CHAPTER - XII

REVIEW ON CONSUMPTION OF FATS AND OILS IN WEST BENGAL

As the population of India is growing and standard of living improving the domestic production of vegetable oils is not keeping pace with the growing demands and requarements.

Different estimates were given by the Tata consultants for the Civil Supplies Department and the Ministry of Agriculture Although these estimations are to be reviewed constantly in the light of per capita requirements of different strata of society as well as the needs of the industry, there is no denial of the fact that we need more. Oil and that we have to significantly increase the oilseed production in the state. One has to keep in the mind also that vegatble oil consumption is highly income elastic and is influenced by purcassing power dietary habits and patterns etc. The data collected by the National Nutrition Monitoring Bureau (NNMB) of the I.C.M.R. is pertinent (Table 1).

Table XII-1. Average Consumption of Fats and Oils in Different Groups (gms/consumption unit/day)

	Consumption unit = Adult male Sedentary worker
Urban	
1. High income group	46
2. Middle income	35
3. Low income group	22
4. Industrial labourers	23
5. Slum dwellers	10
Rural	

The ICMR Expert Group has recommended the intake of fats and oils of 30-35 gms/consumption unit/day and this includes both the visible and non-visible fat.

Fat is a necessary ingredient in the diet and its is of values to the body in a number of ways. Animal fats such as butter and ghee contain vitamin A. But the vitamin is lost to varying degrees during the process of cocking. Hydrogenated oil (Vanaspati). Now popular in India as a cooking medium does not formally contain vitamins. However under Government regulations the vanaspati that is sold in the market should contain 700 International units of added vitamin A per ounce and most manufacturers add in addition 50 international units of vitamin Dper ounce of vanaspati.

Fat is a conventrated source of energy and it supplies per unit weight more than double the energy furnished by either protein or carbohydrate, some fats especially vegetable oils provide what are called "essential fatty acids" - linoleic and arachidonic acids to the body. Like vitamins the essential fatty acids also play a role in several metabolic reactions, and a deficiency of these acids in the diet leads to a skin condition know as phrynoderms (toad skin) in which skin becomes rough and thick horny papules of the size of a pin head erupt in certain areas of the body notaboly thighs buttocks, arms and trunk.

The fat content of a normal diet is made up mostly of the pure fats and oils consumed as such. However the foodstuffs that are oilseeds and nuts soyabean and avocado pear. Cereals pulses and vegetables contain negligible amount of fat.

In recent years there has been a revival of interest in the nutritional aspects of fats in view of their role in infuencing the levels of a substance known as cholesterol in the blood. The presence of exvcessive amounts of cholesterol in blood causes laying down of the substance under the lining of the blood vessels leading to a condition I known as atherosclerosis in which the blood vessels are narrowed and hardened. The coronary arteries supplying blood to the heart are thus affected and coronary heart disease results. Extensive observations on population groups have shown that consumption of diets in which fats supply more than 30 per cent of the calories in the diet may result in an increase in blood cholesterol. While ths may be true with persons

leading a sedentary life physical activity and vigorous exercise appear to help pesons to tolerate higher levels of fat in the diet without which increase in the blood cholesterol.

Apart from the quantity of fat the quality of far in the diet also deterin mines blood cholesterol levels. Some fats like groundnut oil sesame oil or safflower oil which contain a high proportion of poly-unsaturated fatty acids do not increase blood cholesterol levels very much even when consumed in large quantities. On the other hand certain fats like butter ghee coconut oil and hydrogenuted vegetable fats (vana-spati) which v contain a high proportion of saturated a fatty acids have been shown to cause considerable elevationing the levels of blood cholesterol when consumed in large amounts. In the provess of hydroge-nation of groundnut oil or cotton seed oils good portein of the unsatura-ted fatty acids are converted to the saturated type. The consumption of unsaturated fats like gingelly oil or safflower oil along with saturated fat in a diet can help in minimising the effects of the latter in raising the blood cholesterol.

