CHAPTER II

REVIEW OF LITERATURE
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2.1 Introduction

In the present chapter, previously published research journals, reports and working papers that are related to current study have been reviewed and discussed under suitable sub-headings about public distribution system in India, positive and negative view of public distribution system, public distribution system and food security in Karnataka, status of scheduled tribes in India, socio-economic status of scheduled tribes in Karnataka and their and food security.

The studies of PDS and related research studies would help to collect the necessary information which is needed for study, suitable methods to be adopted, organize the study in right way, merits and demerits of techniques used to analyse the data. Further, this would help to identify the strength and weakness in previous studies, so the weakness can be avoided and to strength the present study. It is also important to find out the gaps in the research studies related to PDS studies and finally the result of previous studies could be compared with present results to understand the significance and relevance of the study. Hence, the studies conducted at local, regional and national level have been studied keenly and it has been discussed below in detail.

2.2 Public Distribution System in India

The public distribution system in the country is more than half a century old as it was introduced in 1939 in Bombay by British Government to ensure equitable distribution of food grains to urban consumers (Planning Commission, Government of India, 2005). Over the time it has been developed to secure the food for poor of the country. There are several studies conducted by government organization as well as individual at local level and regional level to understand the strength and weakness of public distribution system.

From the wisdom of previous studies, it is clear that most of the researchers have shown negative view on public distribution system while very few stated
positive view on it. The studies about the positive and negative view of public distribution system is discussed below in detail.

2.3 Positive Views of Public Distribution System

As mentioned early, the positive view on the functioning of public distribution system is less compared to negative view, the positive view researchers indicate that, the system has reduced the poverty, malnutrition has decreased, quality of rural life increased, entitlements are received by consumers correctly and health status of consumers have increased. A study conducted by Kumar A (2014), using Consumption and Expenditure Survey done by National Sample Survey Organization, Government of India, they found that, in all India level, poverty rate was reduced around 3.5 percent during 2011 - 2012 on account of subsidy transfers, and this impact was pervasive across rural, urban and regional divide across the country. They also indicated that, the public distribution system also contributed to improving nutrition intake of beneficiaries by observing decreasing nutrition deficiency at all India level as 15.4 percent points in 2011 – 2012.

The study of Drèze J and Khera R in (2013) stated that, in all India level, the public distribution system is estimated to reduce the poverty gap index in rural areas around 18 percent to 22 percent, this influence is even higher in well-functioning public distribution system states like Tamil Nadu and Chhattisgarh, between 2009 and 2010 poverty-gap index of rural area was reduced 61 to 83 percent in Tamil Nadu and 39 to 57 percent was reduced in Chhattisgarh. From the result they pointed out that, the public distribution system is an important source of food security for poor people in many states of the country.

A study conducted by Aggarwal A, (2011) to analyse the functioning of public distribution system on ground level, she studied twelve villages in two districts of Orissa. Through the primary survey she found usually the consumers are receiving full entitlements from the fair price shops and at most places rice was being distributed regularly every month. Even though, there are few different opinions about the quality of entitlements provided by fair price shops in their study area in overall
the vast improvement in public distribution system to cover the food security of the region.

The publication of good governance cell of BJP, Chhattisgarh in 2011 represents that, the success of public distribution system in the state reduced rural poverty, livelihood was improved and malnutrition was reduced from 62 percent to 51 percent in 2010 – 2011. The public distribution system is an instrument to ensure food security to millions of below poverty line families in the state. The system covers 37 lakh households which is 70 percent of state population. Finally, they suggested that, the public distribution system model of Chhattisgarh can be adopted to any other states of country for the successful of system.

A study was conducted in 2014 to assess the nutritional impact on targeted public distribution system by World Food Programme through qualitative research stated that, beneficiaries iron deficiency was reduced by 94 percent. They also pointed out the benefits as reduction in the overall spending on public health, school attendance was improved, performance in academic was increased and ultimately economic productivity was improved on individual level as well as for the whole country.

2.4 Negative Views of Public Distribution System

The problems in the system vary from region to region in the country, few states are facing problem in administration and corruption while other states are weak in shortage of stocks, fake ration cards and irregular and poor quality of food grains (Pal B, 2011). The major problems found through literature are regional imbalance, corruption, less consumption, quality and quantity of entitlements, misclassification of APL and BPL and leakages from fair price shops.

Swaminathan M (2008), has studied the functions of public distribution system in Kerala and Tamil Nadu with the overview of country. From her study she states that, public distribution system has not been effective to protect the food security of needy and she also pointed out the list of major problems in public distribution system such as, the system does not include large portion of needy, the
system has failed to achieve the objective of price stabilization and large scale of leakages from public distribution system as grain being diverted and not reaching the needy.

To assess the grassroots level of operational aspects of public distribution system, a study was conducted by Ghumaan G K and Dhiman P K, 2014. They have analyzed three blocks in Sangrur district in Punjab such as Dhuri, Sangrur and Sunam. Totally 100 respondents were examined as 50 from urban and 50 from rural through primary survey. The result revealed that, only less than 50 percent of households are getting full quota of food grains from fair price shops and even that is not on time, the households are not satisfied with the quality of food grains as well as the quantity of grains provided.

During the year 2012, a study was conducted to assess the efficiency of public distribution system in Kashmir, as a microeconomic analysis by Bhat GM and Bhat AH. in their study they have framed four objectives such as, a) analysis of the efficiency of public distribution system, b) does the supply reach the proper household, c) are food grains provided at proper time, and d) suggest the solution to restructure the system. Through their study they found that, a family is eligible to obtain 2.5 kgs of sugar, 5 liters of kerosene, 35 kgs of rice and 5 kgs of flour every month, but the ration shop owners always provide lesser than this to beneficiary and do not follow the government order, the extra entitlements kept by shop owners are sold in black market during night time for higher rate. Finally, they concluded by indicating, the public distribution system does not function properly, the supplies are not qualitative and are not provided on correct time, government also fails to control shop owners to stop black marketing.

Khera R (2011), has examined the government of India’s 1997 measures for identifying the households that belonging to the below poverty line where to issue ration cards. The study was conducted in 2008 by choosing eight villages in four district of Rajasthan as a case study with 400 sample households. In the findings she specified among the below poverty line households around 25 percent of households were wrongly included, while 44 percent of real below poverty line households were
excluded. She also argues that, the classification of below and above poverty line measures are static, such as once the household was classified as below or above poverty it is assumed that the household would remain same for next at least 5 years which is not possible in reality.

