CHAPTER VII

Summary of the Findings, Policy Recommendation and Concluding Remarks

Introduction:

After giving a detailed account of the review of the existing literature on food security and various dimensions of household food security in the second chapter, a brief description of the evolution of the Public Distribution System (PDS) of India as well as its functioning in the state of Assam has been analysed in the third chapter. The subsequent chapters give micro level assessment of socio economic profile, household food security and functioning of PDS in the study area. The present study has found acute food insecurity of the sample BPL households in the study area which can be eliminated by suitably designed policy measures. The main purpose of this concluding chapter is to draw some suitable policy measures for eradicating food insecurity in the study area in general and the sample households in particular. Since this policy measures must logically follow from the findings of the study, a summary of these findings would perhaps be very much useful. Thus before drawing up the policy recommendations a summary of findings has been presented here.

VII.1.Summary of Findings:

VII.1.(A) General Observation of Socio Economic and Demographic Profile of the Sample Households:

(i) It has been found that majority of the households are Hindu (89.8 percent) followed by Christian (8.2 percent). Again highest number belong to other backward class (OBC) (54.4 percent) followed by the general category (22.6 percent).

(ii) The total size of the sample population is 2386, of which male and female are 1236 (51.8 percent) and 1150 (48.2percent) respectively. The sex ratio which is also an important demographic feature of any society of the sample population is 930.

(iii) Out of the total sample BPL households, 83.6 percent (418 numbers) families are nuclear and remaining 16.4 percent (82 numbers) constitute joint family.

Percentage of nuclear family is higher in urban area which is 91 percent compared to the rural area which is 81.75 percent in the present study area.

(iv) Of the total sample BPL households, 431 (86.2 percent) households' heads are male and remaining 69 households (13.8 percent) are female headed households. In rural area 87.75 percent households are male headed whereas, 80 percent of sample urban BPL households are male headed households.

(v) Majority of the sample households (53 percent) monthly income lies between income levels Rs. 3001 to 5000 which is followed by 33.2 percent in the income level upto Rs 3000. Only 13 percent and 0.8 percent households belong to the income level Rs. 5000-10000 and above Rs. 10000 respectively.

(vi) It has been found that out of the total sample population of 2386, 736 nos. (30.85%) are engaged in various occupation. 797 nos are student and 492 nos. are housewife and 12.45 percent (296) are unemployed. Largest number (37.09 percent) of employed person belong to daily wage earner. Out of the total household heads, largest percentage of household heads occupation is daily wage labour (37.6 percent) followed by cultivation (35.6 percent).

(vii) It has been found that 88.83 percent sample population are literate. This signifies a higher level of literacy rate than the state (73.18 percent) and national average (74 percent)(census of India , 2011). 83.60 percent (413 nos) household head is literate. It also reveals that the percentage of illiterate female household head is 24.64percent which is higher than the male household head (16.24 percent).

(viii) Out of the total sample households, 93.80 percent (469 nos) households have their own land and remaining 6.20 percent (31 nos) households have no land. Maximum households have (38.6 percent) size of land holding less than one bigha whereas 38 percent (190Nos) households have the size of land holding between 1 to 5 bigha in size. In rural area 7 percent (28 Nos) households have no land of their own whereas in urban area 3 percent sample households have no land of their own.

(ix) Out of the total sample households, 372 Nos households (74.4 percent) are having livestock and remaining 25.6 percent households having no livestock. In rural area, households having livestock ownership is higher in comparison to sample urban households.

(x) Out of 500 sample households, 81.2 percent (406 nos) households have katcha houses whereas only 2.40 percent (12 nos) and 20.50 percent (82 nos) have pucca and semi pucca houses respectively.

(xi) Highest numbers of households have katcha bathrooms, which is 76.2 percent (361 nos) of the total sample households. It also reveals that 7 percent (35 nos) households have no bathrooms and 14.4 percent (72 nos) households have open bathrooms. In rural area this situation is more picarious than their urban counterparts.

(xii) It has been found that 4.6 percent sample households have no latrine in their house. Majority of (53.4 percent) households have katcha latrine followed by semi pucca latrine (37 percent) and only 5 percent households have pucca latrine in their house. Maximum number (63.8 percent) of the sample households' hygienic condition is poor. 30.8 percent sample households hygienic condition is average.