In addition to the quantity and quality the mode of consumption of fat also appears to influence the cholesterol content of blood. At the same total daily intake consumption of smaller amounts of fat a number of times during the course of the day has been shown to cause less esevation of cholesterol content as compared to consumption of large amounts of far at a time.

The quantity of fat that should be included in a well balanced diet is not known with any degree of certainty. However it appears desirable in the present state of knowledge that the daily intake of fat should be such that it contributes not more than 15 to 20 per cent of the calories in the diet. A total of about 40 to 60 gms of fat can therefore, be safely consumed daily and in order to obtain the neces-sary amount of essential fatty acids, the fat intake should include at least 15 gms of vegetable oils.

But in tropical climatic condition in no case more than 25 gms fat/oil should be consumed from the visible and non visible sources by a sedimentary adult worker perday.

Consumption of Fats from the Non Visible Sources

Foodstuff may be broadly classified as cereals, pulses nuts and oil seeds, vegetables, fruits, oil, milk and milk products and flesh foods. Among the common foodstuff in West Bengal the presence of fat and the style of intake play a major role on consumption of fats and oils rate.

The consumption of various foodstuff and their fat content and possible intake given in Table XII-2

Table XII-2

Sl. No.	Name of the foodstuff	Fat/100gm	Consumption gm/perintake
1	2	3	4
	CEREAL GRAINS AND PRODUCTS		
1.	Job Stears Coix lachryma	6.0	10.00
2.	Maize Dry Zea mays	3.6	10.00
3.	Rice Parboiled Handdpounded Orya sativa	0.6	150.00
4.	Rice Parboiled Milled Oryza sativa	0.4	150.00
5.	Rice Raw Handpounded Oryza sativa	1.0	150.00
6.	Rice Raw Milled Oryza sativa	0.5	150.00
7.	Rice Flakes Oryza sativa	1.2	150.00
8.	Rice Puffed Oryza sativa	0.1	150.00
9.	A Samai Panicum miliare	4.7	20.00

1	2	3	4
10.	Sanwa Millet Echinochloa frunentavea	2.2	150.00
11.	Wheat Bulgar Triticum aestivam	1.6	35.00
12.	Wheat (Whole) Triticum aestivum	1.5	100.00
13.	Wheat Floor (Whole) Triticum aestivum	*1.7	75.00
14.	Wheat Foour (Refined) Triticum aestivum	0.9	75.00
15.	Wheat Germ Triticum aestivum	7.4	35.00
PULSES AND LEGUMES			
16.	Bengal Gram (Whole Cicer arietinum	5.3	20.00
17.	Bengal Gram Dhal Cicer arictinum	5.6	20.00
18.	Bengal Gram (Roasted) Cicer arietinum	5.2	30.00
19.	Black Gram Dhal Phaseolus mango	1.7	30.00
20.	Green Gram (Whole) Phaseolus aureus roxh	1.3	20.00
21.	Green Gram Dhal Phasealus aureus roxb	1.2	35.00
22.	Horse Gram Dolichos bifoorus	0.5	50.00
23.	Kheasari Dhal Lathyrus sativus	0.6	30.00
24.	Rajmah Phaseolus vulgaris	1.2	15.00
25.	Redgram Dhal Cajanus cajan	1.7	20.00

Table XII-2 (Contd.)

1	2	3	4
26.	Soyabean Glycine max merr.	19.5	05.00
LEAFY VEGETABLES			
27.	Amaranath Tender Amaranthus gangeticus	0.5	25.00
28.	Bamboo Tender Shoots Bambusq arundinacea	0.5	25.00
29.	Beet Greens Beta vulgaris	0.8	12.00
30.	Bengal Gram Leaves Oicer arietinum	*1.4	10.00
31.	Cabbage Brassica oleracea var	0.1	100.00
32.	Carrot Leaves Daucus carota	0.5	10.00
33.	Cauliflower Greens Brassica oleracea var	1.3	100.00
34.	Curry Leaves Murraya koenigii	1.0	01.00
35.	Lettuce Lactuca sativa	0.3	15.00
36.	Mata Sag (Lupu) Antidesma diandurum	4.8	20.00
37.	Mayalu Basella rubra	0.4	30.00
38.	Mustard Leaves Brassica campestris var	0.6	20.00
39.	Neem Leaves Tender Azadirachta indica	3.0	00.10
40.	Parwar Sag Trichosanthes dioica	1.1	20.00

Table XII-2 (Contd.)

