

Annex 8 Training Sheet English

IDENTIFICATION	
SERIAL NUMBER	1.....200
HOUSEHOLD ID. NUMBER	
NAME OF HOUSEHOLD	
ADDRESS	
GROUP NUMBER	Ger Group=1. Apartment Group=2
WARD (Bag)	Bag 1=1, Bag 2 =2, Bag 3=3, Bag 4=4 Other=5.....
DISTRICT, PROVINCE	<i>Esum Balg, Gobi-Altai</i>
HOUSEHOLD SELECTED MALE SURVEY	YES=1, NO=0.....
INTERVIEWER VISITS	
DATE	1st 2nd 3rd Final Visit
	DAY.....
	MONTH.....
	YEAR.....
MEMO FOR NEXT VISIT DATE	
TIME	
INTERVIEWERS NAME/ID	ID. NO.....
TOTAL NUMBER OF VISITS	
RESULT	
1 COMPLETED	1
2 NO HOUSEHOLD MEMBER AT HOME AT TIME OF V	2
3 ENTIRE HOUSEHOLD ABSENT FOR EXTENDED PER	3
4 POSTPONED	4
5 REFUSED	5
6 DWELLING VACANT OR ADDRESS NOT A DWELLING.....	6
7 DWELLING DESTROYED	7
8 OTHER	8
	(specify)
Supervisor	Field Editor
Name _____	Name _____
Date _____	Date _____

Serial number is marked after printing of questionnaire.

Always note when you visit the house even nobody attend to you! Only you can filled in "final visit" when you finish the questionnaire.

You are given ID Number as a interviewer

After checking the completed questionnaire, supervisor will sign. Field Editor will sign if there is no discrepancy of answers in questionnaire.

This is the column indicating question numbers or steps	This is the column for which questions you ask and steps what you should do next.	<input type="checkbox"/> indicates that categorical data.	This column describe coding categories or data characteristics . Sometimes, you are requested to specify data characteristics	If you are required to fill categorical datum, you select the number from this column.	This is answering column. When the specified answer is selected, you are requested to <u>jump to a certain</u>
No Questions and Filters			Coding Categories	Skip to	
1	Record the time. Introduce yourself and the purpose of visit.	<input type="checkbox"/> Morning / AM..... <input type="checkbox"/> Afternoon / PM.....	1 2	[]	you are requested to specify data characteristics
2	Type of the house. Record observation.	<input type="checkbox"/> Ger..... <input type="checkbox"/> Apartment (Brick building)..... <input type="checkbox"/> Apartment (Wooden flat)..... <input type="checkbox"/> Other (specify).....	1 2 3 99	[]	You put quantitative data which are discrete or continuous.
6	First I would like to ask some questions about you and your household. How many rooms in your household are used for sleeping?	Number of bed rooms or ger		[]	

Annex 8 Training Sheet English

<p>14 Do you live in current place all the time through the year or do you stay in short time (temporarily)?</p>	<p>All the time through the year..... <input type="checkbox"/> Temporarily..... ..</p>	<table border="1"> <tr> <td>1</td> <td>→</td> <td>15</td> </tr> <tr> <td>2</td> <td>→</td> <td>16</td> </tr> <tr> <td></td> <td></td> <td><input type="text"/></td> </tr> </table>	1	→	15	2	→	16			<input type="text"/>	<p>If "1" is selected, you continue to ask the question 15. If "2" is selected, you skip Q15 and jump to Q16.</p>
1	→	15										
2	→	16										
		<input type="text"/>										

<p>15 How long have you been living contiguously in current place of residence?</p>	<p>Number of years(Round off to the nearest year)</p>	<table border="1"> <tr> <td></td> <td>→</td> <td>17</td> </tr> <tr> <td></td> <td></td> <td><input type="text"/></td> </tr> </table>		→	17			<input type="text"/>	<p>You skip Q16 and jump to Q17.</p>
	→	17							
		<input type="text"/>							

<p>16 How many months do you live in the City?</p>	<p>Number of months</p>	<table border="1"> <tr> <td></td> <td>→</td> <td>17</td> </tr> <tr> <td></td> <td></td> <td><input type="text"/></td> </tr> </table>		→	17			<input type="text"/>
	→	17						
		<input type="text"/>						

<p>17 Do you have any visitor or relative who stay together with? If "yes", ask the interviewee how many visitors or relatives do you live together? If "No", put "0" in the answer box.</p>	<p>Number of visitors or relatives live together with</p>	<input type="text"/>
--	---	----------------------

<p>21 How many animals of the followings do you keep?</p> <p>-sheep -Goat -Camel -Cattle -Horse</p>	<p>Number of Sheep..... Number of Goat..... Number of Camel..... Number of Cattle..... Number of Horse.....</p>	<table border="1"> <tr><td><input type="text"/></td></tr> <tr><td><input type="text"/></td></tr> <tr><td><input type="text"/></td></tr> <tr><td><input type="text"/></td></tr> <tr><td><input type="text"/></td></tr> </table>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<p>Record quantity of each animals(categories indicated)</p>
<input type="text"/>								
<input type="text"/>								
<input type="text"/>								
<input type="text"/>								
<input type="text"/>								

<p>22 What are the source of income for the household? Name the all source of income.</p>	<p><input type="checkbox"/> From regular and temporarily work (selling goods is <input type="checkbox"/> Pension <input type="checkbox"/> Borrow money <input type="checkbox"/> Support from relative or <input type="checkbox"/> Other (specify)</p>	<table border="1"> <thead> <tr> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr><td>1</td><td>0</td></tr> <tr><td>1</td><td>0</td></tr> <tr><td>1</td><td>0</td></tr> <tr><td>1</td><td>0</td></tr> <tr><td>1</td><td>0</td></tr> </tbody> </table>	Yes	No	1	0	1	0	1	0	1	0	1	0	<p>Circle the number (Yes:1 or No:0) when it fits.</p>
Yes	No														
1	0														
1	0														
1	0														
1	0														
1	0														

<p>34 Record the total income of the household in the last 12 months. That is the sum of Q31 and Q32 minus Q.</p>	<p>Tg.</p>	<input type="text"/>	<p>You add the answer of Q31 and answer of A32. The question enclosed with thick stripe is don by interviewee.</p>
---	------------	----------------------	--

61 What volume of container are used for carrying water at a time? Identify every volume and number of container for carrying water, then calculate total volume of

_____ liter container	x
_____ liter container	x
_____ liter container	x
_____ liter container	x
Total volume (liter).....	

Clarify the volume of container that the household has, then ask how many of them are for carrying water at a time. You multiply the number and volume of container, then add up all of them

68 Are you satisfied with the existing way of getting water?

Yes.....
 Not sure.....
 No.....

1 → 71
 2 → 69
 3

When "1" or "2" is selected, you go to Q71. When "3" is selected, you jump to Q69.

53 Suppose a situation in which the problems such as mentined in "Q51" are solved and then the improvement of service is only achieved and maintained by cost sharing (increase of charge on water), up to what level of water tariff would be ready to pay for?

Confirm the present tariff level at first. This was asked in Q36 Use the following note for evaluating increased tariff

(Tg.)	Yes	No
(Tg.)	Yes	No
(Tg.)	Yes	No
(Tg.)	Yes	No
(Tg.)	Yes	No
(Tg.)	Yes	No

Tg. of increased tariff per month

While you ask this question, note the increased tariff in parentheses little by little. You evaluate response by every increment.

Record the tariff interviewee finally agree

Annex 8 Training Sheet English

INTERVIEWER'S OBSERVATIONS

To be filled in after completing interview

Comments about Respondent:

If something you have noticed about interviewee, please comment on that.

Comments on Specific Question :

If you have noticed unusual or discrepancy about specific question, indicate the number of question and comment on it.

Any Other Comments:

SUPERVISOR'S OBSERVATIONS

Name of Supervisor: Date.....

EDITOR'S OBSERVATIONS

Name of Editor: Date.....

Annex 9 Training Sheet Mongolia

ҮЗҮҮЛЭЛТ	
Дугаар	1.....200
Өрхийн бүртгэлийн дугаар	
Байгууллагын нэр	
Хаяг	
Бүлгийн дугаар	Хувийнц, Улсын/ төрийнц-
Баг	Баг 'ц' Баг -ц- Баг «цк» Баг :ц:
	Бусад
Сум/хороо, аймаг	Есөн булга, Говь-Алтай
ЯРИЛЦЛАГА АВАХААР ОЧСОН	
	I II III Сүүлчийн өдөр
Он/ сар/ өдөр	
Дараачийн очих өдөр сар цаг	
Ярилцагчийн нэр/үнэмлэх	Үнэмлэх No
Очсон вийг тоо	
ҮР ДҮН	
ДУУССАН	1
ОЧИХ Үцд ХҮН БАЙГААГҮЙ	2
ГЭРЭЭРЭЭ УДААН ХУГАЦААГААР БАЙХГҮЙ	3
ХОЙШЛОГДСОН	4
ТАТГАЛЗСАН	5
ОРШИН СУУТЧ БАЙХГҮЙ ЭСВЭЛ ХАЯГ НЬ БИШ	6
СУУЦ УСТГАГДСАН	7
БУСАД	8
/тодруулна уу/	
Дарга	Газар дээр хяналт хийсэн
Нэр	Нэр
Он сар өдөр	Он сар өдөр

Серийн дугаар нь асуулгыг принтэлсний дараа тэмдэглэгдэнэ.

Айлд очих бүрдээ хэдийгээр хэнтэй ч уулзаж чадаагүй байсан тэмдэглэнэ үү. 'Сүүлчийн очилт' гэдэг дээр асуулгыг дууссан үедээ тэмдэглэнэ.

Таны үнэмлэхний дугаар.

Асуулгыг дууссаны дараа удирдагч гарын үсэг зурна. Хэрэв асуултанд ямар нэг зөрөлдөөн байхгүй бол хээрийн хянагч гарын үсэг зурна.

Annex 9 Training Sheet Mongolia

Энэ багана нь асуултын дугаарыг үзүүлж байна.	Энэ багана нь аль асуултыг асуугаад дараа нь яах ёстойг заана.	<input type="checkbox"/> нь /категори / мэдээллийг үзүүлнэ.	Энэ баганад ангилал /категори/ буюу мэдээллийг тайлбарлана. Зарим үед та мэдээллийг тодруулж хийх болно.э	Та категори мэдээллийг оруулах шаардлагатай бол энэ баганы дугаарыг сонгоно	Энд хариулт бичнэ.Тохирох хариултыг сонгосны дараа тохирох асуултуу орно.
No. Фугувшгүны йнб Эшлэжүм		Бүжбшиа Бйэгаушшүм		Ношз эү	
1 Цаг Өөрийгөө болон ирсэн зорилгоо танилцуулна.	<input type="checkbox"/> Өглөө 1 <input type="checkbox"/> Орой..... 2	1 2		Мэдээллийг тодруулж бичнэ.	Энд тусгай болон үргэлжлэх тоон мэдээг оруулна.
2 Суудын төрөл Судалгаа	<input type="checkbox"/> Тэрг..... 1 <input type="checkbox"/> Орон сууц /туйтуун 2 <input type="checkbox"/> Орон сууц/модон/..... 3 <input type="checkbox"/> Бусад / тодруудна уу?.....	1 2 3			
3 Сүүлчийн төрсөн өдрөөрөө хэд хүрсэн бэ?	Ярилцлага өгөгчийн нас				

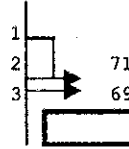
Annex 9 Training Sheet Mongolia

<p>14 Та эндээ түр амьдарлаг уу,эсвэл түр байдаг уу?</p>	<p><input type="checkbox"/> Байнга <input type="checkbox"/> Түр</p>	<p>1 → 15 2 → 16 <input type="text"/></p>	<p>Хэрэв '1'-ийг сонгосон бол 15-р асуултыг үргэлжлүүлэн асууна. '2' -ыг сонгосон бол 15-р асуултыг алгасаад 16-д орно.</p>
<p>15 Та эндээ хир удаан амьдарч байна?</p>	<p>Амьдарсан жил /ойролцоогоор/</p>	<p>→ 17 <input type="text"/></p>	<p>16-р асуултыг алгасч 17-руу орно.</p>
<p>16 Хотод хэдэн сар амьдарч байна?</p>	<p>Иарын тоо</p>	<p>→ 17 <input type="text"/></p>	
<p>17 Танайд амьдарч байгаа эочин буюу хамаатан байгаа юу? 'Тийм' бол хэдэн хүн хамт амьдарч байгаа вэ? 'Үгүй' бол 0 гэж тавина уу</p>	<p>Хамт амьдарч байгаа хамаатан буюу эочны тоо</p>	<p><input type="text"/></p>	
<p>21 Смар төрлийн малтай вэ? - хонь - ямаа - тэмээ - үхэр - адуу</p>	<p>Хонины тоо Ямааны тоо Тэмээний тоо Үхэрийн тоо Адууны тоо</p>	<p><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p>	<p>Мал тус бүрийн тоог бичнэ./категори өгөгдсөн байгаа/</p>
<p>22 Танай өрхийн орлогын эх үүсвэр юу вэ?</p>	<p><input type="checkbox"/> Түр болон байнгын ажил /арилжааг оруулна/ <input type="checkbox"/> Тэтгэвэр <input type="checkbox"/> Мөнгө зээлэх <input type="checkbox"/> Хамаатан,найз нөхдийн тусламж <input type="checkbox"/> Бусад / тодруулна уу/ <input type="text"/></p>	<p>Yes No 1 1 1 1 1</p>	<p>Тоог дугуйл : Тийм бол 1 Үгүй бол 0 0 0 0 0 0 0 0 0 0</p>
<p>34 Сүүлийн 12 сарын нийт орлогын хэмжээ. Асуулт 31, 32-ын нийлбэрээс 33-ыг хасна.</p>	<p>+ /31/-ын төг. + /32/-ын төг. - /33/-ын төг. Эцэйд <input type="text"/></p>	<p><input type="text"/></p>	<p>31,32-р асуултыг хооронд нь нэмнэ. Ярилцлага өгөгчийн өгсөн хариулт тодоор бичигдэнэ.</p>
<p>61 Ус авахдаа ямар хэмжээний сав хэрэглэдэг вэ? Савныхаа хэмжээ, тоог тооцоод нийт авцга усныхаа хэмжээг тодорхойлно уу?</p>	<p>_____ л-ийн сав _____ л-ийн сав _____ л-ийн сав _____ л-ийн сав Нийт хэмжээ /л/..... <input type="text"/></p>	<p><input type="text"/></p>	<p>Уг өрхийн ус авах савнуудын хэмжээг тодруулаад, яг одоо хэдийг нь ус авахад хэрэглэж байгааг асууна.</p>

Annex 9 Training Sheet Mongolia

68 Та ус авдаг одоогийн нөхцөлдөө сэтгэл хангалуун байдаг уу?

- Тийм
- Үгүй
- Мэдэхгүй



байгааг асууна. Савны тоог хэмжээгээр нь үржүүлээд бүгдийг нэмнэ.

53 Өмнөх 51-д тоочигдсон нөхцлүүд шийдэгдсэн тохиолдолд үйлчилгээ сайжирна. Тэгвэл материал хангамжаа дагаад усны үнэ нэмэгдэнэ. Ингэсэн тохиолдолд усны үнийг ямар хэмжээнд төлөхөд бэлэн байна вэ? 'Тийм' гэж харуулбал та үүнийг төлөхөд бэлэн 'Үгүй' гэж харуулбал ярилцагчийн өгсөн тарифийн түвшний үнийг төлж чадахгүй.

Эхлээд одоогийн усны тарифийн түвшинг тодорхойл. Доорхний өсөх тарифанд хэрэглэнэ үү.

/Төг.	/Тийм	Үгүй
/Төг.	/Тийм	Үгүй
/Төг.	/Тийм	Үгүй
/Төг.	/Тийм	Үгүй
/Төг.	/Тийм	Үгүй
/Төг.	/Тийм	Үгүй

1 сард өсөх тариф



Асуулт асууж байхдаа хашилтанд байгаа өсөх тариф бага багаар нэмэгдэхийг анхаар. Өсөлт бүрийг анхаарна уу.

Үүгээр ус дамжуулах хоолойтой байрны талаарх асуулга дуусч байна. 76-р асуулга руу орно уу?



