

**ISSUES IN FOOD SECURITY FROM A REGIONAL
PERSPECTIVE: THE CASE OF UTTAR PRADESH IN
THE NATIONAL CONTEXT OF INDIA**

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THE NATIONAL CONTEXT OF INDIA**

*Dissertation submitted in the partial fulfilment of the requirements for the degree of Master
of Philosophy in Applied Economics of the Jawaharlal Nehru University*

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M.Phil Programme in Applied Economics

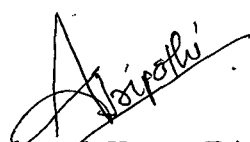
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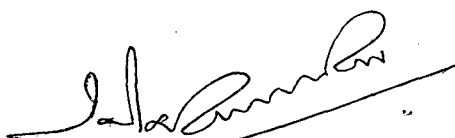
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I hereby affirm that the work for the dissertation, *Issues in Food Security from a regional perspective: The case of Uttar Pradesh in the national context of India*, being submitted as a part of the requirements of the M.Phil. Programme in Applied Economics of the Jawaharlal Nehru University, was carried out entirely by myself and has not formed part of any other Programme and not submitted to no other institution/University for the award of any Degree or Programme of Study.

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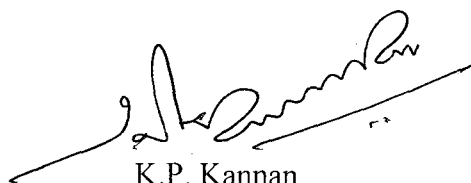

Ashutosh Kumar Tripathi

Certified that this study is the bona fide work of Ashutosh Kumar Tripathi, carried out under our supervision at the Centre for Development Studies.



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To my parents...

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ABSTRACT OF THE DISSERTATION
**ISSUES IN FOOD SECURITY FROM A REGIONAL PERSPECTIVE: THE CASE OF
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There has been paradigm shift in the concept of food security from food availability and stability to household food insecurity, and from assessment of input measures like energy intake to output indicators such as anthropometrical measures and clinical signs of malnutrition. There is thus an urgent need for public policy to address issues relating to the food and nutrition security of the poor. Uttar Pradesh is one of the classic cases among major Indian states, where per capita net availability of food grain is not only higher than the all India average but also remained higher than the requirement of 460 grams per person per day. But on the other hand the performance of Uttar Pradesh in terms of outcome indicators such as anthropometrical measures and clinical signs of malnutrition is worst among all Indian states. The present study is an attempt in this regard to understand the issues pertaining to food security in Uttar Pradesh.

The study attempts an empirical analysis of food security situation in Uttar Pradesh in the light of Sen's entitlement and deprivation thesis. Despite the fact that incidence of landlessness was very high among poorest 20 percent of the population and most of them were working as agricultural labourers, we found in our analysis, using the Sen's entitlement thesis, that the increase in income of the poorest 20 percent of the population was high enough to cover the increase in food prices between 1977-78 to 1999-2000. Therefore, one can infer that per capita calorie intake of the population is declining not because of economic constraint. Regarding the factors accounting for the observed decline in per capita consumption of cereals as well as calorie intake, we found that, population in general and poor in particular, are diversifying their consumption basket at the cost of calorie intake with rise in their income.

Inequality between men and women is one of the crucial disparities in Uttar Pradesh. Here, the entitlement comparisons have to go beyond the limited focus of food entitlements to the more comprehensive concern for entitlements to the different goods and services, which influence nutritional opportunities and achievements. Our analysis tends to suggest that in Uttar Pradesh more than one third (36 percent) of women have a BMI below 18.5, indicating a high prevalence of nutritional deficiency. In Uttar Pradesh, 48.7 percent women suffer from anaemia, which usually results from nutritional deficiency of iron-folate, vitamin B12 or some other nutrients. The sex bias is also reflected in the greater prevalence of undernourishment of various degrees among girls than among boys. The data shows that by and large girls are more likely to be underweight (weight-for-age criteria) and stunted (height-for-age criteria) compared to the boys in Uttar Pradesh.

While empirical evidence tends to suggest a positive association between the calorie intake and nutritional status, the responsiveness is likely to be affected by the factors relating to health and environment. For example, education, safe drinking water, housing conditions, access to health services and so on. It is clear from our analysis, that in Uttar Pradesh population in general and poor in particular are deprived of basic education, access to health services, drinking water and so on

The analysis of this study on state's response showed laissez-faire performance of the government's direct food based interventions on food front. Our analysis showed that Public Distribution System in Uttar Pradesh has played a much smaller role compared to states like Kerala. Despite the poor off-take by the state from the central allocation, a very small proportion of the population was using PDS to buy the cereals. The another scheme like Integrated Child Development Services has not drawn young mothers and children to the anganwadi centres. In a way the programme has failed to serve its purpose, i.e. to improve the nutritional and health status of children below six years and to provide supplementary feeding to pregnant and nursing mothers. The 'dry ration' scheme defeats the very purpose of the school meal programme. In terms of the nutrition and socialization arguments, also offering 'dry rations' is utterly useless. We found some positive impact of the mid-day meal scheme in the state on the school enrollment. But in a state like Uttar Pradesh, where children get food grains instead of a hot cooked meal, it is not at all clear how much of this food is actually consumed by the child.

Government of India introduced the Antyodaya Anna Yojana on December 25, 2000. In order to provide food security to poorest of the poor by providing larger quantity of food grains at highly subsidized prices. A qualitative survey has done in order to examine the different aspects of the functioning of the Antyodaya Anna Yojana in Uttar Pradesh. We found in our analysis, scheme that is functioning properly as compared to other components of Public Distribution System in other state is not doing so well in Uttar Pradesh. Selection of beneficiaries was not transparent, around 60 percent of the destitute households were not covered under the scheme. In fact cards were distributed to the households on the basis of personal relationship with the village pradhan or to those who were able to pay the money to the village secretary. As much as 60 percent of the Antyodaya ration intended for supply to destitute households through PDS retail shops, in sample villages has not reached intended beneficiaries.

The government has initiated several changes to improve the transparency and accountability of the PDS to the panchayats. Though the responsibilities for monitoring the programme have fallen on the panchayats, panchayats have not developed as truly participatory institutions. Gram sabha meetings are rarely held, and are thinly attended by the villagers. The dominant elite group takes decisions on beneficiaries and schemes.

CONTENTS

Titles	Page No
<i>List of Tables</i>	
<i>List of Figures</i>	
<i>List of Maps</i>	
Chapter 1	
Food Security- Concepts and Review of Literature	
1.1 Concepts and definitions	1
1.2 Food security equation	6
1.3 Conceptual issues in household food security	7
1.4 Food security and Indian experiences- A Review	10
1.5 State intervention to ensure food security	12
1.6 Food security in context of UP and need for study	18
1.7 Objectives and hypothesis	22
1.8 Theoretical framework and the methodology for the study	22
1.9 Sources of secondary information	24
1.10 Scheme of the study	24
Chapter 2	
Food Security, Entitlement and Deprivation-Examining Linkages in Uttar Pradesh	
2.1 Introduction	26
2.2 Food Availability	27
2.3 Access to Food	30
2.4 Adequacy	36
2.5 Entitlement failure	40
2.6 Reason for decline in calorie intake level	51
2.7 Intra-household variation	56
2.8 Factors affecting the nutritional status	63
2.9 Social group and some aspects of food security	65
2.10 Conclusion	68

Chapter 3

State Response to Food Security-Role of Government Intervention

3.1 Introduction	70
3.2 Public Distribution System	70
3.3 Integrated Child Development Services	85
3.4 Mid-Day Meal Scheme	91
3.5 Discussion and Conclusion	96

Chapter 4

Functioning of Antyodaya Anna Yojana

4.1 Introduction	99
4.2 Guidelines for the Selection of Antyodaya households	100
4.3 Experience of functioning of Antyodaya Anna Yojana	101
4.4 Methodology	102
4.5 Socio-economic Characteristics	106
4.6 Salient features of functioning of Antyodaya scheme in the sample villages	115
4.7 Perception of ration shop keeper regarding Antyodaya scheme	130
4.8 Conclusion	131

Chapter 5

Summary and Conclusion	133
REFERNCES	140
APPENDICES	145

LIST OF TABLES

Table No	Title	Page No
1.1	Performance of different indicators of food insecurity in Uttar Pradesh.	21
2.1	Region-wise compound growth rates of food grains, wheat, and rice in Uttar Pradesh.	28
2.2	Region-wise agricultural productivity in Uttar Pradesh (Qt./hectare.).	29
2.3	Trends in poverty: Uttar Pradesh and All India Headcount	31
2.4	Regional trends in poverty (NSS 50 th & 55 th Round) in Uttar Pradesh.	32
2.5	Poverty incidence and shares by caste status in Uttar Pradesh.	33
2.6	Percentage of population by social category and poverty class in U.P. in 1999-2000 (Rural + Urban).	34
2.7	Trends in consumption of cereals (Kg per capita per month) in Uttar Pradesh.	35
2.8	Rural-Urban disparity in per capita cereal consumption: All-Uttar Pradesh (kg per month).	35
2.9	Disparity in per capita cereal consumption among richest and poorest population: All-Uttar Pradesh (kg per month).	36
2.10	Rank of the Uttar Pradesh w.r.t. calorie, protein, and fat intake among major states in India.	37
2.11	Per capita per-diem intake of calorie (kcal), protein (gm) and fat (gm) between 1972-73 to 1999-2000 in UP and India	37
2.12	Per Capita per-diem intake of calorie in Uttar Pradesh by different quintile.	38
2.13	Disparity in per Capita per-diem calorie intake among poorest and richest population: All-Uttar Pradesh (kcal).	38
2.14	Percentage of population by different quintile group in Uttar Pradesh whose calorie intake is less than the norm.	39

2.15	Number of operational holdings and area operated by different Classes of operational holdings over the time period in U.P.	41
2.16	Percentage distribution of holdings and operated area by different size class.	42
2.17	Rural poverty incidence and status by land ownership in Uttar Pradesh.	42
2.18	Labour force and workforce participation rate by Usual status of employment, place of residence and person's sex.	44
2.19	Sectoral distribution of workers in UP and India by workers Sex and Residence.	46
2.20	Casualisation of employment in Uttar Pradesh.	47
2.21	Poverty incidence and shares by occupation of household head in Uttar Pradesh.	48
2.22	Number of days employment for Agricultural labourers in Uttar Pradesh.	49
2.23	Average daily money wage of Agricultural labourers in Uttar Pradesh.	49
2.24	Annual money wage earning of male and female in Uttar Pradesh.	50
2.25	Exchange rate between male agriculture labour and Food grains, 1974-75 to 1993-94.	50
2.26	Exchange rate between annual income of poorest 20 percent of the Population and Food grains, 1977-78 to 1999-2000.	51
2.27	Share of food and non-food in total expenditures, 1977-78 and 1999-2000(In percentage term) in Uttar Pradesh.	52
2.28	Consumer expenditure pattern in rural and urban areas in Uttar Pradesh (In percentage term).	53
2.29	Literacy Rates for Selected States, By Gender.	55
2.30	Poverty incidence and shares by level of education of the household head in Uttar Pradesh.	56
2.31	Selected indicators showing gender inequality in Uttar Pradesh & India.	58

2.32	Nutritional status of women in Uttar Pradesh.	60
2.33	Nutritional Status of Children in Uttar Pradesh.	62
2.34	Performance of some selected indicators regarding Drinking water and Housing condition.	64
2.35	Health care services (Per lakh population).	64
2.36	Monthly per-capita consumption expenditure on food items by different social groups in Uttar Pradesh.	65
2.37	Percentage of households who report getting adequate food by social group, Uttar Pradesh.	66
2.38	Percentage of undernourished children under 3 Years of age by social groups in Uttar Pradesh.	67
2.39	Nutritional status of women by social group in Uttar Pradesh.	67
3.1	Food subsidy of the central government.	72
3.2	Allocation and off-take of food grains under Public Distribution System between 1986-87 to 1995-96 among major states of India.	77
3.3	Allocation and off-take of food grains before and after introduction of Targeted Public Distribution System in Uttar Pradesh.	77
3.4	Allocation and off-take of wheat and rice before and after introduction of the TPDS in Uttar Pradesh.	78
3.5	Percentage distribution of population according to source of purchase among major states of India.	79
3.6	Percentage of households accessing PDS: 1999-2000 among major states of India.	81
3.7	Percentage distribution of households by source of purchase and economic background in Uttar Pradesh.	82
3.8	Position of ICDS blocks in Uttar Pradesh.	89
3.9	Percentage of eligible households which received food supplementation, Uttar Pradesh.	89

3.10	Percentage of eligible households which received food supplementation in Uttar Pradesh by regions.	90
4.1	Distribution of Antyodaya households in sample villages.	103
4.2	The details of the sample.	103
4.3a	Distribution of households among destitute and non-destitute.	104
4.3b	Distribution of Antyodaya card.	105
4.4a	Percentage of destitute households having Antyodaya card among the total Antyodaya households.	105
4.4b	Percentage of destitute households having Antyodaya card in total destitute households.	106
4.5	Social background of the sample households.	107
4.6	Distribution of land holdings among households (percent).	108
4.7	Educational status of the households (percentage).	109
4.8	Housing condition of households (percent).	111
4.9	Occupational status of the households (percentage).	112
4.10	Food and Consumption habit of households (percent).	114
4.11	Some aspects of functioning of Antyodaya Scheme.	117
4.12a	Reasons behinds not getting the ration every month and ability to buy ration.	119
4.12b	A comparative analysis of destitute and non-destitute households for reasons behinds not getting the ration every month and ability to buy ration.	120
4.13	Price paid for wheat and rice in Rs/kg and perception of households regarding quality of the ration (in percentage).	121
4.14a	Amount of money paid for getting the Antyodaya card (in percentage).	123
4.14b	A comparative analysis of amount of money paid for getting the Antyodaya card by households (in percentage).	123
4.15a	Perception of households regarding the importance of scheme in family welfare (in percentage).	124

4.15b	A comparative analysis of perception of households regarding the importance of scheme in family welfare (in percentage).	125
4.16	Perception of Excluded Households regarding Antyodaya Scheme.	126
4.17	Extent of leakage from Antyodaya ration in sample villages.	129
Appendix Tables		
2.1	Net availability of food grains in U.P. and India (in grams per-capita per day)	145
4.1	Development of the study area: some selected indicators	146
4.2a	Social background of the Antyodaya households	146
4.2b	Social background of the Excluded households	147
4.3a	Land status of the Antyodaya households	147
4.3b	Land Status of the Excluded households	147
4.4a	Educational status of the Antyodaya households	148
4.4b	Educational status of the Excluded households	148
4.5a	Housing Condition of Antyodaya households	148
4.5b	Housing Condition of the Excluded households	149
4.6a	Occupational status of the Antyodaya households	149
4.6b	Occupational status of the Excluded households	149
4.7	A comparative study of some aspects of functioning of Antyodaya Scheme	150
4.8	A comparative study Price paid for wheat and rice in Rs/kg And perception of households regarding quality of the ration (in percentage)	151

LIST OF FIGURES

Figure No	Title	Page No
2.1	Per capita net availability of food grains in grams per day	30
2.2	Growth rate in employment by usual status in U.P. 1977-78 to 1999-2000.	45
2.3	Mother's BMI and nutritional status of children	63
4.1	Distribution chain of Antoyadaya ration in study area	128

LIST OF MAPS

Map No	Title	Page No
4.1	Map of Uttar Pradesh	163
4.2	Map of Kaushambi district (Study Area)	164

Chapter 1

FOOD SECURITY – CONCEPTS AND REVIEW OF LITERATURE

1.1 Concept and Definition

Food is one of the most basic necessities required for sustaining human life. Food is defined as “any substance containing nutrients, such as carbohydrate, protein and fats, that can be ingested by living organism and metabolize into energy and body tissues”. Thus the consumption of food is the main source of energy input to the human body. It is also an economic good, except in some cases, thus it has both the demand and supply side constraint. Like in market economy, the demand and the supply of the food determine the equilibrium price. The problem of food insecurity arises when a certain group of consumers fail to meet their food requirement due to their inability to pay the equilibrium price.