An evaluation study was carried out by Kavita in 2014 to evaluate the public distribution system of India. The information collected from Census of India and Food Grains Bulletin, she found regional differences in operation of public distribution system. Few states such as Tamil Nadu, Maharashtra, Uttar Pradesh, Andhra Pradesh and West Bengal are account about half of total off take. Further, she listed out the major problems in the public distribution system as a) wrong identification of below and above poverty line households, b) diversion of entitlements into open market, c) existing of bogus cards, d) poor quality and quantity of food grains and e) weak monitoring and lack of transparency.

A report on the effectiveness of public distribution system in rural Tamil Nadu submitted by Nakkiran S to The Planning Commission, Government of India in the year 2004 states that, even though government has taken effort to ensure the availability, accessibility and affordability of public distribution system entitlements to poor, there are several problems were existing in the system.

Nakkiran has chosen three districts belongs to under developed, moderate and developed in the state namely Nagapattinam, Dindigul, and Coimbatore. Further in each district two blocks were selected and in each block four villages were selected that was totally 24 villages for study. From each village 100 samples were chosen which totals 2,400 sample households. From the study Nakkiran found the major problems were existing in the study area were a) like leakages, b) poor quality and underweight, c) non-availability of controlled as well as non-controlled articles and d) non-availability of ration cards.

A published working paper of leakages from public distribution system by Gulati A and Saini S in 2015 depicts, existing system is highly leaky with huge amount of entitlements that accounts 40 to 50 percent of diversion to open market.
The study conducted using difference between the grains off taken by states from central warehouse and the grains received by beneficiaries exposed that 46.7 percent or 25.9 MMTs of grains off taken had not reached the beneficiaries in 2011-2012. They also pointed out that, the percent of leakage was high in the state where higher percent of poor resided.

Gupta P and Singh U, analyzed the effectiveness of public distribution system in Uttar Pradesh in 2016, through evaluating four villages in Gautam Budh Nagar. They have collected data from 400 beneficiaries and 10 government employees through prepared structured questionnaire. The analytical result was revealed that, the presence of leakage of food grains into open market and lack of government initiation throughout the system. Further, through the assessment of four main divisions of system such as a) food corporation of India, b) state government, c) fair price shop and d) consumers, they were concluded that, the food corporation of India and fair price shops are lack in number of staffs while state government is lack in storage godowns.

An exploratory research was carried by Ray S and Ray I A, in 2011 for the macro level assessment of public distribution system in assuring food security of India. They have used statistical information that published by Government authorities and statistical institutes. In this they concluded that, the percent of leakage in off take of central pool is abnormally high except West Bengal and Tamil Nadu. The reason behind less percent of leakage such as West Bengal and Himachal Pradesh is due to higher literacy and strong grassroots level organization. In the case of Tamil Nadu, it is due to elimination of private retail outlets.

Corruption is one of the major problem in public distribution system which was observed in several places of the country, notably the research conducted by Kumar B and Mohanty B in 2012 discussed deeply about it. Their research involved with 45 public distribution dealers and 20 beneficiary clubs at Athmallik Block in Angul District of Odisha. Through their study they found that, selection of fair price shop dealers was based on the personal relationship with politically influenced people. Besides, the fair price shop dealers also spending money from Rs. 50 to Rs. 20,000 as
bribe for officials, the bribe amount tended to increase if any complaint on fair price shop comes to officials from the consumers. It was concluded that, corruption in PDS in rural India is very high and the important reasons attributed to this are appointment of dealers on political lines, and no provision of margin to the dealers. Consumer clubs are found to suffer mainly from lack of financial support. These clubs can play a very important role in educating the rural consumers about the PDS and in ensuring their food security and welfare.

A study conducted in Haryana by Ram A in 2015 states, corruption in public distribution system is in peak. He has indicated that, in February, 2013 fifty thousand quintal wheat was received by DFSC under above poverty level quota, but these entitlements were not distributed to beneficiaries and the scam money went to pockets of Food and Supply Department officials. He also noted that, around 55.65 percent of entitlements distributed by public distribution system goes into illegal market in Haryana and money goes to fair price shop owners and department officials.

The ground level field work conducted by Khera R in 2011 to monitor the public distribution system of Rajasthan illustrates that, beneficiaries were cheated by fair price owners during her presence in fair price shop, the beneficiaries who were aware they have been cheated have complained to her about the issue but not to the fair price shop owners because of the fear they may not get entitlements in the future. From the analysis of secondary data, she states 64 percent of wheat is siphoned off to open market. The reason for higher corruption in fair price shop is due to low commission got by fair price shop owner for entitlement distribution.

A working paper published by Hicks N and Hanan B in 2014 to assess the corruption in public distribution system clearly indicates the places of corruption in system, in the report they have mentioned that, the agreement between officials and sellers causes to distribute the lower quality and quantity of entitlements to the beneficiaries, and if the food grains were purchased from the central pools, it can be sold illegally in black market by officials or by distributors for their personal profit. They have pointed out that, consumers are not able to rise voice against fair price shop owners due to the fear of denying of entitlements in the future.
A study on transparency and anti-corruption conducted by Peisakhin P and Pinto P in the year 2010 revealed, the public distribution system which was invented to protect poor is highly corrupt and functions more in the interest of officials and affiliated business owners than the poor in India. They state in overall between 15 percent and 61 percent of all entitlements managed by public distribution system goes missing on its way to the beneficiaries. During the election time politician promises to provide ration cards to potential voters in exchange of their electoral support, this results in strict eligibility criteria for different types of ration cards being generally disregarded, and particular communities are oversupplied with ration cards while others who are in direct need of subsidized food never receive them.

The quality and quantity of entitlements distributed by public distribution system are generally poorer than what government had assure. It might be due to grassroots level of corruption in the system that can be understood from the noted studies above. The study conducted by Velmurugan R and Lavanya D in 2015 indicated Adulteration, Distribution of inferior quality goods, Under Weighment are common problem in the system. They have analyzed 150 households in Pollachi taluk of Coimbatore district in Tamil Nadu using Garrett's Ranking Technique (to find out the most significant factor which influences the respondent), their result depicts adulteration as the major problem in the study area followed by poor quality of entitlements and under Weight.