Ярилцлага өгөчийн эцэст нь зөвшөөрсөн тарифийг тэмдэглэ.

ЯРИЛЦЛАГА АВАГЧИЙН ТЭМДЭГЛЭЛ

Ярилцлага авсны дараа бөглөнө.

Ярилцлага өгөгчийн
талаарх тэмдэглэл

Та ярилцлага өгөгчийн
талаар ямар нэг зүйл
ажиглавал энд бичнэ.

Тусгай асуултын талаарх
тэмдэглэл

Хэрэв та зарим нэг
асуултуудын хувьд ердийн
биш буюу маргаантай тал
илэрвэл асуултын дугаарыг
бичээд тайлбар өгнө үү?

Бусад тэмдэглэл

ДАРГЫН ТЭМДЭГЛЭЛ

Даргын нэр

Он/сар/өдөр

Хянагчийн тэмдэглэл

Хянагчийн нэр

Он/сар/өдөр

Annex 10 Summed up Result of Household Survey

No.	Questions and Filters	Cording Categories			
					%
1	Record the time.	<input type="checkbox"/> Morning / AM c c c c c.	1	46	23%
	Introduce yourself and the purpose of visit.	<input type="checkbox"/> Afternoon / PM..... c	2	151	77%
		total / No. respondents		197	100%
					%
2	Type of the house.	<input type="checkbox"/> Ger.....	1	124	63%
	Record observation.	<input type="checkbox"/> Apartment (Brick building) c	2	45	23%
		<input type="checkbox"/> Apartment (Wooden flat) c	3	11	6%
		<input type="checkbox"/> Other (specify).....	99	17	9%
		total / No. respondents		197	100%
					%
3	Put the type of house mentioned the above into the two categories, Ger or Others.	<input type="checkbox"/> Ger.....	1	124	63%
		<input type="checkbox"/> Others (category 2, 3, and 99 of the above)	2	73	37%
		total / No. respondents		197	100%
					%
4	Main material of the floor	Natural floor			
	Record observation.	<input type="checkbox"/> Earth / sand..... c	11	1	
		Rudimentary floor			
		<input type="checkbox"/> Wood planks..... c	21	194	
		Finished Floor			
		<input type="checkbox"/> Parquet or polished wood.... c	31	2	
		<input type="checkbox"/> Ceramic tiles.....	32	0	
		<input type="checkbox"/> Cement.....	33	0	
		<input type="checkbox"/> Other(specify).....	99	0	
		total / No. respondents		197	
					%
5	Record interviewee's sex.	<input type="checkbox"/> Male.....	1	69	35%
		<input type="checkbox"/> Female.....	2	128	65%
		total / No. respondents		197	100%

Annex 10 Summed up Result of Household Survey

6	First I would like to ask some questions about you and your household. How many rooms in your household are used for sleeping?	<input type="checkbox"/> Average number of bed rooms except ger dweller		2.1	
		<input type="checkbox"/> Average number of ger		1.0	
7	Are you married?	<input type="checkbox"/> Yes.....	1	161	82%
		<input type="checkbox"/> No.....	0	36	18%
		total count		197	100%
8	How old were you at your last birthday?	<input type="checkbox"/> Average age of interviewee		38.0	
9	How many children of aged 0 to 14 do you live together with?	<input type="checkbox"/> Average number of children aged 0-14		1.70	
10	How many of aged 14 to 60 including you, are there in your household?	<input type="checkbox"/> Average number of adults aged 15-60		3.26	
11	How many of aged more than 61 years are there in your household?	<input type="checkbox"/> Number of aged more than 61 years		0.15	
12	How many people are there in your household in total? Compare and correct the above question if inconsistent.	<input type="checkbox"/> Average number of household member		5.11	
13	Who is the household head?	<input type="checkbox"/> Husband.....	1	170	86%
		<input type="checkbox"/> Wife.....	2	21	11%
		<input type="checkbox"/> Other c..... c c c	99	6	3%
		total / No. respondents		197	100%
14	Do you live in current place all the time through the year or do you stay in short time (temporally)?	<input type="checkbox"/> All the time through the year	1	195	99%
		<input type="checkbox"/> Temporally.....	2	2	1%
		total / No. respondents		197	100%

Annex 10 Summed up Result of Household Survey

15	How long have you been living contiguously in current place of residence?	<input type="checkbox"/> Average number of years(Round off to the nearest year)			15 years
		No. of respondents to the above question			195
16	How many months do you live in the City?	<input type="checkbox"/> Number of households which temporary stay in the urban center			2
		<input type="checkbox"/> Average number of months			11 months
17	Do you have any visitor or relative who stay together with? If "yes", ask the interviewee how many visitors or relatives do you live together? If "No", put "0" in the answer box.	<input type="checkbox"/> Number of households of which visitors or relatives live together with			21
		<input type="checkbox"/> Maximum number of visitor or relatives among the households			5
		<input type="checkbox"/> Minimum number of visitor or relatives among the households			1
		No. of respondents to the above question			197
18	What is your religion?				%
		<input type="checkbox"/> Buddhism.....	1	141	72%
		<input type="checkbox"/> Catholic.....	2	2	1%
		<input type="checkbox"/> Protestant.....	3	1	1%
		<input type="checkbox"/> Moslem.....	4	0	0%
		<input type="checkbox"/> None.....	5	50	25%
		<input type="checkbox"/> Other.....	99	3	2%
		total / No. respondents		197	
19	Do you own free plot area?	<input type="checkbox"/> Yes.....	1	185	94%
		<input type="checkbox"/> No.....	0	12	6%
		total / No. respondents		197	100%
20	Do you have livestock?	<input type="checkbox"/> Yes.....	1	15	8%
	If "Yes", continue to Q21, if "No", jump to Q22.	<input type="checkbox"/> No.....	0	182	92%
		total / No. respondents		197	100%

Annex 10 Summed up Result of Household Survey

21	How many animals of the followings do you keep?	Among the households which keep livestock.			
	-sheep	<input type="checkbox"/> Average number of sheep		26.4	
	-Goat	<input type="checkbox"/> Average number of Goat		22	
	-Camel	<input type="checkbox"/> Average number of Camel		0	
	-Cattle	<input type="checkbox"/> Average number of Cattle		3.8	
	-Horse	<input type="checkbox"/> Average number of Horse		3.13	
		No. of respondents to the above question		15	
22	What are the source of income for the household? Name the all source of income.			"Yes" count	%
		<input type="checkbox"/> From regular and temporally work (selling goods is included)		145	74%
		<input type="checkbox"/> Pension		57	29%
		<input type="checkbox"/> Borrow money		15	8%
		<input type="checkbox"/> Support from relative or friends		23	12%
		<input type="checkbox"/> Other (specify)		13	7%
		No. of respondents to the above question		197	
23	Have any members of your household done any work in the last 12 months?				%
		<input type="checkbox"/> Yes..... c	1	147	75%
		<input type="checkbox"/> No..... c	0	50	25%
		total / No. respondents		197	100%
24	What is husband's occupation, that is what kind of work does he mainly do?				%
		<input type="checkbox"/> Regular work at public sector (Employed by Government)	1	56	38%
		<input type="checkbox"/> Regular work at private sector (Employed by private company)	2	19	13%
		<input type="checkbox"/> Self employed (live stock, agriculture, private company owner, house-work etc.)	3	23	16%
		<input type="checkbox"/> Temporally work (Irregular)	4	6	4%
		<input type="checkbox"/> Unemployed	5	25	17%
		<input type="checkbox"/> Not applicable(No husband)	6	9	6%
		<input type="checkbox"/> Other(specify)	99	7	5%
			Null	2	1%
		total / No. respondents		147	100%

Annex 10 Summed up Result of Household Survey

25	Does he work for a member of your household, for someone else, or are you self-employed?				
	<input type="checkbox"/> For family member..... c	1	125		
	<input type="checkbox"/> For someone else..... c	2	0		
	<input type="checkbox"/> Self-employed..... c	3	2		
		Null	20		
		total / No. respondents	147		
26	Does he earn cash by this work?				
	<input type="checkbox"/> Yes..... c	1	103		
	<input type="checkbox"/> No..... c	0	44		
		total / No. respondents	147		
27	If "Yes", ask how much he earned in the last 12 months? If "No", put "0" in the answer box.				
	<input type="checkbox"/> Maximum		8640000	Tg	
	<input type="checkbox"/> Minimum		0	Tg	
	<input type="checkbox"/> Average		218612	Tg	
	<input type="checkbox"/> Median		24000	Tg	
		No. of respondents to the above question	147		
28	What is wife's occupation, that is what kind of work does she(you) mainly do?				%
	<input type="checkbox"/> Regular work at public sector (Employed by Government)	1	67	46%	
	<input type="checkbox"/> Regular work at private sector (Employed by private company)	2	13	9%	
	<input type="checkbox"/> Self employed (live stock, agriculture, private company owner, house-work etc.)	3	9	6%	
	<input type="checkbox"/> Temporally work (irregular)	4	2	1%	
	<input type="checkbox"/> Unemployed	5	34	23%	
	<input type="checkbox"/> Not applicable(No wife)	6	5	3%	
	<input type="checkbox"/> Other(specify)	99	15	10%	
		Null	2	1%	
		total / No. respondents	147	100%	
29	Does she earn cash by this work?				
	<input type="checkbox"/> Yes..... c	1	103		
	<input type="checkbox"/> No..... c	0	44		
		total / No. respondents	147		

Annex 10 Summed up Result of Household Survey

30	If "Yes", ask how much she earned in the last 12 months? If "No", put "0" in the answer box.				
	<input type="checkbox"/> Maximum		780000	Tg	
	<input type="checkbox"/> Minimum		0	Tg	
	<input type="checkbox"/> Average		179418	Tg	
	<input type="checkbox"/> Median		192000	Tg	
	No. of respondents to the above question		147		
31	How much did your family earn from the work last 12 months? That is the sum of earned from the work of husband and wife plus earned from the work of other member of family.				
	<input type="checkbox"/> Maximum		1020000	Tg	
	<input type="checkbox"/> Minimum		0	Tg	
	<input type="checkbox"/> Average		392691	Tg	
	<input type="checkbox"/> Median		344400	Tg	
	No. of respondents to the above question		147		
32	How much have any members of your household receive from pension, support from relative or friends etc. in the last 12months?				
	<input type="checkbox"/> Maximum		1000000	Tg	
	<input type="checkbox"/> Minimum		0	Tg	
	<input type="checkbox"/> Average		139708	Tg	
	<input type="checkbox"/> Median		80000	Tg	
	No. of respondents to the above question		197		
33	How much have any members of your household borrow money from relative or friends etc. in the last 12months?				
	<input type="checkbox"/> Number of household borrow money		25		
	<input type="checkbox"/> Maximum		150000	Tg	
	<input type="checkbox"/> Minimum		10000	Tg	
	<input type="checkbox"/> Average		53172	Tg	
	<input type="checkbox"/> Median		50000	Tg	
	No. of respondents to the above question		197		
34	Record the total income of the household in the last 12 months. That is the sum of Q31 and Q32 then minus Q33.				
	<input type="checkbox"/> Maximum		1038700	Tg	
	<input type="checkbox"/> Minimum		-100000	Tg	
	<input type="checkbox"/> Median		299940	Tg	
	No. of respondents to the above question		196		

Annex 10 Summed up Result of Household Survey

No.	Questions and Filters	Cording Categories			
40	What is the main source of drinking water for members of your household?	Piped water			%
		<input type="checkbox"/> Piped into house / yard.....	11	2	1%
		<input type="checkbox"/> Public tap.....	12	35	18%
		Water truck supply			
		<input type="checkbox"/> Delivered by track tank.....	21	160	81%
		Well water			
		<input type="checkbox"/> Well in residence / yard	31	0	
		<input type="checkbox"/> Public well.....	32	0	
		Surface water			
		<input type="checkbox"/> Spring.....	41	0	
		<input type="checkbox"/> River / Stream.....	42	0	
		<input type="checkbox"/> Pond / Lake.....	43	0	
		Rainwater.....	51	0	
		Other (specify).....	99	0	
		total / No. respondents		197	100%
41	Put the type of water source mentioned the above into two categories, piped water and truck water supply/other source.	<input type="checkbox"/> Piped water (category 11 and 12)	1	37	19%
		<input type="checkbox"/> Truck water supply/other source	2	160	81%
		total / No. respondents		197	100%
42	Q42-53 are questions only for the household served with piped water. What kind of service are you getting?	<input type="checkbox"/> House connection	1	37	
		<input type="checkbox"/> Yard connection.....	2	0	
		total / No. respondents		37	
43	If "House connection", ask the following. How many taps do you have in your house? If "Yard connection", put "1".	<input type="checkbox"/> Average number of taps among piped household		1.91	
		No. respondents to the above question		37	
44	If "Yard connection", ask the following. How many households are sharing one yard connection? If "House connection", put "1" in the answer box.	<input type="checkbox"/> Number of households which share the tap		3	
		No. respondents to the above question		37	

Annex 10 Summed up Result of Household Survey

45	Do you have any of the followings?			"Yes" count	%
	<input type="checkbox"/> Flush toilet.....			34	92%
	<input type="checkbox"/> Bath tab.....			31	84%
	<input type="checkbox"/> Shower.....			28	76%
	<input type="checkbox"/> Kitchen with faucet.....			36	97%
	No. respondents to the above question			37	
46	How much do you pay for water charge per a month? This was asked in Q36 but make sure again				
	<input type="checkbox"/> Average monthly payment for water			728	Tg
	<input type="checkbox"/> Median monthly payment for water			560	Tg
	No. respondents to the above question			36	
47	How much do you pay for heating per a month in cold season ?				
	<input type="checkbox"/> Average monthly payment for heating			13,000	Tg
	<input type="checkbox"/> Median monthly payment for heating			5,000	
	No. respondents to the above question			36	
48	Can you use any hot water from a heating center ?			"Yes" count	
				5	
	No. respondents to the above question			37	
49	From what time to what time do you use water most?				
	<input type="checkbox"/> 0-4 o'clock.....	1		0	
	<input type="checkbox"/> 4-8 o'clock.....	2		0	
	<input type="checkbox"/> 8-12 o'clock.....	3		7	
	<input type="checkbox"/> 12-16 o'clock.....	4		3	
	<input type="checkbox"/> 16-20 o'clock.....	5		27	
	<input type="checkbox"/> 20-24 o'clock.....	6		0	
	total / No. respondents			37	
50	Are you satisfied with the existing service on water supply?				
	<input type="checkbox"/> Yes..... c	1		19	
	<input type="checkbox"/> Don't know..... c	2		3	
	<input type="checkbox"/> No..... c	3		14	
		Null		1	
	total / No. respondents			37	
51	If "No" in the above question, in what respect are you not satisfied? You can select more than one.			"Yes" count	%
	<input type="checkbox"/> Sometimes water stops coming / Operation status is poor			11	79%
	<input type="checkbox"/> Water quality is not good			8	57%
	<input type="checkbox"/> Facilities are deteriorating			8	57%
	<input type="checkbox"/> Volume of running water is not enough			2	14%
	<input type="checkbox"/> Water tariff is too expensive			0	
	<input type="checkbox"/> Others(specify)			1	7%
	No. respondents to the above question			14	

Annex 10 Summed up Result of Household Survey

			"Yes" count	%
52	What are the things you want most from the authorities concerned in connection with the supply and use of water? Select below whatever you have in mind?			
	<input type="checkbox"/> Availability of water all the time		25	68%
	<input type="checkbox"/> Improvement of water quality		31	84%
	<input type="checkbox"/> Improvement of facilities		12	32%
	<input type="checkbox"/> Sufficient volume of running water		4	11%
	<input type="checkbox"/> Reasonable expense on water tariff		4	11%
	<input type="checkbox"/> Others(specify)		1	3%
	No. respondents to the above question		37	
53	Suppose a situation in which the problems such as mentioned in "Q51" are solved and then the improvement of service is only achieved and maintained by cost sharing (increase of charge on water), up to what level of water tariff would be ready to pay for? Please answer "yes" (meaning you are ready to pay) or "No"(meaning you are not ready to pay) to the tariff levels given by the interviewer.			
	<input type="checkbox"/> Present tariff level .		80	180
	<input type="checkbox"/> Maximum		150	270
	<input type="checkbox"/> Minimum		110	180
	<input type="checkbox"/> Average		146	213
	<input type="checkbox"/> Median		150	200
	<input type="checkbox"/> % increase of the median		87.5%	11.1%
	No. respondents to the above question		9	26
	This is the end of questions for the household served with piped water. Jump to Q76.	Null	2	

