6.37	7.29	6.83	6.72%	10.39%	Mature
French Polynesia	121	172	3,717	6,629	30.72	38.54	34.63	9.19%	15.56%	Mature
Kiribati	8	4	7	48	0.88	12.00	6.44	-15.91%	61.82%	Immature
New Caledonia	81	86	2,807	3,535	34.65	41.10	37.88	1.51%	5.93%	Mature
New Zealand	1,056	1,409	19,337	31,597	18.31	22.43	20.37	7.48%	13.06%	Mature
N.Mariana Isl.	422	587	1,106	3,295	2.62	5.61	4.12	8.60%	31.38%	Mature
Tonga	22	29	1,777	2,252	80.77	77.66	79.21	7.15%	6.10%	Mature
Total	4,339	6,394	93,783	137,755	21.61	21.54	21.58	10.18%	10.09%	Mature
Carribbean										
Aruba	501	597	11575	12876	23.10	21.57	22.34	4.48%	2.70%	Mature
Bermuda	386	418	16966	16565	43.95	39.63	41.79	2.01%	-0.60%	Mature
Bonaire	55	58	1059	796	19.25	13.72	16.49	1.34%	-6.89%	Mature
British Virgin Isl.	147	240	2050	3907	13.95	16.28	15.11	13.04%	17.50%	Mature
Curacao	217	241	5164	5671	23.80	23.53	23.66	2.66%	2.37%	Mature
Grenada	94	111	1113	1039	11.84	9.36	10.60	4.24%	-1.71%	Mature
Jamaica	171	136	1180	1385	6.90	10.18	8.54	-5.56%	4.09%	Mature
Montserrat	21	22	99	251	4.71	11.41	8.06	1.17%	26.19%	Mature
Puerto Rico	2613	3297	15210	30807	5.82	9.34	7.58	5.99%	19.30%	Mature
Total	4205	5120	54416	73297	12.94	14.32	13.63	5.05%	7.73%	Mature
Central America										
Belize	117	131	277	628	2.37	4.79	3.58	2.87%	22.71%	Immature
Costa Rica	505	825	2714	6450	5.37	7.82	6.60	13.06%	24.16%	Immature
El Salvador	199	179	293	502	1.48	2.80	2.14	-2.61%	14.31%	Immature
Guatemala	513	540	2247	1367	4.38	2.53	3.46	1.29%	-11.68%	Immature
Nicaragua	238	245	77	31	0.32	0.13	0.23	0.73%	-20.34%	Immature
Total	1572	1920	5609	8978	3.57	4.68	4.12	5.13%	12.48%	Immature
North America										
Canada	14,912	16,854	24,500	31,504	1.64	1.87	1.76	3.11%	6.49%	Mature
Mexico	16,281	19,870	58,512	22,574	3.59	1.14	2.36	5.11%	-21.19%	Mature
USA	20,432	24,675	12,000	15,000	0.59	0.61	0.60	4.83%	5.74%	Mature
Total	51,625	61,399	95,012	69,078	1.84	1.13	1.48	4.43%	-7.66%	Mature

Source: WTO

Table A14.1.1 Tourist Arrivals and Promotion Budget (2/3)

Region and Country	Tourist Arrivals (000)		Promotion Budget (US$ 000)		Per Tourist (US$ 000)			*1	*2	*3
	1991	1995	1991	1995	1991	1995	AVG	%	%	
Middle East										
Egypt	2,112	2,872	586	21,000	0.28	7.31	3.79	7.99%	144.67%	Mature
Iraq	268	330	1,000	600	3.73	1.82	2.77	5.34%	-11.99%	Immature
Lebanon	198	402	770	3,333	3.89	8.29	6.09	19.37%	44.24%	Immature
Oman	161	350	375	750	2.33	2.14	2.24	21.43%	18.92%	Immature
Qatar	141	250	329	526	2.33	2.10	2.22	15.39%	12.45%	Immature
Yemen	72	60	36	100	0.50	1.67	1.08	-4.46%	29.10%	Immature
Total	2,952	4,264	3,096	26,309	1.05	6.17	3.61	9.63%	70.74%	Immature
Central Europe										
Czech Rep	11,500	16,600	898	2,398	0.08	0.14	0.11	9.61%	27.83%	Immature
Hungary	21,860	22,087	3,100	6,612	0.14	0.30	0.22	0.26%	20.85%	Mature
Poland	11,350	19,225	2,670	6,709	0.24	0.35	0.29	14.08%	25.90%	Mature
Romania	3,000	2,750	852	2,291	0.28	0.83	0.56	-2.15%	28.05%	Immature
Slovakia	635	1,125	381	547	0.60	0.49	0.54	15.37%	9.46%	Immature
Total	48,345	61,787	7,901	18,557	0.16	0.30	0.23	6.33%	23.80%	Immature
Northern Europe										
Finland	786	835	14,666	17,777	18.66	21.29	19.97	1.52%	4.93%	Mature
Iceland	143	182	965	1,877	6.75	10.31	8.53	6.21%	18.10%	Immature
Ireland	3,571	4,398	37,254	37,811	10.43	8.60	9.51	5.35%	0.37%	Mature
United Kingdom	17,125	22,700	69,469	78,710	4.06	3.47	3.76	7.30%	3.17%	Mature
Total	21,625	28,115	122,354	136,175	5.66	4.84	5.25	6.78%	2.71%	Mature
Sothern Europe										
Albania	45	29	25	54	0.56	1.86	1.21	-10.40%	21.23%	Immature
Croatia	1,521	2,418	4,735	14,498	3.11	6.00	4.55	12.29%	32.28%	Immature
Greece	8,036	9,331	30,215	13,496	3.76	1.45	2.60	3.81%	-18.25%	Mature
Italy	25,878	29,184	16,121	14,198	0.62	0.49	0.55	3.05%	-3.13%	Mature
Portugal	8,657	9,513	25,698	37,271	2.97	3.92	3.44	2.39%	9.74%	Mature
San Marino	582	550	40	107	0.07	0.19	0.13	-1.40%	27.89%	Mature
Spain	38,539	45,125	81,990	78,647	2.13	1.74	1.94	4.02%	-1.04%	Mature
Total	83,258	96,150	158,824	158,271	1.91	1.65	1.78	3.66%	-0.09%	Mature
Western Europe										
Austria	19,092	17,750	35,035	47,254	1.84	2.66	2.25	-1.81%	7.77%	Mature
Belgium	4,928	5,224	3,647	4,425	0.74	0.85	0.79	1.47%	4.95%	Mature
France	55,041	60,584	68,726	72,928	1.25	1.20	1.23	2.43%	1.49%	Mature
Germany	15,648	14,535	17,658	20,151	1.13	1.39	1.26	-1.83%	3.36%	Mature
Liechtenstein	71	63	118	229	1.66	3.63	2.65	-2.94%	18.03%	Mature
Luxembourg	861	770	1,611	2,367	1.87	3.07	2.47	-2.75%	10.10%	Mature
Netherlands	5,842	6,304	38,600	49,700	6.61	7.88	7.25	1.92%	6.52%	Mature
Switzerland	12,600	11,835	30,849	32,233	2.45	2.72	2.59	-1.55%	1.10%	Mature
Total	114,083	117,065	196,244	229,287	1.72	1.96	1.84	0.65%	3.97%	Mature
East Medit. Europe										
Cyprus	1,385	2,150	12,086	20,790	8.73	9.67	9.20	11.62%	14.52%	Immature
Turkey	5,158	6,512	13,733	20,520	2.66	3.15	2.91	6.00%	10.56%	Mature
Total	6,543	8,662	25,819	41,310	3.95	4.77	4.36	7.27%	12.47%	Mature
South America										
Brazil	1,475	1,695	4,816	1,790	3.27	1.06	2.16	3.54%	-21.92%	Mature
Chile	1,349	1,750	923	2,737	0.68	1.56	1.12	6.72%	31.23%	Immature
Colombia	857	1,310	2,248	911	2.62	0.70	1.66	11.19%	-20.21%	Immature
Ecuador	365	485	796	400	2.18	0.82	1.50	7.36%	-15.80%	Immature
Paraguay	361	407	187	151	0.52	0.37	0.44	3.04%	-5.21%	Mature
Peru	232	386	2,275	793	9.81	2.05	5.93	13.57%	-23.16%	Immature
Total	4,639	6,033	11,245	6,782	2.42	1.12	1.77	6.79%	-11.87%	Immature

Source: WTO

Table A14.1.1 Tourist Arrivals and Promotion Budget (3/3)

Region and Country	Tourist Arrivals (000)		Promotion Budget (US$ 000)		Per Tourist (US$ 000)			*1	*2	*3
	1991	1995	1991	1995	1991	1995	AVG	%	%	
East Africa										
Brundi	125	18	26	69	0.21	3.83	2.02	-38.40%	27.63%	Immature
Comoros	17	18	57	94	3.35	5.22	4.29	1.44%	13.32%	Immature
Ethiopia	82	99	261	2,777	3.18	28.05	15.62	4.82%	80.61%	Immature
Mauritius	301	409	2,600	4,390	8.64	10.73	9.69	7.97%	13.99%	Mature
Seychelles	90	117	2,179	2,013	24.21	17.21	20.71	6.78%	-1.96%	Mature
Zambia	171	136	1,180	1,385	6.90	10.18	8.54	-5.56%	4.09%	Immature
Total	786	797	6,303	10,728	8.02	13.46	10.74	0.35%	14.22%	Mature
North Africa										
Algeria	1,193	520	688	1,680	0.58	3.23	1.90	-18.75%	25.01%	Immature
Morocco	4,162	2,579	19,942	24,541	4.79	9.52	7.15	-11.28%	5.32%	Mature
Tunisia	3,224	4,120	12,791	16,423	3.97	3.99	3.98	6.32%	6.45%	Mature
Total	8,579	7,219	33,421	42,644	3.90	5.91	4.90	-4.22%	6.28%	Mature
Lesto	182	101	73	364	0.40	3.60	2.00	-13.69%	49.43%	Immature
South Africa	1,710	4,676	15,964	23,809	9.34	5.09	7.21	28.59%	10.51%	Mature
Total	1,892	4,777	16,037	24,173	8.48	5.06	6.77	26.05%	10.80%	Mature
West Africa										
Benin	117	143	160	120	1.37	0.84	1.10	5.14%	-6.94%	Immature
Cameroon	84	85	108	931	1.29	10.95	6.12	0.30%	71.35%	Immature
Cote d'Ivoire	200	164	433	940	2.17	5.73	3.95	-4.84%	21.38%	Immature
Gambia	66	79	252	335	3.82	4.24	4.03	4.60%	7.38%	Immature
Mali	38	28	11	31	0.29	1.11	0.70	-7.35%	29.57%	Immature
Niger	16	11	326	171	20.38	15.55	17.96	-8.94%	-14.90%	Immature
Nigeria	214	185	67	205	0.31	1.11	0.71	-3.58%	32.26%	Immature
Sierra Leone	89	74	98	152	1.10	2.05	1.58	-4.51%	11.60%	Immature
Total	824	769	1,455	2,885	1.77	3.75	2.76	-1.71%	18.66%	Immature

Source: WTO

2) Expenditure of Each Market

Average daily expenditure by leisure tourists was calculated based on the interview survey results conduct by JICA Study Team and TACIS.

In calculating the average daily expenditure, international airfare component for those leisure tourists travelling on package tour arrangements has been deducted from the package price stated by the respondents. Further, profit margins to overseas tour operators and travels agent have likewise been deducted from the stated package price.

Hence, the average daily visitor expenditure calculated in this report, can be considered as direct foreign exchange earnings to Mongolia from the surveyed tourists.

Table A14.1.2 Average Daily Expenditure by Leisure Tourists of Each Market

(Unit: US$)

Country / Region	Average Daily Expenditure
Americas	173
USA	173
East Asia / Pacific	137
Japan	180
Korea Rep	137
China	50
Australia	111
Cent/ East Europe	113
Russian Fed	69
Northern Europe	111
UK	103
Southern Europe	111
Western Europe	111
France	111
Germany	109
Switzerland	111
East / Med Europe	120
Middle East	120
South Asia	137
Africa	120

A18.3 Examples of Safety Standards

A18.3.1 Horse Back Riding in Japan

Main Qualifications for Instructor's License

Beginner-level

- Three-year experience
- Lecture attendance (2 or 3 days)
- Paper examination (e.g. safety, horse, etc.)
- Practical examination

Medium and Advanced Level

- Additional two or three-years experience after acquisition of the beginner-level license

Protection Tools

- A helmet is mandatory at the majority of horseback riding clubs.
- A protection vest and long leather boots are recommended at many horseback riding clubs.