A study on problems in public distribution system in India by Goli S in 2011 indicates major difficulties in the system. Using India Human Development Survey data, he has assessed by states and social groups. Through the study they found a) distribution of ration card is not genuine, b) less consume of entitlements by consumers, c) entitlements price is well above than government fixed price and d) bureaucratic barrier for not having ration cards. Likewise, a survey conducted using 154 samples in Coimbatore and Tiruppur region in Tamil Nadu by Dhanaraj and Gade during 2016 represents 25 percent of beneficiaries are selling their one of the commodities or feeding to livestock because of poor quality.

70
Through the assessment of positive and negative view of previous research conducted on public distribution system in the country shows that, very few people have illustrated it in positive manner while most of the research stated system has failure or not completely successful as it was expected. The major drawback found for the failure of public distribution in the country are, corruption, quality and quantity of entitlements, accessibility, classification of above and below poverty households, regional imbalance, leakage of entitlements into open market and non-availability of food grains in fair price shops.

2.5 Public Distribution System in Karnataka

The state has been following targeted public distribution system through which beneficiaries were classified into different classes and subsides were provided differently on quantity as well as in price. According to Food, Civil Supplies and Consumer Affairs Secretariat Notification, NO. FCS 01 DRA 01, Bangalore, dated: 27th June 2007, the state government issues different ration cards based on the economic status of households such as Above Poverty Line, Below Poverty Line, Antyodaya Anna Yojana and Annapurna families.

Above poverty line are the households which are economically well, the below poverty line are the households that economically poor, Antyodaya Anna Yojana are the poorest households among below poverty line and Annapurna are for the destitute persons who does not have financial support from family members or any other sources, whose age is above sixty-five and not getting pension benefits from the state government or central government.

The poverty of household in Karnataka is determined by set of categories that is based on the government order issued in August 2013, and the household which comes under these categories are not eligible to obtain below poverty line cards such as, government employees, accountants, doctors, income tax payers, merchants or businessman, household having three hectare of land, employees of aided and unaided schools, household paying electricity bills averaging Rs. 450 for a month and household having vehicle with the engine capacity of more than 100cc except auto rickshaw (The Hindu, 2016).
The studies conducted to assess the performance of public distribution system in Karnataka states positive as well as negative scenario of it as like country’s performance. Among the various studies conducted to assess entire state and individual district in the state mostly represent the system’s performance as not good as expected, notably the major draw backs found in the system was corruption, quality and quantity, leakage of food grains, improper functioning of fair price shops,

A study conducted to assess the performance of public distribution system in Bantwal Taluk in Dakshina Kannada by Dhanabhakyam M and Fernandes M L, in 2016 clearly indicated from beneficiary’s opinion that, the items sold in the fair price shop rates are high, the quality and quantity of food grains are poor and under weightage of food grains by fair price shop workers. An another study was conducted by same researchers for Modankap region, Bantwal Taluk, Karnataka in 2016 to assess the below poverty line household’s beneficiaries represents that, majority of below poverty households were getting benefit of PDS and few families were not receiving food grains because of, a) non accessibility of fair price shop, b) poor quality and quantity of entitlements, c) unsuitable functioning time of fair price shops and d) non availability of food grains at fair price shops on correct date.

An analytical report published by Balani S in 2013 states that in Karnataka, a) large number of actual below poverty line families were excluded from below poverty line beneficiaries class which was more than 20 percent, b) the leakage through cards were high which is between 10 and 30 percent, c) leakage at fair price shops were moderate that is between 10 and 25 percent and d) overall leakage in all manner is high that is between 25 and 50 percent.

A regional study of public distribution system by Gundegowda at Tumkur district in 2010 represents, among the 450 sample survey, a) 4.45 percent of respondent were using the helpline of PDS which clearly shows the unawareness of beneficiaries about the facilities provided by the government, b) 3.56 percent of respondent reported that fair price shop level vigilance committees meeting was conducted regularly, 52 percent were reported the meeting was not held and 44.4 percent reported they were not aware of vigilance committee, c) in the filed survey
they found that, beneficiaries has to bribe Rs.100 to Biometric center computer operator for getting the biometric clearance, and d) large amount of public distribution system Kerosene was diverted to the black markets.

A report published by Deogankar C in 2008 revealed the status of public distribution system in Bidar district. He stated many households that have been classified as below poverty line were not having ration cards which is about 33.63 percent, the process of distribution of ration cards were very slow, poor and illiterate families were afraid to rise their voice against officials and powerful leaders in the villages. The problems faced by the card holders were less quantity and poor quality of entitlements and illegal activity of fair price shop owner.

A pilot project carried out by Paraspara Trust with the sample of 5000 households in 30 slums of Bangalore, during 2009 – 2010 states that, a) 15 percent of below poverty line eligible households were not having below poverty or above poverty cards or reported to pay bribe to middle man to obtain ration card, b) the higher number of below poverty line bogus cards were created by fair price shop owners and c) the shop owners misuse bogus card entitlements to sell in black market.

The study conducted on role of public distribution system in social security and poverty alleviation in Mysuru district by Kumar H A and Naveena T M in 2014 indicates from the study conducted for 105 sample households, a) 40.95 percent of respondents state the supply of food grains through fair price shops was not good, b) 31.43 percent represented the quantity of entitlements given by fair price shop was not enough, c) 57.15 percent presented the quality of entitlements were poor, and d) 56.18 percent reported the underweight of food grains measurement. In overall they have concluded as, less number of households were satisfied with the performance of public distribution system, large number of households were not purchasing entitlements from fair price shops due to poor quality and quantity, and it was found that, the benefits were not reaching the needy section of society.

A report published by Balasubramaniam R in 2015 indicated that, Karnataka’s public distribution system is loaded with errors of exclusion of real below poverty line
families from below poverty line status, inclusion of above poverty line families into below poverty line category and the prevalence of bogus cards or excess of below poverty line cards. He also mentioned that, the number of cards were more than the number of people in the state, according to government of Karnataka the number of distributed ration cards were 1.6 crores while the number of families in the state itself 1.2 crores, which clearly represents nearly 40 lakh bogus cards created illegally.