(xiii) Out of the total sample households 84.40 percent households have used electricity and kerosene oil both as a source of lighting, whereas 13 percent and 2.6 percent respectively use kerosene and electricity only as a source of lighting. Majority portion of (85.4 percent) households use firewood as a source of fuel followed by gas (14.20 percent).

(xiv) Out of the total sample households 85.8 percent households have tube wells as a source of drinking water followed by 10 percent households use government planted water supply as a source of drinking water. Only 43.60 percent households are using filtered drinking water.

(xv) Out of the total sample households, 10.8 percent households have the experience of still birth. It also reveals that out of the total sample households, 10.8 percent households have experience with infant mortality. In the rural

area 11.50 percent sample households have experienced infant mortality where as in the urban area, 8 percent sample households have experienced infant mortality.

(xvi) 202 persons died during 2009 to 2014 in the sample area. Out of this 53.47 percent (108 nos) were male and 46.53 percent (94 nos) were female

(xvii) 361 persons were found to be sick out of which 168 persons (46.54 percent) were male and remaining 193 persons (53.46 percent) were female. So it signifies that female persons suffered more from disease than its male counterparts.

(xviii) Out of the 2386 nos sample population 361 nos (15.13percent) people are suffering from various diseases like fever, malaria, cough, stomach pain, body pain, heart disease etc.

(xix) It has been found that 63.6 percent sample households are aware about immunization. It also reveals that 81.8 percent sample households have the knowledge about polio and polio eradication dose whereas only 22.8 percent (114 nos) households have the knowledge about AIDS disease.

(xx) Out of the total sample households, 73.4 percent (367 nos) households have received benefit from the government, whereas remaining 26.6 percent (133 nos) have not received any benefit from the government.

VII.1.(B) Food Security Status in terms of Per Capita Calorie Intake;

(i) In terms of food security index constructed on the basis of per capita calorie intake, 28 percent (140 nos) sample BPL households have been found food secure across the study area and remaining 72 percent (360 nos) sample BPL households have been found to be food insecure. It has also been found that in the rural areas 25.25 percent (101 nos) BPL households are food secure whereas in the sample urban area 39 percent (39 nos) sample BPL households are food secure.

(ii) The Block wise variation of the food security status also witnessed in the present study. It depicts that highest incidence of food security (40 percent) has been found among sample BPL households of Kakodunga development block followed by Golaghat East development block (35.71 percent). Household food security is lowest in the Gomariguri development block where only 14 percent sample BPL households are food secure

(iii) As per the classification of sample BPL households in terms of having BPL card or not. It has been found that out of the 297 sample BPL households having BPL cards only 73 nos (24.58 percent) are food secure. On the other hand out of the remaining 203 sample BPL households which have no BPL card, 67 nos (33.01 percent) are food secure. It signifies that the food security status of BPL households not having BPL card is better in percentage than the households having BPL card.

(iv) The total food insecurity gap (TFIG) which indicates the depth of food insecurity among the food insecure sample BPL households has been found as 18.71 percent in the present study. It signifies that the food insecure households have consumed 18.71 percent less per capita calorie on average than the threshold level.

It has been also found that squared food insecurity gap (SFIG), indicates severity of food insecurity among the food insecure household as 4.50 percent.

(v) To represent the extent of food surplus among the food secure sample BPL households, the surplus index has been constructed in the present study and the value of the surplus index has been found as 4.86 percent here. This signifies that on average 4.86 percent above per capita calorie have been consumed than the threshold level by the sample food secure BPL household

(vi) The Head Count ratio has been found as 0.72 signifies that 72 percent sample BPL households are food insecure in the present study.

(vii) The severity level of food insecurity analysis of the present study depicts that out of the 500 sample BPL households, 140 households (28 percent) have been food secure, 253 households (50.60 percent) have been marginally food

insecure, 96 households (19.20 percent) has been moderately food insecure and 11 households (2.20 percent) has been severely food insecure.

In this regard block wise variation has been seen where it is found that the percentage of marginally food insecure households is maximum (70 percent) in Morangi development block and minimum (32.22 percent) in Golaghat south development block. On the other hand moderately food insecure households is maximum (41.11 percent) in Golaghat south development block and minimum (2 percent) in Morangi and Kakodunga development block.

