EXECUTIVE SUMMARY

on

HOUSEHOLD FOOD SECURITY WITH REFERENCE TO THE EFFICACY OF PUBLIC DISTRIBUTION SYSTEM
- A CASE STUDY IN JORHAT DISTRICT

A Thesis

Submitted to the Dibrugarh University
for the Degree of Doctor of Philosophy
in Economics

By
Rofique Ahmed
Department of Economics
Dibrugarh University
Dibrugarh – 786004
Assam
2012
EXECUTIVE SUMMARY

The issue of food insecurity, in spite of receiving importance at national and international level to maintain justice with growth, its micro study having special emphasis on demand side lapses, founded on social science, is still scant in this part of the country. In international projects, household food insecurity (HFI) is taken as a scientific scale to measure the trend of poverty and its inter-country and inter population comparison. As the poverty line, used by Planning Commission of India, is debatable at present context, there is need to examine, from micro point of view, the level of poverty in terms of HFI. In a situation, the state of Assam enjoying economic growth more than 6 percent in contrast to more than 8 percent growth of the nation, along with the rapid rise of middle class, the poverty scale based only on food vulnerability and hunger should have modification for better policy target, guidance and comparison. To make this view a strong consensus, FS issues at household (hh) level are to be explored.

On this backdrop, with the main objective to examine the household food security (HFS) in the context of its primary and secondary condition, congeniality of consumption behaviour and implications of natural disaster and public distribution system there on and to identify the major policy variables behind, this research work was designed to answer the main questions – whether HFI, as per its latest concept and development, is to consider as a vital issue in rural Assam in the changing scenario of market economy and middle class up-rise and whether supply side sufficiency is enough to get rid of it. To answer these questions, after reviewing the literature and methodology in detail, a case study has been accomplished in four development blocks in Jorhat district (Dhekorgara, Majuli, Kaliapani and Baghsung), selected purposively to represent its socio-economic and geographic diversity and through a pilot survey selecting 600 households on the basis of proportionate random sampling method and the facts collected there from have been analyzed in 6 chapters specially designed for discussion.

Apart from framing objectives and research questions, the first chapter has been designed to review food security literature in international, national and regional context and to link the rationality of present study therewith. Second chapter has been
designed to review the methodology of HFS and to derive out the structure and methods formulated for the present study. Third chapter has been devoted to profiles on the socio-economic, administrative, geographic, PDS and environmental features of the study area and ranking the development blocks, under study, as per its demographic, economic, quality of life, social and support status. Fourth chapter deals in the estimation of HFS as per its primary condition on the basis of food expenditure threshold and income threshold fitted at official calorie and RDA cut offs. Fifth chapter getting divided in to two parts – first part estimates HFS as per its secondary condition on the basis of nutritional status fitted at anthropometric scale, especially BMI, recommended by WHO and ICMR; the second part examines the congeniality of consumption behaviour as per balanced diet norms. Formulating double logarithmic consumption function, after Ernest Engel and finding different types of elasticities and ratios, it also examines response, risk and awareness factors behind the consumption behaviour in order to identify the sex, age, locality and social group most vulnerable to HFI. Sixth chapter deals in the efficacy of PDS in attaining HFS. Seventh chapter examines the impact of natural hazards, particularly flood and haunt of wild elephants, on HFS. Applying multiple logistic regression models, getting solution as per SPSS – 17.0, backward elimination method, chapter eight identifies variables having significant implications on HFS and to traces out the right path of its policy formulations. Thus methodology used in this work is a blended one, differentiated as per the components of FS. At national level, official food security scale is yet to formulate. So, conclusion drawn here is not unique having comparison with national and state level food security status, rather a set of conclusions derived on the basis of intra-locality and intra-social group comparison with a meager reference from secondary sources whatever is available.

Major findings of this research work, corresponding to the pre-assigned research questions are –

1. HFI is a vital issue in the study area from the point of both demand and supply side lapses differentiated as per localities. It has been noticed more emerging from the point of non-meeting required food expenditure, intake of low quality food, increasing food risk, presence of food deprivation and its severity. The demand and supply factors of HFS are not homogenously working in different localities under study. A good number of households in the study area being secure by income are insecure by food expenditure. So the economic faces of the localities
are not reflective of the food insecurity issues behind. Indian poverty scale is based on the structure of cost of living price index without care for the components of safe and healthy living as emphasized in FAO definition of FS. Though locality and other attributes do not have significant impact on HFS as per its primary condition but they do on the degree of severity. When compared with NSSO data, it has been found that, only Dhekorgara is in better position than national, state and district poverty position. The inter-locality variance of poverty under the present study and their differences with national, state and district average are statistically insignificant.

2. All the hh members are not equally entitled to nutritional security. Here age and sex specific discrimination in nutritional status is significant. The sex discrimination in entitlement to nutritional security, found in national average, is also more or less valid for all localities in the study area. In all the localities, in comparison to adult, children are more deprived of nutritional security. As per secondary condition of HFS – the most vulnerable locality is Kaliapani, the more vulnerable age group is children, the more vulnerable sex group is female and the most vulnerable social group is disaster affected hhs.

