IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

An Overview Of Public Distribution System In District Sirmour Of Himachal Pradesh

Ritu Verma[1] and Shanta Kumari[2]

Ph.D. Scholar [1], Associate Professor[2], Department of Economics, Eternal University, Baru Sahib, Sirmour-173101, Himachal Pradesh, India

Abstract: The present study focused on overview of the Public Distribution System in the Sirmour District of Himachal Pradesh, which is one of the major food security schemes of India. It plays vital role to reduce poverty, food insecurity and malnutrition. The study is based on secondary data for the year 2016 to 2020. The data analyzed through percentages& annual growth rate and presented through tabular form& bar graph. The results of the study shown that allocation, distribution and subsidy of all essential food items, wheat flour witnessed the highest increase and salt registered very little variability. While in expenditure, edible oils had shown the highest expenditure and lowest was on salt from 2016 to 2020. The study has shown that there is a gap between allocation and distribution of food items which is due to distribution of food items in advance. Similarly, the gap between expenditure and subsidy has been accounted by multiple costs involved in it.

Keywords: Allocation, distribution, expenditure, subsidy, poverty, beneficiaries

I. INTRODUCTION:

The Public Distribution System (PDS) is one the important programme of government of India to tackle poverty and malnutrition. It provides food security to the nation through allocating subsidized food to India's poor at affordable price. The main objective of PDS is to decline the poverty and inequality by ensuring food as well as nutritional security for the poor. Over the years, administration of the food economy in India through the distribution system has become a considerable aspect of Government's policy which is governed by Ministry of Food Consumer Affairs and Public Distribution. The Central and State government are responsible to hand over the subsidized food items to the poor and deprived people in India. PDS ensures nation's food and nutrition security through stabilizing prices of food and creating food availability to the needy people at reasonable prices. At the same time giving hands in supplying the food from production centre to the consumption centre of the country (Radhakrishna, 1996). The concerns negatively the food trends, safety and PDS. Because no concrete steps were taken to remove food insecurity, even if surplus was found in food grains from 1962 to 1992 the poor could not take direct benefit of it unless it was linked with food distribution mechanism (Dutta and Ramaswami, 2001). PDS contribute to India as 15 per cent of total availability of India`s wheat and rice (Kumar, 2013). Improvement in the condition of poor people by PDS because even after India has achieved food self-sufficiency still poverty remained a major challenge (Anupma, 2015). Positive and negative aspects of TPDS and also explained about its effectiveness. Through this scheme, 4.09 core BPL, 2.43 crore AAY and 11.52 crore APL families are protected with foodgrains. Its main goals are to eliminate serious irregularities like food insecurity and malnutrition prevalent in the society. Additionally, it was investigated that beneficiaries get only 27 per cent share of the subsidy given by the govt. (Ambekar et al., 2015). Managing the food chain, because of it's direct impacts on food security related programs. It is one of the largest poverty alleviation programs in the world. PDS covered 242 million families and distributed 59.76 million tonnes of foodgrains to people in 2012-13

(Bohta, 2017). Weaknesses and strengths in the food supply chain of PDS. Through identification and removal of the weaknesses the system can be made more efficient and effective (Anjani, 2017). Highest utilization of foodgrains through PDS was in urban areas of Tamil Nadu in 2004 to 2011, while Kerala, Himachal Pradesh and Chhattisgarh also performed well (Prasad et al., 2020). The govt. of Chhattisgarh took some concrete steps in 2000 for better performance of the PDS such as increasing the number of FPSs and quantity of subsidy as well as increasing the procurement of rice. Due to which the average consumption increased by more than 400 per cent. As a result, protein consumption in households increased by 17.8per cent. Focused his attention on food security programs and found that because even today India is suffering from serious problems like starvation, malnutrition and food insecurity etc. To overcome all these problems, many programs were initiated by the govt. of India like PDS, RPDS, TPDS and NFSA etc. (Aroa et al., 2021). To maintain the effectiveness of TPDS the government used computerized system in the food distribution, allocation, off-take and delivery etc. Similar to other states, Himachal Pradesh has also implemented the PDS to provide social protection by ensuring food security for needy and disadvantaged people. Since 1991 to 2011, there is a about fourfold turn down in poverty from 36.8 per cent to 8.1 per cent in Himachal Pradesh, after the implementation of different government welfare programs (Anonymous, 2011). Therefore, keeping in view the above scenario the present study focused to know the status of contribution of PDS in the district Sirmour of Himachal Pradesh through trends in allocation, distribution, expenditure, subsidy, number of fair price shops and no. of beneficiaries. After screening the review of literature, researcher came to know that earlier studies were focused on allocation, distribution & subsidy of few food items distributed by FPSs. Whereas, the present study focused on allocation, distribution & subsidy of the all food items given by FPSs and also studied the status of no. of fair price shops& no. of beneficiaries in the study area.

II. OBJECTIVE OF THE STUDY:

This paper is an attempt to examine the trend of beneficiaries, allocation, distribution, expenditure and subsidy of food items in Sirmour district of H.P.

III. METHODOLOGY OF THE STUDY:

The present study is based on secondary data. The data has been taken for the year 2016 to 2020 from Himachal Pradesh State Civil Supplies Corporation, Nahan and e PDS Transparency Portal, Himachal Pradesh. The data regarding the no. of beneficiaries was not available for the year 2016 to 2017 on the portal. The data analysed by using percentages & Average annual growth rate, average annual growth rate and presented through tabular form. In the study area only the food items like rice, wheat flour, pulses, sugar, salt and edible oil are provided through public distribution system. Therefore, the trend of no. of beneficiaries, no. of FPSs, allocation, distribution, expenditure and subsidy has been worked out to meet the objective of the study. The following formulas were applied to analyse this objective.

i) Annual growth rate = $\frac{\text{Current year figure} - \text{base year figure}}{\text{Base year figure}} \text{X } 100$

ii) Average annual growth rate = $\frac{\text{Annual growth rate}}{\text{No.of observation}}$

iii)Coverage per outlet = $\frac{\text{Total popultion}}{\text{Total outlets}}$

iv)Per household allocation of PDS food = $\frac{\text{Total allocated PDS food}}{\text{Total households}}$

v)Per household utilization of PDS food = $\frac{\text{Total utilized PDS food}}{\text{Total households}}$

IV RESULTS AND DISCUSSION:

Trends of beneficiaries covered under PDS in district Sirmour is presented in Table 4.1 and Figure 4.1. It is evident from the table that out of the total beneficiaries majority of analysed and presented through number of beneficiaries, number of FPSs, allocation and distribution of PDS commodities, subsidy and expenditure on essential food items. cardholders were APL from 2018 to 2021 (3.01 lakh to 3.30 lakh) followed by BPL (1.15 lakh to 1.25 lakh) and AAY (0.70 lakh to 0.74 lakh). The similar trends were reported by Narwade and Chandanshiv,

Table 4.1: Trends of beneficiaries covered under public distribution system in district Sirmour

(Lakh Number)

Year	APL	BPL	AAY	Total
2018	3.01 (61.94)	1.15 (23.66)	0.70 (14.40)	4.86 (100.00)
2019	3.19 (63.93)	1.30 (26.05)	0.50 (10.02)	4.99 (100.00)
2020	3.31 (64.65)	1.33 (25.98)	0.48 (9.37)	5.12 (100.00)
2021	3.30 (62.38)	1.25 (23.63)	0.74 (13.99)	5.29 (100.00)

Source: Authors' calculation based on the data compiled from ePDS Transparency Portal, Himachal Pradesh.
Note: Figures in parentheses are percentages of respective totals.
APL-Above Poverty Line, BPL- Below Poverty Line, and AAY-Antyodaya Anna Yojana

