Impact of Fair Price Shops on Slums in Delhi

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I. INTRODUCTION

After nearly sixty four years of independence food security for all is still a far cry. In these years various food security net has been put in place, one of them being Public Distribution System. Public distribution by far has been the largest food security net and being criticized for being ineffective, involving mistargeting, corruption and costly. The system which came in full swing in 1960's in independent India still remains to be inefficient even though it has a widespread network of 4.89 lakhs of Fair Price Shop.

In very simple terms PDS can be understood as a in kind transfer program where government supplies food grains and other commodities and asks ration shop owner to sell wheat and rice at a subsidized price to those people who have been identified as beneficiaries. Objectives of PDS are to ensure some minimum intake of staple cereals by the targeted households and prevent these households from food price fluctuations. Many studies show that PDS has failed have an impinging impact on the fulfilment of these objectives.

PDS has its roots in the Second World War. In 2001, India moved away from Universal PDS to targeted PDS in the light of the criticism of very high subsidy bill. TPDS aims at providing subsidy to those households which have been identified as beneficiaries based on some official criteria. So main issues of TPDS are:

- How to identify these beneficiaries?
- How to ensure that the subsidy reaches its target?

Many economists have researched on the working of PDS and have found many problems with it. Khera (2010) showed that 67% of wheat meant to be delivered to the poor misses the target. In fact to make a 1 kg of wheat transfer to poor government end up directing 3kg of wheat at them. According to eleventh annual plan TPDS has low coverage in the sense that it covers only 57% of the BPL families.

Targeting is one issue but equally serious is the issue of the reach of PDS. Fair Price Shops are like intermediaries between government and final consumers. Success of PDS also depends on functioning of Fair Price Shop. Though opinions have been voiced in support of replacing FPS through coupon systems which would be usable in any shop, Rakshit (2008) argues that dismantling PDS is a far cry especially in short run if we have to ensure affordability of food grains for poor. In the long run dependence of PDS can come down only if purchasing power of people increases so much that they can afford food grains at market prices and imperfections are removed from the food grain market.

This paper focuses on slum population or the urban poor in Delhi and tries to evaluate working of PDS on different attributes. A slum in a dictionary is defined as a squalid and overcrowded urban street or district inhabited by very poor people. Slums are characterized by very low standard of living and civic amenities and constitute the poorest section of the urban society. Any measures to develop an urban have to be accompanied by the measures to uplift slums as slums have come to form an integral part of the phenomena of urbanization in India. According to a study by Ministry of Health and Family Welfare, 2007, 1 in every 5 of Delhi's residents lives in a slum colony.

The paper tries to study the impact of Fair Price Shops on this poorest section of society. Affordability of free market grain might be very important but what is to be kept in mind is that the slum population not only has the problem of low income but also the uncertainty of this income. Significant proportions of the employed in the slums constitute rickshaw puller, vegetable sellers, vendors and casual labour. The uncertainty of the income attached to their employment makes this section of population more vulnerable to the high food prices.

By various studies TPDS has been identified having following flaws:

1. Targeting errors
2. Low transfers to the beneficiaries
3. Inefficient working of Fair Price Shops
4. Failure as a price stabilization tool
5. Failure as a poverty alleviation program
6. Leakages

II. OBJECTIVES

This study focuses on following issues:

1. Participation Rate
2. Targeting errors: inclusion and exclusion errors
3. Contribution of FPS in the food grain consumption of the households.
4. Extent of income transfer through PDS
5. Functioning of FPS

III. SOME QUALIFICATIONS

- TPDS is a support program for food grains supplier as well. Study restricts itself to the consumer aspect of the PDS.
- TPDS covers rice, wheat, sugar and kerosene oil but study concentrates on the rice and wheat only.
- Food grain consumption in this paper implies consumption of rice and wheat only.

IV. PUBLIC DISTRIBUTION SYSTEM IN DELHI:

In Delhi the department of Food and Supplies, Government of Delhi manages Public Distribution System. This system has been established in the realm of Essential Commodities Act, 1955. This government body regulates the production, supply and distribution to ensure equity and availability of essential commodities at fair prices. Delhi Storage & Civil Supplies Corporation Ltd is responsible for transportation of wheat and rice from six FCI (Food Corporation of India) godowns to Fair Price Shops in Delhi. Delhi government runs this program with the help of the network of 2520 licensed Fair Shops in Delhi. Delhi government is following targeted public distribution system. Under this program households are entitled to buy a fixed quota of 35kg of food grain per card. Three types of ration card are issued to the households:

1. Red: Antodaya Yojana card(AAY) : for poorest of the poor
2. Yellow: Below Poverty Line Cards: for people living below poverty line.
3. White: Above Poverty Line Cards: for people living above poverty line.

Table 1: Quantity and Rates under TPDS

Commodity	APL		BPL		Antyodaya	
	Quantity(kg)	Rate(Rs)	Quantity(kg)	Rate(Rs)	Quantity(kg)	Rate(Rs)
Wheat	25	6.8	32	4.65	25	2
Rice	10	9.0	13	6.15	10	3
Sugar	Not Eligible	-	6	13.50	6	13.50
Kerosene Oil	6 ltrs	12.32	22	12.32	22	12.32

Source: Department of Food and Civil Supplies, Govt. Of Delhi

- Quantities of entitlements of BPL household were expanded to include additional 6 kg of wheat and 3 units of rice allocated for the month of may 2011. Normally the Delhi Government allocates 25kg of wheat and 10 kg of rice.
- TPDS grants 25 kg of wheat at Rs. 4.65 per kg and 10 kg of rice at Rs. 6.15 per kg per month to every Jhuggi Ration Cardholder/BPL in Delhi whose household income is below poverty line which is Rs. 24,200 per annum.
- Only the stamped APL cards are granted commodities from the ration shop i.e. those households whose per annum total family income is above Rs. 24,200 but below one lakh.