Other Recommendations

- There should be an instructor or experienced rider both at the head and the rear of the group.
- Those participating who have had injury or serious illness should have a doctor's approval prior to riding.

Hot Air Ballooning in Japan

Main Qualifications for Pilot's License

- Medical examination (e.g. eyesight, hearing, etc.)
- Membership as a student pilot of the Japan Balloon Federation
- Experience as a student pilot (e.g. more than 10 flights and 10 times including inflation and deflation of a balloon, etc.)
- Experience of solo-flight
- Paper examination (score greater then 70%)

Protection Tools

- A helmet and gloves recommended

Canoeing and Kayaking in Japan

Main Qualifications for Instructor's License

- No official license required

- Proper experience (not specific)

Protection Tools

- Life jacket and other equipment suitable for the water temperature required

Rafting in Japan

Main Qualifications for Instructor's License

- No official license required

Protection Tools

- Life jacket and other equipment suitable for the water temperature required.

Rafting in New Zealand

Main Qualifications for Instructor's License

- Paper examination on first aid and rescue
- Practical examination on first aid and rescue

Protection Tools

- Lifejacket and helmet are mandatory.

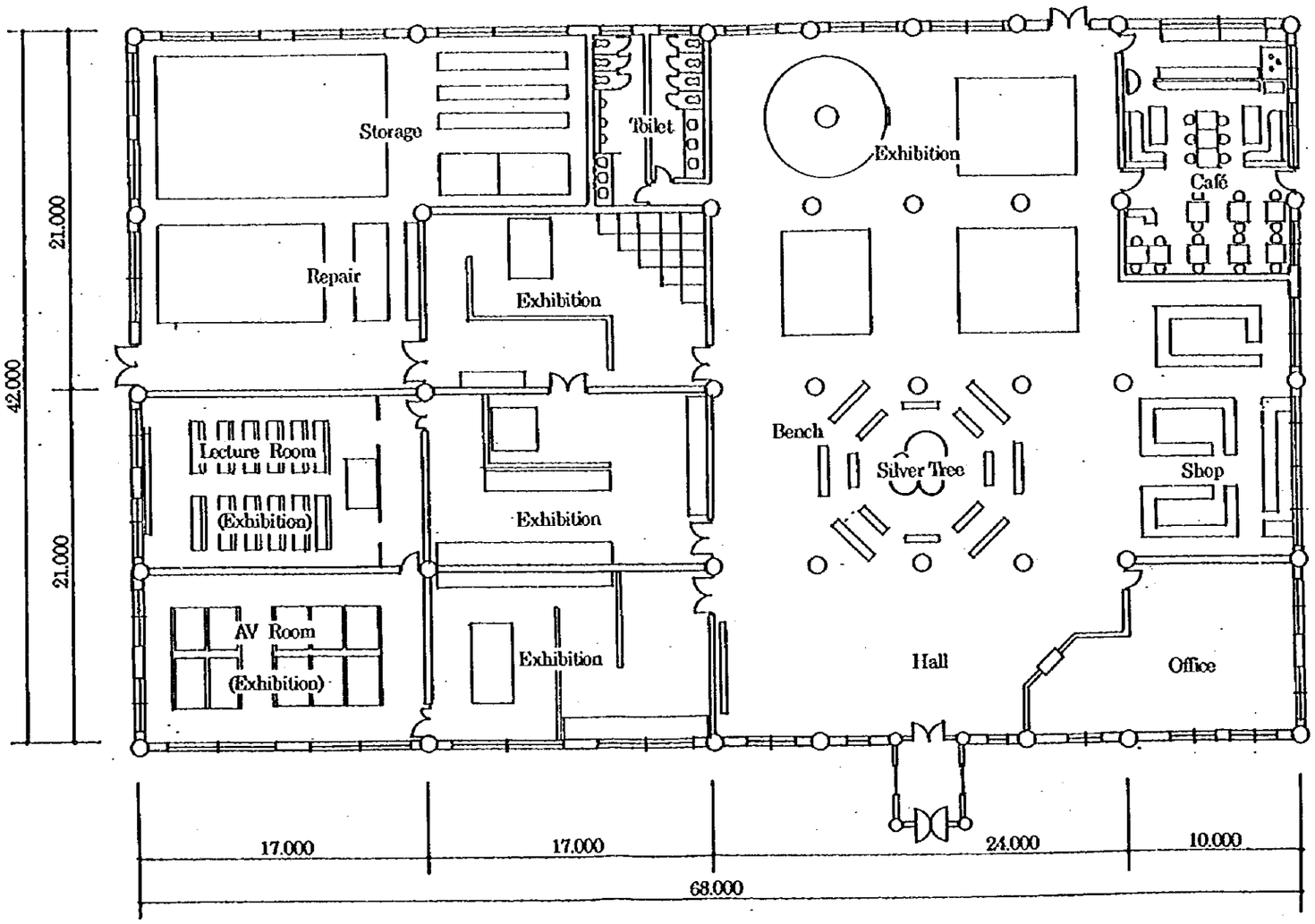
A19.1 Plane Figure of Museum and Visitor Center Building

The preliminary design of following buildings is made.

	Building	Design Scale	Floor Area(m^2)
1.	Harhorin Visitor Center	1:300	2,876 m^2
2.	Mongolian Culture Park (Central Museum)	1:250	970 m^2
3.	Handicraft Center	1:250	960 m^2
4.	Bogd Khan Museum (New Service, Office and Storage Building)	1:250	620 m^2
5	Terelj Visitor Center	1:250	230 m^2
6.	Omnogovi Visitor Center	1:250	360 m^2

■HARHORIN VISITOR CENTER

PLAN **1:300**



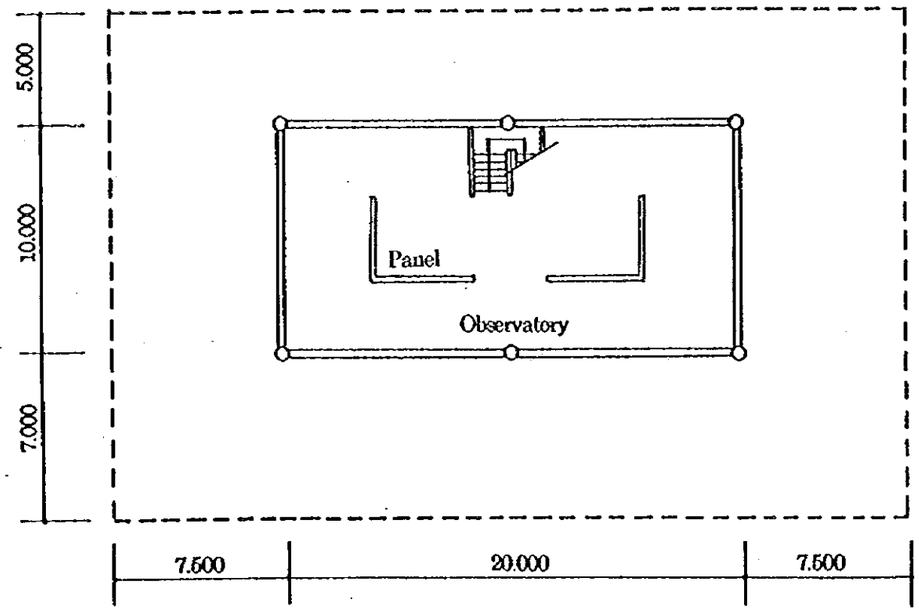
2,876 m²

MINISTRY OF INFRASTRUCTURAL DEVELOPMENT MONGOLIA
JAPAN INTERNATIONAL COOPERATION AGENCY(JICA)
THE MASTER PLAN ON NATIONAL TOURISM DEVELOPMENT IN MONGOLIA
Figure A19.1.1 Harhorin Visitor Center
PADECO Co., Ltd./Nippon Koei Co., Ltd.

