

Research Study No.3.

ABSTRACT

Comparative study on sugar direct consumption of states and regions in Myanmar

NyoNyoAung¹, Yi Yi Mon² and San Thein³

Sugar is one of the strategic goods in the basket of households in each country and it plays an important role in supplying the required energy. Sugar industry is one of the important industries in Myanmar. It is important not only for direct consumption and industrial use but also for potential export item. However, Myanmar sugar industry do not have accurate information both consumption and production data. There is no systematic study on sugar consumption in Myanmar. Therefore, it is needed to get empirical based per capita sugar consumption data for setting up sugar industry development strategy.

The research aim is to determine the per capita sugar consumption in urban and rural areas. Nationwide survey for direct sugar consumption (individual intake pattern and amount) was undertaken by Sugarcane Crops Division, Department of Agriculture during (1.2.2019) to (15.2.2019). Enumerator training on sugar direct consumption survey conducted on 28 January 2019 at Naypyitaw. This survey covers 14 regions and states plus Naypyitaw council. 4860 respondents were randomly selected with probability proportion to size from the total number of population in respective regions and states. Thus 4860 respondents were stratified into first, rural and urban areas, second male and female respondents and third level is split into three age groups. The study design was a descriptive research. Surveyed data were analyzed by using SPSS version 20.0.

The average per capita sugar consumption of Union level was 7.686 kg/year. Annual per capita sugar consumption for urban consumers was 8.528 kg/year that of rural people was 7.230 kg/year. Sugar consumption of urban people was 18 % higher than rural. Among the states and divisions, Yangon region is highest amount of sugar consumption (11.50 kg/year) and Chin state is the lowest consumption (3.122 kg/year). As projection results for 2019, total union sugar direct consumption will be about 395803 ton per year in which total sugar consumption of urban people was 141576 ton per year and rural people was 254227 ton per year.

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Comparative study on sugar direct consumption of states and regions in Myanmar

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Introduction

Sugar is one of the strategic goods in the basket of households in each country and it plays an important role in supplying the required energy. In Myanmar, sugar industry is one of the important industries. It is important not only for direct consumption and industrial use but also for potential export item. Myanmar sugar industry do not have accurate information both consumption and production data. Sugar direct consumption and industrial consumption are major sugar demand side. Understanding the dynamics and structure of sugar consumption is vitally important in assessing the future of the sugar economy. Therefore, consumption study is used to conduct in world sugar producing countries, in contrast; there is no systematic study on sugar direct consumption in Myanmar. Per capita sugar availability was indirectly estimated by calculating the data of sugar production, import and export. To secure information on sugar consumption per capita, three methods can be followed: (i) by determining in a country the total amount available both for consumption and industrial use and dividing the figure by the total population; (ii) by determining the consumption in households using a questionnaire, and then dividing the amount by the number of members, in term of man-units; and (iii) by determining the consumption of individuals, using one questionnaire for each member. The sugar intake from common food sources in this survey were sweetened soft drinks, traditional desserts, table sugar, beverages, and confectionery.

Objectives of the study

- (1) To estimate sugar direct consumption per capita by different regions and states,
- (2) To calculate domestic sugar requirement based on the total population,
- (3) To support the sugar policy and sugar strategy formulation.

Materials and Methods

Sugar direct consumption (individual intake pattern and amount) conducted by Sugarcane Crops Division (SCD) during (1.2.2019) to (15.2.2019). This survey covers 14 regions and states plus Naypyitaw council. 4860 respondents were randomly selected with probability proportion to size from the total number of population in respective regions and states. Thus 4860 respondents were stratified into first, rural and urban areas, second male and female respondents and third level is split into three age groups. Data will be disaggregated with respect to urban/rural, age, sex based on population data of 2014

Census. Determination of sample size for sugar consumption estimate was based on the following statistical principle.

Z value for 95 % = 1.96

σ is unknown. σ will be estimated in $\frac{1}{4}$ range. This estimate is derived from the empirical rule which states that approximately 95 % of the values in a normal distribution fall within $\pm \sigma$ of the mean, giving a range within which most of the values fall. It is assumed to be 0 to 15 kg.

Therefore $\sigma = (1/4) (15) = 3.75$

$$n = \frac{Z^2 \sigma^2}{E^2}$$

E = Error of estimation = $\bar{x} - \mu$

Let E be 1 kg per capita sugar consumption.

$$n = \frac{(1.96)^2 (3.75)^2}{1^2}$$

$$n = \frac{3.8416 \times 14.0625}{1}$$

$$n = 54.2225 = 54$$

n = 54 will be doubled, each at three- stage sampling (urban and rural; male and female; three age groups).

Hence, $54 \times 2 = 162$. Again, $162 \times 2 = 324$. The sample size (324) will be allocated to each region or state of the country.

Hence, 324×15 (14 R/S plus Naypyitaw Council Area) = 4860.

Per capita sugar consumption was estimated in proportion to the 2014 population census. Thus 4860 respondents were randomly selected with probability proportion to size from the total number of population in respective regions and states. 2014 Population census is 51,486,253 derived from enumerated value (50,279,900) + estimated value (1,206,353) for the whole country. The enumerated population figure (51486253) will be used. By sex ratio (0.48 male to 0.52 female), male population is 24,228,714 and female population is 26,051,186 out of total enumerated value of 50,279,900. By age group, 0 - 14 constitutes 28.6 %, 15 to 64 represents 65.6% and 65 and above group 5.8%. Thus 4860 respondent sample size were stratified into first, rural and were partitioned in proportion to the population of large cities and towns. Third, the number of respondents (XXX) in each of

large cities are allocated in proportion to the population size. Fourth, respondents will be randomly selected in each allocated site. The same procedure of respondent sample allocation is applied to ordinary towns.