Few statistics on cards are:

Table 2: Statistics on Delhi Ration Cards

CATEGORY	NUMBER OF CARDS
APL (stamped)	1457498
APL (unstamped)	1344798
BPL	244262
AAY	129685
Annapurna	72
Total	3176315

Source: Department of Food and Civil Supplies, Govt. Of Delhi

V. SAMPLE:

Study is based in two districts of Delhi: South West and South. It covers two slums in each district one with a ration shop nearby and another with ration shop far off. Selection on the distance basis was to see if distance affects the occurrence of benefits to the targeted population. A list of slums in

Delhi was obtained through Delhi Development Authority and the list of FPS was obtained from the NCT website and then the following slums were selected:

South West District:

1. Sonia Vihar Camp, Sambhalka, Old Delhi Gurgaon Road.
2. Nehru Camp, Dwarka

South District:

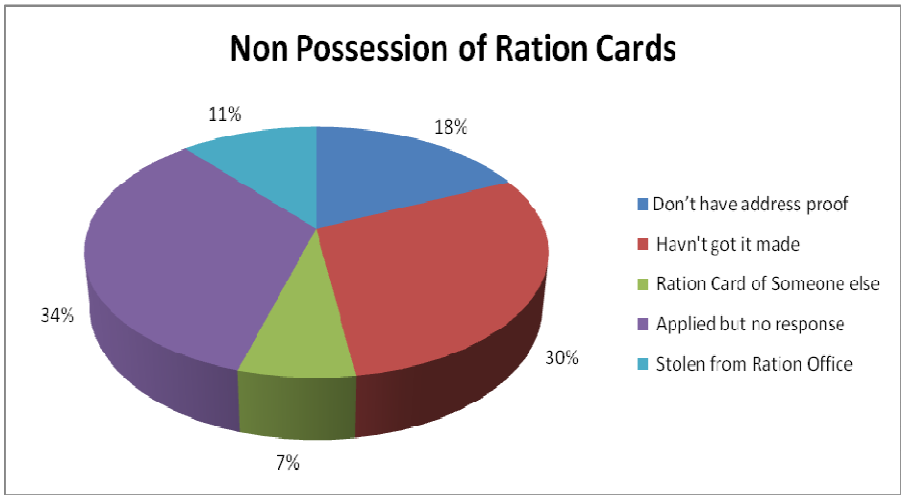
1. Harikesh Nagar, Okhla Industrial Area, Phase
2. Jhawahar Lal Nehru Camp, Govindpuri

Of these, Sonia Vihar Camp and Harikesh Nagar had FPS nearby (<1km) and Nehru camp and J L Nehru Camp had FPS far off (3-4 km). A detailed picture of these slums is given in Appendix A. Sample size was 50 households from each slum which made it to a total sample size of 200 households. In a slum from one intersection point many streets originate and even one street leads to many other streets. To increase the coverage instead of surveying each street, few streets were randomly selected and followed. For example if from a point five streets are originating then every second street was selected and if that street led to another 3 streets then one of them was randomly selected. After that, every 5th household was surveyed to capture the diversity of population.

Following are the statistics of ration card holder for the sampled population:

Of the total population around 78.5% of the households have ration card of their own. Around 1.5% of households are using someone else's ration card. This implies 80% of the sampled population has ration cards. Following are the reasons why the sampled population did not have a ration card:

Figure 1: Reasons for Non Possession of Ration cards



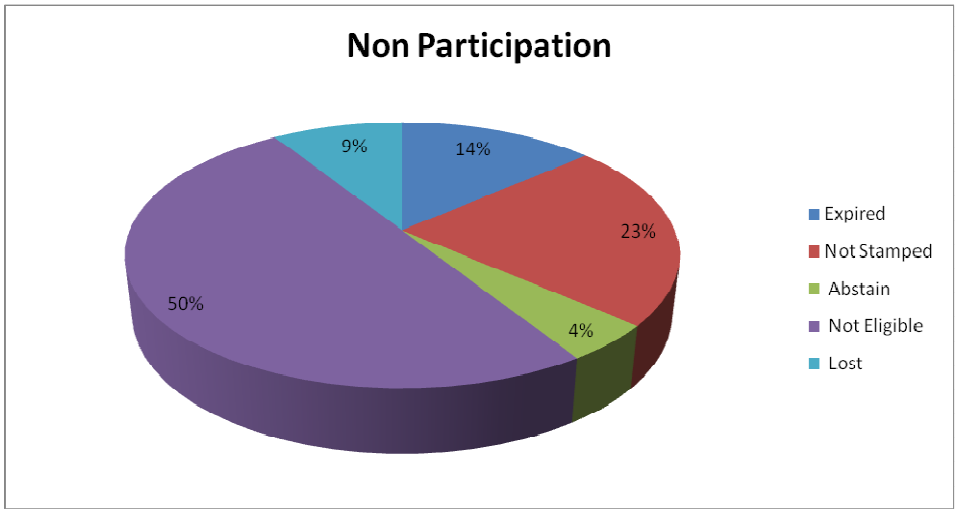
71% of the total households in the sampled population are using their ration card. Of the 80% who have ration card around 11% have an APL card, 68% have BPL cards and around 21% of households have AAY cards.