MONGOLIAN CULTURE PARK

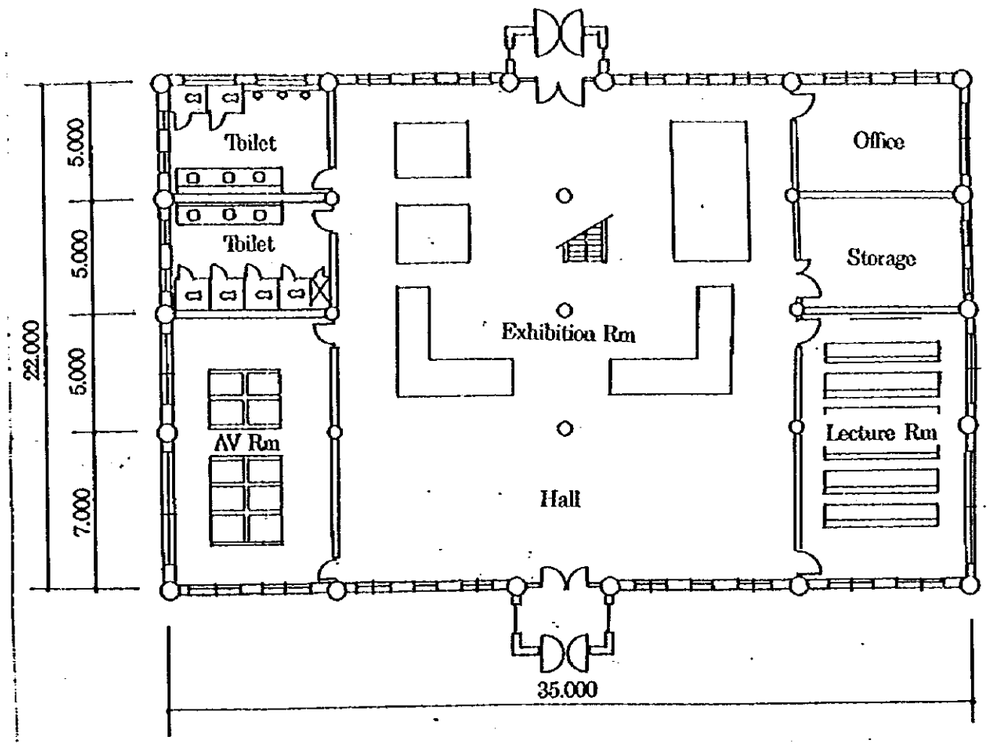
CENTRAL MUSEUM

PLAN **1:250**



1st Floor

200 m²



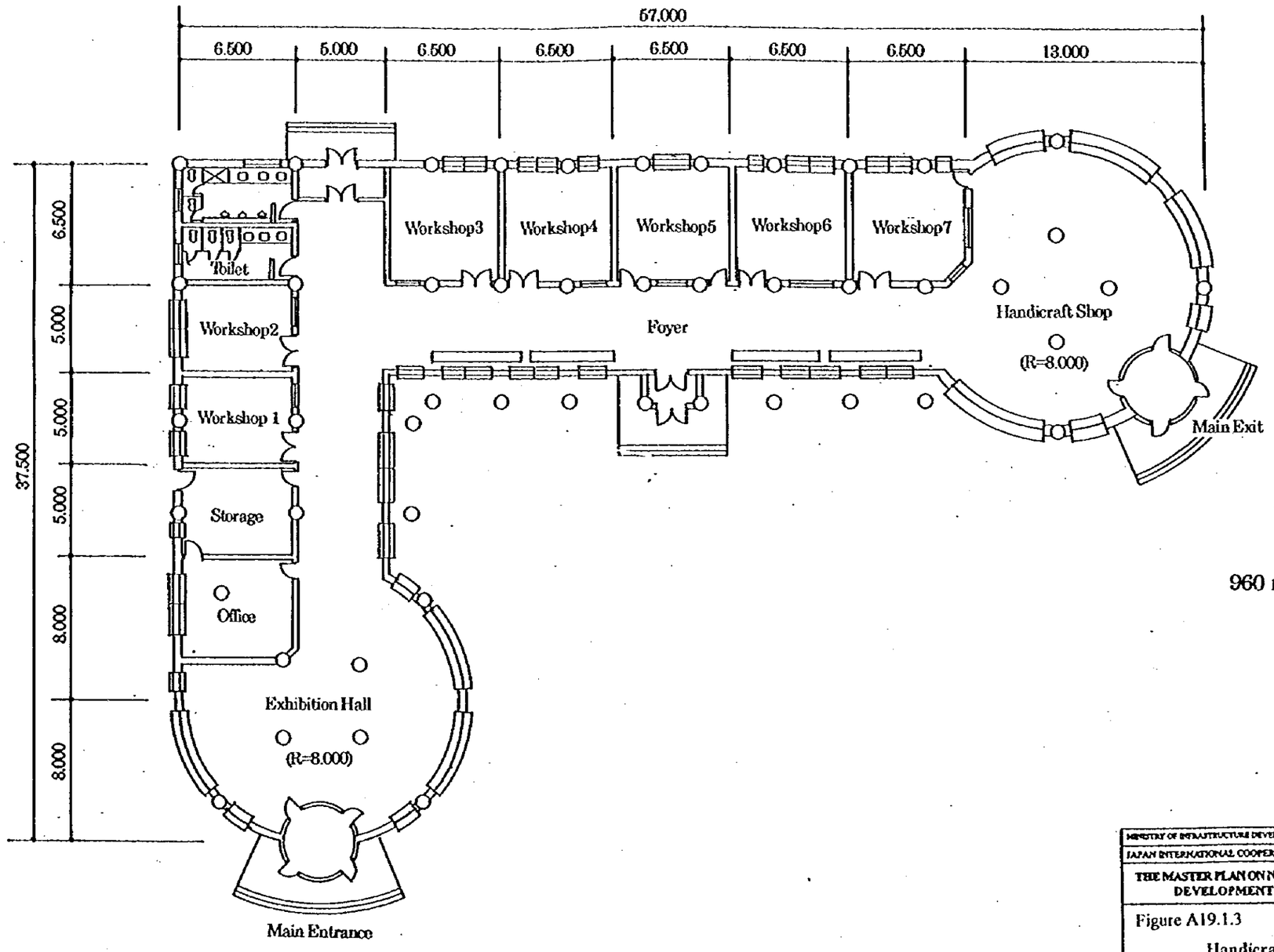
2nd Floor

770 m²

MINISTRY OF INFRASTRUCTURE DEVELOPMENT MONGOLIA
JAPAN INTERNATIONAL COOPERATION AGENCY(JICA)
THE MASTER PLAN ON NATIONAL TOURISM DEVELOPMENT IN MONGOLIA
Figure A19.1.2 Mongolian Culture Park (Central Museum)
PADECO Co., Ltd./Nippon Koei Co., Ltd.

■HANDICRAFT CENTER

PLAN **1:250**

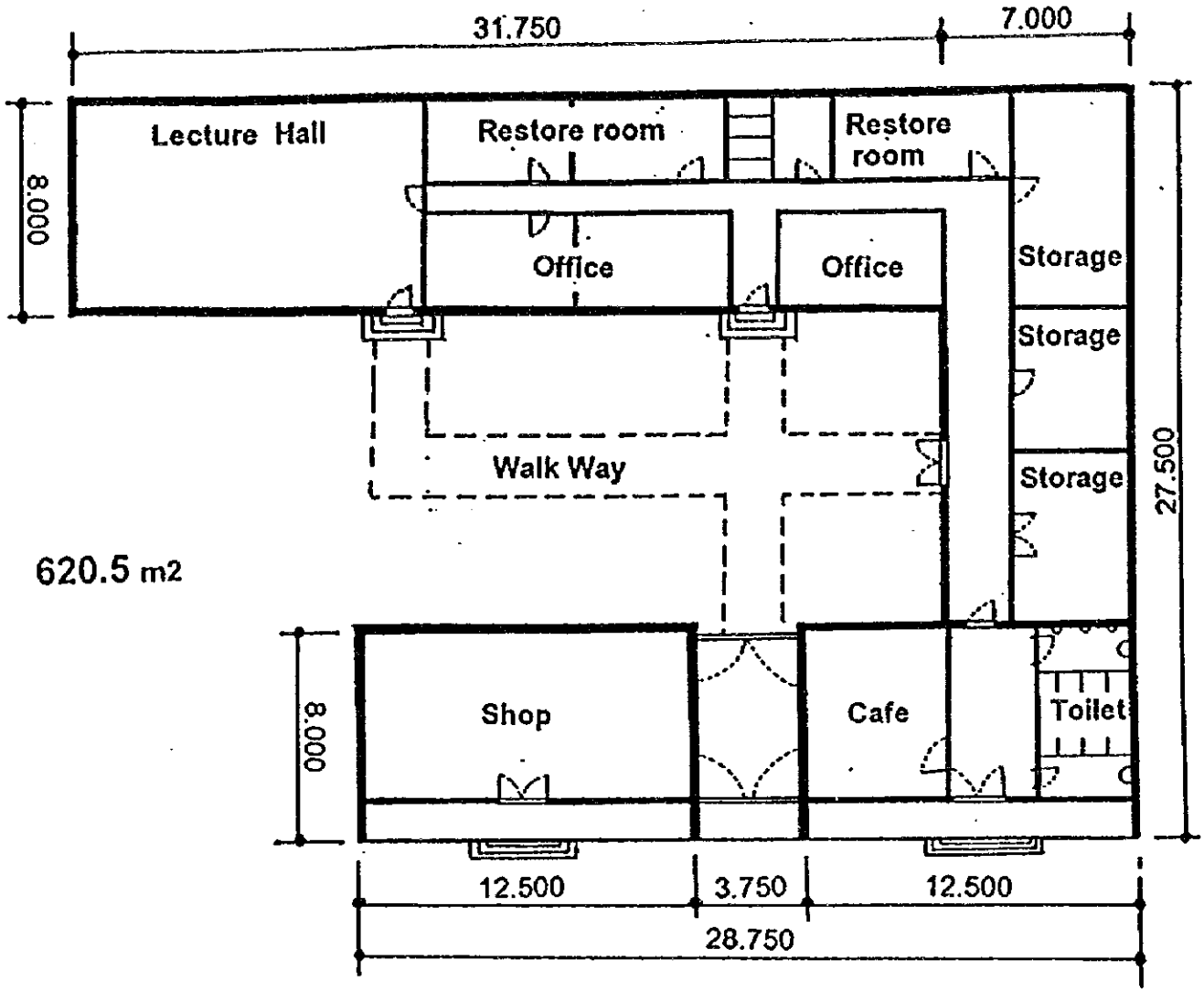


960 m²

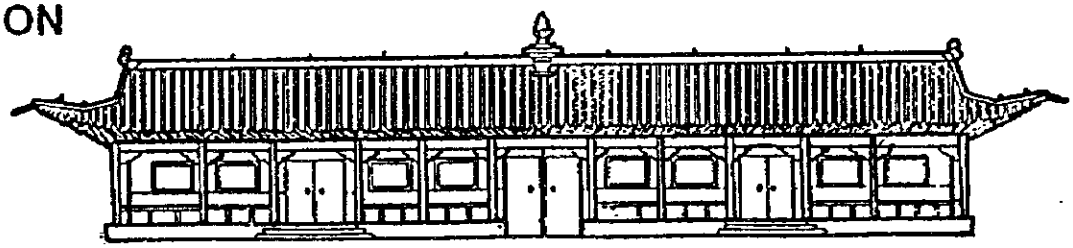
MINISTRY OF INFRASTRUCTURE DEVELOPMENT MONGOLIA
JAPAN INTERNATIONAL COOPERATION AGENCY(JICA)
THE MASTER PLAN ON NATIONAL TOURISM DEVELOPMENT IN MONGOLIA
Figure A19.1.3 Handicraft Center
PADECO Co., Ltd./Nippon Koei Co., Ltd.

BOGD KHAN MUSEUM

1:250



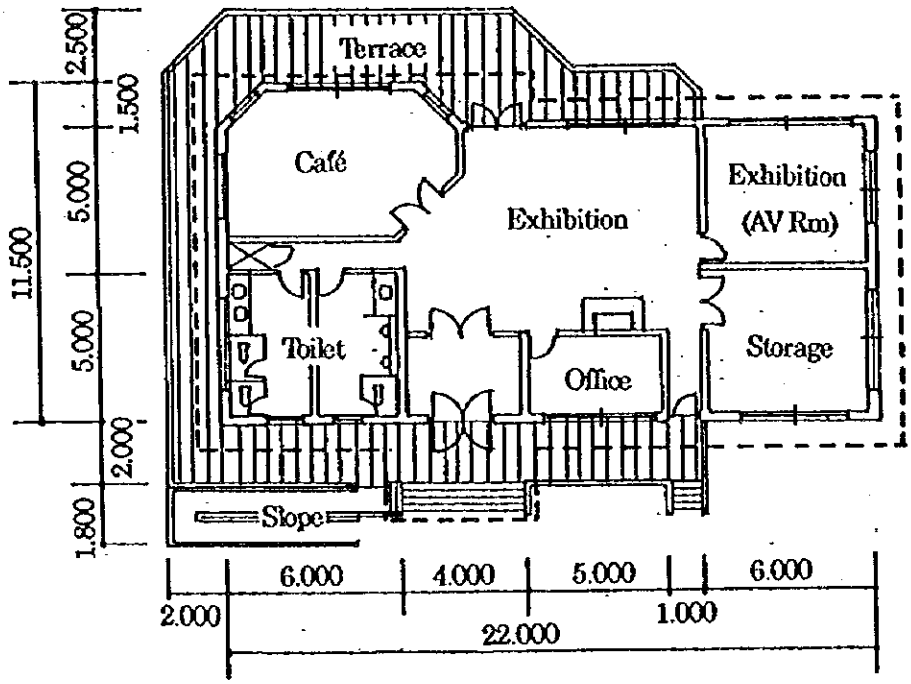
ELEVATION



MINISTRY OF INFRASTRUCTURE DEVELOPMENT MONGOLIA
JAPAN INTERNATIONAL COOPERATION AGENCY(JICA)
THE MASTER PLAN ON NATIONAL TOURISM DEVELOPMENT IN MONGOLIA
Figure A19.1.4 Bogd Khan Museum (New .Service, Office and Storage Building)
PADECO Co., Ltd./Nippon Koei Co., Ltd.

■TERELJ VISITOR CENTER

PLAN 1:250

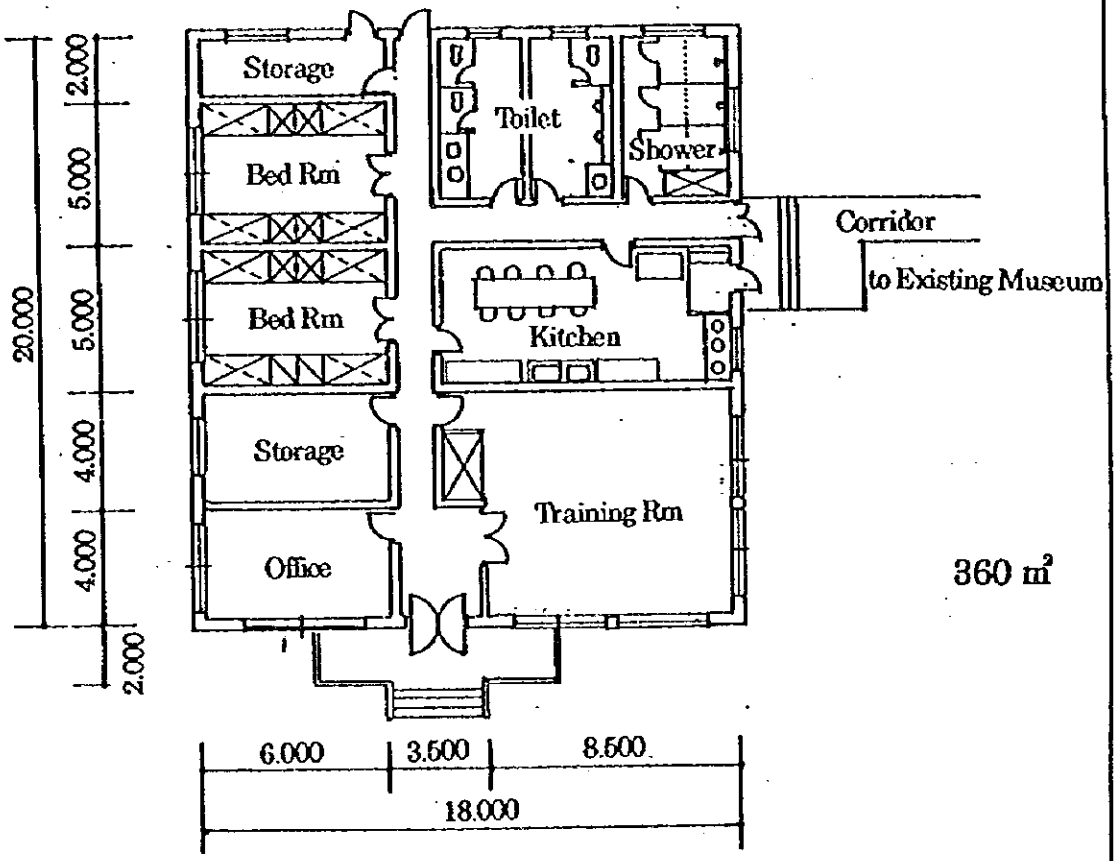


230 m²

MINISTRY OF INFRASTRUCTURE DEVELOPMENT MONGOLIA
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
THE MASTER PLAN ON NATIONAL TOURISM DEVELOPMENT IN MONGOLIA
Figure A19.1.5 Terelj Visitor Center
PADECO Co., Ltd./Nippon Koei Co., Ltd.