1	2	3	4
41.	Patua Sag Corchorus capsularis	1.1	10.00
42.	Potato Leaves Solanum tuberosum	0.9	15.00
43.	Pumpkin Leaves Cucurbita maxima	0.8	15.00
44.	Radish Leaves Raphanus sativus	0.4	10.00
ROOTS AND TUBERS			
45.	Beeta Root Beta vulgaris	0.1	15.00
46.	Carrot Daucus carota	0.2	15.00
47.	Khamealu Dioscrea alata	0.1	50.00
48.	Onion Big Allium cepa	0.1	30.00
49.	Potato Solanum ruberosum	0.1	150.00
50.	Radish Pink Raphanus sativus	0.3	50.00
51.	Radish Rat Tailed Raphanus sativus	0.3	50.00
52.	Rdish Table Raphanus sativus	0.1	75.00
53.	Radish white Raphanus sativus	0.1	50.00
54.	Sweet potato Ipomoea batatas	0.3	30.00
55.	Tapioca Manihot esculenta	0.2	15.00

Table XII-2. (Contd.)

1	2	3	4
56.	Tapioca Chips Dried Manihot esculenta	0.3	20.00
57.	Water Lily Red Nymphaea nouchali	0.3	50.00
	OTHER VEGETABLES		
58.	Beans Scarletrunner Phaseolus coccmeus	1.0	15.00
59.	Brinjal Solanum melongena	0.3	50.00
60.	Broad Beands Vicia faba	0.1	17.00
61.	Cauliflower Brassica cleracea var	0.4	60.00
62.	Cluster Beans Cyamopsis tetragonoloba	0.4	15.00
63.	Cucumber Cucumis sativus	0.1	75.00
64.	Dhum Stick Moringa oleifera	0.1	27.00
65.	Figs Red Ficus cunia	0.6	50.00
66.	French Beans Phaseolus vulgaris	0.1	25.00
67.	Ladies Fingers Abelmoschus esculentus	0.2	50.00
68.	Lotus Stem Dry Nelumbium nelumbo	1.3	50.00
69.	Mango Green Mangsfera indica	0.1	25.00
70.	Mogra	0.5	20.00
71.	Onion Stalks Allinum cepa	0.2	50.00

Table XII-2. (Contd.)

1	2	3	4
72.	Papaya Green Carica papaya	0.2	30.00
73.	Peas Pisum sativum	0.1	20.00
74.	Pink Beans Phawselus sp.	0.4	15.00
75.	Plantain Flower Musa sapientum	0.7	20.00
76.	Plantain Green Musa sapientum	0.2	30.00
77.	Plaintain Stem Musa sapientum	0.1	25.00
78.	Pumpken Cucurbita maxima	0.1	30.00
79.	Pumpkin Folowers Cucurbita maxima	0.8	15.00
80.	Tomato Green Lycopersicon esculentum	0.1	30.00
NUTS AND OILSEEDS			
81.	Almond Prunus amygdalus	58.9	10.00
82.	Cahshewnut Aancardium occidentale	46.9	20.00
83.	Coconut Dry Cocos mucifera	62.3	15.00
84.	Coconut Fresh Cocos nucifera	41.6	75.00
85.	Groundnut Arachis hypogaea	0.1	25.00
86.	Groundnut Roasted Arachis hypogaea	39.8	100.00

Table XII-2. (Contd.)

