

Serological Test Result of Animal and Bird Serum
for Japanese Encephalitis by District Wise
(up to 1980)

District	ANIMAL SERUM		HI Titer				
	Total No. Tested *	Total No. of Positive (%)	<10	10	20	40	80 \geq
Kanchanpur	26	9 (35)					
Kailali	13	3 (23)					
Rupandehi	35	5 (14)					
Kapilvastu	11	3 (27)					
Nawalparasi	14	3 (21)					
Morang	7	6 (86)					
Sunsari	10	7 (70)					
Saptari	8	2 (25)					
Siraha	9	1 (11)					
Bara	7	1 (14)					
Parasa	6	2 (33)					
TOTAL	146	42 (288)	104	19	18	2	3

* No. of animal sera by species: Pigs 96, Ducks 40, Poultry 6, Pigeons 4

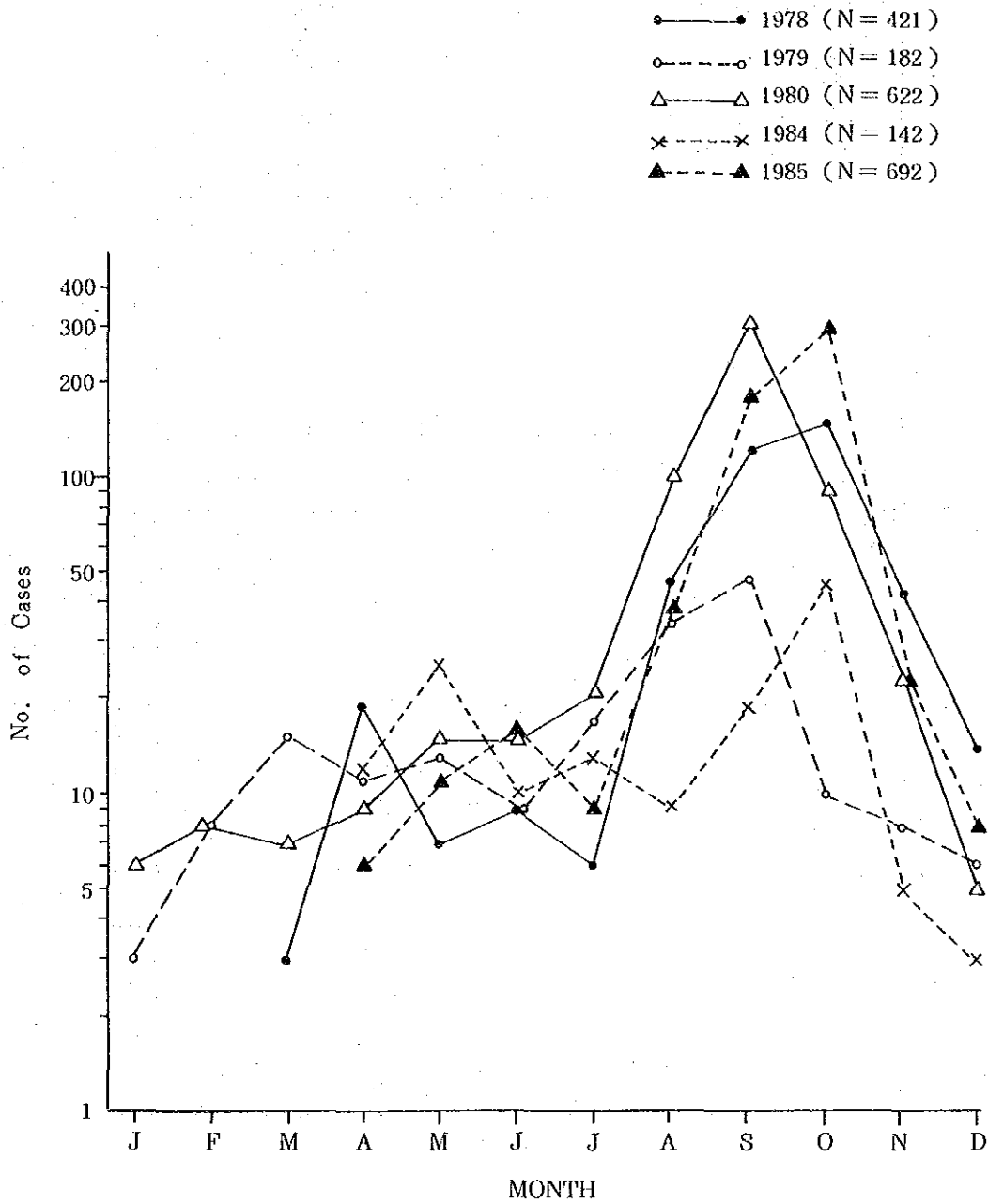
Percentage of Different Genus of Mosquitoes Collected:-

Genus	No. collected	%
a. Culex	1,971	83.46
b. Mansonia	70	3.00
c. Aedes	5	0.21
d. Armigeres	18	0.76
e. Anopheles	298	12.61
Total	2,362	100

Percentage of Different Species of Culex Collected
among the Genus Culex

Species	No. collected	%
i. Bitaeniorhynchus	6	0.30
ii. Epidesmus	15	0.76
iii. Fatigans	10	0.50
iv. Fusoocephalus	102	5.17
v. Gelidus	24	1.20
vi. Tritaeniorhynchus	122	6.18
vii. Vishnui complex	396	20.00
viii. Whitmorei	6	0.30
Unidentified culex	1289	65.39
Total	1971	100

Seasonal Incidence of Japanese Encephalitis
(1978-1980 & 1984-1985)



Cases of Meningitis by Hospitals, by Month of Onset,
Kathmandu Valley 2039/1 to 2041/5

