REPORT
ON
IECH SURVEY
2001

IECH DIVISION
DEPARTMENT OF HEALTH, BHUTAN

June, 2001

MANAGEMENT
SERVICES
GROUP

June 14, 2001

Dr. Sonam Ugen
Joint Director
IECH Division
Department of Health
Ministry of Health & Education
Thimphu
Bhutan

MANAGEMENT
SERVICES
GROUP

Dear Madam,

This refers to the recently completed IECH Survey. The findings and conclusions of this survey have already been included in the compilation of survey results. These are provided in the Appendix I to this report in the form of presentation material. The purpose of this report is to set out certain important considerations for IECH which emerge from the results of the survey.

Respondent profile

2. It is important to remember that the survey covered the 12 northern dzongkhags and not the 8 southern dzongkhags along the international border (Chukha, Dagana, Samtse, Tsirang, Sarpang, Zhemgang, Pemagatsel, Samdrup Jhonkar). The results have been compiled for three regions: central (Bumthang, Trongsa, Wangdue), western (Gasa, Haa, Paro, Punakha, Thimphu), and eastern (Lhuntse, Mongar, Trashigang, Trashi Yangtse).

3. The total sample of 1035 consisted of 634 females and 401 males. As these were not equal the result is somewhat affected by the larger proportion of females. However, adjustment required is small. The age group surveyed was 18-60 to cover the main decision makers in the household. This for instance affects the percentage able to read.

Languages understood

4. In the 12 dzongkhags Dzongkha and Sharchop are the predominant languages. In the centre and west 97% and 99% respectively of the population understands Dzongkha. In the east 94% of the population understands Sharchop. Therefore, IECH messages need be

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delivered only in these two languages unless a specific small segment of the population is being targeted which may require a different language e.g. English for the educated elite.

Education

5. 80% of the population has received no education (89% of the females and 68% of the males). Only 21% are able to read (10% females and 39% males). The overall survey result is of course somewhat affected by the larger number of females surveyed and by the fact that Sharchop does not have a script. It is important to note that ability to read is very restricted and therefore IECH messages have to be delivered in a spoken form or pictorially without recourse to the written word.

Primary occupation

6. 81% are farmers. Therefore, farming subjects are of interest to them. IECH messages could be conveyed effectively during farming programmmes, at weekly markets, etc.

Media preferences

7. 66% listen to Bhutan radio. This makes it a key media. Most popular programmes are news, traditional and modern songs and health information (third most popular item!). Evenings and mornings are equally preferred for listening.

8. TV viewership is restricted to 15% (Bhutan TV 10%) and movies to 16% of the respondents, and newspapers are read by 15%. Considering the lack of electricity and the terrain, which does allow easy transportation of generators, audio visuals cannot be media for wide dissemination. Newspapers can only be used for the educated.

9. 47% visit weekly markets on the whole (61% in central, 81% in western, and a small 23% in the east). Markets could, therefore, be a possible dissemination point for IECH.

Credibility of the health system

10. 86% of the respondents had visited a health centre at least once in the past year. This indicates that these are good dissemination points for IECH. However, surprisingly only a

maximum of 6% of the respondents have indicated that health related information is available at any of the centres. This needs investigation and corrective action.

11. 65% of the respondents indicated that they are visited more than twice a year by the health staff. This appears to be the current most effective IECH dissemination point.

Recall of IECH campaign

12. Posters/bill boards, calendars and radio programmes were recalled by 65%, 71% and 34% respectively of the respondents. Recall of other items e.g. newspaper articles and video films shows was low.

13. Street theatre has not been used as a media yet by the IECH division. This has been found very effective in other countries and needs to be examined for Bhutan.

Knowledge, attitude and practices

14. The success of the IECH activities is indicated by the survey results on knowledge, attitude and practices e.g.:

Latrine usage	Adults 95%, children 78% 71% aware that open defecation spreads disease Only 62% aware of this in the east
Garbage disposal	In garbage pit 79%, in fields 11% 97% aware that it is harmful to dump near the house
Animals	66% keep them away from the house
Drinking water	46% boil or filter before drinking 83% store in covered containers 96% use a ladle to draw water or pour it out
Brushing teeth	45% brush daily