1	2	3	4
87.	Jungli Badam Sterculia foetida	35.5	20.00
88.	Musterd Seeds Brassica nigra	39.7	05.00
89.	Niger-Seeds Guizotia abyssnica	39.0	05.00
90.	Pistachio Nut Pistacia vera	53.5	05.00
91.	Walnut Juglans regia	65.5	10.00
92.	Cardamom Elettaria cardamomum	2.2	05.00
	CONDIMENTS AND SPICES		
93.	Chillies Dry Capsicum annum	6.2	01.00
94.	Chilles Green Capicum annum	0.6	02.00
95.	Coloves Dery Syzygium aromaticum	8.9	00.10
96.	Coloves Green Syzygium aromaticum	5.9	01.00
97.	Coriander Coriandrum sativan	16.1	01.00
98.	Garlic Dry Allium sativum	0.1	03.00
99.	Ginger Fresh Zingiber officinale	0.9	04.00
100.	Pepper Dry Piper nigrum	6.8	01.00
101.	Turmeric Curcuma domestica	5.1	02.00

Table XII-2. (Contd.)

1	2	3	4
	F R U I T S		
102.	Apple Malus sylvestris	0.5	100.00
103.	Avocado Pear Persea americana	22.8	15.00
104.	Bael Fruit Aegle marmelos	0.3	15.00
105.	Baincha Folacorurtia indica	1.8	50.00
106.	Banana Ripe Musa paradislaca	0.3	128.00
107.	Black Berry Rubus fruticosus	0.5	75.00
108.	Cape Gooseberry Physalis peruviana	0.2	50.00
109.	Cherries Red Prunus cerasus	0.5	25.00
110.	Figs Ficus carica	0.2	50.00
111.	Grapes Blue Variety Varis vinifera	0.6	75.00
112.	Grapes Pale Green Variety Vitis vinifera	0.6	75.00
113.	Grapefruit (Marshs Seed:Ess) Citrus paradist	0.1	75.00
114.	Grapefruit (Triumph) Citrus paradish	0.1	25.00
115.	Guava Country Psidium guajava	9.3	100.00
116.	Guava Hill Psidium cattleyanum	0.2	100.00
117.	Jack Fruit Artocarpus heterophyllus	0.1	200.00

Table XII-2. (Contd.)

1	2	3	4
118.	Jamb Safed *Eugonia malacensis*	0.4	125.00
119.	Lemon *Citrus limon*	0.9	02.00
120.	Lemon Sweet *Citrus limetta*	0.3	02.00
121.	Lichi *Nephelium longuna*	0.2	150.00
122.	Lime *Citrus aurantifolia*	1.0	05.00
123.	Lime Sweet Malta	0.2	50.00
124.	Lime Sweet Mosambe *Cirtrus sinensis*	0.5	50.00
125.	Mahua Ripe *Bassia longifolia*	1.6	100.00
126.	Mango Ripe *Mangifera indica*	0.4	500.00
127.	Orange *Citrus aurantium*	0.2	200.00
128.	Orange juice *Citrus aurantium*	0.1	100.00
129.	Palmyra Fruit Ripe (Mesocarp)	0.2	50.00
130.	Palmyra Fruit Tender *Borassus flabellifer*	0.1	100.00
131.	Papa *Gardenia latifolia*	3.1	100.00
132.	Papaya Ripe *Carica papaya*	0.1	150.00
133.	Phalsa *Grewia asiatica*	0.9	100.00
134.	Pine Apple *Ananas comosus*	0.1	150.00

Table XII-2. (Contd.)

1	2	3	4
135.	Plum Prunus domestica	0.5	105.00
136.	Star Apple Eugenia javanica	0.2	100.00
137.	Strawberry Fragaria vesca	0.2	75.00
138.	Tomato Ripe Lycopersicon esculentum	0.2	50.00
	FISH AND OTHER SEA FOODS		
139.	Bacha Eutropiichthysvacha	5.6	100.00
140.	Bali Kanakda Dried	9.0	35.00
141.	Bam Mastochembelus armatus	0.9	100.00
142.	Baspta Machli Ailia coilia	4.4	50.00
143.	Bata Small Varieties	2.5	75.00
144.	Bale Glassogobius Giuris	0.6	75.00
145.	Bhanger Fresh Mugil tade	8.8	100.00
146.	Bhetki Fresh Lates calcarifer	0.8	125.00
147.	Bhole	1.1	100.00
148.	Boal Wallago attua	2.7	100.00
149.	Bugda Chinghri	1.6	75.00
150.	Cat Fish Arius sona	0.0	75.00
151.	Chela Chela phulao	4.3	80.00

Table XII-2. (Contd.)