VI. ANALYSIS

1. Participation Rate:

Participation rate is defined as the proportion of population that is withdrawing from PDS i.e proportion of people who are using their ration cards. Of the proportion of households who have ration card (78.5%) around 88.75% of households are using their ration card. It implies that in Delhi slums has around 89% of the participation rate. Of these around 1.8% are bogus cards. (of someone else's). A study by Jha and Ramaswami (2010) finds that participation rate in urban India conditioned on eligibility criteria is around 77%. This implies that in Delhi use of FPS is quite high as compared to all India figure. If we explore the reason why around 11% aren't participating we get following results:

Figure 2: Reasons for Not using the ration card



We can further look into this matter by ignoring non stamped, not eligible, expired, stolen from ration office. Here "not stamped" is not because consumers are not getting these cards stamped but because ration office does not deem these cards eligible for stamping. In a way these cards can be clubbed together into as non eligible; we find that participation rate conditioned upon eligibility goes up to 97.8%. If study combines this participation rate with proportion of population using bogus cards (1.8% using someone else's card) the resulting participation rate is 99.6% in slums in Delhi.

2. Targeting Errors:

Success of any targeted program depends upon how well beneficiaries are identified. Lesser targeting error means that resources are being channelized in right direction. PDS has been criticised for being poorly targeted. There are two types of targeting errors, namely

- Exclusion Error
- Inclusion Error

Exclusion error means that ought to be beneficiaries are excluded from the subsidy program. Exclusion error can occur because households might not choose to participate in the subsidy program or there is a mistargeting. Mistargeting could happen if household is not classified at all or a household is wrongly classified. For example a household may be classified as APL even though it falls in the criteria of BPL.

Inclusion error occurs if the recipients of the subsidy are non poor. Inclusion error causes diversion in the resources from the actual beneficiaries.

Study is going to use following formulations for the calculation of two errors:

$(P^{NC}/P)*100$ = poor are not included= Exclusion Error

$(NP^{c}/NP)*100$ = Non poor are incorrectly included = Inclusion Error

So now the critical issue is how to decide whether a household is poor or non poor enough to be identified as a beneficiary?

- **Identification of Poor:**

If we look back at Table 1 we find that Delhi Government states that any household possessing a jhuggi ration card or a BPL card is eligible for participation in PDS. BPL is Rs. 24200 p.a. per household. Also, only those APL households whose ration cards are stamped (i.e. their income is less than Rs. 1 lakh p.a.) are eligible for withdrawing ration from FPS. If this criterion is used then study finds that only 4.5% of the sampled households come under BPL household category. However of the total population 52.5% have BPL ration cards and 16.5% have AAY cards. Also, of the remaining 95.5% of population, around 88.48% of population is eligible for stamped APL cards. i.e. of the total sampled population 84.5% of households are eligible for having a stamped APL card. But actual data shows that only 3% of households have stamped APL cards. Moreover, a total of 9% have APL ration card and out of this 33.33% have stamped APL cards. (Stamped here is synonymous to eligibility)

Actual data on card holders is starkly different from the results based on the official criteria. We need to make two qualifications here. Firstly, this BPL criterion was given in the year 2007. Since then India has seen years of very high inflation especially very high food inflation. So if we inflate this poverty line by using June 2010 inflation rate of CPIIW as given by Labour Bureau, Government of India we get a resultant poverty line of Rs. 208604. This is indeed a very high value as a poverty line criterion and there is no surprise that it leads to a complete change in situation. With this poverty line study finds that a percentage as high as 99.5% comes under BPL. This implies that entire population is the target group.

Secondly, the all India urban poverty line of Rs.538 per capita per month. The average household size in Delhi slum comes out to be 5.79. Using this we get monthly per capita income of Rs. 348.30 as Delhi Government official poverty line. This is much less than the national poverty line. Using Rs.538 as our reference poverty line study finds that around 16.5% of slum population comes under below poverty line. If we use poverty line as Rs.578 as suggested by new methodology we find that around 20% of population comes under poverty line and if we use N C Saxena committee norm of 20 rupees per day we get around 23% of proportion of population below poverty line. These figures are still closer to the official urban all India head count ratio of 25.7% (2004-05). However, poverty ratio of

4.5% using Delhi Government criterion is way less than the national figure especially against the background of slums which consist of the poorest section of population in any urban area.

Using income to categorise household as BPL or APL has always been an issue of economist's debate. Income approach has been questioned because households tend to under report their income. Slum population mainly constitute of people engaged in urban informal sector which has low payoff as compared to average urban earnings. People engaged as contract labour, casual labour, self employed, domestic help, rickshaw puller etc not only have low earnings but also suffer from non regularity in their earnings. They might find gainful employment for not more than 15-20 days in a month.

So paper moves to another approach of identifying the beneficiaries which does not depend on income criterion. Following approach has been taken directly from the EPW article (2010) titled as "The BPL Census and a Possible Alternative by Jean Dreze and Reetika Khera." In this paper a methodology to identify Social Assistance Base (SAB) has been devised. Following is the data on various parameters which will be used for SAB approach:

Table 3. Asset Ownership Data

Column 3 shows the proportion of sampled population having these features.

Serial No.	Parameter	Data (%)
Exclusion Criteria		
1	Multi room pucca house	40
2	Colour TV	78
3	Cooler	61
4	Refrigerator	24.5
5	Cycle	35
6	Bike/Scooter	8
7	Car	0
8	Children going to private School	3.5
Inclusion Criteria		
9	Rented House	6
10	Female headed	16
11	No education	24
12	SC/ST	61
13	Non Regularly Employed	50.5

SAB approach looks at the data on as much as 14 criteria. Of the data given in table 3, parameter 1,2,4,6, 7 are identified as baseline assets. Ownership of these leads to exclusion of household from being a SAB household. Apart from these, Baseline criterion also includes parameters such as Landline telephones and amenities such as having electricity, piped water and a flush toilet. These are not included because in surveyed households 100% of population had access to the electricity, slums have system of community tap water and none of the households had flush toilets though they had a separate attached toilet. 100% of the households owned at least one mobile phone whereas none had landline telephone connection as maintaining a landline phone is much costlier than a mobile phon.