■GOVI VISITOR CENTER

PLAN 1 : 250

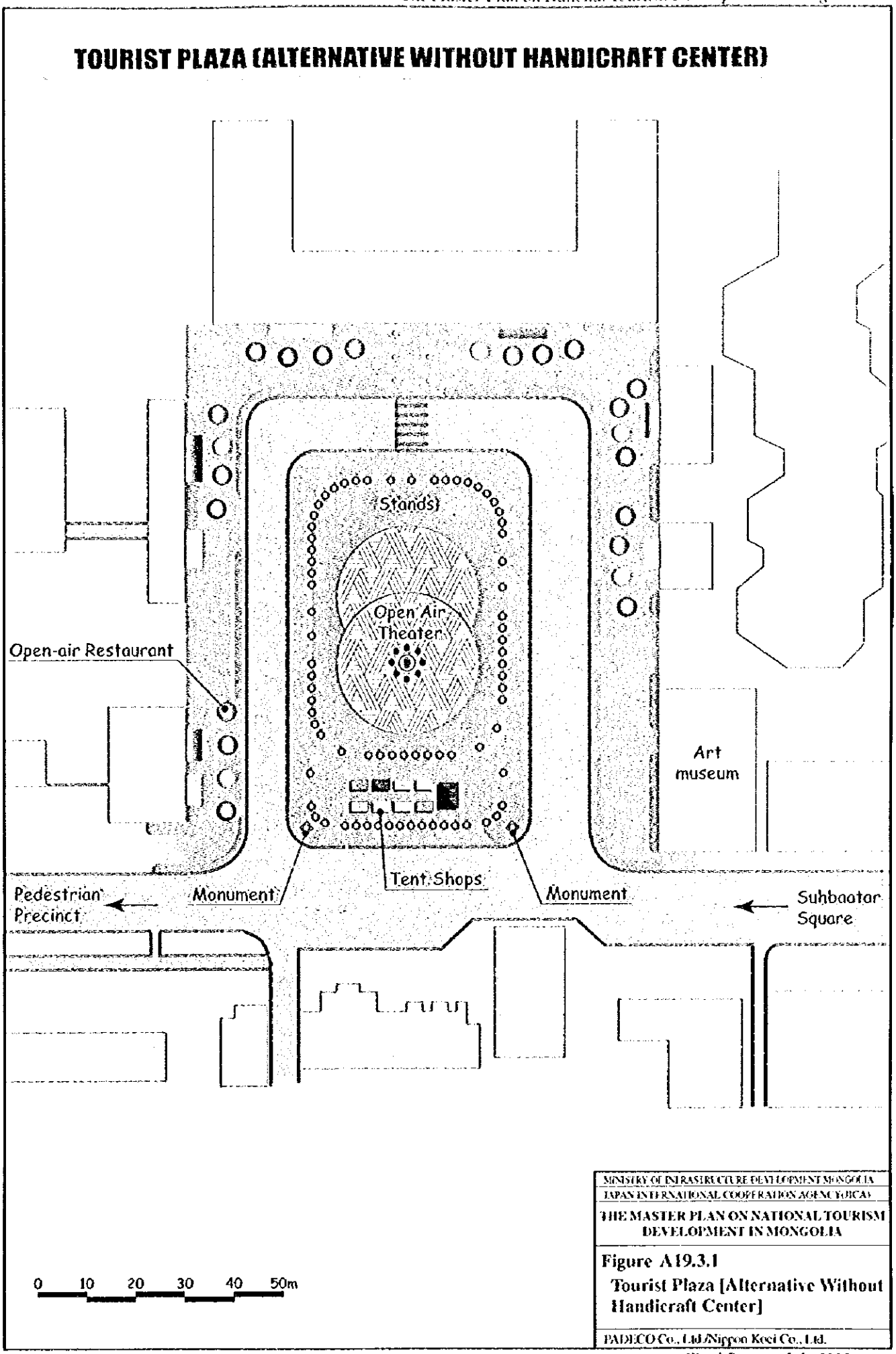


MINISTRY OF INFRASTRUCTURE DEVELOPMENT MONGOLIA
JAPAN INTERNATIONAL COOPERATION AGENCY(JICA)
THE MASTER PLAN ON NATIONAL TOURISM DEVELOPMENT IN MONGOLIA
Figure A19.1.6 Omno Govi Visitor Center
PADECO Co., Ltd./Nippon Koei Co., Ltd.

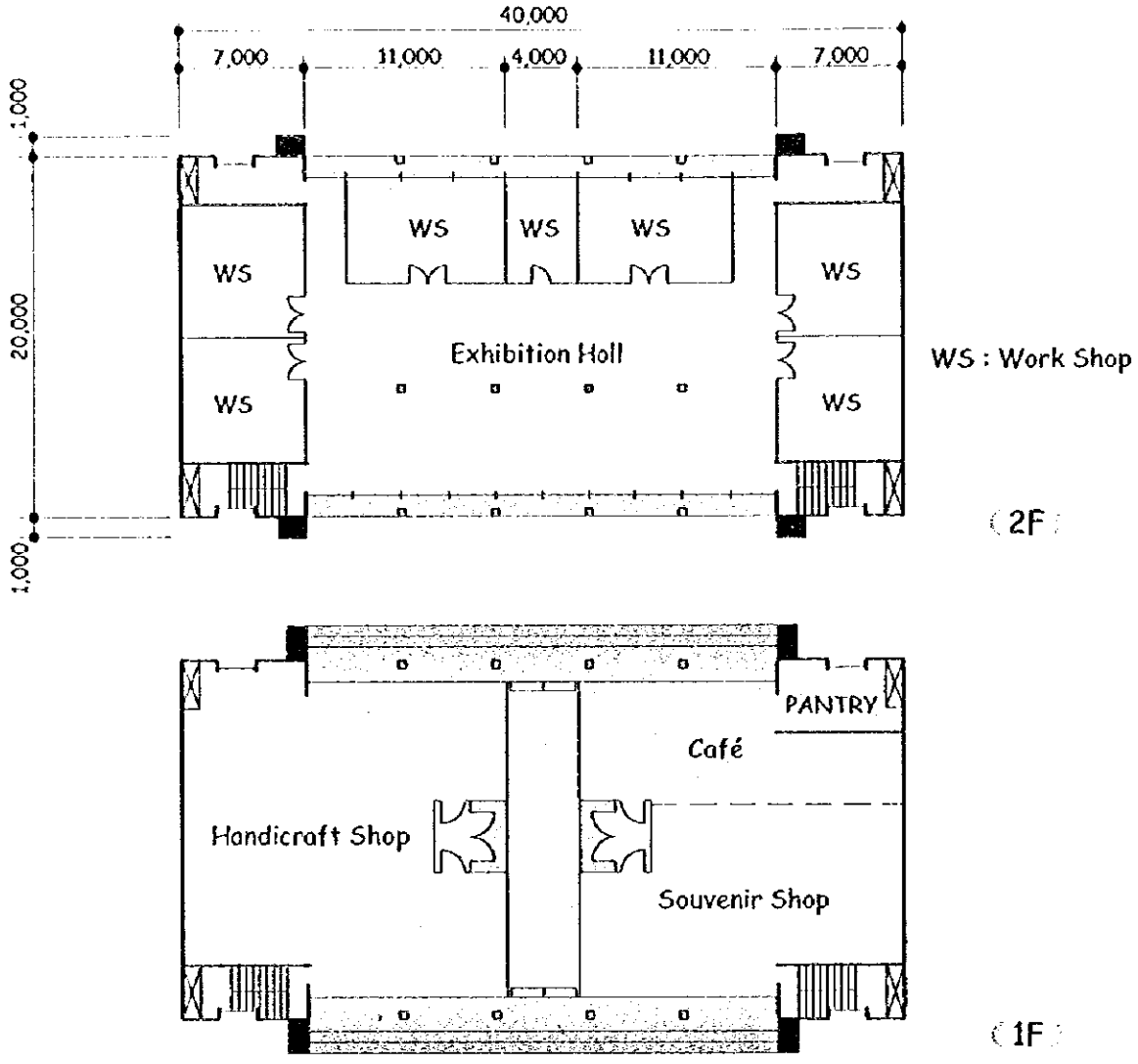
A19.3 Alternative Plan of Tourist Plaza

Development of tourist plaza is proposed in the 19.3 of the main text as the priority project. The alternative plan of the tourist plaza, which excludes the souvenir and handicraft center, is conceived in consideration of the limited land extent of the plaza area.

Designs of the alternative plan of the tourist plaza and the souvenir and handicraft center are presented in Figure A19.3.1 and A19.3.2 respectively.


TOURIST PLAZA (ALTERNATIVE WITHOUT HANDICRAFT CENTER)
(Stands)
Open Air Theater
Open-air Restaurant
Art museum
Pedestrian Precinct
Monument
Tent Shops
Monument
Suhbaatar Square
0 10 20 30 40 50m
MINISTRY OF INFRASTRUCTURE DEVELOPMENT MONGOLIA
JAPAN INTERNATIONAL COOPERATION AGENCY(JICA)
THE MASTER PLAN ON NATIONAL TOURISM DEVELOPMENT IN MONGOLIA
Figure A19.3.1
Tourist Plaza [Alternative Without Handicraft Center]
PADECO Co., Ltd./Nippon Koei Co., Ltd.

HANDICRAFT CENTER (ALTERNATIVE)



Floor Area 1,600m² Scale 1:400

MINISTRY OF INFRASTRUCTURE DEVELOPMENT MONGOLIA
JAPAN INTERNATIONAL COOPERATION AGENCY(JICA)
THE MASTER PLAN ON NATIONAL TOURISM DEVELOPMENT IN MONGOLIA
Figure A19.3.2 Handicraft Center [Alternative]
PADECO Co., Ltd./Nippon Koei Co., Ltd.

A19.8 Initial Environmental Examination (IEE)

A19.8.1 Objectives

The Initial Environmental Examination (IEE) is a preliminary environmental impact assessment. The IEE is conducted at an early stage of project development, however, is an effective tool to identify possible environmental and social effects and to guide further project development planning. The original formulation criteria or make-up of any project may be modified, if significant negative impact is predicted by the IEE.

The IEE is carried out for the proposed projects/programs that are expected to cause positive/negative impacts to the surrounding area concerning social and natural environment, and pollution. The main objective of this IEE is to identify possible environmental impacts in implementing the proposed master plan projects/programs based on available data/information and limited field reconnaissance.

However, the official IEE has to be done with the procedure adopted by Mongolian government. The results of IEE described in this Master Plan are the output from the JICA Study Team. 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. The official Environmental Impact Assessment (EIA) is also to be implemented with the procedure adopted by Mongolian government.

A19.8.2 Results of IEE for Proposed Projects / Programs

The JICA Study Team carried out the IEE for the proposed projects/programs in accordance with the JICA Environmental Survey Guidelines and summarized the projects/programs into the following three categories according to the workflow of the Mongolian Environmental Assessment:

ND = Negative Declaration: No further study required.