VII.1.(C) Food Security Status Based on Household Dietary Diversity Score (HDDS):

(i) Food security status of the sample household based on HDDS reveals that out of the 500 BPL households only 71 sample households have the HDDS score above or equal to the threshold level of 4. Maximum households (282 nos) HDDS have been 3 which is 56.4 percent of the total sample BPL household. It also reveals that the HDDS score fluctuates from 1 to 5 among the sample BPL households.

(ii) Block wise HDDS score of the sample area witnessed that in Morangi development block maximum (26 percent) sample households HDDS score lies above or equal to the threshold level of 4. On the other hand it has been minimum in Kakodunga and Gomariguri development block where only 4 percent households have the HDDS score above or equal to 4

(iii) The mean, standard deviation and mode value of the HDDS of the sample BPL households has been found that the mean value is 2.856, the standard deviation is 0.70729 and the mode value is 3. It signifies the higher concentration of food insecure households in terms of HDDS score in the study area.

(iv) So far as rural urban wise HDDS score is concern, it has been found that out of 400 sample rural BPL households only 17 percent households HDDS score is above or equal to the threshold level of 4. Whereas out of the 100 sample urban BPL households it has been found that only 3 percent households HDDS score is above or equal to the threshold level of 4.

(v) The mean, standard deviation and mode of HDDS score of the sample rural households has been 2.85, 0.7593 and 3 respectively, whereas for the sample urban BPL households, these values are 2.86, 0.4223 and 3 respectively.

(vi) The food security status based on HDDS score reveals that out of the 500 sample BPL households only 14.2 percent (71 nos) have been found as food secure. The rural and urban food secure households based on HDDS score have been found as 17 percent (68 nos) and 3 percent (3 nos) respectively.

(vii) Block wise household food security based on HDDS score reveals that in the Morangi development block maximum (26 percent) sample households are food secure. Whereas it has been minimum in Kakodunga and Gomariguri development block with only 4 percent sample food secure households.

VII.1.(D) Comparison of the Extent of Food Security of BPL Households with and without BPL Card:

(i) In the present study it has been found that although all the sample households are BPL identified household, out of the 500 sample BPL households only 297 nos (59.40 percent) have BPL card (i.e either BPL or AAY card) and remaining 203 families have APL card (either APL or MMASY card).

(ii) It has been found that out of 140 food secured BPL households as per the per capita calorie intake norms, 73 households have BPL card while 67 households not have BPL card.

(iii) The head count ratio signifies that out of the 297 BPL card having households 75.42 households are food insecure, whereas out of the 203 BPL households which have no BPL card, 66.99 percent households have been food insecure.

(iv) The shortfall index or food insecurity gap is high in the sample households which have no BPL card (18.94 percent) than the sample households having BPL card.

(v) The surplus index, which shows the better food security status, is higher in the sample households having BPL card (5.45 percent) than the households not having the BPL card (4.19 percent).

(vi) The findings of the study also reveals that squared food insecurity gap is higher in the households having the BPL card (4.87 percent) than its counterparts

(vii) So far as the severity level of food security is concern, no significant difference has been found between the households having the BPL card and not having the BPL card, it reveals that out of the total sample BPL households having BPL card 50.84 percent households have been marginally food insecure. Whereas it is 50.24 percent for the households not having BPL cards. Out of the total 96 sample BPL households those moderately food insecure, 67 nos belongs to the category of sample BPL households having the BPL card and remaining 29 nos belongs to the category of sample BPL households not having BPL card.

(viii) The result of the independent samples 't' test, which is drawn to test whether there is a significance difference in the per capita calorie intake between the households having the BPL and not having BPL cards, finds that the average per capita calorie intake of the households having the BPL card is lower than the households not having the BPL card. The mean value difference is negative (-40.93). The't' value is insignificant (-1.463‹1.96) at 5 % level of significance, which explains no significant difference in the per capita calorie intake of households having BPL card and not having the BPL card.

VII.1(E) Comparison between Rural and Urban Households Food Security Status:

(i) The present study reveals that out of the 400 sample rural household, 101 nos (25.25 percent) are food secured, while on the other hand out of the 100 sample urban households 39 nos (39.00 percent) are food secured.

(ii) The head count ratio also inform that in the rural area 74.75 percent sample households are food insecure whereas in the urban area it was 61 percent only

(iii) In the sample rural area, the food insecurity gap has been found as 19.56 percent, whereas it is 14.54 percent only in the sample urban area.