Rows 10 to 15 are the inclusion criteria i.e. presence of any of these attributes leads to the eligibility of the household for gaining from a social subsidy program. Two qualifications are needed to be

made. In the original paper landless households and agricultural labour households are included. This paper instead of these uses households living in a rented house and non-regularly employed households because area of study is urban poor settlements where there are no agricultural labourers.

No education means households without any adult having literacy level of more than 5th standard.

This study concentrates on the inclusion criterion which says that "select a household for being a beneficiary if and only if it meets any two of the inclusion criteria" (Though original paper gives a choice between choosing one criterion or two criteria. This issue has been discussed later)
Based on this approach study finds that around 53% of the sampled population ought to be identified as BPL household as these households met more than two of these criteria.

Now we move to the calculation of inclusion and exclusion error by different approaches:

Table 4: Inclusion and exclusion error (in %)

Approaches	Exclusion Error	Inclusion Error
Delhi Govt. Poverty Line (Rs.24200)	33.33	69.10
National Urban Poverty Line (Rs. 538)	25	68.26
New Poverty Line (Rs. 578)	20	70
SAB (inclusion criteria)	31.13	68.04

There isn't much difference between the exclusion error and inclusion error by different approaches. Although, using national poverty line we get smaller exclusion errors. The norm of 24200 and SAB approach are given almost similar errors even though the targeted population proportion for both is vastly different. According to annual income norm prospective beneficiaries constitute 4.5% of population and according to SAB PDS should cover 53% of population. With SAB the required coverage of PDS is ought to be much higher. According to Jha and Ramaswami (2010) exclusion error is 70% and inclusion error is 59% in urban India. Khera(2008) finds exclusion error to be 17.6% and inclusion error to be 73.1 % for the villages sampled in Rajasthan. In another study Hirway (2003) that 34 % were wrongly included in six zones of Gujarat. Studies by Swaminathan and Mishra (2001) find very high exclusion error. According to 11th annual plan TPDS covers only 57% of poor population. Inclusion errors are very high because almost 80% of the population has ration card but none of the approach identifies targeted proportion so high. Also, inclusion errors fall with New Poverty Line because it covers higher proportion of population as poor although it identifies lesser proportion of population as BPL as compared to SAB method.

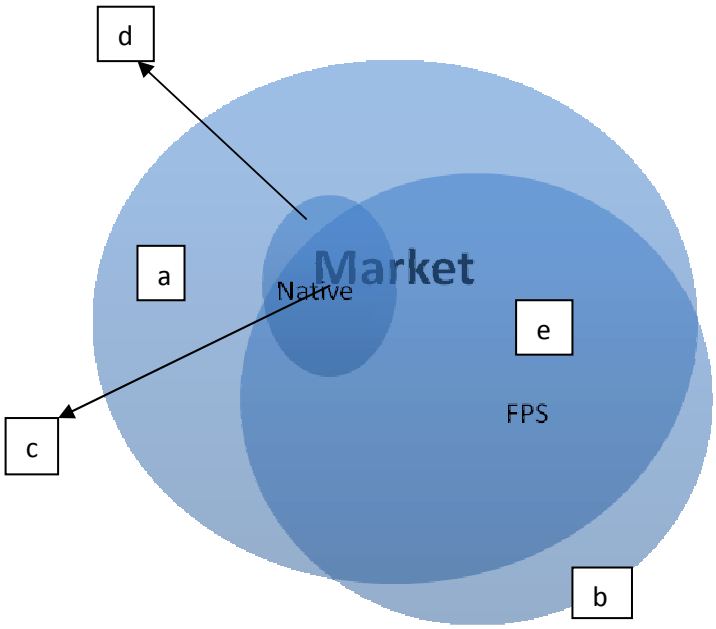
3. Share of FPS in consumption:

Households in slums have typically 3 source of food grain consumption.

1. Ration shop for those whose cards are eligible

2. Private Grocery Shop for all
3. Occasionally from their native place if they have agricultural land there

For the entire sampled population we get following statistics:



Households buying only from market= **a = 33.5%**

Households buying only from FPS = **b= 6.5%**

Households buying from market, FPS and bringing grains from native village = **c= 9%**

Households buying from market and bringing grains from native village= **d = 3%**

Households buying from market and FPS = **e= 48%**

Total =100%

Here, food grain from native place is not much significant as 12% of sampled population brought grains from their native land. The pre requisite for this is that these households should have agricultural land back home and their family has to be engaged in agriculture. This is true in very few cases because most of the people migrating here are themselves looking for better earnings prospects so that they can send remittances back home. Very few have agricultural background. Even in the cases where they are bringing food grains from villages it is not significant. Households on an average bring 15-20 kg of food grain annually which is hardly sufficient for a month for an average family size. Even for the months when family members are going to their native place they withdraw entire ration from the ration shop and store it for future consumption or give away to their neighbours. This additional source can be offset by extra food grains brought by household when a guest visits. Usually in slums, influx of relatives is high as people coming here for better prospects tend to stay with their acquaintances till the time they find suitable employment. So, we can safely proceed with the conclusion that monthly consumption of food grains comprises of two parts:

1. Open Market
2. Fair Price Shops

On an average in slum per capita monthly consumption of wheat comes out to be 6.76kg and of rice it comes out to be 3.59 kg and 10.35kg is the total food grain intake. We look at share of FPS in the monthly food grain intake of the households using formulation:

Average (Share= quantity of food grain brought from FPS/total quantity of food grain consumed)

Table 5: share of FPS in monthly consumption of the food grains (%)

	Wheat	Rice	Total
Share	43.89	37.07	39.03

According to Jha and Ramaswami, TPDS on average accounts for about 40% of total grain consumption of the households that receive subsidy. Though, table 4 shows the data with respect to entire slum population. We can condition these shares upon those households which are allowed to withdraw ration from FPS and obtain following results:

Table 6: Share of FPS in monthly consumption of food grains conditioned upon ration card use:

In %	Wheat	Rice	Total
Share	63.36	53.73	56.56

From these figures study concludes that a Fair Price Shop contributes to the 57% of the total food consumption of the card holders households. This figure is much higher than the one pointed by Jha and Ramaswami. It can be because participation rate is very high for slums in Delhi.