The concept of food security has undergone considerable modifications in recent years. Food security is a hidden concept that has largely eluded a precise and operational definition. Different schools of thought on food security has advanced from first generation focus on aggregate food availability (supply side), through a second generation emphasizing individual and household level access to food (demand side), towards a nascent third generation conceptualization that places food security in a broader frame work of individual behaviour in the face of uncertainty. The most common definition of “food security” is “access by all people at all times to enough and appropriate food for an active and healthy life”(World Bank, 1986). If food security involves access at all times to enough and appropriate food, then “food insecurity” reflects uncertain access to enough and appropriate food. The concept of food security is interpreted in variety of ways. However, physical and economic access to food at the household level, at all times, to insure healthy and active life is the crux of food security. In practice, food security is generally equated with absence of hunger, or at best provision of pre-determined number of calories at the household level. “Hunger” is associated with insufficient food intake (American Dietetic Association 1990), and incidence of hunger is defined as the absence of two-meals a day. Thus it is closely related to the concept of “food insufficiency” meaning that an individual or household sometimes often goes without food. While hunger and food insufficiency implies food insecurity, the converse does not hold true. There are four core concepts, implicit in all the notions of food security definitions namely,

1. Sufficiency of food
2. Access to food
3. Security and
4. Time

In the next section these core concepts are detailed based on existing literature and will examine how researchers have interpreted these concepts.

1.1.1 Sufficiency of Food: What is “Enough”?

The concept of “enough food” is presented in different ways in literature, as a “minimal level of food consumption”(Reutlinger and Knapp 1980); as “the basic food (needed)”(FAO, 1983) or as the food “adequate to meet nutritional needs” (Barraclough and Utting, 1987). In more descriptive way the World Bank (1986) refers to “enough food for an active and healthy life” and Sahn (1989) to “enough food to supply the energy needed for all the family members to live healthy, active and productive lives.” From these definitions, the following aspects can be distinguished

1. Unit of analysis is individual not the household
2. Definitions mostly refer to “food” and main concern is with calories and not with (a) protein (b) micronutrients and, (c) more generally food quality and safety.

Most analyses operate on the principle that, for certain dietary pattern, meeting the calorie requirements automatically fulfils the protein norm given the proportion of these nutrients in diets (Osmani, 1982).

In the context of energy-related nutritional deprivation, two types of proxies are used in practice. One is to compare calorie intake with some standard of requirement, and the other is to compare anthropometric measurement of the body (height, weight, etc.) with some reference standard. But the calorie-based definition of food insecurity is inadequate. The usual practice in measuring under-nutrition by comparing actual intake of calories with a fixed standard set by average intake of healthy people that is not a good indicator of nutritional deprivation. The level of intake at which function begins to be impaired is believed to be variable rather than fixed. In other words, the energy required by a person to maintain his functions is variable. There are two types of variations in energy requirement: interpersonal and intrapersonal. Interpersonal variation arises from genetic differences between individuals, while intrapersonal variation occurs through temporal variation, within the same body, of the determinants of energy requirement. These are also known as genotypic and phenotypic

variations, respectively. Kakwani (1986) argues that there is a significant interpersonal variation in the conversion of nutrients into nutritional achievements, so that requirement figure cannot be in an individual and independent way. Basal metabolic rates vary from person to person, and there can be substantial differences in nutritional needs of different people. This makes it particularly problematic to identify undernourished individuals.

In case of intrapersonal variation, it has been argued that there can be variations overtime and persons can maintain a balanced equilibrium by compensating the lower intakes in some period by higher intakes in others (theory of homeostasis). Thus, a person who is observed to consume fewer calories than his or her average requirements are estimated to be may not, in fact, be in nutritional distress at all, but only in a low phase of his or her intake pattern. For this reason, the identification of all those falling below a calorie norm as being undernourished could quite possibly exaggerate the number of people with real nutritional deficiency, especially intake data tend to be based on short- period samples. In brief, the major problem with calorie norm is to determine what could be considered as adequate number of calories, which provide required energy to the human body.

Due to unavailability of intake data for a longer period, Srinivasan (1981) suggested that it might be sensible that under certain assumption “undernutrition should be assessed by comparing calorie intake with a reference point that is well below the usual standard of average requirement”. He suggested that 80 percent of required figure to specify the calorie intake needed to prevent stunted growth and serious health risks, and 90 percent of the required figure for identifying what amounts to “not enough calories for an active working life”. Another problem is that calorie adequacy cannot be equated to a healthy and active life. This is evident from the fact that while more and more people are able to access adequate calories, this is not reflected in a sizeable reduction in malnutrition¹. Dietary energy supply measurements based on average availability of calories at the household level, besides failing to reveal intra-household distribution of food does not reflect true nutritional status. Even if we assume that “adequate” calories are available to every member of the household. There is no certainty that available calories will meet the requirements of protein, energy and micro-nutrient such as iron, iodine and VitaminA.

¹ He is ‘Malnourished’ if his consumption bundle involves insufficient allocation of nutrients due to wrong choice in diet or inefficient processing and use of food due to illness or poor hygiene.

1.1.2 Access and Entitlements

The second of our core concept is access. The question is whether individuals or households (and nations) are able to acquire the sufficient food. It is often argued that focus on access is a phenomenon of the 1980s, resulting from the pioneering work of Amartya Sen (1981) on food “entitlements”. Sen’s entitlement framework provides a systematic approach to the definition and assessment of vulnerability. In a private ownership market economy, the entitlement set of a person is determined by his original ownership bundle (what is called ‘endowment’) and the various alternative bundles that the person can acquire, starting with each initial endowment, through the use of trade and production (what is called his ‘exchange entitlement’).

Thus an individual’s entitlement is rooted in his/her endowment (initial resource bundle)- which is transformed via production and trade into food or commodities that can be exchanged for food. If the entitlement set does not include a commodity bundle with an adequate amount of food, the person must go hungry. In Sen’s terminology, the individual has suffered an entitlement failure. In a private ownership market economy, the entitlement relations of individual are determined by what they own what they produce, what they can trade, and what they inherit or are given.

Using entitlement framework, Sen demonstrated that a decline in food availability was neither necessary nor sufficient to create hunger. He showed that famine could occur in the absence of any decline in food availability.

As Sen admits, an approach which emphasizes food entitlement decline (FED) is not necessarily inconsistent with one that emphasizes food availability decline (FAD). The links between food availability and entitlements are indeed numerous and often important because food production crisis may lead both to reduced nominal incomes and higher food prices. For these and other reasons, food entitlement have close link with food availability and output. Food availability remains a key issue in food security. Nevertheless, food availability decline is not a necessary condition for food entitlement decline.

An important extension to entitlement theory is provided by Swift (1989). He concludes that household vulnerability to famine can be understood with respect to the inadequacy, not only of immediate entitlement, but also the paucity of household assets. A poorest household tends to have the fewest assets and they will be the most vulnerable. Clearly, the successive crises

deplete the scale and depth of buffer available to the household. As a consequence, the vulnerability of the household will be a function of both immediate entitlement failure and the extent to which existing buffers have been exhausted.

Entitlement set of an individual in an economy with private ownership and exchange in the form of trade (exchange with others) and production (exchange with nature), depends on two parameters, viz. endowment of the person (the ownership bundle) and the exchange entitlement mapping². To illustrate, a peasant who grows his own food is entitled to what he has grown, adjusted for any obligation he may have (eg, to moneylender). He can sell if he wants, a part of the product for cash to buy other goods and services, and all the alternatives commodity bundles he can acquire through these means lie within his entitlement set. Similarly, wage laborer's entitlement is given by what he can buy with his wage, if he does in fact manage to find employment.

Social security provisions are also reflected in the E-mapping, such as the right to unemployment benefit one fails to find a job or the right to income supplementation, if one's income would fall otherwise below a certain specified level. Similar is the case with employment guarantees when they exit, giving one the option to sell one's labour power to the government at a minimum price.

1.1.3 Security

The third main concept is "security" meaning 'secure access to enough food'. This builds on the idea of vulnerability to entitlement failure. Risk to food entitlement can originate from many sources and include variability in crop production and food supply, market and price variability, risk in employment and wages, and risk in health and morbidity. Conflict is also an increasingly common source of risk to food entitlement.

The risk profile of individual households and communities will be determined by the channels through which their access to food is normally mediated and by the assets, which are available to them as buffers. The most food insecure household will be those facing the greatest probability of an entitlement failure with the least assets. If the risk should materialize, these households will have no choice, but to bear the costs of entitlement failure in the form of

² the function that specifies the set of alternative commodity bundles that the person can command respectively for each endowment bundle

reduced dietary intake either in current time period or in future. Jonsson and Toole (1991) analyze the link between risk and assets. They concluded that the most food secure households are those which achieve adequate access to food while using only a small proportion of available resources; the most food insecure, those most at risk, fail to achieve adequate access even by devoting a larger proportion of available resources to food.

1.1.4 Time Dimension

The fourth dimension of food security is 'time' coming from secure access to enough food at all times. World Bank (1986) brought the distinction between chronic and transitory food insecurity. Chronic food insecurity is resulting from a continuously inadequate diet caused by inability of a person or household to acquire food and affect those who do not have adequate entitlement to buy or acquire food. In contrast, transitory food insecurity occurs when a household faces a temporary decline in the security of its entitlement and the risk of failure to meet food needs is of short duration. Transitory food insecurity focuses on intra- and inter-annual variations in household food access. It has been argued that this category can be further divided into cyclical and temporary food insecurity (CIDA, 1989). Temporary food insecurity occurs for a limited time because of unforeseen and unpredictable circumstances while cyclical or seasonal food insecurity occurs when there is a regular pattern in the periodicity of inadequate access to food. This may be due to logistical difficulties or prohibitive cost in storing or borrowing food. In practice, chronic and transitory food insecurity is closely linked. Successive exposure to temporary, but often severe stress may increase the vulnerability of the household to chronic food insecurity, by causing households to liquidate assets in their efforts to stabilize food consumption.

1.2 Food Security Equation: - Foster and Leathers (1999) develop the food security equation as-

$$\left[\begin{array}{l} \text{HH Food} \\ \text{Consumption} \\ \text{Requirement} \end{array} - \begin{array}{l} \text{HH Food} \\ \text{Production} \end{array} \right] * \text{Price of Food} \leq \text{Income and Liquid asset available to purchase food}$$

A household becomes food secure when the right hand side of the equation is bigger relatively to the left. It becomes food-insecure when the left-hand side of the equation is bigger relatively to the right. The risk of food insecurity is the probability that the left-hand side of the equation will be bigger than the right. For any given family, to the extent we can adopt the

policies to assure the left-hand side of the above equation is smaller than the right hand side, we will reduce the risk of food insecurity.

1.3 Conceptual Issues in Household Food Security

There are many conceptual problems with contemporary definitions of food security. Three sets of issues emerge from above discussion of various definitions and measurement of food security.

1. Intra-household issues
2. Household food security and nutrition
3. Household food security and livelihood

1.3.1 Intra-Household Issues

It is not easy to obtain data on intrahousehold food distribution. Observation of food distribution within households is not an easy task, which is usually one of the methods of data collection. It is widely believed in India, particularly among the rural poor, that food distribution is not based on “need”. The breadwinner gets sufficient food, the children get the next share and women take the remains. In times of scarcity, the dietary intake of women and children are likely to be most adversely affected. Among children, boys are given preference to girls in distribution of food. Several micro studies in different states have reported that intra-household distribution of food follows this traditional pattern even today (Dev, 2003).

Haddad et. al. (1996) provides a review of literature on intra-household bias for different countries. The authors found only scarce evidence of pro-male bias in consumption. The strongest and most consistent evidence for this phenomenon was from India. The literature suggests that the bias against females is attributable to the dowry system, which requires families to pay bridegrooms to marry their daughters. Indeed, the evidence indicates that discrimination against females is greater in higher income families than among the poor families. Conversely, studies in Sub-Saharan Africa, where the culture requires bridegrooms to pay a bride price, indicate that daughters are slightly more nutritionally favored than sons. Overall, differences outside India are slight, and apparent favoritism towards adult males is explained by greater energy expenditures required for male agricultural workers. (In poorer families this might not really add on to nutritional status per se, but acts as supplementary food).

Similarly, household studies on access to health care showed not much gender differences in most regions. Again, the evidence of anti-female bias was strongest in South Asia India, Bangladesh, Pakistan, and Nepal. Health care access has been less studied than food consumption and the authors note a methodological problem in that poorer families are less likely to admit illness unless the individual is too sick to work.

Boys may be favored in India by being given first priority in breast-feeding and in food supplementation (Pettigrew 1986). In India, upper-middle caste groups favour sons more in food allocation than lower status groups and tribal groups (Warrier 1992). Miller (1981) found pro-male bias in North India while there was no sex preference in South India. Using village level studies of ICRISAT Behrman and Deolalikar (1990) do not find any evidence of gender discrimination in food intake.

An analysis of household expenditures on goods consumed exclusively by adults (an 'adult good') has been used as a parsimonious technique for examining discrimination within households. Do parents reduce expenditures on these adult goods more severely for an extra girl than for an extra boy? Subramanian and Deaton (1990) employ a representative sample of some 11,000 households from the state of Maharashtra, collected in 1983. They find evidence of discrimination against girls under-five years of age who live in rural households, but only in one (tobacco and *paan*) of the two identified adult goods (the other being alcohol).

Outcomes (nutritional status) based on anthropometric measures are also another method of assessing food security. Sen and Sengupta (1983) studied the question of undernourishment of boys and girls in two villages of West Bengal. Based on weight-for age indicator, they found bias to boys over girls. Sen (2001) cautions about the interpretation of causal process. The lower level of nourishment of girls may not relate directly to their being underfed vis-à-vis boys. 'Often enough, the differences may particularly arise from the neglect of health care of girls compared with what boys get' (Sen, 2001). But the question is whether under-nutrition usually measured by anthropometric indicators can be used as an indicator (proxy) of food insecurity or not.

1.3.2 Food Security and Nutrition

The debate about food security and nutrition is concerned with the question of whether under-nutrition, usually measured by growth faltering in children or possibly by reduced body mass in adults, is an adequate proxy or indicator of food insecurity. At one extreme, it can be

argued that under-nutrition is synonymous with food insecurity while at the other extreme, under-nutrition can be independent of food insecurity.

It is therefore important to examine the cause of under-nutrition. The most recent study by UNICEF shows that combination and interaction of inadequate dietary intake and disease caused malnutrition and death. These, in turn are seen to be caused by a combination of three inter-related factors namely, insufficient household food security, inadequate maternal and childcare and insufficient health services. These three factors, food security, health, and care are each necessary but non-sufficient on its own for adequate nutritional status to be achieved.

Gillespie and Mason (1991) shows that household food security is necessary but not sufficient for adequate nutrition. Deterioration in anthropometric indicators cannot be interpreted on its own as identifying a decline in food intake or food security. It may reflect a history of past under-nutrition rather than current problem. The implication for food security would be seen to be that anthropometry is not a universally reliable indicator of (changing) food security status, but it can be used as proxy indicator for food insecurity with information on the other factors like access to health services, sanitation, hygiene, etc.

1.3.3 Household Food Security and Livelihood

The analysis of access and entitlement is central to food security, in identifying the risk facing particular social group and mapping their vulnerability. In doing so, it has been common assumption that the food sub-sector can be treated independently of others and usually as the first priority of the food insecure population. In recent years, these assumptions have been questioned. Food security has been seen as only one dimension of the broader concept of livelihood security. In this framework, the achievement of food security is one sub-set of objectives and food is one of the whole range of factors, which determine poor intake decisions and spread risk. There is evidence to support a focus on livelihood security. De Waal (1989) found in the 1984/85 famine in Sudan, people were quite prepared to put up with considerable degrees of hunger, in order to preserve seed for planting their own fields, or avoid having to sell an animal. Preservation of assets takes priority over meeting immediate food needs until the point of destitution, when all the options have been exhausted. Furthermore, 'avoiding hunger is not a policy priority for rural people faced with famine' (ibid.).

In terms of definition of food security, livelihood has largely been an implicit aspect expressed in terms of close relationship between food insecurity and the secular problem of poverty. Maxwell (1988) argued that food security would be achieved when equitable growth ensures that poor and vulnerable have sustainable livelihood.

This analysis reinforces the point that food cannot be seen as a unique and objectively defined need at a particular point in time, independently of people's other priorities at that point in time and their inter-temporal decision framework.

1.4 Food Security and Indian Experiences: - A Review

Food security has a number of dimensions that go beyond the production, availability and demand for food. There has been paradigm shift in the concept of food security from food availability and stability to household food insecurity, and from assessment of input measures like energy intake to output indicators such as anthropometrical measures and clinical signs of malnutrition. Since achieving the independence India has made some great success in tackling the problem related to food. Certain things have been achieved, and it is important to see what has been accomplished and what remains to be done. One achievement of India is that it achieved self-sufficiency in food grains at the national level. After remaining a food deficit country for about two decades after independence, India has not only become self sufficient in foodgrains but now has surplus of foodgrains (GOI, 2003). The introduction and rapid spread of high yielding rice and wheat varieties in the late 1960's and early 1970's resulted in steady output growth of foodgrains. Public investment in irrigation, other rural infrastructure and research and extension, together with improved crop production practices, has significantly helped expand production and stock of foodgrains. The era of all-round development on the agriculture front has been called the Green Revolution. The foodgrains production increased from about 50 million tonnes in 1950-51 to around 211 million tonnes in 2001-02 (Dev, 2003). The production of oil-seeds, cotton, sugarcane, fruits, vegetables and milk has also increased appreciably. But the abundance of food at the national level does not ensure that all the people have equal access to food because access to food is function of both physical as well as economic access. In India, the expenditure on food (calorie intake) with some allowance for non-food expenditure is mostly used as a basis for determining the poverty line. Thus, the incidence of poverty in a region may give some indication to the extent to which food is accessible to households. National Sample Survey data (NSS) provides information on

household consumption expenditure. Data shows that in 1999-2000, still, 27 percent of the rural population and 23.62 percent of the urban population is below the poverty line.