Washing hands	98% wash before eating 90% use soap Only 36% wash before handling food Only 10% after defecation
Bathing	79% bathe weekly
Spitting	28% only aware that it spreads disease 17% in the east!
Doma	17% chew doma daily
Drinking alcohol	31% consume more than 1 bottle per week
Nutrition	91% eat fruit and vegetables 73% feed first milk post delivery 58% breast fed last child more than 4 months 42% exclusively breast fed the first 12 months (NHS)
Disease caused by	ARI - 57% infection through the air - 5% smoke - 13% climatic conditions TB - 17% infection through the air - 23% smoke Diarrhoea, dysentery, worms - 43% contaminated water - 37% contaminated food - 16% unclean hands - 8% unclean utensils - 14% house flies STD/AIDS - 64% multiple partners - 9% casual sex - 4% non use of condoms

Malaria-24% mosquito bites
Skin infections
- 35% lack of personal hygiene
- 16% contact with infected person

Eye infections
- 19% not washing eyes
- 26% contact with infected persons

Ear infections
- 22% unclean ears
- 9% cleaning with unsuitable materials

Need for further work

15. Some of the above are not good enough (e.g. not washing hands after defecation, consequences of spitting, excessive consumption of doma and alcohol, and generally knowledge on transmission of diseases) and need further improvement.

16. This is especially so in the light of the high incidence of diseases such as ARI, diarrhoea, dysentery and worms, skin and eye infections. In Appendix II we have presented the annual health bulletin morbidity statistics for 1999 (the ones for 2000 were still unavailable in May 2001) converted into per household numbers. These indicate high incidence of the following diseases in the dzongkhags indicated below, which needs to be looked at for corrective action from the IECH point of view:

ARI	Wangdue, Haa, Paro, Punakha
Diarrhoea/dysentery/ intestinal infections/ worms	Wangdue, Haa, Paro, Punakha
Skin	Wangdue, Punakha
Conjunctivitus	Wangdue, Trongsa, Mongar, Trashigang

17. An investigation into the underlying causes of diarrhoea, dysentery and worms is particularly called for to understand how much of the incidence is due to errors in reporting and what causes the remaining incidence now that piped water has been supplied to much of the population. It could be the quality of water, water handling practices (despite the reported good practices), the presence of flies in the homes, etc. This would have to be undertaken by

the health staff by observing people in their homes. A relatively small sample of observations should yield information to structure an effective IECH campaign.

Conclusion

18. If you have queries, please do not hesitate to get in touch with us.

Yours faithfully,

Ashoke Bahl

Ashoke Bahl
Director

APPENDIX I

IECH SURVEY 2001

RESPONDENT PROFILE

Total sample size was 1035 of which 634 were females and 401 males. As these were not equal the result is somewhat affected by the larger proportion of females. However, the adjustment required is small.The respondents were all above 18 years of age upto 60 years. The study was carried out in the 12 northern dzongkhags and not the 8 southern dzongkhags along the international border (Chukha, Dagana, Samtse, Tsirang, Sarpang, Zhemgang, Pemagatsel, Samdrup Jhonkar). The survey was not allowed in the southern dzongkhags.The results have been compiled for three regions: central (Bumthang, Trongsa, Wangdue), western (Gasa, Haa, Paro, Punakha, Thimphu), and eastern (Lhuntse, Mongar, Trashigang, Trashi Yangtse) from each of which two dzongkhags were selected for the survey.

Description	Findings
Languages understood	60% of the respondent population understands Dzongkha and 52% Sharchop. Analysis of regional differences however indicate that Sharchop is understood mainly in the east (94%), while Dzongkha is widely prevalent in central and west (97% and 99%). This would indicate that IECH material needs to be developed in at least these two major languages. Since Sharchop does not have a script and as stated later only 21 % on the whole are able to read, written material may not be effective. Nepali is also understood by a substantial number in central and west (20% and 17%)
Marital status	83 % of population are married
Education levels Ability to read	80% of the respondent population has received no education. (89% females and 68% males). Central region appears to have marginally higher levels of education with 25% having some form of education 21% are able to read (10% females and 39% males). Reading ability is highest in males under 35 years (46%). East has lowest population able to read (17%)
Primary occupation	81% are farmers (86% females and 76% males). 14% percent males are either in business or government service. This is highest in the central region. 10% are involved in housework (mainly females)