(iv) The squared food insecurity gap also signifies the poor situation of the sample rural area than its urban counterparts. The present study finds the squared food

insecurity gap has been 4.71 percent in the rural area whereas it is 3.49 percent only the urban area.

(v) The surplus index is found as 5.14 percent in the sample rural households, on the other hand this has been marginally low in the urban areas where it is 4.13 percent only.

(vi) The per capita calorie consumption data reveals that although it was high in the sample rural households but it was less in percentage of daily requirement. The average per capita calorie consumption in the sample rural households has been 2080.51 kcal which was 86.69 percent of the per capita calorie requirement for food security, whereas on the other hand in the urban households the average per capita calorie consumption has been 1947.88 kcal which was 92.76 percent of the per capita calorie requirement for food security.

(vii) In the rural area, the rate of marginally food insecure is very high where 56.25 percent (225 nos) sample households has been marginally food insecure whereas 28 percent (28 nos) sample urban households have been found as marginally food insecure. 16 percent (64 nos) rural sample households are moderately food insecure, whereas in the urban area it is 32 percent (32 nos). The present study also witnessed that 10 nos (2.5 percent) sample rural households are severely food insecure whereas only 1 percent (1 nos) urban sample households is severely food insecure.

VIII.1 (F) Determinants of Food Security Status of Sample BPL Households:

VIII.1.(F)(a) Descriptive Statistics:

(i) The inferential statistics shows that the age of the food secured households head ranges from 20 to 76 years having the mean age value of 39.957 years, whereas the age of food insecure household heads ranges from 25 up to 84 years with the mean age value of 49.086 years. The probability value of Z test is 9.923 which is significant at less than 5% probability level

(ii) The size of the household of the food secured households ranges from 1 upto 8 nos having the average size of the family is 3.843, whereas the size of the

household of the food insecure household ranges from 2 up to 13 nos, having the average size of the household is 5.133 nos. The probability value of the z test is 9.04 which is significant at 5% level of significance

(iii) The per capita income of the food secured household s ranges from Rs. 333.33 upto Rs. 2750 having the mean per capita income is Rs. 947.54. Whereas the per capita income of the food insecure households ranges from Rs. 285.71 upto Rs. 2400 having the mean per capita income is Rs. 739.82. The probability value of the z test is 5.69 which are significant at 5% level of significance. It implies that per capita income affecting the household food security status significantly.

(iv) The TLU values of the food secured households ranges from 0 to 4.69 where the mean TLU is 1.013. On the other hand the TLU value of the food insecure households is ranged from 0 to 8.81 having the mean TLU value is1.472 units. The P value of the Z test is 3.29 which is also significant at less than 5% probability level.

(v) The study reveals that out of the 500 sample households the numbers of female headed and male headed households are found to be 69 and 431 in numbers and covers 13.8 percent and 86.2 percent respectively. Out of the 69 female headed households , only 17.39 percent (12 nos) female headed households are food secure, whereas among the 431 male headed households only 29.70 percent (128 nos) households are found to be food secure. The chi-square result 4.31 shows that it is significant at less than 5% probability level.

(vi) The findings of the study reveals that that out of the 500 sample household head 87 nos are illiterate which accounts 17.4 percent of the total sample household head. Out of this 87 nos heads, 19 nos (21.84 percent) and 68 (78.16 percent) are found food secure and food insecure respectively. Only 9.6 percent (48 nos) of the total sample household heads educational qualification is class 12 and above. Out of this 23 nos (47.92 percent) and 25 nos (52.08 percent) are food insecure respectively. The majority of households from both food secure (70 nos) and food insecure (161 nos) household fall under education level from class 6 to class 10. About 20 percent of food secure household and 29.44

percent of food insecure households have an educational level which ranges from class 1 to class 5. The probability value of chi- square test is 17.794 which is significant at 5 % level.

(vii) The study also find that out of the total 500 sample household heads, 182 nos (36.4 percent) household heads occupation is agriculture and remaining 318 nos (63.6 percent) household heads occupation is others. Out of the 182 nos households where head's occupation is agriculture, 42 nos (23.08 percent) and 140 nos (76.92 percent) are food secure and insecure respectively. On the contrary, out of the 318 nos households whom heads occupation is non farm, 98 nos (30.82 percent) and 220 nos (69.18 percent) are food secure and food insecure respectively. The chi- square result, which p value is 3.47 is significant at less than 10 % probability level.