Annex 10 Summed up Result of Household Survey

No.	Questions and Filters	Cording Categories			
54	Q54-75 are questions only for which the household do not have service of piped water.				%
	How far is the truck delivery point or the source of water from your house?	<input type="checkbox"/> Less than 100m.....	1	91	57%
		<input type="checkbox"/> 100-199m.....	2	44	28%
		<input type="checkbox"/> 200-399m.....	3	6	4%
		<input type="checkbox"/> 400-499m.....	4	7	4%
		<input type="checkbox"/> 500m or more.....	5	11	7%
			Null	1	1%
			total / No. respondents	160	
55	How long does it take to go there, get water, and come back? If you go 2 rounds, include it.	<input type="checkbox"/> Average time of carrying water among non-piped dweller		10.5	minute
		<input type="checkbox"/> Maximum		30	minute
		<input type="checkbox"/> Minimum		2	minute
		<input type="checkbox"/> 95% Confidence		1	minute
			No. respondents to the above question	159	
56	How many persons from your household go to the water delivery point at a time of truck supply?	<input type="checkbox"/> Average number of people who engage in carrying water		2.0	
		<input type="checkbox"/> Maximum		5.0	
		<input type="checkbox"/> Minimum		1.0	
		<input type="checkbox"/> 95% Confidence		0.1	
			No. respondents to the above question	159	
57	Who go to the delivery point?			"Yes" count	%
		<input type="checkbox"/> Men.....		101	63%
		<input type="checkbox"/> Women.....		114	71%
		<input type="checkbox"/> Boys.....		73	46%
		<input type="checkbox"/> Girls.....		64	40%
			No. respondents to the above question	160	
58	Do you go to delivery point every time when a truck comes?	<input type="checkbox"/> Yes..... c	1	128	80%
		<input type="checkbox"/> No..... c	0	31	19%
			Null	1	1%
			total / No. respondents	160	100%

Annex 10 Summed up Result of Household Survey

					%
59	Do you get enough water from your expectation?	<input type="checkbox"/> Yes..... c	1	116	73%
		<input type="checkbox"/> No..... c	0	43	27%
			Null	1	1%
			total / No. respondents	160	100%
					%
60	What other source of water except track supply do you use for household?	<input type="checkbox"/> Only truck water supply.....	1	157	98%
		<input type="checkbox"/> Spring.....	2	0	
		<input type="checkbox"/> River/ Stream.....	3	0	
		<input type="checkbox"/> Well.....	4	0	
		<input type="checkbox"/> Pond/ Lake.....	5	0	
		<input type="checkbox"/> Rain.....	6	0	
		<input type="checkbox"/> Snow in winter.....	7	1	1%
			Null	2	1%
			total / No. respondents	160	100%
61	What volume of container are used for carrying water at a time? Identify every volume and number of container for carrying water, then calculate total volume of water.	<input type="checkbox"/> Total volume of water used by non-piped water (litter)		12,760	litters
		<input type="checkbox"/> Average volume of water used by non-piped household for 2 days (litter)		80.3	litters
		<input type="checkbox"/> Average volume of water used by person per a day (litter)		8.6	l/day
		No. respondents to the above question		159	
62	How much do you pay for collection of water at a time? If you don't get any water from track supply, put "0" in the answer box.	<input type="checkbox"/> Maximum		900	litters
		<input type="checkbox"/> Minimum		20	litters
		<input type="checkbox"/> Average		85.5	litters
		No. respondents to the above question		159	

Annex 10 Summed up Result of Household Survey

63	What sort of container is used for storing water?				"Yes" count	%
		<input type="checkbox"/>	Metal milk pot.....		127	79%
		<input type="checkbox"/>	Bucket..... c		17	11%
		<input type="checkbox"/>	Polyethylene container..... c		36	23%
		<input type="checkbox"/>	Others (specify)		16	10%
		No. respondents to the above question			160	
						%
64	With what is the top of the water container covered when it is stored?					
		<input type="checkbox"/>	Nothing..... c	1	10	6%
		<input type="checkbox"/>	Dish or cup..... c	2	0	0%
		<input type="checkbox"/>	Grass..... c	3	0	0%
		<input type="checkbox"/>	Metal lid.....	4	118	74%
		<input type="checkbox"/>	Wooden lid..... c	5	5	3%
		<input type="checkbox"/>	Other..... c	6	26	16%
		Null			1	1%
		total / No. respondents			160	100%
						%
65	How is water taken from the water container?					
		<input type="checkbox"/>	Poured.....	1	4	3%
		<input type="checkbox"/>	Dipper.....	2	154	96%
		<input type="checkbox"/>	Cup dipped.....	3	0	0%
		<input type="checkbox"/>	Other.....	4	1	1%
		Null			1	1%
		total / No. respondents			160	100%
						%
66	When do you prefer the truck service on water supply to be done?					
		<input type="checkbox"/>	Morning.....	1	142	89%
		<input type="checkbox"/>	Afternoon.....	2	15	9%
		<input type="checkbox"/>	Evening.....	3	2	1%
		Null			1	1%
		total / No. respondents			160	100%

Annex 10 Summed up Result of Household Survey

67	Water availability								%
		<input type="checkbox"/>	Available throughout year	1	142	89%			
		<input type="checkbox"/>	During rainy season only	2	0	0%			
		<input type="checkbox"/>	Partly in dry season as well	3	16	10%			
			Null		2	1%			
			total / No. respondents		160	100%			
68	Are you satisfied with the existing way of getting water?								%
		<input type="checkbox"/>	Yes..... c	1	71	44%			
		<input type="checkbox"/>	Not sure..... c	2	3	2%			
		<input type="checkbox"/>	No..... c	3	84	53%			
			Null		2	1%			
			total / No. respondents		160	100%			
69	If "No" in the question above, answer the following questions What will be the source of water you want most and why?								%
		<input type="checkbox"/>	House Connection.....	1	2	3%			
		<input type="checkbox"/>	Yard Connection.....	2	57	71%			
		<input type="checkbox"/>	Public kiosk.....	3	21	26%			
		<input type="checkbox"/>	Other(specify).....	4	0				
			total / No. respondents		80	100%			
70	Because							"Yes" count	%
		<input type="checkbox"/>	Water is not available whenever you want		75	94%			
		<input type="checkbox"/>	Number of truck service is not sufficient		29	36%			
		<input type="checkbox"/>	Water delivery point is too far		41	51%			
		<input type="checkbox"/>	Water quality is not good		52	65%			
		<input type="checkbox"/>	Water tariff is too expensive		33	41%			
		<input type="checkbox"/>	Fetching water is burden of family's work		38	48%			
		<input type="checkbox"/>	Other(specify)		1	1%			
			No. respondents to the above question		80				

Annex 10 Summed up Result of Household Survey

				"Yes" count	%
71	Which service should be improved next? You could select as many as you want.	<input type="checkbox"/>	Water is available whenever you want	143	89%
		<input type="checkbox"/>	Number of truck service increased	57	36%
		<input type="checkbox"/>	Distance to delivery point is shortened	96	60%
		<input type="checkbox"/>	Water quality is improved	150	94%
		<input type="checkbox"/>	Burden of family's work on fetching water is reduced	62	39%
		<input type="checkbox"/>	Other(specify)	2	1%
			No. respondents to the above question	160	
					%
72	Do you wish to receive piped water supply service?	<input type="checkbox"/>	Yes..... c	1	96 60%
		<input type="checkbox"/>	No..... c	0	64 40%
			total / No. respondents	160	100%
					%
73	Would you be ready to pay for the water tariff of piped water?	<input type="checkbox"/>	Yes..... c	1	91 95%
		<input type="checkbox"/>	No..... c	0	5 5%
			total / No. respondents	96	100%
					%
74	In the future, water tariff for piped water supply likely to be raised to cover cost for improving and maintaining the system in good condition. In this event, up to how much would you be ready to pay for piped water supply service. Suppose a situation in which you will get water in sufficient amount and good quality. Please answer "yes" (meaning you are ready to pay) or "No"(meaning you are not ready to pay) to the tariff levels given by the interviewer.	<input type="checkbox"/>	Present tariff level .	1	180
		<input type="checkbox"/>	Maximam	10	250
		<input type="checkbox"/>	Minimam	1	200
		<input type="checkbox"/>	Average	2.9	
		<input type="checkbox"/>	Median	2	
		<input type="checkbox"/>	% increase of the median	100%	
			No. respondents to the above question	89	2

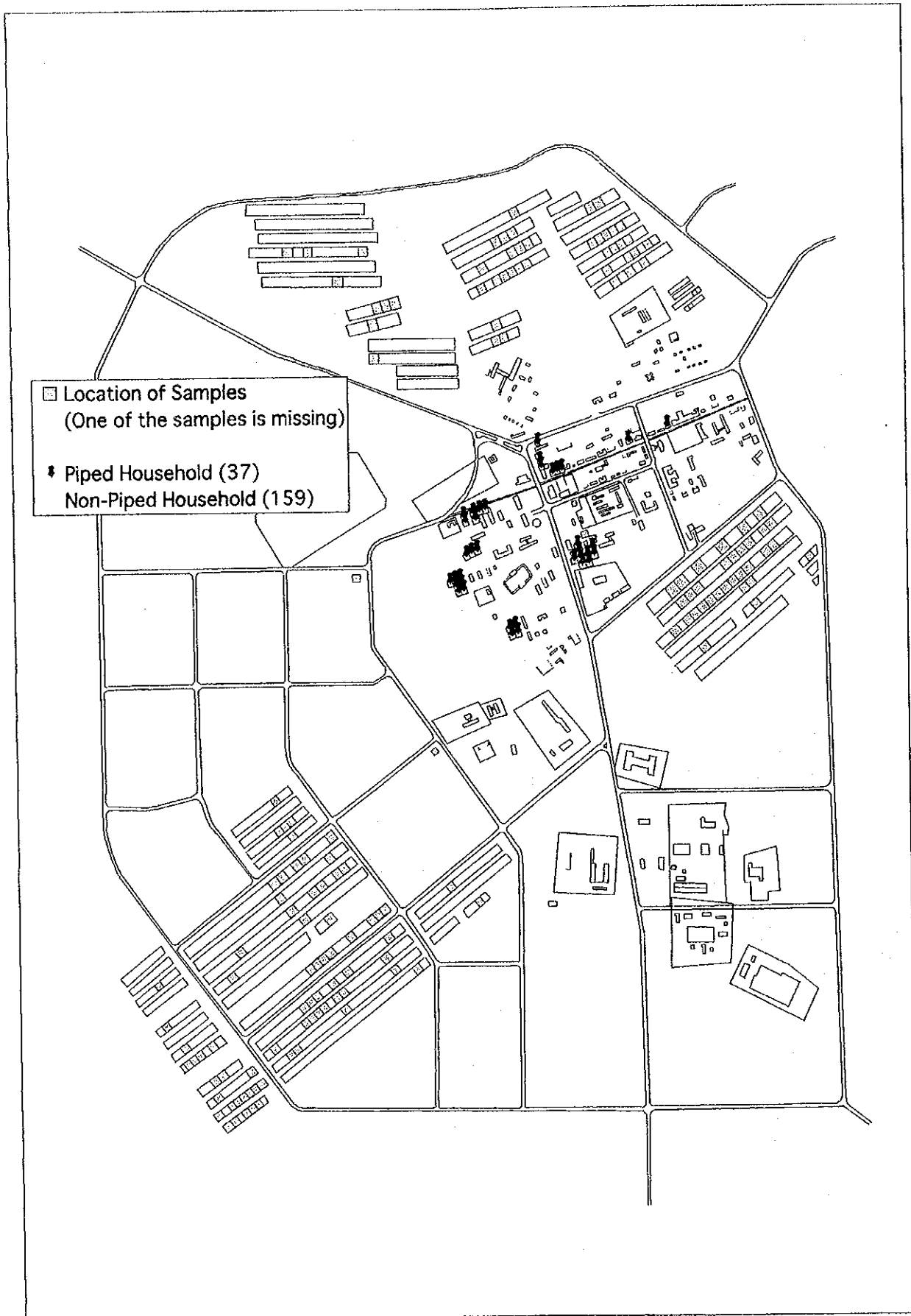
Annex 10 Summed up Result of Household Survey

75	If you wish to continue getting water from water truck service and to solve the problems mentioned in Q70, cost sharing is needed to keep the system in good condition. Suppose a situation in which you will get water in sufficient amount and good quality, up to what level of water tariff would you ready to pay? Please answer "yes" (meaning you are ready to pay) or "No"(meaning you are not ready to pay) to the tariff levels given by the interviewer.	<input type="checkbox"/> Present tariff level .			1	
		<input type="checkbox"/> Maximam			12	
		<input type="checkbox"/> Minimam			0.25	
		<input type="checkbox"/> Median			1	
		<input type="checkbox"/> Average			2.3	
		<input type="checkbox"/> % increase of the median			0%	
		No. respondents to the above question			69	
76	Water usage				"Yes" count	%
		<input type="checkbox"/> Drinking / Cooking			186	94%
		<input type="checkbox"/> House keeping			185	94%
		<input type="checkbox"/> Personal Hygiene (bath and shower)/Laundry			183	93%
		<input type="checkbox"/> Livestock			3	2%
		<input type="checkbox"/> Home garden			3	2%
		<input type="checkbox"/> Other			0	0%
		No. respondents to the above question			197	
77	For which of the following category do you use water the most?					%
		<input type="checkbox"/> Drinking / Cooking	1		29	15%
		<input type="checkbox"/> House keeping	2		20	10%
		<input type="checkbox"/> Personal Hygiene (bath and shower)/Laundry	3		145	74%
		<input type="checkbox"/> Livestock	4		2	1%
		<input type="checkbox"/> Home garden	5		1	1%
		<input type="checkbox"/> others.(specify).....	99		0	0%
		total / No. respondents			197	100%
78	How much volume of water does your household use for drinking / cooking per a day?	Average consumption of water				
		<input type="checkbox"/> for drinking and cooking by a household (litter)			20.4	litters
		Average consumption of water				
		<input type="checkbox"/> for drinking and cooking by a person per a day (litter)			4.0	litters
		No. respondents to the above question			197	