An extensive survey conducted to assess the a) awareness and transparency, b) accountability mechanisms and c) responsiveness mechanisms in 15 districts of Karnataka with the sample of 7344 individuals by Sreedharan S Et al., in 2014 revealed that, none of the fair price shop was working effectively and suffer from widespread failures, they found that, a) display boards were not available in 21 percent of fair price shops, even in the available places the information about the entitlements were incomplete or not up-to-date, b) awareness of consumer rights were extremely low, c) only 17 percent of shops were using electronic weighing machines that creates opportunities for malpractices, d) vigilance committees were a completely failure undermining accountability of service providers, e) food inspectors were reported as overextended and not working effectively, f) complaint and grievance redress system was not promoted and suffers from low usage, g) fair price shops were not open on all working days.

In addition to above Sreedharan S Et al., in 2014 also have found major deficiencies in the public distribution system operation such as a) access barriers and poor quality of entitlements, b) gap between declared norms of service and reality on the ground, c) unawareness of beneficiaries on their rights and entitlements, d) misbehavior of staffs and prevalence of corruption, e) black marketing and difference of service between districts, and f) samples were not displayed in sealed plastic bags in around 62 percent of shops that were surveyed.

Reddy H (2015) identified the problems in public distribution system of Karnataka, through analyzing 80 individual beneficiaries and 25 fair price shops agents they found the major problems from the side of beneficiaries were, a) under-weightage, b) poor quality of entitlements; the problems found from fair price shop
owners were, a) local politicians approach to get free entitlements, b) non availability of modern weighing machine.

The problem with public distribution system is not a recent issue, it has been witnessed even in the past, notably a case study conducted by Rao V in 2000 by choosing three villages such as Halli, Beedu and Ooru in Mysore district presented that, the fair price shop in the village Halli was open only once in a month and even then it only provided poor quality of rice; the fair price shop in Beedu village was held by a person belonging to powerful family in the village so the food grains were never sold to beneficiaries through fair price shop and entitlements diverted to open market; the fair price shop in Ooru village were distributed very limited quantity of poor quality rice and sugar.

The study conducted to analyze the public distribution system and food security in Karnataka by Kudlannavar B S in 2001 presents that, among the total samples 72 percent of respondents from urban areas and 54 percent of rural areas were satisfied with the timing of fair price shop, which indicates the performance of fair price shops were inadequate in rural areas than urban areas; further, 47 percent of urban respondents expressed public distribution system has helped poor while 66 percent respondents in rural areas shown that, the public distribution system highly helpful in rural area than urban areas.

A study on public distribution system was carried out by Shivakumarswamy in 2008 for doctoral research, to analyse the impact of public distribution system on food security among the poor in Karnataka with the special reference to Chamarajanagar states, through the analysis of 500 below poverty line households as samples that obtained from both urban and rural areas which highlighted that, a) people had more access to open market than public distribution system to purchase food grains, b) the purchase of sugar and kerosene is high in urban areas whereas food grains were high in rural areas, c) major gap between required and provided food grains through the fair price shop which is almost 60 percent, d) poor purchasing power of households, improper working timings of fair price shops and non-availability of food grains.
Another study by Sivanna N in 1996 to evaluate the organization and management aspects of public distribution system in Karnataka with special reference to Kolar district presents, almost 75 to 80 percent of village and town households stated that fair price shop owners engaged with illegal activities such as diverting food grains into open market, inadequate distribution of food grains, misappropriation and irregularities. Further, he also stated that, the quality of food grains in fair price shops were poor and even it was not distributed on proper time, the main reason for poor quality of entitlements was due to adulteration by fair price shop owners and poor storage. The attitude of not purchasing entitlements from fair price shops in Karnataka was indicated by Pantlt A S in 1996 for his doctoral thesis in which he stated that, food grains were not available in fair price shops regularly and poor quality of entitlements and less quantity of food grains is being distributed.

The reviewed studies on public distribution system in Karnataka presents both negative and positive aspects of PDS, where in majority researchers were indicated that, the system in the state was successful but however the beneficiaries were not able to obtain entitlements properly from fair price shop on time.

2.6 Public Distribution System and Food Security

In India, public distribution system was introduced to protect the food security of people by providing entitlements at less price or free of cost through fair price shops. The question is whether public distribution system has achieved its main goal or not. The research studies conducted in the country to identify the public distribution system on food security depict straightly the system was a failure while in some other states it has fulfilled its goal, notably Kumar B and Mohanty B in 2012 stated the system was failure and it has not secured the food security of poor, while Kumar A and Ayyappan S in 2014 stated that, the food security of poor has improved due to public distribution system, hence in the first few paragraphs mentioned below are discuss about the positive and negative views of public distribution system on food security are discussed.

Dev S M and Sharma A N in 2010, stated public distribution system is one of the major instruments for ensuring food security at household level. By using
National Sample Survey Organization information, they studied different states in the country, and they pointed out that, the positive influence of public distribution system on health and nutrition.

Ittyerah A C in 2013 indicates through analysis of consumption level of entitlements through public distribution system had increased significantly between 1993-94 and 2009-10, even though there were difference between the states, the overall statistics of country revealed the contribution of public distribution system on food security.

Krishnamurthy P, Pathania V and Tandon S 2014 assessed the impacts of reforms to the public distribution system in Chhattisgarh on food security. They have investigated how food security and public distribution system consumption was responded after the 2004 public distribution system reform in Chhattisgarh. Their investigation brought out two major results such as a) the average number of calories consumed from public distribution system entitlements increased significantly and, b) the number of calories obtained per rupee spent on public distribution system grains also increased significantly, from which they stated an increase in the consumption of public distribution system entitlements for the poorest households, finally they concluded that, the reformation of public distribution system in Chhattisgarh had increased the level of consumption and increased food security of poor people.

The evaluation of food security and public distribution system in Bihar by Drèze J, Khera R and Pudussery J in 2015 stated, Bihar's public distribution system is one of the worst for a long time, notably the national sample survey data analyzed between 1999 and 2000; 2009 and 2010 indicated that, very few households were getting entitlements from public distribution system in that periods, but the survey conducted in 2011 showed significant improvements, on average of sample households had purchased 45 percent of their public distribution system entitlements in their three months of survey, By this and other criteria, the state of Bihar still had the worst PDS among the other states, by a long margin. They concluded with several drawbacks in the system with the suggestion to reform public distribution system which would help in the future.
Swaminathan M (1996) stated that, entitlements to beneficiaries for basic cereals had fallen sharply since 1991, which occurred due to reduction in the quantity of food grains and other commodities supplied to the public distribution system, and in other causes, a reduction in the ration scale or quantity of food grains that a household purchase from fair price shop. Most importantly, the beneficiaries end subsidy was reduced by substantial increase of prices on food grains sold in public distribution system, which is faster increase than open market prices. She has pointed out the state Maharashtra, where entitlements fell after introduction of revamped public distribution system and nutritional deprivation is remain high, finally she has concluded that, the system in India needs to be genuinely reformed if it is to provide basic food security to the vast majority of poor population in India.