For rural areas, two clusters were segregated such as rural villages near by market places and remote rural villages. Remote villages could be ascribed as far from the highway, or difficult access to district to district and township to district communication networks. Remote villages may exist in the interior site close to the boundary of the township and is not close to the market place of other adjoining township boundary. Number of sample allocation is determined based on the distribution pattern of the villages in each administrative boundary. It will be based on the list of towns, village tracts and villages in Myanmar.

Enumerators training on sugar direct consumption survey conducted by Sugar Crops Division, Department of Agriculture on 28 January 2019 at Naypyitaw. Selected townships of each state and region were shown in Area map of sugar direct consumption survey ([Appendix 1](#)). Sugar amounts contained in foodstuffs were calculated from information given in [Appendix 2](#).

Results and Discussions

(a) Number of respondents

Sugar direct consumption (individual intake pattern and amount) conducted by Sugar Crops Division (SCD) at 34 selected townships in different states and regions during (1.2.2019) to (15.2.2019). According to the survey data, 4860 respondents were selected for sugar direct consumption survey (Table-1).

Table (1). Number of respondents by different groups

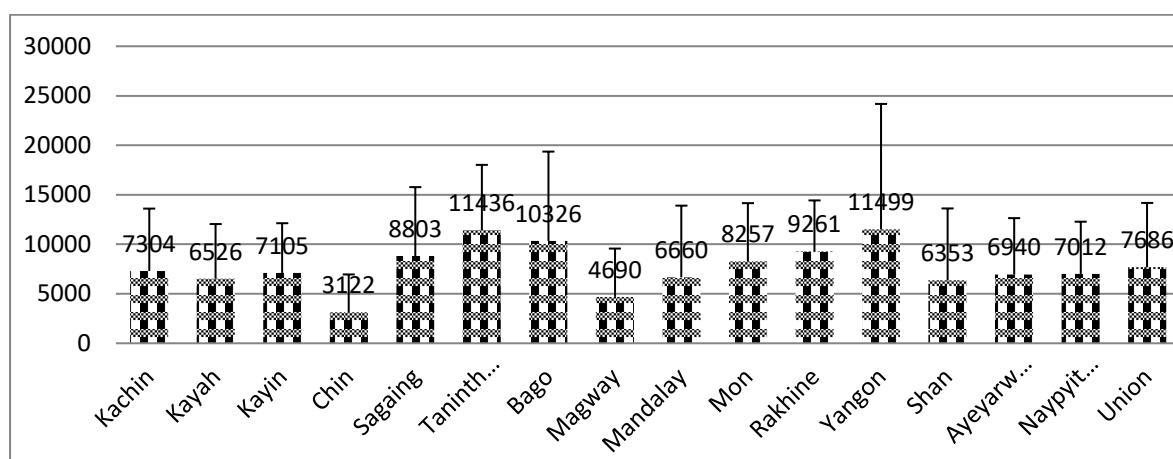
Urban areas = total respondents (1408) (29.59%)			Rural areas = Total respondents (3452) (70.41 %)		
sex	Age group	Number	sex	Age group	Number
Male(47.82%)	0-14	189	Male(48.34%)	0 – 14	471
Male	15-64	430	Male	15 – 64	1090
Male	65 & above	41	Male	65 & above	97
Female(52.18%)	0 – 14 (28.64%)	216	Female(51.66%)	0 – 14	514
Female	15 – 64 (65.59%)	488	Female	15 – 64	1177
Female	65 & above (5.76%)	44	Female	65 & above	105

Number of respondents by resident, gender and age groups in different areas is shown in [Appendix 3](#).

(b) Per capita sugar consumption by states and regions

Per capita sugar consumption states and regions was shown in Table 2 and Figure 1. Among the states and divisions, Yangon region is highest amount of sugar consumption (11.50 kg/year) and Chin state is the lowest consumption (3.122 kg/year). The detail statistics of per capita sugar consumption by different states and regions was shown in Figure 1. and Appendix 4.

Figure1 .Mean per capita sugar consumption by states and regions (gm)



(c) Per capita sugar consumption by residents

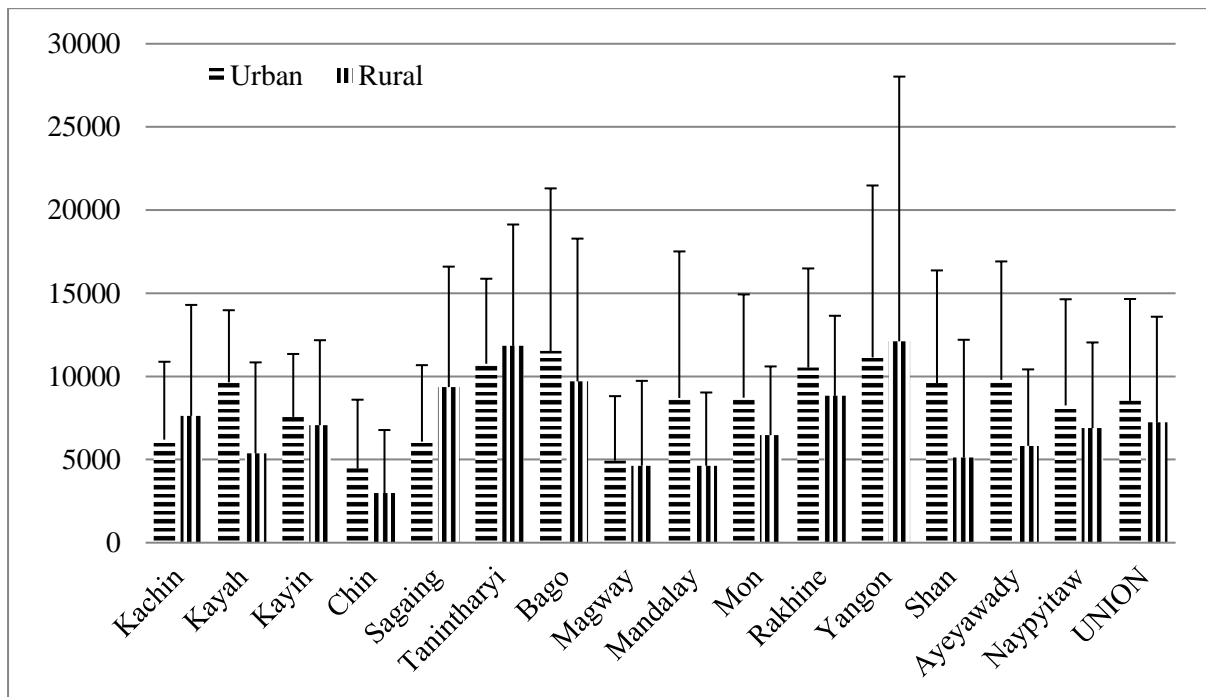
Per capita sugar consumption by residents was shown in Table 2 and Figure 2. The average annual per capita consumption of urban people in union during 2019 was 8.512 Kg and that of rural people was 7.203 Kg.

