

## INNOVATIONS

### **An Assessment of Beneficiaries' Satisfaction Toward Subsidized Sugar and Edible oils Supplies in Hawassa, Southwestern Ethiopia**

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#### **Abstract**

This study aimed to investigate beneficiaries' satisfaction toward the subsidized sugar and cooking oils in Hawassa, the centre for two regional states in Ethiopia. All data were collected from primary sources through survey and interview techniques. Among the subsidized beneficiaries, 381 informants participated in the survey, and twenty-seven informants were interviewed. Qualitative data were described and interpreted qualitatively. The Likert scale was used to measure survey responses. Descriptive statistics were applied to analyze data that were collected through a survey. Overall satisfaction of the beneficiaries was analyzed by satisfaction index, butchi-square test was applied to test satisfaction variation on the householdsize and income level differences of beneficiaries. The result shows that beneficiaries were satisfied with subsidized sugar quality but notquality of cooking oils. They are also satisfied withboth goods' retail price change in the last ten years. On the other hand, beneficiaries were dissatisfied withquota allocation, availability of the supplies keeping scheduled time, information about the availability of supplies, and sufficiency of quota for monthly consumption. In addition,there was satisfaction variation toward the quota allocation techniques on both goods. Regarding income variation, there was no association between satisfaction and income variation on sugar, but there wasdifferencein satisfaction on the income level of beneficiaries. The recommendation was forwarded to Hawassa cityadministration to revise the subsidized sugar and cooking oils quota allotment technique to make fairness of the consumption. In addition, the suppliers should supplyquality cooking oils to increase the satisfaction of all beneficiaries. Besides, suppliers should improve the availability of the both goods as promised time schedule and should communicated transparently for the beneficiaries.

**Key words:** 1.beneficiaries, 2. household size, 3.income, 4. quality, 5. quota, 6. retail price, 7. satisfaction, 8. subsidies

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#### **Introduction**

Customer satisfaction is one of the key academic research areas in marketing and management disciplines. Researchers emphasized assessing the customers' satisfaction to contribute inputs for an organization that use the results to improve their effectiveness and efficiencies. Satisfaction implies provide quality service to the beneficiaries at the right time, place, quality and quantity at the right price. Thus, an assessment of the beneficiaries' satisfaction is crucial to knowthe effectiveness of the

organization, particularly the public distribution system. Research shows that the objective of subsidization is fulfilled when beneficiaries utilize maximum benefits provided by public distribution system. The satisfaction of the beneficiaries depended on the service provided by suppliers or middle retailers. It is expected the services should be available as it was scheduled time, supply full quota, accessible location, fair price, beneficiaries' oriented service by staffs, accurate weight and sufficient amount for households' monthly demand (Velmurugan and Lavanya, July 2017).

Another research results show that the assessment of customer satisfaction helps to initiate the reform of the organization, particularly the government sector (Nigro and Císaro, 2016 and Cigu and Constantin, 2013). Thus the investigation of beneficiaries satisfaction contribute either business or government organizations to measure their service quality performance. It plays a vital role to indicate the government performance on resource management and help the government to have practical reality of the needs of the citizen to enhance trust (Bao et al., 2010 and Gao, 2012).

Researches emphasize the importance of the investigation of the service performance of public agencies and policies to justify how the government used public resources to satisfy the taxpayers. As cited by (Michael 2012) from the Book *Reinventing Government* (Osborne and Gaebler, 1992), "if no measured result, cannot tell success... if not recognized result, not win public support." This implies public service performance measurement is crucial to identify results and to be transparent for the public, which increases the acceptance of the government. Therefore public service performance measurement help to create transparency that people should know how resources are efficiently managed. Managers or leaders also use the assessment result to convince people if the policy was successful.