MND = Mitigative Negative Declaration: No further study required.

DA = Detailed Assessment: EIA will be required.

Results of the IEE by proposed project/program are presented in the Table A3.1 (1/21-21/21) for Ulaanbaatar area, A3.2 (1/7–7/7) for Omnogovi area and A3.3 (1/9-9/9) for Harhorin area in the form of the environmental impact matrix.

Table A19.8.1 IEE Matrix for Proposed Projects/Programs in Ulaanbaatar Area (1/21)
Name of the Project/Program: Design and beautification of Tourist Trail (TACIS scope: design of trail)

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	O+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential traffic congestion for increase of tourist passengers at peak season
	4	Split of communities	×	
	5	Cultural property	×	
	6	Water rights/Right of common	×	
	7	Public health condition	Δ+	potential decrease in tourist litter & harmful insects
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	O+	potential decrease in traffic accidents
Natural Environment	10	Topography and geology	Δ	potential for changes
	11	Soil erosion	Δ	potential for changes
	12	Groundwater	×	
	13	Hydrological situation	×	
	14	Coastal zone	×	
	15	Flora and fauna	?	necessity for further study when designing the details.
	16	Climate	×	
	17	Landscape	Δ	potential for changes
Pollution	18	Air pollution	Δ−	potential for increase of emission from tourist traffic
	19	Water pollution	Δ−	potential for increase of sewage
	20	Soil contamination	×	
	21	Noise and vibration	Δ−	potential for increase of tourist traffic
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	MND	

Table A19.8.1 IEE Matrix for Proposed Projects/Programs in Ulaanbaatar Area (2/21)
Name of the Project/Program: Improvement of Bogd Khaan Museum

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	Δ+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential traffic congestion for increase of tourist traffic at peak season
	4	Split of communities	×	
	5	Cultural property	O+	potential for preservation of cultural heritage
	6	Water rights/Right of common	×	
	7	Public health condition	×	
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	×	
Natural Environment	10	Topography and geology	×	
	11	Soil erosion	×	
	12	Groundwater	×	
	13	Hydrological situation	×	
	14	Coastal zone	×	
	15	Flora and fauna	×	
	16	Climate	×	
	17	Landscape	×	
Pollution	18	Air pollution	Δ−	potential for increase of emission from tourist traffic
	19	Water pollution	Δ−	potential for increase of sewage
	20	Soil contamination	×	
	21	Noise and vibration	Δ−	potential for increase of tourist traffic
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	MND	

Note:
O = Major Impact, Δ = Small Impact, ? = Not Clear (Further study is needed.), × = None (Not required EIA)
+ = Positive Impact, − = Negative Impact
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

Table A19.8.1 IEE Matrix for Proposed Projects/Programs in Ulaanbaatar Area (3/21)

Name of the Project/Program: Development of Mongolian Culture Park

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	O+	potential for generation of employment opportunities
	3	Traffic and public facilities	Δ−	potential increase of tourist traffic at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	O+	potential for introduction of the nomadic life, etc. to residents & tourists
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	×	
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	Δ−	potential increase in traffic accidents
Natural Environment	10	Topography and geology	Δ	potential for changes
	11	Soil erosion	Δ−	potential for soil trampling by construction vehicles
	12	Groundwater	×	
	13	Hydrological situation	Δ−	potential for changes by intake and discharge of water
	14	Coastal zone	×	
	15	Flora and fauna	×	
	16	Climate	×	
	17	Landscape	Δ	potential for changes
Pollution	18	Air pollution	Δ−	potential for increase of emission from trousit traffic
	19	Water pollution	Δ−	potential for increase of sewage
	20	Soil contamination	×	
	21	Noise and vibration	Δ−	potential for tourist traffic
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	**MND**	

Table A19.8.1 IEE Matrix for Proposed Projects/Programs in Ulaanbaatar Area (4/21)

Name of the Project/Program: Development of Souvenir & Handicraft Center

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	Δ+	potential for generation of employment opportunities
	3	Traffic and public facilities	Δ−	potential increase of tourist traffic at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	O+	potential for introduction of ethnology to residents & tourists
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	×	
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	?	
Natural Environment	10	Topography and geology	Δ	potential for changes
	11	Soil erosion	Δ−	potential for soil trampling by construction vehicles
	12	Groundwater	Δ−	potential for changes by intake and discharge of water
	13	Hydrological situation	Δ−	potential for changes by intake and discharge of water
	14	Coastal zone	×	
	15	Flora and fauna	Δ	potential for changes
	16	Climate	×	
	17	Landscape	Δ	potential for changes
Pollution	18	Air pollution	Δ−	potential for increase of emission from tourist traffic
	19	Water pollution	Δ−	potential for increase of sewage
	20	Soil contamination	×	
	21	Noise and vibration	Δ−	potential for increase of tourist traffic
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	**MND**	

Note:
O = Major Impact, Δ = Small Impact, ? = Not Clear (Further study is needed.), × = None (Not required EIA.)
+ = Positive Impact, − = Negative Impact
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

Table A19.8.1 IEE Matrix for Proposed Projects/Programs in Ulaanbaatar Area (5/21)

Name of the Project/Program: Hotel Development

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	O+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	×	
	4	Split of communities	×	
	5	Cultural property	×	
	6	Water rights/Right of common	×	
	7	Public health condition	Δ+	potential for improvement of sanitary management
	8	Waste	Δ+	potential for improvement of waste management
	9	Hazards	×	
Natural Environment	10	Topography and geology	?	further evaluation is needed when designs are determined.
	11	Soil erosion	?	further evaluation is needed when designs are determined.
	12	Groundwater	Δ−	potential for increase of ground water intake
	13	Hydrological situation	×	
	14	Coastal zone	×	
	15	Flora and fauna	×	
	16	Climate	×	
	17	Landscape	?	further evaluation is needed when designs are determined.
Pollution	18	Air pollution	×	
	19	Water pollution	Δ−	potential for increase of sewage and solid waste
	20	Soil contamination	×	
	21	Noise and vibration	×	
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	**ND**	

Table A19.8.1 IEE Matrix for Proposed Projects/Programs in Ulaanbaatar Area (6/21)

Name of the Project/Program: National Bird Watching Circuit Sites

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	O+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential traffic congestion for increase of tourist passengers at peak season
	4	Split of communities	×	
	5	Cultural property	×	
	6	Water rights/Right of common	×	
	7	Public health condition	×	
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	Δ+	potential decrease in traffic accidents
Natural Environment	10	Topography and geology	×	
	11	Soil erosion	×	
	12	Groundwater	×	
	13	Hydrological situation	×	
	14	Coastal zone	×	
	15	Flora and fauna	?	necessity for further study when designing the details.
	16	Climate	×	
	17	Landscape	?	necessity for further study when designing the details.
Pollution	18	Air pollution	×	
	19	Water pollution	×	
	20	Soil contamination	×	
	21	Noise and vibration	×	
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	**MND**	

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DA = Detailed Assessment: EIA will be required.
Source: JICA Study Team

Table A19.8.1 IEE Matrix for Proposed Projects/Programs in Ulaanbaatar Area (7/21)

Name of the Project/Program: Development of Tourist Street in Ulaanbaatar

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	O+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential traffic congestion for increase of tourist at peak season
	4	Split of communities	×	
	5	Cultural property	×	
	6	Water rights/Right of common	×	
	7	Public health condition	Δ+	potential decrease in tourist litter & harmful insects
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	O+	potential decrease in traffic accidents
Natural Environment	10	Topography and geology	×	
	11	Soil erosion	×	
	12	Groundwater	×	
	13	Hydrological situation	×	
	14	Coastal zone	×	
	15	Flora and fauna	×	
	16	Climate	×	
	17	Landscape	Δ	potential for changes
Pollution	18	Air pollution	Δ−	potential for increase of tourist traffic
	19	Water pollution	×	
	20	Soil contamination	×	
	21	Noise and vibration	Δ−	potential for increase of tourist traffic
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	**MND**	

Table A19.8.1 IEE Matrix for Proposed Projects/Programs in Ulaanbaatar Area (8/21)

Name of the Project/Program: Guide Book of Bus Route, Guidance at Bus Stop

		Item	Evaluation	Remarks
Social Environment	1	Resettlemeat	×	
	2	Economic activities	Δ+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ+	potential for providing tourists with good services
	4	Split of communities	×	
	5	Cultural property	×	
	6	Water rights/Right of common	×	
	7	Public health condition	×	
	8	Waste	×	
	9	Hazards	×	
Natural Environment	10	Topography and geology	×	
	11	Soil erosion	×	
	12	Groundwater	×	
	13	Hydrological situation	×	
	14	Coastal zone	×	
	15	Flora and fauna	×	
	16	Climate	×	
	17	Landscape	×	
Pollution	18	Air pollution	×	
	19	Water pollution	×	
	20	Soil contamination	×	
	21	Noise and vibration	×	
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	**ND**	

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Source: JICA Study Team

Table A19.8.1 IEE Matrix for Proposed Projects/Programs in Ulaanbaatar Area (9/21)

Name of the Project/Program: Tourism School in Ulaanbaatar

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	Δ+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	×	
	4	Split of communities	×	
	5	Cultural property	O+	
	6	Water rights/Right of common	×	
	7	Public health condition	Δ+	potential for extention of public health management to residents
	8	Waste	×	
	9	Hazards	×	
Natural Environment	10	Topography and geology	Δ	potential for changes
	11	Soil erosion	×	
	12	Groundwater	Δ−	potential for increase of water intake and discharge
	13	Hydrological situation	Δ	potential for changes
	14	Coastal zone	×	
	15	Flora and fauna	×	
	16	Climate	×	
	17	Landscape	Δ	potential for changes
Pollution	18	Air pollution	×	
	19	Water pollution	Δ−	potential for increase of sewage
	20	Soil contamination	×	
	21	Noise and vibration	×	
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	ND	

Table A19.8.1 IEE Matrix for Proposed Projects/Programs in Ulaanbaatar Area (10/21)

Name of the Project/Program: Development of Nature Reserve Rangers Training

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	Δ+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	×	
	4	Split of communities	×	
	5	Cultural property	O+	
	6	Water rights/Right of common	×	
	7	Public health condition	Δ+	potential for extention of public health management to residents
	8	Waste	Δ+	potential for extention of waste management to residents
	9	Hazards	×	
Natural Environment	10	Topography and geology	×	
	11	Soil erosion	×	
	12	Groundwater	×	
	13	Hydrological situation	×	
	14	Coastal zone	×	
	15	Flora and fauna	×	
	16	Climate	×	
	17	Landscape	×	
Pollution	18	Air pollution	×	
	19	Water pollution	×	
	20	Soil contamination	×	
	21	Noise and vibration	×	
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	ND	

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DA = Detailed Assessment: EIA will be required.
Source: JICA Study Team

Table A19.8.1 IEE Matrix for Proposed Projects/Programs in Ulaanbaatar Area (11/21)

Name of the Project/Program: Visitor Center in Terelj

	Item		Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	△+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	△−	potential increase of tourist traffic at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	△+	potential for introduction of cultural heritage
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	×	
	8	Waste	△−	potential for tourist litter
	9	Hazards	×	
Natural Environment	10	Topography and geology	×	
	11	Soil erosion	△−	potential for increae surface run-off by trampling.
	12	Groundwater	×	
	13	Hydrological situation	△−	potential for increae surface run-off by trampling.
	14	Coastal zone	×	
	15	Flora and fauna	×	
	16	Climate	×	
	17	Landscape	△	potential for changes
Pollution	18	Air pollution	△−	potential for increase of tourist traffic
	19	Water pollution	△−	potential for increase sewage
	20	Soil contamination	×	
	21	Noise and vibration	△−	potential for increase of tourist traffic
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	**DA**	**Development inside Protected Area requires EIA.**

Table A19.8.1 IEE Matrix for Proposed Projects/Programs in Ulaanbaatar Area (12/21)

Name of the Project/Program: Construction of International Convention Center

	Item		Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	△+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	△−	potential increase of tourist traffic at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	O+	potential for introduction & preservation of cultural heritage
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	×	
	8	Waste	△−	potential for tourist litter
	9	Hazards	×	
Natural Environment	10	Topography and geology	△−	potential for changes
	11	Soil erosion	×	
	12	Groundwater	△−	potential for increase of water intake and discharge
	13	Hydrological situation	△−	potential for increase of water intake and discharge
	14	Coastal zone	×	
	15	Flora and fauna	×	
	16	Climate	×	
	17	Landscape	△	potential for changes
Pollution	18	Air pollution	△−	potential for increase of emission from tourist traffic
	19	Water pollution	△−	potential for increase of sewage
	20	Soil contamination	×	
	21	Noise and vibration	△−	potential for increase of traffic
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	**MND**	