Table 2. Per capita sugar consumption by residents

States/Regions	Per capita sugar consumption(gm)		
	Mean sugar	Urban	Rural
Kachin	7304	6197	7625
Kayah	6526	9648	5367
Kayin	7105	7564	7070
Chin	3122	4460	2989
Sagaing	8803	6077	9360
Tanintharyi	11436	10762	11833
Bago	10326	11528	9704
Magway	4690	4935	4628
Mandalay	6660	8704	4627
Mon	8257	8720	6467
Rakhine	9261	10530	8833
Yangon	11499	11141	12111
Shan	6353	9599	5123
Ayeyawady	6940	9795	5823
Naypyitaw	7012	8256	6893
UNION	7686	8528	7230

Among the urban people in states and region, the highest per capita sugar consumption was found in Bago followed by Yangon, Tanintharyi and Rakhine. Urban people in Bago consumed 11.528 kg per year and urban people in Yangon, Tanintharyi and Rakhine consumed 11.141 Kg, 10.762 Kg and 10.530 Kg per year, respectively. The lowest per capita sugar consumption of urban people was found in Chin followed by Magway, Urban people in Chin consumed only 4.46 Kg per year and that of urban people in Magway consumed 4.935 Kg per year.

Figure2 .Mean per capita sugar consumption by states and regions (gm)



Among the rural people in states and regions, the highest per capita sugar consumption was found in Yangon followed by Tanintharyi and Bago. Rural people in Yangon consumed 12.111 kg per year and rural people in Tanintharyi and Bago were 11.833Kg and 9.704 Kg per year respectively. The lowest per capita sugar consumption of rural people was found in Chin followed by Mandalay and Magway. Rural people in Chin consumed 2.989 Kg per year and rural people in Mandalay and Magway consumed 4.627 Kg and 4.628 Kg per year, respectively.

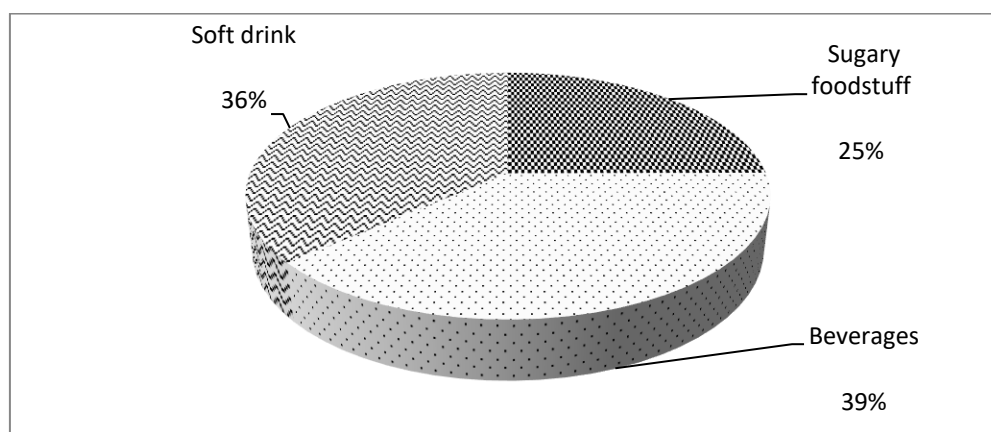
(d) Sugar intake sources and sugar amount

There were three main food sources of sugar intake namely sugary foodstuffs, soft drinks and beverages. Off these sugar sources, 38.58 % of total sugar intake was from beverages and that of soft drinks and sugary foodstuffs were 36.49 % and 24.93 % respectively. Sugar intake amount by food sources were illustrated in Table 3 and Figure 3.

Table 3. Sugar intake amount by food sources (gm)

States/ Regions	Sugar from from foodstuffs	Sugar from Beverages	Sugar from Soft drink	Mean
				sugar (gm)
Kachin	768	3408	3128	7304
Kayah	926	2400	3200	6526
Kayin	1144	2082	3879	7105
Chin	775	1446	901	3122
Sagaing	2717	2696	3390	8803
Taninthayi	3561	4178	3697	11436
Bago	1972	3696	4658	10326
Magway	1273	2266	1151	4690
Mandalay	1135	2429	3096	6660
Mon	2590	3575	2092	8257
Rakhine	2047	4466	2748	9261
Yangon	4935	3770	2794	11499
Shan	1618	2368	2367	6353
Ayeyarwady	2265	2282	2393	6940
Naypyitaw	1021	3415	2576	7012
TOTAL(gm)	1916	2965	2805	7686
Percentage(%)	24.93	38.58	36.49	

Figure 3. Sugar intake amount by food sources



As shown in Table 3 and Figure 3, about 25 % of sugar intake was from sugary foodstuffs. It includes domestic foodstuffs, foreign foodstuffs, and traditional foodstuffs. It also found that some consumers had never eaten sugary foodstuffs. Percentage of total respondents intake sugary foodstuff was shown in Figure 4 and Table 4 .