VII.1.(F)(b) Binary Logistic Regression Analysis:

(i) The Binary logistic regression analysis result reveals that out of the 7 predictor variables, five variables are significant determinant of household food security status of the sample BPL household. These are log of per capita income of the household, log of age of the household head, sex of the household head , education level of household head and log of family size

(ii) The log of per capita monthly income of the household has positive impacts on household food security status and is significant at 10 % level of significance. The odd ratio (1.8725) of log of per capita monthly income indicates that keeping other variable constant, when the log of per capita monthly income increases by one unit, the probability of a household to be become food secure increases by the factor of 1.8725.

(iii) The log of age of the household head has the negative impacts on food security status and was significant at 1% level of significance. The coefficient (-3.1492) of the log of age of the household head implies that holding other variable constant, if the age of the household head increases, it decreases the log of odd of household food security status by 3.1492 units.

(iv) The sex of the household head was significant at 1% level and positively related with food security status of the household. The coefficient (1.6013) of sex of the household head indicates that holding other variables constant, if the sex of the household head is male, it increases the log of odd of household food security status by 1.6013 units.

(v) The education level of the household head has positive impacts on household food security status and was significant at 10 % level of significance. . The odd ratio (1.0635) of educational level of the household head indicates that keeping other variable constant, when the educational level of the household head increases by one unit, the probability of a household to be become food secure increases by the factor of 1.0635.

(vi) The log of the family Size has negative impacts on household's food security status and was significant at 1 % level of significance. The odd ratio (-3.0021) implies that as family size increases by one person, the likely probability to become food secure decreases by a factor 3.0021.

(vii) The influence of other variables on household food security status such as occupation of the household head and livestock ownership are not found to have significant impact

VII.1.(F)(c) Simple Regression Model:

(i) The simple regression model witnessed that out of the seven independent variables, six variables are significant. These are per capita monthly income, age of the household head, sex of the household head, occupation of the household head, family size, and livestock ownership. Out of this per capita monthly income, sex of the household head, occupation of the household head, dependency ratio and livestock ownership are positively related to per capita calorie intake and age of the household head and family size are negatively related with per capita calorie intake.

(ii) The log of per capita monthly income of the household was significant at 1% level with a positive coefficient 0.126 which implies that other variables being

constant a unit increase in per capita monthly income of the households increases the per capita kcal consumption of the household by a factor of 0.126.

(iii) The log of the age of household head was significant at 1% level with a negative coefficient of -0.257 which implies that other variables being constant a unit increase in the age of the household head decreases the per capita kcal consumption of sample household by a factor of 0.257.

(iv) Sex of the household head was significant at 1% level with a positive coefficient of 0.151 which implies that other variables being constant a unit increase of male headed household increases the per capita kcal consumption by a factor of 0.151.

(v) Occupation of the household head was significant at 1% level with a positive coefficient of 0.135 which implies that other variable being constant a unit increase of the household head's occupation as agriculture increases the per capita kcal consumption by a factor of 0.135.

(vi) The log of family size was also a significant determinant of per capita calorie consumption in the present model. It was significant at 1% level with a negative coefficient of -0.305 which implies that other variables being constant a unit increase in the family size decreases the per capita kcal consumption of the sample household by a factor of 0.305 units.

(vii) Livestock ownership measured in terms of TLU was also a significant determinant of per capita kcal consumption which was found significant at 10% level with a positive coefficient of 0.128 which implies that other variables being constant a unit increase in TLU increases the per capita kcal consumption of the sample household by a factor of 0.128 unit.

VII.1.(G) Performance of Public Distribution System (PDS) :

(i) Although all the sample households have been BPL identified families, but in reality out of the 500 sample households only 297 nos (59.40 percent) households have BPL card (i.e. either BPL or AAY card) and remaining 203 nos (40.60 percent) households have APL card (either APL or MMASY card).

Among the households having BPL cards, 215 nos households have BPL card and 82 nos households have AAY card. On the other hand among the APL card having households, 73 nos have APL card and 130 nos have MMASY card.