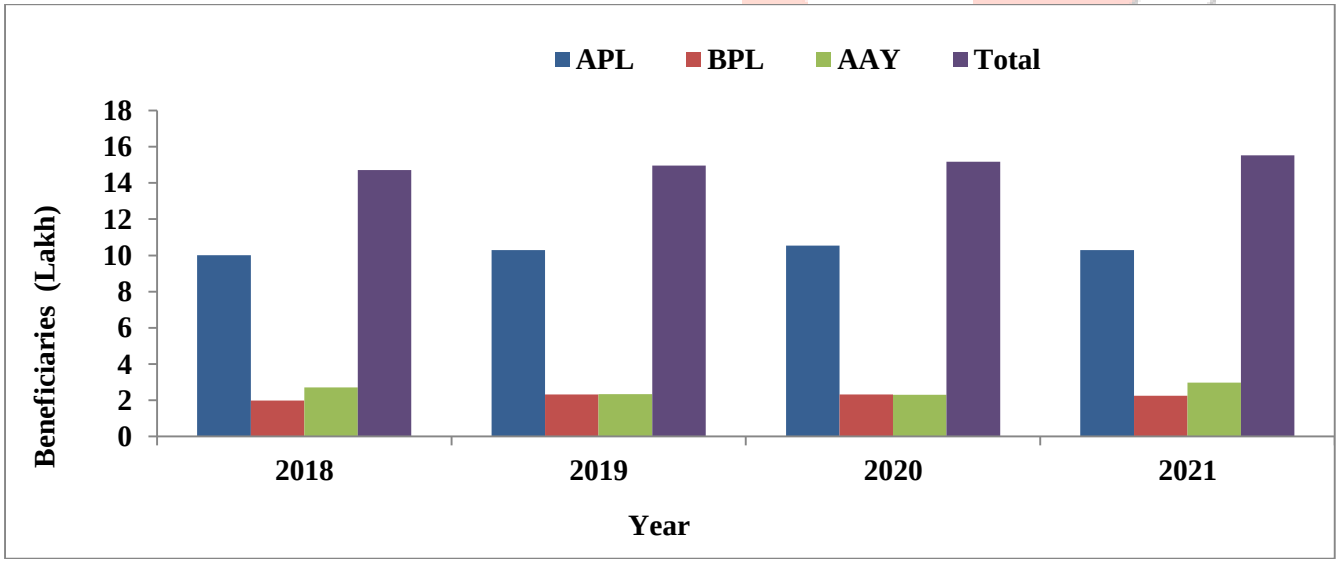

Figure: 4.1: Trends of beneficiaries covered under public distribution system in district Sirmour

2014; Gupta and Singh, 2016; Ghabru et al., 2017 and Beura and Mishra, 2022. The result shows that number of beneficiaries in APL, BPL and AAY categories were fluctuating from 2018 to 2021. Whereas, total number of beneficiaries continuously increased from 4.86 lakh to 5.29 lakh throughout the study period at all level. The main reason of fluctuation in the number of beneficiaries could be due to the increase in size of family members and migration of the people from one place to other place and vice-versa.

Table 4.2: Trends in number of fair price shops in district Sirmour

(Number)

Year	Rural	Urban	Total
2016	312 (92.04)	27 (7.96)	339 (100.00)
2017	312 (92.04)	27 (7.96)	339 (100.00)
2018	312 (92.04)	27 (7.96)	339 (100.00)
2019	312 (92.04)	27 (7.96)	339 (100.00)
2020	312 (92.04)	27 (7.96)	339 (100.00)
2021	314 (92.08)	27 (7.92)	341 (100.000

Source: Authors' calculation based on the data compiled from Himachal Pradesh State Civil Supplies Corporation (HPSCSC) Ltd, Nahan, 2021.

Note: Figures in parentheses are percentages of respective totals.

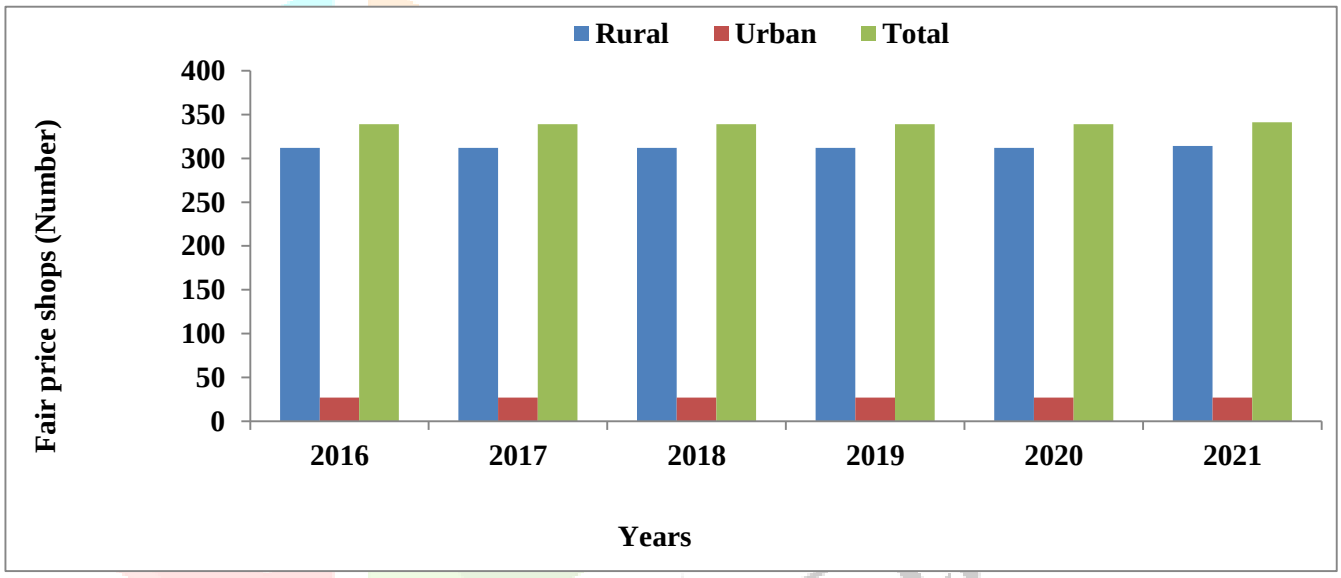

Figure 4.2: Trends in number of fair price shops in district Sirmour

Trends in number of FPSs during 2016 to 2021 are given in Table 4.2 and Figure 4.2. As shown in the table that FPSs were almost stagnant throughout the given period. Whereas in rural area, FPSs were about 11 times more than the urban area largely due to the fact that the district has 89.21 per cent of total population living in the rural areas. Table reveals that FPSs were found stagnant until 2020 and then their number increased from 339 to 341 in 2021. This indicates that the Government should open more number of FPSs in the cities to have the access for urban area poor.

Table 4.3 reveals that coverage of population per outlet of FPSs. The population had divided into two parts such as rural and urban population. At state level, 61.76 lakh persons (89.97%) live in rural areas and 6.88 lakh people (10.03%) live in urban areas. While at district level, out of 5.29 lakh persons, 89.21 per cent reside in rural areas and remaining 10.79 per cent persons reside in urban areas. The results indicate that in state and district most of persons reside in rural areas. FPS outlets have been classified into two categories viz, rural and urban. It could be seen from the table that at state level, majority (92.51%) of FPS outlets set up in rural areas in Himachal Pradesh and remaining (7.49%) in urban areas.

Similarly in case of district level, most of the FPS outlets (92.08%) located in rural areas in Sirmour and rest of 7.92 per cent established in urban area. Therefore, results indicate that most of the FPS outlets located in rural area as Sirmour district has a percentage of rural population almost equal to the state. In state level, analysis also shows that per rural FPS outlet covered 1315 persons and urban FPS outlet covered 1812 people. Similarly, in case of district level, per rural FPS outlet covered 1507 persons while per capita urban FPS outlet covered more (2117 person). It could be clear from the table that urban FPS outlets covered more population.