MEDIA PREFERENCES

Description	Findings
Radio	67% listen to radio . Radio listening is highest in central and west with east being only 59%. Most popular station is Bhutan radio(66%) and popular programmes are: • News – 47% (41% females and 57% males) • Traditional songs – 32% • Modern songs – 30% (highest preference in under 35 age group at 37%) • Health information – 23% (18% females and 30% males) • Agricultural information – 14% (11% females and 20% males) • Religious programmes – only 7% overall however quite popular in central region at 17% Most popular time for listening is morning and evening (45% and 43%). In central region evening is most preferred (67%) It appears therefore, that radio is a key media. Generally it is interesting to note that health information is quite popular.
Television	15% watch TV (10% females and 22% males). Maximum viewership is in western region (31%) with only 7 % in east. The generally watched channels are: • Bhutan TV (72% of TV watching respondents or 10% of total respondents) • Hindi TV (45% of TV watching respondents or 7% of total respondents) Preferred programmes are: • News – 58% of TV watchers • Movies – 39% of TV watchers • Dances – 34% of TV watchers Preferred timing for watching TV is evening (74% of TV watchers)

MEDIA PREFERENCES

Description	Findings
Newspapers	21% of population is able to read. However, only 15% read newspapers (6% females and 39% males). Preferred language for reading is Dzongkha (15%) and preferred newspaper Kuensel A small population of 4% also read newspapers in English
Movies	16% of population watched movies (14% females and 20% males). The maximum preference was shown by under 35 age group (21%) and in western region (21%).
Weekly market	47% visit a weekly market (43% females and 53% males) however mainly in central and western region (61% and 81%) with only 23% in east. Primary reason for visiting market is for purchasing goods (41%) This is another possible for health promotion/education.
Health exhibitions	24% were aware of health exhibitions (18% females and 35% males) awareness high in central and western region (47% and 36%) but extremely low in east (6%). 18% visited an exhibition, mainly in central region(40%). Primary items observed at the exhibitions were posters (14%) and demonstrations (9%) 18% of total population found the exhibitions useful (99% of those that visited the exhibition). It appears therefore, that population visiting exhibitions finds them to be very useful but there is not adequate awareness of these.
Bhutanese songs and dances	94% of population like Bhutanese songs and dances. 64 % like traditional songs whereas 59% like modern songs and dances. Preference for traditional is higher in above 50 age group (73%) and for modern in under 35 age group (72%).

CREDIBILITY OF THE HEALTH SYSTEM

Description	Findings
Usage of health centers	86% of the respondents had visited a health center at least once in the past year (84% females and 89% males). The number in central and western regions are higher (95% and 92%) with eastern being 78%. Frequency of visits • 25% visited more than once a month • 16% more than once in two months • 61% 1 to 6 times in the year
Satisfaction levels	BHU has highest satisfaction levels (60%), Hospitals (35%) and ORC only7%. The indicated lower satisfaction levels for hospitals should be balanced by the fact that hospitals are probably not visited by as many people as the BHUs and therefore a number of respondents may not have been able to respond to this query. Satisfaction levels with BHU is higher in central and western regions (63% and 79%) and lower in east (49%) Main reasons for satisfaction • BHU – Good treatment (47%), good medicines (44%) • Hospital – Good treatment (32%), good medicines (25%) Availability of health related information is very low at all centers: Hospital (6%), BHU (6%) and ORC (1%) There was negligible response to the question pertaining to areas of dissatisfaction with health centers. This may be somewhat related to the fact that the survey was being conducted by health staff. It may be useful to carry out an exit study to assess the factors that may be creating dissatisfaction with the system.
Visits of health staff	11% of population said health staff never visits their house. Western region appears best serviced with only 2% households not being visited Frequency of visits (65% households are being visited more than twice a year) • 28% (once a month) • 16% (once in 3 months) • 21% (once in 6 months) • 24% (once a year)

RECALL OF IECH CAMPAIGN

Description	Findings
Posters/bill boards	65% of population recalled seeing posters/bill boards, reflecting the growing popularity and easy visibility of these tools. Recall was slightly lower in above 50 age group at 58%. Central region had substantially higher recall (80%) with east only 57%
Calendars	Highest recall of IECH material is calendars (71%; 67% females and 77% males) Central region has relatively low recall of these (53%)
Flip charts	Recall of only 13%, mainly in western and eastern region. Central only 3%
Banners	Only 10% recall (8% females and 14% males). West has high recall at 34% with central and east only 2 and 3% respectively
Video film shows	11% recall
Pamphlets/leaflets	14% recall . 38% in west; very low in others
Demonstrations	12% recall. Very high in west at 41%.
Radio Programmes	High recall at 34% (29% females and 40% males)
Newspaper articles	Only 5% recall.
Dramas	3 % recall (Dramas have not so far been conducted by IECH department)