Figure 4. Percentage of total respondents by sugary foodstuffs sources

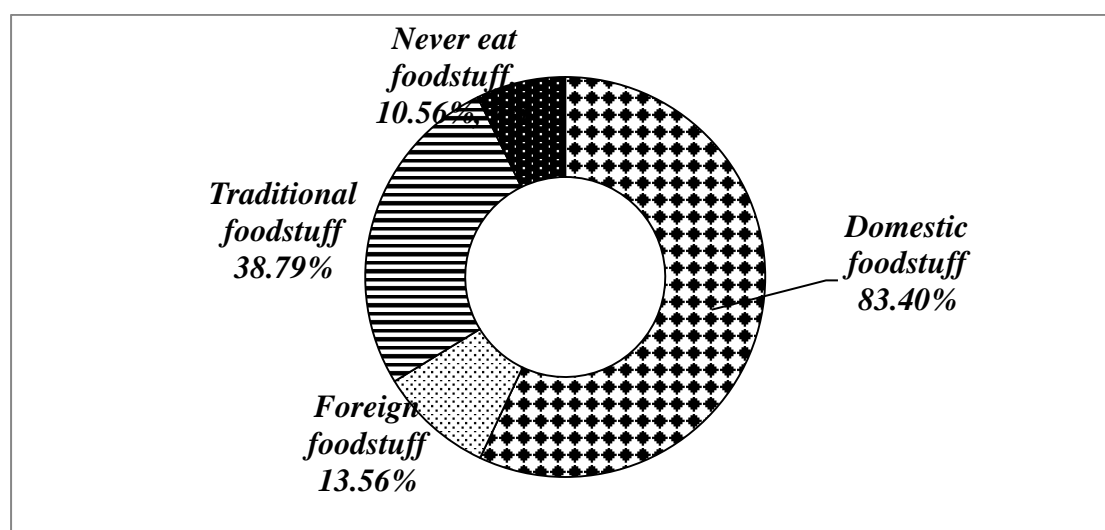


Table 4. Number of total respondents intake foodstuffs pattern by states and regions

States/ Regions	Number of respondents by foodstuffs sources			
	Domestic food	Foreign food	Traditional food	Never eat
Kachin	547	177	320	28
Kayah	138	1	70	3
Kayin	281	23	110	33
Chin	112		1	54
Sagaing	426		161	28
Thninthari	182	76	183	47
Bago	325	183	275	190
Magway	270		36	30
Mandalay	332	80	160	28
Mon	65	15	66	0
Rakhine	254		114	4
Yangon	360	81	295	55
Shan	235	23	94	4
Ayeyawady	269			8
Naypyitaw	257	32	110	1
TOTAL	4053	659	1885	513
% of total Respondents	83.40	13.56	38.79	10.56

Off the sugar intake food sources, the second largest one was soft drinks and about 36 % of total sugar consumed was intake from soft drinks. The frequency of taking soft drinks was shown in Figure 5 and Table 5.