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DA = Detailed Assessment: EIA will be required.
Source: JICA Study Team

Table A19.8.1 IEE Matrix for Proposed Projects/Programs in Ulaanbaatar Area (13/21)

Name of the Project/Program : Upgrading of Other Museums

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	O+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential increase of tourist traffic at peak season
	4	Split of communities	×	
	5	Cultural property	O+	potential for introduction & preservation of cultural assets
	6	Water rights/Right of common	×	
	7	Public health condition	×	
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	Δ−	potential increase in traffic accidents
Natural Environment	10	Topography and geology	×	
	11	Soil erosion	×	
	12	Groundwater	×	
	13	Hydrological situation	×	
	14	Coastal zone	×	
	15	Flora and fauna	×	
	16	Climate	×	
	17	Landscape	×	
Pollution	18	Air pollution	Δ−	potential for increase of emission from tourist traffic
	19	Water pollution	Δ−	potential for increase of sewage
	20	Soil contamination	×	
	21	Noise and vibration	Δ−	potential for increase of tourist traffic
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	MND	

Table A19.8.1 IEE Matrix for Proposed Projects/Programs in Ulaanbaatar Area (14/21)

Name of the Project/Program: Gandantegchilen Monastery (renewal of precincts)

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	Δ+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential increase of tourist passengers at peak season
	4	Split of communities	×	
	5	Cultural property	O+	potential for preservation of cultural assets
	6	Water rights/Right of common	×	
	7	Public health condition	×	
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	×	
Natural Environment	10	Topography and geology	Δ	potential for changes
	11	Soil erosion	×	
	12	Groundwater	Δ	potential for increase of water intake and discharge
	13	Hydrological situation	Δ−	potential for changes
	14	Coastal zone	×	
	15	Flora and fauna	×	
	16	Climate	×	
	17	Landscape	×	
Pollution	18	Air pollution	Δ−	potential for increase of tourist traffic
	19	Water pollution	Δ−	potential for increase of sewage
	20	Soil contamination	×	
	21	Noise and vibration	Δ−	potential for increase of tourist traffic
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	ND	

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MND = Mitigative Negative Declaration: No further study required.
DA = Detailed Assessment: EIA will be required.
Source: JICA Study Team

Table A19.8.1 IEE Matrix for Proposed Projects/Programs in Ulaanbaatar Area (15/21)

Name of the Project/Program: Development of Chinggis Khaan Museum

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	Δ+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential increase of tourist passengers at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	O+	potential for introduction & preservation of cultural heritage
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	×	
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	×	
Natural Environment	10	Topography and geology	?	necessity for further study when designing the details.
	11	Soil erosion	?	necessity for further study when designing the details.
	12	Groundwater	?	necessity for further study when designing the details.
	13	Hydrological situation	?	necessity for further study when designing the details.
	14	Coastal zone	×	
	15	Flora and fauna	?	necessity for further study when designing the details.
	16	Climate	?	necessity for further study when designing the details.
	17	Landscape	?	necessity for further study when designing the details.
Pollution	18	Air pollution	Δ−	potential for increase of emission from tourist traffic
	19	Water pollution	Δ−	potential for increase of sewage
	20	Soil contamination	×	
	21	Noise and vibration	Δ−	potential for increase of tourist traffic
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	**MND**	

Table A19.8.1 IEE Matrix for Proposed Projects/Programs in Ulaanbaatar Area (16/21)

Name of the Project/Program: Horse Culture & Wild Horse Conservation and Education Park (Horse Ranch)

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	Δ+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	×	
	4	Split of communities	×	
	5	Cultural property	O+	
	6	Water rights/Right of common	×	
	7	Public health condition	Δ+	potential for extention of public health management to residents
	8	Waste	Δ+	potential for extention of waste management to residents
	9	Hazards	×	
Natural Environment	10	Topography and geology	×	
	11	Soil erosion	×	
	12	Groundwater	×	
	13	Hydrological situation	×	
	14	Coastal zone	×	
	15	Flora and fauna	×	
	16	Climate	×	
	17	Landscape	×	
Pollution	18	Air pollution	×	
	19	Water pollution	×	
	20	Soil contamination	×	
	21	Noise and vibration	×	
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	**MND**	

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DA = Detailed Assessment: EIA will be required.
Source: JICA Study Team

Table A19.8.1 IEE Matrix for Proposed Projects/Programs in Ulaanbaatar Area (17/21)

Name of the Project/Program: Golf Course for UB Residents

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	?	necessity for further study
	2	Economic activities	O+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	?	necessity for further study
	4	Split of communities	?	necessity for further study
	5	Cultural property	×	
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	?	necessity for further study
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	?	necessity for further study
Natural Environment	10	Topography and geology	Δ−	potential for changes
	11	Soil erosion	Δ−	potential for soil erosion.
	12	Groundwater	O−	possible to contaminate ground water by chemicals.
	13	Hydrological situation	O−	possible to contaminate water by chemicals.
	14	Coastal zone	×	
	15	Flora and fauna	O−	necessity for further study when designing the details.
	16	Climate	×	
	17	Landscape	Δ−	potential for changes
Pollution	18	Air pollution	Δ−	potential for increase of traffic
	19	Water pollution	O−	potential by agriculture chemicals such as herbisides
	20	Soil contamination	O−	potential by agriculture chemicals such as herbisides
	21	Noise and vibration	Δ−	potential for increase of traffic
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	DA	

Table A19.8.1 IEE Matrix for Proposed Projects/Programs in Ulaanbaatar Area (18/21)

Name of the Project/Program: Skiing Resort for UB citizen : Near UB

		Item	Evaluation	Remarks
Social Environment	1	Resettlemeat	?	necessity for further study
	2	Economic activities	O+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential increase of tourist at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	×	
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	?	necessity for further study
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	?	necessity for further study
Natural Environment	10	Topography and geology	Δ−	potential for structural development for skiing.
	11	Soil erosion	Δ−	potential for land cover changes.
	12	Groundwater	Δ−	potential for increase of water intake and discharge
	13	Hydrological situation	Δ−	potential for changes
	14	Coastal zone	×	
	15	Flora and fauna	Δ	potential for land cover changes.
	16	Climate	×	
	17	Landscape	Δ−	potential for landscape changes.
Pollution	18	Air pollution	Δ−	potential for increase of motor vehicles.
	19	Water pollution	Δ−	potential for increase sewerage.
	20	Soil contamination	×	
	21	Noise and vibration	Δ−	potential impacts by increase of motor vehicles.
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	DA	

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DA = Detailed Assessment: EIA will be required.
Source: JICA Study Team

Table A19.8.1 IEE Matrix for Proposed Projects/Programs in Ulaanbaatar Area (19/21)

Name of the Project/Program: Improvement of UB Airport/new UB airport (after 2010)

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	O+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential traffic congestion for increase of tourist at peak season
	4	Split of communities	×	
	5	Cultural property	×	
	6	Water rights/Right of common	×	
	7	Public health condition	Δ−	potential damage to residents by air pollution
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	Δ−	potential increase in traffic accidents
Natural Environment	10	Topography and geology	×	
	11	Soil erosion	Δ−	potential increase in surface run-off.
	12	Groundwater	×	
	13	Hydrological situation	×	
	14	Coastal zone	×	
	15	Flora and fauna	Δ−	potential changes of land cover.
	16	Climate	×	
	17	Landscape	×	
Pollution	18	Air pollution	Δ−	potential increase of traffic and air craft.
	19	Water pollution	Δ−	potential for increase of oil and fuel spill, sewage
	20	Soil contamination	Δ−	potential impacts by oil and fuel spill.
	21	Noise and vibration	Δ−	potential increase for air traffic.
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	DA	

Table A19.8.1 IEE Matrix for Proposed Projects/Programs in Ulaanbaatar Area (20/21)

Name of the Project/Program: Development of Terelj Area

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	necessity for further study
	2	Economic activities	O+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential increase of tourist at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	×	
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	×	
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	Δ−	potential increase in traffic accidents
Natural Environment	10	Topography and geology	Δ−	potential for changes
	11	Soil erosion	Δ−	potential for soil trampling
	12	Groundwater	Δ−	potential for increase of water intake
	13	Hydrological situation	Δ−	potential for changes
	14	Coastal zone	×	
	15	Flora and fauna	Δ−	potential for changes
	16	Climate	×	
	17	Landscape	Δ−	potential for changes
Pollution	18	Air pollution	Δ−	potential for increase of tourist traffic
	19	Water pollution	Δ−	potential for increase sewage
	20	Soil contamination	×	
	21	Noise and vibration	Δ−	potential for tourist traffic
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	MND	

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DA = Detailed Assessment: EIA will be required.
Source: JICA Study Team

Table A19.8.1 IEE Matrix for Proposed Projects/Programs in Ulaanbaatar Area (21/21)

Name of the Project/Program: Road Improvement

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	?	necessity for further study
	2	Economic activities	O+	possible for economic stimulus to industries and residents
	3	Traffic and public facilities	Δ−	potential increase of tourist at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	×	
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	×	
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	Δ+	potential decrease in traffic accidents
Natural Environment	10	Topography and geology	Δ−	potential for topography changes.
	11	Soil erosion	Δ−	potential for increase surface run-off.
	12	Groundwater	×	
	13	Hydrological situation	Δ−	potential for increase surface run-off.
	14	Coastal zone	×	
	15	Flora and fauna	Δ−	potential for land cover changes.
	16	Climate	×	
	17	Landscape	Δ−	potential for landscape changes.
Pollution	18	Air pollution	Δ−	potential for traffic increase.
	19	Water pollution	Δ−	potential for increase traffic accidents which cause oil spill
	20	Soil contamination	×	
	21	Noise and vibration	Δ−	potential for traffic increase.
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	**DA**	

Table A19.8.2 IEE Matrix for Proposed Projects/Programs in Omnogovi Area (1/7)

Name of the Project/Program: Govi Visitor Center (information center) at the Valley of Eagles

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	Δ+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential increase of tourist traffic at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	Δ+	potential for introduction of cultural heritage
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	×	
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	×	
Natural Environment	10	Topography and geology	×	
	11	Soil erosion	Δ−	potential for increae surface run-off by trampling.
	12	Groundwater	×	
	13	Hydrological situation	Δ−	potential for increae surface run-off by trampling.
	14	Coastal zone	×	
	15	Flora and fauna	×	
	16	Climate	×	
	17	Landscape	Δ	potential for changes
Pollution	18	Air pollution	Δ−	potential for increase of tourist traffic
	19	Water pollution	Δ−	potential for increase sewage
	20	Soil contamination	×	
	21	Noise and vibration	Δ−	potential for increase of tourist traffic
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	**DA**	**Development Inside Protected Area requires EIA.**

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Source: JICA Study Team

Table A19.8.2 IEE Matrix for Proposed Projects/Programs in Omnogovi Area (2/7)

Name of the Project/Program: South Gobi Steppe Air Strip Improvement

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	O+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential increase of tourist traffic at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	×	
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	?	necessity for further study
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	?	necessity for further study
Natural Environment	10	Topography and geology	×	
	11	Soil erosion	Δ−	potential for increase surface run-off.
	12	Groundwater	×	
	13	Hydrological situation	Δ−	potential for increase surface run-off.
	14	Coastal zone	×	
	15	Flora and fauna	Δ−	potential for landcover chaege.
	16	Climate	×	
	17	Landscape	Δ−	potential for landscape change.
Pollution	18	Air pollution	Δ−	potential for increase trafic.
	19	Water pollution	Δ−	potential for increase of sewage
	20	Soil contamination	×	
	21	Noise and vibration	Δ−	potential for increase trafic.
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	**DA**	

Table A19.8.2 IEE Matrix for Proposed Projects/Programs in Omnogovi Area (3/7)