Nepal Year/Month	A. D. Y/M	Hospitals					Total
		I D	Kanti	Bhaktapur	Patan	Bir	
2039/1	1982/5	4	17	6	9	1	37
2	6	2	11	0	8	5	26
3	7	2	7	2	3	1	15
4	8	1	7	0	2	1	11
5	9	1	6	1	3	1	12
6	10	2	7	2	1	1	13
7	11	2	11	1	0	0	14
8	12	2	8	1	4	3	18
9	1983/1	2	17	0	3	3	25
10	2	5	31	12	0	6	54
11	3	14	27	27	10	5	83
12	4	44	9	29	4	1	87
2040/1	5	134	18	87	6	0	245
2	6	36	11	103	14	1	165
3	7	21	6	36	11	1	75
4	8	10	10	15	4	0	39
5	9	6	8	10	5	1	30
6	10	9	5	8	1	0	23
7	11	9	10	10	2	0	31
8	12	17	18	12	14	0	61
9	1984/1	44	30	21	11	1	107
10	2	58	46	20	29	0	153
11	3	57	42	31	21	0	151
12	4	38	18	12	7	0	75
2041/1	5	32	9	8	10	0	59
2	6	19	10	0	11	0	40
3	7	8	4	9	6	0	27
4	8	13	2	0	8	0	23
5	9	6	2	0	6	0	14
Total		598	407	463	213	32	1713

Cases of Meningitis by District of Residence

by Date of Onset Kathmandu Valley 2039/1 to 2041/5

Year/Month	D I S T R I C T					Total
	Kathmandu	Lalitpur	Bhaktapur	Outside	Unknown	
2039/1	3	6	2	0	26	37
2	8	1	1	2	14	26
3	5	0	0	0	10	15
4	6	0	0	2	3	11
5	2	1	0	1	8	12
6	7	1	0	0	5	13
7	6	1	0	0	7	14
8	9	0	1	0	8	18
9	12	2	2	4	5	25
10	15	3	3	4	29	54
11	17	4	9	4	49	83
12	33	3	0	6	45	87
2040/1	90	19	5	13	118	245
2	29	4	6	3	123	165
3	13	8	6	3	45	75
4	9	3	0	6	21	39
5	7	1	1	1	20	30
6	5	1	0	2	15	23
7	5	1	0	1	24	31
8	19	6	8	3	25	61
9	50	6	10	12	29	107
10	63	11	8	13	58	153
11	48	18	31	10	44	151
12	37	9	12	15	2	75
2041/1	30	4	9	10	6	59
2	19	10	0	11	0	40
3	8	4	9	6	0	27
4	13	2	0	8	0	23
5	6	2	0	6	0	14
Total	574	131	123	146	739	1,713

Cases of Meningitis by Age and Sex Kathmandu Valley
2039/1 to 2041/5

Age/(Years)	SEX			Total	(%)
	Male	Female	Unknown		
1	68	62	1	131	8.2
1-4	125	99	2	226	14.2
5-9	173	129	3	305	19.2
10-14	162	116	1	279	17.5
15-19	141	90	0	231	14.5
20-24	76	68	1	145	9.1
25-29	37	34	0	71	4.4
30-34	27	27	0	54	3.4
35-39	19	25	0	44	2.8
40-44	15	15	0	30	1.9
45+	37	38	0	75	4.7
Unknown	6	14	102	122	-
Total	886	717	110	1713	100
% by sex	55.3	44.7	-	-	100

Field Activities in different Zone and Districts for Containment of
the various types of communicable Diseases out-
break in following areas in the year 2042.

S.No.	Zone	Districts	Diseases Outbreak	No. of cases	Date	Remarks
1	Seti	Bajang	Measles	-	2042/1/1	
2	Bagmati	Kabhre	Dysentry	-	2042/2/3	
3	Janakpur	Ramachap	" & Measles	-	2042/2/13	
4	Koshi	Panchthar	Rabies	-	2042/2/15	
5	Seti	Doti	Measles	-	2042/2/15	
6	Bheri	Jagarkot	"	-	2042/2/17	
7	Mechi	Talpejung	Gastroenterities	-	2042/2/21	
8	Bagmati	Dhading	B. Dysentry	-	2042/2/28	
9	Mechi	Ilam	"	-	2042/2/31	
10	Lumbini	Palpa	"	-	2042/2/31	
11	Sagarmatha	Kothang	"	-	2042/3/7	
12	Seti	Bajang	Gastroenteritis & Measles	-	2042/3/11	2nd time
13	Lumbini	Gulmi	B. Dysentry	-	2042/3/11	2nd time
14	Dhawalagri	Baglung	"	-	2042/3/11	
15	Mechi	Ilam	"	-	2042/3/11	2nd time
16	Seti	Doti	G.E. & Malaria	-	2042/3/12	2nd time
17	Rapati	Dang	G.E. & Measles	-	2042/4/17	
18	"	Peuthan	G.E. & B. Dysentry	-	2042/4/26	
19	"	Rolpa	" "	-	2042/4/26	
20	"	Rukum	" "	-	2042/4/26	
21	Karnali	Humla	" "	-	2042/4/26	
22	Seti	Bajang & Bajura	" "	-	2042/4/26	3rd time
23	Mechi	Ilam	" "	-	2042/5/2	3rd time
24	Bagmati	Dhading	Measles & B. Dysentry	-	2042/5/2	2nd time
25	Karnali	Kalikot	G.E. & Dysentry	-	2042/5/4	
26	Janakpur	Ramachap	" "	-	2042/5/4	2nd time
27	Sagarmatha	Khotang	Measles & Dysentry	-	2045/5/10	2nd time
28	Seti	Achham	" "	-	2042/5/24	
29	Mechi	Jhapa	Gastroenteritis	-	2042/6/1	
30	Mechi	Panchther	Rabies	-	2042/10/14	
31	Bagmati	Dhading	Typhoid	-	2042/11/9	
32	Koshi	Biratnager	Meningitis	-	2042/11/9	
33	Narayani	Makawanpur	Measles	-	2042/1 /29	

Age and Sexwise Distribution of Snakebite Cases
in the Project Area During the Year 2041
(1984/85)

Age group in year	Sex		Cured cases	Deaths	Total
	M	F			
0 - 4	5	3	7	1	8
5 - 9	15	6	20	1	21
10 - 14	21	15	33	3	36
15 - 19	38	10	47	1	48
20 - 24	27	13	39	1	40
25 - 29	30	14	42	2	44
30 - 34	22	17	36	3	39
35 - 39	17	11	28	2	30
40 - 44	9	7	16	-	16
45 - 49	10	3	13	-	13
50 & above	10	13	19	4	23
N. A.	2	3	5	-	5
Total	206	117	305	18	323