Figure 5. Percentage of total respondents by soft drinks intake frequency

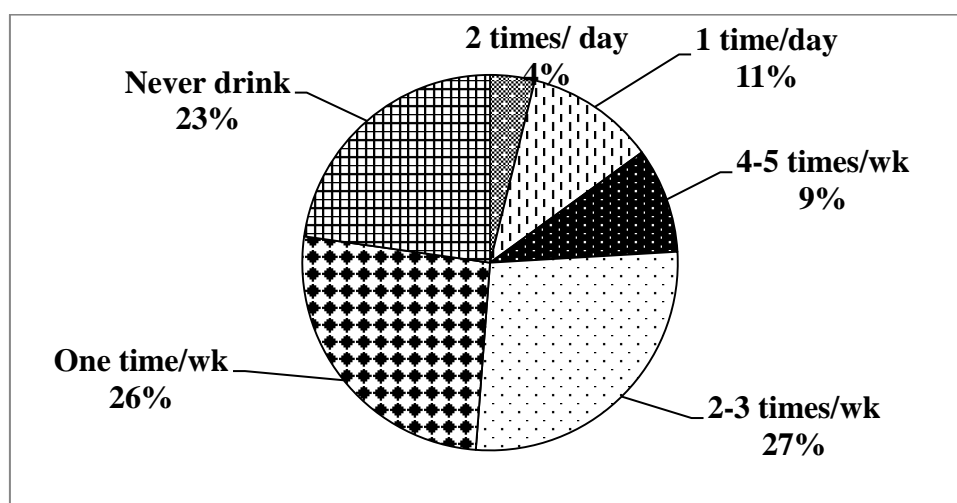


Table 5 . Respondents number by intake frequency of softdrinks

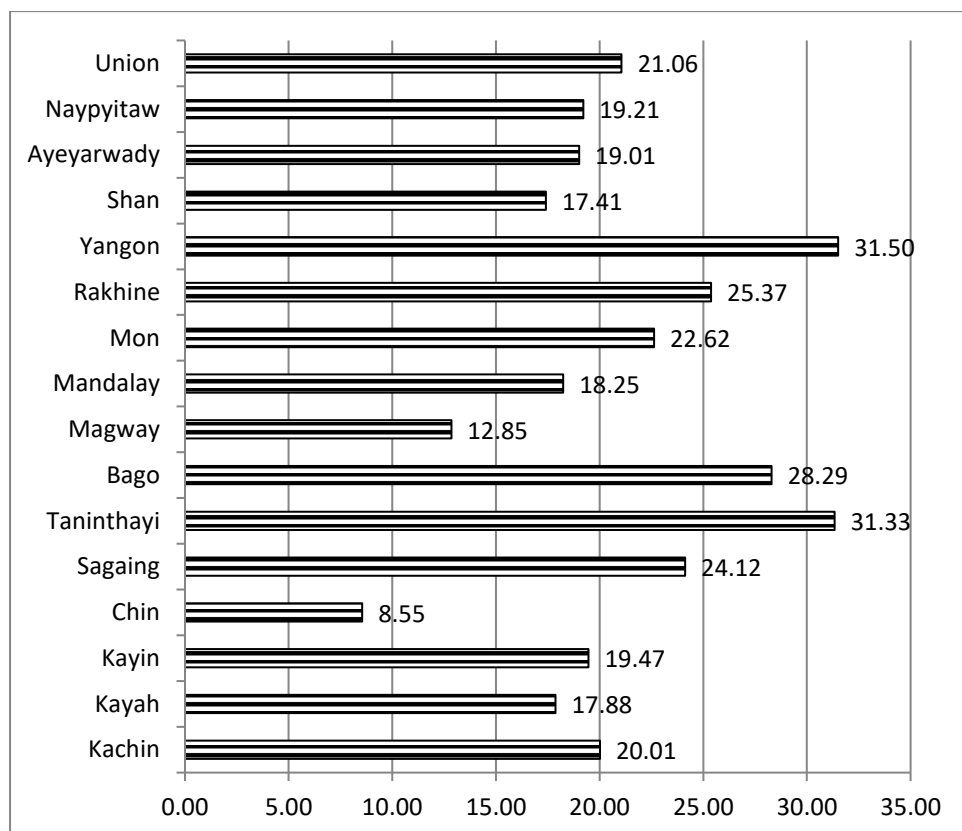
States/ Regions	Number of respondents intake softdrinks						Total Respon dents
	2 times/ day	1 time/ day	4-5 times /wk	2-3 times/ wk	One time/wk	Never drink	
Kachin	4	32	37	191	193	143	600
Kayah	4	5	28	56	44	9	146
Kayin	10	35	23	112	130	26	336
Chin	1	1	6	16	22	120	166
Sagaing	6	25	35	113	219	69	467
Thninthari	19	89	30	68	31	35	272
Bago	29	72	39	134	75	66	415
Magway	7	27	25	65	113	67	304
Mandalay	17	48	57	89	67	101	379
Mon	6	22	6	27	21	25	107
Rakhine	64	90	29	70	7	25	285
Yangon	7	32	39	143	116	134	471
Shan	4	42	45	93	43	64	291
Ayeyawady	8	14	20	63	77	106	288
Naypyitaw	1	8	22	79	107	116	333
Total	187	542	441	1319	1265	1106	4860
% of total respondents	3.85	11.15	9.07	27.14	26.03	22.76	

(e) Daily sugar direct consumption

In this study, wide range of sugar intakes seen in all the all groups studied. The daily sugar direct consumption was ranged from 8.55 grams(Chin) to 31.50 grams(Yangon). The union daily sugar consumption was 21.06 gm. The statistic show that daily sugar

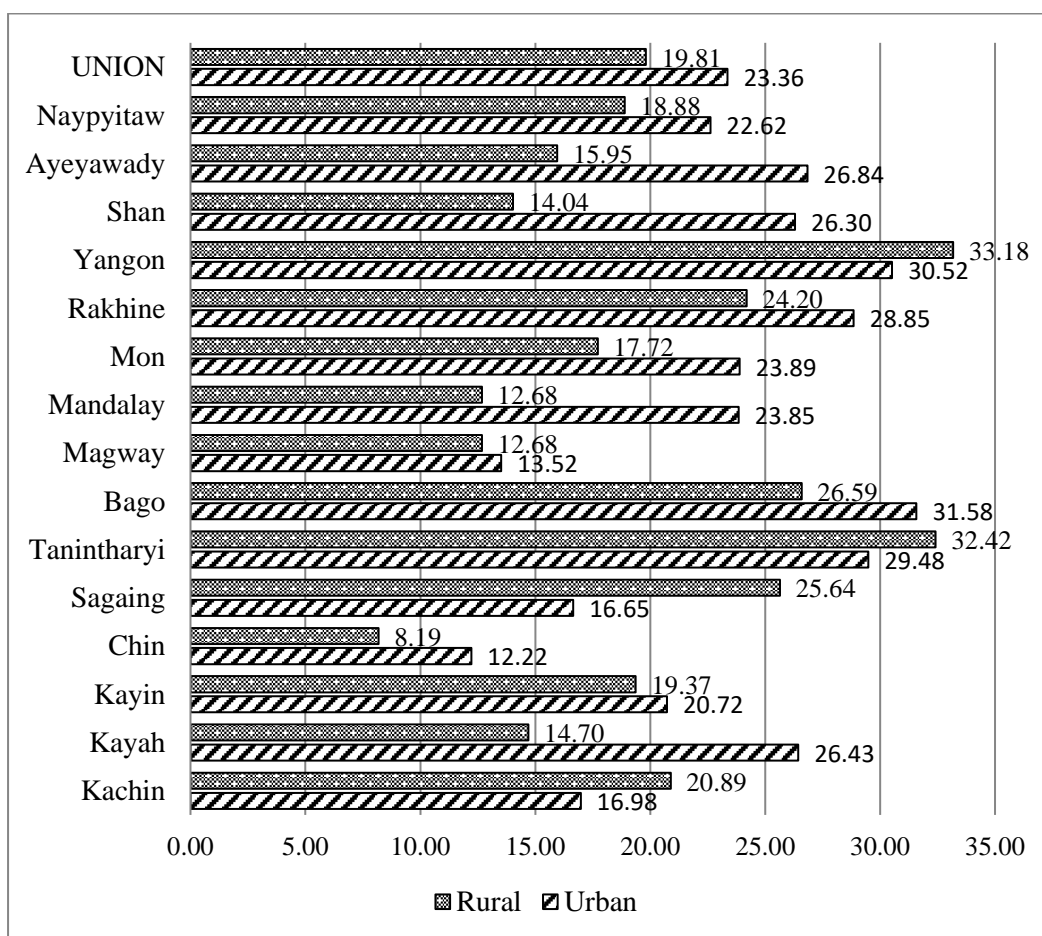
consumption of a American was 126.40 grams and that of German was 102.9 grams in 2016. Expert panels worldwide have made consistent recommendations on daily sugar intake. The American Heart Association (AHA) recommends no more than 6 teaspoons (25 grams) of added sugar per day for women and 9 teaspoons (38 grams) for men. Children between the ages of 2 and 18 should consume no more than 25 g, or 6 tsp, of added sugar daily. Daily sugar direct consumption / person by states and regions (gm) was shown in Figure 6.