India has made creditable record in famine prevention, the last sizeable famine occurred in 1943(four years before independence), but it has not been matched by a similar success in eliminating the pervasive presence of endemic hunger (Dev, 2003). Estimates of hunger (two-square meals a day) based on self-perception from NSS data shows that at around 10 percent of the population suffer from hunger. India has done much worse in respect to undernourishment, or “protein-energy malnutrition” that are nearly twice as high in India as in Sub-Saharan Africa. About one-half of all Indian children are, it appears, chronically undernourished. Ten years ago, the first National Family Health Survey (1992-93) established that India is one of the most undernourished countries in the world. According to standard anthropometric indicators such as weight-for-age, about half of all Indian children are undernourished. Only few countries, such as Bangladesh, are doing worse than India in this respect. In maternal undernourishment as well as incidence of underweight babies, and also in the frequency of cardiovascular diseases in later life (to which adults are particularly prone if nutritionally deprived in the womb), India’s record is among the very worst in the world (Sen; 2003).

Further, since undernourishment is a cause of ill health, but it can also result from ill health, attention has to be paid to health care, in general, and to the prevention of endemic diseases that prevent absorption of nutrients, in particular. There is plenty of evidence to indicate that lack of basic education too contributes undernourishment, partly because knowledge and communication are important, but also because the ability to secure jobs and income are influenced by the level of education. In fact, low incomes, relative higher prices, bad health care and neglect of basic education all are influential in causing and sustaining the extraordinary levels of under-nutrition in India.

In literature on food security, the adequacy of food intake is judged by level of calorie intake of an individual. The main source of calorie is cereals, this is because even today rural population gets about 70 percent of their total calorie intake from the cereals (ibid; p. S-68), the corresponding estimates for urban India are about 60 percent (NSSO, 1997a, p. S-68). Several studies like Meenakshi, 2000; Hanumantha Rao, 2002; Suryanarayana, 2003; Planning Commission report on food security, 1993) shows that (by using NSS data) in India (both rural & urban) per capita consumption of cereals is declining for both average and poor

population, which in turn is reflected in decline in per-capita calorie intake. Planning Commission report came out with the conclusion that decline in per capita calorie intake is not because of economic constraint but because of change in taste and preferences i.e. poor as well as population in general are diversifying their consumption basket at the cost of calorie intake. While, Suryanarayana, (2003) shows that shift towards superior cereals (like wheat, rice) for poor as well general population is because of decline in per capita availability of coarse cereals and at the same time increase in the availability of rice and wheat. Regarding the marginal reallocation of expenditure proportion, he suggested that, with the decline in wage payment in the form of cooked meals, the poorer wage earners have to resort to the market to buy all essential food items. Another possible reason for the apparent diversification of consumption basket could be increasing landlessness. As a result, the scope for obtaining cereals, vegetables and dairy products from home-grown stock must have declined necessitating market purchases, which are valued at higher market prices in the recorded data set. These items are important sources of protein and other nutrients. In fact, the so-called diversification has not really been at cost of calorie intake for the poor. It is the only richest half who has opted for variety in their consumption basket at the cost of calories in both rural and urban areas. The consequent reduction in calorie intake has been more than the increases in that of the poor. As a result, average calorie intake has declined in both rural and urban areas. It raises the scope for the government intervention in the food market, to make ensure the physical access to food grains at some affordable prices.

1.5 State Intervention to Ensure Food Security

The country has attempted various means to intervene in the process where by food security can be provided to the poorest of the poor. The first step in any such programme is to identify the food insecure household. Several methods such as income criteria, land ownership, occupation, employment and regional backwardness have been employed to identify the poor. None of these is, foolproof and while some deserving poor may be left out, it is possible that better-off household get included.

The various types of policy intervention employed to provide food security can be classified into two broad groups, namely

- Support-led strategies and
- Growth-led strategies.

Support-led strategies can be further grouped into three categories

- 1) Market intervention programmes
- 2) Income generating self-employment programmes, (food for work scheme).
- 3) Special feeding programmes (mid-day meals).

There can, however, be a trade-off between these two approaches. In the literature on the subject, a distinction is also made between short-term and long-term measures for food security. Policies for sustainable agriculture, for example, can come under long-term measures, while relief type programmes like public works can be included under short-term measures. However, most programmes aimed at reducing food insecurity at the household levels have both short-term and long-term dimensions. For example, food for work programmes not only provides food for the workers in the short-run, but also creates assets, which impart long-term food security.

There are four major forms of intervention by government in food grain market in India-

- 1) System of public procurement of food grains.
- 2) State manages food stock through food storage and buffering stock operation.
- 3) State-guided system of delivery of cheap food, and public distribution system.
- 4) Government intervention in trade and legal control on hoarding and other aspect of internal trade and restriction on external trade.

The Food Corporation of India undertakes direct intervention in procurement and distribution. Public distribution system in India is continued as a deliberate social policy of the govt. with the objectives of

- Providing food grains and other essential items to vulnerable sections of the society at reasonable (subsidized) prices.
- Distributing essential commodities without any discrimination and
- Ensuring food security.

Direct intervention in the food grains markets, in the form of procurement and distribution are undertaken by the Food Corporation of India (FCI) on the behalf of the central government. The responsibilities for implementation, maintaining and for enforcement of legal provision related to public delivery, however rests with the state government. FCI that comes under the jurisdiction of Department of food is the sole central agency in-charge of procurement, storage, transportation and distribution of food commodities. Usually procurement is undertaken by the State Co-operative Marketing Federation from farmers, traders/millers and

supplied to the FCI. The government on the recommendation of the Commission on Agricultural Cost and Prices (CACP) fixes the procurement prices. The objectives of price policy are multiple.

A minimum support price to ensure that producers of certain commodity mainly cereals are not put to loss, market price should not fall below the minimum certain level. **A procurement price**, which entails producers of certain commodities to sell their produce at a price, declared in advance by the govt.

The goal of food self-sufficiency was reached by the late 1980's mainly due to the Green Revolution. Price policy assured the producers that they would not be out of business if they accepted new technology and production would increase to the extent that the price in free market would drastically fall. The minimum support price and later the procurement price acted as a cushion against price-induced risk.

Due to change in situation several distortions have crept in this system. The more important among them are

- 1) The concept of minimum support price, which was based on variable cost of production, was enlarged to take into account full cost of production.
- 2) Principle of fixing minimum support price mainly on cost plus basis got established.
- 3) Due to pressure from farmers' lobby all type of farm expenditure, incurred or implemented was added to the cost of production for the purpose of fixing the minimum support price. This increases the minimum support price year after year.

Continuous rise in procurement price on the one hand, and the obligation to purchase all the grains offered by the farmers at that price, led to accumulation of stock of wheat and rice much above what is required for public distribution system. Over the last few years, in spite of poor agricultural growth public stock of food grains have doubled to about 60 million tones. The current stocks are more than three times the norm of 16.8 million tones for ensuring food security. With maintaining subsidies resulting from high minimum support price and higher cost of procurement and distribution, food grains distributed through the PDS had to be released at progressively higher issue prices deflating its purpose i.e. to issue food grains to the vulnerable sections below the market prices.

Today the surplus farmers and their spokespersons are asking for, and actually getting, progressively higher procurement prices on the plea of the rise in cost of production. While

the attempt to curtail subsidies are mainly directed to rise issue prices of the grains released through the PDS. The net result is that expected off-take from PDS is declining and the stocks are rising to an unsustainable level. The 42nd round of the NSS estimated that only 2.2 percent of the rural population in the state purchased cereals from the PDS while this percentage was as high as 88 percent in Kerala, 60 percent in Andhra Pradesh and 62 percent in Karnataka (Parikh, 1994).

There are different views on the effectiveness of PDS in reaching the poor. According to one view, PDS is an effective strategy in reaching the poor. For example, Krishnan (1992) says food subsidy can help to dampen the inflationary pressure, contribute to the alleviation of poverty and reduce inter-state disparities in food consumption. All these are desirable economic and social goals and therefore food subsidy should be treated as essential item of social investment. Vyas (1993) also feels “a subsidized PDS for well targeted groups is the best form of food security that we have been able to find out.” According to another view, PDS is not an effective strategy in reaching the poor. Based on his calculation on the value of subsidy obtained from the cereals distributed, Parikh (1994) concludes that PDS delivers a meagre support to poor. According to him, a targeting programme such as EGS would deliver much more benefit to the poor than PDS does through cereals. He advocates that food coupons should be given only to the workers under EGS type programme in order to lift them above the poverty line. Basu (1993) also feels that it is better to reach the poor directly by increasing their incomes (for example, through employment programme) and leaving it to them to buy goods and services they need at market prices.” A study by Radhakrishna et. al. (1997) concludes that the 'potential benefits from the PDS to the poor could not be realized cost-effectively due to weak targeting and leakages. The cost of income transfer was high mainly because the programme was open ended and never targeted' (p.49). The study also says that approaches other than quantity rationing, including self-targeting and other alternatives such as food stamps, need to be considered in order to deliver food transfers to the needy cost-effectively. Parikh et al (2003) calculated the welfare loss by increase in minimum support price. He found that a 10 percent increase in minimum support price of wheat and rice leads to decline in overall GDP by 0.33 percent, increase in aggregate price index by 1.5 percent, reduction in investments by 1.9 percent and a minuscule impact on agricultural GDP by the third year. What is more important to note is that in terms of welfare bottom 80 percent of rural and all of urban population is worse-off.

The increasing fiscal pressure on the government provided the impetus to streamline the functioning of PDS and the deregulation of the domestic food grain market. The government of India therefore, introduced the targeted PDS (TPDS) in June 1997. Under which food grains are being allocated to the states on the basis of the estimates of population below the poverty line. The intention was to limit the PDS only to poor and phase it out to non-poor over a period of time. The recent budget (2000-01) increased the quota from 10 kg to 20 kg to the poor and linked the changes in issue prices to changes in economic cost. This system attempts to target families below the poverty line (BPL) at heavily subsidised rates while higher prices are charged to above poverty line (APL) families. There are problems with targeting of PDS. The Government's approach of TPDS relates to income-based means test. It is known that it is difficult to identify poor through income-based means test. One of the major problems with targeting the scheme specifically to the poor is the high cost involved in the correct identification of the correct group. It should be avoided and some other indicators should be used for targeting. If the identification of vulnerable person is based on nutritional intake, nutritional outcomes or expenditure patterns, than a large majority of households will be covered under the programmes of the food security with less cost involved in it (Swaminathan, 2003). Targeting also leads to exclusion and inclusion errors. The former error refers to exclusion of poor while the latter error refers to inclusion of non-poor. Both the errors seem to be high under TPDS. A study by Srivastava (2001), shows that the performance of the TPDS in the UP has been highly unsatisfactory. Food subsidy to the poorest groups increased by a meagre amount (1.1 percent to 1.3 percent) due to the introduction of the TPDS. The large difference between open market and TPDS prices provided a great incentive for the diversion of grain to the black market with the estimated linkage being 41 percent. In case of Bihar too, the corruption levels are found to be high (Mooij, 1999). In a recent study by Jha and Srinivasan, (2003) shows that TPDS has only magnified the problem. The off-take of foodgrains for the distribution to APL families has fallen since the ration prices have risen close to the open market prices. The off-take from the BPL allocation has been impressive, but a larger part of the grains is diverted to the black market. The TPDS thus appears to have failed in serving both its objectives. However, the author suggested limiting the role of FCI to price stabilization and the maintenance of the buffer stocks. Also, geographical targeting involving the universal coverage of only those areas that have high concentration of poverty, can be effective way of reaching out to more and more of the poor with a given amount of resources.

1.5.1 Annapurna Anna Yojana

This programme is linked to the Targeted PDS. It provides 10 kgs of foodgrains per month for free to needy senior citizens living alone. Approved during the 1999/2000 budget, it is now being operationalized. It is targeted at those who are eligible for old age pension, but do not receive them and who do not live with their children in the same village. The Ministry of Rural Development is charged with its implementation, with an annual foodgrains requirement estimated at 166,000 tonnes, issued by FCI at economic costs. The evaluation of this scheme is not readily available.

1.5.2 Antoyadaya Anna Yojana

This programme was introduced in early 2001 is addressed to the poorest of the poor, as identified by gram panchayats and gram sabhas. Antoyadaya households have special ration cards and are entitled to 35 kg of grain a month at highly subsidized prices (Rs. 2 a kg for wheat and Rs.3 kg for rice).

In a survey of destitution in five states (Andhra Pradesh, Chhattisgarh, Jharkhand, Rajasthan, and Uttar Pradesh) found that the programme is doing well, in sharp contrast with other component of the PDS³. First and foremost, the selection of Antyodaya households appears to be quite fair; among the 450 Antyodaya households living in the sample villages, a very large majority turned out to be very poor. Nearly two third of these households are constrained to skip meals from time to time. Only two percent of households lived in economic conditions described by the field investigators as “better than average” compared with other households in the village. Antyodaya also seems to be reasonably successful in terms of timely and effective distribution of food rations. Regarding the quality of the grain received, 85 percent of the respondents described it as “average or good”.

This is not to say that programme is flawless. In some areas (particularly in Jharkhand), it was found that many Antyodaya households had been deprived of their entitlements, as ration-shop dealers took advantage of their powerlessness. Yet, the experience so far strongly suggests that these failures can be addressed and that the basic approach underlying the

³ See Dreze (2002)

Antyodaya programme is quite sound. The main limitation of this scheme is its restricted coverage (less than the 5 percent of the rural population).

It is useful to see the case for a major expansion of this scheme in the context of the “problem” of increasing food stock in the country. The needs and the rights of destitute households should, of course, be the primary consideration, but as it happens, there are also independent reasons why food transfer to the destitute are a good way of using the surplus grain stocks. First, the overhead costs of these food transfers are low. This is a crucial consideration, because overhead costs have been the main stumbling block in the way of other constructive uses of food stocks, such as mid-day meals and food-for-work programmes. Second, food transfers to the destitute also have the advantage of boosting the aggregate consumption of foodgrains. Indeed, since there is widespread hunger among destitute households, most of the food given to them translates into additional consumption. In contrast, food transfers made under programmes such as school meals or food-for-work create little additional demand for foodgrains, as they substitute to a large extent for food that would otherwise be bought in the market.

Towards ending the extreme insecurity and deprivation that ruin the lives of destitute households in rural Uttar Pradesh, this is an economically attractive way to reach the poor and ensure food security.

1.6 Food Security in Context of Uttar Pradesh and Need for Study

Uttar Pradesh (UP) is quite often referred to as the “heart-land” of India’s socio-cultural, political and economic fabric. It is a very large state, ranking first in terms of population and fourth in terms of area in the country. Rich in potential, in human and natural assets, Uttar Pradesh once appeared to be a pace-setter for the country’s economic and social and economic development. A large part of the plains of Uttar Pradesh lie in the Indo-Gangetic plain and are intersected by rivers. This partly accounts for the long history of human settlements, the high density of population and the priority accorded to agriculture in the state. Given the size of Uttar Pradesh, spatial diversity in its social, cultural, political and economic milieu is understandable. In development literature, Uttar Pradesh has been constituted by five separate regions, which has somewhat distinct socio-economic, agro-ecological and demographic characteristics. These are the hill region, comprising the Himalayan districts in the north and foothills, the western region, the central region, which include the state capital

Lucknow; the Eastern region, and the Southern region of Bundelkhand, which lies in the Vindhyas plateaus. The Western and the Eastern regions are the most populous, together comprising 76.9 percent of the state's population. Of these regions, the Western region has been considered to be the economically developed and even today its per capita income is almost twice as high as the Eastern region, which has the lowest per capita income. The Western region is part of the granary of the India. It has high agricultural productivity.

It is paradoxical that food security is an issue in the context of Uttar Pradesh, a state where average food grain production of about 35.9 million tons and per capita production of 247 kg per year, (the third highest among major states), and is considered to be a food grain surplus state⁴. Some earlier studies shows that there are large variations between different regions in the state for example, food production per hectare is highest in the agriculturally developed western region. During 1993-96, foodgrain production per hectare in the western region was 22.96 quintals-nearly twice the level of Bundelkhand region (11.22 quintals) and 30 percent higher than the yields levels in the eastern region (17.88 quintals per hectare). But, the gap between the different regions has narrowed down somewhat in the recent years.