Table 4.3: Coverage of population per outlet of fair price shops for the year 2021

(Number)

Sr. No.	Particulars	H.P.	Sirmour
I	Population		
1	Rural	6176050 (89.97)	472690 (89.21)
2	Urban	688552 (10.03)	57165 (10.79)
Total		6864602 (100.00)	529855 (100.00)
II	FPS outlets		
1	Rural	4695 (92.51)	314 (92.08)
2	Urban	380 (7.49)	27 (7.92)
Total		5075 (100.00)	341 (100.00)
Coverage per outlet in rural area		1315	1505
Coverage per outlet in urban area		1812	2117
Total coverage per outlet		1353	1554

Source: Authors' calculation based on the data compiled from Himachal Pradesh State Civil Supplies Corporation (HPSCSC) Ltd, Nahan and Statistical Abstract of H.P., 2021

Note: Figures in parentheses are percentages of respective totals

The perusal of Table 4.4 and Figure 4.3 presents trends in allocation of essential food through PDS in district Sirmour from 2016 to 2020. It could be seen from the table that the highest (43.31) annual growth rate (AGR) in allocation of rice was recorded in the year 2018. The rice allotment was more (25555.99 tonnes) in the year 2020 in comparison to other periods. Whereas, it was less in 2017 by 15507.81 tonnes. The average annual growth rate (AAGR) of allotment of rice was 5.76 from 2016-20 years. Similarly, the allotment of wheat flour was highest in the year 2020 with 31395.72 tonnes and the AGR of wheat flour was the highest (34.98) in the year 2018. While AAGR was 12.41. In case of pulses, its allotment was the highest in the year 2018 with 5487.01 tonnes and the lowest was in the year 2017 with 2889.89 tonnes. The highest (93.09) AGR was in 2018 and the lowest (-7.43) was in 2017. The AAGR had shown a positive trend (15.15) in the allocation of pulses from 2016 to 2020.

For sugar, maximum (7150.15 tonnes) allocation was in the year of 2016 and minimum (4267.65 tonnes) was in the year of 2017. The AGR of sugar was the highest (44.11) in 2018 and the lowest (-40.31) in 2017. The AAGR had shown a negative trend (-6.36) in allocation of sugar from 2016 to 2020. The next food item allocated by the PDS was salt. Its salt allotment was very high in 2020 by 1325.58 tonnes and very low in 2016 by 942.74 tonnes. The highest (32.72) AGR of salt was found in 2019 and the lowest (-12.77) was found in 2018. The AAGR of salt was positive (8.12) from 2016 to 2020. The last food item allotted by PDS was edible oils. The highest (3115.02 tonnes) oils allotment was found in 2020 and the lowest (1552.47 tonnes) in 2017. The highest AGR was found during the year 2018 with 61.68 and the least was in the year 2017 with -11.54. The AAGR also revealed that there was positive (15.50) growth rate in the allocation of edible oils from 2016 to 2020. It is concluded

Table 4.4: Trends in allocation of essential food items through public distribution system in district Sirmour

(Tonnes)

Sr. No.		Food items/AGR	Year					AAGR
			2016	2017	2018	2019	2020	
I	a	Rice	19843.98	15507.81	22223.65	21326.26	25555.99	-
		AGR	-	-21.85	43.31	-40.37	19.83	5.76
II	b	Wheat flour	19372.39	20473.58	27634.64	30906.79	31397.72	-
		AGR	-	5.68	34.98	11.84	1.58	12.41
III	c	Pulses	3121.84	2889.89	5580.04	4521.22	5487.01	-
		AGR	-	-7.43	93.09	-18.96	21.36	15.15
IV	d	Sugar	7150.15	4267.65	6150.23	4923.98	4877.49	-
		AGR	-	-40.31	44.11	-19.94	-0.94	-6.36
V	e	Salt	942.74	1090.89	951.60	1262.94	1325.58	-
		AGR	-	15.71	-12.77	32.72	4.96	8.12
VI	f	Edible oils	1754.90	1552.47	2510.10	2127.87	3115.02	-
		AGR	-	-11.54	61.68	-15.23	46.39	15.50

Source: Authors' calculation based on the data compiled from Himachal Pradesh State Civil Supplies Corporation (HPSCSC) Ltd, Nahan, 2021.

Note: Figures in parentheses are percentages of respective totals.
AGR-Annual Growth Rate and AAGR-Average Annual Growth Rate

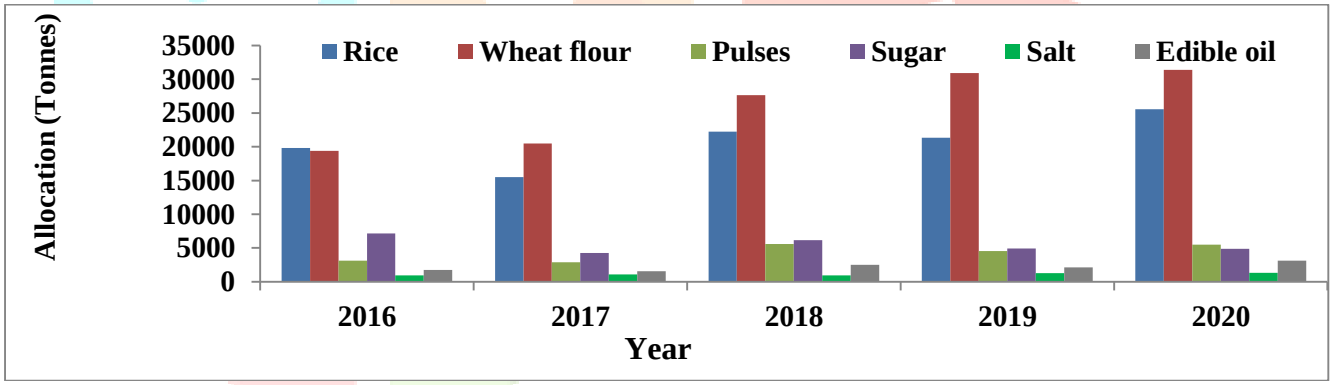

Figure 4.3: Trends in allocation of essential food items through public distribution system in district Sirmour

from 2016 to 2020. It is concluded from the table that during study period allocation of the wheat flour had witnessed the highest increase i.e. from 19372.39 tonnes to 31395.72 tonnes. Total issue of salt had shown increase (942.74 tonnes to 1325.58 tonnes). Table shows that wheat flour was the most essential food item followed by rice, sugar, pulses, edible oils and salt. Therefore, the results indicate that allocation and annual growth rate of essential food items was fluctuating from 2016 to 2020.

Trends in distribution of essential food through PDS in district Sirmour from 2016 to 2020 have been shown in Table 4.5 and Figure 4.4 It is clear from the table that the highest (35.92) AGR in distribution of rice was recorded in the year 2020. The rice distribution was very high in the year 2020 with 16375.38 tonnes as compared to other periods. The rice distribution was very less in 2017 by 12301.31. The AAGR of distributed rice was 1.23 from 2016-20 years. Further, the distributed wheat flour was highest in the year 2020 with 22806.27 tonnes and the AGR was highest (21.44) in the year 2020. It AAGR was 5.59. In case of pulses, its distribution was the highest in the year 2018 with 3931.23 tonnes and the lowest was in the year 2017 with 2319.89 tonnes. The highest (69.45) AGR was in 2018 and the lowest (-20.87) in 2017. The AAGR had shown a positive trend (4.66) in the distribution of pulses from 2016 to 2020.

In case of sugar, maximum (3829.39 tonnes) distribution was on in the year of 2016 and minimum (2566.73 tonnes) in the year of 2017. The AGR of sugar was the highest (26.60) in 2018 and the lowest (-32.97) in 2017. Its AAGR was revealed a negative trend (-3.13) in distribution of sugar from 2016 to 2020.