A research conducted to analyse the effectiveness of public distribution system on food security of India by Ray S and Ray I A in 2011 stated the ineffectiveness of the system, based on the secondary information collected from the authorized institutions they have analyzed country’s food security for last few decades and working of public distribution system at macro level, by evaluating the planning commission report they stated from universal public distribution system to targeted public distribution system has neither benefited poor, nor helped to reduce budgetary of food subsidies.

Among the several problems in the targeting public distribution system Ray S and Ray I A have pointed major problems are a) targeting has led to the large scale exclusion of genuinely needed from the public distribution system, b) targeting has affected the functioning and economic viability of the public distribution system network adversely and led to a collapse of the delivery system, c) the system has failed to achieve the objective of price stabilization through transfer of cereals from surplus to deficit regions of the country and d) there are reports of large scale leakages from the public distribution system, from the assessment of targeted and universal public distribution system they finally concluded that, policy making and implementation of public distribution system have failed miserably in respect of solving the crisis of mass under nutrition in the country.
Gopalan C (1995) stated, the major problem of food insecurity in the country is not due to production of food grains. It was caused by inadequate distribution of food grains to the needy. The study conducted to evaluate the food and nutrition security of country has pointed out several problems in the public distribution system and the nutrition deficiency among the children and adults in the country.

A study carried out by Chakravarty S and Dand S A in 2005 to identify the causes and dimensions of food insecurity in India indicates that, breakdown of targeted public distribution system is one of the reasons for the food insecurity of country. Through analyzing several reports they concluded that, the main cause of food insecurity in India was a) lowering of purchasing power among the poor and vulnerable population in rural and urban centers, b) insufficient function of public distribution system and c) slowdown of policy initiatives to set up support led security measures.

From the review of previous studies related to public distribution system and food security of country indicates, higher proportion researchers opined that the system as a failure or the system has to be reformed to fulfill the food security of country while a few researchers have mentioned the system has secured food security or it has increased the food security in recent years.

2.7 Status of Scheduled Tribes in India

As the study has been framed to assess the food security of scheduled tribes, it is necessary to understand tribe’s status from macro to regional level, therefore the studies conducted to evaluate the socio economic status, literacy, poverty, inequality

Mitra A (2008) has conducted a study on literacy of scheduled tribe’s women in India, through analyzing Census of India, Department of education in India and National Human Development Report she indicated tribe’s women literacy rate was lesser than general population of country, the reason for the low literacy rate of tribe’s women were a) high poverty, b) high dropout, c) gender variability, d) insufficient numbers of schools in many tribal areas, e) lack of resources in tribal schools, f) significant language barriers in schools where the teachers are not fluent in tribal
languages and g) social inequality, by analyzing the literacy rate between the states it was found that, higher literacy was in northern eastern states of the country while lower literacy rate was in Bihar and Uttar Pradesh, she finally concluded that, education and literacy attainment of tribal women fail to capture the differential human capital attainment and obstacles to schooling faced by various scheduled tribes in India.

Suresh P R and Cheeran M T in 2015 also studied the literacy rate of tribes in India, using the Census of India data from 1961 to 2011, they have found that, scheduled tribe’s education level is much behind the mainstream population, the gender difference in the education also have witnessed that, male population were having higher literacy rate than female population and educational attainment of scheduled tribes also remains poor compared to other social groups.

A study carried out by Kijima Y to study the inequality of scheduled tribes in India, 2006 stated that, still scheduled tribe community are deprived by general society, the income generated, expenditure and living standard are poorer than general population. The another major problem in the scheduled tribe’s community is their geographical location, as their settlements are located in the remote areas. Geographical targeting schemes for areas of high concentration of ST would be an effective way to reduce poverty in India.

Panduranga R and Honnurswamy N have studied the status of tribes in India in 2014, though the analyze of secondary data such as Census of India and national family health survey they have found that, the mortality rate is high among the scheduled tribe, the status of poverty was high, less literacy rate and finally they have concluded that, the schemes implemented by state and central government was not reached scheduled tribe in the country.

Rai R K has studied the tribes of Uttara Pradesh in the year 2016, through analyzing secondary data, he found that, tribes in the state are living in deprivation, their economic condition and standard of living is poor, they are landless and poor in educational status. The other problem particularly in Uttara Pradesh was caused by
Act implemented in 2002, because of it same community tribe people were classified into two different categories as scheduled tribes and scheduled caste.

An assessment of socio-economic status of scheduled tribes with special reference to Visakhapatnam district in Andhra Pradesh was carried out by Rao D P in the year 2013, through the primary survey they found that, majority of scheduled tribes are belonging to Konda Dora tribes, and major proposition of tribes were belonging to Hindu religion, followed by Christianity, further the evaluation of educational status among the tribe illustrated more than 70 percent of population were illiterate. Cultivation was the primary occupation of tribe community through which the household fulfill their needs, and notable percent of tribe population was engaged as daily wage laborers in which the income was lesser than cultivation, finally they have concluded that, the implementation of proper schemes in the tribe’s area to improve the education status would bring out the good future for them.

A study conducted to analyse the socio economic status of Pachamalai tribes in Tamil Nadu by Shankar R and Manimaran S in 2013 was a grassroots level research, through the assessment of 120 sample tribe’s household. They have found that, the literacy level of tribe was lesser than general population, poverty, land alleviation, discriminatory, and exploitation tribe’s resources by others. Due to the poor educational status tribes were unaware of banking system and loans provided through it, hence tribes were depending on money lenders for their need with high interest rate. Finally, they have concluded that the assessment of socio economic status of Malayalee tribes living in Pachamalai hills were not socially as well as economically developed as it was expected.