Name of the Project/Program: Nature Reserve Rangers Training: Dalanzadgad

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	Δ+	Generation of employment opportunities
	3	Traffic and public facilities	Δ+	potential for mitigation of disordered tourist traffic
	4	Split of communities	×	
	5	Cultural property	Δ+	potential for preservation of cultural heritage
	6	Water rights/Right of common	×	
	7	Public health condition	Δ+	potential decrease in tourist litter & harmful insects
	8	Waste	Δ+	potential for prevention of tourist litter
	9	Hazards	Δ+	potential decrease in tourist accidents
Natural Environment	10	Topography and geology	×	
	11	Soil erosion	×	
	12	Groundwater	×	
	13	Hydrological situation	×	
	14	Coastal zone	×	
	15	Flora and fauna	×	
	16	Climate	×	
	17	Landscape	×	
Pollution	18	Air pollution	×	
	19	Water pollution	×	
	20	Soil contamination	×	
	21	Noise and vibration	×	
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	**ND**	

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DA = Detailed Assessment: EIA will be required.
Source: JICA Study Team

Table A19.8.2 IEE Matrix for Proposed Projects/Programs in Omnogovi Area (4/7)

Name of the Project/Program: Development of Servey Area and western area of Govi Gurvan Saihan National Park

	Item		Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	O+	possible for economic stimulus to industries and residents
	3	Traffic and public facilities	Δ−	potential increase of tourist traffic at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	Δ+	potential for preservation of cultural heritage
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	×	
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	×	
Natural Environment	10	Topography and geology	Δ−	potential for topographical change.
	11	Soil erosion	Δ−	potential for increase surface run-off.
	12	Groundwater	×	
	13	Hydrological situation	×	
	14	Coastal zone	×	
	15	Flora and fauna	Δ−	potential for increase surface run-off.
	16	Climate	×	
	17	Landscape	Δ−	potential for landscape change.
Pollution	18	Air pollution	Δ−	potential for increase of tourist traffic
	19	Water pollution	Δ−	potential for increase of sewage
	20	Soil contamination	×	
	21	Noise and vibration	Δ−	potential for increase of tourist traffic
	22	Land subsidence	×	
	23	Offensive odor	×	
	Total Evaluation :		DA	Development inside Protected Area requires EIA.

Table A19.8.2 IEE Matrix for Proposed Projects/Programs in Omnogovi Area (5/7)

Name of the Project/Program: Dalanzadgad Airport Improvement

	Item		Evaluation	Remarks
Social Environment	1	Resettlement	×	necessity for further study
	2	Economic activities	O+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential increase of tourist traffic at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	×	
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	?	necessity for further study
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	?	necessity for further study
Natural Environment	10	Topography and geology	Δ−	potential for topographical change
	11	Soil erosion	Δ−	potential for increase surface run-off.
	12	Groundwater	×	
	13	Hydrological situation	Δ−	potential for increase surface run-off.
	14	Coastal zone	×	
	15	Flora and fauna	Δ−	potential for land cover change.
	16	Climate	×	
	17	Landscape	Δ−	potential for landscape change.
Pollution	18	Air pollution	Δ−	potential for increase air and surface trafic.
	19	Water pollution	Δ−	potential for increase of sewage.
	20	Soil contamination	×	
	21	Noise and vibration	Δ−	potential for increase air and surface trafic.
	22	Land subsidence	×	
	23	Offensive odor	×	
	Total Evaluation :		DA	

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DA = Detailed Assessment: EIA will be required.
Source: JICA Study Team

Table A19.8.2 IEE Matrix for Proposed Projects/Programs in Omnogovi Area (6/7)
Name of the Project/Program: Development of Commuter Air Route between Dalanzadgad, Sevrey, and western area

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	O+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential increase of tourist traffic at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	×	
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	?	necessity for further study
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	?	necessity for further study
Natural Environment	10	Topography and geology	Δ−	potential for topograph change.
	11	Soil erosion	Δ−	potential for increase surface run-off.
	12	Groundwater	×	
	13	Hydrological situation	?	necessity for further study
	14	Coastal zone	×	
	15	Flora and fauna	Δ−	potential for land cover change.
	16	Climate	×	
	17	Landscape	Δ−	potential for landscape change.
Pollution	18	Air pollution	Δ−	potential for increase of emission from aircraft and tourist traffic
	19	Water pollution	×	
	20	Soil contamination	Δ−	potential for oil and fuel spill.
	21	Noise and vibration	Δ−	potential for increase of emission from aircraft and tourist traffic
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	DA	

Table A19.8.2 IEE Matrix for Proposed Projects/Programs in Omnogovi Area (7/7)
Name of the Project/Program: Road Improvement (Dalanzadgad - Sevrey)

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	?	necessity for further study
	2	Economic activities	O+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential increase of tourist traffic at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	×	
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	?	necessity for further study
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	Δ+	potential decrease in traffic accidents
Natural Environment	10	Topography and geology	?	necessity for further study
	11	Soil erosion	Δ−	potential for increase surface run-off.
	12	Groundwater	×	
	13	Hydrological situation	?	necessity for further study
	14	Coastal zone	×	
	15	Flora and fauna	Δ−	potential for land cover change.
	16	Climate	×	
	17	Landscape	Δ−	potential for landscape change.
Pollution	18	Air pollution	?	necessity for further study
	19	Water pollution	×	
	20	Soil contamination	×	
	21	Noise and vibration	×	
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	DA	

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Source: JICA Study Team

Table A19.8.3 IEE Matrix for Proposed Projects/Programs in Harhorin Area (1/9)
Name of the Project/Program: Excavation and Preparation of the Harhorin Ruin (Interpretative Panels)

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	?	necessity for further study
	2	Economic activities	Δ+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential increase of tourist traffic at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	O+	potential for introduction & preservation of cultural heritage
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	?	necessity for further study
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	×	
Natural Environment	10	Topography and geology	Δ−	potential for changes
	11	Soil erosion	Δ−	potential for increase surface run-off by trampling soil.
	12	Groundwater	×	
	13	Hydrological situation	×	
	14	Coastal zone	×	
	15	Flora and fauna	×	
	16	Climate	×	
	17	Landscape	Δ−	potential for changes
Pollution	18	Air pollution	×	
	19	Water pollution	×	
	20	Soil contamination	×	
	21	Noise and vibration	×	
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	MND	

Table A19.8.3 IEE Matrix for Proposed Projects/Programs in Harhorin Area (2/9)
Name of the Project/Program: Excavation and Preparation of the Ancient Sites in the Selenge Basin (Interpretative Panels)

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	?	necessity for further study
	2	Economic activities	Δ+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential increase of tourist traffic at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	O+	potential for introduction & preservation of cultural heritage
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	×	
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	×	
Natural Environment	10	Topography and geology	Δ	potential for changes
	11	Soil erosion	Δ−	potential for increase surface run-off by trampling soil.
	12	Groundwater	×	
	13	Hydrological situation	×	
	14	Coastal zone	×	
	15	Flora and fauna	×	
	16	Climate	×	
	17	Landscape	Δ	potential for changes
Pollution	18	Air pollution	Δ−	potential for increase of survey traffic
	19	Water pollution	×	
	20	Soil contamination	×	
	21	Noise and vibration	Δ−	potential for increase of survey traffic
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	MND	

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Source: JICA Study Team

Table A19.8.3 IEE Matrix for Proposed Projects/Programs in Harhorin Area (3/9)

Name of the Project/Program: Harhorin Visitor Center near Erdenezuu

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	O+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential increase of tourist traffic at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	O+	potential for introduction & preservation of cultural heritage
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	×	
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	×	
Natural Environment	10	Topography and geology	Δ	potential for changes
	11	Soil erosion	Δ−	potential for increase surface run-off by trampling soil
	12	Groundwater	×	
	13	Hydrological situation	×	
	14	Coastal zone	×	
	15	Flora and fauna	Δ−	potential for land cover change.
	16	Climate	×	
	17	Landscape	Δ−	potential for landscape change
Pollution	18	Air pollution	Δ−	potential for increase of emission from tourist traffic
	19	Water pollution	Δ−	potential for increase of sewage
	20	Soil contamination	×	
	21	Noise and vibration	Δ−	potential for increase of tourist traffic
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	**MND**	

Table A19.8.3 IEE Matrix for Proposed Projects/Programs in Harhorin Area (4/9)

Name of the Project/Program: Improvement of Erdenezuu Surroundings

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	?	necessity for further study
	2	Economic activities	O+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential increase of tourist traffic at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	Δ+	potential for introduction & preservation of cultural heritage
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	×	
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	Δ+	potential decrease in traffic accidents
Natural Environment	10	Topography and geology	×	
	11	Soil erosion	Δ−	potential for increase surface run-off by trampling soil.
	12	Groundwater	×	
	13	Hydrological situation	×	
	14	Coastal zone	×	
	15	Flora and fauna	×	
	16	Climate	×	
	17	Landscape	Δ−	potential for changes
Pollution	18	Air pollution	Δ−	potential for increase of emission from tourist traffic
	19	Water pollution	Δ−	potential for increae of sewage
	20	Soil contamination	×	
	21	Noise and vibration	Δ−	potential for increase of tourist traffic
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	**MND**	

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DA = Detailed Assessment: EIA will be required.
Source: JICA Study Team

Table A19.8.3 IEE Matrix for Proposed Projects/Programs in Harhorin Area (5/9)

Name of the Project/Program: National Bird Watching Circuit Site

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	O+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential traffic congestion for increase of tourist passengers at peak season
	4	Split of communities	×	
	5	Cultural property	×	
	6	Water rights/Right of common	×	
	7	Public health condition	×	
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	Δ+	potential decrease in traffic accidents
Natural Environment	10	Topography and geology	×	
	11	Soil erosion	×	
	12	Groundwater	×	
	13	Hydrological situation	×	
	14	Coastal zone	×	
	15	Flora and fauna	?	necessity for further study when designing the details.
	16	Climate	×	
	17	Landscape	?	necessity for further study when designing the details.
Pollution	18	Air pollution	×	
	19	Water pollution	×	
	20	Soil contamination	×	
	21	Noise and vibration	×	
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	**MND**	

Table A19.8.3 IEE Matrix for Proposed Projects/Programs in Harhorin Area (6/9)

Name of the Project/Program: Tourist Roads in Harhorin (to Uigur Fort, to Turk monuments, Other roads)

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	?	necessity for further study
	2	Economic activities	O+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential increase of tourist traffic at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	×	
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	?	necessity for further study
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	Δ+	potential decrease in traffic accidents
Natural Environment	10	Topography and geology	?	necessity for further study
	11	Soil erosion	Δ−	potential for increase surface run-off.
	12	Groundwater	×	
	13	Hydrological situation	?	necessity for further study
	14	Coastal zone	×	
	15	Flora and fauna	Δ−	potential for land cover change.
	16	Climate	×	
	17	Landscape	Δ−	potential for landscape change.
Pollution	18	Air pollution	Δ−	potential for increase of emission from traffic
	19	Water pollution	×	
	20	Soil contamination	×	
	21	Noise and vibration	Δ−	potential for increase of traffic
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	**DA**	

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Source: JICA Study Team

Table A19.8.3 IEE Matrix for Proposed Projects/Programs in Harhorin Area (7/9)

Name of the Project/Program: Upgrading of Hujirt Spa area

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	?	necessity for further study
	2	Economic activities	O+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential increase of tourist traffic at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	×	
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	?	necessity for further study
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	×	
Natural Environment	10	Topography and geology	×	
	11	Soil erosion	Δ−	potential for increase surface run-off by trampling soil.
	12	Groundwater	?	necessity for further study
	13	Hydrological situation	?	necessity for further study
	14	Coastal zone	×	
	15	Flora and fauna	?	necessity for further study
	16	Climate	×	
	17	Landscape	×	
Pollution	18	Air pollution	Δ−	potential for increase of emission from tourist traffic
	19	Water pollution	Δ−	potential for increase sewerage
	20	Soil contamination	×	
	21	Noise and vibration	Δ−	potential for increase of tourist traffic
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	MND	

Table A19.8.3 IEE Matrix for Proposed Projects/Programs in Harhorin Area (8/9)