KNOWLEDGE ATTITUDE PRACTICES

Description	Findings
Latrines	95% of population had a latrine available to them. The primary reasons for having a latrine installed were: • Health reasons (74%) • Clean environment (41%) 95% adults use the latrines and 78% children In central and west region a larger percentage of children use latrines (84% and 88%) whereas east is slightly behind at 70% 77% of children are trained to use latrines from: • 1 to 3 years (29%) • 4 to 6 years (44%) Awareness of sanitation health programme came mainly through health workers(80%), village health worker (33%). Only 2% heard of the programme through IECH material
Environmental sanitation (Drainage/ solid waste/ animals)	64% of households have a drainage system. Western region slightly stronger at 88% whereas central is only 49% Awareness levels of consequences of water stagnation are not high: • Mosquitoes breed (only 8%) • Disease spread (28%) 79% of households dump solid wastes in garbage pit and 11% in the fields. Western region primarily uses garbage pit (90%) whereas relatively high percentage in east (16%) uses fields Awareness: • 97% are aware that it is harmful to dump solid wastes near the house • 62% feel it causes illness • 45% say it brings flies • 17% say it gives a bad smell 89% of the population keeps animals. The location of animal sheds are: • 66% away from the house (west 59%) • 14% near the house (west 22% and central 8%) • 7% under the house Main reasons for keeping animals under the house are convenience (27%), tradition (23%) and security reasons (12%)

KNOWLEDGE ATTITUDE PRACTICES

Description	Findings
Drinking water	74% use tap water for drinking, 10% spring water and 14% water from ponds & streams 46% treat water before drinking it by either boiling (45%) or using a filter (1%). Treating drinking water is lowest in western region (35%). Water is stored primarily in covered containers (83%). 82% draw water with a ladle and 16% pour it out.
Personal hygiene	Brushing teeth 45% brush their teeth daily, 11% once a week and 35% rarely. Eastern region has highest numbers brushing rarely (41%). Under 35 age group has highest rate of daily brushing (59%) whereas 51% of 50 and over age group rarely brush their teeth. Washing hands 98% wash their hands before eating and 36% before handling food. However, only 10% wash hands after defecation. 95% use soap as a cleaning medium. Bathing Only 2% of the population bathes daily. 77% weekly and 16% monthly. 5% rarely bathe. 84% of under 35 age group bathe weekly while only 66% of 50 and over age group do.

KNOWLEDGE ATTITUDE PRACTICES

Description	Findings
Doma usage	40% chew Doma with highest prevalence in west (68%) and lowest in east(22%). Males have a marginally higher usage at 42% than females at 39% 42% of those who take Doma chew daily and 59% occasionally. Of the daily chewers: • 28% chew 1 to 3 times (5% of total population) • 23% 4 to 6 times (4% of total population) • 67% more than 7 times daily (15% of total population)
Tobacco usage	8% chew/sniff tobacco (7% females and 10% males) Of those who intake: • 32% take 1 to 3 times a day (3% of total population) • 23% 4 to 6 times (2% of total population) • 43% over 7 times (3% of total population) There is very little understanding of the effects of tobacco usage with only 10% of the population aware of the ill effects Although a very small number said there are no harmful effects this may just be due to lack of response.
Smoking	Only 1% of the population said they smoked. At the same time very few were aware of the harmful effects of smoking.
Drinking Alcohol	21% drink alcohol daily, 4% once or twice a week and 15% occasionally. Drinking is highest is eastern region (58% drink at least occasionally) and lowest in west (only 34% drinkers) Majority drink homemade brew (90% approximately of those who drink) Quantity of weekly alcohol intake was: • 6% upto 1 bottle • 15% 2 to 3 bottles • 12% 4 to 7 bottles • 4% over 7 bottles

KNOWLEDGE ATTITUDE PRACTICES

Description	Findings
General awareness of consequences of:	Defecation/urination in the open: • 71% said it spreads disease (highest awareness in west at 83%; lowest in east at 62%) • 63% said it brings flies • 20% it gives a bad smell Spitting: • Only 28% said it spreads disease • Highest awareness in the centre at 44%, lowest in the east 17%, and 32% in the west
	Have sex with multiple partners • 62% said it may give AIDs • 28% many diseases 82% had heard of AIDs but only 29% said they knew how it was transmitted. A larger percentage of males had heard about AIDS(88% males and 78% females), however a higher percentage of females were aware of the causes (23%males and 34% females) Perception of transmission: • 69% through sexual contact • mother to child – 1% • blood transfusion – 3% • Dirty needles 2%