The next food item was salt. The salt distribution was very high in 2020 by 1029.45 tonnes and very low in 2016 by 841.75 tonnes. The highest (20.51) AGR for salt was found in 2017 and the lowest (-16.23) was found in 2018. The AAGR for salt had shown positive trend (4.46) from 2016 to 2020.

The last food item distributed by PDS was edible oils. The highest (2011.05 tonnes) oils distribution was found in 2020 and the lowest (1504.09 tonnes) in 2017. The highest AGR was found during the year 2018 with 12.55 and the least was revealed in the year 2017 with -10.24. The AAGR also revealed that there was positive trend (4.01) in the distribution of edible oils from 2016 to 2020.

In all essential food items, the share of wheat flour distribution was the highest (17826.52 tonnes to 22806.27 tonnes) and salt was the lowest (841.75 tonnes to 1029.45 tonnes) throughout the time period. The table shows that wheat flour was demanded more followed by rice, sugar, pulses, edible oils and salt. Therefore, the results indicate that distribution and annual growth rate of essential food items was not stagnate throughout the period.

Table 4.5: Trends in issue distribution of essential food items through public distribution system in district Sirmour

(Tonnes)

Sr. No.		Food items/ AGR	Year					AAGR
			2016	2017	2018	2019	2020	
I	a	Rice	15426.82	12301.31	11761.18	12047.45	16375.38	-
		AGR	-	-20.26	-4.39	2.43	35.92	1.23
II	b	Wheat flour	17826.52	18646.76	18172.89	18779.56	22806.27	-
		AGR	-	4.61	-2.54	3.34	21.44	5.59
III	c	Pulses	2931.69	2319.89	3931.23	3516.54	3615.35	-
		AGR	-	-20.87	69.45	-10.55	2.81	4.66
IV	d	Sugar	3829.39	2566.73	3249.53	3209.99	3230.85	-
		AGR	-	-32.97	26.60	-1.22	0.65	-3.13
V	e	Salt	841.75	1014.36	849.77	971.19	1029.45	-
		AGR	-	20.51	-16.23	14.29	5.99	4.46
VI	f	Edible oils	1675.73	1504.09	1692.87	1874.85	2011.05	-
		AGR	-	-10.24	12.55	10.75	7.26	4.01

Source: Authors' calculation based on the data compiled from Himachal Pradesh State Civil Supplies Corporation (HPSCSC) Ltd, Nahan, 2021.

Note: Figures in parentheses are percentages of respective totals.
AGR-Annual Growth Rate and AAGR-Average Annual Growth Rate

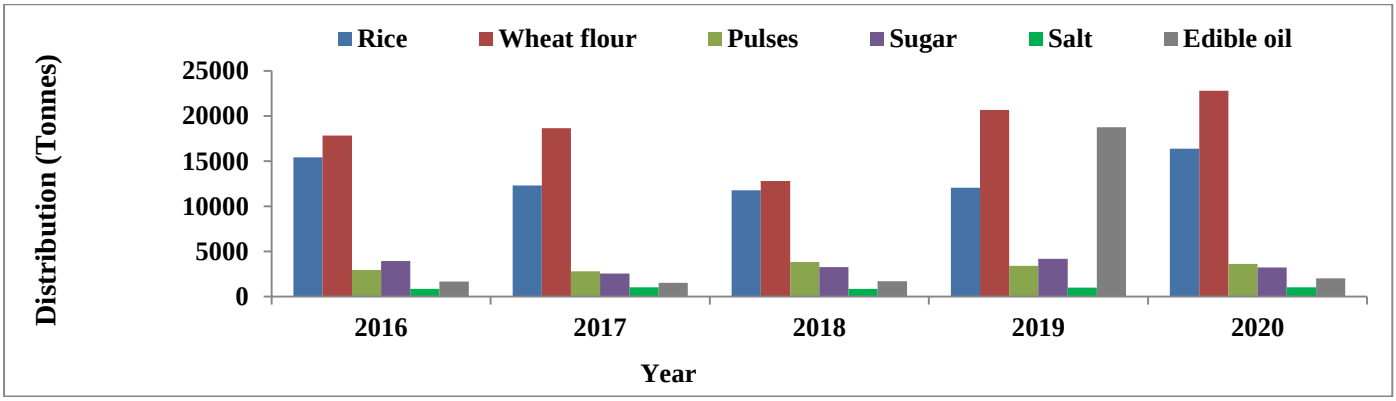

Figure 4.4: Trends in distribution of essential food items to beneficiary through public distribution system in district Sirmour

Table 4.6 presents per capita allocation and utilization of essential food items through PDS in Sirmour from 2016 to 2020. In the study area, the per capita allocation of essential food items allocated by Government to State Civil Supplies Corporation and its per capita utilization by the beneficiaries is elaborated as under.

Table 4.6: Allocation and utilization of essential items through public distribution system in district Sirmour

(Per households/MT)

Sr. No.		Food items	Year				
			2016	2017	2018	2019	2020
I	A	Rice					
	A	Allocation	0.20 (100)	0.16 (100)	0.12 (100)	0.18 (100)	0.21 (100)
	b	Utilization	0.16 (80.00)	0.12 (75.00)	0.06 (50.00)	0.10 (55.56)	0.13 (61.90)
	c	Over utilization (+) or under utilization (-)	+0.04 (20.00)	+0.04 (25.00)	+0.06 (50.00)	+0.08 (44.44)	+0.08 (38.10)
II	B	Wheat flour					
	a	Allocation	0.20 (100)	0.21 (100)	0.15 (100)	0.26 (100)	0.26 (100)
	b	Utilization	0.18 (90.00)	0.19 (90.48)	0.10 (66.67)	0.16 (61.54)	0.19 (73.08)
	c	Over utilization (+) or under utilization (-)	+0.02 (10.00)	+0.02 (9.52)	+0.05 (33.33)	+0.10 (38.46)	+0.07 (26.92)
III	C	Pulses					
	a	Allocation	0.04 (100)	0.04 (100)	0.05 (100)	0.04 (100)	0.05 (100)
	b	Utilization	0.03 (75.00)	0.03 (75.00)	0.04 (80.00)	0.03 (75.00)	0.04 (80.00)
	c	Over utilization (+) or under utilization (-)	+0.01 (25.00)	+0.01 (25.00)	+0.01 (20.00)	+0.01 (25.00)	+0.01 (20.00)
IV	D	Sugar					
	a	Allocation	0.04 (100)	0.03 (100)	0.03 (100)	0.04 (100)	0.06 (100)
	b	Utilization	0.03 (75.00)	0.02 (66.67)	0.02 (66.67)	0.03 (75.00)	0.04 (66.67)
	c	Over utilization (+) or under utilization (-)	+0.01 (25.00)	+0.01 (33.33)	+0.01 (33.33)	+0.01 (25.00)	+0.02 (33.33)
V	E	Salt					
	a	Allocation	0.03 (100)	0.02 (100)	0.02 (100)	0.03 (100)	0.02 (100)
	b	Utilization	0.01 (33.33)	0.01 (50.00)	0.01 (50.00)	0.02 (66.67)	0.01 (50.00)
	c	Over utilization (+) or under utilization (-)	+0.02 (66.67)	+0.01 (50.00)	+0.01 (50.00)	+0.01 (33.33)	+0.01 (50.00)
VI	F	Edible oils					
	a	Allocation	0.03 (100)	0.02 (100)	0.03 (100)	0.02 (100)	0.03 (100)
	b	Utilization	0.02 (66.67)	0.01 (50.00)	0.02 (66.67)	0.01 (50.00)	0.02 (66.67)
	c	Over utilization (+) or under utilization (-)	+0.01 (33.33)	+0.01 (50.00)	+0.01 (33.33)	+0.01 (50.00)	+0.01 (33.33)

Source: Authors' calculation based on the data compiled from Himachal Pradesh State Civil Supplies Corporation (HPSCSC) Ltd, Nahan,2021.