(ii) Of the total 400 sample rural BPL households, 233 nos (58.25 percent) households BPL card and remaining 167 nos (41.75 percent) have APL card. Whereas, of the total 100 sample urban BPL households 64 nos (64 percent) have BPL card and remaining 36 nos (36 percent) households have APL card.

(iii) Of the total 500 sample households 59.8 percent (299 nos) gets the fair price shop (FPS) located within the village or within 1 km and for remaining 40.2 percent (201 nos) of households the FPS is located in a distance of more than 1 km but less than 2 km distance.

(iv) It has been found that for rice, for BPL households having BPL cards the percentage of gap between requirement and the supplied by the FPS's per household per month has been 43.01 percent. This signifies that only 56.99 percent of the total requirements of rice for the sample BPL card holder households have been covered by FPS's. On the other hand for rice for BPL households having APL card the percentage gap between requirement and that supplied by the FPS's per household per month has been 69.63 percent.

(v) The present study also depicts that for wheat for BPL households having BPL cards, only 47.4 percent of requirement per period per household have been covered by FPSs, The gap thus being 52.6 percent between quantity required and quantity distributed through FPS's. Whereas for wheat for BPL households having APL card, the percentage gap between requirement and that of quantity distributed through PDS's has been 64.63 percent.

(vi) For sugar for BPL households having BPL cards the percentage gap between requirement and that supplied by the FPSs per household per month has been 56.37 percent, whereas for BPL households having APL card this gap has been 63.74 percent.

(vii) So far as the gap between requirement and that supplied by FPS's for kerosene is concern, it has been found as 32.26 percent for BPL households having BPL card. Whereas for BPL households having APL card this gap has been witnessed as 36.49 percent.

(viii) It has been found that for all the sample BPL households monthly on average 45.4 kg rice has been required whereas only 21.6 kg rice has been distributed through FPS's. The quantity of wheat and sugar is required very minimum, on average requirement of wheat and sugar per household per month have been 1.62 and 1.95 kg respectively whereas, the distribution of wheat and sugar through FPS on average only 0.70 and 0.80 kg respectively.

(ix) For all the sample BPL households, the gap between market price and FPS price is maximum for rice with 201.37 percent (Rs 14.7) followed by sugar (98.75 percent). The gap between the market price and FPS price have been 84.66 percent (Rs. 10.4) and 44.53 percent (Rs 8.62) for wheat and kerosene respectively.

(x) It is found that the average per month per household requirement of rice of sample rural BPL household has been 47.46 kg of which 20.81 kg (43.85 percent) has been distributed through PDS, whereas the average household requirement of rice of sample urban BPL household has been 37.2 kg of which 22.58 kg (60.70 percent) has been distributed through PDS.

(xi) It has been found that for rice, the gap in price per unit between open market and FPS for all the sample BPL households both having BPL and APL card is Rs. 14.7 which is 207.37 percent of FPS price (Rs 7.3 on average). For wheat the absolute gap is Rs. 10.40 which is 89.66 percent of FPS price (Rs.11.60 on average). For Sugar the gap is Rs. 18.87 which is 98.75 percent of FPS price (Rs. 19.12 on average). For kerosene, the gap is Rs. 8.62 which is 44.53 percent of FPS price (Rs. 19.36 on average).

(xii) The FPS prices were also fluctuating in the sample rural urban region. For rice the average FPS price is Rs. 7.22 in the sample rural area whereas it is Rs. 7.64 in the sample urban area. For wheat, the average FPS price is Rs. 11.52 in

the sample rural area, whereas it is Rs.11.79 in the sample urban area. In the sample rural area it is Rs 18.98 on average whereas it is Rs. 19.51 in the urban area. This fluctuation of PDS price also emerged in the price for kerosene also.

(xiii) While considering the sample households visiting FPS it is found that out of the 500 sample BPL households, 484 nos (96.8 percent) regularly visit the nearest FPS for consuming items allotted for them under PDS and remaining 16 nos (3.2 percent) do not visit FPS regularly. Reasons for not buying the PDS item from FPS are non-availability of money at the time of distribution, lack of information etc.

(xiv) Of the total 500 sample households 73 nos (14.6 percent) households do not buy rice regularly from FPS. Non regular purchase of rice covers 35.96 percent (73 nos) of all the sample BPL households having APL card. All the sample BPL households having BPL card regularly buy rice from FPS's. In case of wheat overall 271 nos (54.2 percent) households do not buy wheat regularly from FPS.