Kala-Azar in Nepal

Year	Cases	Deaths
1980 - 1981	51	2
1981 - 1982	133	1
1982 - 1983	266	35
1983 - 1984	60	4
1984 - 1985	94	5
Total	604	47 (8.0%)

Anti Rabies Vaccine Procured and
Distributed for the Year 2042 (85/86)

Months	A.R.V. Procured in ml.	A.R.V. Distributed in ml.
Baishakh	50,000	67,460
Jestha	50,000	28,090
Asad	50,000	24,870
Shawan	50,000	78,120
Bhadra	50,000	31,200
Aswin	50,000	55,800
Kartik	50,000	38,780
Mangseer	50,000	56,630
Poush	50,000	26,680
Magh	50,000	69,020
Falgun	50,000	47,840
Chaitra	50,000	69,120
Total	6,00,000	5,93,780

Major causes of child morbidity, 1980-81

(based on treatment at 18 hospitals)

	Cases	Percent
Infection and parasites	1,270	28.9
Injury and poisoning	781	17.8
Respiratory diseases	752	17.8
Ill-defined symptoms	378	8.6
Nervous system diseases	306	6.9
Digestive disorders	266	6.0
Genito-urinary diseases	151	3.4
Subcutaneous tissues	130	2.9
Musculo-skeletal and connective tissues	72	1.6
Endocrine, nutritional and metabolic disorders	53	1.2
Others	224	5.1
Total	4,383	100.0

Major causes of death of children, 1974-75

<u>Infants (under 1 year)</u>	<u>Percent</u>
Pneumonia	27.2
Gastro-enteritis and diarrhoea	22.2
Avitaminosis and nutritional disorders	6.2
Meningitis	6.2
Acute respiratory infections	4.9
Bronchitis, emphysema and asthma	3.7
<u>Children (1-4 years)</u>	
Gastro-enteritis and diarrhoea	22.6
Symptoms and other ill-defined	16.8
Pneumonia	11.2
Meningitis	8.0
Measles	4.8
Tetanus	3.2

Prevalence rates of malnutrition

<u>Age Group</u> <u>Months</u>	<u>Moderate/severe</u> <u>Normal</u> 90 percent Weight/Age	<u>Malnutrition</u> 70 percent Weight/Age	<u>Wasting</u> 80 percent Weight/Age	<u>Stunting</u> 90 percent Height/Age
6-11	9.0 %	48.0 %	9.1 %	22.5 %
12-23	3.8	60.9	15.3	47.6
24-35	7.6	48.2	8.9	52.2
36-47	8.0	42.2	2.5	57.9
48-59	8.1	49.0	2.3	62.6
60-71	8.1	48.1	1.8	55.5
Total 6-71	7.3	49.9	6.8	51.4

Source: National Nutrition Policy Planning Seminar, Pokhara, 1978

Survey on Hospital-Acquired Infections in Kathmandu 1983

<u>Hospital</u>	<u>No. of hospital-acquired infections</u>		
	<u>September</u>	<u>December</u>	<u>Total</u>
Bir hospital	42/218 (19%)	35/223 (16%)	77/441 (18%)
Kanti hospital	18/84 (21%)	18/52 (35%)	36/136 (27%)
Maternity hosp.	16/112 (14%)	16/116 (14%)	32/228 (14%)
Infectious Dis. h.	1/92 (1%)	12/80 (15%)	13/172 (8%)
Total	77/506 (15%)	81/471 (17%)	158/977 (16.2%)

Seasonal Prevalence Figures (Non significant variations, t-test)

Wards

Maternity	11/84 (13%)	13/95 (14%)	24/179 (13%)
Gynaecology	5/28 (18%)	3/21 (14%)	8/49 (16%)
Paediatric	18/84 (21%)	18/52 (35%)	36/136 (27%)
Acute Medical	10/169 (6%)	18/161 (11%)	28/330 (8%)
Acute Surgery	14/58 (24%)	13/52 (25%)	27/110 (25%)
Orthopedic	9/30 (30%)	7/40 (18%)	16/70 (23%)
Intensive Care	8/11 (73%)	7/12 (58%)	15/23 (65%)
ENT	0/19 -	0/16 -	0/35 -
Eye clinic	2/23 (9%)	2/22 (9%)	4/45 (9%)
Total	77/506 (15%)	81/471 (17%)	158/977 (16.2%)

Days of Hospitalization

	< 8 days	≥ 8 days
H.A. infs patients (158)	31%	69%
NOT H.A. infs patients (819)	65%	35%

$$\chi^2 = 61.9$$

p < .001 = highly significant difference

(HAI continued)

<u>Reasons for admittance</u>	<u>H.A. infs. patients (158)</u>	<u>non H.A.infs. patients (819)</u>
Infectious or parasitic	22 %	31 %
Neoplasms	2 %	2 %
Endocrine	1 %	1 %
Blood diseases	1 %	1 %
Mental disorders	-	-
Neurological	9 %	2 %
Circulatory	5 %	5 %
Respiratory	8 %	5 %
Gastro-intestinal	10 %	9 %
Genito-urinary	12 %	7 %
Pregnancy and delivery	15 %	19 %
Skin diseases	1 %	1 %
Musculo-skeletal	11 %	8 %
Congenital abnormalities	3 %	1 %
Nonspecific symptoms	-	7 %
Trauma and injuries	2 %	1 %

No statistical significant differences between the two categories of patients for each group of diseases according to t-test.

	<u>H.A. infs pats (158)</u>	<u>non H.A. infs pats (819)</u>	<u>t-test</u>
Accidental break in skin on admission	14 %	6 %	(3.541, $p \leq .01$)
Thermal injury on admission	2 %	1 %	(not sign.)
Urinary catheter in hospital	29 %	9 %	(7.024, $p \leq .001$)
I. V. line in hospital	31 %	25 %	(not sign.)
All surgical wounds:	52 %	21 %	(8.132, $p \leq .001$)
Clean wounds:	20 %	7 %	(5.908, $p \leq .001$)
Clean contaminated wound:	5 %	2 %	(3.592, $p \leq .01$)
Contaminated wounds:	5 %	2 %	(not sign.)
Inc. of abcess:	5 %	2 %	(not sign.)