1	2	3	4
152.	Chital Natopterus chilral	2.3	100.00
153.	Crab (Muscle) Paratelphusa spinigera	1.1	80.00
154.	Crab Small	9.8	70.00
155.	Fesha Fresh	1.9	50.00
156.	Foullui Notopterus notopterus	1.0	50.00
157.	Herring India Pellona brachysoma	3.2	125.00
158.	Hilsa Clupea illisha	19.4	135.00
159.	Kalbasu Labee calbousu	1.0	100.00
160.	Katla Catla catla	3.4	100.00
161.	Kholshe	3.9	60.00
162.	Khoyra, Fresh Gonialosa manminna	3.0	60.00
163.	Koi Anabas testudineus	8.8	75.00
164.	Kucha Vetki	3.8	80.00
165.	Lada Ophiocephalus punctatus	0.6	75.00
166.	Mackerel Rastrelliger kanagurta	1.7	75.00
167.	Magur Clarias batrachus	1.0	75.00
168.	Mahasole Barbus tor	2.3	80.00
169.	Mrigal Cirrhinus mrigala	0.8	100.00

Table XII-2. (Contd.)

1	2	3	4
170.	Oil sardine Sardinella longiceps	2.0	80.00
171.	Pabda Callichrous pabo	2.1	75.00
172.	Pakal	1.2	100.00
173.	Pangas Pangasius pangasius	1.0	75.00
174.	Parsey (Fresh) Mugil parsia	5.9	60.00
175.	Pomfrets, Black Formio niger	2.6	100.00
176.	Pomfrets, White Stromateus sinensis	2.6	100.00
177.	Prawn Penaeus sp.	1.0	75.00
178.	Puti Barbus sp.	2.4	50.00
179.	Rohu Labeo rohita	1.4	100.00
180.	Sardine Sardinella fimbriata	1.9	80.00
181.	Sarputi Barbus sarana	9.5	75.00
182.	Shark Carcharias sp.	0.4	50.00
183.	Shrimp (Small, Dried)	8.5	25.00
184.	Singhi Saccobranchus fossilis	0.6	75.00
185.	Sole Ophiocephalus striatus	2.3	80.00
186.	Tapsi (Dried) Polynemus paradiseus	12.1	50.00

Table XII-2. (Contd.)

1	2	3	4
187.	Tangra (Fresh) Mystus vitatus	6.4	75.00
	OTHER FLESH FOODS		
188.	Becon (Raw)	65.00	150.00
189.	Becon (Fried)	55.00	150.00
190.	Beef Meal Bos taurus	10.3	150.00
191.	Beef muscle Bos taurus	2.6	150.00
192.	Buffalo Meat Balbus bubalis	0.9	150.00
193.	Duck Anas platyrayncha	4.8	100.00
194.	Egg Duck	13.7	50.00
195.	Egg Hen	13.3	50.00
196.	Fowl Gallus bankiva murghi	0.6	125.00
197.	Goat Meat Capra hyrchusb	3.6	150.00
198.	Liver Goat Capra hyrchusb	3.0	35.00
199.	Liver, Sheep	7.5	35.00
200.	Mutton, Muscle	13.3	125.00
201.	Pork, Muscle Sus Cristatus Wagner	4.4	100.00
202.	Milk, Buffalo's	8.8	125.00
203.	Milk, Cow's	4.1	180.00
204.	Milk, Goat's	4.5	100.00
205.	Curds (Cows's Milk)	4.0	125.00

Table XII-2. (Contd.)