Despite the relative high levels of food grain production, income poverty in the state is, however, still high. Estimates given by Haque, Lanjouw and Ravallion (1998) and discussed in World Bank (1998) shows that the state was the fourth poorest in terms of head-count ratio and the poverty gap index. Poverty incidence is the highest in the southern region of the state (Bundelkhand) and the lowest in the hill and western region. According to estimates prepared by Dubey and Gangopadhyay (1998), the headcount poverty ratio was 23.69 percent in the hills and 28.44 percent in the western region. Recent trends in poverty line based on NSS, 1999-2000 data shows that around 31.1 percent of the state's population is below the poverty line, while the corrected estimates projects around 33 percent. The prevalence of high-income poverty in the state underscores the point that all the people in the state do not have equal access to the food.

Per capita consumption of cereals has been declining in UP in tandem with the trends in both rural and urban India since the early 1970's. Food hunger, measured by households reporting not being able to get two square meals a day, was reported by 3.4% households in 1993-94

⁴ See Srivastava (2001).

(NSS 1996) for the entire state, and by 6.2% households in the survey of living conditions (SLC) survey carried out in eastern UP and Bundelkhand in 1997-98.

Several recent surveys provide estimates of malnutrition in the state. These find malnutrition among children in UP as being higher than the national average. Using the weight for age criteria, the NFHS-2 for 1998-99 estimate malnutrition (<2SD) among children 0-3 years at 52 percent. The health status of females is generally poor in the state and mortality rates are higher leading to extremely low sex ratios in the state (Dreze and Gazdar, 1997).

In Uttar Pradesh, despite higher per capita net cereals production and consumption and the percentage of population consuming less than 90 percent of the calorie norm is less than the national average, the paradoxical situation is that malnutrition among children and the percentage of adult population suffering from chronic energy deficiency (Body Mass Index) is higher than the national average. The incidence of poverty and infant mortality rate in Uttar Pradesh is also much higher than the national average. In terms of income poverty, UP is among the poorest state in the country. These facts underscore the point that to identify the factors accounting for worse performance of some indicators of food insecurity.

Poverty in India is officially measured in terms of calorie consumption. The poverty line is the monthly per capita expenditure. These expenditures correspond to a total household expenditure estimated as sufficient to provide 2400 calories daily in rural areas and 2100 calories daily in urban areas, plus some basic non-food items.

Therefore, when we quantify poverty in India, essentially we are measuring consumption of food. Thus, the incidence of poverty itself reflects the, proportion of population is not having sufficient purchasing to buy the adequate food.

One possibility of this paradoxical situation could be that, since the value of all these indicators represents the average performance, it may be possible that some proportion of population is performing better than the average in terms of these indicators and some proportion might be performing worse than the average so it is not reflecting in these indicators. To illustrate, for example, if the calorie intake for the poorest 20 percent of the population is lower than the average figure and at the same time calorie intake for the richest 20 percent of the population is higher than the average figure than it will not reflect in the average figure.

Table 1.1 Performance of different indicators of food insecurity in Uttar Pradesh

Food Insecurity Indicators	Year	UP	India	Sources
Below Poverty line people	1999-2000	31.10	26.10	HDR, U.P.
Rural	1999-2000	31.20	30.90	HDR, U.P.
Urban	1999-2000	27.10	23.60	HDR, U.P.
Undernourishment (<2SD) among children 0-3 years	1998-99	51.70	47.00	NFHS 1998-99
Percentage of women suffering with Chronic energy deficiency (BMI<18.5)	1998-99	35.80	35.80	NFHS 1998-99
Percentage of population with Chronic energy deficiency (BMI<18.5)	1998-99	44.00	NA	Food Security Atlas.
Average per-capita per diem intake of calorie				
Rural	1999-2000	2327	2149	NSSO, 1999-2000
Urban	1999-2000	2131	2156	NSSO, 1999-2000
Percentage of population consuming less than 90 percent of the calorie norm				
Rural	1999-2000	32.90	45.20	NSSO, 1999-2000
Urban	1999-2000	46.50	48.00	NSSO, 1999-2000
Per capita cereals consumption				
Rural (kg/month)	1999-2000	13.62	12.72	NSSO, 1999-2000
Urban (kg/month)	1999-2000	10.79	10.42	NSSO, 1999-2000
Per capita net cereals production (gm/day)	1999-2000	545.68	430.33	
Infant mortality rate	2000	83	68	NFHS 1998-99

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Poverty is an extremely complex phenomenon, which manifests itself in a dense range of overlapping and interwoven economic and social deprivations. These include lack of assets, low-income levels, hunger, poor health access, insecurity, social exclusion, discrimination, and political powerlessness and disarticulation. This has an adverse impact on their health status.

There is thus an urgent need for public policy to address issues relating to the food and nutrition security of the poor. The present study is an attempt in this regard to understand the issues pertaining to food security in Uttar Pradesh.

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1.7 Objectives and Hypothesis

The objectives of the study are:

1. To examine food security situation in Uttar Pradesh (in the light of Sen's entitlement and deprivation thesis).
2. To examine role of state intervention in providing food security.
3. To study the functioning of Antoyadaya Anna Yojana.

1.7.1 Hypotheses of the Study

1. Poor in the state do not have sufficient income to buy the adequate amount of food required for their active and healthy life.

OR

2. Poor in the state have sufficient income to buy the adequate food, but they are deprived-of access to other facilities like education, health services, safe drinking water and sanitation.

1.8 Theoretical Framework and the Methodology for the Study

As mentioned earlier, the present study focuses food security situation in the light of Sen's entitlement and deprivation thesis. In this approach an individual's entitlement is rooted in his/her endowment- the initial resource bundle-which is transformed via production and trade into food or commodities which can be exchanged for food. If the entitlement set does not include a commodity bundle with an adequate amount of food, the person must go hungry, in Sen's terminology, the individual has suffered an entitlement failure. The following steps were followed in this regard.

First, on the basis of adequacy norm of food, identify the vulnerable group those who are not having adequate amount of food or suffering from entitlement failure. For adequacy we shall focus mainly on calorie norm required for an active and healthy life.

Second, after identifying vulnerable group (nutritionally at risk), we shall focus on mainly two types of entitlement, one is production based entitlement and second is exchange entitlement.

Third, look at the endowment bundle for this vulnerable group. Here, we shall take land (production based entitlement) and labour power (exchange entitlement) as an initial endowment bundle.

Fourth, production based entitlement is mainly dependent on amount of land an individual owns. Idea behind production-based entitlement is to see whether the vulnerable group (not having adequate amount of food) have sufficient amount of land or not.

Fifth, exchange entitlement depends upon the wages and foodgrain prices. Wage in turn depends upon the type of activity in which an individual is engaged. Thus, we shall look at the type of activity in which they are engaged, and then calculate the annual wage income and examine the exchange entitlement ratio.

$$\begin{aligned} \text{Annual wage income} &= \text{Total number of days employment} * \text{daily wage earning} \\ \text{Exchange entitlement ratio} &= \text{Annual wage income} / \text{food grain prices}^5 \end{aligned}$$

Exchange entitlement can also be seen by comparing food grain prices with average monthly per capita consumption expenditure (as a proxy for income) for the vulnerable group. However, we shall use both the steps to see the exchange entitlement ratio in the analysis.

However, the economic accessibility of food is much more important for an individual or household (and nation) to acquire the sufficient food. Nonetheless, in practice, adequate production at the state level is important because the link between food availability and entitlements are indeed numerous and often important. Decline in former can affect the consumption through increase in food prices. Keeping this view in mind we shall also look at the per capita net availability of total food grain and cereals (main source of calorie⁶).

$$\begin{aligned} \text{Per capita net availability} \\ \text{Of foodgrain} \end{aligned} = \frac{\text{(Net production of food grain + Total supply of} \\ \text{foodgrain from the centre - Total procurement)}}{\text{Total Population}}$$

1.8.1 Methodology

This study is an attempt to analyse the food security situation in Uttar Pradesh and how effectively state is playing role in providing food security to the vulnerable groups. To realize the objectives of the study it uses both primary as well as secondary source of information.

⁵ For foodgrain prices we shall use Consumer price Index for Agricultural Labourers (for food) in rural areas.

⁶ See Suryanarayana (2003)

The third objective of the study is based on primary source of information. A case study of the functioning of scheme based on a backward region of the state has been conducted.

The data from the sample households were collected using well structured, pre-tested scheduled through a personal interview method. To meet the requirement of third objective, two separate schedules, i.e. schedule for Antoyadaya households and schedule for excluded households were designed. Data were collected on, among other things, family composition of destitute households; quantity, duration, quality and prices of ration, selection procedure of beneficiaries, and also on several other aspects of functioning of Antoyadaya Anna Yojana.

1.9 Sources of Secondary Information

The various sources of secondary data, which we are using in this study, is given below.

1. Bulletin of Food Statistics published by the Directorate of Economic and Statistics, Government of India.
2. National Sample Survey, different quinquennial rounds mainly 1st, 3rd, 5th, and 6th rounds survey data, published by the Directorate of Economic and Statistics, Government of India.
3. Statistical abstracts of Uttar Pradesh
4. Rural Labour Enquiry Reports published by Ministry of Labour, Government of India.
5. National Family Health Survey (NFHS) reports, 1992-93 and 1998-99.
6. Consumer Price Index Report, published by Ministry of Labour, Government of India.
7. Uttar Pradesh Human Development Report 2002 – 2003.

1.10 Scheme of the Study

The study is organized into five chapters. Chapter one presents the introduction where we attempt to outline the various concepts, definitions and different dimensions of food security. The role of government intervention in providing food security to vulnerable group, at a macro level, has been given special focus in this chapter. This chapter concludes with the formulation of problem (formulating the objectives and hypothesis), methodology and identifying different data sources.

The second chapter examines food security, entitlement and deprivation and its linkages in Uttar Pradesh. The food security situation, at a macro level, in the light of Sen's entitlement and deprivation thesis is discussed. Another important aspect of food security discussed is the

intra-household issue whereby some indirect information on gender biases in food distribution is examined.

The third chapter discusses the state response to food security. In this chapter the focus is on the food based intervention programme, and for that purpose the Public Distribution System (PDS), Integrated Child Development Scheme (ICDS) and Mid-day Meal scheme are reviewed. The functioning of these schemes is evaluated on the basis on its coverage, targeting and the extent to which they succeeded in achieving their objectives.

Chapter four is devoted to a detailed analysis of the functioning of Antoyadaya Anna Yojana in rural Uttar Pradesh, based on field-survey data. This chapter analyses the performance of Antoyadaya Anna Yojana in terms of selection beneficiaries, amount and duration of ration being received, prices charged by them and various other aspects.

Chapter five presents the summary of food security situation in Uttar Pradesh and concluding observations.

Chapter 2

FOOD SECURITY, ENTITLEMENT AND DEPRIVATION- EXAMINING LINKAGES IN UTTAR PRADESH

2.1 Introduction

This chapter focuses on the food security situation in Uttar Pradesh. An attempt is made to examine the food security situation in the light of Sen's entitlement and deprivation thesis. Economic accessibility of food is much more important for an individual or household (and nation) to acquire the sufficient food. In theory, self-sufficiency of a state is not crucial because inter-state movement of food should make it possible to transport it to deficit regions/states. Which means even if a state is not producing enough food to meet basic norm of food intake, can procure food from other state/region. Nonetheless, in practice, adequate production at the state level is important because the link between food availability and entitlements are indeed numerous and often important¹. Decline in former can affect the consumption through increase in food prices.

Therefore, this chapter begins by discussing food availability followed by access of food. Adequacy of food intake is judged by the Nutritional Intake Assessment. Measures of Nutritional Intake estimate the amount of food a person is eating and can be used to assess the adequacy of the quantity of dietary energy (and protein) supply. In simple terms, one can categorize people as being well nourished or undernourished based on whether their intake of food matches their food energy needs or not. If not then certainly there is entitlement failure. To show why there is entitlement failure we look on both endowment as well as exchange entitlement. Another important aspect of food security that we tried to capture in this chapter is the intra-household issue by looking on some indirect information on gender bias. A natural direction in which to go is that of examining direct evidence of various nutritional and related functioning, such as clinical signs of undernourishment, morbidity rates or comparative mortality patterns. This has got merit over just trying to observe the commodity intakes because these are the things, which ultimately matters the kind of life a person can lead. Our ultimate aim is not with the size of nutritional intakes, but with the extent of nutritional well being and with the capability to achieve that well being.

¹ See Dreze and Sen (1989)

2.2 Food Availability

Uttar Pradesh, together with Punjab and Haryana, may be considered as the country's agricultural heartland. A large part of the plains of Uttar Pradesh lie in the Indo-Gangetic plain and are intersected by rivers. Most of the State's farmland lies in this region and are well watered and naturally fertile. Along with this the Western region's tradition of raising wheat and sugarcane made it strong platform for the green revolution in the 1960s and 1970s. This helped Uttar Pradesh to depart from previously low levels of agricultural growth. While Uttar Pradesh has 16 percent of India's population, it contributes 22 percent of the total food grain production, and is the largest producer of wheat, accounting for 36 percent of the country's output. It is the second largest producer of rice². The State has the highest milk production (12.93 mln.litres) in the country and is the largest producer of fruits contributing 8 percent of the fruits and 20 percent of the vegetables produced in the country.

2.2.1 Trends in Food Grain Production

With the average food grain production of about 42.7 million tons and per capita production of 234 kg. per year, third highest among major states, UP is considered to be a food grain surplus state. Estimates shows that against the population growth of 2.29 percent between 1980-91, compound growth rate in the net value of the agricultural production has been higher, i.e. at 2.95 percent per annum. The growth in food grain production in the state has decelerated sharply during the last decade i.e. between 1990 to 2000. The growth rate of agricultural output was not spectacular. Table 1.1 shows that during the 1970's food grain production in the state grew at the rate of 1.94 percent. The growth in the hill region was the highest at 2.69 percent, followed by the western region (2.25percent). Compared to the decade of the 1970's (1967-70 to 1977-80), all regions of the state show higher rates of the growth in the subsequent decade. Uttar Pradesh as a whole registered a growth rate in food grain production of 4.88 per cent during 1980-90. The Eastern region, because of productivity growth and increase in area, registered the highest rate of growth (5.81 percent) per annum during the same period, followed by the Central region (4.88 percent) and Western region (4.55 percent). Growth rate in foodgrains production in the subsequent decade (i.e. 1990-2000) decelerated sharply to 2.72 per cent (highest in the Bundelkhand region at 3.45 per cent, followed by the Western region at the 2.85 per cent).

² Based on 2000-01 statistics

Table 2.1 Region-wise Compound Growth Rates of Food grains, Wheat, and Rice in UP

Region/ Foodgrains	Area			Production			Productivity		
	70-80	80-90	90-2000	70-80	80-90	90-2000	70-80	80-90	90-2000
Foodgrains									
Hills	0.76	-0.15	-0.67	2.69	1.98	0.66	1.95	2.12	1.36
Bundelkhand	0.03	0.28	0.90	-0.65	4.28	3.45	-0.69	3.99	2.52
Central	0.20	0.08	0.33	1.83	4.88	2.54	1.64	4.74	2.24
Eastern	0.47	0.76	0.13	2.08	5.81	2.77	1.60	5.01	2.64
Western	-0.01	-0.02	0.41	2.25	4.55	2.85	2.27	4.55	2.45
All UP	0.24	0.30	0.29	1.94	4.88	2.72	1.70	4.54	2.43
Wheat									
Hills	-0.46	0.72	-1.26	1.03	2.41	0.50	1.59	1.66	1.78
Bundelkhand	0.96	0.70	1.41	0.01	5.01	5.35	-1.02	4.33	3.89
Central	3.97	1.94	1.03	6.77	6.51	2.86	2.72	4.43	1.81
Eastern	6.28	3.07	0.88	8.34	7.01	3.11	1.91	3.79	2.21
Western	2.52	0.96	0.68	4.91	4.87	2.84	2.33	3.85	2.13
All UP	3.42	1.77	0.78	5.44	5.66	2.99	1.96	3.80	2.18
Rice									
Hills	3.30	-0.11	0.26	6.39	2.62	0.82	3.02	2.68	0.56
Bundelkhand	1.35	-4.05	1.51	0.97	-1.62	5.70	-1.09	3.11	4.21
Central	1.98	0.10	1.55	3.48	6.35	3.87	1.45	6.05	2.49
Eastern	1.16	0.96	0.34	3.17	7.80	3.60	2.03	6.71	3.27
Western	1.86	-0.57	3.60	5.39	5.09	4.73	3.45	5.59	1.23
All UP	1.56	0.33	1.28	4.01	6.33	3.82	2.41	5.90	2.57

Source: Department of Agricultural Statistics, UP.