(xv) The present study also reveals that not a single sample household regularly buys sugar from the FPS. This is due to irregular allotment of sugar from the FPS's. It also depicts that out of the 500 sample households, 23 households (4.3 percent) household do not buy kerosene regularly from the FPS's.

(xvi) It has been found that for the APL card holders, supply of rice was only 5 to 10 kg and also these were not been regularly allotted, so all the general APL card holders are dissatisfied with the supply of rice through PDS. The amount of kerosene supplied through FPSs is also not sufficient for consumption for a large number of sample BPL households (54.6 percent) and hence dissatisfied with the supply of kerosene through FPS.

(xvii) It has been found that out of the 500 sample BPL households, 174 nos (34.8 percent) household reported non availability of price chart in the FPS's. It has been found that not a single household has received money receipt from the FPS dealer. So far as the sample household's satisfaction towards FPS dealer

is concerned, of the total sample household 29.2 percent (146 nos) household reported that they were not satisfied with the FPS dealer.

(xviii) The sample households are dissatisfied with FPS dealer mainly due to lack of dissemination of time when the PDS item were distributed as well as non availability of item when it is demanded and also supplied less than the allotted amount through PDS.

(xix) It has been found that out of the 500 sample household, 51 nos (10.2 nos) household lodged complaints regarding poor functioning of FPS's for the supply of PDS allotted item. . It has been found that not a single complain has been looked into till date. Because of that sample households are reluctant to lodge further complaints against the malfunctioning of PDS.

(xx) The study reveals that out of the total sample BPL households only 4.80 percent (24 nos) households are aware about the rules and regulations of PDS and remaining 95.20 percent are unaware about it. Of all the households surveyed in the Golaghat district, only 4 sample households (0.8 percent) reported that they are aware about the inspection of PDS that of the total sample BPL households, only 37 percent (185nos) households are aware of the RTI and remaining 63 percent (315 nos) households are not aware of the RTI. Of all the sample BPL households only 6 percent (30 nos) sample households reported that they are aware about the precautions on PDS item. Of all the sample BPL households only 30.6 percent sample households are aware of their responsibility to be perform as a citizen of India.

(xxi) Of all the sample households as high as 56.60 percent (283 nos) households revealed their ignorance about the actual and possible role of PRIs in PDS whereas 10.40 percent sample households reported that PRI's has played the positive role in PDS allotment whereas 33 percent sample households are not satisfied with the role of PRI's in PDS allotment.

VII.1.(H) Contribution of PDS on Household Food Security Status:

VII.1.(H)(a) Descriptive Statistics:

(i) The present study finds that the PDS contribution in per capita calorie intake of the total sample household ranged from 0 to 3971.44 kcal and overall mean amount has been 746.89 kcal. The PDS contribution to the food secure households ranged from 115.30 kcal to 3971.44 kcal per capita having mean value of 971.15 kcal. While on the other hand the PDS contribution to the food insecure households ranged from 0 to 2985.93 kcal per capita having mean value of 659.68 kcal per capita.

(ii) The probability value of the 'Z' test has been 6.57 which are significant at 5% level. This implies that PDS contribution on per capita calorie intake plays a significant role on the household food security status.

VII.1.(H)(b) Regression Analysis:

(i) The findings of the model reveal that the 'F' value has been 10.373 indicating that the model was significant at 5% level. The adjusted R^2 value is 21.8%.

(ii) The independent variable percentage of PDS contribution on per capita calorie intake is significant at 1% level with a positive coefficient of 0.343 which implies that other variables being constant one unit increase in the percentage of PDS contribution on per capita calorie intake increases the household per capita calorie intake by a factor of 0.343 unit.

VII.2.Policy Recommendation:

The findings of the study confirm that the household food security of the sample BPL households is not good. It has been found that as per the food security index based on Per Capita Calorie Intake (PCCI) only 28 percent of the sample BPL households are food secure. This scenario is further worse for household food security status based on Household Dietary Diversity Score (HDDS), with only 14.2 percent sample BPL household are found to be food secure in the present study. So it is urgently needed to suggest some policy implications to improve the household food security status. The

present study recommends some suggestions to improve the household food security status of the people of Assam in general and BPL households in particular. These are;

(i) The family size significantly affects the household food security status and it shows the negative relation between food security and family size. The study recommends to give serious attention to control the population growth in the study area. This can be achieved by creating sufficient awareness on effective voluntary family planning in the study area.