1	2	3	4
206.	Butter Milk	1.1	25.00
207.	Skimmed Milk, Liquid	0.1	150.00
208.	Channa, Cow's Milk	20.8	75.00
209.	Channa, Buffalo Milk	23.0	75.00
210.	Cheese	25.1	
211.	Kheer	12.2	25.00
212.	Khoa (Whole Buffalo Milk)	31.2	15.00
213.	Khoa (Skimmed Buffalo Milk)	1.6	15.00
214.	Khoa (Whole Cow Milk)	25.9	15.00
215.	Skimmed Milk Powder (Cows' milk)	0.1	10.00
216.	Whole Milk Powder (Cow's milk)	26.7	15.00
217.	Butter	81.0	30.00
218.	Ghee (Cow)	100.0	15.00
219.	Ghee (Buffalo)	100.0	15.00
220.	Hydrogenated Oil (Fortified)	100.0	25.00
221.	Cooking Oil (Groundnut, Gingella, Mustard, Coconut, etc.)	100.0	25.00
222.	Biscuits, Salt	32.4	10.00
223.	Biscuits, Sweet	15.2	10.00
224.	Bread, Brown	1.4	30.00
225.	Bread, White	0.7	30.00
226.	Coconut, Tender Cocos mucifera	1.4	25.00

Table XII-2. (Contd.)

1	2	3	4
227.	Coconut Milk Cocos nucifera	41.0	30.00
228.	Groundnut Cake Arachis hypogaea	7.4	60.00
229.	Mango Powder	7.8	10.00
230.	Mushroom Entoluma macrocarpom	3.1	10.00
231.	Pappad Vitis quadrangularis	0.3	05.00
232.	Sago	0.2	15.00
233.	Sugar Cane Juice	0.2	125.00

From the above mentioned foodstaff we consume 12% to 20% of the total fat consumption per day. More over the of intake may increase the presence of fat and oil. Like if we eat 100 gm of fried potato we will consume 19 gm oil with the same. Thus the nature of consumption and diets are increasing our fat consumption.

From the stratified random sample survey at important towns of West Begnal during summer and winter among the different income group the findings are -

1. Consumption of edible oil and fat is higher in winter than in summer among all income graps.
2. Due to various dietary habits consumption of edible oil and fat unit per day is varying in different towns among the same income group.

The result has been dirived from the random sample survey among the three income groups.

a) Higher Income Group = above Rs.6,000.00

b) Middle Income Group = Rs.2,000 to Rs.5,500

c) Low Income Group = Rs.2,000 (below)

At 35 towns among each income group one hundred persons was asked on their food habit and consumption of edible oil per day. The results on the nature of intake of edible oil is given in the Table XII-3.

Table XII-3. Consumption of Fat and Edible Oil in 35 Towns of West Bengal

	Summer gm.	Winter gm.	Average gm.
1. ASSANSOL			
High Income Group	65	68	66.50
Middle Income Group	55	65	60.00
Low Income Group	10	15	12.00
2. BURDWAN			
High Income Group	70	76	73.00
Middle Income Group	60	65	62.50
Low Income Group	8	12	10.00
3. RANIGANJ			
High Income Group	66	75	70.50
Middle Income Group	53	63	58.00
Low Income Group	7	10	8.50
4. DURGAPUR			
High Income Group	70	78	74.00
Middle Income Group	63	70	66.50
Low Income Group	10	18	9.00

Table XII-3. (Contd.)

	Summer gm.	Winter gm.	Average gm.
5. BANKURA			
High Income Group	75	83	79.00
Middle Income Group	57	66	61.50
Low Income Group	6	9	7.50
6. BISHNUPUR			
High Income Group	72	85	78.05
Middle Income Group	55	63	59.00
Low Income Group	5	8	6.50
7. PURULIA			
High Income Group	60	72	66.00
Middle Income Group	51	60	55.50
Low Income Group	4	7	5.50
8. ADRA			
High Income Group	62	70	66.00
Middle Income Group	50	60	55.00
Low Income Group	4	8	6.50
9. RAGHUNATHPUR			
High Income Group	67	75	71.00
Middle Income Group	61	67	64.00
Low Income Group	3	8	5.50
10. BOLPUR			
High Income Group	60	70	65.00
Middle Income Group	56	67	61.50
Low Income Group	7	11	9.00

Table XII-3. (Contd.)