Note: figures are based on three-year averages, ending in year stated

In terms of food grain productivity growth, the performance of the Western region was the best during the 1970s, but during the 1980s the growth rate in productivity in the eastern region has been the highest. In the 1980s, food grain productivity growth in the eastern region was 5.01 per cent compared to 4.55 per cent in the western region. But in 1990s the food grain productivity in all regions decline sharply but it was still higher in the eastern region as compared to the Western Area region. The performance in terms of two major food grains has shown dissimilar developments. While increase in the productivity in wheat was the highest in the central region in the 1970's and 1980's, production has also grown at a significantly higher rate in the eastern region throughout, led by higher area increase, and the other lagging regions also shown sign of 'catching up'. During 1990's Bundelkhand region registered higher growth rate in productivity led by higher increase in area and production as compared to other regions.

In case of rice, the western region led both in terms of productivity and production growth in the 1970's, but during the next decade, the eastern region registered the highest growth in productivity and production. During the 1990's productivity growth was highest in the Bundelkhand region, it was mainly because higher growth in production in comparison to other regions. These changes should not detract from the fact that yields (for wheat and rice, as well as all food grains) are still the highest in the western region with the yield levels in the eastern region (table 2.2). But since 1980's, the gap between the eastern and central regions on the one hand, and the western region on the other, have narrowed down somewhat.

Table 2.2 Region-wise Agricultural Productivity in Uttar Pradesh (Qt./hectare.)

Regions/Years	1970	1980	1990	2000
Foodgrains				
Hills	9.67	11.73	14.47	16.57
Bundelkhand	7.14	6.66	9.85	12.64
Central	8.56	10.07	16.00	19.95
Eastern	7.90	9.26	15.09	19.59
Western	10.10	12.65	19.75	25.14
All UP	8.75	10.36	16.16	20.55
Wheat				
Hills	10.73	12.56	14.82	17.69
Bundelkhand	10.26	13.42	20.72	24.79
Central	10.26	13.42	20.72	24.79
Eastern	10.69	12.92	18.75	23.33
Western	13.56	17.09	24.95	30.82
All UP	11.85	14.39	20.90	25.95
Rice				
Hills	10.47	14.11	18.39	19.46
Bundelkhand	6.69	5.99	8.14	12.30
Central	7.63	8.80	15.84	20.26
Eastern	6.29	7.69	14.72	20.31
Western	8.50	11.93	20.56	23.23
All UP	7.18	9.11	16.18	20.85

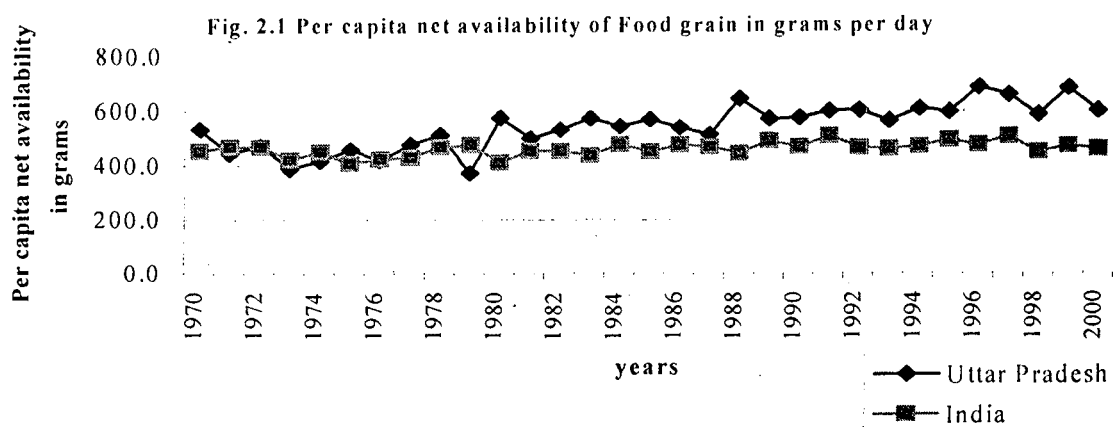
Source: Department of Agricultural Statistics, UP.

Note: figures are based on three-year averages, ending in year stated.

Thus, one can conclude this sub-section with the observation that regarding food production there is stagnation in output in recent years and there are large regional imbalances within the state. However, the gap between the different regions has narrowed down somewhat in the recent years.

2.2.2 Per Capita Net Availability of Food Grain

On the basis of the equation discussed in chapter one, we have calculated the per capita net availability of food grain between period 1970 to 2000. Figure 2.1 shows that trend of per capita net availability was not smooth. In late 70s it reached to its minimum level i.e. 373 grams per day; while, in mid nineties it was maximum. For most of the years between 1970 to 2000, the per capita net availability in Uttar Pradesh was not only higher than that of the all India average, but also has remained higher than the conventional approach of per capita requirement of food grains 460 grams per day in India. Despite of fluctuation in agricultural production, the net availability of food grains in state was able to provide at least 460 grams of food grains to per person every day for most of the year (appendix table 2.1).



Source; Bulletin of food statistics.

2.3 Access to Food

Does this abundance food supply translate into adequate access to food to all? Even if we produce enough food and make it available in all season and in all regions, there is no reason to accept that all the people have enough food for their active and healthy life, because, access to food, is a function of purchasing power, sustainable livelihoods and employment opportunities and also entitlement to subsidized schemes. In case of Uttar Pradesh this abundance food supply is not translating into adequate access to food to all, because of large-scale poverty in the State, which constrains the purchasing power of the poor and other vulnerable sections. Poverty is an extremely complex phenomenon, which manifests itself in a dense range of overlapping and interwoven economic, political and social deprivations. These include assetlessness, low-income levels, hunger, poor health, insecurity, physical and psychological hardship, social exclusion, degradation and discrimination, and political

powerlessness and disarticulation. Poverty in India is officially measured in terms of calorie consumption. The poverty line is the monthly per capita expenditure in 1973-74 all-India prices of Rs 49 in rural areas and Rs. 57 in urban areas, with people below this expenditure considered poor. In 1999-2000, this corresponded to an average per capita expenditure of Rs. 328 for rural areas and Rs. 454 for urban areas per month. These expenditures correspond to a total household expenditure estimated as sufficient to provide 2400 calories daily in rural areas and 2100 calories daily in urban areas, plus some basic non-food items. Therefore, in a way, when we quantify poverty in India, essentially we are measuring consumption of food, although steps needed to tackle poverty have to go beyond providing food assistance. Uttar Pradesh belongs to the category of high poverty states. In 1993-94, the state ranked 11th out of 14 major states of India in poverty levels with 36 percent of the persons below the poverty line.

In 1999-2000, an estimated 31.1 percent of the population in the state was below the poverty line, which is higher than the all India average.

Table 2.3 Trends in Poverty: Uttar Pradesh and All India Headcount

Year	NSS Rounds	UP: Head Counts Measures			All India: Head Counts Measures		
		Urban	Rural	Overall	Urban	Rural	Overall
1983	38 th	49.8	46.4	47.1	40.8	45.7	44.5
1987-88	43 rd	43.0	41.1	41.5	38.2	39.1	38.9
1993-94	50 th	35.4	42.3	40.9	32.4	37.3	36
1999-00							
Official	55 th	30.9	31.2	31.1	23.6	27.1	26.1
Corrected	55 th	30.4	33.7	33.0	24.7	30.2	28.6

Source; World Bank (2002).

While in the earlier years, the proportion of the poor was higher in the urban areas, the situation appears to have changed since 1993-94. The performance of Uttar Pradesh regarding the poverty reduction is very poor. Table 2.3 shows that the proportion of people below the poverty line was 47.1 percent in 1983 against the all India average of 44.5 percent, it came down to 31.1 percent in the state against the national average of 26.1 percent.

As we saw in the last section there is large variation between different regions in the state regarding food production per hectare, the same is true for the poverty measure also. State-wide trends in poverty hide more than what they reveal. There is wide variation in the level of

poverty across UP regions. Table 2.4 shows that in 1993-94, the Southern region (Bundelkhand) had the highest level of poverty-more than two-and-a-half time the level in the Himalayan region for rural areas, and more than four times higher than the Himalayan region in urban areas, even though the two have roughly equal population.

Table 2.4 Regional Trends in poverty in Uttar Pradesh (NSS 50th Round)

Regions	1993-94 (NSS 50 th Round)				
	Incidence of Poverty			Percentage of	
	Urban	Rural	Overall	Population	Poor
Himalayan	12.7	24.8	22.5	4	2
Western	31.1	29.3	29.8	36	27
Central	33.9	50.2	46.7	18	20
Eastern	38.6	48.8	47.5	37	42
Southern	74.4	67.4	68.9	5	9
Uttar Pradesh	35.1	42.3	40.9	100	100

Table 2.4 Regional Trends in poverty in Uttar Pradesh (NSS 55th Round)

Regions	1999-00 (NSS 55 th Round)						
	Incidence of Poverty					Percentage of	
	Urban		Rural		Overall	Population	Poor
	Official	Corrected	Official	Corrected			
Himalayan	14.1	19.7	15.6	18.1	15.2	4	2
Western	30.0	30.5	21.7	22.5	23.9	36	27
Central	33.4	30.0	42.2	43.0	39.7	18	24
Eastern	31.1	33.7	36.4	40.3	35.9	37	43
Southern	40.9	38.1	20.9	38.1	24.4	5	4
UP	30.7	30.4	31.1	33.7	31.0	100	100

Source; World Bank (2002).

In general, the hill and western regions shows the much lower levels of poverty while the Southern region has the highest level of poverty. In 1999-2000, both the official and corrected estimate shows that the level of rural poverty in Bundelkhand region had dropped to a lower level compared to central and Eastern region. Further, rural poverty appeared to be the highest in the Central region. It could be attributed to more rapid growth in irrigation and agriculture in the recent period. Agricultural wages in the southern region also grew at a relatively faster rate (World Bank, 2002; Srivastava, 2003). In contrast, the Central region experienced very slow agricultural growth in the recent period.

2.3.1 Social Groups

In Uttar Pradesh, exclusion based on social identity is not only deeply ingrained it is also a powerful contributing factor to the persistence of poverty. Despite the year of development, society in the state remains deeply fragmented along caste lines. Social identity is a strong predictor of who is poor and who is not poor, who is illiterate, who is employed in low paid jobs. Despite decades of effort on the part of successive governments' poverty among the SC/STs population is markedly higher as compared to others. Table 2.5 shows in 1987-88, the probability of a SC/STs households being poor in the state was 1.5 times non-SC/STs households. In 1993-94 and 1999-2000 this probability had increased to 1.6. In the urban areas, in 1993-94, a SC/ST household was 1.8 times likely to be poor compared to other households.

Table 2.5 Poverty incidence and shares by caste status in Uttar Pradesh

Year	Caste	Incidence of Poverty			Percentage of	
		Urban	Rural	Overall	Population	Poor
1987-88	SC/ST	48.3	56.2	55.3	24	32
	Other	35.7	37.5	37.2	76	68
	Overall	37.4	42.3	41.5	100	100
1993-94	SC/ST	57.5	58.6	58.4	23	33
	Other	31.3	37.0	35.7	77	67
	Overall	35.0	42.4	40.9	100	100
1999-2000	SC/ST	42.5	43.0	42.9	24	33
	Other	28.4	26.9	27.2	76	67
	Overall	30.7	31.1	31.0	100	100

Source: World Bank (2002)

Uttar Pradesh human development report shows how poverty varies across social groups by using the per capita income of the households³. By using this criterion it shows that 14.5 per cent of SC/STs households fall into the very poor category, followed by the Muslim and OBC households. Upper and intermediate caste households have the smallest percent in this category. The reverse is the case if we look at the households whose per capita consumption levels are more than 25 per cent higher than the poverty line level.

³ They defined the households into four categories. If the income of the households is 25 per cent less than the official poverty line defined as being 'very poor' while other households still below the poverty line have been described as 'less poor'. Similarly, households whose per capita consumption levels are higher than the poverty line by an amount exceeding more than 25 per cent of that level have been considered as "well above the poverty line", while the other households above the poverty line have been described as "just above the poverty line".

Table 2.6 Percentage of Population by Social Category and Poverty class in U.P. in 1999-2000 (Rural+Urban)

Poverty class	Social Category					Total
	SC/ST Hindu	OBC Hindu	Other Hindu	Muslim	Other Religious Group	
Very Poor	14.52	8.82	4.73	10.90	6.86	9.48
Less Poor	28.71	24.15	9.80	24.09	6.44	21.53
Just above poverty line	23.75	24.08	16.49	23.66	17.01	22.01
Well above poverty line	33.02	42.95	68.98	41.35	69.68	46.98
Total	100	100	100	100	100	100

Source: Uttar Pradesh Human Development Report

2.3.2 Trends in Consumption

This prevalence of poverty is reflected in the low level of consumption. Over a period of two and a half decade-that is, between 1972-73 and 1999-2000-the per capita consumption of cereals has shown a sharper decline in rural areas than in urban areas. Table 2.7 shows a consistent decline in the intake of Cereals by the average person in the state between 1972-73 and 1999-2000. Consumption of Cereals declined from 16.83 kg to 13.62 kg per capita per month in rural areas (around 19 percent), and from 12.24 kg to 10.79 kg per capita per month in urban areas (around 12 percent). It is also significant to note that the per capita consumption of cereals in both the periods was higher in rural areas when compared to urban areas. The decline was sharpest in case of coarse cereals in both rural as well as urban areas. In rural areas, it declined to 93 percent, while in case of urban areas it was 98 percent. In case of rice consumption there was a slight increase in rural as well as urban areas it has increased by 9 percent and 21 percent respectively. Table further throw up the trends in the cereal intake of the poorest and richest 20 percent of the population.

The most striking aspect of the picture is the low level of cereal intake of the poorest quintile compared to the average as well as richest quintile, and what is more, the downtrend in even this low level of consumption. Here also there is a switch from the coarse cereals to wheat and rice, but the decline in the former is not offset by adequate increase in the intake of the latter.

Table 2.7 Trends in consumption of Cereals (Kg Per Capita Per Month) in Uttar Pradesh

Item/Years	1972-73	1999-2000	% Change	1972-73	1999-2000	% Change
	Rural			Urban		
Rice	3.99	4.34	8.77	2.39	2.89	20.92
Wheat	8.70	8.98	3.22	8.86	7.88	-11.06
Coarse	4.14	0.29	-93.00	0.99	0.02	-97.98
Total	16.83	13.62	-19.07	12.24	10.79	-11.85
Pulses	NA	1.05		NA	0.96	
	Poorest Quintile					
Rice	2.23	3.92	75.78	1.38	2.44	76.81
Wheat	5.58	7.41	32.80	7.21	7.04	-2.36
Coarse	5.07	0.36	-92.90	2.01	0.04	-98.01
Total	12.83	11.74	-8.50	10.60	9.53	-10.09
Pulses	NA	0.67		NA	0.59	
	Richest Quintile					
Rice	5.66	4.61	-18.55	3.32	3.08	-7.23
Wheat	12.25	10.65	-13.06	9.74	8.43	-13.45
Coarse	3.34	0.23	-93.11	0.30	0.07	-76.67
Total	21.25	15.47	-27.20	13.37	11.49	-14.06
Pulses	NA	1.68		NA	1.37	

Source: NSSO different round quinquennial survey reports on consumer expenditure.

Another notable feature is that the overall rural-urban difference in the per capita consumption of cereals has come down between 1972-73 to 1999-2000. The rural-urban difference in the per capita consumption of cereals for the top 20 percent of the population was as high as 59 percent in 1972-73, which still remained high in 1999-2000 at around 35 percent, in case of bottom 20 % of the population it has increased slightly from 21 percent to 23 percent between 1972-73 to 1999-2000 (Table 2.8).

**Table 2.8 Rural-Urban disparity in Per Capita Cereal Consumption:
All-Uttar Pradesh (kg per month)**

Particulars	1972-73			1999-2000		
	Rural	Urban	R/U*	Rural	Urban	R/U*
Poorest 20 %	12.83	10.60	121.03	11.74	9.53	123.19
Richest 20 %	21.25	13.37	158.94	15.47	11.49	134.63
All	16.83	12.24	137.50	13.62	10.79	126.23

Source; Based on table 2.7.

* Indicates rural consumption as a percentage of urban consumption.

The disparity in cereal consumption between the bottom and top 20 percent of the population is higher in rural areas as compared to urban areas. It was as high as 66 percent in rural areas in 1972-73, which still remained high in 1999-2000 at around 32 percent. In case of urban areas this difference has come down to 20 percent in 1999-2000 (Table 2.9).