Figure 6. Daily sugar direct consumption / one person by states and regions (gm)



Daily sugar direct consumption per person by residents was shown in Figure 7. The daily sugar direct consumption of urban people was 23.36 gm/day and that of rural people was 19.81 gm/day. The highest value was found in urban people of Yangon and the lowest value was found in Chin state.

Figure 7. Daily sugar direct consumption / one person by residents (gm)



(f) Simulation of sugar consumption volume by state and regions based on country population statistic in 2014

The average annual per capita consumption by states and regions in 2019 and total sugar direct consumption based on country population statistic 2014 were described in Table 6. Total population of Myanmar in 2014 was 50,279,900 in which urban population was 14,877,943 and rural population was 35,401,957. The average annual per capita consumption urban people in union during 2019 was 8.512 Kg and that of rural people was 7.203 Kg. Therefore, based on this results, total union sugar direct consumption in 2019 will be about 3,95,803 ton per year in which total sugar consumption of urban people was 1,41,576 ton per year and rural people was 2,54,227 ton per year. Simulation of Sugar consumption volume by states and Regions based on country Population Statistics was shown in Table 6.

Conclusion

Historically, sugar consumption per capita in Thailand reached an all time high of 35.5 kg in 2011 and an all time low of 2.10 kg in 1963. When compared to Thailand's main peers, sugar consumption per capita in Cambodia amounted to 16.8 kg, 4.30 kg in Laos, 38.8 kg in Malaysia and 0.300 kg in Myanmar in 2013(Kriengsinyoset *all* 2018).There is no evidence to accurately establish the level of sugar intake in Myanmar. According to this survey, the average per capita sugar consumption of Myanmar was 7.686 kg/year and daily sugar consumption was 21.06 gm. As the first national sugar consumption survey, there are some limitations in the methods to estimate sugar intake in different food sources.

There are two kinds of sugar demand, which are industrial and nonindustrial demand. Knowledge on sugar demand patterns of a Myanmar is useful for sugar strategy and sugar law formulations.

Reference

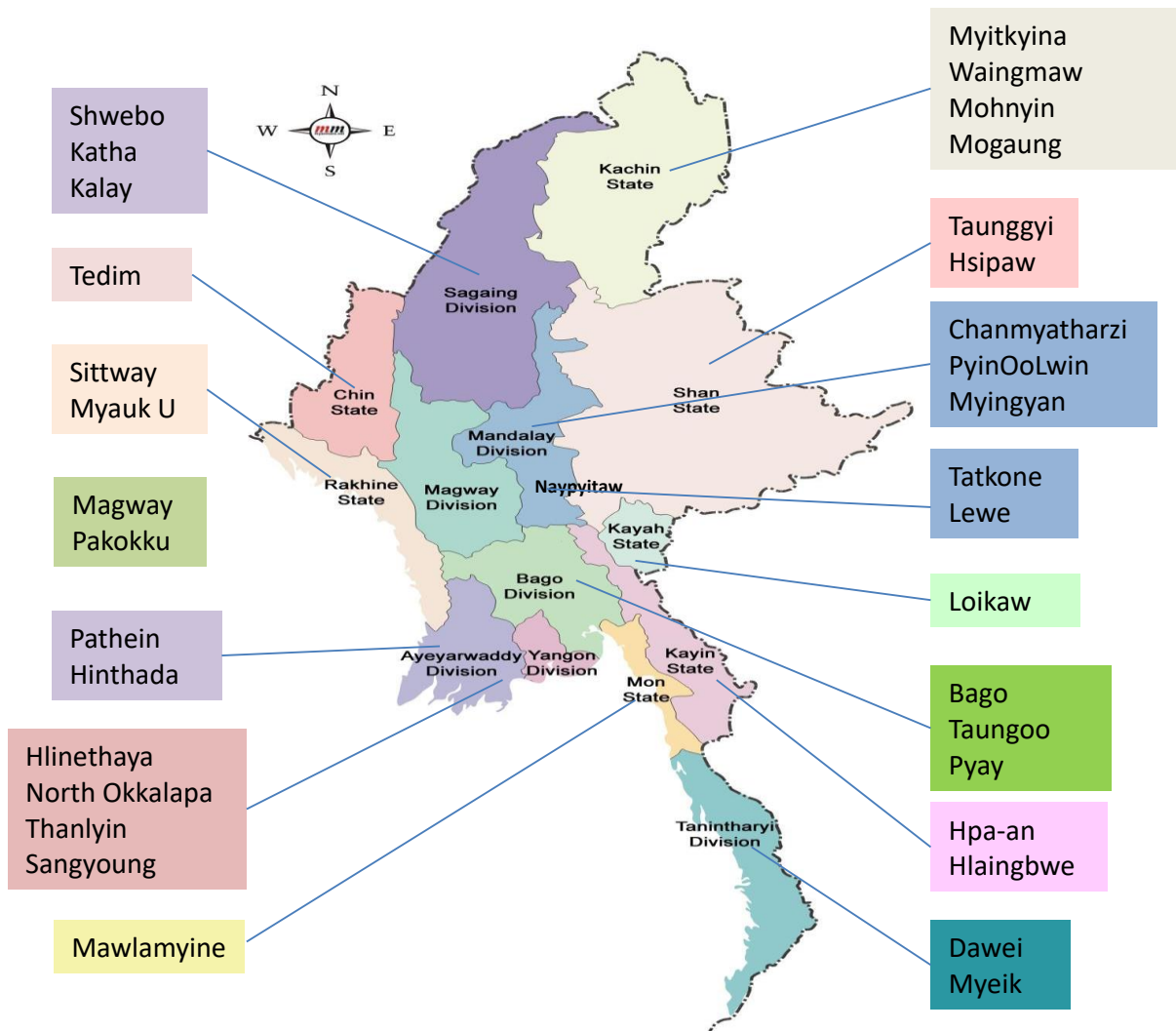
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Table (6) Simulation of Sugar consumption volume by states and Regions based on country Population Statistics