Mandal J and Sengupta P in 2016 have conducted a study to identify the socio economic status of tribes in Porobusty tribal village, Alipurduar district in West Bengal, for the purpose they have studied 78 sample households through primary survey, through the result of their analysis it is found that, the village was consisting of two major tribe groups such as rava and oraoon, their education status was poor especially female literacy rate was lesser than male literacy, the dropout from school was as high as 65 percent women in total sample survey were left their school.
between II and IV standard which was 70 percent in the case of male. The assessment of houses represented only 4 percent of house of concrete while rest of the houses were kutcha that built using bamboo and leaf. The occupational structure showed most of them were engaged in cultivation followed by daily wages. By analyzing all the parameters finally, they have concluded that, the tribes in Porobusty village were facing various problems such as, lack of education, sanitation, poor health condition, poor life style and poverty.

Paltasingh T and Paliwal G in 2014 studied the regional dimensions and imperatives of tribal population in India and says tribes in India are heterogeneous at national, state even district level in language, cultural practices and pattern of livelihood that influence their socio economic status. They stated that, the efforts taken by government and other organizations to improve the livelihood of scheduled tribe in the country was not significant, hence regional approach schemes should need to be taken to make changes in scheduled tribes life. Most of the tribes living in the country are illiterate even they do not know about the schemes available for them, Another main reason for the unsuccessfulness of schemes in the tribe areas was caused by complicated procedure of sanctioning of the schemes and poor implementation.

A doctoral research conducted by Singh A V in 1994 about tribal children drop-out from primary schools in India with special reference to Ho tribes in Parampancho, West Singhbhum district in Jharkhand represents that, higher proposition of dropout occurs in rural area, especially it is highest among the socially and culturally disadvantaged groups of Scheduled Castes and Scheduled Tribes. Through analyzing Parampancho Primary School in tribal village they found that, the school suffers from lack of resources such as furniture and teaching materials, the financial crisis has distressed the school to such an extent that it does not have own building and new own building is a dream, based on the survey they found, the main reason for the school dropout in the region is caused by the financial crisis among the tribes.

Education and health status of scheduled tribes in Andhra Pradesh was studied by Kumar G V, Nagaraju M and Ramanjaneyulu M in 2014, using secondary data
such as country’s and state’s five years’ plans and state records of tribal welfare they represented that, the literacy level of tribal population had increased over the time but it was very low when compared with mainstream population, the total dropout of scheduled tribe’s children between I and VIII std. were recorded 75 percent in 2005-06, it is high in the case of girls dropout which was 78 percent.

A study conducted to assess the health and health seeking behavior of tribes in Sundargarh district in Orisha by Pradhan S W in 2013 illustrate that, among the selected 148 tribal households only 5 percent of tribes live in pucca houses while rest of them live in semi pucca, kutcha, hut and temporary houses, only 2.02 percent of households were having sanitation specialty rest of them go for open defecations, the literate level showed that, around 33.74 percent were illiterate, and in the literacy population most of them have achieved till primary level education the higher education were within 5 percent, the decision making process about the family’s health care is in the hand of male in the household, very few families only consider female’s opinion, tribe believes the reason for illness is god’s punishment caused by their mistakes and they perform ritual activities to cure the disease, finally the concluded with less literacy rate, believed on superstition, gender inequality and poor health status are present in the study area.

Joy J and Srihari M in 2014, discussed about the dropout of scheduled tribe students in Wayanad District of Kerala, they have stated that, even though the state stands at the first place in the literacy rate of India, the schedule tribe’s dropout in Wayanad district has been increasing tremendously, the tribe children dropout between the year 2007-2008 was 61.11 percent and it was increased to 77.23 percent between the years 2011-2012 with 16.12 percent of higher dropout. From the analyses of recently dropout 20 students they have found the reasons and the causes for dropout such as, a) parents unaware about the importance of education and they were early dropout from schools, b) children’s thought that school is boring, c) dropout children’s influence on school going children, d) parents’ alcoholism practice, e) financial crisis of household, f) caste discrimination in classroom and g) poor health condition.
Mishra M 2012 has conducted a study to assess the health status and diseases in tribal dominated villages of central India with special reference to Pathai Panchayat of Sahpur Development Block of Betul district in Madhya Pradesh. Through the primary survey among households, anganwadis, traditional medicine man and primary health center they found that, from the view of doctors who practice in the area, the common disease among the tribes are malaria, swelling in lever and leg, skin disease, sexually transmitted disease, snake bite, itching, tooth pain and so on, the reason behind most of these diseases are malnourishing, lack of vitamins in food, poverty, lack of awareness about health and disease management, lack of sufficient treatment facility at Sahpur hospital, lack of de-worming treatment.

An another study conducted to identify the health and hygiene status of Deoris tribe in Assam by Chutia S in 2015 represents through analysis 1077 Deoris households, a) 77.15 percent of households were purely dependant on cultivation, b) the structure of house was poor which built using wood, bamboo, cane and thatches called Chang Ghar, c) only 11 percent of household were having sanitary facility such as latrine and bathroom while rest of them use open areas for defecation, d) less households were having electricity than state average, e) child marriage, in the survey it was found that, 36.20 percent of women were got married before the age of 18, f) the mortality rate is high among the tribes in the study area which is higher than the national average, g) the survey about the hygienic condition of tribe represents, about 40 percent do not take bath every day, about 35 percent of tribe do not brush their teeth daily in any manner, about 29 percent of tribes never wash their hand before and after food, by looks and the household level it was clear that, most of the households were little conscious about hygiene. Finally, they have concluded that, the hygiene and health condition of Deoris tribe was lesser than other general population in the state.

From the assessment of previous research conducted by individual, organization and published reports it is clear that, major proposition of tribe’s household is depending on cultivation while others are engaged in daily wages; living in poor environment with higher illiteracy rate, higher school dropouts, higher mortality rate, unawareness about the schemes for them, poor health status with
unhygienic life style, poor sanitary facility, belief in superstition, caste discrimination, alcoholism among elders and gender variability in the country.

2.8 Status of Scheduled Tribes in Karnataka

To understand the status of scheduled tribes in Karnataka the related previous researches have been studied, most of the studies represents the same scenario of studies that have been conducted at national level, such as low literacy, poverty, and poor socio economic status, the detailed discussion of several studies are as follows.

Vijayalakshmi V in 2003 has analyzed the scheduled tribes in Karnataka, she states that, around 60 percent of tribes in the state live in the areas surrounded by forest and hills, these people are one of the most disadvantaged and neglected population in the state, they live as groups of between 150 and 200 houses, their socio economic and health status are poor, even do not have basic amenities such as housing, drinking water, transport facility and health care.