Annex 10 Summed up Result of Household Survey

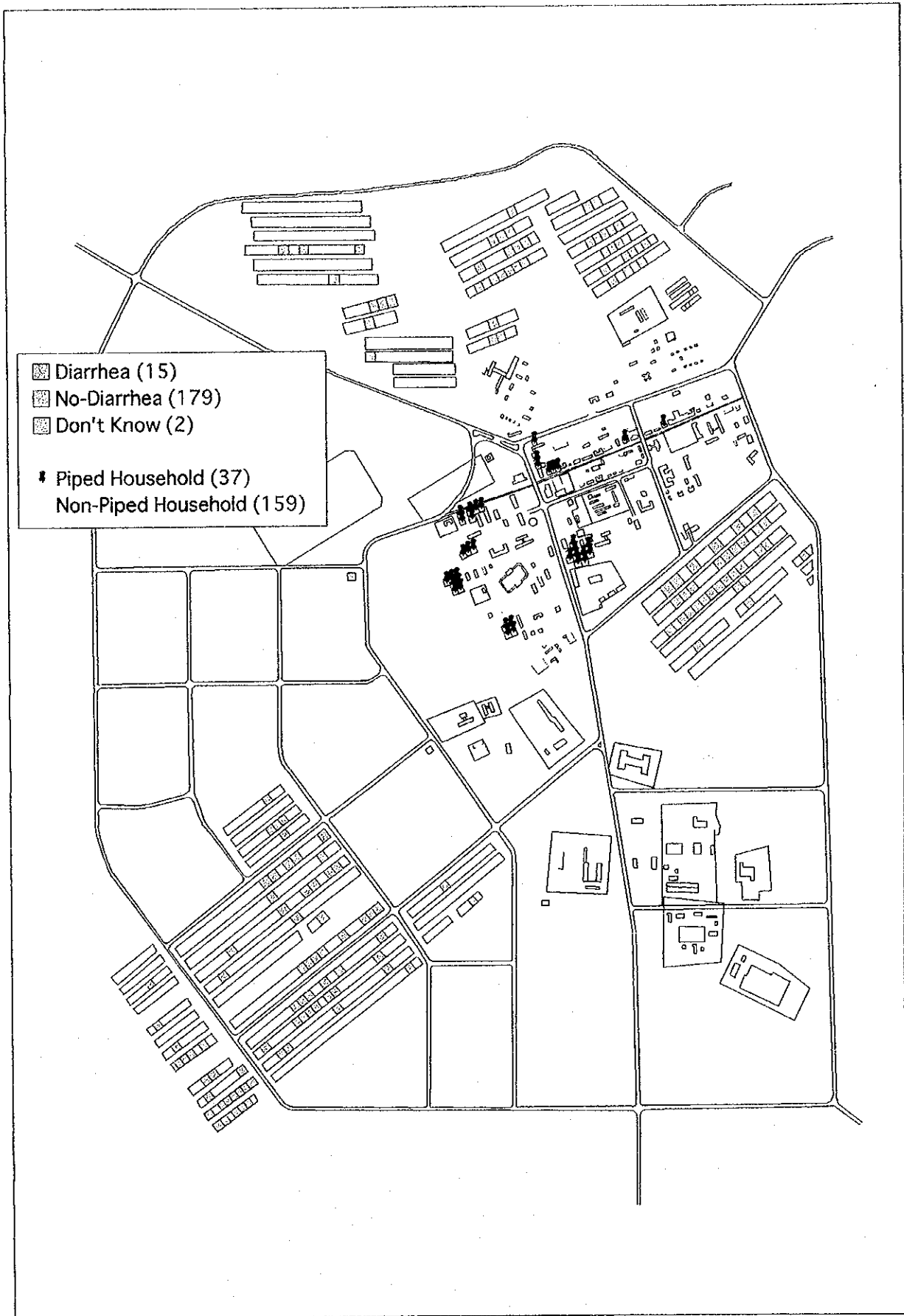
79	How much volume of water does your household use personal hygiene/laundry per a day?	<input type="checkbox"/>	Average consumption of water for personal hygiene and laundry (liter)		29.7	litters
		<input type="checkbox"/>	Average consumption of water for personal hygiene and laundry by a person per a day (liter)		5.8	litters
			No. respondents to the above question		197	
80	Do you use water for livestock? This was asked in Q76 too.	<input type="checkbox"/>	Yes..... c	1	6	
		<input type="checkbox"/>	No..... c	0	187	
			Null		4	
			total / No. respondents		197	
81	Where do you get water for livestock from?	<input type="checkbox"/>	Piped water..... c c		0	"Yes" count
		<input type="checkbox"/>	Water wagon supply..... c		5	
		<input type="checkbox"/>	Well water..... c		0	
		<input type="checkbox"/>	Surface water..... c		0	
		<input type="checkbox"/>	Other (specify)..... c		0	
			No. respondents to the above question		5	
82	Do you know how much water do you feed to your livestock?	<input type="checkbox"/>	Yes I know..... c	1	5	
		<input type="checkbox"/>	Don't know..... c c	0	0	
			total interiewee		5	
83	If "yes" in the above question, specify the number of liters per day you feed the livestock.		Total consumption of water for livestock (liters / day)		150	litters
			total interiewee		5	

Location of Samples



Annex 12

Prevalence of Diarrhea in the past two weeks



Appendix 13 Institution Result

	Name of Institute	Are you satisfied with the existing operation and maintenance status of the water supply facilities?	Not satisfied with the water supply because;					"Not satisfied", would you pay for the improvement? If so how		"Satisfied", but still would you pay for the improvement?		Source of water
			Water stops	Quality is not good	Facilities are deteriorating	Volume of running water is insufficient	The tariff is expensive	Not connected to the supply system	Present tariff level	Ready to pay?	Present tariff level	
1	Altai Hospital	Not satisfied	X	X	X		X	900	1,000			Piped water
2	Ilich-Altai Heating Center	Not satisfied	X	X	X	X		900	1,200			Piped water
3	Mandal Service Company	Not satisfied	X		X			900	1,200			Piped water
4	School No. 1	Satisfied								900	1,000	Piped water
5	Governor's Office	Not satisfied	X	X			X	900	900			Piped water
6	Tulga-Altai Company	Not satisfied	X	X				900	1,300			Piped water
7	Euntum Company	Satisfied								900	1,100	Piped water
8	Medical College	Not satisfied		X			X	900	950			Piped water and water wagon supply
9	Technical Training Center	Not satisfied						X	900	1,000		Water wagon supply
10	Altai Camel Factory	Satisfied										Well
11	Power Station	Not satisfied		X						900	1,300	Well / Piped water
12	Kindergarten for handicapped children	Satisfied								180	190	water wagon supply
13	Agricultural Stock Exchange	Not satisfied						X	2	3		water wagon supply
14	Mongol Bank	Satisfied								900	1,100	Piped water
15	Fire Station	Satisfied										Well
16	Airport	Satisfied								2	4	water wagon supply
17	Social Service Center	Not satisfied	X						2	2		Water wagon supply
18	Undram-Dyu Company	Not satisfied	X		X		X	900	1,000			Piped water
19	Goviin Urgoo Government Factory					Closed						
20	Urban Service Department	Not satisfied		X	X							water wagon supply

	Name of Institute	Toilet facility	Are you satisfied with the toilet you use	How is solid waste disposed?	Poisonous Materials	How is waste water disposed?	Heavily infested with flies?	Hygiene and sanitary education?	The persons who participated in the education are;			
									Worker	Admi/management	Specialized	Other
1	Altai Hospital	Own flush toilet		Collected by city service	Infectious cloths and chemicals	Drain to swage system without processing		yes	X	X	X	
2	Ilich-Altai Power Plant	Traditional pit latrine	No	Transport by own transport	Coal	Pit		yes			X	
3	Mandal Service Company	Own flush toilet		Collected by city service		Drain to swage system without processing		yes	X	X		
4	School No.1	Own flush toilet		Collected by city service	Chemical substance	Drain to swage system without processing		No				
5	Governor's Office	Own flush toilet	No	Collected by city service		Drain to swage system without processing		yes	X			
6	Tulga-Altai Company	Own flush toilet		Collected by city service		Drain to swage system without processing		yes	X	X		
7	Euntum Company	Traditional pit latrine	No	By own transportation		Drain to swage system without processing		yes		X		
8	Medical College	Own flush toilet and pit latrine		Collected by city service	Chemical substance	Drain to swage system without processing		yes				X
9	Technical Training Center	Traditional pit latrine	No	Transported by own truck	Chemical substance	Pit		No				
10	Altai Camel Factory	Traditional pit latrine	No	Cleaned by themselves		Drain to swage system without processing		yes	X			
11	Power Plant Second	Traditional pit latrine	No	Collected by city service	Diesel	Pit	X	yes			X	
12	Kindergarten for handicapped children	Traditional pit latrine	No	Collected by city service		Pit		yes	X	X	X	
13	Agricultural Stock Exchange	Traditional pit latrine	No	By private truck		Pit		yes		X		
14	Mongol Bank	Own flush toilet	No	Collected by city service		Drain to swage system without processing		yes	X			
15	Fire Station	Traditional pit latrine	No	Collected by city service	gasoline	Anywhere	X	yes			X	
16	Airport	Traditional pit latrine	No	Own transport	Gasoline	Pit	X	yes		X		
17	Social Service Center	Traditional pit latrine	No	Collected by city service		Anywhere		yes		X		
18	Undram-Dyu Company	Own flush toilet		Collected by city service		Drain to swage system without processing		yes	X	X		
19	Goviin Urgoo Government Factory	Traditional pit latrine	No	Collected by city service	Unknown			No				
20	Urban Service Department	Traditional pit latrine	No	Collected by city service	Chemicals	Pit		No				

For the primary school pupils

“WATER AND HEALTH”

**Japan International Cooperation Agency
Gobi-Altai aimag of Mongolia
Underground Water Resource Development Project**

1997

The following groups and individuals have contributed the preparation of this book.

- 1. Gombosuren, Director of Public Health Center of Gobi-Altai aimag**
- 2. Primary doctors of Public Health Center of Gobi-Altai aimag**
- 3. Sum leaders and teachers of Usunbulag sum**
- 4. Pupils of Usunbulag sum**
- 5. A. Tsetsegma, organizer**
- 6. J. Enkhbold, Epidemiologist**
- 7. Tserendorj, Illustrator**
- 8. E. Usuda, JICA study team**
- 9. B. Tungalag, Interpreter**

Preface

70.8 % or 361 billion km² of surface of our planet are covered by 1482 million km³ of water, of which 2.5 % is clean water for drinking and the remaining 97.5 % are occupied by the sea, lakes and underground water.

It is well known that the water is the source of life in the planet and the creature including a human being only can survive with the presence of the water.

As a matter of fact, a human body consists of 65-70 % of water and he must take at least 2.5 liters of water every day. Besides this requirement, people wash clothes, clean teeth and flush toilet to maintain their healthy life. This means that the people's health depend much on the water.

The people of Altai City have relayed on the groundwater since the city was established in the current location of 2187 meters above the sea level in 1954. The population of Altai City is now 20,000 or 27 % of 73,000 population of Gobi-Altai aimag.

How the people get water for their daily life?

The supply of water to the residents of Altai city are provided by the following two ways. The residents who live in apartment blocks are connected with centralized water supply system and the people who live ger area provided by the water through the water-delivering wagon.

Where does the water come from?

There are thirteen wells in functioning in the Altai City. Four out of them are used for the source of drinking water and three are used for heating center, veterinary service and other city service. In addition, the private companies own two of them and the remaining four wells are for livestock located in Sukhiin Khooloi.

1. The water for the population of Altai City is provided through the central piped supply system and water-delivering wagons.
2. The hygiene protection line is created 50 meters away from the drinking wells surrounding the protection zone where the source of water located. There is a person who is responsible for watching this zone so that people and animals do not go into the zone. It is important because these measures are protecting our drinking water from the contamination.
3. The upper edge of well is designed higher than the ground level. Stones and cement are used for covering its outer lining. The well should be also covered properly in order to protect the invasion from insects, rodents and animals.
4. Flammable and any poisonous materials should not be placed nearby the water sources. Why? Please discuss the reasons with your teacher.
5. Manholes are created to maintain the water and swage pipelines. These should be securely covered when it is not necessary to open. However, tell your small sisters and brothers not to go nearby them. Because the small children may be injured by falling down to the open manholes.
6. Do not dispose the solid wastes and do not defecate or urinate nearby water sources. Why do you think that we have to behave like that? What do you know about an environmental protection?
7. Washing clothes and other things in springs and rivers may cause problems. Because some chemicals may be harmful to the organisms living in rivers and lakes. Animals and people may drink the contaminated water.
8. The health education will empower the people with the knowledge of how to prevent them from various diseases.
9. Let's use clean and covered containers for carrying water to avoid the contamination.
10. At home, let's keep the drinking water in clean, covered containers away from the dirt and flies. Let's use a clean dipper to take water from the container as well.
11. Do not leave the water containers without covers at the water delivering points because the water will be contaminated. Give the reasons about causes making water contaminated and discuss them too.
 1. The dust from the motorcycle and vehicles
 - 2....
 - 3....
12. The water should not be stored for long time. Because it may create a condition for developing germs.

13. The water storing containers should be properly washed and dried up more than once a week.
14. The boiling kills germs and reduces the hardness of the water. Remember that even small cup of unsafe water, which is taking old man in the picture, may have a stomach problem.
15. Do not drink the river water directly. Because it may not safe to do so. Remember that you always drink boiled tea or water. By the way, what is safe water different from clean water?
16. Remember Children! Do not drink the water directly from the faucets at the toilet room in the school.
17. Food kiosks should not be facilitated close to latrines.
18. The rainy water could be used for washing and cleaning.
19. If there is only the cloudy water available instead of clean drinking water, you can use the following simple method to make it safer. Stand the water in the pot for a sometime. After that when the deposit will settle at the bottom of the pot, carefully pour or scoop off the clean water at the top of the pot and put it into the second pot. Do not forget to boil it before use.
20. Wash the hand by using the soap in following cases:
 - Before preparation of the meal
 - Before eating the meal
 - After use of toilet
 - After playing
 - After coming from the school
 - After handling the waste of children.

Anything else?

1. Healthy tooth is the base of being healthy. Therefore:
 - clean up your tooth every morning and evening;
 - always clean up the tooth or rinse it after eating meal or sweets.

It is suggested to clean the tooth not less than 2 minutes and change the toothbrush every 6 months after use. In addition, it is appropriate to use soft brushes. .

23. Having hot shower more than once a week prevents you from the skin infectious diseases.

24. It is important to carefully wash up the vegetable and fruits with the clean water. If you will eat unwashed vegetable and fruits it may cause some stomach diseases or diarrhea. Because the surface of unwashed vegetable keeps soiled thing with germs.
25. At home, the dishes should be cleaned by sodium and mustard using the hot water and than washed up with the clean water. Always wash the tea towel with the soap and hot water and let it dry completely. The dirty, wet clothes will develop the germs, which spread the infectious diseases.

The following instruction illustrated in the picture is the procedures of cleaning dishes, which is recommended at school canteen and public catering.

26. Let's use wet-cleaning method for cleaning at classroom and home. Germs will be spread into air and than transferred via breathing into human body. Consequently they will cause cough and respiratory problems.
27. The followings are the examples of disease related to water contamination or personal hygiene. Cholera, hepatitis, dysentery, typhoid, and diarrhea.....
Anything else you can name?
28. The feces and urine create a condition for spreading flies. These flies fly into dishes or rest on food that we eat. The latrine with a cover and a ventilated pipe can be used to remove bad odorous and keep flies out of the latrine pit. Often sprinkle the chloride powder on the floor of the latrines during the warm season.
29. Children! Every body knows that the sea is made from many drops of the rain. Remember that, by the 24 hours, one drop of water leakage will accumulate 4-5 liters of water losses. Therefore always make sure that a faucet is properly closed after use.