Appendix III

Parasitic Diseases

1. Malaria
2. Leishmaniasis
3. Filariasis

Number of Indigenous, Imported and Relapsed Malaria Cases in Each Region (1985)

	<i>P. Vivax</i>				<i>P. falciparum</i>			
	Indigenous	Imported	Relapsed	Others	Indigenous	Imported	Relapsed	Others
East	972 (32.4)	1,300 (43.3)	400 (13.9)	327 (10.9)	183 (24.4)	437 (58.6)	72 (9.7)	54 (7.2)
Central	4,027 (60.1)	1,109 (16.5)	939 (14.0)	627 (9.4)	74 (16.6)	254 (57.1)	98 (22.0)	19 (4.3)
West	3,167 (54.1)	1,398 (23.9)	772 (13.2)	512 (8.8)	161 (31.2)	204 (39.5)	73 (14.1)	78 (15.1)
Mid West	8,753 (65.5)	166 (1.2)	280 (2.1)	4,160 (31.1)	3,705 (68.8)	25 (0.5)	361 (6.7)	1,293 (24.0)
Total	16,919 (58.5)	3,970 (13.7)	2,391 (8.3)	5,626 (19.5)	4,123 (58.2)	920 (13.0)	604 (8.5)	1,434 (20.3)

Relapses and Recrudescences Cases on Malaria Patients Received Radical Treatment
(1981-1983)

P. vivax cases radically treated :

Year	Indigenous			Imported 'A'		
	No. treated	No. relapsed	%	No. treated	No. relapsed	%
1981	7,100	423	5.96	2,492	244	9.79
1982	7,442	513	6.89	3,183	304	9.55
1983	6,068	274	4.52	3,668	294	8.02

P. falciparum cases radically treated :

Year	Indigenous			Imported 'A'		
	No. treated	No. recrudescenced	%	No. treated	No. recrudescenced	%
1981	44	5	11.36	465	23	4.95
1982	139	10	7.19	674	35	5.19
1983	298	13	4.39	1,101	22	2.00

The Optimum Needs of Insecticide for Seventh Five Year Plan (1985/86-1989/90)

Insecticides (in Metric Tons)	1985/86	1986/87	1987/88	1988/89	1989/90
DDT	250	250	250	250	250
Malathion	680	680	640	640	600

Source : NMEO

Information on the Radical Treatment for Malaria in NMEO District (1981-1983)

Year	Total cases detected	No. of cases radically treated	No. of cases treated		
			within 7 days	within 8-14 days	after 14 days
1981	11,865	10,758	5,129	3,513	2,116
1982	14,046	12,550	5,392	5,010	2,148
1983	13,847	12,251	5,619	4,259	2,373

Anopheles Species in Nepal

1. <i>A. aconitus</i>	2. <i>A. aitkenii</i>	3. <i>A. amandalei</i>
4. * <i>A. annularis</i>	5. <i>A. barbirostris</i>	6. <i>A. culicifacies</i>
7. <i>A. filipinae</i>	8. * <i>A. fluviatilis</i>	9. <i>A. gigas</i>
10. <i>A. jamesii</i>	11. <i>A. jeyporiensis</i>	12. <i>A. karwari</i>
13. <i>A. kochi</i>	14. <i>A. balabacensis</i>	15. <i>A. lindesayi</i>
16. * <i>A. maculatus</i>	17. <i>A. majidi</i>	18. <i>A. mangyanus</i>
19. * <i>A. minimus</i>	20. <i>A. nigerrimus</i>	21. <i>A. pallidus</i>
22. <i>A. peditaeniatus</i>	23. <i>A. philippinensis</i>	24. <i>A. pseudosinensis</i>
25. <i>A. pulcherrimus</i>	26. <i>A. ramsayi</i>	27. <i>A. sinensis</i>
28. <i>A. splendidus</i>	29. <i>A. stephensi</i>	30. <i>A. subpictus</i>
31. <i>A. tessellatus</i>	32. <i>A. theobaldi</i>	33. <i>A. turkhudi</i>
34. <i>A. umbrosus</i>	35. <i>A. vagus</i>	36. <i>A. varuna</i>

* Provan vectors of malaria

Source : N M E O

Species and Number of Anopheles Collected from Survey Areas (East Region, 1981)

Survey area	Month	Method of Collection	Species				
			A. mac.	A. sub	A. vag	A. ann.	A. bar.
Panchthar District	July	Indoor catch	31	14	1,167		
Limbupin and		Outdoor catch	622	2	375	17	
Nowar Goun Village		Night biting (Human)	32		82	16	
(Low receptivity)		Night biting (Animal)	24		39	28	

Morang District	Sept.	Indoor catch			41	26	
Biratnagar		Outdoor catch			5		2
Urban area		Night biting (Human)			16	3	2
(Low receptivity)							

Sundari District	Oct.	Indoor catch		3	117	683	6
Mainatadi		Night biting (Human)				15	11
(Moderate receptivity)		night biting (Animal)				9	21

(出典 ; Annual Evaluation Report, 1982)

Species and Number of Anopheles Collected from Survey Areas
(Central Region, 1981)

Survey area	Month	Method of Collection	<i>A. mac.</i>	<i>A. sub.</i>	<i>A. vag.</i>	<i>A. ann.</i>	<i>A. cul.</i>	Other
Kabre	March	Indoor catch	73	1	0	37	0	12
		Outdoor catch	1	0	0	0	0	0
		Night biting-Intra	2	0	0	0	0	1
	July	Night biting-Extra	9	0	0	4	2	2
		Indoor catch	0	46	950	18	21	0
		Outdoor catch	0	0	87	0	3	4
Chitawan	June	Night biting-Intra	0	20	0	0	3	0
		Night biting-Extra	3	0	14	4	4	3
		Indoor catch	1	4	0	23	418	0
N.I.-14		Outdoor catch	83	1	4	0	11	32
		Night biting	6	2	2	5	1	0

Species and Numbers of Anopheles Collected from Survey Areas
(West Region, 1981)

Survey area	Month	Method of catch	<i>A. sub.</i>	<i>A. vag.</i>	<i>A. ann.</i>	<i>A. cul.</i>	<i>A. sin.</i>	Other
Rupandehi (Low Terai)	Jan.	Indoor catch	137	0	431	0	0	0
		Outdoor catch	0	0	0	0	80	0
		Night biting	19	0	6	0	2	0
July	Indoor catch	389	99	541	31	0	0	
	Night biting	18	0	3	0	0	0	
Oct.	Indoor catch	163	2	200	9	0	0	
	Night biting	10	0	3	0	0	0	