Note: Figures in parentheses are percentages of respective totals.

For rice, maximum per capita allocation was 0.21 MT in 2020 followed by 0.20 MT in 2016, 0.18 MT in 2019, 0.16 MT in 2017 and 0.12 in 2018. This signifies that per capita utilization of rice quantity was 80 per cent in 2016 followed by 75 per cent in 2017, 61.90 per cent in 2020, 55.56 per cent in 2019 and 50 per cent in 2018. For wheat flour, the highest per capita allocation was 0.26 MT in 2019 & 2020 followed by 0.21 MT in 2017, 0.20 MT in 2016 and 0.15 MT in 2018. This indicates that 90.48 per cent quantity of wheat flour was utilised in 2017 followed by 90 per cent in 2016, 73.78 per cent in 2020, 66.67 per cent in 2018 and 61.54 per cent in 2019. Another item allocated by Government to State Civil Supplies Corporation for their beneficiaries. From the table, it is observed that maximum per capita allocation was 0.05 MT in 2018 & 2020 followed by 0.04 MT in 2016, 2017 and 2019. It means that 80 per cent quantity of allocated pulses was utilized by the beneficiaries in 2018 & 2020 followed by 75 per cent in 2016, 2017 and 2019. Next item distributed by the Government was sugar. The highest per capita allocation was 0.06 MT in 2020 followed by 0.04 MT in 2016 & 2019 and 0.03 MT in 2017 & 2018. It means that 75 per cent quantity of allocated sugar was utilized by the beneficiaries in 2016 & 2019 followed by 66.67 per cent in 2017, 2018 and 2020. For salt, maximum per capita allocation was 0.03 MT in 2016 & 2019 followed by 0.02 MT in 2017, 2018 and 2020. Whereas, 66.67 per cent quantity of allocated salt was utilized by the beneficiaries in 2019 followed by 50 per cent in 2017, 2018 & 2020 and 33.33 per cent in 2016. The last food item allocated by the Government was edible oils. The highest per capita allocation was 0.03 MT in 2016, 2018 & 2020 followed by 0.02 MT in 2017 and 2019. This indicates that maximum utilization of edible oils was 66.67 per cent in 2016, 2018 & 2020 followed by 50 per cent in 2017 and 2019. It could be concluded that per capita utilization of all commodities was lower as compared to per capita allocation. It could be due to availability of food items in advance in Food Civil Supplies Corporation. The significance finding here is that the allocation was more than sufficient as compared to utilisation which indicated sufficiency of the PDS.

Table 4.7 describes the surplus/deficit of allocation and distribution of essential food items distributed through PDS in district Sirmour from 2016 to 2020. In this table, allocated and distributed essential food items taken into consideration to find out the year wise gap in essential food items.

Table 4.7: Surplus/deficit between allocation and distribution of essential food items distributed through PDS in Sirmour

(Tonnes)

Sr. No.	Food items		Year				
			2016	2017	2018	2019	2020
I	**Rice**						
	a	Allocation	19843.98 (100.00)	15507.81 (100.00)	22223.65 (100.00)	21326.26 (100.00)	25555.99 (100.00)
	b	Distribution	15426.82 (77.74)	12301.31 (79.32)	11761.18 (52.92)	12047.45 (56.49)	16375.38 (64.08)
	c	Surplus	4417.16 (22.26)	3206.50 (20.68)	10462.47 (47.08)	9278.81 (43.51)	9180.61 (35.92)
II	**Wheat flour**						
	a	Allocation	19372.39 (100.00)	20473.58 (100.00)	27634.64 (100.00)	30906.79 (100.00)	31395.72 (100.00)
	b	Distribution	17826.52 (92.02)	18646.76 (91.08)	18172.89 (65.76)	18779.56 (60.76)	22806.27 (72.64)
	c	Surplus	1545.87 (7.98)	1826.82 (8.92)	9461.75 (34.24)	12127.23 (39.24)	8589.45 (27.36)
III	**Pulses**						
	a	Allocation	3121.84 (100.00)	2889.89 (100.00)	5580.04 (100.00)	4521.22 (100.00)	5487.01 (100.00)
	b	Distribution	2931.69 (93.91)	2319.89 (80.28)	3931.23 (70.45)	3516.54 (77.78)	3615.35 (65.89)
	c	Surplus	190.15 (6.09)	570.00 (19.72)	1648.81 (29.55)	1004.68 (22.22)	1871.66 (34.11)
	Sugar						

IV	a	Allocation	7150.15 (100.00)	4267.65 (100.00)	6150.23 (100.00)	4923.98 (100.00)	4877.49 (100.00)
	b	Distribution	3829.39 (53.56)	2566.73 (60.14)	3249.53 (52.84)	3209.99 (65.19)	3230.85 (66.24)
	c	Surplus	3320.76 (46.44)	1700.92 (39.86)	2900.70 (47.16)	1713.99 (34.81)	1646.64 (33.76)
V	**Salt**						
	a	Allocation	942.74 (100.00)	1090.89 (100.00)	951.60 (100.00)	1262.94 (100.00)	1325.58 (100.00)
	b	Distribution	841.75 (89.29)	1014.36 (92.98)	849.77 (89.30)	971.19 (76.90)	1029.45 (77.66)
	c	Surplus	100.99 (10.71)	76.53 (7.02)	101.83 (10.70)	291.75 (23.10)	296.13 (22.34)
VI	**Edible oils**						
	a	Allocation	1754.90 (100.00)	1552.47 (100.00)	2510.10 (100.00)	2127.87 (100.00)	3115.02 (100.00)
	b	Distribution	1675.73 (95.49)	1504.09 (96.88)	1692.87 (67.44)	1874.85 (88.11)	2011.05 (64.56)
	c	Surplus	79.17 (4.51)	48.38 (3.12)	817.23 (32.56)	253.02 (11.89)	1103.97 (35.44)

Source: Authors' calculation based on the data compiled from Himachal Pradesh State Civil Supplies Corporation (HPSCSC)Ltd, Nahan,2021.

Note: Figures in parentheses are percentages of respective totals.

For rice, maximum surplus between allocation and distribution was 47.08 per cent in 2018 followed by 43.51 per cent in 2019, 35.25 per cent in 2020, 22.26 per cent in 2016 and 20.68 per cent in 2017. This signifies that distribution of rice was 79.32 per cent in 2017 followed by 77.74 per cent in 2016, 64.08 per cent in 2020, 56.49 cent in 2019 and 52.92 per cent in 2018.

For wheat flour, the highest surplus between allocation and distribution was 39.36 per cent in 2019 followed by 34.24 per cent in 2018, 27.36 per cent in 2020, 10.10 per cent in 2016 and 8.88 per cent in 2017. This indicates that 91.12 per cent of allocated wheat flour was distributed in 2017 followed by 80.90 per cent in 2016, 72.64 per cent in 2020, 65.76 per cent in 2018 and 60.64 per cent in 2019.