KNOWLEDGE ATTITUDE PRACTICES

Description	Findings
Nutrition related habits	87% have a kitchen garden 91% often eat green vegetables and fruit 96% use iodized salt
Breast feeding	16% were not aware of the importance of breast feeding. Main advantages perceived were: • Gives better nutrition to child – 62% (east had a relatively low understanding at 54%) • Children get stronger bones – 23% 73% had fed the first milk after delivery to child. However this practice was lowest in western region at 49%. Period for which last child was breast fed: • 1 to 4 months – 5% • 5 to 12 months – 10% • 25 months and above – 48% 42% said that pregnant women in the house receive a special diet however more males (46%) rather than females (39%) were of this opinion. East region (28%) had the lowest response.

KNOWLEDGE ON DISEASES

Description	Findings
Findings on awareness levels of the causes/ modes of transmission of common diseases are given below.	
Acute respiratory infection (ARI)	• Transmission of infection through air – 57% were aware • Lack of ventilation – only 7% awareness (central highest at 16% and west lowest at 1%) • Smoke – 5% awareness • Climatic conditions – 13% awareness
TB	• Transmission of infection through air – only 17% were aware (21% males and 14% females) • Lack of ventilation – 1% awareness • Smoke- 23% awareness • Climatic conditions- 1% awareness
Diarrhea/ Dysentery (CDD/worm infestation)	Drinking contaminated water – 43% • Eating contaminated food – 37% • Unclean hands – 16% • Unclean utensils – 8% • Houseflies 14%
STD/AIDS	• Multiple sex partners – 64% (61% females and 70% males) • Casual sex – 9% • Non usage of condoms, infected needles, mother to child, blood transfusion were all less than 5%.
Malaria	• Mosquito bites – 24% awareness (low in western district at 12%) • Water stagnation – 3%
Skin infections	• Lack of personal hygiene – 35% (low in west at 21%). • Skin contact with infected person – 16% (Above 50 age group have slightly higher awareness at 22% in comparison with below 35 at 14%)
Eye infections	• Not washing eyes – 19% (west has only 5% awareness) • Contact with infected persons – 26%
Ear infections	• Unclean ears – 22% • Cleaning ears with unsuitable material – 9%

APPENDIX II

BHU PLUS HOSPITAL MORBIDITY PER HOUSEHOLD 1999

REGION	DISEASES												
Dzongkhag	Diarrhoea/ dysentery / intestinal infections	Worms	Cough and cold	TB	Pneumonia / ARI	Other respiratory	Skin infection	Conjunctivitus	Peptic ulcer syndrome	Headache	Other	Total	HOUSE HOLDS
CENTRAL													
Bumthang	0.9	0.2	1.4	0.0	1.1	0.0	0.8	0.3	0.7	0.9	2.5	8.9	2207
Wangdue	2.8	0.7	1.7	0.1	2.1	0.0	2.0	0.5	1.4	1.7	6.0	19.1	5183
Trongsa	0.8	0.3	1.6	0.0	0.4	0.3	0.7	0.5	0.5	1.1	2.6	8.6	2222
Total Central	1.4	0.5	1.6	0.0	1.0	0.1	1.1	0.5	0.9	1.2	3.2	11.5	9612
EASTERN													
Lhuntse	0.9	0.5	1.1	0.0	0.5	0.1	0.6	0.3	0.4	0.6	1.6	6.9	3541
Mongar	1.0	0.4	1.6	0.0	0.5	0.1	0.9	0.4	0.4	0.8	2.5	8.7	8175
Trashigang	0.9	0.4	1.2	0.0	0.7	0.2	0.9	0.4	0.5	0.6	2.3	8.5	11708
Trashi Yangtse	0.6	0.2	1.1	0.0	0.1	0.1	0.5	0.1	0.2	0.3	0.9	4.0	4856
Total Eastern	0.9	0.4	1.3	0.0	0.5	0.1	0.8	0.3	0.4	0.6	2.3	7.5	28280
WESTERN													
Haa	1.6	1.2	1.8	0.2	2.5	2.6	0.8	0.2	1.0	0.7	5.7	19.2	1775
Paro	1.4	0.3	0.8	0.0	1.2	0.6	0.9	0.1	0.9	0.7	5.3	12.1	4259
Thimphu	0.8	0.2	0.9	0.0	0.7	0.5	0.6	0.1	0.2	0.5	3.2	7.7	11633
Punakha	1.8	0.7	1.1	0.0	1.9	0.7	1.4	0.2	1.0	0.9	3.7	13.5	4093
Gasa	0.4	0.2	1.2		0.0		0.4	0.3	0.3	0.8	1.4	5.0	609
Total Western	1.2	0.3	1.0	0.0	1.2	0.7	0.8	0.1	0.6	0.6	3.9	10.6	22366
TOTAL	1.1	0.4	1.2	0.0	0.8	0.3	0.9	0.3	0.6	0.7	3.1	9.3	60258