Regions/ States	Country Total population 2014			Per capita sugar consumption (Kg) 2019		Total Sugar consumption volume Simulation (ton)		
	Total Pop.	Urban	Rural	Urban	Rural	Urban	Rural	Total
Kachin	1642841	592368	1050473	6.197	7.625	3670.90	8009.86	11680.76
Kayah	286627	72418	214209	9.648	5.367	698.69	1149.66	1848.35
Kayin	1504326	329166	1175160	7.564	7.070	2489.81	8308.38	10798.19
Chin	478801	99809	378992	4.460	2.989	445.15	1132.81	1577.96
Sagaing	5325347	911335	4414012	6.077	9.475	5538.18	41822.76	47360.95
Tanintharyi	1408401	338419	1069982	10.762	11.833	3642.07	12661.10	16303.16
Bago	4867373	1072336	3795037	11.528	9.704	12361.89	36827.04	49188.93
Magway	3917055	588031	3329024	4.935	4.628	2901.93	15406.72	18308.66
Mandalay	6165723	2143436	4022287	8.704	4.627	18656.47	18611.12	37267.59
Mon	2054393	572189	1482204	8.720	6.467	4989.49	9585.41	14574.90
Rakhine	2098807	354288	1744519	10.530	8.833	3730.65	15409.34	19139.99
Yangon	7360703	5160512	2200191	11.141	12.111	57493.26	26646.51	84139.78
Shan	5824432	1395847	4428585	9.599	5.133	13398.74	22731.93	36130.66
Ayeyawady	6184829	872600	5312229	9.795	5.823	8547.12	30933.11	39480.23
Naypyitaw	1160242	375189	785053	8.027	6.358	3011.64	4991.37	8003.01
TOTAL	50279900	14877943	35401957	8.512	7.203	141575.99	254227.12	395803.11

Source: Census, 2014: Per capita sugar consumption survey, 2019

Sugar direct Consumption Survey (2019) Area Map



Sugar Contents of some foods and drinks

Sr	Product	Brand	Sugar content g/unit
Foreign Foods Stuffs			
1	Cake	Fudo	1.5 g
2		Choco Pie	0.92 g
3	Jelly	YoYo	0.52 g
4	Cocalate	Tango 100 g	48.2 g
Domestic Foods Stuffs			
5	Cake	Nan-Sein	6 g
6	Biscuits	Thazin	0.21 g
7	Cookies	Milk Flavour	0.81 g
8	Jelly	May May	0.68 g
9	Candy	Guava	0.64 g
10	Bubble gum	Mentos	2 g
11	Bread	Good Morning	1.5 g
Traditional Foods Stuffs			
12	ကျောက်ကျော	One unit	10.12 g
13	ရွှေရင်အေး		8 g
14	မုန့်ဖက်ထုပ်		4 g
15	သကြားပေါက်စီ		4 g
16	ဟာလဝါ		16 g
17	ထိုးမုန့်		16 g
18	လမုန့်		10 g
Beverage Domestic Drinks			
19	Coffee Mix	Nescafe	10 g
20		Rich	12 g
21		Gold Roast	11.2 g
22		Sunday	17 g
23	Tea Mix	Royal Myanmar	12.3 g
24		Myanmar Tea	12 g
25		Lemon Tea	17 g
26	Fruit Drink	Juicy(750ml)	352.5 g
27		Oscar(1000ml)	650 g
28	ဆိုင်ဖျော်(Tea)	ချိုစိမ့်	4 g
29		ပေါ့စိမ့်	2 g
30		ပုံမုန့်	2 g
Soft Drinks			
34	Soft Drinks	Coca cola	33 g
35		Speed	42.4 g
36		Shark	38 g
37		VeVe Asia	20 g
38		Max +	30 g

39		ဝါလူဒါ	20 g
40		Ice- cream	20 g
41		cheese	12 g
42		Milk	5 g
43	One teaspoon of sugar		4 g

Appendix (3)