Further glance at the data shows that FPS caters to the 100% requirement of wheat, rice and of both of around 22.5%, 23.32% and 9.15% of the total user of the ration card. Though allotment of 35kg is sufficient for the family size of 3; in the sample, households of even size 5 are meeting their entire requirement through FPS. That is they are trying to squeeze in their total food grain consumption within their PDS allotment. This can be a worrisome issue as these households end up consuming lesser than the lower limit of national average of 10 kg per month for this group of population.

Table 7: Share of FPS in monthly Food Consumption of card holders (in %):

Card Type	Wheat	Rice	Total
AAY	66.62	40.06	53.10
BPL	57.34	53.06	52.76

APL	14.17	15.65	13.81

According to Delhi government main reason people don't buy ration from ration shop is because either they are not eligible for buying it or they don't like the quality of the ration card. In the slum, population is very poor compared to rest of the urban population. Alternative to FPS is to buy grain at market prices which are almost three to five times higher than FPS prices. This section of society has very low purchasing power so even if they don't like the quality of the food grain they have no choice but to buy grain. Following are the samples response to the quantity of the food grains issued through the FPS:

Table 8: Quality of Food Grain:

In (%)	Good	Bad	Okay
Response	60	20	20

Table 9: Share of food expenditure in total income of the households:

AAY	BPL	APL	No Card	Total
16.98%	15.69%	20.99%	19.04%	17.51%

Table 10: per capita monthly consumption of different card holders (in kg)

Card Type	Average Family size	Wheat	Rice	Total
AAY	6.30	6.20	4.32	10.53
BPL	6.05	6.79	3.12	9.91
APL	4.83	7.06	4.36	11.44
No Card	5.80	6.18	3.42	9.06
Total	5.79	6.76	3.59	10.35

NSS data on the share of cereals in total household expenditure has been declining steadily and was between the range of 25-28%[a] for the year 1999-2000 for urban India. Even though Table 9 shows that this figure for the sampled population is quite less we can still see that impact of FPS on expenditure on wheat and rice is progressive. Share of food expenditure in total income is lower for the AAY class. This can occur either AAY households are consuming less than the average or because they are getting grains at the lowest of the prices. Table 10 points out that the AAY households are

consuming more than the average household at per capita per month level. APL households are consuming more than AAY households, which can be explained by Engle Curve analysis. The slum population consists of poorest sections of the society and among them POP i.e. AAY households are the poorest of all. They are consuming the bare minimum level of food grains and as income increases some of it will go into the increase of food grain consumption. Around 45% of the population said that they are just able to meet their food grain requirement and that too not in all the months of the year. Even though POP are not consuming highest among these classes but they are doing considerably well even after spending lesser proportion of their income on food grains. Thus, PDS gains are going in the right directions. This can be combined with the indirect income transfer incurred by Fair Price Shops.

Table 9 and 10 also points to the fact that card holders are consuming more than the households with no cards even though AAY and BPL incur lesser expenditure on food as a proportion of their income. It means FPS are ensuring that card holders are consuming the in the range of national average of 10 to 12.5 kg per month for the poor households.

4. Income transfer through PDS

PDS can also be looked upon as an indirect income transfer. It reduces the food expenditure and releases income which can be used by household to follow their other aspirations. We calculate the cash transfer caused by PDS in slums. Before moving to that lets look at the actual quantity and rate figures of PDS in the sampled slums.

Table 11: Actual Quantity and Rates available to consumers

Commodity	**APL**		**BPL**		**Antyodaya**	
	Quantity(kg)	Rate(Rs)	Quantity(kg)	Rate(Rs)	Quantity(kg)	Rate(Rs)
Wheat	11.25	7	22.5	4.95	23.33	2.17
Rice	8.75	9	8.75	6.8	8.33	3.16

If we compare this with table: 1 we can see that Fair Price Shops are not functioning fairly. Not only consumers are being given less ration they are being overcharged as well. Though there isn't much difference between the price directed by the Delhi Government and price charged by ration shops but when this price is multiplied with the quantity it does makes a difference if we sum it across all the households.

Income transfer= quantity issued through FPS*(Market price-ration Price)

To calculate this, we need to know the market price at which consumers are buying wheat and rice. Study uses the modal prices for wheat and rice for the APL, BPL, and AAY classes of the sampled population. We also look at normative transfer i.e. how much income transfer should occur if FPS works efficiently meaning neither it undersells nor over charge than what has been directed by Delhi Governemnt. Actual depends upon how FPS is distributing grains.

Table 12: Income transfer (in Rs)

	Normative			Actual		
	APL	**BPL**	**AAY**	**APL**	**BPL**	**AAY**
Wheat	230	233.75	250	101.25	203.75	230
Rice	170	158.5	170	148.75	133.25	140
Total	400	392.25	420	250	337	370

If the FPS were operating efficiently and fairly then the normative and actual figures should have been similar. This would have been true because of the sampled population 100% of the users of the ration card are withdrawing full entitlements as issued by their FPS (which is less than what Delhi Government has entitled them). Around 30% of the users are not aware of their entitlements and those who know cannot do much about it as FPS is kind of a monopoly faced by the consumers who are tied to it. However, this subsidy is still progressive as AAY are getting maximum of income transfer.