3. HFI is subject to change significantly with the change in location, caste, religion, literacy status of hh head, PDS status and disaster affect as per under-nutrition depth, but not as per under-nutrition coverage. Much concern goes to the recent increasing trend of under-nutrition more of male than female in Baghsung and Dhekorgara and the reverse in Majuli and Kaliapani. The locality difference in the trend of under-nutrition is closely related with the difference in HFS status. As per its secondary condition, first, 2\textsuperscript{nd} and 3\textsuperscript{rd} degree HFI differ significantly with the internal variation of social and locality groups.

4. The consumption behaviour in the study area is not congenial to nutritional security in terms of its response to hh total income and disposable income, in terms of risk against any negative income shock and in terms of food intake below RDA. Food consumption behaviour is more responsive to hh expenditure than hh income. Expenditure elasticity to hh income across locality and binary social groups ranges in between 0.27 and 0.55 and food expenditure elasticity to hh expenditure ranges in between 0.70 and 0.99. In most of the cases, the per capita daily intake for cereal, potato, green vegetable and meat is higher than RDA whereas in case of pulse, sugar, fat and milk per capita daily in-take is lower than
RDA. The partial lapse in RDA intake is universal. Protein-rich items are highly sensitive to be substituted for non-food items. Irrespective of locality and binary differences, carbohydrate rich items are treated as essential and protein rich items as near luxurious – revealing higher chance of its substitutability to other consumption heads. Non-food basic expenditure elasticity to income being less than one implies that with any negative income shock there is chance to fall food expenditure just to maintain non-food basic expenditure. This is to happen highest in Baghsung and lowest in Kaliapani. In terms of surplus income, food insecurity risk is highest for disaster affected hhs and lowest for hhs heads being formally educated. In terms of substitutability scope, food insecurity risk is highest for hhs heads not being formally educated and lowest for APL hhs.

5. In enhancing HFI in the study area, natural threats though are not significant in terms of under-nutrition coverage but significant in terms of under-nutrition depth, hh combined under-nutrition, dietary diversity and under-nutrition trend. The issue of HFI is more intensive and emerging for the hhs affected by both flood and haunt of wild elephants. As the most vulnerable group to food insecurity is children so, more is the disaster affect, the more discrimination of food intake within the hhs and the more is children under-nutrition.

6. In attaining HFS in the study area, PDS contribution, in its present structure and functionary, is not significant. The stagnancy in structure having less importance on protein-rich items, non-discriminatory nature in its distribution and improper operating mechanism are more responsible for its marginal contribution to HFS. PDS allotment per hh is not matched with its demand. In spite of coefficient of variation of family size and quantity demanded being significantly higher, per family issue quantity of each item has been kept fixed for each category of PDS. The present structure of PDS has less compatibility with the growing food crisis in the study area. Only 9 percent people in the study area do not meet RDA of cereal, but more than 45 percent hhs do not meet the RDA of protein sources like animal product and pulse. Not even 5 percent hhs meet the RDA of milk. Emphasis given more on cereal items, the present structure of PDS has been found unmatched with reality. PDS, in the study area was also found responsible for negative behavioural change.

7. The leading factors working behind the HFS in the study area are care on healthy diet, dietary diversity, growth of non-food basic expenditure, emergence of non-
basic expenditure, formal education of hh heads, hh income, food collected in wild, size of hh assets, dependency ratio, disaster loss and govt. support.

On the basis of the findings, this research work demands that, for equity, justice and allocative efficiency, policy discrimination is required as per locality and binary social groups with proper identification of supply and demand side lapses of HFS; intra-household discrimination of nutritional status and resultant deprivation to children and women needs motivation and awareness along with availability and accessibility to food, particularly where hh self effort is inactive; area specific incapability of HFS, as shown in Dhekorgara and Majuli in this study, needs exploration and proper care; the impact of natural hazards should be examined on the basis of different components of HFS and required steps should be undertaken; the message of comparative advantage in HFS in Majuli, even having comparative geographic disadvantage needs proper exploration and extension; PDS mechanism is to re-structure emphasizing more on protein needs than cereals with special consideration to its negative behavioural change; provisions of PDS for cattle feedings in order to enrich livestock farming is highly recommendable on the ground to increase affordability of (HFS) affordability; nutrition literacy is required to make people aware of uninformed choice that leads to insecurity amidst affluence of middle class life style; etc.

This study concludes with some general recommendations such as need of modification of official poverty line in India, steps to be taken at household, community and state level, new dimensions required for rural development, need of direct nutritional intervention, provisions of nutritional education and diet counseling and introduction of HFS surveillance.

In spite of utmost care to meet the objectives, this study may subject to limitations such as non-sampling error because of informant’s biasness, area-specific differences other than selected for present study, qualitative differences of anthropometry indicators, non-inclusion of pregnant and lactating women, non-separation of SC and ST as heterogeneous groups, exclusion of satriya living style, etc, yet the present research work, to some extent, is expected to be helpful in conceptualizing the issues of food security at hh level and its findings may be taken as base by the government personals, policy makers etc. in implementing their policies and schemes and also by the investigators for further study.