For pulses, maximum surplus between allocation and distribution was 34.11 per cent in 2020 followed by 31.34 per cent in 2018, 24.43 per cent in 2019, 19.72 per cent in 2017 and 6.09 per cent in 2016. It means that 93.01 per cent of allocated pulses were distributed by FPSs in 2016 followed by 80.28 per cent in 2017, 75.57 per cent in 2019, 68.66 per cent in 2018 and 65.89 per cent in 2020. For sugar, maximum surplus between allocation and distribution was 46.74 per cent in 2018 followed by 45.04 per cent in 2016, 39.86 per cent in 2017, 34.81 per cent in 2019 and 33.76 per cent in 2020. It means that 66.24 per cent of allocated sugar was 53.26 per cent in 2018. For salt, maximum surplus between allocation and distribution was 23.10 per cent in 2019 followed by 22.34 per cent in 2020, 10.71 per cent in 2016, 10.61 per cent in 2018 and 7.02 per cent in 2017. Whereas, 92.98 per cent of allocated salt was distributed by FPSs in 2017 followed by 89.39 per cent in 2018, 89.29 per cent in 2016, 77.66 per cent in 2020 and 76.90 per cent in 2019. For edible oils, the highest surplus between allocation and distribution was 35.44 per cent in 2020 followed by 32.56 per cent in 2018, 11.89 per cent in 2019, 4.51 per cent in 2016 and 3.12 per cent in 2017. This indicates that distribution of edible oils was 64.56 per cent in 2020, 67.44 per cent in 2018, 88.11 per cent in 2019, 95.49 per cent in 2016 and 96.88 per cent in 2017. The reasons for the huge surplus between allocation and distribution of essential food items throughout the study period could be due to the minor differences between issue and market prices, easily availability of food items in the open market, inferior quality of food items in the FPSs than the open market and availability of food items in advance in Food Corporation Stock.

Food subsidy given to the targeted people by the Government depends on many factors like procurement cost, quantity of foodgrains distributed through PDS, issue price and handling charge etc. Trends in subsidy on essential food items of PDS in district Sirmour is given in Table 4.8 and Figure 4.5. It is noticed from the table that the highest (7.28%) AGR of subsidy on rice was recorded in the year 2018. There was a rise in rice subsidy during the year 2019 to ₹168.78 lakh in comparison to other periods, whereas, the rice subsidy was very low in 2017 at ₹154.34 lakh. The AAAY of subsidy of rice was 0.73 per cent during the 2016-2020 period. Similarly, wheat flour was another food item on which

subsidy was given by the Government. Subsidy burden of wheat flour was highest in the year 2018 at ₹274.96 lakh and the AGR of wheat flour was the highest (21.15%) in the year 2018. Its AAGR was 6.41. In case of pulses, its subsidy was the highest in the year 2020 with ₹72.01 lakh and the lowest was in the year 2017 with ₹46.83 lakh. The highest (31.57) AGR was in 2020 and the lowest (-5.82) in 2019. The AAGR had shown a positive trend (9.66) in the subsidy of pulses from 2016 to 2020. On the other hand, for sugar maximum (₹21.22 lakh) subsidy was given in the year of 2020 and minimum (₹14.81 lakh) in the year of 2017. The AGR of sugar was the highest (31.47) in 2018 and the lowest (-16.56) in 2017. The AAGR gives a positive trend (4.03) in subsidy of sugar from 2016 to 2020. The salt was the next food item on which very high subsidy had given was in 2020 by ₹8.25 lakh and very low in 2016 by ₹4.21 lakh. The highest (45.13) AGR for salt was found in 2017 and the lowest (-10.31) was found in 2018. The AAGR for salt had shown positive trend (19.19) from 2016 to 2020. Edible oils was the last item on which the highest (₹83.60 lakh) subsidy was found in 2020 and the lowest (₹47.74 lakh) in 2017. The highest AGR was found during the year 2020 with 27.77 another item allocated by Government to State Civil Supplies Corporation for their beneficiaries. From the table, it is observed that maximum per capita allocation was 0.05 MT in 2018 & 2020 followed by 0.04 MT in 2016, 2017 and 2019. It means that 80 and the least was revealed in the year 2017 with -10.82. The AAGR also revealed that there was a positive (11.23) growth rate in the allocation of edible oils from 2016 to 2020. Out of all the essential food items, maximum subsidy was given by the Government to the beneficiaries

Table 4.8: Trends in subsidy on essential food items of public distribution system in district Sirmour

(₹Lakh)

Sr. No.		Food items/AGR	Year					AAGR
			2016	2017	2018	2019	2020	
I	a	Rice	161.21	154.34	165.57	168.78	167.07	-
		AGR	-	-4.26	7.28	1.94	-1.01	0.73
II	b	Wheat flour	202.29	226.95	274.86	274.92	267.08	-
		AGR	-	12.19	21.15	-0.01	-2.85	6.41
III	c	Pulses	48.56	46.83	58.11	54.73	72.01	-
		AGR	-	-3.56	24.09	-5.82	31.57	9.66
IV	d	Sugar	17.75	14.81	19.47	19.57	21.33	-
		AGR	-	-16.56	31.47	0.51	8.99	4.03
V	e	Salt	4.21	6.11	5.48	6.32	8.25	-
		AGR	-	45.13	-10.31	15.33	30.54	19.19
VI	f	Edible oils	53.53	47.74	58.99	65.43	83.60	-
		AGR	-	-10.82	23.57	10.92	27.77	11.23

Source: Authors' calculation based on the data compiled from Himachal Pradesh State Civil Supplies Corporation (HPSCSC) Ltd, Nahan, 2021.

Note: Figures in parentheses are percentages of respective totals.
AGR-Annual Growth Rate and AAGR-Average Annual Growth Rate

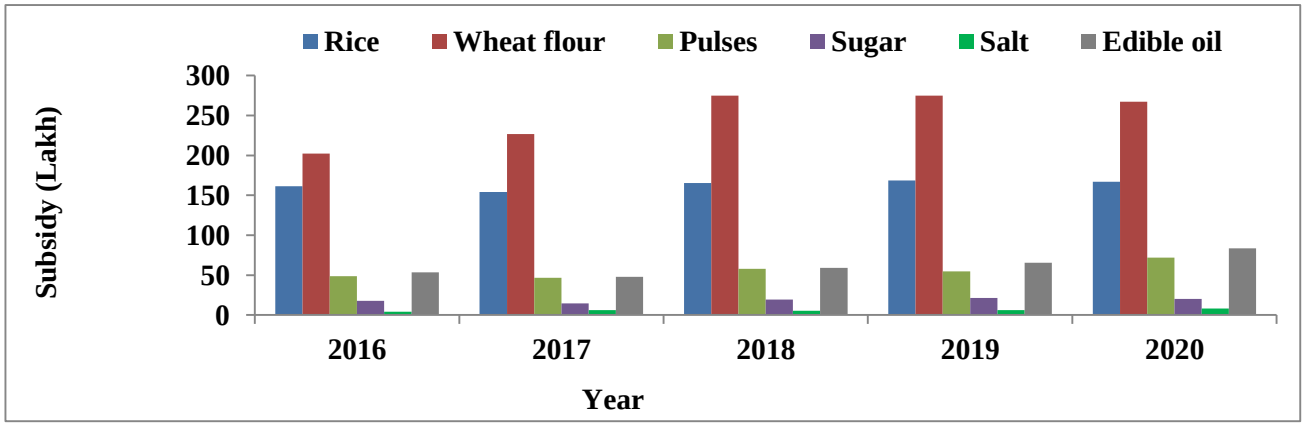

Figure 4.5: Trends in subsidy on essential food items of public distribution system in district Sirmour

the given period on wheat flour from ₹202.29 lakh to ₹267.08 lakh followed by rice from ₹161.21 lakh to ₹167.07 lakh, edible oils from ₹53.53 lakh to ₹83.60 lakh, pulses from ₹48.56 lakh to ₹72.01 lakh, sugar from ₹17.75 lakh to ₹21.33 lakh. Whereas, minimum subsidy was given on salt from ₹4.21 lakh to ₹8.25 lakh. As wheat flour is required in more quantity than the other items of the food. Whereas, salt is required in less quantity for consumption so its demand is less. The results indicate that subsidy and AGR of essential food items was fluctuating from 2016 to 2020.