These transfers are occurring to the 22% of the APL card holders, 90% of the BPL card holders and 100% of the AAY card holders. These figures are actually the participation rate among these three classes.

If we look at the extent of these subsidies as a share of income for each class of the card holders we find:

Table 13: Subsidy as a share of income

AAY	BPL	APL
7.4%	6.5%	4.5%

The share of subsidy may not seem to be large but it is going in the right direction i.e. most in the favour of most poor.

5. Functioning of FPS:

The study has already explored the influence of FPS on food grain consumption and its role as an indirect income transfer program. In this section we explore certain attributes of the FPS. Associated with the sampled slums were six Fair Price Shops. Though it is a small sample to draw conclusions nevertheless following are the observations from these shops:

- All the shops had pucca rain proof godowns.
- Shops on an average operate for around 5 hours a day and 15 days a month.
- None of the shops were fumigated or had insecticide or anti rodent measures. The reason given for this was that every month whatever ration comes gets sold very quickly and therefore there is no need of these measures.

- There are no fixed days of shops operation and no fixed hours either.
- There are no fixed days of FPS receiving ration from regional depots and therefore no fixed days when people go and withdraw their ration. So usually in a month on an average a household has to make five to six trips to get ration for a month. Though it is very convenient for households to do so if shop is located nearby, but for far off FPS households have to incur travelling expenditure as well and invest more time. This in fact reduces the magnitude of the subsidy these people are actually receiving.
- In two out of six shops ration is distributed on first come first serve basis so if a household gets late to claim their ration they don't get ration that month. Around 4.2% of the ration card users don't get ration because of this reason. Reason given to them is that 'aage se itna hi aaya hai'.
- 65% of the ration card user wants more quantity to be allocated through ration.
- Of the total households whose ration shops are located far off, 86% wants ration shop to be placed nearby.

Paper examines whether having a Fair Price Shop nearby improves the occurrence of the benefits of the Public Distribution Sector. Following is the analysis of attributes related to the FPS:

Table 14: Functioning of Fair Price Shop:

Attributes	**FPS located less than 1 km**		**FPS located more than 1 km**	
Share of FPS in the population covered (%)	69.5		30.9	
% of card users out of card holders				
APL	38.46		20	
BPL	89.09		90.56	
AAY	100		100	
Ration got per month (Kg)	WHEAT	RICE	WHEAT	RICE
APL	12	8	10	10
BPL	21	9	24.5	8
AAY	24	10	25	10
Price Charged (Rs.)	WHEAT	RICE	WHEAT	RICE
APL	7.6	9.6	9	9

BPL AAY	4.9 2.2	6.8 3.4	5 2	7 3
Share of FPS in consumption (%) APL BPL AAY	 36.39 58.47 53.96		 66.6 59.03 46.42	
Income transfer (Rs.) APL BPL AAY	 240 328 401.2		 260 340.5 420	
Quality of Grain (% of users' response) Good Okay Bad	 64.7 15.3 20.0		 58.49 20.75 20.75	
% of users able to withdraw ration on an average in a month	100		94.6	
Days of operation	13		10	

The only notable adverse impact of a Fair Price Shop being located far away from the household is that it operates for lesser number of days and also since its far off consumers cannot frequently visit it and check the availability of their ration. When they get time to do that the ration may have finished. Though as per Delhi Government whosoever has an eligible ration card should be able to withdraw their ration any time in that particular month once allotments from the regional depots come. However, as reported by respondents a significant part of the allotment is shipped by the ration shop owner to some other place as soon as the regional depot truck arrives. That is there is a divergence of the grain for encashment which was meant for the subsidy. This can also be verified by the fact that on an average a ration card user gets 28kgs of the food grain as compared to the entitlement of 35kgs.

V. Concluding Remarks

Public Distribution System seems to have failed to fulfil its objectives in the opinion of many economists as per the eleventh five year plan. To direct 1 kg of grain towards the targeted population Government of India had to direct 2.32kg of grain.

The situation as shown by various research papers appears to be true for entire India. In this study we concentrated on the impact of FPS on the food security of the poorest section of the urban society in the National Capital. The results found are better than the national picture of the Public Distribution System. The participation rate is very high. The reason for high participation rate can be explained by low income levels of the sampled population. The alternative for them is to buy grain at, at least 3 times higher market price which would take a large chunk of their incomes. So even if households have to make trips to get their ration and stand in queues for two hours on an average they are willing to buy grains from FPS as this spares the funds to follow their other aspirations.

There is no doubt about the high inclusion error associated with the targeting. However this can be because the criterion of targeting a family is too low especially as compared to the national urban poverty line. One might argue that poverty and food insecurity are not same. Poverty is a broader issue and therefore poverty line should not be used for identifying the food insecure people. As Government of India points out that there are more number of food insecure people than the poor population it makes sense of having some other criterion which more precisely reflects inability of households to afford grain. The study therefore used Dreze and Khera inclusion approach. This approach increased the required coverage of PDS as compared to other approaches but the targeting errors still remained the same. One basic apprehension about this approach it says that all the households belonging to SC/ST category should be included as a beneficiary for PDS. This criterion does not seem to be full proof. A slum population is generally poor and being from an upper caste might not impede a household from being poor. Though it is true that of the sampled population 61 percent of the population belonged to SC/ST category but is a sufficient condition especially in urban areas where social structures of castes are breaking up as a barrier for economic up gradation. About $1/4^{th}$ of the sampled population lived in a Muslim dominant slum. Muslim while not coming under SC/ST might be equally worse off as is the case with general population. An analysis has been carried out in Appendix B to see if being belonging to SC/ST impacts the economic position adversely.