Nawalparasi (Low Terai)	Nov.	Indoor catch	0	100	334	12	371	33
		Night biting	0	10	23	0	2	1

Tanahun (Low hill)	Aug.	Indoor catch	106	29	29	15	0	0
		Night biting	9	5	0	3	0	0

Species and Numbers of Anopheles Collected from Survey Areas
(Mid-Far West Region, 1981)

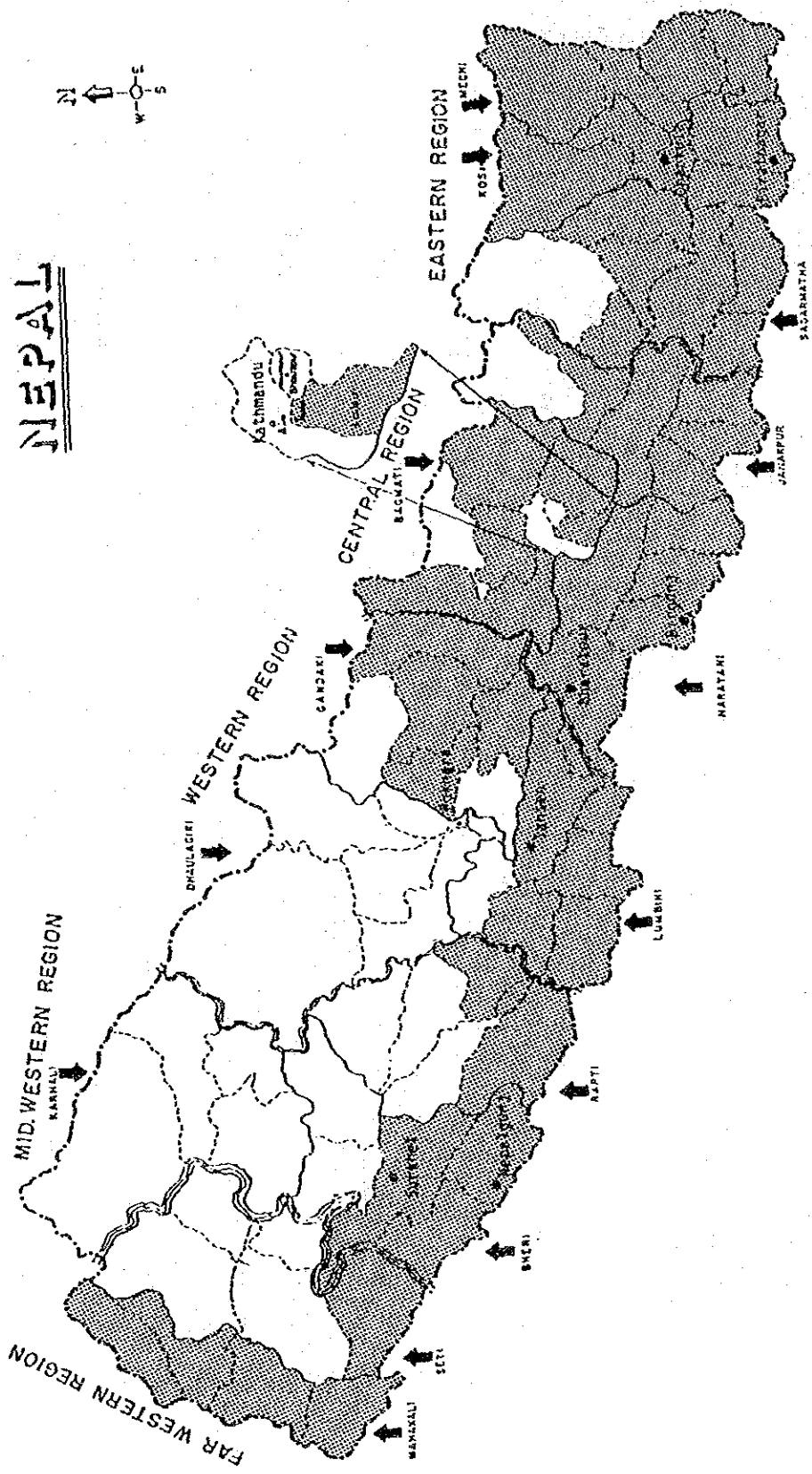
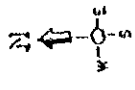
Survey area	Month	Method of catch	A. ann.	A. cul.	A. vag.	A. sub.	A. bar.	Other
Kanchanpur	Feb.	Indoor catch	3	0	0	0	2	0
		Night biting	10	0	0	0	28	21
	May	Indoor catch	0	9	40	211	0	0
		Night biting	0	0	0	3	0	0
	Aug.	Indoor catch	0	95	0	281	0	0
Nov.	Night biting	13	13	0	2	0	4	
	Indoor catch	73	104	19	20	0	4	

Bardia		Indoor catch	4	81	0	0	6	0

Dang		Indoor catch	4	81	0	0	6	0
		Outdoor catch	43	104	0	0	21	134
	Night catch	13	38	0	0	7	15	