1. Алтай хотын хйн ам хэрэгцээний усаа төвлөрсөн усан хангамжийн болон зєєврийн гэсэн — хэлбэрээр авч байна
2. Төв суурин газрын хйн амыг ундны усаар хангадаг уурхайн болон ерөмдмөл худгийн эргэн тойрон :? метрт ариун цэврийн хамгаалалтын бис тогтоонол Хамгаалалтын бисэд гаднын хинь малъ амьтан оруулж болохгй ба харуул хамгаалалттай байна Энэ нь хийсийн уудаг усыг гаднын элдэв бохирдлоос хамгаалах ач холбогдолтой
3. Худгийг аль болох төвгөр газар барьж дотор талын ханыг чулууь цементээр доторлож мэрэгчъ шавьжъ малъ амьтан орохоос хамгаалж тагтай байгана
4. Ундны усны эх булагъ худагны ойролцоо —??е—:? метрийн доторхи газрын херсенд шатахъ тослох материал асгахъ хадгалахыг хориглодог байна Ягаад Ю Шалтгааныг багш нартайгаа хамтран ярилцана уув
5. Ус дамжуулах сувгийн дагуу ил байрладаг харах худгийг байнга таглаатай байлгах ёстой Таглаагийг худганд бага насны хийхэд унаж гэмтэхъ осолдох аюултай Иймд хийхдд та нар дй нартаа энэ тухай сайн ойлгуулж егээрйв

6. Усны эх илсвэрийг хуурай хог хаягдаль етген шингэн ялгадсаар бохирдуулж болохгүйв Та нар ийний шалтгааныг юу гэж иэж байна вэЮ Байгаль орчныг хамгаалах талаар та нар юу мэдэх вэ Ю
7. Гол горхив булагь шандны усанд юм угааж бохирдуулж болохгүйв Мен голын эрэг дээр булагь шандны орчимд юм угаах иед ч бохир ус урсаж гол руу ордогв Энэ нь усанд амьдардаг ургамал амьтань тийнээс уудаг хин малыг ч хордуулж болнов
8. Эрйил мэндийн боловсролыг хин амд эзэмшилснээр аливаа евчин эмгэгээс урьдчилан сэргийлэх бололцоотойв
9. Ундны усыг ус тигээх машинаас тагтай цэвэр саваар авч гэртээ хиргэх замдаа бохирдуулахгүй байх нь зийтэйв
10. Ундны усыг гэр орондоо хадгалахдаа цэвэр саванд хийж тоос шорооь ялаа батгана орохоос хамгаалж тагтай байлганав Усаа цэвэр шанагаь халбагаар хутгах хэрэгтэйв

11. Ус тїгээх цэгийн дэргэд усны савыг таглаагїй удаан байлгавал ундны ус бохирдонов Энэ їед юу юунаас болж ус бохирдох вэЮ

Нэрлэнэ ї Ю

е Машин мотоцикл єнгєрєхєд тоос гарснаас

е

е

12. Ундны усыг удаан хугацаагаар хадгалахгїй байх хэрэгтэйв Учир нь ус хадгалж байгаа савны ёроолд їссэн тунадасанд євчин їсгєгч

нян їржих бололцоотойв

13. Ундны усны савыг 7 хоногт 'єээс доошгїй удаа бїрєн суллаж цэвэр усаар сайтар угааж хатааж байх хэрэгтэйв

14. Усыг буцалгахад хатуулаг чанар нь багасч євчин їсгєгч нян устдагв Энэ зурган дээр байгаа євєегийн барьсан жижигхэн аягатай

тїхий ус гэдэсний халдварт євчин їсгэх чадалтайв

15. Гол горхины уснаас шууд уужь амандаа балгаж гар нїрээ угааж болохгїйв Бохир тїхий усаар дамжин гэдэсний халдварт евчин
їсдэгв Иймд усыг заавал буцалгасан їед уух нь ашигтай гэдгийг санаж яваарайв

16. Хїхдїдээ1

Сургууль дээрээ бие засах газрын дэргэдэх гар угаах цоргоны уснаас
бїї уугаарайв

17. Хїнсний бїтээгдэхїйн худалдах мухлагийг бие засах газрын ойролцоо байрлуулж болохгїйв

18. Борооны усыг юм угаах зэргээр ахуйн хэрэгцээнд ашиглаж болнов

19. Ундны цэвэр усгїї тохиолдолд булингартай ус хэрэглэх шаардлага гарвал уг усыг саванд хийж тавинав Тунадас нь савны ёроолд
тунасны дараа дээд хэсгийн цэвэр усыг юїлэн авч буцалган хэрэглэж болнов

20. Гараа угаа1

Хоол ундаа бэлтгэхийн өмнө

Хооллохын өмнө

Бие зассаны дараа

Тоглосны дараа

Хичээлээсээ ирээд

Жорлонд бие засч чадахгүй бага насны хүүхдийг хөтөвчинд бие засуулсны дараа өөрийнхөө гарыг заавал савантай усаар угаах хэрэгтэйв

21. Шүд эрүүл бол бие эрүүл

Шүдээ өглөө оройд тогтмол угааж заншаарайв

Хоол болон чихэрлэг зүйл идэж уусныхаа дараа шүдээ угааж амаа зайлж байв

Шүдний сойзыг . сар болоод шинээр сольж байхаас гадна 1с нь зөөлөн байвал шүд угаахад илүү тохиромжтойв Шүдээ — минутаас доошгүй хугацаанд бix гадаргыг нь бiрэн сойздож угаавал шүд эрүүл байх боломжтойв

22. 7 хоногт 'еэс доошгүй удаа халуун усанд орж байснаар хувийн ариун цэврийг сахиж арьсны халдварт өвчнөөс сэргийлж чаднав

23. Дахин боловсруулахгүйгээр шууд иддэг хинсний ногоо жимсийг цэвэр усаар сайтар угааж хэрэглэх нь ашигтайв Учир нь жимс

ногооны гадна хальсанд наалдсан шороо тоосонд байсан элдэв нянгаар дамжин хордлого iсэх боломжтойв

24. Гэрийн нөхцөлд аяга тавагь халбага сэрээг сод буюу гичтэй халуун усаар угааж дараа нь цэвэр усаар зайлнав Аяганы алчуурыг едер бйр савантай халуун усаар угааж хатааж байх хэрэгтэйв Бохирь нойтон алчуур евчин йсгэгч нян йржих нөхцелийг бйрдйлнэв

Сургуулийн гал тогооь нийтийн хоолны газарт аягаь тавагь халбагаь сэрээь сав суулгыг угаах аргыг зурагт харуулжээв

25. Анги танхимь гэр орондоо байнга чийгтэй цэвэрлэгээ хийжь ширээ сандлаа нойтон алчуураар арчиж байгаарайв Хуурай цэвэрлэгээ хийхэд евчин йсгэгч нян шорооь тоосны хамт агаарт дэгдэж амьсгал авах йед агаартай хамт хиний биед орж амьсгалын замын эрхтний йрэвсэлт евчин 9 ханиады томуу гвм0 йсгэдэгв

26. Бохир гараар дамжин халдварладаг евчнйд

Булчин задраах тахал 9 холера0

Халдварт шар

Цусан суулга

Балнады иж балнад

Суулгалт халдвар

27. Хүний етгэн шингэн бол хар ялаа есөн иржих таатай орчин болдогв Жорлонд байсан хар ялаа гэрт орж ил задгай байгаа аяга таваг хинсний зүйлийг бохирдуулдагв Иймд бие засах газрыг битиймжлэн эвгйй инэрийг арилгахын тулд агааржуулалтын янданг байрлуулан хар ялааг устгах зорилгоор дулааны улиралд жорлонгийн шалан дээр хлорын шохой цацнав

28. Хүүхдүүд та нар “дуслыг хураавал далай” гэдэг үгийг сайн мэднэ шүү дээв Нэг дусал ус —: цагийн турш дусахад :е: литр ус ашиггүй алдагддаг байнав Иймд усны цооногоо байнга сайн хаажь усыг ариг гамтай хэрэглэж сурцгааяв

Оршил

Усгүйгээр амьд байгаль оршин тогтнох индэсгүйв Ус нь амьд бие махбодийн эд эс бীরийн бтэц найрлагад ордогт түүний биологийн ач холбогдол оршинов

Хүний биеийн 70% хувь нь уснаас тогтонов Хүн усыг зөвхөн хоол унданд төдийгүй биеэ чийрэгжүүлэх ариун цэвэр эрл ахуйн зориулалтаар хэрэглэдэгв Хүн хоногт —в: литрээс доошгүй хэмжээний усыг ундаанд хэрэглэх ёстойв Ундны цэвэр усыг хин хангалттай хэрэглэж чадвал эрл байх нэг нөхцөлийг бгрддлнэв

Манай дэлхийн гадаргын 70%, хувь буюу «. тэрбум км талбайг эзэлсэн «.— сая км « ус байдгийн зөвхөн —в: хувь нь цэнгэг цэвэр усг глдэх /7в: хувь нь далай тэнгисг нуур болон газрын доорхи эрдэсжсэн ус байнав

ГовьАлтай аймаг «.—?? хавтгай дөрвөлжин км нутаг дэвсгэртэйг 7«?? хин амтайв Алтай хот «/:: онд байгуулагдсанг далайн твшнээс дээш —,7 м ендерт ергөгдсөнв Алтай хотод —?? хин оршин сууж байгаа нь аймгийн нийт хин амын —7 хувь болнов

Алтай хотод « худаг ажиллаж байнав Эдгээрийн :еийг ундны ус тггээхэдг «еыг уурын зуухг мал эмнэлэгг хот тохижуулах газарг —еыг хувийн компаниг :еийг Сгхийн хоолойд мал усалгаанд тус тус ашиглаж байнав Алтай хотын орон суудны айл ерхдг төвлөрсөн усан хангамжийн шугамаар гэр хорооллын хгмгсг зееврийн усны машинаар хэрэгцээний усаа авч байнав

IMPLEMENTATION PLAN FOR HYGIENE EDUCATION REGARDING TO WATER AND HEALTH

One: Objectives

1. To increase the public awareness on water, water supply and its importance.
2. To promote the health education regarding to personnel hygiene and water.
3. To introduce the value and importance of drinking safe water.

Two: Time

May – June 1998

Three: Implementation measures

	Activities	Responsible person	Focused group	Place where to provide	Reference materials	Expected output
A	1	2	3	4	5	6
1.	Preparation of reference materials, booklets and posters.	Director of the Public Health Center (PHC) of Gobi-Altai aimag			1. Law on Health, Law on Water and Law on Food	
2.	Training of teachers and health activists	1. Doctor-Methodologists 2. Children's hygiene doctor	1. Family doctors 2. School doctor and teachers 3. Health volunteers/ concerned activists	at Health methodological room of PHC	1. Children's book about water and environmental hygiene 2. Hygiene standard of drinking water and its control	Will get an experience and skills to provide health education.

3.	Organizing health education by trainers.	<ul style="list-style-type: none"> 3. Methodologists of PHC, children's hygiene doctor and family doctors 4. Primary school doctors and teachers 5. Health volunteer / activists 	<ul style="list-style-type: none"> 1. Children of Primary school of Altai city 	<ul style="list-style-type: none"> 1. at PHC 2. at school classes 3. at households 	<ul style="list-style-type: none"> 1. Rules on protection of water sources from pollution 2. Health education materials and supplies 3. Water-health booklet 	<ul style="list-style-type: none"> 1. Will get acquainted with the importance of safe water and learn how to safeguard and use water. 2. Will get knowledge how to protect the drinking water from contamination. 3. The people by knowing the methods against water caused diseases the number of the death caused from the dirty hand; water and food will be decreased. 4. The children and household's general hygiene standard will be upgrade.
4.	Dissemination and use of Water- Health booklet	Director of PHC	<ul style="list-style-type: none"> 2. Methodist and children's hygiene doctor 3. Family doctors 4. School doctor, teachers and pupils 5. Health volunteers / activists 			
5.	Dissemination of posters	1. Director of PHC	and private owned economic entities of	formation desks of organizations		

ANNEX 16. Implementation Plan - 3

		2. Methodist, hygiene doctor and family doctors 3. Health volunteers / activists	Altai city		
--	--	---	------------	--	--

**Appendix 17: OUTPUT OF TRAINERS TRAININGS FOR HYGIENE EDUCATION "WATER AND HEALTH"
WITHIN THE JICA PROJECT "THE STUDY ON GROUNDWATER DEVELOPMENT FOR ALTAI CITY IN MONGOLIA"**

Jun. - Sept. 1998

Output : 1 / 2

No	Trainer's name-organization	Target group	Date	Hours	Number of participants	Conducting method of training and used materials
1	Do.Oyunchimeg, Family Doctor	"Huhurlul" children's camp- Children and parents	14.June-16.June	2x1h	100	Discussion "Water and health" education. Material-10 copies
2	O.Handsuren, Family Doctor	"Huhurlul" children's camp- Children and parents	01.July-03.July	21h	135	Discussion "Water and health" education. Material-10 copies
3	Bayartsetseg, Family Doctor	"Huhurlul" children's camp- Children and parents	15.July-17.July	2x1h	74	Discussion "Water and health" education. Material-10 copies
4	S.Handsuren, Family Doctor	"Huhurlul" children's camp- Children and parents	23.July-25.July	2x1h	112	Discussion "Water and health" education. Material-10 copies
5	Ch.Hyamgerel, Deputy Director of SHC	Teachers of Mongolian language	22.July-23.July	2x2h	33	Lecture "Water and health" education. Material-32
6	H.Oyungerel, Training Manager	School childrens of 2 nd , 3 rd and 4 th grade of School No3	24, 25, 28.September	5x0.5h	206	"Water and health" education. Material-
7	H.Oyungerel, Training Manager	Kindegarden No1 children and parents	09.Sept.-10.Sept.	teachers-0.5h parents-45 min	18 101	"Water and health" education. Material-18
8	H.Oyungerel, Training Manager, Ch.Hyamgerel, Deputy Director of SHC	Health volunteers		45 min 45 min	78-countryside 48 family	"Water and health" education. Material-56 "Water and health" education. Material-48

9	Ch.Hyamgerel, H.Oyungerel,	Teachers and staffs of Kindergarden No3	07.Oct.	45 min	20	"Water and health" education. Material-5
10	H.Oyungerel	Teachers of 1-4 th grade of schools	20.Oct.	45 min	20	"Water and health" education. Material-40
11	H.Oyungerel Family Doctor	Health volunteers of Horoo (District) No7,9,11	12.Oct.	45 min	50	"Water and health" education. Material-50
12	H.Oyungerel Family Doctor	Health volunteers of Horoo No 3,5,6	16.Oct.	45 min	34	"Water and health" education. Material-34
13	Ch.Hyamgerel, H.Oyungerel,	Health volunteers	24.Oct.	45 min	16	"Water and health" education. Material-16

IMPLEMENTATION PLAN FOR HYGIENE EDUCATION REGARDING WATER AND HEALTH

One. Objectives

1. To increase the public awareness on water, water supply and its importance.
2. To promote the health education regarding to personnel hygiene and water.
3. To introduce the value and importance of the use of the safe drinking water.

Two. Time

Three. Implementation measures

N	Activities	Responsible person	Focus group	Place where to provide	Reference materials	Expected output
A	1	2	3	4	5	6
1.	Preparation activities e.g draft preparation of hygiene materials, booklets and posters.	Director of the Public Health Center (PHC) of Gobi-Altai aimag			1. Law on Health, Law on Water and Law on Food	
2.	Training of teachers and health activists	1. Doctor-Methodists 2. Children's hygiene doctor	1. Family doctors 2. School doctor and teachers 3. Health volunteers/activists	at Health methodological room of PHC	2. Children's book about water and environmental hygiene 3. Hygiene standard of drinking water and its control	Will get experience and skills to provide health education.
3.	Organization of health education by trainers.	1. Methodists of PHC, children's hygiene doctor	1. Children of Primary school of Altai city	1. at PHC 2. at school classes	4. Rules on protection of water sources from pollution	1. Will get acquainted with the importance of safe water and learn how to safeguard and use water.

ANNEX 18. Implementation Plan for Hygiene Education

		<ul style="list-style-type: none"> and family doctors 2. Primary school doctors and teachers 3. Health volunteer / activists 		3. at households	<ul style="list-style-type: none"> 5. Health education materials and supplies 6. Water-health booklet 	<ul style="list-style-type: none"> 2. Will get knowledge how to protect the drinking water from contamination. 3. The people by knowing the methods against water caused diseases the number of the death caused from the dirty hand, water and food will be decreased. 4. The children's and household's general hygiene standard will be upgrade.
4.	Dissemination and use of Water- Health booklet	Director of PHC	<ul style="list-style-type: none"> 1. Methodist and children's hygiene doctor 2. Family doctors 3. School doctor, teachers and pupils 4. Health volunteers / activists 			
5.	Dissemination of posters	<ul style="list-style-type: none"> 1. Director of PHC 2. Methodist, hygiene doctor and family doctors 3. Health volunteers / activists 	state and private owned economic entities of Altai city	at Information desks of organizations		

Translation

Appendix 19 : PROGRESS REPORT ON TRAININGS FOR HYGIENE EDUCATION "WATER AND HYGINENE EDUCATION" WITHIN THE JICA PROJECT "THE STUDY ON GROUNDWATER DEVELOPMENT FOR ALTAI CITY IN MONGOLIA"

28.Oct.1998

Prepared by the Director of
Social Health Center Gobi-Altai aimag

The project has being implemented since 1996 in order to survey and develop water resource. On the base of social survey conducted in December 1996 we have concluded to conduct trainers training on hygiene education, water as human basic need and how to consume and save water for school children and health volunteers.

Beginning from May and June 1998 we conducted training according to a plan. We received educational materials "Water and Health" for school children in 1000 copies and used successfully. We also have organized a week for regulation for hygiene using laws on health, water, food, and protection of water resources from pollution from 1st to 10th of July 1998. Training for hygiene education was conducted at training room of the Gobi-Altai Social Health Center, "Nuhurlul" children camp, and schools No1 and No2. Training for hygiene education was conducted involving 1038 people, for 16,5 hours by Ms.Ch.Nyamgerel, Director Social Health Center, Ms.H.Oyungerel, physician and other physicians. During the training 419 copies of educational material 35 posters for hygiene education and were used. We also used drawings of a health volunteer-artist, plastics, constructor toys and other materials, which helped children to understand.