	Summer gm.	Winter gm.	Average gm.
11. SURI			
High Income Group	67	75	71.00
Middle Income Group	60	66	63.00
Low Income Group	7	10	8.50
12. SAINTHIA			
High Income Group	70	81	75.50
Middle Income Group	66	72	69.00
Low Income Group	8	11	9.50
13. KANDI			
High Income Group	71	80	75.05
Middle Income Group	58	63	60.50
Low Income Group	10	15	12.50
14. BERHAMPORE			
High Income Group	73	82	77.50
Middle Income Group	63	70	66.50
Low Income Group	10	13	11.50
15. LALGOLA			
High Income Group	71	83	77.00
Middle Income Group	55	65	60.00
Low Income Group	13	20	16.50
16. KRISHNAGAR			
High Income Group	66	70	68.00
Middle Income Group	56	66	61.00
Low Income Group	7	11	9.00

Table XII-3. (Contd.)

	Summer gm.	Winter gm.	Average gm.
17. RANAGHAT			
High Income Group	65	70	67.00
Middle Income Group	50	62	56.00
Low Income Group	9	15	12.00
18. NAWADIP			
High Income Group	70	72	71.00
Middle Income Group	66	69	67.50
Low Income Group	10	16	13.00
19. KANCHARAPARA			
High Income Group	67	72	69.50
Middle Income Group	56	60	58.00
Low Income Group	9	15	12.00
20. NAIHATI			
High Income Group	65	72	68.50
Middle Income Group	60	66	63.00
Low Income Group	8	14	11.00
21. MALDA			
High Income Group	68	72	70.00
Middle Income Group	58	65	61.50
Low Income Group	10	17	13.50
22. GAZOL			
High Income Group	67	73	70.00
Middle Income Group	56	63	59.50
Low Income Group	7	12	9.50

Table XII-3. (Contd.)

	Summer gm.	Winter gm.	Average gm.
23. RAIGANJ			
High Income Group	63	70	66.50
Middle Income Group	65	61	58.00
Low Income Group	9	13	11.00
24. BALURGHAT			
High Income Group	65	72	68.50
Middle Income Group	61	68	64.00
Low Income Group	9	16	12.50
25. SILIGURI			
High Income Group	70	85	77.50
Middle Income Group	65	75	70.00
Low Income Group	8	13	10.50
26. JHARGRAM			
High Income Group	58	62	60.00
Middle Income Group	50	56	53.00
Low Income Group	5	11	8.00
27. KANTHI			
High Income Group	67	72	69.50
Middle Income Group	58	65	61.50
Low Income Group	6	10	8.00
28. MADINIPUR			
High Income Group	68	75	71.50
Middle Income Group	55	62	58.50
Low Income Group	7	12	9.50

Table XII-3. (Contd.)

	Summer gm.	Winter gm.	Average gm.
29. HOWRAH			
High Income Group	70	82	76.00
Middle Income Group	65	73	69.00
Low Income Group	10	14	12.00
30. CHANDARNAGAR			
High Income Group	68	76	72.00
Middle Income Group	63	70	66.50
Low Income Group	9	15	12.00
31. TARAKESWAR			
High Income Group	65	72	68.50
Middle Income Group	55	60	57.50
Low Income Group	7	10	8.50
32. DANKUNI			
High Income Group	65	70	67.50
Middle Income Group	60	67	63.50
Low Income Group	6	11	8.50
33. MOGRAHAT			
High Income Group	70	78	74.00
Middle Income Group	60	68	64.00
Low Income Group	12	20	16.00
34. CANNING			
High Income Group	66	76	71.00
Middle Income Group	55	62	58.05
Low Income Group	7	12	9.05

Table XII-3. (Contd.)

	Summer gm.	Winter gm.	Average gm.
35. CALCUTTA (Central)			
High Income Group	65	70	67.50
Middle Income Group	55	62	58.50
Low Income Group	9	11	10.00