Source : Annual Evaluation Report, 1982

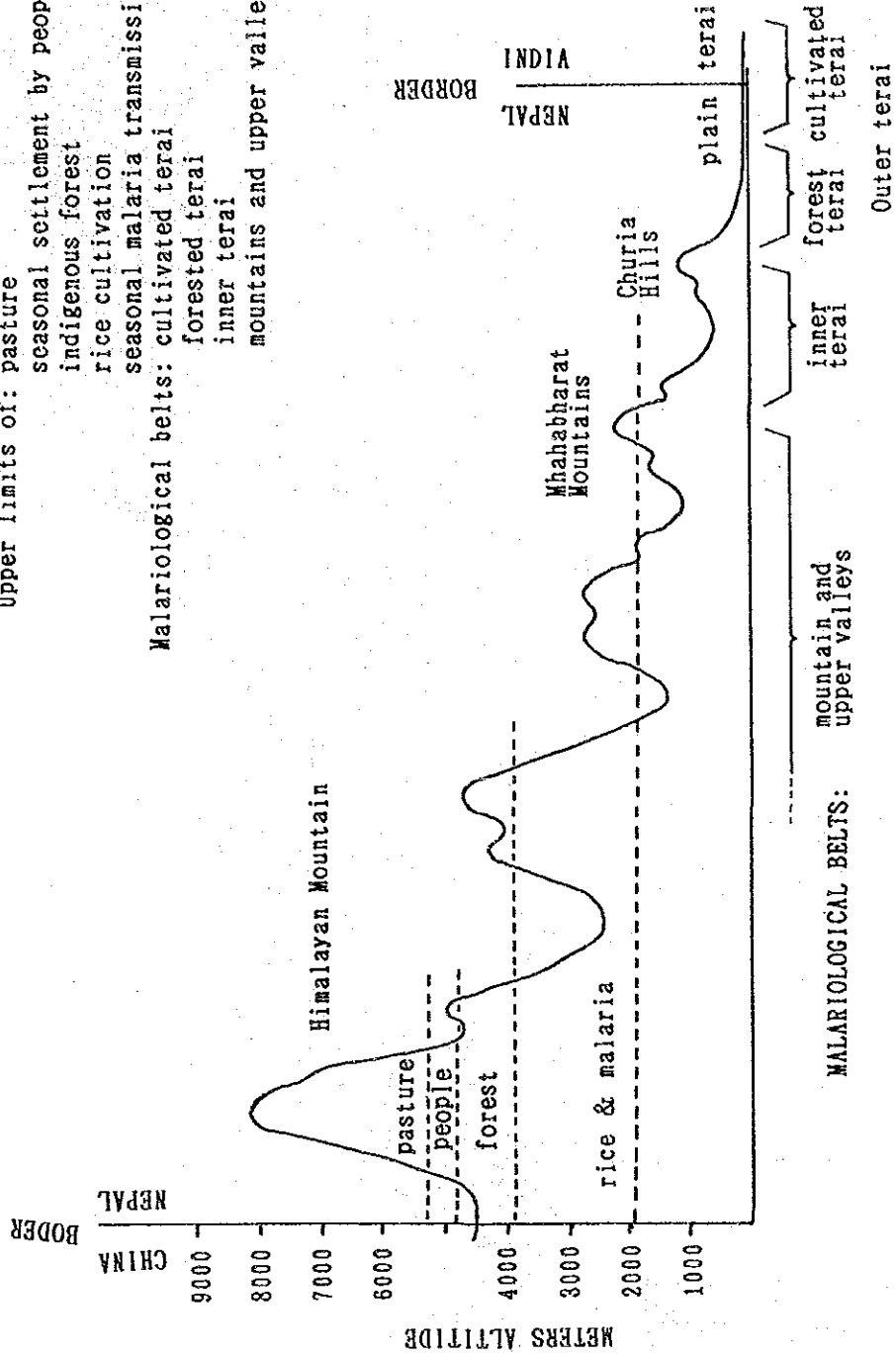
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Upper limits of: pasture
 seasonal settlement by people
 indigenous forest
 rice cultivation
 seasonal malaria transmission

Malariaiological belts: cultivated terai
 forested terai
 inner terai
 mountains and upper valleys



Leishmaniasis Cases Reported between 1980/81-1984/85 in Nepal

Year	Cases cured	Cases death	Total
1980~1981	49	2	51
1981~1982	132	1	133
1982~1983	231	35	266
1983~1984	56	4	60
1984~1985	89	5	94
Total	557	47	604

Leishmaniasis Cases from Different Hospital of Nepal (1984/85)

Ser. No	Hospitals	Cases cured	Cases dead	Total
1.	Rangeli Hospital	3	0	3
2.	Koshi Zonal Hospital	8	0	8
3.	Ilam Hospital	4	1	5
4.	Jhapa Mechi Zonal Hospital	3	0	3
5.	Inarwa Hospital	1	0	1
6.	Sagarmatha Zonal Hospital	16	1	17
7.	Siraha Hospital	20	2	22
8.	Jaleswar Hospital	2	0	2
9.	Janakpur Zonal Hospital	14	1	15
10.	Bir Hospital	2	0	2
11.	Bheri Zonal Hospital	2	0	2
12.	Lumbini Zonal Hospital	2	0	2
13.	Kailali Hospital	10	0	10
14.	Kanchanpur Hospital	2	0	2
	Total	89	5	94

Source: D.D. Joshi et al "Status of Leishmaniasis in Nepal, 1986"

Recorded Cases of Leishmaniasis among Persons by Age and Sex

Age	Janakpur Hospital		Unsprayed area			Total	
	M	F	Total	M	F	Total	Total
0~9	5	0	5	1	2	3	8
10~19	7	0	7	0	0	0	7
20~29	2	8	10	0	2	2	12
30~39	0	3	3	1	1	2	5
40~49	1	0	1	1	1	2	3
50 +	0	0	0	0	0	0	0
Total	15	11	26	3	6	9	35
(%)	(57.6)	(42.4)		(33.3)	(66.7)		(51.4) (48.6)

Source: Joshi et al (1986)

The Results of ELISA Test for Leishmania Antibodies

Age group	No of aera tested		No. of positives			Total	Percent of positive
	M	F	M	F	Total		
0~4	2	1	1	0	1	33.3	
5~9	3	2	1	1	2	40.0	
10~14	14	8	14	2	15	72.7	
15~19	8	2	3	1	4	40.0	
20~29	12	8	6	5	11	55.0	
30~39	1	0	0	0	0		
40~49	2	1	1	0	1	33.3	
50~59	1	0	0	0	0		
60 +	0	0	0	0	0		
Total	43	22	65	9	35	52.3	

Source: Joshi et al (1986)

The Results of ELISA Test for Leishmaniasis in Different Districts
(1984-1985)

Ser. No.	District	Sera tested	Sera positive	% positive
1.	Dhanusha	31	8	25.8
2.	Kailali	69	34	49.3
3.	Kanchanpur	60	19	31.7
4.	Rupandehi	31	5	16.1
Total		191	66	34.6