(ii) The study also finds that the age of the household head has the negative relation with the household food security status. Therefore the study recommends to the concerned State Governments as well as Local Self Governments to augment some deliberate measures like training, adult education, special grants to the older households heads for their capacity building.

(iii) The study also reveals that income of the household has positive connection with the household food security status. The study recommends providing wider employment opportunities to the BPL households and also providing some special assistance to the rural as well as urban BPL marginal farmers, artisans etc. so that their income level increases which will ultimately improve their food security status.

(iv) It is also found that female headed BPL households are more vulnerable so far as the household food security is concerned. So various food supplementing schemes as well as special self employment schemes should be launched by the government for women, especially for female headed household heads of the BPL households.

(v) Education has the significant role on the household food security status. More the household head is educated, the higher will be the probability of family member becoming familiar with the importance of balance diet. So the study recommends to strengthen both formal and informal education, and providing vocational and skill training to the BPL households for increasing income level which ultimately improves food security status in the study area.

(vi) There is lack of occupational diversification among the sample BPL households in the study area. So, the study recommends a strong implementation of wage employment generation schemes as well as Food for Work programmes in the study area to improve the household food security status.

(vii) The present study finds that although the entire sample household are under BPL category, still 40.6 percent (203 nos) households don't have BPL card. This shows an error of inclusion as well as exclusion in regard to the distribution of BPL card. So, the present study recommends relooking at the identification process of BPL households so that the deserved beneficiaries can get the BPL card by which they can improve their food security status.

(viii) It has been also found that the items distributed under PDS system are not sufficient for the sample BPL households in the study area as well as not regularly distributed. So the study suggests that special measures have to be taken by the Food and Civil Suppliers Department so that these PDS items are regularly received by the beneficiaries especially by the BPL households in the study area.

(ix) It has been also found that the food security status based on HDDS is very low in the present study. So it signifies that maximum calorie requirements have been fulfilled by cereals and pulses which ultimately cause nutritional insecurity of the people. So the present study recommends to widen the PDS net by covering some other nutritional foods such as fruits, milk products etc. for the beneficiaries, especially for the BPL households so that they can achieve the nutritional security along with food security. In this regard, it is very much necessary to organize some awareness programmes about the importance of balance diet in the remote areas.

(x) It is also found that most of the sample BPL households are unaware of the provision of PDS system, due to which often lower amount of items have been distributed than the actual allotment. So the study recommends that PDS items should be delivered directly to the beneficiaries so that the leakage of these items can be eliminate.

(xi) The role of Panchayati Raj Institutions (PRIs) is very important in the identification of beneficiaries as well as distribution of PDS items. Here it has been found that the role of PRIs is not satisfactory. So the study recommends ensuring an active and effective role of PRIs in monitoring and functioning of the FPS.

(xii) It has been also found that most of the sample BPL households are not satisfied with the performance of the FPS dealers as well as the functioning of the PDS. Although some complains were launched by the sample beneficiaries, not a single complains have been met up. So the present study recommends a strong grievance redressal mechanism as well as enactment of strong laws to tackle these malfunctioning of PDS.

VIII.3. Conclusion:

The researcher wants to conclude that there has been acute food insecurity among the sample BPL households of the study area both in terms of quantity as well as quality. More than two third of the sample BPL households are food insecure in the study area. This situation has been further deteriorated off in regard to dietary diversity vis-à-vis nutritional security. In this regard, the performance of Public Distribution System (PDS), as a flagship programme of the Government of India towards ensuring food security is not satisfactory as there is no significant difference of food security status of BPL households with and without having BPL card. Solution to the problem of household food security of the BPL households depends on the policies taken outside the household level. So the researcher realised that the concerned Government authorities has to seriously relook its social safety measures such as PDS for ensuring food security and has to follow a 'twin track approach' to tackle the problem of food insecurity by following policies to provide food assistance to reduce hunger on the one hand, and promote income generating avenues for the poor and marginalized sections of the society on the other simultaneously. Only then the goal of achieving food security for all can be attained.