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HOSPITAL MORBIDITY PER HOUSEHOLD - 1999

REGION	DISEASES										HOUSE HOLDS
Dzongkhag	Intestinal infections	Worms	TB	ARI	Other respiratory	Skin	Peptic ulcer gastritis	Headache	Other	Total	
CENTRAL											
Bumthang	0.4	0.1	0.0	1.1	0.0	0.4	0.4	0.1	1.2	3.7	2207
Wangdue	1.8	0.2	0.1	1.8	0.3	1.3	0.7	0.7	4.5	11.3	2222
Trongsa	0.1	0.0	0.0	0.3	0.0	0.1	0.1	0.1	0.7	1.6	5183
Total Central	0.6	0.1	0.0	0.8	0.1	0.5	0.3	0.2	1.7	4.4	9612
EASTERN											
Lhuntse	0.2	0.1	0.0	0.5	0.1	0.2	0.2	0.1	0.8	2.3	3541
Mongar	0.2	0.0	0.0	0.3	0.1	0.2	0.1	0.1	1.0	2.1	8175
Tashigang	0.3	0.1	0.0	0.5	0.2	0.3	0.2	0.1	1.4	3.0	11709
Total Eastern	0.2	0.1	0.0	0.3	0.1	0.2	0.1	0.1	1.0	2.1	28280
WESTERN											
Haa	1.1	0.9	0.2	2.3	2.6	0.2	0.5	0.2	4.8	12.7	1772
Paro	1.1	0.2	0.0	1.2	0.6	0.6	0.7	0.4	4.3	9.0	4259
Thimphu	0.5	0.1	0.0	0.6	0.5	0.4	0.1	0.3	2.5	5.0	12240
Punakha	1.3	0.4	0.0	1.8	0.7	0.9	0.8	0.4	2.6	9.0	4093
Total Western	0.8	0.2	0.0	1.1	0.7	0.5	0.4	0.3	3.0	7.1	22366
TOTAL	0.5	0.1	0.0	0.7	0.3	0.4	0.3	0.2	1.9	4.3	60258

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BHU MORBIDITY PER HOUSEHOLD 1999

REGION	DISEASES										HOUSE HOLDS
Dzongkhag	Diarrhoea/ dysentery	Worms	Cough and cold	Pneumonia	Skin infection	Conjunctivitus	Peptic ulcer syndrome	Headache	Other	Total	
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Trashigang	0.6	0.3	1.2	0.2	0.6	0.4	0.3	0.5	1.4	5.5	11708
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WESTERN											
Haa	0.5	0.3	1.8	0.2	0.6	0.2	0.5	0.5	1.9	6.5	1772
Paro	0.3	0.1	0.8	0.0	0.3	0.1	0.2	0.3	1.0	3.1	4259
Thimphu	0.3	0.1	0.9	0.1	0.2	0.1	0.1	0.2	0.7	2.7	11633
Punakha	0.5	0.3	1.1	0.1	0.5	0.2	0.2	0.5	1.1	4.5	4093
Gasa	0.4	0.2	1.2	0.0	0.4	0.3	0.3	0.8	1.4	5.0	609
Total Western	0.4	0.1	1.0	0.1	0.3	0.1	0.2	0.3	0.9	3.5	22366
TOTAL	0.6	0.3	1.2	0.1	0.5	0.3	0.3	0.5	1.2	5.0	60258

c:/dan-tech/bhutan/bhumorb.xls/sheet3