Seasonal Variation of Species and Densities of Sandflies in Dhanusha District

Month	Man hours spend	Per man hour density of female (No. collected)					
		Total	papatasi	argentipes	sergenti	??	UI
January	16	0.4(6)	0.1(2)	0	0.2(3)	(0)	(1)
February	8	0.3(2)	0.1(1)	0	0	(0)	(1)
April	4	24.3(97)	18.0(72)	2.5(10)	1.3(5)	(6)	(4)
May	8	18.5(147)	12.0(98)	0.6(5)	0.9(7)	(1)	(36)
June	4	22.8(91)	8.5(34)	0.8(3)	0	(3)	(51)
July	4	19.0(76)	9.0(36)	0.8(3)	0.3(1)	(18)	(18)
August	4	15.3(61)	6.0(24)	0	0	(2)	(35)
September	4	30.5(122)	10.3(41)	0.5(2)	0.8(3)	(20)	(56)
October	4	9.5(38)	3.0(12)	0.3(1)	0	(15)	(10)
November	4	12.0(48)	9.0(36)	0	0.5(2)	(9)	(1)
December	6	9.3(56)	4.2(25)	0.2(1)	0	(15)	(15)

?? : Requiring reconfirmation
UI : Unidentified

Source: Joshi et al (1986)

Number of Population, Crude Disease Rate and Microfilaria Rate
by Area Surveyed

Survey area	Population	No Exam. (%)	No. with sign of elefantiasis	No. with microfilaria
Barabishe	803	494 (61.8)	51 (10.3)	55 (11.1)
Dolalghat	257	235 (94.0)	42 (17.8)	13 (5.5)
Banepa	5,013	757 (15.0)	51 (6.6)	76 (10.0)
Gokarna	1,535	633 (42.0)	80 (12.6)	112 (17.7)
Patan	8,050	829 (10.3)	51 (6.2)	76 (9.2)
Palung	2,000	311 (17.0)	12 (3.9)	10 (3.2)
Bhaise	409	249 (62.3)	3 (1.2)	2 (0.8)
Hetauda	2,803	853 (30.5)	52 (6.1)	68 (8.0)
Birganj	16,806	941 (5.6)	55 (5.0)	67 (7.1)
Total		5,302	397 (7.5)	479 (9.0)

Source: R.K. Jung, 1973

The Positive Microfilaria Rate of Blood Film Examination
by Area Surveyed (1986)

Survey area	No. of blood films examined	No. positives	Percent positives
Dhading	298	19	6.4
Nuwakot	171	6	3.5
Kaski	183	20	10.9
Total	652	45	6.9

Source: NMEO

Crude Disease Rate by Age-Group, Sex and Site Affected

Sex	Age-group	No. surveyed	Lower limb		Upper limb		Genital		
			Number	(%)	Number	(%)	Number	(%)	
Male	0-5	290	2	(0.7)	—	—	2	(0.7)	
	6-10	414	2	(0.5)	—	—	1	(0.2)	
	11-20	931	29	(3.1)	—	—	19	(2.0)	
	21-30	515	19	(3.7)	—	—	38	(7.4)	
	31-40	360	18	(5.0)	2	(0.5)	35	(9.7)	
	40-50	198	17	(8.6)	2	(1.0)	18	(9.1)	
	50 +	216	19	(8.8)	1	(0.5)	15	(6.9)	
	subtotal	2,924	106	(3.6)	5	(0.2)	128	(4.4)	
	Female	0-5	272	1	(0.3)	—	—	—	—
		6-10	366	11	(3.0)	1	(0.2)	—	—
11-20		644	60	(9.3)	2	(0.3)	—	—	
21-30		405	34	(8.4)	3	(0.7)	—	—	
31-40		313	24	(8.0)	2	(0.7)	—	—	
41-50		169	29	(17.1)	2	(1.2)	—	—	
50 +		209	28	(13.4)	6	(2.9)	—	—	
subtotal		2,378	187	(7.9)	16	(0.7)	—	—	
Grand total		5,302	293	(5.5)	21	(0.4)	—	—	

Source: R.K. Jung, 1973

Microfilaria Rate by Age Group and Sex

Age group (years)	Males			Females			Total		
	Number Examined	Number with Mf.	Mf. rate %	Number examined	Number with Mf.	Mf. rate %	Number examined	Number with Mf.	Mf. rate %
0-1	7	0		6	0		13	0	
2-5	283	9	3.1	266	6	2.3	549	15	2.7
6-10	414	33	7.7	366	34	9.3	780	67	8.6
11-20	931	71	7.5	644	70	10.9	1,575	141	9.0
21-30	515	48	9.1	405	37	9.1	920	85	9.2
31-40	360	51	14.2	313	33	10.5	673	84	12.5
41-50	198	27	14.0	169	12	7.1	367	39	10.6
50 +	216	29	13.4	209	19	9.1	425	48	11.3
Total	2,924	268	9.2	2,378	211	8.9	5,302	479	9.0

Source: R.K. Jung, 1973

Microfilaria Rate by Age Group and Sex

Age group (years)	Males			Females			Total		
	Number Examined with Mf.	Mf. rate %	Number examined	Number with Mf.	Mf. rate %	Number examined	Number with Mf.	Mf. rate %	
0-1	7	0	2	0		9	0		
1-4	18	0	13	0		31	0		
5-14	98	3	112	6	5.4	210	9	4.3	
15-24	78	9	63	6	9.5	141	15	10.6	
25-34	60	6	37	1	2.7	97	7	7.2	
35-44	42	4	44	4	9.1	86	8	9.3	
45-54	22	3	23	1	4.3	45	4	8.9	
55-64	13	0	8	0		21	0		
65-74	5	1	2	0		7	1	14.3	
75 +	4	1	1	0		5	1	20.0	
Total	347	27	305	18	5.9	652	45	6.9	

Source: NMEQ

Mosquito Infection Rate by Area Surveyed (1972)

Survey area	All Culiciras			<i>Culex fatigans</i>			Infection rate(%)
	Number collected	Man-hour density	Number collected	Man-hour density	Number dissected	Number positive	
Barabise	1,011	39.0	975	35.6	326	22	6.7
Dolalghat	7	0.03	5	0.25	5	0	0
Banepa	1,164	30.0	1,069	30.3	508	48	9.4
Gokarna	379	31.5	421	31.8	408	37	9.1
Patan	649	49.5	351	28.1	87	3	3.4
Palung	279	12.1	239	10.3	227	0	0
Bhaise	16	1.0	1	0.1	2	0	0
Hetauda	200	6.0	152	4.6	143	20	14.0
Birganj	422	15.5	389	14.4	389	33	8.5
Total	4,127		3,602		2,095	163	7.8