Quality service is important for the survival of the business organization to stay in a competitive market. Government organizations also need it to use as a means to reveal the outcome of the public resources invested to improve the socio-economic life of the citizens. The quality services determines customer satisfaction and longer loyalty for the business organizations. Satisfied customers can attract new customers and create prospects, but dissatisfaction multiplies disconnection between the organization and customers (Naik et al., 2010). Like business organizations, quality service higher the trust of people on the government. Satisfied citizens on service provided trust on the government and supported the continuity of the leaders (Michael, 2012). Therefore, assessment of customers' satisfaction is a very important indicator of business organization to sustain in the competitive market, and continuity of government leaders in government sector.

### **1.1 Statement of the Problem**

The supply performance of subsidized sugar and cooking oils was not evaluated at the national or regional level since it was applied in Ethiopia. Ten years passed when it was implemented to regulate the raising of the market price. From the beginning, the effectiveness of the government intervention was highly criticized. There was a hot debate in the parliament meeting on the effectiveness of government intervention in the market. The government promised to manage the failure of the sugar and cooking oils market through subsidies and satisfy consumers. In contrast, non-majority political parties in the parliament were arguing that government interference into markets could not satisfy the citizens' demand. It gives only temporary relief or satisfaction. Import subsidies discourage domestic producers and retailers. Further, it leads the problem to be continued and re-cycled in the future (Zekaria November 2011).

No one denies the effort of the government to control the rise of the price of these goods at the country level. However, there were still complains about the success of government intervention. Consumers were complaining about a high price compared to the beginning of the subsidized years. It is common to hear on the media that the prices of oils are too high to buy in the open market. The complaints say the effectiveness of the government to satisfy beneficiaries is minimum.

Complaints say that subsidized sugar and edible oils are not sufficiently supplied for consumers as scheduled. On the other hand, higher officials claimed that there was no supply shortage, but speculators were creating the problem. According to higher officials, the government is working intensively to solve the problems, and the shortage was not exaggerated as it heard opinions from some consumers. Like on the day of the discussion to approve the implementation of the subsidies, there were complaints on the effectiveness of the government's intervention into the sugar and cooking oils market (Capital, February 19, 2018, and Fortune, October 12 2017). But these complains were not identified by scientific studies and not supported by sufficient research outputs to reveal the practical reality.

Considering this fact, this study assesses the beneficiaries' satisfaction toward the subsidized sugar and cooking oils in Hawassa city.

### **1.2 Objective of the study**

This study aimed to assess beneficiaries' satisfaction toward the subsidized sugar and cooking oils supplies in Hawassa city.

**Specific objective:** It focused:

- to identify beneficiaries' satisfaction level toward subsidized sugar and cooking oils supplies, particularly on quality, quantity, timing, price change, and supply system.
- to identify whether there is beneficiaries' satisfaction difference by variation in income level.
- to identify whether there is beneficiaries' satisfaction difference by the variation of the household size.

### **1.3 Significance of the Study**

This study will contribute inputs for the Hawassa city administration to check the service performance of subsidized sugar and cooking oils supply system to satisfy beneficiaries. In addition, it uses information input for the policymakers to solve the problem related to subsidized sugar and cooking oils distributionsystem. It also contributes academic knowledge in marketing and related study areas.

### **1.4 The Scope of the Study**

The conceptual scope of this study delimited to the satisfaction of beneficiaries toward subsidized sugar and cooking oils in Hawassa city and used survey research techniques to get primary data.

## **2. Review Literature**

Satisfaction of beneficiaries toward the public distribution system is one of the study areas that researchers gave attention in marketing and related discipline areas. Most researchers' findings coincide with each other on certain factors that affect the beneficiaries' satisfaction, but some studies conclude their findings indifferently. Researchers identified quality issues as a common problem of the grains supplied for consumption through the public distribution system. It were reported that customers were dissatisfied with the quality grains supplied at subsidies prices (Ashok and Naveena, 2014, Chandanshiv and Narwade, June 2013-14, Sheetal and Lalit Jun, 2017).