Name of the Project/Program: Improvement of Orkhon Falls Surroundings

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	O+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential increase of tourist traffic at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	Δ+	potential for introduction & preservation of cultural heritage
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	?	necessity for further study
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	Δ+	potential decrease in traffic accidents
Natural Environment	10	Topography and geology	Δ	potential for changes
	11	Soil erosion	Δ−	potential for increase surface run-off by trampling soil.
	12	Groundwater	×	
	13	Hydrological situation	×	
	14	Coastal zone	×	
	15	Flora and fauna	Δ−	potential for land cover change.
	16	Climate	×	
	17	Landscape	Δ−	potential for landscape change
Pollution	18	Air pollution	Δ−	potential for increase of emission from tourist traffic
	19	Water pollution	Δ−	potential for increase of sewage
	20	Soil contamination	×	
	21	Noise and vibration	Δ−	potential for increase of tourist traffic
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	MND	

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Source: JICA Study Team

Table A19.8.3 IEE Matrix for Proposed Projects/Programs in Harhorin Area (9/9)
Name of the Project/Program: Upgrading of Harhorin Airport

		Item	Evaluation	Remarks
Social Environment	1	Resettlement	×	
	2	Economic activities	O+	possible skewed spread of tourist benefits to residents
	3	Traffic and public facilities	Δ−	potential increase of tourist traffic at peak season
	4	Split of communities	?	necessity for further study
	5	Cultural property	×	
	6	Water rights/Right of common	?	necessity for further study
	7	Public health condition	?	necessity for further study
	8	Waste	Δ−	potential for tourist litter
	9	Hazards	?	necessity for further study
Natural Environment	10	Topography and geology	?	necessity for further study
	11	Soil erosion	Δ−	potential for increase surface run-off.
	12	Groundwater	×	
	13	Hydrological situation	×	
	14	Coastal zone	×	
	15	Flora and fauna	Δ−	potential for land cover change.
	16	Climate	×	
	17	Landscape	×	
Pollution	18	Air pollution	Δ−	potential for increase air and land trafic.
	19	Water pollution	Δ−	potential for increase sewerage.
	20	Soil contamination	Δ−	potential for oil and fuel spill.
	21	Noise and vibration	Δ−	potential for increase air and land trafic.
	22	Land subsidence	×	
	23	Offensive odor	×	
		Total Evaluation :	DA	

A19.8.3 Natural Environmental Survey

1) Objectives and Method

(1) Objectives

The supplemental survey was implemented by the local consulting firm on the natural environment concerning the three model areas of Tourism Development for the Master Plan on National Tourism Development in Mongolia. The survey was conducted from Dec. 1998 to March 1999. The site visit was conducted from 8 Jan. 99 to 22. Jan. 99.

The main objectives of the survey are:

- acquire back ground data and information on environmental laws, regulation, environmental standard
- study for evaluation of additional environmental road by future projects
- assessment of environmental impacts by tourism development

(2) Method

The methodology for preparing the IEE is that recommended by MNE. It is based on the methodology developed by United Nations Economic and Social Commission for Asia and Pacific.

The techniques and methodologies for assessing the impacts of development activities on the environment area:

- Checklists

- Matrices
- Battell system

Battelle system is Environmental Evaluation System (EES) developed by Battelle Laboratory for the United States Bureau of Reclamation. In this methodology environmental resources are classified and evaluated in four general headings namely:

- Natural physical resources,
- Natural ecological resources,
- Human use or economic development resources, and
- Quality-of-life values.

2) Summary of Survey Results

Ulaanbaatar

(1) Background

Ulaanbaatar is situated in the center of Mongolia, in the middle of the Khenti Mountain, in the valley of the Tuul river and elevated 1300m above sea level. Present territory of Ulaanbaatar is 135800 ha, 2600 ha of it are occupied with buildings. Its population of 620,000 is a quarter of the whole population of the country. Ulaanbaatar city and the Terelj area are the main tourist centers of Mongolia. The Terelj area is located in the east part of Ulaanbaatar city and connected with paved roads and power line.

(2) Water quality of river basin Terelj

In the master plan on tourism development in Mongolia is indicated the site in the Tuul valley near Nalaih for the proposed Tourist Center. Table 1. Show the water quality of Tuul river near the bridge.

Table A19.8.4 Water quality analysis done about 6 km upwards of the Tuul bridge (1998)

Water Quality	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ave
pH	8.1	8.3	8.6	7.4	6.8	-	7.2	-	7.1	6.8	6.9	-	7.5
COD mg/dl	1.1	0.2	6.0	3.3	2.7	-	2.3	-	5.0	3.0	2.7	-	2.9
BOD mg/dl	1.6	0.5	1.0	2.7	2.7	-	2.3	-		3.0	2.7	-	2.9
TSP mg/dl	3.9	17.0	0.6	0.8	6.6	-	-	-	13.2	7.2	15.4	-	8.1
Mineralization mg/dl	68.7	104	165	106	47.6	-	61.2	-	37.6	57.6	74.4	-	80.1

(3) Air quality

The additional research for the air quality near the residential area and major road (western crossroad) indicated in the Mater plan (December, 1998). NO_2 content is close to permitted level of 20 minute mean levels CO and SO_2 levels were comparatively high on some days, but they do not exceed the permitted level. In 4 measurements the NO_2 content exceeds the permitted level. This research as done in winter, when air pollution is at its highest level in Ulaanbaatar City.

(4) Noise level

The results of noise measurements beside Buyant-Uhaa airport and the major road of Ulaanbaatar City are shown in Table 2 and 3. The result indicates that the noise level

does not exceeds the permitted level except for the air plane landing period.

Table A19.8.5 Noise level beside the Buyant-Uhaa airport Jan. 4, 1999

Survey point of Noise level		Noise level (dB)
Beside Buyant-Uhaa Airport	Usual period	59
	Air-plane landing	92
		44
Main cross road		37
Yarmag road		44

Table A19.8.6 Noise level in Ulaanbaatar City Center (dB) Jan. 3 and 4, 1999

Survey point of Noise level	Noise level (dB)	
	Day time	Evening time
Huvisgalchidiin main street beside the Chandmani Center	64	62
Food-store No.1	67	63
Hudaldaani street beside the Ministry of Finance	63	59
Barilgachidiin squire	62	57
Western cross-road	71	68

The noise level exceeds the permitted noise level of Mongolia, which is 60 dB in the area of hotels, hostels, and apartment buildings. The survey was done in January, when traffic flows are comparatively less. Therefore, it is necessary to measure tin the summer season when the traffic flows are high.

(5) Ecology

Due to the sharp increase in the seasonal tourist activity, visitors and increases in livestock numbers in the summer period for the last 5 years, the soil and vegetation covers have a tendency to change.

Soil. Due to the increasing number of parallel branch roads in this territory the mechanic destruction and degradation of land has been increasing. Soil erosion has been increasing.

Vegetation. Increasing of grazing in the summer period causes changes to the vegetation species distribution. Especially, in nearby areas of tourist camps have been predominating the sagebrush and a kind of bramble (*Chenopodium*) which indicates a tendency of decrease of the pasture vegetation biomass.

Forest. Due to traveler's carelessness forest and steppe fires occur which are the main cause of decreasing forestation in Mongolia. Also insect infestations have had advice influence.

Permafrost. In the case of steppe or forest fires and decreasing vegetation cover the seasonal permafrost depth of the ground could be increased by up to 1 m which may lead to an increase in lowland march and mud areas.

Harhorin

(1) Background

Harhorin village in Uvusrhangai province was formed in 1929. The population of Harhorin village is 8.0 thousand with 1540 families, 145,192 livestock and 48770.0 ha of land (11378.0 ha of arable land and 32615.0 ha of pastureland)

(2) Water quality of Orkhon river

The latest yearly result of analysis reported in Meteorological Data Fund is shown in Table A19.8.7.

Table A19.8.7 Water quality of Orkhon river in Khar Khorin sum.

Water Quality	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ave
pH			8.6	8.2	8.0		8.4		7.2				8.1
COD mg/dl			3.4	2.3	2.1		1.7		2.7				2.4
BOD mg/dl													
TSP mg/dl			14.0	12.2			2.8		3.6				8.2
TDS			193	137	116		140		99				137

(3) Air quality

The results of the present air quality survey beside the residential area and major road are shown in Table 5. SO_2 and CO level have not exceed the Mongolian standard, but NO_2 level exceeds the standard in 42% of all sampling cases. This result indicates that the air pollution may occur in winter period in case of air inversion effects.

Table A19.8.8 The result of air quality analysis in Khar Khorin sum (20 min mean, Jan. 9–11,1999)

Survey point	SO_2	NO_2	CO
Khar Balgas road and residential area	0.01-0.013	0.014-0.09	0.6-1.0
Khoshoo Tsaidam road or Food Market	0.009-0.016	0.062-0.115	0.8-1.0
Sum Center or Power plant	0.009-0.012	0.043-0.097	0.6-1.5

(4) Noise level

The result of noise level survey is shown in Table A19.8.9.

Table A19.8.9 Noise level (dB) in Khar Khorin soum Jan. 9, 1999

Survey point of Noise level	Noise level (dB)
Khar Balgas road and residential area	52-59
Khoshoo Tsaidam road or Food Market	50-52
Soum center or Power plant	52-58

(5) Ecology

Soil. Due to inappropriate agricultural activity the crop land area has decreased in fertility. For the moment data is not available to identify the impact of mechanical cultivation and chemical application to crop land and it needs detailed research and additional study.

Vegetation. Due to the nearby location of the major road and sum center the land has been degraded by overgrazing and transport movements. Increasing the use of this land

for pasture in the summer period causes changes in the vegetation species formation.

Forest. Forest and steppe fire occur which are the main causes of decreasing forests in Mongolia. Insect infestations have had as adverse effect.

Permafrost. In the case of steppe or forest fires and decreasing vegetation cover the seasonal permafrost depth of the ground could be increased by up to 1 m which may lead to an increase in lowland march and mud areas.

Omnogovi

(1) Background

The territory of Omnogovi is 165300 sq km with the population 45700. Many remains of primitive and new stone and bronze age tools used by ancient people and dinosaur bones and eggs are found most frequently. About 20.6 % of the territory or 3.4 million hectares of land has been given state protection: Gobi Gurvansaikhan Natural Park (1994), Gob Strictly Protected Reserve (1996).

(2) Ecology

Soil. The surroundings of the tourist base have been degraded by human and vehicle movements.

Vegetation. Increase use of this land for tourist services in the summer period forms the condition for changes to the vegetation species formation. Especially in the surroundings of the tourist base sagebrush and a kind of bramble (*Chenopodium)* have increased which indicates a decrease in vegetation cover.

Surface and ground water table. It has not been studied. Thus, in the case of the development of tourist activity in this area it is necessary to make detailed assessment.

3) The results of the environmental evaluation system (EES, Battell system).

The environmental impacts of the project "The Master Plan on Natural Tourism Development in Priority Areas of Mongolia", on each category are presented in Table 6 for both "with" and "without" the project.

During the implementation of the issues indicated in the Mater plan on tourism development in Mongolia there will be created new service centers in Ulaanbaatar, Terelj, Omnogovi and Harhorin areas and therefore increased impacts to the ecosystem (air, water quality, noise level and soil).

Table A19.8.10 Application of EES methodology to the Model area tourism development project.

		Parameter	With project	Without project	Net change
Ecology	Natural condition	Geological structure	31.25	31.25	0.00
		Biogeocenoz	17.36	27.78	-10.42
		Wildlife	24.31	31.25	-6.94
		Flora	20.83	31.25	-10.42
		Rare and endangered species	20.83	31.25	-10.42
		Rare plants	31.25	31.25	0.00
	Natural resource	Mineral resource	31.25	31.25	0.00
		Pasture	24.31	31.25	-6.94
		Water resource	24.31	31.25	-6.94
		Forest resource	24.31	31.25	-6.94
		Energy resource	3.47	3.47	0.00
Physico-chemical change	Land cover	Water change	17.36	24.31	-6.94
		Soil erosion	17.36	24.31	-6.94
		Soil nutrition	13.89	17.36	-3.47
		Soil pollution	24.31	31.25	-6.94
		Tictonic	31.25	31.25	0.00
		Forest and wildlife	31.25	31.25	0.00
	Surface water	Change in river bank	31.25	31.25	0.00
		Water mud	17.36	24.31	-6.94
		BOD	6.94	31.25	-24.31
		Chemical pollution	24.31	31.25	-6.94
	Ground water	Filtration loss	27.78	27.78	0.00
		Ground water pollution	31.25	31.25	0.00
	Air	Climate change	20.83	20.83	0.00
		Air quality	17.36	24.31	-6.94