**Table 2.9 Disparity in Per Capita Cereal Consumption among
Richest and poorest population: All-Uttar Pradesh (kg per month)**

Particulars	1972-73			1999-2000		
	Richest 20 %	Poorest 20 %	R/P*	Richest 20 %	Poorest 20 %	R/P*
Rural	21.25	12.83	165.63	15.47	11.74	131.77
Urban	13.37	10.60	126.13	11.49	9.53	120.57

Source; Based on table 2.7.

* Indicates the consumption of Richest 20% of population as a percentage of poorest 20% of population consumption.

2.4 Adequacy

One can assess the adequacy of food and nutrition and can detect the presence of inadequacy in intake among individuals and population group by Nutritional Intake Assessment. Measures of nutritional intake estimate the amount of food a person is eating and can be used to assess the adequacy of the quantity of dietary energy (and protein) supply. In simple terms, one can categorize people as being well nourished or undernourished based on whether their intake of food matches their food energy needs or nutrient requirements.

2.4.1 Nutritional Intake Assessment

The concept of “adequate food” is presented in different ways in literature but the main concern is with calorie norm in all the definitions. This is because, analysis operates on the principle that, for certain dietary pattern, meeting the calorie requirements automatically fulfils the protein norm given the proportion of these nutrients in diets (Osmani 1982).

The situation with respect to calorie intake presents a mixed picture in the case of Uttar Pradesh. At the macro level, the average intake in the state compares favorably with other states. In 1999-2000, the calorie intake in the rural areas of the state was the fourth highest in the country falling below Haryana, Rajasthan and Punjab. In the urban areas, the ranking of the state was relatively lower. In states like Orissa, Bihar, Assam, and West Bengal, the calorie intake was higher than in Uttar Pradesh in 1999-2000 (in urban areas). Uttar Pradesh ranks fourth highest in both rural as well as urban areas among the major states when it comes to levels of protein intake (Table 2.10).

Table 2.10 Rank of the Uttar Pradesh w.r.t. calorie, protein, and Fat intake among major states in India

Nutrients	Rural	Urban
Calorie	4 th	9 th
Protein	4 th	4 th
Fat	7 th	6 th

Source: NSSO 55th round

The trend regarding the calorie intake between 1972-73 to 1999-2000 in rural as well as urban areas of Uttar Pradesh (Table 2.11) shows a declining tendency and consistent with the all India trend also. However, the rate of decline was faster in the rural areas than the urban areas of the Uttar Pradesh. The rural and urban disparity regarding the calorie intake in Uttar Pradesh is coming down over the time period but still a significant difference is there.

The situation with respect to protein and fat intake between 1972-73 to 1999-2000 presents a mix picture. In rural areas of the state the protein intake shows a sharper decline, while, the fat intake has increased between the 1972-73 to 1999-2000. In case of urban areas the protein intake was almost stagnant with very slight fluctuation between the same time period, while, at the same time fat intake has increased.

Table 2.11 Per Capita Per-Diem intake of Calorie (kcal), Protein (gm) and Fat (gm) between 1972-73 to 1999-2000 in UP and India

UP	1972-73	1983	1993-94	1999-2000	1972-73	1983	1993-94	1999-2000
	Rural				Urban			
Calorie	2575	2399	2307	2327	2161	2043	2114	2131
Protein	76.10	73.00	70.4	69.7	62.80	62.00	63.2	62.0
Fat	28.80	29.00	35.5	37.6	35.50	34.00	41.2	45.5
India								
Calorie	2266	2221	2153	2149	2107	2089	2071	2156
Protein	62.70	62.00	60.2	59.1	56.70	57.00	57.2	58.5
Fat	24.50	27.00	31.4	36.1	36.70	37.00	42.0	49.6

Source: NSSO different round quinquennial survey reports on consumer expenditure.

In general the average figures regarding the per capita per-diem intake of different nutrients in case of Uttar Pradesh (despite with a declining tendency) shows a higher value than the all India average figure. These averages do not reflect much about the disparity regarding the intake level as we saw in case of consumption pattern among the different economic groups.

Table 2.12 shows the calorie intake by different quintile groups. It throws up a number of important features. First, there was a decline in calorie intake between 1972-73 to 1999-2000

in all income groups. Second, the most significant aspect of the picture is the low level of calorie⁴ intake of the poorest quintile compared to the average as well as richest quintile, and what is more, the downtrend in even this low level of intake. However, the rate of

Table 2.12 Per Capita per-diem intake of calorie in Uttar Pradesh by different quintile

Quintile group	Rural				Urban			
	1972-73	1983	1993-94	1999-2000	1972-73	1983	1993-94	1999-2000
1 st	1779	1647	1726	1759	1533	1506	1615	1576
2 nd	2162	2054	2002	2030	1861	1788	1918	1851
3 rd	2429	2310	2247	2247	2093	1974	2026	2035
4 th	2833	2637	2524	2509	2298	2213	2256	2353
5 th	3672	3347	3037	3091	3020	2733	2755	2840
All	2575	2399	2307	2327	2161	2043	2114	2131

Source: NSSO different round quinquennial survey reports on consumer expenditure.

Decline was faster among the richest 20 percent of the population than the poorest 20 percent of the population.

The disparity in calorie intake between the bottom and top 20 percent of the population is higher in urban areas as compared to rural areas. It is as high as 80 percent in urban areas compared to 75 percent in rural areas in 1999-2000. One of the interesting point is that in rural areas, the disparity between bottom and top 20 percent of the population regarding calorie intake declined very sharply between 1972-73 to 1999-2000, while in urban areas the decline in disparity is very less (Table 2.13).

Table 2.13 Disparity in Per Capita per-diem calorie intake Among poorest and richest population: All-Uttar Pradesh (kcal)

Particulars	1972-73			1999-2000		
	Richest 20 %	Poorest 20 %	R/P*	Richest 20 %	Poorest 20 %	R/P*
Rural	3672	1779	206.41	3091	1759	175.72
Urban	3020	1533	197.00	2840	1576	180.20

Source: Based on table 2.12.

*Indicates the calorie intake of Richest 20% of population as a percentage of poorest 20% of population intake

The food security situation in the state can be assessed in terms of the spread and depth of hunger. The spread is given by the percentage of the population consuming less than 1890

⁴ Much less than the standard norm prescribed for an active & healthy life both in rural as well as in urban areas.

kcal, which is 70 percent less than the norm of 2700 kcal per capita per day. The depth is given by the calorie consumption of the poorest 20 percent of the population per capita per diem.

Table 2.14 shows that in Uttar Pradesh, the fact that in 1993-94, around 8 percent of the rural population and 14 percent of the urban population consumes less than the 1890 kcal per day, i.e. 70 percent less than the norm 2,700 kcal per capita per-day. This percentage has increased to 9 and 17 percent respectively in 1999-2000. The calorie intake of 70 percent of the norm of 2700 kcal per capita per day is needed to prevent stunted growth and serious health risks. Thus, one can conclude that in Uttar Pradesh about 9 percent of the rural and 17 percent of the urban population is nutritionally at risk. The calorie intake of 90 percent of the required figure is needed for an active working life. In Uttar Pradesh, around one-third of the rural and 47 percent of the urban population is consuming less than the 90 percent of the norm or in other words not getting enough calorie for their active working life. The depth of hunger that is given by the calorie intake of the poorest 20 percent of the population shows that in rural areas of Uttar Pradesh poorest 20 percent of the population is consuming less than the 66 percent of the norm while, in urban areas its around less than 59 percent of the norm.

Table 2.14 Percentage of population by different quintile group in Uttar Pradesh whose calorie intake is less than the norm

Region	Per Capita Consumption Quintile					
	1 st	2 nd	3 rd	4 th	5 th	All
1993-94 (NSS 50th Round)						
< 70 percent of the norm						
Rural	25.93	8.11	3.08	1.74	1.13	8.00
Urban	39.26	14.87	10.09	2.37	0.98	13.50
<90 percent of the norm						
Rural	69.17	43.17	24.12	12.82	5.73	31.00
Urban	78.98	60.17	46.09	33.19	11.57	46.00
1999-00 (NSS 55th Round)						
< 70 percent of the norm						
Rural	26.29	8.25	4.44	2.67	0.85	8.50
Urban	47.29	18.19	13.54	2.59	1.90	16.70
<90 percent of the norm						
Rural	67.90	46.15	27.78	16.13	6.54	32.90
Urban	86.94	63.51	47.56	23.89	10.60	46.50

Source: NSSO 1993-94 and 1999-2000.

In a state like Uttar Pradesh where there is heavy dependence on agriculture, hunger⁵ may be more seasonal in nature, surfacing most during the lean agricultural season when there is shortage of both work and production. A study conducted by Srivastava⁶ (Srivastava, 2001) shows that out of 1225 households covered in Uttar Pradesh, 6.2 percent of the households reported not getting two-square meals for some time during the year. In the wheat-harvesting season, only 2.8 percent of such households reported going without two-square meals, but this increased sharply to 37 percent in the lean months of August-September.

2.5 Entitlement Failure

As we saw in the last chapter that in Sen's terminology entitlement failure denotes the inability of the person in securing an adequate amount of food. It is much clear from the above analysis that average consumption of cereals and calorie intake at the aggregate level does not reflect the true picture for the state. Consumption of cereals and calorie intake for the poorest 20 per cent of the population is much lower than the average figure of the state. Percentage of the population whose calorie intake is less than the 70 per cent of the norm is also higher in this category. Certainly for these vulnerable groups there is entitlement failure. And an individual's entitlement is rooted in his/her endowment- the initial resource bundle- which is transformed via production and trade into food or commodities which can be exchanged for food. For the sake of feasibility, we are taking land and labour as an initial endowment bundle. The factor that can affect the entitlement beside land and labour is price of food grains through exchange entitlement failure. In the next section we would examine why there is entitlement failure for certain groups.

2.5.1 Land

Land is the most crucial asset for the rural poor. Poverty falls as land ownership rises. Many of the poorest households, however, own little or no land. And landholdings in Uttar Pradesh becoming more fragmented over time. Among all other types of entitlement production-based entitlement⁷ is one which mainly depends on the amount of land holdings. Land is one of the most important factor of production. Hence the amount of land endowments is most crucial factor besides labor power. Table 2.15 shows the percentage distribution of number of

⁵ Inability of a person to get two-square meals a day.

⁶ Based on survey of living conditions in the poorest regions of Uttar Pradesh & Bihar.

⁷ One is entitled to own what one gets by arranging production using one's owned resources, or resources hired from willing parties meeting the agreed conditions of trade.

holdings and operated area in Uttar Pradesh since 1970-71 to 1990-91. The share of marginal and small holdings and area has steadily increased on the other hand, the share of medium and large holdings has declined⁸. From 1970-71 through 1990-91, total holdings increased from 15.6 million to 20.1 millions (by 28 percent). The total number of marginal holdings increased from 7.31 million to 10.5 millions (by 43 percent), and small holdings increased by 39 percent. Medium and large holdings declined almost by 7 percent and 30 percent respectively. Whereas the area under medium and large holdings accordingly declined by 7 percent and 38 percent respectively, the area under marginal and small holdings increased by 62 per cent and 37 percent respectively. Because of this the average size of marginal holdings increased from .22 hectares to .24 hectares and average size of large and medium holdings declined from 7.12 to 6.29 hectare and 2.75 to 2.73 hectare respectively over the same time period.

Table 2.15 Number of operational holdings and area operated by different Classes of operational holdings over the time period in Uttar Pradesh

Particulars	Year	Size of holdings (hectare)					Total
		< 0.5	0.5-1.0	1-2	2-4	> 4	
Number of holdings	1970-71	7310.6	3142.3	2688.9	1651.9	845.3	15639.0
	1976-77	8442.7	3330.7	2781.4	1626.6	789.8	16971.2
	1980-81	9001.6	3570.6	2898.2	1613.6	733.3	17817.3
	1985-86	9803.5	3978.3	2964.3	1581.7	657.4	18985.2
	1990-91	10461.3	4358.0	3118.5	1542.5	593.7	20074.0
Operated area	1970-71	1574.9	2254.7	3775.4	4537.1	6016.4	18158.5
	1976-77	1863.0	2400.9	3854.9	4437.6	5304	17860.4
	1980-81	2029.4	2585.6	4063.5	4412.9	4879.3	17970.7
	1985-86	2217.4	2775.9	4114.9	4313.1	4226.9	17648.2
	1990-91	2556.0	3097.3	4390.7	4206.7	3736.0	17986.7
Average size of holding	1970-71	0.22	0.72	1.40	2.75	7.12	1.16
	1976-77	0.22	0.72	1.39	2.73	6.72	1.05
	1980-81	0.23	0.72	1.40	2.73	6.65	1.01
	1985-86	0.23	0.70	1.39	2.73	6.43	0.93
	1990-91	0.24	0.71	1.41	2.73	6.29	0.90

Source: Uttar Pradesh Statistical Report various issues

The consequences for the relative position of the various size groups are shown in the table 2.16. The area owned in marginal holdings- roughly 47 per cent of the holdings- increased from 8.67 per cent in 1970-71 to 14.21 per cent in 1990-91, and the area owned in the large

⁸ Marginal holding is <0.5 hectare while area between 0.5 to 1.0 and between 1 to 2 hectare denotes small and semi-medium holdings. Area between 2 to 4 and > 4 denotes medium and large holdings.

holdings in the same time period declined from 33.13 per cent to 20.77 per cent. Thus the percentage of households owning less than one hectare land has increased consistently, while their share in total land owned has also increased.

Table 2.16 Percentage distribution of holdings and operated area by different size class

Particulars	Year	Size of holdings (hectare)					Total
		< 0.5	0.5-1.0	1-2	2-4	> 4	
Percentage Number of holdings	1970-71	46.75	20.09	17.19	10.56	5.41	100.00
	1976-77	49.75	19.63	16.39	9.58	4.65	100.00
	1980-81	50.52	20.04	16.27	9.06	4.12	100.00
	1985-86	51.64	20.95	15.61	8.33	3.46	100.00
	1990-91	52.11	21.71	15.54	7.68	2.96	100.00
Percentage Operated area	1970-71	8.67	12.42	20.79	24.99	33.13	100.00
	1976-77	10.43	13.44	21.58	24.85	29.70	100.00
	1980-81	11.29	14.39	22.61	24.56	27.15	100.00
	1985-86	12.56	15.73	23.32	24.44	23.95	100.00
	1990-91	14.21	17.22	24.41	23.39	20.77	100.00

Source: Uttar Pradesh Statistical Report various issues

NSSO data also provides the information on the distribution of land holdings. Table 2.17 shows the Rural Poverty Incidence and status by Land Ownership in Uttar Pradesh. It is evident from the table that in 1982-83, 27 per cent of the population (30 per cent of the rural poor) owned less than a half hectare of land. By 1993-94, the number of households owns less than a half hectare of land had risen to 43 per cent and around 54 per cent of the rural poor.

Table 2.17 Rural Poverty Incidence and status by Land Ownership in Uttar Pradesh

Amt. of land owned	Poverty incidence	Percentage of		Amt. of land owned	Poverty incidence	Percentage of	
		population	poor			population	poor
		1983				1993-94	
No Land	37.6	3	2	No Land	51.5	6	8
0-0.4	57.4	24	28	0-0.4	52.7	37	46
0.4-1.0	58.5	13	16	0.4-1.0	41.5	25	24
1.0-2.0	51.7	18	20	1.0-2.0	34.6	17	14
2.0-4.0	45.6	20	19	2.0-4.0	24.8	10	6
>4.0	30.7	22	15	>4.0	19.8	5	2
Over all	47.5	100	100	Over all	42.4	100	100

Source; World Bank (2002).

It's clear from the above that as land ownership rises poverty level falls. Rural poor either have no land or very little amount of land that is not sufficient to meet the adequate food requirement of the family on a regular basis. Hence, they have to depend on their labour power, which they can sell to earn money wage and to buy the food. Therefore, now we look

at the trends and pattern of employment in Uttar Pradesh and in what type of activities these rural poor are engaged.

2.5.2 Employment

Employment is necessary to get the means for satisfying the basic material and non-material needs of sustenance and human development. Engagement in gainful employment also enhances self-esteem of a person as well as her/his social and economic status and provides much needed freedom of choice as an independent agent. Its not only employment, but also nature of economic activity in which the individual is engaged are also crucial determinants for the quality of life.

2.5.2.1 Trends and Pattern of Employment

The National Sample Survey Organization provides data on employment, which defined work or gainful activity as the activity pursued for pay, profit or family gain, or in other words, the activity, that adds value to the national products. The NSSO has adopted three different approaches to measure employment. These are usual status, current weekly status and current daily status⁹.