Quantity is another variable that researchers emphasized to assess customer satisfaction status toward the public distribution system. There were reports that beneficiaries of subsidized grains, sugar and edible oils were dissatisfied with the quantity (Ashok and Naveena, 2014, Sheetal and Lalit, Jun 2017 and Chandanshiv and Narwade, June 2013-14). However, Aggarwal(2011) reported that almost all respondents replied that they took a full rice quota and were satisfied with getting their quota

properly in Orissa. Another variable that the researchers commonly analyzed was the availability of subsidized goods as promised schedule. Some findings show beneficiaries were satisfied with the supply timing. Accordingly, beneficiaries were happy with the regularity of the supplies and accessibility of the fair price retailer shops on all days except Sunday (Raghav, 2012, Chandanshiv and Narwade, June 2013-14). But others report that there was a delay in supplies as scheduled for distribution (Rajiv (2013), Sheetal and Lalit Jun 2017, Singh and Ashok, 27<sup>th</sup> October 2017); Velmurugan and Lavanya, July 2017). Chandanshiv and Narwade (June 2014) reported that there was a variation on timing to supply between grains (wheat and rice) and sugar and edible oils in Maharashtra. According to this finding, wheat and rice supply were regularly available, but the supply of sugar and edible oils were not followed the scheduled time.

Regarding the subsidies mechanism there were two different reports. However, most of the findings identify beneficiaries were positive toward subsidies supply conditions. For example, as reported by Mahendren (2013), Puri (2012), Singh and Ashok (27<sup>th</sup> October 2017), Chandanshiv and Narwade (June 2014), beneficiaries were satisfied with the subsidies conditions and appreciated the government efforts.

Mahendren (2013) stated that there was satisfaction variation by the difference of the income level. According to this report, satisfaction was responded more from the lower-income social groups. This was supported by Velmurugan and Lavanya (July 2017) that low-income groups prefer subsidies shops than those who have better income even if there is a low quality of goods because of too expensive non-subsidized market prices.

Among the studies reviewed for this study, it was observed that researchers gave very little focus on the satisfaction variation on age, income level and size of the family members. Only a few of them emphasized the satisfaction variation on the income level. According to Ramesh (2013), there was no such satisfaction variation on the income level difference, but Velmurugan and Lavanya (July 2017) reported that those who have better income levels were not comfortable with the quality of the public distribution supplies. They added that old aged groups were unable to wait for the longer time subsidized goods. In addition, in rural areas, the function of fair price retailer shops was not punctual to give services for the beneficiaries. Another variable that researchers did not give emphasis was transparency in the communication of the availability of the subsidized goods.

In general the common factors that affect the satisfaction of beneficiaries toward the subsidies supplies were availability on time as scheduled, quality, adequate information on the availability of goods, fairness of retail price, retailers approach to complaint handling, accessibility of the retailer shops in short distance locations, the sufficiency of quota and quantity to satisfy demand, fairness on weighting (Velumurugan and Lavanya, 2017)

There are tremendous researches on customer satisfaction in Ethiopia, but most of them focus on the financial organization or service providing sectors like insurance, hotel service, commercial Bank, municipality services or other services at private and government organizations. Most of them identified customers' satisfaction was not good with service qualities. They explain that there was a difference between expectation and actual perceived services quality in commercial banks, insurance and municipality (Tegegne, 2019, Abdisa, August 2019, and Birhanu, Mekonnen and Lake, January 2021).

Despite these attempts, all of the researches were very limited to assess whether there were satisfaction variations with the increase of the size of the household members. This variable is one of the important concepts to explain the satisfaction differences of the subsidies beneficiaries, but many researchers missed it. In addition, it is important to investigate beneficiaries satisfaction status quota distribution, particularly in the areas where applied equal quota for all size households. At the

national and regional levels, there were limitations of organized scientific research on the beneficiaries' satisfaction toward subsidized food or public distribution system in Ethiopia.