While identifying beneficiaries ownership of assets should not be the sole criterion. The field survey found that assets like refrigerator, bike and coolers are earned by a household as dowry. They may not reflect the affordability of food grains on a regular basis quite clearly. Employment status is a more robust variable to verify the affordability. In fact, non regularly employed confirms more to the proportion of beneficiaries identified by SAB approach. Though Dreze and Khera did not consider it but the survey found out that a household which has children going to the private school can be excluded from PDS without any fear of committing exclusion errors. Also the market price which the household pays for wheat and rice can be looked upon as an indicator of its affordability. The modal price for each of the class are discussed in appendix C. Households which are consuming these commodities at the highest prevailing prices in these markets can be excluded from the PDS. One can argue that households may have preference for a particular kind of quality and which may be a necessity for them. In the survey around 4% of the ration card user responded quality of FPS grain as “Good” even though they bought these commodities at a very high price. So taste is not an issue for them and certainly they can afford their food grain consumption without the assistance from FPS. An analysis of this can be conducted on a large scale to find the range of prices which ensures the capability of households to afford their grains on their own. This study finds that in slums in Delhi, a household purchasing wheat at a price more than Rs.17 per kg and rice at a price more than Rs. 30 per kg should be excluded from PDS without leading to an exclusion error.

As many economists believe that a larger inclusion error is better than a larger exclusion error this study is in line with this reasoning. However, magnitude of exclusion error appears to be higher if we look at the proportion of population having eligible ration card. This can be explained as a failure of targeting to include poorer section of population more precisely.

A Fair Price Shop is an intermediary between the government and the beneficiaries. Economists have pointed out that whenever there is a layer of an intermediary the transfers of gains cannot be 100%. So, it would be unrealistic to say that a perfect corruption less mechanism of FPS can be obtained. The point to be noted is that the direction of benefits through FPS is progressive. It is benefiting most to the poorest section of society. Also in the sampled population Government of India is directing 1.25kg of food grains to ensure allotment of 1 kg of food grains.[b]

The basic working of FPS is much stronger in Delhi slums than the all India situation and gains occurring to poors are better directed. Also, around 93.5 % of the total population wants to have a ration card and use it. This implies that Fair Price Shops can be used for tackling the deficiency of minerals and vitamins among the slum population. As Radhakrishna (2003) points out that the pressing issue is of nutrition deficiency and not of calorie deficiency. Though vitamins and minerals pills are available in dispensaries people tend to visit them only when they fall ill and for a specific purpose. A distribution of these through FPS which are visited by households every month can help in tackling micro nutrients deficiency.

As per Delhi Government regulations, in rice eating area FPS should allocate 25kg of rice and 10kg of wheat. However, this is not happening in the sampled areas. Migrants from Bihar, West Bengal and Jharkhand tend to consume more rice. Since through PDS they get very less rice they rely on market for their staple cereal. Also, price of rice is much higher than wheat so even though these section of population gets same indirect income transfers as compared to wheat dominant areas the share of this subsidy is very less as a share of their food expenditure. So this idea should be put in practice to make FPS more efficient.

Study also concludes that though a FPS located nearer to the slum locality is a welcome step for consumers, it does not put a constraint on the working and impact of PDS.[c] In all, Fair Price Shops are contributing significantly to the consumption of ration card users (57%) and if targeting errors are reduced PDS can be well established as a safety net for slum population.

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[a] :data is for all type of cereals and there is a ten year difference so these are not directly comparable.

[b] :this holds only for ration card users.

[c] : this paper studied a maximum distance of 3.5km.

APPENDICIES

APPENDIX A:

South West District:

1. Sonia Vihar Camp, Sambhalka, Old Delhi Gurgaon Road.
    - Population Size: 500
    - Ration Shop: Shamshaan ghat, Sambhalka
    - Distance: 0.5km
    - Approach from Main Road: 0.5km
2. Nehru Camp, Dwarka
    - Population Size: 275
    - Ration Shop: M/s Shrawat store, Bijwasan
    - Distance: 3.5-4 km
    - Approach from Main Road: 1km

South District:

3. Harikesh Nagar, Okhla Industrial Area, Phase 2
    - Population Size: 800
    - Ration Shop : Sanjay Colony, Harikesh Nagar
    - Distance from ration shop:0.4km, 0.5km
    - Approach from main Road: Right on main road
4. Jhawahar Lal Nehru Camp, Govindpuri
    - Population Size: 1600
    - Ration Shop: Tuqlagabad, Govind Puri
    - Distance from Ration Shop: 3.5km, 1km
    - Approach from Main Road: Right on main road

APPENDIX B:

Following table shows the data for the SC/ST and non SC/ST population:

Table 15: Data conditioned upon category of household (in percentages)

Serial No.	Parameter	SC/ST	Non SC/ST
1	Household Size (person)	5.9	5.06
2	Multi room pucca house	37.07	43.58
3	Colour TV	77.09	79.48
4	Cooler	39.34	43.58
5	Refrigerator	21.31	29.48
6	Cycle	35.24	34.61
7	Bike/Scooter	4.91	12.82
8	Car	0	0
9	Children going to private School	3.27	3.84
10	Rented House	6.55	5.12
11	Female headed	14.75	17.94
12	No education	21.31	28.205
13	Non Regularly Employed	53.28	46.13
14	Average per capita Income (Rs.)	1085.618	1047.71

A score table for each household was created and it was found that on an average SC/ST household tended to posses 3.9 of these attributes and a Non SC/ST household tended to posses 3.8 of these attributes on an average. The t-test for testing the difference in means of these two distributions concludes that we cannot reject the Null Hypothesis of similar mean at any level of significance. This means that no matter to which social class a person from the slum population belongs, he/she tends to have similar type of attributes on an average. So taking SC/ST household as a sole inclusion criterion might lead to an overestimation of beneficiaries and therefore a choice of two was used in this study.