Trends in expenditure on essential food items of PDS in district Sirmour is presented in Table 4.9 and figure 4.6. From the table it could be seen that the highest (3.76) AGR in expenditure of rice was recorded in the year 2019. There was a rise in rice expenditure during the year 2016 with ₹1139.47 lakh in comparison to other periods. The rice expenditure was very low in 2018 by ₹781.38 lakh. The AAGR of expenditure of rice was -6.02 from 2016-2020 years. The expenditure of wheat flour was highest in the year 2020 with ₹1437.23 lakh and the AGR of wheat flour was the highest (12.51) in the year 2017. Its AAGR was 8.47. In case of pulses, its expenditure was the highest in the year 2020 with ₹1795.34 lakh and the lowest was in the year 2017 with ₹1146.87 lakh. The highest (40.03) AGR was in 2020 and the lowest (-9.33) in 2017. The AAGR had shown a positive trend (8.39) in the expenditure of pulses from 2016 to 2020. Similarly for sugar, maximum (₹759.69 lakh) expenditure was in the year of 2020 and minimum (₹617.59 lakh) was in the year of 2017. The AGR of sugar was the highest (17.68) in 2020 and the lowest (-9.28) in 2017. The AAGR had shown a negative trend (2.32) in expenditure of sugar from 2016 to 2020. The next food item distributed by the PDS was salt. The salt expenditure was very high in 2020 by ₹81.09 lakh and very low in 2018 by ₹33.99 lakh. The highest (108.77) AGR for salt was found in 2020 and the lowest (-16.22) was found in 2018. The AAGR for salt had shown positive trend (26.78) from 2016 to 2020. The last food item distributed by PDS was edible oils. The highest (₹2384.33 lakh) oils expenditure was found in 2020 and the lowest (₹1321.52 lakh) in 2017. The highest AGR was found during the year 2020 with 32.04 and the least was revealed in the year 2019 with 11.12. The AAGR also revealed that there was a positive (10.68) growth rate in the expenditure of edible oils from 2016 to 2020. The results reveal that there was a positive (10.68) growth rate in the expenditure of edible oils from 2016 to 2020. The results reveal that out of all essential food items, the highest expenditure was on edible oils and the lowest was on salt was due to their comparative unit prices and level of consumption throughout the study period. The results indicate that expenditure and AGR of essential food items was fluctuating from 2016 to 2020.

Table 4.9: Trends in expenditure on essential food items of public distribution system in district Sirmour

(₹ Lakh)

Sr. No.		Food items/AGR	Year					AAGR
			2016	2017	2018	2019	2020	
I	a	Rice	1139.47	847.61	781.38	810.73	796.73	-
		AGR	-	-25.61	-7.81	3.76	-1.76	-6.02
II	b	Wheat flour	1009.53	1135.81	1251.36	1319.49	1437.23	-
		AGR	-	12.51	10.17	5.44	8.92	8.47
III	c	Pulses	1264.87	1146.87	1289.50	1282.14	1795.34	-
		AGR	-	-9.33	12.44	-0.57	40.03	8.39
IV	d	Sugar	680.73	617.59	700.83	645.54	759.69	-
		AGR	-	-9.28	13.48	-7.89	17.68	2.32
V	e	Salt	34.67	40.57	33.99	38.84	81.09	-
		AGR	-	17.02	-16.22	14.27	108.77	26.78
VI	f	Edible oils	1554.45	1321.52	1625.02	1805.71	2384.33	-
		AGR	-	14.98	22.97	11.12	32.04	10.68

Source: Authors' calculation based on the data compiled from Himachal Pradesh State Civil Supplies Corporation (HPSCSC) Ltd, Nahan, 2021.

Note: Figures in parentheses are percentages of respective totals.

AGR-Annual Growth Rate and AAGR-Average Annual Growth Rate

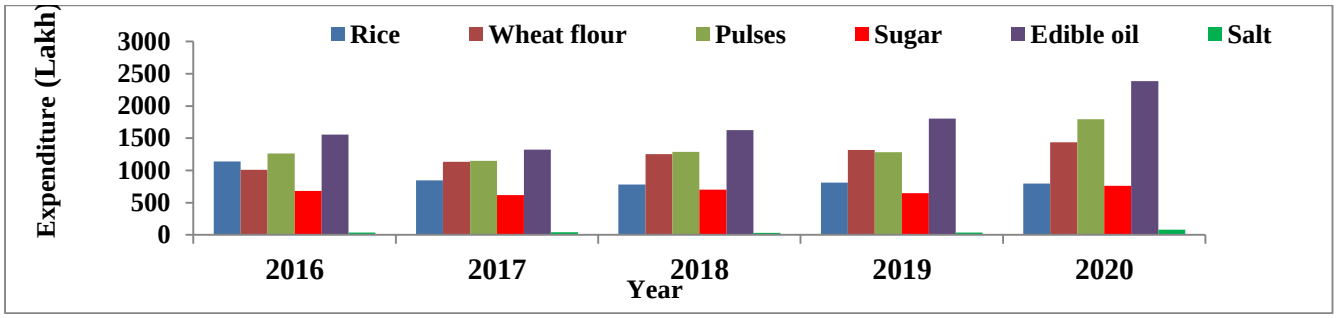

Figure 4.6: Trends in expenditure on essential food items of public distribution system in district Sirmour

Table 4.10 shows that the gap between expenditure and subsidy of essential food items is distributed through PDS in the study district over study period of 2016-2020. It is evident from in the table that for rice, the highest gap between expenditure and subsidy was 85.85 per cent in

Table 4.10: Gap between expenditure and subsidy of essential food items distributed through PDS in Sirmour

(₹Lakh)

Sr. No.	Food items		Year				
			2016	2017	2018	2019	2020
I	**Rice**						
	a	Expenditure	1139.47 (100.00)	847.61 (100.00)	780.38 (100.00)	810.78 (100.00)	796.73 (100.00)
	b	Subsidy	161.21 (14.15)	155.34 (18.21)	165.57 (21.22)	168.78 (20.82)	167.08 (20.97)
	c	Gap	978.26 (85.85)	693.27 (81.79)	614.81 (78.78)	642.00 (79.18)	629.66 (79.03)
II	**Wheat flour**						
	a	Expenditure	1009.53 (100.00)	1135.81 (100.00)	1251.36 (100.00)	1319.49 (100.00)	1437.23 (100.00)
	b	Subsidy	202.29 (20.04)	226.95 (19.98)	274.96 (21.97)	274.92 (20.84)	267.08 (18.58)
	c	Gap	807.24 (79.96)	908.86 (80.02)	976.40 (78.03)	1044.57 (79.16)	1170.15 (81.42)
III	**Pulses**						
	a	Expenditure	1264.87 (100.00)	1146.87 (100.00)	1289.50 (100.00)	1282.14 (100.00)	1795.34 (100.00)
	b	Subsidy	48.56 (3.84)	46.83 (4.08)	55.11 (4.27)	54.73 (4.27)	72.70 (4.05)
	c	Gap	1216..31 (96.16)	1100.04 (95.92)	1234.39 (95.73)	1227.39 (95.73)	1722.64 (95.95)
IV	**Sugar**						
	a	Expenditure	680.73 (100.00)	617.59 (100.00)	701.83 (100.00)	645.54 (100.00)	759.69 (100.00)
	b	Subsidy	17.75 (2.61)	14.81 (2.40)	19.47 (2.77)	19.57 (3.03)	21.33 (2.81)
	c	Gap	662.98 (97.39)	602.78 (97.60)	682.36 (97.23)	625.97 (96.97)	738.36 (97.19)
V	**Salt**						
	a	Expenditure	33.67 (100.00)	40.57 (100.00)	33.99 (100.00)	38.84 (100.00)	81.09 (100.00)
	b	Subsidy	4.21 (12.50)	6.11 (15.06)	5.48 (16.12)	6.32 (16.27)	8.25 (10.17)

	c	Gap	29.46 (87.50)	34.46 (84.94)	28.51 (83.88)	32.52 (83.73)	72.84 (89.83)
VI	**Edible oils**						
	a	Expenditure	1554.45 (100.00)	1321.52 (100.00)	1627.02 (100.00)	1804.71 (100.00)	2384.33 (100.00)
	b	Subsidy	53.53 (3.44)	47.74 (3.61)	58.99 (3.63	65.43 (3.63)	83.60 (3.51)
	c	Gap	1500.92 (96.56)	1273.78 (96.39)	1568.03 (96.37)	1739.28 (96.37)	2300.73 (96.49)

Source: Authors' calculation based on the data compiled from Himachal Pradesh State Civil Supplies Corporation (HPSCSC)
Ltd, Nahan,2021.