A case study conducted by Mahantesh S. and Sedam H V in 2014 on socio economic status of tribes Karnataka with special reference to Yadgir district illustrates, the tribes in the districts are living in deprived situation with poor socio economic condition, the major problems faced by the tribes in the area are land allegation and inaccessibility of government schemes. Kajekar D has discussed about the problems faced by the tribes along the coastal Karnataka in 2015, he has pointed out the major problems are a) poor education status, b) poor economic status, c) uncertain land ownership, d) unprofitable cultivation, e) social and cultural problems, f) atrocities against tribes, g) indifferent political altitude h) influence of non tribes and i) development induced displacement, in overall he concluded that, the livelihood of scheduled tribe is poorer than general population and they are vulnerable in all manner.

Ramappa B T and SriRama have studied Soliga tribe in Ramasandra and Kadaripura villages of Bangarupet taluk in Kolar district in 2011, through field survey they have witnessed that, a) tribes in the villages are fully depend on the forest for their livelihood, but the policies made by government do not allow them to enter
forest, this causes the problem in the tribe society to find other employment in which they may not get reasonable wage, b) tribes are living in poor houses, some of the houses in the villages were built by government which is in poor condition that human beings cannot live in it, it was witnessed that still tribes are living in tree top huts, c) educational facility is not available for the children of these villages, d) still many Soliga tribes are working as bonded labourer in nearby landlords farms and houses, e) Soliga are more traditional with belief on supposition.

A study conducted by Guru M C, Shanmugam V, Somanna and Shivaraju H S in 2015 for schedule tribe in Karnataka indicates that, the literacy rate of tribes in the state is lesser than general population, the tribes do not have equal opportunity to obtain education with general population, because of less literacy and massive social exclusion none of beneficiary scheme have reached them, the school dropout was higher among the tribe children, most of the cultivated land held by tribe are non-productive, the community suffers from higher mortality rate caused by poverty caused by lack awareness about their health care and lack of health centers in tribe area, the community also affected by genetic diseases and malnutrition was high among women and children.

Dakshayani B and Gangadhar M R have studied the socio economic and living condition of tribes in Mysore district in 2016, totally 800 sample households were analyzed through primary survey that resulted as a) 51.30 percent of tribes were daily wagers while rest of them were engaged in cultivation, basket making and small business, b) 84.50 percent of households were built using tiled roof and 76.12 percent of house were do not have separate room for kitchens without proper ventilation and c) no proper lavatory specialty was available in the tribe area around 91 percent of tribe defecate on open place and along the road and d) poor drainage in the tribe village.

A study was conducted to measure the nutritional status of Jenu Kuruba tribe’s children in Mysore district by Renuka M, Rakesh A, Babu N M and Santosh KA in 2011 states that, the children suffer from malnutrition and with increase in age of the child, the prevalence of underweight is also increasing, the major reason for the
malnutrition was due to intake of poor consumption of healthy food, unawareness of
government facilities available, and poverty, overall the socio economic status of Jenu
Kuruba is poor and they are living in unhealthy environment.

Another study was carried out to assess the nutritional status of Jenu Kuruba
tribes in Kodugu district by Pujar A, Hoogar Pand Basavanagouda TT in 2016, this
study was conducted through field survey by observing 651 individuals in the study
area, from the assessment they found that, a) 23.9 percent of respondent were
suffering from grade III malnutrition 63.1 percent were suffering from grade II
malnutrition, 11.2 percent were suffering from chronic energy deficiency-I, only 1.5
percent were normal, b) very high frequency of CED-III found in both gender as 48.7
percent among male and 51.2 percent among female, in overall they have concluded
that, Jenu Kuruba tribe in the Kodugu district were suffering from different grades of
malnutrition.

Kumar A H studied the socio economic status of Jenu Kuruba tribe in Mysore
district in 2015, which represents through 150 household survey, a) around 81 percent
Jenu Kuruba were belong to Hindu while 29 percent were belong to Christian, b)
Nuclear family among the tribe was higher than joint family, c) major proportion are
living in forest area, d) literacy rate was around 78 percent but higher education rate
was only 2 percent, e) 54 percent of tribes were agriculture labor, 8.67 percent were
cultivators, 28 percent were daily wages and rest of them were engaged with other
occupation like petty shop, and f) 82.01 percent of households annual income was less
than 15,000 while rest of them comes under between 15,000 and 25,000, from this
information it was clear that, the socio-economic conditions and literacy level and
occupational structure of Jenu Kuruba tribe, it is clear that they are not in main stream
life like other tribes in the region.

Manjunatha B R, Annapurna M and Shylaja K in 2014 have assessed the socio
economic pattern of Iruliga tribe in Karnataka, it was a field research study through
which they have highlighted livelihood and socio economic status of tribes, through
the assessment they have found that, a) majority of tribe houses were made of
bamboo, mud and grass, b) occupational structure of tribes revealed that the majority
of them engaged with daily wages followed by agricultural labor and selling fire wood collected from forest, c) socio economic condition was poor, d) as they are few in number in state, the government facilities never reached them, e) having higher faith on god and superstition and f) they are cheated by landlords in several ways. Finally, they have concluded that, Irliga tribe life is detached from the general population, they live in remote areas without proper transport network with poor condition.

Nalinam M studied Koraga tribes in Karnataka and illustrated their depopulation in 2013, through the assessment she has found that, in last 10 years 3 percent of Koraga tribes were decreased in number. She also stated that, their socio economic status is poor and government also acts against them as notable portion of their land is legally transferred to non-tribe, tribes suffer from poverty coupled with illiteracy, due to the ignorance of outside world Koragas are not able to obtain modern concept of health and sanitation, and careless about health and hygiene, superstition is high among the tribe as they believe diseases are caused by hostile spirits and ghost, notable number of tribes fall prey to diseases like malaria, small pox, T.B and typhoid.

2.9 Scheduled Tribes and Food Security

The previous studies related to socio economic status of tribes in the country as well as in Karnataka stated that the scheduled tribes are vulnerable economically, socially, educationally and health care, from this it is clear that tribe are living in helpless situation with uncertainty, hence the assessment of tribe’s food security in the area would give the clear picture about their position. Therefore, the previous researches that evaluated the food security of tribe have been assessed and the detailed discussion given below.