Number of respondents by resident, gender and age groups in different areas

Sr .	States/ Regions	Townshi Number	Male				Female				Total
			< 14 yrs	15-64 yrs	> 65 yrs	Total	< 14 yrs	15-64 yrs	> 65 yrs	Total	
1	Kachin	4	83	187	20	290	89	204	17	310	600
	Urban		20	40	6	66	19	46	4	69	135
	Rural		63	147	14	224	70	158	13	241	465
2	Kayah	1	20	45	5	70	22	49	5	76	146
	Urban		5	12	2	19	6	13	1	20	39
	Rural		15	33	3	51	16	36	4	56	107
3	Kayin	2	47	106	8	161	52	114	9	175	336
	Urban		4	7	0	11	5	8	0	13	24
	Rural		43	99	8	150	47	106	9	162	312
4	Chin	1	23	53	4	80	24	56	6	86	166
	Urban		2	5	0	7	2	5	1	8	15
	Rural		21	48	4	73	22	51	5	78	151
5	Sagaing	3	64	147	14	223	70	159	15	244	467
	Urban		11	25	1	37	12	27	3	42	79
	Rural		53	122	13	186	58	132	12	202	388
6	Tanintharyi	2	34	74	6	114	47	103	8	158	272
	Urban		10	21	1	32	20	45	4	69	101
	Rural		24	53	5	82	27	58	4	89	171
7	Bago	3	56	131	11	198	61	142	14	217	415
	Urban		19	45	4	68	20	49	5	74	142
	Rural		37	86	7	130	41	93	9	143	273
8	Magway	2	41	97	8	146	45	104	9	158	304
	Urban		8	19	2	29	9	21	2	32	61
	Rural		33	78	6	117	36	83	7	126	243
9	Mandalay	3	49	121	12	182	57	128	12	197	379
	Urban		25	60	6	91	29	64	6	99	190
	Rural		24	61	6	91	28	64	6	98	189
10	Mon	1	15	34	2	51	16	37	3	56	107
	Urban		12	27	2	41	13	29	2	44	85
	Rural		3	7	0	10	3	8	1	12	22
11	Rakhine	2	38	90	9	137	42	97	9	148	285
	Urban		11	27	3	41	13	29	1	43	84
	Rural		27	63	6	96	29	68	8	105	201
12	Yangon	4	64	149	14	227	70	161	13	244	471
	Urban		36	83	9	128	40	89	8	137	265
	Rural		28	66	5	99	30	72	5	107	206
13	Shan	2	41	90	8	139	43	100	9	152	291
	Urban		11	24	2	37	12	27	2	41	78
	Rural		30	66	6	102	31	73	7	111	213

14	Ayeyawady	2	39	91	8	138	43	98	9	150	288
	Urban		11	26	2	39	12	27	3	42	81
	Rural		28	65	6	99	31	71	6	108	207
15	Naypyitaw	2	46	105	9	160	49	113	11	173	333
	Urban		4	9	1	14	4	9	2	15	29
	Rural		42	96	8	146	45	104	9	158	304
	Union	34	660	1520	138	2316	730	1665	149	2544	4860
	Urban		189	430	41	660	216	488	44	748	1408
	Rural		471	1090	97	1656	514	1177	105	1796	3452

Appendix (4)

Detail statistics of per capita sugar consumption by different states and regions

State	Mean sugar direct consumption/year/individual(gm)								Mean
	Male				Female				
/Regions	< 14 yrs	15-64 yrs	> 65 yrs	Total	< 14 yrs	15-64 yrs	> 65 yrs	Total	
Kachin									7304
Urban	5206	6851	9004	6549	6721	5669	3996	5862	6197
Rural	7884	8112	4979	7852	7709	7381	6220	7413	7625
Kayah									6526
Urban	9147	9794	8542	9533	7483	11572	5911	9796	9648
Rural	6658	4077	13716	5311	4761	5893	3441	5412	5367
Kayin									7105
Urban	10543	6598		8033	9780	5536		7168	7564
Rural	7097	7601	5360	7337	5733	7432	5319	6822	7070
Chin									3122
Urban	2988	5424		5413	1416	4512	3624	3627	4460
Rural	3264	4445	4794	4156	2802	1565	1039	1896	2989
Sagaing									8803
Urban	8120	4926	4907	5875	4611	5569	8211	6255	6077
Rural	9967	8952	8724	9232	9978	9404	7881	9978	9360
Taninthayi									11436
Urban	12938	8444	11760	9952	11812	10686	12849	11138	10762
Rural	13236	12144	16103	12705	13850	9614	12540	11031	11833
Bago									10326
Urban	8314	13601	14116	12232	7935	12268	6720	10722	11528
Rural	10148	9231	12415	9714	11879	8865	9175	9695	9704
Magway									4690
Urban	6134	4395	2192	4844	8988	3440	8562	5023	4935
Rural	6640	3852	1420	4437	6912	4282	1821	4841	4628
Mandalay									6660
Urban	14315	7136	3056	8858	11106	8007	2674	8564	8704
Rural	8026	3530	1789	4601	7660	3658	1213	4652	4627
Mon									8257
Urban	11836	7402	8280	8742	8634	8739	8532	8699	8720
Rural	9544	6840		7651	6912	5004		5481	6467
Rakhine									9261
Urban	10658	13402	11116	12487	10272	8762	1728	8964	10530
Rural	9004	8870	10672	9025	9305	8297	9707	8678	8833
Yangon									11499
Urban	10633	9648	9302	9895	13576	12132	7468	12313	11141
Rural	12923	10851	5227	11183	12018	13892	3673	12938	12111
Shan									6353
Urban	13411	11870	4032	11904	10958	5452	14796	7519	9599
Rural	6134	5390	3992	5545	5166	4757	2858	4734	5123
Ayayawady									6940
Urban	13501	9193	13147	10611	9141	8797	10784	9037	9795
Rural	6252	5210	4318	5441	6842	6007	4405	6172	5823
Naypyitaw									7012

Urban	15147	7727	2664	9621	8036	7471	3744	7147	8256
Rural	7696	7544	8220	7625	8099	5690	2891	6217	6893
Union	9245	7769	7561	8212	8337	7345	6135	7593	7686
Urban	10193	8427	7855	8970	8698	7907	7114	8122	8528
Rural	8298	7110	7266	7454	7975	6783	5156	7064	7230