### 3. Research Method

#### 3.1 Description of the study area

Hawassa is the capital city for two regional states, Sidama People Regional Government State and South Nation Nationalities and People Regional State. The distance between Hawassa and Addis Ababa is 275 km on the way to Moyale. Geographically the city lies between 7°3' latitude in the north and 38° 28' longitudes in the east. The city has an area of 157.2 sq. km and has eight sub-cities and 32 small units of administration.

#### 3.2 Research Method

This study targeted beneficiary households of subsidized sugar and cooking oils in Hawassa. The city has eight sub-cities, and each sub-city was included in the sample. However, from the total 32 small units of administration, only sixteen were targeted in the sample. For the survey, the sample size was determined by Yamane (1967:886) formula and the assumption of 95% confidence level, and 5% precision was applied.

It is formulated as follows:

$$n = \frac{N}{1 + N(e)^2}$$

- Where:
- **n** is the sample size,
- **N** is the total household population in Hawassa city
- **e** is the level of precision.

It was planned to get  $n = \frac{91,982}{1+(91,982(0.05)^2)} = 398$  informants. The size of the households' population was taken from the central statistic estimation report (CSA 2017). However, seventeen questionnaires were rejected because they were not correctly answered.

All data were primary sources. It was collected through a survey questionnaire and interviews with beneficiaries. The study has qualitative and quantitative data. Qualitative data were described and interpreted qualitatively. But survey data were collected through structured questionnaires. The survey responses were measured by 1-5 Likert scale and analyzed by using descriptive statistics. The consumer satisfaction index was used to analyse overall beneficiaries' satisfaction toward quality, availability of subsidized goods as promised schedule, retail price change, quota allotment techniques, and the overall supply of sugar and edible oils subsidies. Overall, beneficiaries' satisfaction was calculated as follows.

- Beneficiaries satisfaction (BSat) =  $\frac{\text{sum of all scores}}{\text{the sum of respondents x maximum value of scale}} \times 100\%$

Overall satisfaction  $\leq 36\%$  was considered very dissatisfied,  $36.2\% \leq 52\%$  was dissatisfied,  $52.2\% \leq 68\%$  was neither satisfied nor dissatisfied,  $68.2\% \leq 84\%$  was satisfied, and  $84.2\% \leq 100\%$  was very satisfied.

In addition, chi-square statistic was applied to test the association of beneficiaries' satisfaction with income level and monthly quota size variation. Data were analyzed by the SPSS software version 20.

**4. Data Presentation and Discussion**

**4.1 Background of the respondents**

As presented in the appendix, among the participants on the survey, 74.5% were females, and 25.5% were males. The number of females was greater than males because cultural food preparation for households members was mainly dominated by females. Regarding their age categories, 21.8% were between 20 and 30, 55.6% were between 30 and 40, and 20% were between 40 and 50 age levels. Regarding education level, 4.2% were not attended school, 8.4% completed primary, 11.5% completed high school, 19.7% had a certificate, 22.8% had a diploma, 29.7% had a bachelor degree, 3.1% had MA/Sc, and 0.5% have PhD. Respondents were included from eight sub-cities. Among them, 33.9% from Hawella Tulla, 23.9% from Tabor, 10.5% from Menaharia, 9.2% from Misirak, 6.3% from Addis Ketema, 6.0% from Haykdar, 5.5% from Mehal ketema and 4.7% from Bahil Aderash sub-cities were represented. Regarding the household size 21.0% have less than or equal to three members, 52.8% have between four and six and 26.2% have seven and above household members. The income of the respondents was categorized into three levels. Among them, 52.8% have less than 3,500 Ethiopian birr, 39.6% have between 3,500 and 7,500 birr, and 7.6% have more than 7,500 birr per month.