Training review

The following approaches were seen as a good help for active participation and better understanding of the issue:

- training organized for small number group;
- based on participants own initiatives;
- perform of a small play;
- apply of other's experience;

We felt that conducting of training in open environment close to fauna and flora, near by river sides and livestock pen through the children camp have impressed children very much. Representing, talking and explaining of hygiene education was not effective way of teaching.

Afterwards we conducted training for hygiene education in the form of children game. At the end of training we discussed with trainees, and understood that people are concerned about the following:

1. Because of water tariff is very costly, they can not get enough water for their living;
2. Distances to water truck stops are still too far;
3. Suitable water containers are not available at shops, also their prices are high;
4. There exists only one public shower in Altai city and it is open only for 2 days per week;
5. Because of hardness of water, diseases of gallbladder, digestive tract, kidney and urine tract are highly found.
6. When you wash clothes with hard water, it does not become shining easily and it fades.
7. After taking a shower skin becomes dry, people becomes wrinkled and aged before as they supposed to.

Future plan

1. Conduct training at schools and kindergarten according to the prepared plan.
2. Use visual teaching aids, drawings, video equipment, and natural representations for training will be applied.
3. Waving system of water charge (distribution of free water) should be incorporated to the Master Plan for Gobi-Altai aimag Development (2005-2015). Create favorable condition for minimum consumption of 30-40 l/capita per day.
4. Reflecting to water distribution systems (kiosks) in the future, educating people on prevention of water from contamination in the surroundings and utilization of kiosks will be institutionalized.

Serial Number Used on Household Survey	Why do you think that the quality of water is bad?	Why do you think that the reason given by you is problem?	What happened if the problem you mentioned continues?	How did you know that the problem of water is related to (disease) or what is the source of information?
118	Because deposit is found at the bottom of a container	Somebody said so	Many people have liver disease	Newspaper, friends
6	High concentration of minerals		It causes liver disease	A doctor in Hospital said so
61	1) Stomach problem; 2) Worse compared with the Zavkhan River	It causes diarrhea, pain, problem of gallbladder	Disease like diarrhea and stone in gallbladder	A doctor in Hospital said that the quality of water is related to stone in gallbladder
97	1) The color of tea become red; 2) Deposit is found when the water is boiled	1) The water damages metal container; 2) Human body is also damaged by the deposit	1) Somebody from outside of the Altai City gets diarrhea; 2) Hard water causes diarrhea	Somebody says so;
68	1) Washing hair is uneasy; 2) Mother had stomach pain; 3) The quality of water in Altai is worse than the water of the Zavkhan River	1) The water of Zavkhan River doesn't causes diarrhea; 2) High level of salts	People have stomach problem	Ancestor
76	Stomach problem	Smell of chlorine is high	Negative effect on health	Grandfather
166	White deposit is found in water container	1) Skin became red; 2) Have stomach problem when I move to the Altai City from other places.	Cause liver and stomach disease	People around here and newspaper
144	1) Taste of chlorine; 2) Frequent stomach problem	Have stomach problem when I move to the Altai City from other place	Stomach problem and gallbladder stone	People talk about the quality of water
140	1) When water is boiled deposit is found; 2) The taste of Vodka being distilled here is different from the others	The color of meat become red when it is boiled. He perceive that this affects human body.	1) Liver become bigger and hard. 2) Stomach pain and feeling of undigested	Many people say so and moved out from the Altai City

DATA BOOK
CHAPTER 3 METEOROLOGY



Annex III - 1 Monthly Average Rainfall, Temperature and Relative Humidity at Altai City and Khan Tayshiryn

Month	Monthly Average Rainfall (mm)		Monthly Average Temperature (°C)		Monthly Average Humidity (%)	
	Altai City Rainfall	Khan Tayshiryn Rainfall	Altai City Temperature	Khan Tayshiryn Temperature	Altai City Humidity	Khan Tayshiryn Humidity
January	1.1	1.1	-18.6	-18.6	65	66
February	2.1	2.3	-16.2	-19.0	61	62
March	5.8	7.3	-9.1	-13.4	53	64
April	10.5	10.8	-0.6	-5.8	45	56
May	13.2	13.8	6.9	3.1	42	52
June	29.2	31.5	12.7	7.7	47	57
July	48.2	39.1	14.0	8.6	57	62
August	41.8	55.4	12.7	7.2	52	57
September	17.1	22.4	6.3	2.3	52	58
October	7.3	11.1	-1.9	-4.5	51	42
November	3.1	4.0	-10.3	-11.9	58	66
December	2.2	1.6	-16.0	-16.2	64	62

Annex III - 1 Monthly Average Rainfall (mm) at Altai City Station

Year	Monthly Average Rainfall (mm)												Annual Average (mm)
	January	February	March	April	May	June	July	August	September	October	November	December	
1955	0.2	4.1	6.2	9.4	10.7	22.6	43.6	91.2	3.1	10.3	-	-	-
1956	0.8	1.9	0.5	7.6	39.5	40.3	35.2	24.6	11.2	5.4	0.2	-	-
1957	-	0.9	0.4	5.2	4.1	16.5	29.7	6.9	8.8	13.8	2.3	1.0	-
1958	-	1.7	6.5	9.9	17.6	21.5	50.9	82.8	27.9	6.5	-	9.7	-
1959	2.6	3.2	2.1	6.9	12.2	81.5	55.7	72.4	22.0	10.0	7.8	3.3	279.7
1960	1.1	1.9	8.8	4.3	12.5	16.4	18.3	13.1	8.9	1.6	5.5	4.6	97.0
1961	0.6	-	11.7	16.4	28.9	30.7	95.0	74.1	14.2	6.9	5.2	1.2	-
1962	3.5	0.9	6.0	3.3	1.5	25.0	21.3	28.7	9.6	0.7	1.1	1.7	103.3
1963	-	0.2	2.4	1.6	4.2	25.2	28.9	73.8	1.2	2.0	2.8	0.9	-
1964	0.1	4.4	15.4	7.6	12.7	15.7	56.3	37.8	31.7	11.2	3.4	3.6	199.9
1965	-	-	3.7	12.7	4.6	41.5	77.1	23.9	2.1	7.0	3.5	6.6	-
1966	2.7	1.1	5.4	13.5	49.0	40.1	49.1	71.9	-	5.8	8.6	0.7	-
1967	0.5	0.8	11.4	18.1	17.6	13.6	55.6	27.2	25.8	3.0	10.5	0.1	184.2
1968	5.9	4.3	16.4	11.3	7.3	7.4	45.3	61.5	17.3	19.4	1.6	0.3	198.0
1969	1.0	0.1	15.5	-	-	64.3	107.9	47.2	54.5	12.8	1.4	2.1	-
1970	-	0.4	1.3	29.5	7.5	6.4	10.1	34.0	10.3	1.3	6.5	1.4	-
1971	0.2	2.3	12.1	15.3	26.5	23.1	36.5	25.7	10.4	0.4	0.9	-	-
1972	2.4	0.7	0.9	4.3	0.8	14.4	31.2	33.7	29.5	5.7	2.1	-	-
1973	0.3	4.3	1.4	7.9	25.4	36.9	26.4	58.7	15.6	13.4	1.3	-	-
1974	0.1	6.1	3.1	7.6	1.8	7.9	22.0	29.6	4.6	21.4	0.4	1.5	106.1
1975	-	2.5	1.7	22.0	4.3	31.3	37.2	11.0	16.8	14.0	1.6	0.7	-
1976	4.6	0.3	13.2	11.6	19.1	43.4	62.3	70.2	10.0	8.0	2.2	2.4	247.3
1977	0.1	0.9	7.7	7.3	27.7	26.9	48.6	2.8	4.2	2.5	2.3	4.0	135.0
1978	0.7	0.3	7.5	3.5	3.4	32.0	20.4	10.4	14.5	-	0.7	1.7	-
1979	0.6	0.5	3.4	7.0	5.3	31.4	79.6	38.3	23.4	5.1	3.9	1.7	200.2
1980	0.2	1.0	7.1	8.0	20.4	14.5	42.0	72.6	8.1	4.1	2.8	0.8	181.6
1981	1.1	1.0	13.5	15.4	0.0	19.9	6.2	85.5	4.5	8.1	2.9	2.2	160.3
1982	0.0	0.3	4.0	7.1	31.9	33.1	27.6	23.9	13.6	9.2	1.6	0.1	152.4
1983	0.7	0.4	0.6	11.9	7.3	51.6	4.3	68.9	12.4	15.4	6.8	0.0	180.3
1984	0.9	7.8	1.7	14.3	1.9	26.5	80.3	43.7	26.7	7.6	2.3	2.5	216.2
1985	0.5	1.8	1.3	6.3	18.6	7.3	51.1	18.2	21.1	4.8	0.0	2.8	133.8
1986	0.4	0.8	1.9	11.8	0.3	20.5	48.6	63.4	29.8	2.2	2.0	4.3	186.0
1987	1.0	0.5	2.6	13.4	2.3	47.5	51.1	46.2	18.1	2.2	1.7	0.9	187.5
1988	1.8	7.4	0.3	5.6	15.6	7.3	28.2	28.6	3.5	7.9	1.7	2.9	110.8
1989	0.0	0.5	3.4	0.4	11.3	21.3	25.7	35.0	47.4	7.7	0.6	1.2	154.5
1990	2.1	3.7	2.6	22.6	12.0	71.3	58.6	31.5	3.3	1.0	6.6	0.0	215.3
1991	1.0	2.4	8.9	1.7	6.9	11.7	61.7	52.7	50.5	2.1	4.9	3.4	207.9
1992	0.6	3.2	2.1	20.5	17.2	11.6	128.9	2.6	25.9	18.9	2.4	3.3	237.2
1993	0.4	4.6	14.4	8.6	22.4	37.7	118.0	28.9	12.7	6.3	2.9	1.0	257.9
1994	0.0	0.0	2.6	21.7	17.6	67.1	80.0	13.7	26.9	4.0	5.0	3.7	242.3
1995	0.0	3.2	7.8	6.7	3.9	15.8	32.2	76.0	3.1	3.3	0.4	1.3	153.7
1996	1.7	0.4	2.3	10.2	9.3	46.4	36.4	13.9	-	-	-	-	-
Average	1.1	2.1	5.8	10.5	13.2	29.2	48.2	41.8	17.1	7.3	3.1	2.2	181.7

Annex III - 1 Monthly Rainfall Distribution (mm) at Khan Tayshiryn Station (1978-1989)

Year	Monthly Average Rainfall (mm)												Annual Average (mm)
	January	February	March	April	May	June	July	August	September	October	November	December	
1978	0.0	2.2	21.0	4.4	2.0	69.7	39.4	22.8	17.3	5.2	0.3	4.1	188.4
1979	1.9	1.3	10.0	9.9	20.2	60.5	109.2	35.8	29.0	5.3	7.3	2.9	293.3
1980	1.2	2.2	5.0	16.6	27.3	9.4	59.2	83.3	38.6	4.5	10.5	0.7	258.5
1981	2.0	2.3	20.0	31.8	0.7	28.9	5.3	93.2	2.8	7.8	5.9	0.3	201.0
1982	0.0	0.0	6.1	3.9	26.6	13.0	20.3	34.6	15.9	17.5	0.8	0.2	138.9
1983	2.1	0.0	0.4	14.5	14.1	70.8	6.8	50.6	10.7	14.4	4.8	0.0	189.2
1984	1.5	6.5	1.1	15.0	9.4	22.5	76.4	59.1	55.6	15.7	4.6	3.3	270.7
1985	0.4	4.9	4.2	6.4	28.1	6.2	34.8	26.8	29.5	5.5	1.4	1.9	150.1
1986	0.2	0.5	1.1	9.8	0.0	34.3	42.2	85.9	17.2	10.1	8.2	2.2	211.7
1987	1.6	0.4	3.5	15.7	0.3	42.7	39.2	92.6	9.3	32.1	0.5	0.5	238.4
1988	1.1	5.1	5.9	0.8	20.0	7.1	24.0	31.4	2.2	8.5	2.2	1.1	109.4
1989	0.7	2.4	9.2	0.2	17.0	13.0	11.9	48.6	40.6	6.8	1.4	2.4	154.2
Average	1.1	2.3	7.3	10.8	13.8	31.5	39.1	55.4	22.4	11.1	4.0	1.6	200.3

Annex III - 1 Maximum and Rainy Season Runoff at Guulin and Durveljin Stations

Guulin Station

Year	Annual Max. Discharge (m ³ /s)	June-August Runoff (mill. m ³)
1972	65.0	89.67
1973	80.6	366.23
1974	59.1	95.66
1975	145.0	176.57
1976	146.0	318.72
1977	26.8	128.52
1978	19.8	47.55
1979	153.0	209.36
1980	36.0	114.45
1981	21.3	65.76
Average		161.25

Durveljin Station

Year	Annual Max. Discharge (m ³ /s)	June-August Runoff (mill. m ³)
1977	168.0	281.93
1978	50.0	252.32
1979	294.0	430.58
1980	48.2	76.63
1981	-	-
1982	28.5	60.01
1983	48.1	134.96
1984	90.0	333.91
1985	-	-
1986	79.7	218.51
Average		223.61

ALTAI CITYS TEMPERATURE JUNE 1997

DATA	AIR TEMPERATURE			GRAND SURFASE TEMPERATURE		
	MID	MAX	MIN	MID	MAX	MIN
01	9.2	15.5	3.2	11.6	26.5	2.2
02	12.8	20.7	2.2	14.8	34.0	-0.5
03	12.6	16.7	9.4	18.0	34.8	4.4
04	9.3	15.1	2.6	10.6	33.0	-0.2
05	5.7	11.8	0.9	12.3	36.7	0.6
06	3.5	7.4	0.6	7.6	20.6	-0.2
07	3.4	9.3	-2.2	9.0	34.5	-3.0
08	7.4	12.3	0.4	11.8	35.2	-3.4
09	10.2	18.5	1.0	16.3	40.4	-2.8
10	14.2	21.7	4.0	17.8	40.8	1.0
11	16.7	22.1	8.1	20.2	39.8	4.0
12	15.4	21.4	10.6	16.9	35.6	5.9
13	14.0	18.3	7.1	20.3	42.1	6.1
14	11.3	16.4	5.0	17.6	43.9	1.0
15	13.8	21.1	4.5	19.7	46.9	-1.3
16	15.6	23.5	6.4	21.0	48.4	2.0
17	16.8	24.5	7.2	23.5	52.0	3.2
18	18.8	24.5	10.8	22.6	46.4	7.3
19	20.0	25.9	10.8	24.1	45.5	5.6
20	19.6	26.6	10.8	24.2	51.2	5.0
21	20.6	26.2	14.0	26.5	48.9	9.8
22	19.5	25.2	12.5	26.2	47.7	7.8
23	15.8	23.0	10.7	19.2	41.1	9.9
24	13.9	21.7	7.8	17.2	34.8	5.0
25	14.1	20.7	12.0	13.4	34.4	9.2
26	14.8	20.2	10.1	19.9	40.3	7.4
27	15.8	22.2	10.1	20.9	42.3	8.4
28	14.1	21.3	5.4	19.9	41.8	0.8
29	15.4	21.6	7.2	19.2	40.0	2.2
30	17.0	21.0	11.8	19.4	36.1	12.6
31						

ALTAI CITYS TEMPERATURE JULY 1997

DATA	AIR TEMPERATURE			GRAND SURFASE TEMPERATURE		
	MID	MAX	MIN	MID	MAX	MIN
01	13.6	20.1	9.9	19.7	40.3	10.2
02	10.4	16.4	5.5	13.3	35.0	4.4
03	13.7	22.4	3.5	19.5	44.9	0.5
04	19.3	26.1	11.0	25.3	49.1	7.4
05	20.4	28.0	11.0	25.4	49.9	5.8
06	21.4	26.0	13.0	25.1	45.1	8.0
07	17.7	25.2	12.2	21.7	40.3	9.6
08	16.5	24.4	8.5	17.9	33.0	6.7
09	20.7	28.4	9.8	26.3	49.7	6.4
10	22.7	28.7	14.5	27.0	49.1	10.0
11	19.9	23.9	16.5	25.2	49.0	14.6
12	18.8	24.9	13.6	21.4	39.8	12.1
13	14.9	24.1	12.1	16.2	28.1	11.2
14	13.8	20.1	7.8	17.7	44.1	5.9
15	14.9	21.7	5.6	22.0	48.3	2.6
16	14.1	20.6	10.9	14.0	30.2	9.9
17	11.3	15.0	8.3	13.4	24.3	8.9
18	13.9	20.4	10.3	15.1	28.7	9.2
19	14.2	19.5	10.0	14.4	26.3	5.9
20	10.6	16.7	5.8	12.7	25.3	3.3
21	14.1	20.9	7.0	15.3	32.5	2.6
22	15.1	20.4	11.5	17.2	35.1	7.0
23	13.2	19.5	6.6	17.9	38.2	3.5
24	12.8	18.5	6.6	16.5	40.1	2.5
25	11.3	16.1	7.6	14.8	39.1	6.5
26	12.1	18.9	3.5	15.2	39.5	0.6
27	11.9	17.4	6.9	17.3	38.6	4.5
28	9.4	16.8	4.9	17.7	36.7	1.4
29	8.2	13.9	1.2	15.2	38.6	-1.5
30	8.3	13.1	3.3	12.0	31.9	0.5
31	11.5	20.1	2.4	18.5	44.6	-1.0