APPENDIX C:

Table 16: Modal Price for each class of card holders:

Price in Rs.	AAY	BPL	AAY
Wheat	12	14	16
Rice	20	22	26

APPENDIX D:

QUESTIONNAIRE:

उत्तरापेक्षी के लिए,

यह सर्वे मैं स्वाति शर्मा, एम.ए. इकोनोमिक्स, दिल्ली स्कूल ऑफ इकोनोमिक्स, दिल्ली यूनिवर्सिटी की छात्रा कर रही हूं. इस सर्वे का उद्देश्य **स्लम में राशन की दुकानों की उपयोगिता का मूल्यांकन** करना है. यह अनुसंधान कृष्णा राज फैलोशिप के अंतर्गत किया जा रहा है. यह फैलोशिप सेंटर फॉर इकोनोमिक्स डैवलेपमेंट, दिल्ली स्कूल ऑफ इकोनोमिक्स, दिल्ली यूनिवर्सिटी द्वारा दी जा रही है.

मैं आपसे सहयोग का अनुरोध करती हूं. कृपया करके इस अनुसंधान में मेरी सहायता करें. आपको इस सर्वे में भाग लेने या न लेने का पूरा अधिकार है. चूंकि यह सर्वे लगभग 15 से 20 मिनट को होगा यदि इस दौरान आप किसी कारणवश सर्वे के मध्य में जाना चाहते हैं तो जा सकते हैं. आपका सहयोग वांछनीय है.

☐ उत्तरापेक्षी की सहमति ले ली गई है.

प्रश्नावली -1 (For Household) Household No.....

प्र.-1 आपके परिवार में कितने सदस्य हैं ? उनमें कितने बच्चे हैं. ?

प्र.-2 क्या बच्चे स्कूल जाते हैं ? क्या उन्हें मिड-डे मील मिलता हैं. ?

प्र.-3 क्या आपके पास सरकार द्वारा दिया जाने वाला राशन-कार्ड है ?
किस रंग का कार्ड है ?

प्र.-4 क्या आप उसे प्रयोग करते हैं ? यदि नहीं तो क्यों ?

प्र.-5 यदि हां तो कौन सी वस्तुएं ख़रीदते हैं ?

गेहूं	चावल	चीनी	मिट्टी का तेल	अन्य

प्र.-6 एक महीने में आप कितना गेहूं/चावल ख़रीदते हैं ?

प्र.-7 एक महीने में सरकार द्वारा कितना गेहूं/चावल निर्धारित किया गया हैं ?

प्र.-8 क्या आपको उतना गेहूं/चावल मिलता है ?

प्र.-9 आप राशन की दुकान से कितना गेहूं/चावल खरीदते हैं ?

प्र.-10 आपको राशन की दुकान से किस मूल्य पर गेहूं/चावल मिलता हैं ?

प्र.-11 आप बाजार से अथवा किराणे की दुकान से कितना गेहूं/चावल खरीदते हैं ?

प्र.-12 बाजार अथवा किराणे की दुकान से गेहूं/चावल किस मूल्य पर मिलता है ?

प्र.-13 क्या आप पिछले वर्षों की तुलना में इस वर्ष राशन की दुकान से ज्यादा/कम गेहूं/चावल खरीदते हैं ? क्यों ?

प्र.-14 क्या आप कभी साल में गांव जाते हैं ? गांव से अनाज आदि लाते हैं ? यदि हां तो उस महीने राशन लाते हैं?

प्र.-15 क्या आप राशन की दुकान से मिलने वाले गेहूं/चावल की गुणवत्ता से खुश हैं ?

प्र.-16 क्या आप हर महीने अपनी आवश्यकता के अनुसार गेहूं/चावल खरीद पाते हैं ?

प्र.-18 यदि राशन की दुकान पर गेहूं/चावल का मूल्य गिरता है अथवा उसकी निर्धारित मात्रा बढ़ती है तो क्या आप ज्यादा गेहूं/चावल खरीदेंगे ?

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1. परिवार का मुखिया कौन है ?
2. SC/ST
3. Education level of adults in Household
4. Assets owned : i) Colour TV ii) Fridge iii) Multi room pucca House iv) Cooler v) Bike/Car
5. Employment status
6. Rented/Own House
7. आपके परिवार की मासिक आय कितनी है ?

प्रश्नावली -2 (For Household)

Condition/function of FPS

प्र.-1 आपके घर से सरकारी राशन की दुकान कितनी दूर है ?

प्र.-2 बाजार अथवा किराणे की दुकान कितनी दूर है ?

प्र.-3 राशन की दुकान खुलने और बंद होने का क्या समय है ?

प्र.-4 हर महीने आप किस तारीख/समय से कौन सी तारीख/समय तक राशन ले सकते हैं ?

राशन मिलने की तारीख			समय		
दिनांक	से	तक	सुबह	बजे से	तक

प्र.-5 राशन किस वार को मिलता है ? इससे आपको कोई परेशानी तो नहीं होती ?

प्र.-6 आपको लाइन में कितनी देर तक खड़ा होना पड़ता हैं ?

प्र.-7 क्या आपको हर महीने राशन मिलता है ? यदि नहीं तो क्यों ?

प्र.-8 कभी बाजार जितना महंगा मिला है ?

प्र.-9 कभी ऐसा हुआ है कि आपके आस-पास के लोगों को राशन मिला हो और आपको नहीं मिला हो ?

प्र.-10 कोई बदलाव जो आप चाहते हों ?