**4.2 Beneficiaries' Satisfaction toward subsidized sugar and cooking oils**

Table 4.1 beneficiaries' satisfaction toward quality of the products

1. rate your satisfaction on subsidized <b>sugar</b> quality	Frequency	%	Valid %	Cumulative %
• very dissatisfied	19	5.0	5.0	5.0
• Dissatisfied	23	6.0	6.0	11.0
• Neither satisfied nor dissatisfied	42	11.0	11.0	22.0
• Satisfied	294	<b>77.2</b>	77.2	99.2
• very satisfied	3	.8	.8	100.0
Total	381	100.0	100.0	
2. rate your satisfaction on subsidized <b>cooking oils</b> quality				
• very dissatisfied	83	21.8	21.8	21.8
• Dissatisfied	177	<b>46.5</b>	46.5	68.2
• Neither satisfied nor dissatisfied	90	23.6	23.6	91.9
• Satisfied	25	6.6	6.6	98.4
• very satisfied	6	1.6	1.6	100.0
Total	381	100.0	100.0	

Source: computed from survey 2021

As presented in table 4.1, 77.2% of the beneficiaries of subsidized sugar rated they were satisfied with the quality of the product, while 11%, 6%, 5% and 0.8% rated neither satisfied nor satisfied, dissatisfied, very dissatisfied and very satisfied respectively. In the case of the subsidized cooking oils majority, 46.5% rated they were dissatisfied with the quality of the product. Among the respondents, 21.8% were very dissatisfied, 23.6% were neither dissatisfied nor satisfied, 6.6% were satisfied, and 1.6% were very satisfied with quality of subsidized cooking oils.

Based on the satisfaction index result, the overall satisfaction of the beneficiaries toward the quality of the sugar was 72.75%, but the edible oils were 43.94%. This implies that beneficiaries were satisfied with the quality of the sugar but dissatisfied with the quality of the cooking oils. Interview result coincide with survey result. Informants explained the quality of both products as follows.

The quality of the sugar was good, but people do not prefer palm oils. Even if there was no tangible evidence, there were rumours that palm oils supplied by subsidies were not good for health. Beneficiaries buy it without satisfying with the quality (source summary of interviews)

**Table 4.2 beneficiaries' satisfaction toward keeping to supply promised schedule**

3. rate your satisfaction level on availability subsidized <b>sugar</b> on time as per scheduled/ punctuality/	Frequency	%	Valid %	Cumulative %
• very dissatisfied	38	10.0	10.0	10.0
• Dissatisfied	216	56.7	56.7	66.7
• Neither satisfied nor dissatisfied	93	24.4	24.4	91.1
• Satisfied	31	8.1	8.1	99.2
• very satisfied	3	.8	.8	100.0
Total	381	100.0	100.0	
4. rate your satisfaction level on availability subsidized <b>cooking oils</b> on time as per scheduled/ punctuality/				
• very dissatisfied	75	19.7	19.7	19.7
• Dissatisfied	193	50.7	50.7	70.3
• Neither satisfied nor dissatisfied	86	22.6	22.6	92.9
• Satisfied	19	5.0	5.0	97.9
• very satisfied	8	2.1	2.1	100.0
Total	381	100.0	100.0	

**Source: computed from survey 2021**

Beneficiaries were asked to rate their satisfaction level on the availability of subsidized sugar and cooking oils supply on time as scheduled. As shown in table 4.2, among the beneficiaries 56.7% rated they were dissatisfied with the availability of the sugar as scheduled. Other respondents, 10% were very dissatisfied, 24.4% were neither dissatisfied nor satisfied, 8.1% were satisfied 0.8% were very satisfied with the availability of the sugar as scheduled time of sugar supply. In the case of cooking oils, 50.7% were dissatisfied, 22.6% were neither satisfied nor dissatisfied, 19.7% were very dissatisfied, 5% were satisfied, and 2.1% were very satisfied. The satisfaction index result shows that the overall satisfaction of the beneficiaries toward timing to sugar supply was 46.61%, while the cooking oils was 43.83%. This implies beneficiaries were dissatisfied with both products on the availability of the supplies as scheduled time.