The table 2.18 shows the labor force and workforce participation rate in Uttar Pradesh as well as all India. It throws up many crucial aspects. First, in recent years, there has been a decline in the proportion of the rural persons offering themselves for work. For them, the labour force participation rate (LFPR) has declined from 40.3 per cent in 1983 to 34.8 per cent in 1999-2000, while for their urban counterparts, it has declined slightly from 32.3 per cent to 31.7 per cent. Second, at the all India level, the decline in rural persons LFPR was much slower than the decline in LFPR for rural persons in Uttar Pradesh. Third, the decline in LFPR in case of rural female was higher than the rural male both for India as well as Uttar Pradesh. Fourth, in case of Uttar Pradesh the participation rate of females is lower than the male participation rate. The difference is higher in urban areas than in rural areas. The participation rate for female in Uttar Pradesh is much below the national level average. In general, NSSO data shows that population in UP avails of fewer work opportunities compared to the country. In particular, the participation of females in economic activities is very limited. Finally, the

⁹ Usual Status has a reference period of 365 days preceding the date of survey.

Current Weekly Status has a reference period of seven days preceding the date of survey.

Current Daily Status, with each day of the seven days preceding the date of survey, which measures work in person days.

workforce participation rate¹⁰ indicates that there is not much change in the proportion of those seeking work actually getting work. For example, in rural Uttar Pradesh 99.4 per cent of the labour force became the workforce in 1983, while in 1999-2000, this happened for 99.1 per cent of the rural labour force. Nearly the same tendency is discernible for rural males and females.

Table 2.18 Labour force and workforce participation rate by Usual status of employment, place of residence and person's sex

Year	Labour force participation Rate						Workforce Participation Rate					
	R_M	R_F	R_P	U_M	U_F	U_P	R_M	R_F	R_P	U_M	U_F	U_P
Uttar Pradesh												
1983	53.5	25.7	40.3	52.2	9.9	32.3	99.4	100	99.4	96.2	97.4	96.2
1993-94	52.7	21.9	38.1	49.8	10.3	31.4	99.1	100	99.2	96.8	99.0	97.1
1999-2000	48.6	20.1	34.8	51.2	9.7	31.7	99.0	100	99.1	95.7	96.9	95.9
India												
1983	55.5	34.2	45.0	53.9	15.9	35.8	98.6	99.3	99.1	94.9	95.1	95.5
1993-94	56.1	33.0	44.9	54.3	16.5	36.3	98.6	99.4	98.9	95.9	93.9	95.6
1999-2000	54.0	30.2	42.3	54.2	14.7	35.4	98.3	99.0	98.6	95.6	94.6	95.2

Source; NSSO report on employment and unemployment.

2.5.2.2 Pattern of Employment

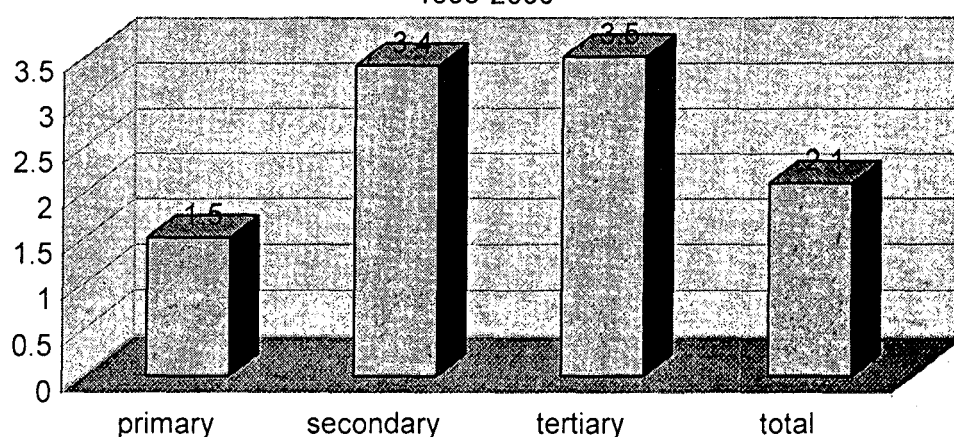
Since income varies from sector to sector and also within each sector, it is important to see where employment opportunities are currently located in the state, and how the pattern of employment has been changing. Figure 2.2 shows that between 1978 and 1999-2000, according to the NSSO data, overall employment in the tertiary sector grew most rapidly (3.5 percent), followed by the secondary sector (3.4 percent), while primary sector employment grew by 1.5 percent per year. Since secondary and tertiary sector employment has grown at a faster rate, there has been a steady shift in the employment structure of the state in favour of these sectors.

Table 2.19 on the basis of NSSO data shows that between 1983 and 1999-2000 the share of secondary sector in total employment has risen from 11.70 percent to 15.10 percent. The share of tertiary sector has also improved from 16.60 percent to 21.30 percent. Correspondingly, the share of primary sector has fallen from 71.70 percent to 63.60 percent. However, more than 63 percent of the state's total workforce is still dependent upon agriculture and primary activities. This is particularly truer for rural workforce. In rural areas, in 1999-2000, among all usually employed persons (including principal and subsidiary status workers), 76.10

¹⁰ WFPR is workers in relation to labour force.

percent were employed in agriculture sector. While, in secondary and tertiary sectors only 11.30 percent and 12.40 percent rural workforce is engaged respectively. In the urban areas, naturally dependence on agriculture was smaller with only 9.40 percent workers, while tertiary sector absorbed 59 percent of the workforce. The employment structure of male and female workers shows striking differences. Nearly, 85 percent of female workers are engaged in the primary sector, against 71.4 percent male workers. Hardly 6.2 percent of the female workers are engaged in the secondary sector and 9.3 percent in tertiary sector. The corresponding figures for male workers are 9.3 percent and 19.4 percent respectively.

Fig: 2.2 Growth rate in employment by usual status in U.P., 1977-78 to 1999-2000



In case of rural women there was not much more change in employment structure as compared to rural males. Proportion of females engaged in the primary sector declined only by 2 percent between 1983 to 1999-2000, while in case of males, decline in workforce engaged in the primary sector was around 7 percent over the same time period. But in urban areas, it moved in favor of female workers than the male workers. But the proportion of female engaged in the primary sector is still higher than the proportion of male, both in rural as well as in urban areas. In short, available data shows that the overall trend in occupational diversification has been slow in the state. This makes the task of reducing poverty, especially in the rural areas more difficult.

Table 2.19 Sectoral distribution of workers in UP and India by workers Sex and Residence

Sector	locale	Male			Female			Persons		
		1983	1993-94	1999-2000	1983	1993-94	1999-2000	1983	1993-94	1999-2000
Uttar Pradesh										
Primary	Rural	78.54	76.30	71.8	89.50	90.00	87.5	82.0	80.00	76.10
	Urban	10.34	12.10	7.6	22.76	30.40	17.1	12.2	15.00	9.40
	Total	NA	NA	NA	NA	NA	NA	71.7	69.00	63.60
Secondary	Rural	9.66	10.00	13.10	5.66	4.90	6.90	8.45	8.70	11.30
	Urban	28.46	28.10	31.80	35.39	33.40	34.10	29.46	28.80	32.10
	Total	NA	NA	NA	NA	NA	NA	11.70	12.00	15.10
Tertiary	Rural	11.32	13.70	15.10	4.44	4.90	5.50	9.23	11.30	12.40
	Urban	61.20	59.80	60.70	41.39	36.30	48.70	57.46	56.20	59.00
	Total	NA	NA	NA	NA	NA	NA	16.60	18.80	21.30
All India										
Primary	Rural	77.5	74.1	71.4	87.5	86.2	85.3	81.3	78.4	76.3
	Urban	10.6	9.0	6.5	31.5	24.7	17.6	14.6	12.3	8.8
	Total	62.2	57.4	53.6	81.1	77.5	75.4	68.6	64.0	60.4
Secondary	Rural	10.0	11.2	12.6	7.4	8.4	9.0	9.4	10.9	11.8
	Urban	34.2	32.9	32.8	30.8	29.1	29.4	35.7	34.7	34.6
	Total	16.8	18.2	19.7	10.3	11.3	12.4	14.6	16.0	17.4
Tertiary	Rural	12.2	14.7	16.2	4.8	5.6	5.7	8.9	10.8	11.8
	Urban	55.1	58.0	58.8	36.8	46.3	52.9	48.7	52.7	55.9
	Total	20.9	24.3	26.7	8.5	11.2	12.2	16.8	20.1	22.2

Source; NSSO report on employment and unemployment.

2.5.2.3 Casualisation of Work force

Another important feature of the recent changes in the workforce witnessed in Uttar Pradesh, as in other parts of the country, is growing casualization of workforce, due to growing marginalisation of landholdings and landlessness in rural areas. It is clear from the table 2.20 that, first, in rural Uttar Pradesh; the incidence of self-employment has been consistently on the decline between 1983 to 1999-2000. In urban areas, it has been hovering around 55 percent. Second, regular salaried jobs have increased for U.P. as whole. It has increased from 4.70 per cent to 5.60 per cent in rural areas, while in urban areas it was more or less same. Third, and quite strikingly, employment on the casual labour basis has increased. It has increased from 16.53 per cent to 20.07 per cent between 1983 to 1999-2000. Point of economic substance is that in rural Uttar Pradesh, casual wage employment is steadily rising at the cost of self-employment. For rural areas, the switchover is more worrisome matter since the declining of self-employment may be throwing some people out of self-cultivation only to swell the ranks of the landless agricultural labourers. The high incidence of casualization of rural workers, and its rise over time, especially during the 1990s, is apparent through the

rough index of casualization. This index shows the number of casual wage earners for every 100 regular salaried employees.

Table 2.20 Casualisation of Employment in Uttar Pradesh

Worker's residence	Year	Mode of employment			
		Self employed	Regular employees	Casual Labour	Index of Casualisation
Rural	1983	77.78	4.70	17.30	368
	1993-94	74.30	4.50	21.10	469
	1999-00	72.70	5.60	21.70	388
Urban	1983	55.06	32.42	12.27	38
	1993-94	58.70	29.50	11.80	40
	1999-00	55.00	32.30	12.70	39
Overall	1983	74.40	8.91	16.53	186
	1993-94	71.68	8.65	19.66	227
	1999-00	69.32	10.61	20.07	189

Source; NSSO report on employment and unemployment.

2.5.2.4 Poverty Incidence and Shares by Occupation of Household Head

Labour power is the most important assets of the poor. In Uttar Pradesh, majority of the poor people are engaged in the low-skill and low-paid jobs with no permanent tenure. The reality is that agriculture employment is rising in the recent past and occupies three-quarters of the labour force, and a high proportion of rural poor work as casual labourers (the lowest paid and lowest status occupation in the state). In 1993-94, nearly two-thirds of the rural households, who were dependent on earnings from casual labour in the agriculture sector were below the poverty line, as were over half of the households dependent on the casual labour earning outside the agriculture sector. For these households, poverty levels remained virtually unchanged from mid-eighties to mid-nineties (1983 to 1993-94), a period when, in contrast, poverty fell sharply for farm households, self-employed households in the rural non-farm sector and for households with salaried employment (Table 2.21). Some improvement was seen in the latter half of the 1990's. However, rural poverty is becoming increasingly concentrated among the households whose primary source of income is casual labour both in agriculture as well as rural non-farm sector. But it is more for agricultural labourers households than the other categories households.

Table 2.21 Poverty incidence and shares by occupation of household head in Uttar Pradesh

Rural areas main occupation	Poverty incidence	Percentage of		Urban areas main occupation	Poverty incidence	Percentage of	
		Popl'n	Poor			Popl'n	Poor
1983							
S.E.Non-agril	52.3	13	14	Self-employed	51.6	52	60
Agril. Lab.	66.3	16	22				
Other lab.	48.2	4	4				
SE Agril.	43.3	61	55				
Other	30.4	7	4	Other	37.1	48	40
Overall	47.4	100	100	Overall	44.7	100	100
1993-94							
S.E.Non-agril	44.3	13	14	Self-employed	39.8	53	61
Argil. Lab.	63.5	18	26				
Other lab.	52.3	5	6	Reg. Wage	17.4	31	16
SE Argil.	36.4	58	50	Casual lab.	66.7	11	20
Other	25.9	6	4	Other	25.8	5	3
Overall	42.3	100	100	Overall	35.0	100	100
1999-2000							
S.E.Non-agril	33.7	16	17	Self-employed	34.3	50	56
Argil. Lab.	50.9	18	30				
Other lab.	36.9	6	7	Reg. Wage	14.4	31	15
SE Argil.	24.2	52	40	Casual lab.	67.3	11	24
Other	21.3	9	6	Other	20.0	8	5
Overall	31.1	100	100	Overall	30.7	100	100

Source; World Bank (2002).

It also indicates that agricultural labourers are the most vulnerable groups and more prone to food entitlement failure because poverty line is nothing but monthly per capita expenditure. These expenditures correspond to a total household expenditure estimated as sufficient to provide 2400 calories daily in rural areas and 2100 calories daily in urban areas, plus some basic non-food items. In next section, we shall try to explore the reason for food entitlement failure. This can be done in two ways. First, since the incidence of poverty is the highest for those who are working as casual labourers in the agricultural sector and are landless or having very small size of land holdings (mainly true for agricultural labourers). For this category, we observe their annual wage income and then compare it with the prices of food items. Second, compare directly the average monthly per capita consumption expenditure (as a proxy for income) of the poorest 20 percent of the population with the prices of food items. However, we are going to use both the methods. Let us take the first method.

The intensity of work or number of days employment available to agricultural workers during a particular year and daily wage rate provides a more complete picture about the living

standard of the agricultural labourers households. Rural Labour Inquiry Report provides the data on days of employment and the average daily wages for agricultural labourers from 1974-75 to 1993-94 in Uttar Pradesh.

Table 2.22 shows that total days of employment for men registered a marginal increase from 221 days in 1974-75 to 235 days in 1987-88 and it remained constant in 1993-94. Moreover, there has been a sharp increase in number of days for women during 1974-75 to 1993-94.

Table 2.22 Number of Days Employment for Agricultural Labourers in Uttar Pradesh

Years	1974-75	1983-84	1987-88	1993-94
	Agricultural Employment			
Male	221	244	235	235
Female	128	191	109	214

Source: Rural Labour Inquiry Reports.

Daily wage earning accruing to agricultural labourers and its changes over time determines the total income available to agricultural labourers. The daily average earning of agricultural labour (Table 2.23) shows that there has been a steady increase of money wage from 1974-75 to 1993-94, whereas it increased sharply from 1983-84 to 1993-94 for men and women.

Table 2.23 Average Daily Money Wage of Agricultural Labourers in Uttar Pradesh

Years	Men	Women
1974-75	3.19	2.47
1983-84	3.96 (24.13)	2.92 (18.21)
1987-88	9.08 (129.29)	7.04 (141.09)
1993-94	21.43 (229.29)	16.38 (241.09)

Source: Rural Labour Inquiry Reports

Moreover, there has been a gender differential of agricultural wages observed in the state during the same period. The prevalence of such differential is often described as a customary feature of all agrarian economies arising from gender-based specialization of specific farm operation. This differential wage rate has not only increased in recent years at a higher rate than that of earlier years but also sustained over the period.

The annual money wage earnings per agricultural labour in rural households have been computed by multiplying the average daily wage earnings by the full days of employment available per worker in different years. The annual money wage has increased for both male

and female over the time period. Moreover, the increase in annual money wage rate was sharper during 1983-84 to 1987-88 and again 1987-88 to 1993-94 (Table 2.24).

Table 2.24 Annual Money Wage Earning of Male and Female in Uttar Pradesh

Years	Men	Women
1974-75	704.99	316.16
1983-84	966.24	557.72
1987-88	2133.80	767.36
1993-94	5036.05	3505.32

Source: Rural Labour Inquiry Reports

Exchange entitlement can be viewed in terms of entitlement to food grains. Table 2.25 shows the exchange rates of agricultural labourers' vis-à-vis food grains between 1974-75 and 1993-94. Data on food grain prices are taken from Consumer price index for agricultural labourers (CPIAL for food) based on 1986-87 prices.

Table 2.25 Exchange rate between Male Agriculture labour and Food grains, 1974-75 to 1993-94

Year	Annual Wage Income	Foodgrain Price	Exchange rate
1974-75	704.99	58	12.16
1983-84	966.24	78	12.39
1987-88	2133.80	105	20.32
1993-94	5036.05	199	25.31

Source; Based on table 2.24 and Consumer Price Index report.

It is apparent from the table that exchange rate against labour is increasing between 1974-75 and 1993-94, although the rate of exchange between 1974-75 to 1983-84 was more or less same but for the period between 1983-84 to 1993-94, the rate of exchange is increasing. One can conclude from the above table that agricultural labourers can share the inflationary rise. Thus, the rise in wage income for agricultural labourers over the time period was sufficient enough to meet the rise in food grain prices.

Trends in exchange entitlement can also be seen by using the average monthly per capita consumption expenditure (as proxy for income) for the poorest 20 percent of the population, because as we saw earlier that for this group the calorie intake was much lower than the average intake level and what is more, the downtrend in even this low level of intake.