ALTAI CITYS TEMPERATURE AUGUST 1997

DATA	AIR TEMPERATURE			GRAND SURFASE TEMPERATURE		
	MID	MAX	MIN	MID	MAX	MIN
01	16.6	26.1	8.0	20.5	45.2	3.6
02	19.1	25.8	12.9	21.5	40.6	7.5
03	19.0	24.7	12.0	19.5	40.3	6.5
04	17.2	23.6	12.6	20.8	44.1	11.2
05	15.0	22.2	12.0	16.5	30.3	11.7
06	12.3	16.4	9.8	15.2	32.2	8.4
07	12.5	18.9	8.4	15.5	32.6	6.1
08	14.1	21.2	6.9	18.9	44.7	3.5
09	15.9	24.4	7.2	22.0	45.0	4.2
10	17.5	23.4	12.5	19.0	40.1	8.6
11	13.8	19.3	9.4	20.2	39.1	6.7
12	11.5	18.9	4.7	16.1	33.6	1.6
13	8.5	14.8	1.4	11.9	29.6	-1.6
14	6.3	13.4	-0.6	11.8	32.6	-3.5
15	10.4	18.8	1.3	17.1	40.3	-1.5
16	13.8	21.9	3.3	19.2	43.6	0.6
17	15.4	23.7	6.7	21.7	47.1	2.5
18	16.2	23.8	8.8	20.7	43.1	4.6
19	15.8	23.4	8.5	19.3	43.6	4.9
20	15.7	22.3	9.5	20.3	42.4	4.9
21	17.4	24.6	10.0	20.9	45.1	6.8
22	17.9	24.4	10.3	20.2	40.3	3.9
23	13.9	18.3	9.3	17.8	40.5	4.7
24	11.2	19.3	2.5	14.6	38.5	-1.5
25	12.7	19.5	5.0	16.7	39.3	-0.5
26	11.8	16.8	5.3	14.3	40.3	1.9
27	12.4	19.2	5.2	17.6	44.1	1.2
28	15.6	20.4	9.8	15.4	29.1	5.7
29	12.7	16.7	8.4	13.9	29.4	3.5
30	4.6	12.0	0.0	5.2	18.1	-1.0
31	5.4	16.6	-4.0	8.6	11.6	-4.1

ALTAI CITYS TEMPERATURE SEPTEMBER 1997

DATA	AIR TEMPERATURE			GRAND SURFASE TEMPERATURE		
	MID	MAX	MIN	MID	MAX	MIN
01	10.9	18.9	4.2	15.3	41.0	0.5
02	14.3	20.5	9.2	16.6	36.3	4.5
03	16.6	23.2	8.5	17.8	35.6	2.2
04	16.3	23.3	10.3	16.4	37.7	5.0
05	15.4	22.1	8.7	17.3	38.9	3.0
06	13.6	20.1	7.8	12.8	31.8	2.0
07	7.8	13.5	-0.8	9.3	28.1	-4.9
08	5.5	11.6	0.2	10.0	33.1	-3.8
09	5.9	14.1	0.1	7.9	29.1	-2.4
10	4.1	9.5	-2.0	6.8	31.9	-6.5
11	3.5	9.7	-1.3	7.0	29.2	-5.6
12	1.9	11.2	-4.0	3.3	34.9	-8.9
13	2.5	6.5	-1.5	2.0	9.7	-4.2
14	1.8	4.7	-1.0	4.7	14.1	-3.9
15	1.4	5.4	-1.3	2.6	19.5	-2.3
16	0.8	5.7	-4.4	3.0	25.6	-8.0
17	2.7	8.6	-1.4	5.2	23.8	-5.1
18	4.1	10.8	-2.6	6.3	26.5	-6.2
19	2.3	9.9	-5.1	4.8	26.6	-8.3
20	4.8	13.5	-2.9	6.0	29.7	-8.5
21	7.1	14.7	1.4	7.8	28.8	-3.0
22	3.2	8.2	-1.0	5.6	25.0	-5.0
23	2.3	9.5	-4.6	3.8	32.4	-8.8
24	4.4	12.4	-3.0	6.4	32.1	-7.0
25	6.1	15.3	-2.0	7.9	32.5	-6.3
26	8.0	14.8	-1.6	7.9	31.4	-3.1
27	7.2	14.7	1.2	7.3	26.5	-4.4
28	7.7	15.3	0.6	8.8	29.6	-4.0
29	6.9	12.5	0.6	7.6	26.1	-5.2
30	2.6	8.1	-2.4	4.3	24.8	-8.0
31						

ALTAI CITYS TEMPERATURE OCTOBER 1997

DATA	AIR TEMPERATURE			GRAND SURFASE TEMPERATURE		
	MID	MAX	MIN	MID	MAX	MIN
01	-2.3	0.6	-4.0	-1.1	10.7	-6.7
02	-4.0	3.0	-11.0	-1.8	15.7	-16.5
03	-1.9	5.8	-8.5	1.0	24.7	-15.0
04	0.4	9.1	-7.2	1.8	23.3	-12.8
05	2.8	10.3	-5.0	4.3	27.1	-10.0
06	2.6	12.2	-6.0	4.0	25.6	-12.0
07	3.2	14.5	-5.4	3.8	28.1	-10.2
08	6.2	14.3	-0.6	6.0	28.5	-5.7
09	5.4	13.6	-3.4	4.9	29.3	-9.4
10	5.8	14.9	-1.1	5.8	27.9	-7.0
11	6.1	9.1	2.0	7.7	23.6	-2.0
12	2.9	11.9	-5.3	3.4	27.9	-10.6
13	5.4	11.2	0.3	5.6	24.1	-5.6
14	1.3	6.4	-2.7	0.6	21.3	-8.1
15	-0.9	7.0	-10.2	1.9	26.5	-12.6
16	1.7	9.0	-5.5	2.3	26.0	-8.5
17	3.0	11.2	-3.8	2.5	24.6	-10.0
18	5.4	10.1	-1.5	6.2	24.4	-6.0
19	6.2	12.8	1.8	6.2	22.4	-2.2
20	6.9	14.6	1.3	6.3	27.1	-4.5
21	6.6	12.4	0.9	5.7	22.3	-6.0
22	-3.2	5.2	-9.2	-1.2	16.0	-13.0
23	-5.5	1.0	-11.4	-3.4	17.0	-16.5
24	-7.4	1.8	-15.5	-6.2	17.0	-19.5
25	-4.6	4.5	-12.5	-3.6	20.0	-16.5
26	-3.9	5.6	-12.1	-4.6	17.4	-16.5
27	-4.2	5.3	-11.0	-3.8	18.0	-16.0
28	-3.1	5.8	-9.3	-3.0	18.0	-16.0
29	-2.7	6.6	-10.5	-3.0	19.4	-15.9
30	-1.7	6.9	-11.1	-1.4	17.4	-16.0
31	-1.1	6.5	-7.7	-1.8	17.0	-13.5

ALTAI CITYS TEMPERATURE NOVEMBER 1997

DATA	AIR TEMPERATURE			GRAND SURFASE TEMPERATURE		
	MID	MAX	MIN	MID	MAX	MIN
01	-1.9	3.0	-7.0	-2.2	15.6	-13.4
02	-3.6	6.7	-11.3	-3.4	19.8	-15.9
03	2.7	8.7	-4.0	0.2	17.3	-11.3
04	-0.3	3.8	-4.8	-1.9	13.6	-11.5
05	-4.6	2.6	-11.2	-5.2	15.0	-15.5
06	-7.1	2.0	-14.5	-6.9	15.2	-19.2
07	-5.2	3.0	-13.3	-5.5	15.6	-17.5
08	-2.6	4.0	-9.8	-2.9	15.0	-14.5
09	-3.6	0.3	-7.5	-2.9	9.6	-11.6
10	-6.7	-4.0	-7.8	-5.6	3.0	-10.0
11	-13.7	-5.2	-20.0	-12.8	6.0	-21.5
12	-10.4	-6.0	-15.8	-11.4	-0.2	-19.2
13	-6.1	-3.6	-13.6	-7.2	0.1	-17.0
14	-17.8	-7.5	-24.8	-17.6	-9.0	-26.0
15	-21.5	-15.0	-29.0	-23.0	-10.4	-33.4
16	-16.7	-10.5	-24.0	-18.0	-8.0	-29.5
17	-12.4	-3.2	-20.2	-14.1	0.4	-29.0
18	-9.4	-2.8	-14.1	-12.1	1.0	-19.4
19	-6.8	-3.7	-13.0	-12.4	-0.2	-18.2
20	-11.1	-8.0	-14.5	-12.3	-4.0	-19.0
21	-10.5	-7.9	-14.6	-12.5	-6.8	-19.5
22	-7.3	-4.8	-13.0	-7.0	-0.4	-18.2
23	-4.6	-2.9	-7.2	-6.4	-2.4	-10.2
24	-15.2	-5.7	-24.8	-15.6	-7.1	-32.6
25	-19.7	-14.6	-26.0	-22.3	-6.8	-32.5
26	-16.5	-9.9	-23.7	-20.4	-9.5	-28.5
27	-12.0	-8.9	-18.0	-14.8	-5.4	-24.0
28	-17.9	-11.6	-23.9	-19.4	-3.4	-29.0
29	-20.1	-17.2	-24.2	-19.0	-9.8	-27.0
30	-24.5	-19.8	-31.5	-26.7	-12.1	-36.4
31						

ALTAI CITYS TEMPERATURE DECEMBER 1997

DATA	AIR TEMPERATURE			GRAND SURFASE TEMPERATURE		
	MID	MAX	MIN	MID	MAX	MIN
01	-18.6	-11.0	-23.6	-12.3	-7.0	-29.8
02	-11.8	-5.3	-21.7	-22.9	-2.9	-27.0
03	-9.0	-4.0	-17.7	-13.1	-2.6	-23.6
04	-9.3	-6.0	-14.4	-19.6	-4.5	-17.5
05	-14.1	-8.5	-20.2	-14.0	-9.5	-22.6
06	-22.7	-15.5	-29.0	-24.8	-9.6	-32.6
07	-16.5	-7.0	-24.8	-20.1	-1.5	-29.4
08	-19.0	-13.8	-25.0	-20.8	-9.6	-28.6
09	-23.7	-12.4	-31.0	-25.3	-8.0	-32.5
10	-19.0	-5.3	-29.6	-21.5	-4.5	-32.5
11	-17.1	-6.5	-24.6	-20.2	-2.0	-29.8
12	-15.4	-6.5	-21.8	-18.6	-1.0	-26.0
13	-14.4	-2.1	-23.0	-18.6	-1.0	-27.8
14	-6.0	-1.8	-11.8	-9.8	-1.8	-17.0
15	-7.6	-1.5	-15.0	-10.9	-0.1	-17.0
16	-6.9	-2.5	-15.0	-12.2	-0.5	-18.7
17	-5.4	-1.7	-9.2	-8.1	0.6	-14.0
18	-7.8	-1.4	-18.6	-10.4	-6.0	-22.0
19	-11.9	-7.0	-19.6	-12.8	-5.2	-21.6
20	-15.2	-4.2	-24.2	-16.7	-0.5	-25.0
21	-10.1	-1.3	-10.8	-14.5	0.5	-23.1
22	-8.7	-1.9	-15.6	-11.0	5.0	-20.7
23	-9.4	-3.0	-14.6	-12.1	-5.5	-20.5
24	-7.8	-4.2	-12.4	-10.0	0.0	-15.2
25	-18.0	-11.5	-24.0	-19.5	-8.0	-27.1
26	-17.7	-10.6	-25.4	-21.1	-4.8	-28.7
27	-18.8	-8.5	-26.6	-22.7	-8.5	-33.6
28	-12.0	-5.5	-17.8	-15.6	-2.6	-26.2
29	-12.9	-8.5	-14.0	-14.8	-2.5	-22.5
30	-14.2	-7.0	-21.0	-17.4	-2.4	-25.6
31	-14.3	-9.8	-20.3	-17.4	-9.0	-24.5

ALTAI CITYS TEMPERATURE JANUARY 1998

DATA	AIR TEMPERATURE			GRAND SURFASE TEMPERATURE		
	MID	MAX	MIN	MID	MAX	MIN
01	-15.5	-11.3	-20.0	-17.4	-6.1	-24.0
02	-22.5	-16.0	-29.0	-24.4	-18.0	-30.8
03	-24.0	-16.0	-31.2	-26.1	-12.4	-34.2
04	-14.3	-6.5	-21.9	-18.6	-4.7	-27.5
05	-12.0	-8.0	-16.5	-15.1	-3.6	-21.0
06	-14.1	-5.7	-21.0	-17.2	-0.7	-26.5
07	-15.6	-10.0	-22.8	-18.9	-4.2	-28.0
08	-12.3	-7.0	-18.0	-14.5	-2.0	-22.6
09	-14.7	-6.0	-20.5	-17.5	-1.0	-24.4
10	-16.9	-8.8	-22.4	-18.1	-2.0	-27.0
11	-17.5	-6.9	-24.8	-18.7	-2.0	-27.5
12	-17.3	-12.6	-23.6	-17.9	-10.0	-27.1
13	-25.8	-20.0	-30.5	-25.2	-12.4	-32.5
14	-25.2	-18.9	-29.7	-27.2	-15.8	-32.7
15	-28.8	-23.9	-32.2	-28.1	-17.5	-41.5
16	-29.1	-23.0	-33.5	-29.1	-17.0	-36.4
17	-31.1	-22.5	-37.0	-30.5	-17.9	-39.2
18	-28.0	-16.0	-36.0	-30.2	-12.0	-38.9
19	-20.5	-13.5	-25.1	-23.1	-9.5	-30.7
20	-20.1	-11.0	-25.1	-22.9	-7.5	31.8
21	-20.9	-12.8	-26.8	-22.0	-3.5	-30.3
22	-21.9	-14.6	-26.8	-20.3	-2.0	-30.0
23	-22.2	-10.2	-28.6	-21.6	-2.0	-31.8
24	-21.8	-9.6	-30.5	-22.1	-0.3	-32.5
25	-16.5	-10.0	-20.0	-16.4	-1.0	-27.6
26	-18.4	-11.0	-25.0	-18.8	-0.5	-29.0
27	-17.0	-3.2	-26.0	-17.7	-1.5	-28.7
28	-9.9	-3.0	-16.3	-12.9	-0.1	-20.5
29	-13.1	-3.9	-16.9	-13.4	-1.2	-20.6
30	-17.5	-11.8	-25.1	-17.1	-0.5	-26.8
31	-19.6	-15.9	-23.9	-16.9	-0.5	-24.5