From the interview, it was also learned that the supply of both products was not followed the schedule. Besides, a weak communication system was causing the beneficiaries to miss to get their monthly quota. Informants complain that the availability of subsidized sugar and cooking oils was not properly communicated to the beneficiaries. Those who have a connection with the distributors had more access to the information than others. Those who heard lately do not get their quota. Because within one to two days, the supply become over.

Table 4.3 **beneficiaries' satisfaction toward subsidies quota allotment techniques**

5. Rate your satisfaction with the subsidized <b>sugar</b> quota's and its sufficiency for your monthly demand	Frequen cy	Percent age	Valid Percent	Cumulati ve Percent
• very dissatisfied	32	8.4	8.4	8.4
• Dissatisfied	224	58.8	58.8	67.2
• Neither satisfied nor dissatisfied	83	21.8	21.8	89.0
• Satisfied	35	9.2	9.2	98.2
• very satisfied	7	1.8	1.8	100.0
Total	381	100.0	100.0	
6. Rate your satisfaction with the subsidized <b>cooking oils</b> quota's & its sufficiency for your monthly demand				
• very dissatisfied	70	18.4	18.4	18.4
• Dissatisfied	207	54.3	54.3	72.7
• Neither satisfied nor dissatisfied	50	13.1	13.1	85.8
• Satisfied	39	10.2	10.2	96.1
• very satisfied	15	3.9	3.9	100.0
Total	381	100.0	100.0	

Source: computed from survey 2021

Another key variable that was included in the assessment was the sufficiency of the allocated quota for household demand per month. As presented in table 4.3, among the survey participants, 58.8% beneficiaries were dissatisfied with the sugar quota allotted per month for each household. Others 21.8% were neither dissatisfied nor satisfied, 9.2% were satisfied, 8.4% were very dissatisfied, and 1.8% were very satisfied. Among the respondents toward the cooking oils, 54.3% were dissatisfied, 18.4% were very dissatisfied, 13.1% were neither dissatisfied nor satisfied, 10.2% were satisfied, and 3.9% were very satisfied with allotment of subsidies quota.

Overall satisfaction with the sugar was 47.45%, while the cooking oils was 45.41% toward subsidized quota techniques. This implies that beneficiaries of the subsidized cooking oils and sugar quota per month were dissatisfied. The summary from the interview data also coincides with the survey result. Summary of informants views described as follows.

Regardless of the size of family members, all households have the same quota. Bachelor, two, three, four or even those with seven family members have the same amount of quota. Consumption depends on the number of consumers. Those households who have a small size are more benefit from the quota than the large family size. Those who have larger family members finish within few days, but for those who have few family sizes use up to the next round of the arrival of the subsidy.

The informants feeling indicate that the same quota for all household approaches did not consider the size of the household members. Obviously, in urban areas, these two goods are becoming the daily available in the food menu. The number of consumers affects the rate of consumption. Thus, beneficiaries were informing less attention given techniques in the subsidized goods distribution.



**Table 4.4 beneficiaries' satisfaction toward retail price change**

7. Rate your satisfaction on subsidized <b>sugar</b> price change in the last ten years	Frequency	Percentage	Valid Percent	Cumulative Percent
• very dissatisfied	5	1.3	1.3	1.3
• Dissatisfied	19	5.0	5.0	6.3
• Neither satisfied nor dissatisfied	23	6.0	6.0	12.3
• Satisfied	255	66.9	66.9	79.3
• very satisfied	79	20.7	20.7	100.0
<b>Total</b>	<b>381</b>	<b>100.0</b>	<b>100.0</b>	
8. Rate your satisfaction on subsidized <b>cooking oils</b> price change in the last ten years				
• very dissatisfied	32	8.4	8.4	8.4
• Dissatisfied	46	12.1	12.1	20.5
• Neither satisfied nor dissatisfied	65	17.1	17.1	37.5
• Satisfied	209	54.9	54.9	92.4
• very satisfied	29	7.6	7.6	100.0
<b>Total</b>	<b>381</b>	<b>100.0</b>	<b>100.0</b>	