Note: Figures in parentheses are percentages of respective totals.

2016 followed by 81.79 per cent in 2017, 79.18 per cent in 2019, 79.03 per cent in 2020 and 78.78 per cent in 2018. This implies that 21.22 per cent amount of subsidy on the expenditure of rice was given by the Government to the Sirmour district in 2018, followed by 20.97 per cent in 2020, 20.82 per cent in 2019, 18.21 per cent in 2017 and 14.15 per cent in 2016. For wheat flour, maximum gap between expenditure and subsidy was 81.42 per cent in 2020 followed 80.02 per cent in 2017, 79.96 per cent in 2016, 79.16 per cent in 2019 and 78.03 per cent in 2018. This indicates that 21.97 per cent of amount of subsidy on the expenditure of wheat flour was born by the Government in 2018, followed by 20.84 per cent in 2019, 20.04 per cent in 2016, 19.98 per cent in 2017 and 18.58 per cent in 2020.

For pulses, the highest gap between expenditure and subsidy was 96.16 per cent in 2016 followed by 95.95 per cent in 2020, 95.92 per cent in 2017 and 95.73 per cent in 2018 and 2019. This explains that only 4.27 per cent of amount of subsidy on the expenditure of pulses was given by the Government in 2018 and 2019 followed by 4.08 per cent in 2017, 4.05 per cent in 2020 and 3.84 per cent in 2016. Similarly, for sugar, maximum gap between

For pulses, the highest gap between expenditure and subsidy was 96.16 per cent in 2016 followed by 95.95 per cent in 2020, 95.92 per cent in 2017 and 95.73 per cent in 2018 and expenditure and subsidy was 97.60 per cent in 2017 followed by 97.39 per cent in 2016, 97.23 per cent in 2018, 97.19 per cent in 2020 and 96.97 per cent in 2019. This means that only 3.03 per cent of amount of subsidy on the expenditure of sugar was given by the Government in 2019 followed by 2.81 per cent in 2020, 2.77 per cent in 2018, 2.61 per cent in 2016 and 2.40 per cent in 2017.

For salt, the highest gap between expenditure and subsidy was 84.94 per cent in 2017 followed by 89.83 per cent in 2020, 87.50 per cent in 2016, 83.88 per cent in 2018 and 83.73 per cent in 2019. This signifies that only 16.27 per cent of amount of subsidy on the expenditure of salt was offered by the Government in 2019 followed by 16.12 per cent in 2018, 15.06 per cent in 2017, 12.50 per cent in 2016 and 10.17 per cent in 2020. Whereas for edible oils, maximum gap between expenditure and subsidy was 96.56 in 2016 followed by 96.49 per cent in 2020, 96.39 per cent in 2017 and 96.37 per cent in 2018 and 2019. This indicates that only 3.63 per cent of amount of subsidy on the expenditure of edible oils was given by the Govt. in 2018 and 2019 followed by 3.61 per cent in 2017, 3.51 per cent in 2020 and 3.44 per cent in 2016. The reasons for the huge gap between expenditure and subsidy of food items throughout the study period could be due to the involvement of many costs in the distribution process like procurement, storage, allocation and transportation costs, etc. Since subsidy is a part of the expenditure and if the Government increases the amount of the subsidy it may enhance the expenditure on the essential food items.

V CONCLUSION AND POLICY IMPLICATION:

The study concluded that mostly 92.04 per cent of FPSs set up only in rural areas. As per the officer of Supplies Corporation of the study area revealed that during 2016 to 2020. Allocation, distribution and subsidy of all essential food items, wheat flour witnessed the highest increase and salt registered very little variability due to wheat flour is an essential food item of food which required in more quantity than the other items of the food. While in expenditure, edible oils had shown the highest expenditure and lowest was on salt from 2016 to 2020 because oil is too much expensive and price & consumption of salt is less. The gap between the allocation and distribution of food items could be to minor

differences between issue prices and market prices, easy availability of food items in the open market, inferior quality of food items than the open market and availability of food items in advance in food corporation. Similarly gap between expenditure and subsidy could be procurement, storage, allocation and transportation costs, handling charge, issue price and MSP price included in expenditure. Therefore, subsidy is a part of the expenditure. Therefore, study suggested that the government should increase the number of FPSs in the cities so that urban poor can also take access to the maximum advantages of PDS.

VI LIMITATION AND FUTURE SCOPE:

In this study only five years trends had covered due the lack of availability of secondary data from the concerned department. Therefore, the time series biasness can be exist. The result could not be generalized due to less duration of time period and it should be extended more for the better results.

ACKNOWLEDGEMENT:

This research paper is a part of Ph.D. thesis.

Conflict of interest. None.

REFERENCES:

- Anonymous (2011). Census 2011, Ministry of Health and Family–Welfare, Government of India.
- Anonymous (2016). Impact of Demonetization on Economy, Business and People. PHD Research Bureau, HD Chamber of Commerce and Industry, New Delhi. Retrieved fromhttps://www.nipfp.org.in.
- Anonymous (2017). Pocket Book of Agricultural Statistics 2017. Ministry of Agriculture & Farmers Welfare, Government of India, New Delhi. Retrieved fromhttps://agricoop.nic.in.
- Anonymous (2021). Himachal Pradesh State Civil Supplies Corporation Ltd.,Nahan. Retrieved fromhttps://himapurti.in.
- Anonymous (2022). GDP Growth India World Bank National Accounts Data, and OCED National account data Files. Retrieved from https//data.worldbank.org.
- Ambekar, S., Kapoor, R., & Mehta, P. (2015). Structural Mapping of Public Distribution System using Multi-Agent System. *Business Process Management Journal*, 21(5),1066-1090
- Arora, S., Nab. T., & Awasthi, V. (2021). Challenges of Digital Transformation and Indian Public distribution System: A Systematic Review. *Journal of Hunan University Natural Science*, 48 (6), 56-84.
- Bohtan. A., Vrat, P., & Vij A.K. (2017). Supply Chain of Indian Public Distribution System a new Paradigm. *Journal of Advances in Management Research*, 14(1*)*, 110-123.
- Dutta, B., & Ramaswami. B. (2001). Targeting and Efficiency in the Public Distribution System case of Andhra Pradesh and Maharashtra. *Economic and Political Weekly,* 36(18),1524-1532.
- Gupta kumar, A. & Saxena, A. (2015). Implementation of Reforms in Public Distribution System: A Case Study of Sonbhadra District of Uttar Pradesh. *Asian Journal of research in Social Science and Humanities*, 5(11), 16-27.

- Krishnamurthy, P., Pathania. V., & Tandon, S.S. (2017). Food Price Subsidies and nutrition: Evidence from State Reforms to India's Public Distribution System. *Economic Development and Cultural Change*, 66(1), 55-90.

- Kumar, A. Parappurathu, S., Babu., S., & Betne, R. (2016). Public Distribution System in Bihar, India: Implications for Food Security. *Journal of Agricultural & Food Information*, 17(4), 300-315.

- Radhakrishna, R. (1996). Food Trends, Public Distribution System and Food Security Concerns. *Indian Journal of Agricultural Economics*, *51*, 168-183.

- Thampi, A. (2017). The Impact of the Public Distribution System in India. *Indian Journal of Human Development*, 10(3),353-365.

- Narwade S. S., & Chandanshiv M. M. (2014). An evaluation of PDS in Maharashtra - A case study. *Excel Journal of Engineering Technology and Management Science*, 1(4), 1-10.