Appendix IV

Miscellaneous Informations

Distribution of Hospitals and Beds by Zone

Zone	Population	Hospital No.	Bed No.	Population / Bed
E D R	3,708,923	22	524	7,078
Mechi	932,625	4	95	9,817
Koshi	1,423,624	11	289	4,926
Sagarmatha	1,352,674	7	140	9,662
C D R	4,909,357	31	2,186	2,246
Janakpur	1,688,115	5	130	12,986
Bagmati	1,982,439	20	1,856	960
Narayani	1,438,803	6	200	7,193
W D R	3,128,859	17	616	5,079
Gandaki	1,107,569	6	330	3,356
Lumbini	1,567,828	9	256	6,124
Dhaulagiri	453,462	2	30	15,115
MWDR	1,955,611	7	131	14,928
Rapti	870,723	1	15	58,448
Karnali	242,486	1	15	16,160
Bheri	836,402	4	95	8,281
FWDR	1,320,089	12	310	4,258
Seti	794,911	7	225	3,532
Mahakali	525,178	5	85	6,179
Total	15,022,839	89	3,767	3,988

Estimates of infant mortality rate

	Data Source	Male	Female	Total
1973	National Fertility Survey	175.3	167.6	171.4
1978	Census 1981	146.9	141.5	144.2

Source: Central Bureau of Statistics, 1985

Infant mortality rate (1978)

Region	Male	Female	Total
Mountain	189.50	182.92	186.21
Hill	166.44	160.51	163.47
Tarai	125.42	119.22	122.32
All	147	142	144

Source: Central Bureau of Statistics

Crude Birth Rate, Crude Death Rate and Infant Mortality in Asian Countries

		1970	1975	1976	1977	1978	1979	1980	1981	1982	1983 ³⁾
Bangladesh	B ¹⁾				39.7					35.2	35.0
	D				16.5					14.2	12.3
Indonesia	B	43.8	40.2					36.2		33.7	33.6
	D	18.7	16.7	14.3	13.9	13.5	13.1	12.5	12.2	12.3	11.7
Japan	B	18.8	17.1	16.3	15.5	15.0	14.3	13.7	13.1	12.8	12.7
	D	6.9	6.3	6.3	6.1	6.1	6.0	6.2	6.2	6.0	6.2
Nepal	B								42.0		41.6
	D								19.0		16.6 [※]
Philippines	B	26.4	28.3	30.3	30.3	30.5	30.3	30.3	29.5	29.1	28.9
	D	6.4	6.4	6.9	7.0	6.5	6.6	6.2	6.1	6.1	6.3
Sri Lanka	B	29.4	27.7	27.8	27.9	28.4	28.9	28.4	28.0	26.8	26.2
	D	7.5	8.5	7.8	7.4	6.6	6.5	6.2	6.0	6.1	6.1
Thailand	B	31.5	27.1	27.2	24.6	23.1	23.3	23.2	22.4	22.2	21.3
	D	6.2	5.6	5.5	5.4	5.4	5.2	5.3	5.0	5.1	5.1
(Infant Mortality) ²⁾											
Bangladesh		132.9	153	110.3	114.2			97.4	109.5	121.9	128
Indonesia	137 (mean of 1961~1971)			110				90			93
Japan		10.8	10.0	9.3	8.9	8.4	7.9	7.5	7.1	6.6	6.2
Nepal									152.0		111.5 [※]
Philippines		58.7	53.3	56.9	56.8	53.1	50.2	45.1	44.1	41.8	42.7
Sri Lanka	(140 in 1945)	47.5	45.1	43.7	42.4	37.1	37.7	34.4			33.4
Thailand		26.1	26.0	25.5	16.2	16.6	14.2	13.3	12.5	12.4	12.4

1) B: Crude birth rate per 1,000 population; D: Crude death rate per 1,000 population

2) Infant Mortality per 1,000 live birth

3) ※ 1984

Medical Facilities and Health Manpower

	Bangladesh (1982)	Indonesia (1984)	Malaysia (1984)	Nepal (1985)	Paraguay (1984)	Philippines (1984)	Sri Lanka (1983)	Thailand (1983)
Med Fac (1)	709	1,306	98	89	135	1,739	821	808
Med Fac (2)		(HC) 4,753		HP814 HC 20				
No. of Beds	23,907	104,966	32,669	3,767	1,556	85,008	44,016	78,438
Population/ Bed	3,959	1,522	622	4,413	2,070	625	351	631
Bed/10,000	25	65	161	227	376	160	285	158
No. of Doctor	11,513	17,760	4,474	710	2,000	49,602	18,444	7,902
Population/ Doctor	8,221	9,098	3,220	23,416	1,600	1,072	8,375	6,259
Population/ Dentist		60,653	18,548		14,500	2,619	50,471	39,662
Population/ Nurse		6,255	774	22,406		362	461	1,870
Population/ Midw	12,732	3,715	585	12,333	15,400	253	195	5,435

- 1) Med Fac : Medical Facility, (1) with bed (2) without bed
2) Midw : Midwife

Source: Observation Reports on Infectious Diseases, JICA (1981-1986)

Supply of Drinking Water and Treatment of Nightsoil¹⁾

	Pipe Water	Toilet Facilities 4)	
		Flush Water	Pit or Moulded Bucket
Bangladesh	27.2% of Target	About 4 %	
Indonesia	7.3 (Urban 24.4)	11.0 (Urban 43.0)	25.3 (Rural 26.6)
Nepal	Urban 70 Rural 24	← Urban 73 → ← Rural < 5 →	
Paraguay	15.3		
Philippines	52.9	Urban 72 Rural 47	Urban 13 Rural 28
Sri Lanka	17 (Well 52) ²⁾	4.8	62.0
Thailand	18.9	4.2	50.3

Source: SEAMIC Statistics 1985, and Observation Reports, on Infectious Diseases, JICA (1984, 1986)

Note: 1) Figures show percentage of households equipped with the facilities

2) Protected well

JICA