Sources: computed from survey 2021

Beneficiaries were asked to rate their satisfaction level toward the subsidized sugar and cooking oils retail prices changes in the last ten years. As shown in table 4.4, from those who participated in the survey, 66.9% were satisfied, 20.7% were very satisfied, 6.0% were neither satisfied nor dissatisfied, 5% were dissatisfied, and 1.3% were very dissatisfied with the subsidized sugar retail price changes. In the case of the edible oils, 54.9% were satisfied, 17.1% were neither dissatisfied nor satisfied, 12.1% were dissatisfied, 8.4% were very dissatisfied, and 7.6% were very satisfied. Overall satisfaction with the sugar was 80.16%, and edible oils were 68.24% toward retail price change in the last ten years. overall satisfaction toward sugar was 80.15% while with cooking oils it was 68.24%. This implies beneficiaries were satisfied with the retail price changes on both products

**4.3. Chi-square analysis on beneficiaries' satisfaction variation by income and household size difference**

Like other cities in Ethiopia, subsidized sugar and edible oils were provided for all without consideration of the income and household size difference in Hawassa. Under this topic, it was analyzed whether there was a variation of beneficiaries' satisfaction by the difference of size of household members and income level.

- Does income variation determine the overall level of satisfaction of the beneficiaries toward subsidized sugar and cooking oils?

**Table 4.5 Chi-square tests result**

<b>Subsidized sugar</b>	Value	df	Asymp. Sig. (2-sided)
• Pearson Chi-Square	11.139 <sup>a1</sup>	8	.194
• Likelihood Ratio	10.476	8	.233
• Linear-by-Linear Association	5.142	1	.023
• N of Valid Cases	381		
<b>Subsidized edible oils</b>			

• Pearson Chi-Square	18.410 <sup>a2</sup>	4	.001
• Likelihood Ratio	18.148	4	.001
• Linear-by-Linear Association	9.194	1	.002
• N of Valid Cases	381		

- a<sup>1</sup>. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.18.
- a<sup>2</sup>. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.85.

Source: computed from survey 2021

As presented in table 4.5, the Pearson chi-square result shows that the statistics value of sugar was 11.139. The corresponding p-value of the test statistic is  $P = .194$ . The statistics value of edible oils was 18.410. No cells had an expected count less than 5 in both cases, so this assumption was met.

Since the p-value of sugar was greater than the significance level  $\alpha = 0.05$ , there was no significant evidence to reject the null hypothesis. Therefore there was no association between income variation and overall satisfaction variation toward subsidized sugar. However, in the case of cooking oils, the p-value was less than the significance level  $\alpha = 0.05$ . Therefore the null hypothesis was rejected. This implies the income variation determines the beneficiaries' overall satisfaction toward subsidized cooking oils.

- Does household member size variation determine satisfaction toward subsidized sugar and cooking oils quota per month?

**Table 4.6 Chi-square test result**

Subsidized sugar	Value	Df	Asymp. Sig. (2-sided)
• Pearson Chi-Square	36.475 <sup>a1</sup>	8	.000
• Likelihood Ratio	35.784	8	.000
• Linear-by-Linear Association	1.152	1	.283
• N of Valid Cases	381		
Subsidized Edible oils			
• Pearson Chi-Square	41.273 <sup>a2</sup>	8	.000
• Likelihood Ratio	38.451	8	.000
• Linear-by-Linear Association	13.838	1	.000
• N of Valid Cases	381		

- a<sup>1</sup>. 0 cells (0.0%) of sugar have an expected count less than 5. The minimum expected count is 8.19.
- a<sup>2</sup>. 0 cells (0.0%) have an expected count less than 5. The minimum expected count is 6.93.

As presented in the table 4.6, Pearson chi-square result shows that edible oils' statistics value is 41.273. The corresponding p-value of the test statistic was  $P = .000$ . The statistics value of sugar was 36.475 and corresponding p-value  $P = .000$ . No cells had an expected count of less than five on both products, so this assumption was met.