ALTAI CITYS TEMPERATURE FEBRUARY 1998

DATA	AIR TEMPERATURE			GRAND SURFASE TEMPERATURE		
	MID	MAX	MIN	MID	MAX	MIN
01	-19.7	-16.6	-24.7	-18.2	-11.5	-26.1
02	-22.2	-14.0	-28.1	-21.4	-6.5	-28.6
03	-21.8	-8.1	-30.1	-24.1	-3.8	-32.6
04	-14.5	-9.4	-22.5	-18.3	-10.0	-26.9
05	-15.8	-9.6	-22.0	-17.6	-5.0	-25.8
06	-20.1	-11.8	-26.1	-22.8	-8.2	-30.0
07	-13.2	-6.5	-27.9	-17.0	-4.8	-32.5
08	-13.5	-8.6	-19.5	-14.3	-7.7	-24.0
09	-10.6	-1.9	-21.8	-24.2	-0.4	-26.6
10	-4.1	-1.9	-9.0	-5.4	0.9	-15.0
11	-10.2	-5.5	-18.6	-12.3	-2.2	-23.0
12	-14.4	-8.3	-20.5	-14.1	-1.0	-26.1
13	-14.6	-4.3	-23.6	-15.4	4.2	-29.1
14	-7.0	1.5	-13.8	-7.8	11.0	-19.0
15	-10.0	-1.3	-17.5	-9.5	10.6	-22.5
16	-2.0	3.5	-11.5	-3.0	12.0	-15.0
17	-7.3	0.8	-16.4	-8.2	11.0	-20.8
18	-6.9	1.5	-14.2	-6.8	11.3	-19.0
19	-8.5	-1.2	-14.0	-8.1	9.5	-19.0
20	-5.6	0.5	-10.0	-4.6	10.6	-13.7
21	-10.0	-5.9	-12.9	-6.4	4.2	-13.0
22	-8.3	-1.4	-12.6	-3.5	10.3	-11.6
23	-8.6	-1.9	-15.6	-6.9	14.4	-18.0
24	-7.6	-1.6	-13.6	-7.3	11.5	-18.5
25	-9.4	-1.4	-16.8	-8.6	14.6	-22.6
26	-8.9	-0.4	-17.0	-8.5	12.6	-22.1
27	-8.0	1.2	-17.3	-6.3	16.0	-22.0
28	-5.9	2.2	-16.6	-5.0	16.5	-20.6
29						
30						
31						

ALTAI CITYS TEMPERATURE MARCH 1998

DATA	AIR TEMPERATURE			GRAND SURFASE TEMPERATURE		
	MID	MAX	MIN	MID	MAX	MIN
01	-4.4	2.1	-11.7	-4.4	16.6	-18.3
02	-6.3	2.5	-13.8	-4.7	17.0	-18.1
03	-6.2	3.5	-15.1	-5.5	20.0	-19.3
04	-2.9	5.4	-10.9	-2.3	21.6	-16.0
05	-3.1	3.0	-10.5	-2.8	14.8	-15.2
06	-2.3	2.8	-6.9	-1.5	14.4	-10.1
07	-3.6	0.5	-7.3	-3.2	4.6	-10.6
08	-3.2	1.4	-6.9	-0.9	14.9	-13.3
09	-4.5	0.5	-8.0	-4.3	7.0	-8.7
10	-7.5	0.8	-15.3	-7.4	12.5	-19.3
11	-6.2	0.8	-11.4	-5.3	15.0	-15.6
12	-7.4	-2.9	-12.1	-4.6	14.3	-14.1
13	-8.6	-1.6	-16.5	-6.1	20.1	-19.0
14	-6.5	-0.5	-12.8	-5.3	10.7	-17.2
15	-6.0	-1.0	-10.2	-4.2	10.0	-14.0
16	-11.0	-7.5	-14.9	-8.2	7.1	-19.6
17	-17.4	-10.5	-22.2	-13.6	-4.9	-19.8
18	-22.9	-18.6	-27.1	-17.6	-2.8	-28.9
19	-19.7	-13.5	-25.4	-15.0	10.0	-30.5
20	-17.3	-10.5	-23.3	-14.7	5.7	-30.1
21	-14.1	-5.8	-20.9	-11.3	16.0	-28.8
22	-10.2	-2.8	-15.4	-6.8	17.8	-21.9
23	-7.7	-2.0	-14.8	-5.6	15.0	-20.0
24	-6.4	1.2	-15.3	-6.4	14.6	-21.6
25	-3.3	1.4	-10.7	-0.5	15.9	-17.5
26	-3.5	0.5	-8.4	-2.5	16.2	-11.0
27	-2.8	3.6	-8.5	-1.7	17.3	-13.8
28	-5.8	-2.6	-9.4	-1.7	18.9	-15.5
29	-9.1	-5.4	-13.4	-6.2	9.0	-17.9
30	-10.2	-4.0	-16.2	-8.0	9.0	-21.6
31	-8.1	2.1	-16.9	-7.5	17.1	-23.0

ALTAI CITYS TEMPERATURE APRIL 1998

DATA	AIR TEMPERATURE			GRAND SURFASE TEMPERATURE		
	MID	MAX	MIN	MID	MAX	MIN
01	0.5	9.4	-7.0	-0.1	22.2	-15.2
02	4.5	8.9	0.4	5.4	18.9	-2.7
03	0.8	5.9	-5.9	5.2	27.2	-9.1
04	1.0	8.1	-6.7	7.2	30.5	-8.8
05	4.0	10.2	-1.6	6.6	29.0	-6.9
06	4.2	10.3	-2.3	7.0	27.0	-8.6
07	6.2	12.3	1.5	7.8	24.9	-3.7
08	7.0	12.0	3.2	11.0	29.9	-0.9
09	-0.6	10.6	-4.6	0.3	9.6	-4.2
10	-4.6	1.6	-7.5	-2.8	5.4	-10.6
11	-0.3	6.1	7.5	-3.1	7.2	-12.1
12	1.2	6.4	5.3	1.7	14.8	-8.7
13	3.7	6.9	0.9	3.2	15.4	-5.6
14	0.9	6.1	-2.2	0.1	10.3	-4.0
15	1.3	7.0	-9.6	2.6	18.0	-11.6
16	8.6	16.6	0.4	7.9	26.1	-4.5
17	11.6	17.6	6.6	10.9	23.5	2.2
18	10.9	16.8	-0.4	10.5	28.0	-1.0
19	6.4	16.4	-1.8	6.7	19.5	-3.0
20	0.9	3.2	-4.2	-0.2	6.4	-6.4
21	-8.0	0.2	-11.1	-4.5	8.5	-11.9
22	-8.5	-2.2	-14.1	-3.5	19.5	-14.9
23	-4.4	4.1	-13.3	-0.7	22.4	-17.7
24	1.9	8.1	-5.1	5.3	27.4	-13.2
25	5.0	13.0	-4.3	7.5	31.3	-9.2
26	6.9	12.9	2.7	6.8	20.8	-5.0
27	6.4	11.6	2.5	9.9	34.0	-1.0
28	4.0	13.1	-1.9	4.4	25.0	-7.4
29	4.2	11.4	-0.6	7.0	27.5	-4.4
30	4.0	8.4	0.8	9.1	34.2	0.2
31						

ALTAI CITYS TEMPERATURE MAY 1998

DATA	AIR TEMPERATURE			GRAND SURFAS E TEMPERATURE		
	MID	MAX	MIN	MID	MAX	MIN
01	5.5	15.8	-4.5	10.4	37.4	-10.5
02	10.5	14.8	5.5	15.2	34.8	1.4
03	12.0	18.9	5.2	16.3	34.4	-1.1
04	6.5	16.2	0.4	8.2	26.2	-0.3
05	4.0	10.1	-0.5	8.2	27.4	-3.2
06	2.2	7.5	-2.7	11.0	29.7	-3.6
07	4.6	12.0	-2.4	10.2	30.1	-6.9
08	8.5	13.0	4.6	10.1	28.8	0.4
09	6.1	9.7	0.8	11.0	34.9	-4.5
10	6.1	13.2	-2.5	12.9	38.7	-6.0
11	11.4	18.3	5.4	15.1	38.8	-1.5
12	12.3	20.3	2.8	17.3	43.0	-0.2
13	12.4	17.4	6.2	16.6	36.7	4.3
14	4.8	14.5	1.0	6.9	36.2	3.8
15	6.2	12.4	0.3	13.2	36.2	-3.8
16	9.4	14.1	4.2	14.6	38.0	0.8
17	9.4	16.5	1.8	15.4	40.4	-0.7
18	11.0	16.8	4.2	18.7	43.6	0.2
19	12.2	19.5	3.6	15.9	37.8	-3.4
20	1.1	12.8	-2.5	5.0	23.7	-2.8
21	1.5	8.8	-5.1	5.6	28.3	-9.8
22	-0.8	7.4	-3.2	0.6	28.0	-3.5
23	1.5	9.2	-4.2	9.0	31.2	-8.6
24	7.6	14.2	1.0	12.8	33.7	0.4
25	9.1	15.5	1.8	11.7	34.2	-3.4
26	9.0	14.7	1.3	10.6	28.9	-1.9
27	8.3	14.7	1.9	15.6	41.3	-0.4
28	9.9	17.4	0.6	15.2	42.0	-0.2
29	9.1	16.9	0.7	15.7	41.5	-2.1
30	12.1	18.4	6.5	18.4	41.7	2.3
31	7.0	11.3	1.6	9.0	24.3	0.7

ALTAI CITYS TEMPERATURE JUNE 1998

DATA	AIR TEMPERATURE			GRAND SURFASE TEMPERATURE		
	MID	MAX	MIN	MID	MAX	MIN
01	9.3	15.5	0.2	13.4	43.0	-5.8
02	12.1	19.2	6.0	17.2	39.5	1.5
03	13.9	23.4	3.5	20.1	45.1	-0.6
04	16.2	23.7	9.2	22.0	50.9	8.0
05	13.6	21.5	8.5	17.6	35.8	8.8
06	12.8	18.9	7.3	17.7	42.1	4.2
07	13.2	18.7	4.2	18.3	38.2	3.4
08	15.0	20.7	6.1	21.4	42.0	2.0
09	15.8	23.8	6.0	19.9	42.3	1.6
10	14.6	21.2	11.2	17.2	34.5	9.3
11	15.0	22.3	8.1	19.6	41.7	4.5
12	11.4	20.1	5.6	18.2	37.9	4.8
13	10.5	17.4	4.6	20.1	43.5	0.9
14	11.4	18.9	3.0	17.7	40.1	1.0
15	15.3	21.4	8.2	22.6	44.6	3.5
16	8.7	18.6	4.0	11.0	25.0	6.1
17	6.6	14.7	0.5	10.4	28.0	-1.8
18	13.4	22.7	1.2	17.7	41.5	-3.9
19	16.1	22.0	12.0	20.8	42.5	8.0
20	16.5	23.5	7.9	25.3	51.6	2.5
21	13.4	22.8	10.2	17.1	39.0	11.0
22	11.0	17.4	6.1	14.9	26.9	5.2
23	14.3	22.4	7.7	15.9	35.7	2.9
24	16.2	21.8	10.9	17.9	39.0	8.4
25	16.6	23.6	11.6	21.2	42.4	9.1
26	13.8	21.5	6.6	22.0	45.2	6.0
27	15.1	21.8	9.0	17.1	32.0	7.3
28	16.0	23.3	10.9	21.5	49.4	7.8
29	18.1	24.1	9.6	24.9	47.2	8.4
30	19.4	27.7	11.8	25.9	49.8	2.9
31						

ALTAI CITYS TEMPERATURE JULY 1998

DATA	AIR TEMPERATURE			GRAND SURFASÉ TEMPERATURE		
	MID	MAX	MIN	MID	MAX	MIN
01	22.6	29.0	15.1	27.8	55.4	7.1
02	18.0	27.0	12.0	21.0	53.2	14.2
03	15.1	21.5	10.0	24.4	52.5	9.2
04	16.0	23.7	7.3	24.3	51.6	4.0
05	18.1	25.4	9.5	25.9	50.4	5.0
06	15.0	22.8	10.6	17.7	45.8	10.4
07	10.5	15.1	8.2	11.7	20.0	5.2
08	12.3	15.7	10.2	14.7	29.0	8.2
09	15.0	21.5	7.5	14.1	34.9	4.8
10	18.1	25.1	10.4	19.3	41.0	6.0
11	19.5	25.8	12.9	23.6	48.6	6.9
12	16.0	20.7	12.6	15.0	23.2	10.3
13	13.8	17.4	11.2	12.6	20.7	9.0
14	11.4	16.3	10.0	11.5	17.5	8.5
15	9.6	11.9	8.0	9.9	17.0	5.0
16	11.2	15.7	8.5	13.4	27.2	5.1
17	13.3	19.7	7.9	15.7	31.8	5.0
18	14.8	21.1	7.5	17.5	37.3	5.1
19	16.1	21.2	11.6	18.2	43.5	3.9
20	14.6	19.2	10.6	14.9	27.8	7.5
21	11.7	15.9	9.3	12.9	26.4	7.5
22	13.1	19.0	8.1	17.3	32.9	4.4
23	13.1	17.3	7.5	17.8	40.6	4.4
24	14.0	20.2	6.8	19.1	43.0	3.0
25	12.1	20.1	7.7	15.6	36.0	4.8
26	12.4	15.9	9.3	18.9	39.3	8.9
27	13.7	18.6	7.1	19.8	45.5	3.6
28	13.8	21.7	7.0	15.9	43.5	4.2
29	14.4	20.3	9.6	18.6	47.0	7.0
30	12.1	16.2	8.2	15.9	32.0	9.6
31	9.7	13.9	7.6	12.6	26.0	8.0

ALTAI CITYS TEMPERATURE AUGUST 1998

DATA	AIR TEMPERATURE			GRAND SURFAS E TEMPERATURE		
	MID	MAX	MIN	MID	MAX	MIN
01	11.7	16.5	7.2	14.4	46.7	4.5
02	12.4	16.8	7.0	14.1	31.0	5.1
03	14.2	20.8	7.0	20.4	46.1	4.5
04	15.3	20.8	10.3	19.8	44.6	5.6
05	14.4	18.7	9.1	19.0	38.0	7.5
06	15.1	21.9	7.8	21.3	42.3	4.5
07	16.4	23.5	10.4	23.4	48.9	7.8
08	15.9	22.6	7.9	22.4	44.0	5.5
09	16.8	22.4	6.8	23.5	48.2	7.4
10	15.4	20.4	10.8	20.1	43.1	8.4
11	13.0	17.6	7.7	15.9	32.2	6.0
12	14.9	19.8	8.2	19.0	38.0	5.6
13	15.2	21.7	8.0	20.8	48.5	5.4
14	15.6	23.3	7.7	18.9	51.2	4.5
15	17.8	23.6	11.8	20.3	48.6	6.2
16	18.4	24.1	12.2	23.4	46.4	8.3
17	19.1	24.4	14.7	22.4	43.5	12.0
18	17.4	22.8	11.8	23.8	47.5	10.0
19	14.4	20.9	9.4	16.8	40.5	5.7
20	13.4	18.0	7.9	15.7	28.4	7.1
21	14.0	20.4	7.0	18.0	41.9	5.2
22	12.3	19.6	10.1	10.7	20.0	6.4
23	8.1	12.6	4.3	11.6	25.7	-1.4
24	9.7	19.5	0.9	15.5	47.3	-2.1
25	13.4	18.9	8.5	13.3	36.9	2.9
26	11.2	16.2	5.8	16.5	34.1	2.6
27	9.8	17.8	2.0	16.4	40.6	0.2
28	12.4	20.4	3.4	18.0	45.7	-0.6
29	14.0	21.8	5.7	20.9	49.6	1.7
30	15.0	23.3	7.5	19.3	49.2	5.9
31	15.8	19.4	10.5	18.0	38.2	6.5

ALTAI CITYS TEMPERATURE SEPTEMBER 1998

DATA	AIR TEMPERATURE			GRAND SURFASE TEMPERATURE		
	MID	MAX	MIN	MID	MAX	MIN
01	13.0	19.5	5.1	18.2	45.0	0.6
02	13.5	21.7	4.8	17.6	42.9	1.2
03	14.4	20.4	7.0	15.4	40.4	1.0
04	16.0	22.3	9.0	19.8	45.7	4.0
05	16.0	24.6	7.3	18.7	41.8	3.1
06	18.0	23.3	13.0	21.0	44.5	8.4
07	16.7	22.7	10.9	19.0	38.4	6.8
08	14.4	19.4	8.9	14.4	32.3	7.5
09	11.5	15.9	5.0	13.0	32.4	1.8
10	10.9	14.5	7.4	14.4	38.5	4.5
11	9.3	16.5	0.3	12.6	36.7	-2.4
12	8.4	14.0	4.4	9.7	20.6	3.3
13	4.4	11.8	-3.4	7.9	29.8	-5.5
14	7.0	18.0	-1.5	10.0	36.0	-4.2
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						