Mukhopadhyay D K and Biswas A B in 2011 have assessed the failure of food security and anthropometric among the tribal children of Bankura in West Bengal. Based on the primary survey conducted in the study area they have pointed out that, two third of children are suffer from undernutrition, the failure of food security in the tribe group caused children with anthropometric failures as 23.4 percent of children
with single anthropometric failure and 45.7 percent of children with multiple anthropometric failure. The assessment of household level depicted 46.8 percent of households was in high or marginal food security, 28.7 percent households was in low food security and 24.5 percent households was in very low food security.

Xaxa J in 2014 analyzed the problem of food security among the tribes in India with special reference to Orisha, she has illustrated that, more than six months of a year tribes are fully depending on public distribution system for their food, but tribes are facing several problems to obtain the entitlements from fair price shops such as, a) as the hamlet of tribes are located in remote places, connectivity between the fair price shop and tribes settlement are detached during the rainy season which may extent around 2 to 3 months, b) sometimes after walking around 7 to 8 km to the fair price shop, the dealer would say there is no entitlements available, c) the quality and quantity of entitlements are very poor, d) as the tribes are illiterate, do not have voice against authority, several tribes were left out from the below poverty line. Other than these the important factor affecting the food security of the area was floods, every year cultivation land get flood and destroyed crops leaving the already severely affected population famished, acquiring of tribe’s cultivation land to other purpose by government, From these she clearly indicates the failure of food security of the tribes in the Orisha.

A study was conducted by Bhagat R B, Unisa S, Nagdeve D A and Fulpagare P in 2010 to assess the health status and food security of tribes and non tribes in the Amravati district, Maharashtra. Through the analysis of 900 households consisting of 600 from tribes and 300 from non-tribe they have found that, a) about 20 percent of tribes and non-tribe’s households were not having ration cards, b) 43 percent of tribe and 29 percent of non-tribes reported they do not get sufficient food every day, c) the literacy rate around 9 percent is higher in non-tribe population than tribe population, d) 43 percent of tribe children and 35 percent of non-tribe children never attended school due to far distance, required for household work and not interest in studies.

Another study conducted by Tagade N in 2012 to assess the food insecurity between the tribes and non-tribes in tribe dominated area of Maharashtra illustrates that, a) under nutrition is high among the tribes than non-tribes which is caused by the
low economic status of tribe population, b) higher incidents of food insecurity in the terms of deficiencies of calorie intake, under nutrition and poverty among the tribes when compared with non-tribe population, it is largely due to lack of access to productive cultivation land and the resultant lower income from agriculture, which is further computed by lack of education and awareness.

Sinha A K has evaluated the nutritional security along with food security of tribes in India in 2014, the study was based on primary as well as secondary data, in which he has mentioned that, malnutrition is one of the major problems among the tribes and many malnutrition deaths during recent past across the country including Bihar, Odisha, Rajasthan Jharkhand, Madhya Pradesh and Chhattisgarh represents the food insecurity of tribes in the country. The daily food that they consume does not have adequate fats and proteins, poor diet, starvation and unhygienic condition of living lead to several diseases among the tribes. Finally, he concluded noting that, the major reason behind the under nutrition and food insecurity was, a) poverty and consequent under nutrition, b) poor environmental sanitation, c) lack of safe drinking water increased morbidity from water-borne diseases, d) environmental conditions that favor vector-borne diseases and e) lack of health care facilities.

A study conducted by Mohapatra G in 2012 to evaluate the Kondh tribe in Kalahandi district of Odisha represents, among the analyzed 105 households most of them were in food stress for 3 to 5 months in a year. During the stress season they consume alternative non-food varieties like leaves, mushrooms, wild tubers, tamarind seed powder that contribute as rainy foods since generations as coping measures of food insecurity. Several households in the study area trapped into debt because of precariousness of food security. The government schemes such as targeted public distribution system, MGNREGS, SGRY and OTELP have limited impact on poverty and food security in the region.

Ramakrishna G, Gaddam S R and Daisy I, 2014, have assessed the impact of floods on food security of tribal in Khammam Region of Telangana (Andhra Pradesh) in India. The study was based on the primary survey that was conducted in 21 flood affected settlements in the region, through the analysis they pointed out the major
problems caused by floods were wage loss, health problems, drinking water and sanitation problems, damage of infrastructure and transportation, agriculture and livelihood. To assess the food security of the region they have used FGT model and through which they have found 47.5 percent of sample household were suffering from severe food insecurity.

2.10 Conclusion

The overall review of previous studies that carried out to evaluate the public distribution system in national level, state level as well as micro regional level depicts that, the system does not perform as it is said in the act, the system has polluted with several drawbacks such as, corruption, poor quality and quantity of entitlements, leakage of entitlements into open market, higher influence of political parties, improper functioning of fair price shop, non-availability of food grains in fair price shops, wrong identification of below and above poverty line beneficiaries and regional imbalance in food security. Even though few researches viewed the system positively the major proposition of previous researches stated the system does not fulfill the needs of actual beneficiaries in country as well as in Karnataka.

The evaluation of research studies conducted to assess the role of public distribution system on food security represents except for very few researchers’ majority of research concluded that the system has failed to protect the poor from food insecurity, the wrong identification of below poverty line and above poverty line beneficiaries or fully excluded the genuine beneficiaries from the safety food security network, even though having ration cards, the creation of bogus cards by dealers or by local leader diverted genuine beneficiaries entitlements into open market and left the poor in poverty.

The studies conducted to evaluate the status of tribes in country as well as in Karnataka revealed that, tribe are more vulnerable community than other groups of people in the country, they live in poor socio-economic status with higher illiteracy rate, higher dropouts, poor health condition with unhygienic life style, higher mortality rate, poor sanitary facility, believe on superstition, caste discrimination became hurdle to come to main stream of the life.
Finally, the food security of tribes represents that, major portion of tribes are suffering from severe food insecurity, as they live in remote areas and lack of awareness about the benefits from the government and other organization they were left out from the rest of the world, for the shortage of food they used to consume tamarind seed powder, leafs and mushroom, several studies also indicated that, the public distribution system which was mainly introduced to protect the poor population of country also left the tribes in several areas in the country.

In the present chapter the existing problems and status of public distribution system and scheduled tribes in India as well as Karnataka have been discussed clearly, hence with the clear idea of existing scenario, the next chapter turns into discusses the socio economic status of scheduled tribe in the study area which was accessed through the primary survey.