Since the p-value of both products were less than the significance level  $\alpha = 0.05$ , therefore both null hypotheses were rejected. Therefore there was an association between the households size and the satisfaction status toward the subsidized edible oils' and sugar quota allotment per month.

## Conclusion

This study assessed the beneficiaries satisfaction toward subsidized sugar and cooking oils in Hawassa. The result show that beneficiaries were satisfied with the quality of sugar but not with the quality of the cooking oils. They were satisfied with both goods' retail prices change in the last ten years. On contrast beneficiaries were dissatisfied with criteria that used on quota allocation techniques, availability of the supplies as it was promised to provide, availability of information about the supplies, and sufficiency of quota for monthly consumption.

In addition, the variation of the household size determines the beneficiaries' satisfaction toward the allocated quota on both products. Regarding income variation, there was no association between satisfaction and income variation on sugar, but the variation of the income level was affecting the satisfaction of the subsidized cooking oils.

## Recommendation

- Hawassa city administration should revise the subsidized sugar and cooking oils quota allotment techniques to make fairness of the consumption. Instead of four kg sugar and five-litre for one household, it is better to consider the size of the household members.
- Supplies should provide quality cooking oils to increase the satisfaction of the beneficiaries.
- Suppliers or retailers should improve communication system to inform the availability of the subsidies and create transparently, or retailers should keep each household quota until beneficiaries have informed and arrive to the shops.
- Retailer shops and agents should have a clear scheduled program to transfer the subsidized sugar and cooking oil to end-users.

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## Appendix

<b>informants' sex</b>	Freque ncy	Percentag e	Valid Percentage	Cumulative Percentage
Male	97	25.5	25.5	25.5
Female	284	74.5	74.5	100.0
Total	381	100.0	100.0	
<b>informants' age</b>	Freque ncy	Percentag e	Valid Percent	Cumulative Percent
20-30	83	21.8	21.8	21.8
30-40	212	55.6	55.6	77.4
40-50	76	20.0	20.0	97.4
50-60	9	2.4	2.4	99.8
Above 60	1	0.2	0.2	100.00
total	381	100.0	100.0	

<b>informants' living sub-city</b>	<b>Frequenc y</b>	<b>Percentag e</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
Tabor	91	23.9	23.9	23.9
Meneharia	40	10.5	10.5	34.4
Addis Ketema	24	6.3	6.3	40.7
Misirraq	35	9.2	9.2	49.9
Hawela Tula	129	33.9	33.9	83.7
Mehal Ketema	21	5.5	5.5	89.2
Hayk dar	23	6.0	6.0	95.3
Bahil Aderash	18	4.7	4.7	100.0
Total	381	100.0	100.0	
<b>size of household member</b>	<b>Frequenc y</b>	<b>Percentag e</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
less than or equal to 3	80	21.0	21.0	21.0
between 4 and 6	201	52.8	52.8	73.8
7 and above	100	26.2	26.2	100.0
Total	381	100.0	100.0	
<b>income range of household per month</b>	<b>Frequenc y</b>	<b>Percentag e</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
Less than 3,500 birr	201	52.8	52.8	52.8
between 3,500-7,500 birr	151	39.6	39.6	92.4
above 7,500 birr	29	7.6	7.6	100.0
Total	381	100.0	100.0	
<b>informants' education level</b>	<b>Frequenc y</b>	<b>Percentag e</b>	<b>Valid Percentage</b>	<b>Cumulative Percent</b>
not attend school	16	4.2	4.2	4.2
primary	32	8.4	8.4	12.6
high school	44	11.5	11.5	24.1
certificate	75	19.7	19.7	43.8
diploma	87	22.8	22.8	66.7
BA/BSc	113	29.7	29.7	96.3
MA/MSc	12	3.1	3.1	99.5
PhD and above	2	.5	.5	100.0
Total	381	100.0	100.0	