Table 2.26 Exchange rate between annual income of poorest 20 percent of the Population and Food grains, 1977-78 to 1999-2000

Year	Average MPCE	Food grain prices	Exchange rate
1977-78	31.17	50	0.62
1987-88	73.30	87	0.84
1993-94	133.12	199	0.67
1999-2000	251.12	316	0.79

Source; Based on NSSO different rounds and Consumer Price Index report.

Table 2.26 provides similar results regarding the trends in exchange entitlements as we got by using the agricultural labourers and food prices. In this case also, exchange entitlement rate is increasing between 1977-78 to 1999-2000, which indicates that, the increase in income of the poorest 20 percent of the population was higher than the increase in food prices between 1977-78 to 1999-2000. The same results were obtained when we used the cereals (the main source of calorie) price instead of food grain prices.

Therefore, one can argue that per capita calorie intake of the population is declining not because of economic constraint. This result leads to the following question: if the income is sufficient enough to buy the food than what could be the probable reason for decline in calorie intake level?

2.6 Reason for Decline in Calorie Intake Level

These facts underscore the need to identify the factors accounting for the observed decline in per capita consumption of cereals. In the literature on development economics, researchers argued that with economic development, certain changes in food habits come to be expected. For instance,

- According to Engel's law, economic development is accompanied by declining food shares. And increase in non-food share.
- By Bennett's law, consumers typically switch to a more expensive diet, substituting quality for quantity. In particular, the starchy-staple ration- the proportion of food calories derived from cheaper sources of calories, namely cereals, roots and tubers-declines with economic growth. Correspondingly, the contribution of commodities such as vegetables and fruits, milk and meat would increase.
- An extension of Bennett's law, more applicable to developing country situations, states that substitution within the starchy staples (principally cereals) towards more expensive cereals is likely to occur before the switch away from cereals to the non-cereal foods

(Poleman, 1981). In Indian context, this would translate into a switch away from the coarse cereals to either wheat or rice or both.

2.6.1 Engel's law

Table 2.27 presents the share of food and non-food in total expenditures on average, and for the poorest and richest quintiles. It is apparent that the two and a half decades ending in 1999-2000 have seen a decline in the food share from about 70 percent to 57 percent (i.e. around 13 percent) in rural areas, while in case of urban areas it declined from 66 percent to 50 percent. This decrease has occurred in all income groups, including the first (poorest) quintile; although poor still devote much higher share of their income to food as compared to the rich.

Table 2.27 share of food and non-food in total expenditures, 1977-78 and 1999-2000 (In percentage term) in Uttar Pradesh

Year	1972-73	1999-2000	% change	1972-73	1999-2000	% change
	Rural			Urban		
Total Food	70.09	57.42	-12.67	66.16	50.49	-15.67
Non-food	29.91	42.58	12.67	33.84	49.51	15.67
Poorest Quintile						
Total Food	80.63	63.22	-17.41	79.12	62.01	-17.07
Non-food	19.37	36.78	17.41	20.92	37.99	17.07
Richest Quintile						
Total Food	59.90	51.60	-8.30	56.03	41.87	-14.16
Non-food	40.10	48.40	8.30	43.97	58.13	14.16

Source; NSSO different round quinquennial survey reports on consumer expenditure.

The decline was much sharper in rural as well as in urban areas for the poorest quintile as compared to richest quintile. Engel's law is thus clearly manifest within each income group: food shares are in inverse function of income.

2.6.2 Bennett's Law

There are clear indications that the dietary changes, which have come to be known as Bennett's law, have occurred in Uttar Pradesh as well. This is apparent from table 2.28, which presents changes in the composition of food expenditures between 1972 / 1973 and 1999 / 2000 by different income groups. It shows that over the time period share of cereals in total food expenditure has declined in both rural as well as urban areas.

Table 2.28 Consumer Expenditure Pattern in Rural and Urban Areas in Uttar Pradesh (In percentage term)

years	1972-73	1999-2000	% Change	1972-73	1999-2000	% Change
	Rural			Urban		
Cereals	57.62	36.59	-21.03	39.12	26.38	-12.74
Milk	12.84	17.41	4.57	17.02	20.67	3.65
Vegetables	5.79	10.34	4.55	7.06	11.33	4.27
Edible oil	6.00	6.58	0.58	7.54	6.41	-1.13
Meat group	2.41	2.94	0.53	3.58	3.65	0.07
Fruits	1.22	2.53	1.31	2.17	4.91	2.74
Total Food	100	100		100	100	
	29.52*	267.94*		35.43*	348.54*	
Poorest Quintile						
Cereals	70.35	51.53	-18.82	55.25	40.33	-14.92
Milk	4.66	7.05	2.39	7.97	13.65	5.68
Vegetables	6.10	11.09	4.99	6.83	10.98	4.15
Edible oil	5.62	6.78	1.16	6.83	6.54	-0.29
Meat group	1.55	1.97	0.42	2.90	3.50	0.60
Fruits	0.66	1.13	0.47	0.72	1.99	1.27
Total Food	100	100		100	100	
	16.73*	158.76*		19.33*	184.51*	
Richest Quintile						
Cereals	47.43	26.73	-20.70	27.30	17.92	-9.38
Milk	18.52	24.53	6.01	22.53	25.53	3.00
Vegetables	5.55	9.62	4.07	7.29	10.95	3.66
Edible oil	6.60	6.42	0.18	7.77	5.68	-2.09
Meat group	2.92	3.27	0.35	3.62	3.27	0.35
Fruits	1.78	3.99	2.21	3.49	7.89	4.40
Total Food	100	100		100	100	
	48.31*	428.61*		61.03*	610.30*	

Source: NSSO different round quinquennial survey reports on consumer expenditure.

* Total expenditure in Rs. term (figures are given at current prices).

However, the rate of decline was much faster in rural areas than in urban areas for an average person. For instance, in rural areas the average share of cereals in food expenditures has declined from 58 percent to 37 percent between 1972 / 73 and 1999 / 2000, with near equal increase in the share of milk and meat product, vegetables and fruits and other foods over the same period.

This switch has occurred even among the poorer income groups. The share of cereals in total foods for the poorest 20 percent of the population in rural Uttar Pradesh decreased from

nearly 70 percent down to 51 percent, while that devoted to milk and meat products increased from 6 to 9 percent, vegetables and fruits from 7 to 12 percent, and that of other foods increased from 10 percent to 12 percent.

There are, of course, differences in individual commodity shares among various expenditure groups. The poorest 20 percent devote much higher shares to cereals than do the richest 20 percent in both rural as well as urban areas. Similarly, while the poor in rural areas spend approximately 9 percent of total food expenditures on milk and meat products, the richest 20 percent devote more than three times as much (i.e. around 20 percent higher than poorest people) but the differences in the urban areas is only 12 percent. The share of vegetables and fruits is nearly identical among all income groups in rural areas, while in urban areas slight difference is there. Thus, the poor continue to be more vulnerable to erosion of purchasing power through inflation in cereal prices, although the extent of this vulnerability appears to be declining. Thus, it may be noted that changes in consumption patterns may reflect substitution away from cereals to other food items as income rises.

This supports the findings of Expert Group that per capita calorie intake of the population is declining by choice not due to any economic constraints- that is, the poor as well as population in general are diversifying their consumption basket at the cost of calorie intake. It has been observed from NSS rounds on households consumption distribution that even for the people below the poverty line (both in rural and urban areas of Uttar Pradesh) the proportion of expenditure on cereals and also on total food grains is falling and at the same time proportion of expenditure on quality food (animal products, fruits, vegetables, etc.) is rising. From the human development point of view, this finding emphasises the need for consumer education as is done in Indonesia and Colombia (World Bank, 1993), which would enlighten the poor on making the right choices in order to improve their nutritional levels and health status. Before switching over to next issue it is worthwhile, to have a look on the educational status of the population in Uttar Pradesh.

2.6.3 Educational Status in Uttar Pradesh

The literature on capability and human capital demonstrates that education is one of the most important elements of a person's standard of living. Schooling has potentially powerful role in promoting economic mobility and reducing poverty. In many regions of the Uttar Pradesh lack of the educational opportunity deepens a vicious cycle of poverty and illiteracy.

Table 2.29 provides information on educational status of the population in Uttar Pradesh. It indicates that Uttar Pradesh has made significant progress in increasing literacy levels over the past decade. Literacy increased by nearly 17 percent, the fifth highest in the country between 1991 and 2001. Despite this, the state's literacy rate is still in lowest category among all states. Uttar Pradesh has the lowest overall literacy as well as female literacy rate in 2001 after Bihar, Jharkhand and Jammu and Kashmir. Moreover, the literacy situation in Uttar Pradesh is marked by acute disparities between men and women, between social groups and between regions and districts.

The Uttar Pradesh human development report provides information on literacy from the 55th round NSSO carried out in 1999-2000. Report shows very significant differences in literacy levels across social categories. The Scheduled caste and Tribe communities have the lowest literacy rate in 1999-2000 (42.4 %) and the Muslim community, which has an overall literacy rate of 43.7 percent, follows them very closely.

Table 2.29 Literacy Rates for Selected States, By Gender

States	2001 population census, percent				
	Literate			Literacy 1991	Change 1991-2001
	Total	Males	Females		
Uttar Pradesh	57.4	70.2	43.0	40.7	16.7
All India	65.4	76.0	54.3	51.6	13.8
Bihar	47.5	60.3	33.6	37.5	10.0
Rajasthan	61.0	76.5	44.3	38.6	22.4
Andhra Pradesh	61.1	70.9	51.2	44.1	17.0
Karnataka	67.0	76.3	57.4	56.0	11.0
Kerala	90.9	94.2	87.9	89.8	1.1

Source; Census of India.

State averages mask wide regional variations. Human development report shows that only five districts out of 70 in the state report average literacy rates for men that fall below 55 percent. In contrast, there are only 5 districts out of 70 in which average female literacy is above 55 percent.

Poverty is strongly associated with the levels of formal education. It is most strikingly associated not only in urban areas but in rural areas as well. Incidence of poverty is the highest among those whose head of the households are illiterate both in rural as well as in urban areas. As the level of education is increasing the incidence of poverty is also declining.

Table 2.30 Poverty incidence and shares by level of education of the household head in Uttar Pradesh

Educational Attainment	1993-94 (NSS 50 th Round)			1999-2000 (NSS 55 th Round)		
	Incidence of poverty			Incidence of poverty		
	Urban	Rural	Overall	Urban	Rural	Overall
Not Literate	58.6	50.6	51.6	50.3	37.5	39.2
Less than Primary	43.1	36.7	37.9	42.8	33.2	35.0
Completed Primary	46.3	33.5	35.9	30.2	26.3	27.1
Completed Middle	26.5	32.3	31.0	22.4	24.1	23.8
Completed Secondary	18.2	25.6	23.3	22.8	19.1	20.2
Completed Higher level	6.8	19.6	13.4	9.0	14.0	11.9
Over all	35.0	42.4	40.9	30.7	31.1	31.0

Source; World Bank (2002).

It is clear from the above analysis that in Uttar Pradesh population in general and poor in particular are deprived off basic education. Literacy in Uttar Pradesh is marked by acute disparities between men and women, between social groups, between economic group and between regions and districts.

2.7 Intra-household Variation

Inequality between men and women is one of the crucial disparities in the many societies, and is partially so in India. The inequality between male and female can take many different forms. Indeed gender inequality is not very homogenous phenomenon, but a collection of disparate and interlinked problems. In much of the country, women tend in general to fare quite badly in relative terms compared with men, even within the same families. This is reflected not only in education and opportunity to development, but also in more elementary fields of nutrition, health, and survival. At the time of birth, girls are obviously no more nutritionally deprived than boys are, but this situation changes as society's unequal treatment take over from nature's non-discrimination. It is widely believed that in India, particularly among that rural poor, food distribution is not based on 'need'. The breadwinner gets sufficient food, the children get the next share and the women take the remains. In the time of scarcity, the dietary intake of women and children are likely to be most adversely affected. Among the children, boys are given preference to girls in distribution of food and it gets reflected in their health and nutritional status. Discriminatory practices against girls and women regarding nutrition, health care facilities and opportunity to development affect the kind of life a person can lead.

It is not, of course, easy to observe directly who is eating how much from a shared kitchen. Claims regarding unequal treatment in the division of food are typically based on indirect information. A natural direction in which to go is that of examining direct evidence of various nutritional and related functioning, such as clinical signs of undernourishment, morbidity rates or comparative mortality patterns. This has got merit over just trying to observe the commodity intakes because these are the things, which ultimately matters the kind of life a person can lead. Our ultimate aim is not with the size of nutritional intakes, but with the extent of nutritional well-being and with the capability to achieve that well-being.

While evidence of sex bias in India in health facilities, education and access to resources is ubiquitous, it eludes quantification. The human development report 1995 broke new ground when it evolved two indicators, the Gender Related Development Index (GDI) and Gender Empowerment Measures (GEM) to quantify gender disparities. The GDI focuses on the inequalities in achievements in basic capabilities, that is, health, education and access to resources. A high GDI value indicates lesser inequalities while a low GDI value would mean lower achievement levels for women in the three dimension of human life that promotes well-being. Kerala, which has the highest literacy rates and has consciously, followed policies that were conducive for women's development is the best performer on the GDI scale. Disparities are higher in Uttar Pradesh and Bihar, Uttar Pradesh is the second lowest among the major Indian states in this regard. In Uttar Pradesh, the systematic discrimination against women is also reflecting from its lowest Female-Male Ratio in the world and third lowest among the major Indian states in 2001 (Table 2.31). It has been said that it is 'not just a setter of world records when it comes to the female deficit in the population, it is virtually in a league of its own' (Dreze and Gazdar, 1997).

It is clear that the low FMR's for the state arise from the neglect of girls and women arising from deeply embedded patriarchal values. This is reflected in the higher mortality values.

- The infant mortality rates are much higher in the state than at the national level, showing poorer health status.
- Uttar Pradesh has the highest female death rate in the country. Nationally, male death rates exceed female death rates. Only in Bihar, Uttar Pradesh and Rajasthan is the opposite true.
- The female infant mortality rate in Uttar Pradesh is third highest in the country with MP and Orissa surpassing it.

- The Male-Female gap in IMR's and death rates is wider in Uttar Pradesh showing greater discriminatory practices.

Life expectancy is the lowest in Uttar Pradesh among the major states, only Assam, Madhya Pradesh and Orissa having a worse record than Uttar Pradesh. In case of female life expectancy, only Madhya Pradesh has a lower ranking. Female life expectancy is 56 years and the under-five mortality rate is as high as 144 per thousands. In these respects Uttar Pradesh resembles sub-Saharan Africa for with 53 years of life expectancy and 160 under five-mortality rate (references). If a girl is born in Kerala she can expect to live 20 years longer than if she is born in Uttar Pradesh. The probability that she will die before the age of one is more than six times as high in Uttar Pradesh than in Kerala. It is important to emphasize that the differential mortality rates need not be wholly or even primarily connected with unequal treatments in the division of food as such, the divergence can arise from other inequalities, such as those of access to health care.

Table 2.31 Selected indicators showing gender inequality in Uttar Pradesh & India

Sr. No.	Indicators	Years	Uttar Pradesh	India
1	Gender inequality index	1981	0.447	0.620
		1991	0.520	0.676
2	Sex Ratio (female per '000 males)	2001	898	933
		1991	879	927
3	Infant Mortality Rate	2000	83	68
4	Under five mortality	1998-99	132.1	94.9
A	Male	1998-99	120.9	97.9
B	Female	1998-99	144.2	105.2
5	Life Expectancy at birth	1992-96	57.2	60.7
A	Male	1992-96	57.7	60.1
B	Female	1992-96	56.4	61.4
6	Maternal Mortality Rate (per 100,000)	1998	707	407
7	Literacy rate	2001	57.4	65.4
A	Male	2001	70.2	76.0
B	Female	2001	43.0	53.3
8	Gender gaps in Infant Mortality Rate	2002	5.8	2.1
9	Gender gaps in Life Expectancy at birth	1971-1997	1.3	-1.3

Source: The Uttar Pradesh Human Development Report

Here, the entitlement comparisons have to go beyond the limited focus of food entitlements to the more comprehensive concern for entitlements to the different goods and services, which

influence our nutritional opportunities and achievements. Just as education, opportunity to development, livelihood, and access to other facilities related to survival are not equally accessible to everybody, so also access to food is constrained for some vulnerable groups particularly women, children (boys & girls) and scheduled caste and scheduled tribe. The nutritional status of vulnerable groups are discussed below:

2.7.1 Women

It is ironical that women should suffer from unequal treatment in food distribution, because in most communities it is they who have the responsibility to feed the family- they are the food gatherers and food providers. When it comes to the women herself, culture ordains that she eats last in the family, and poverty constrains that she eats the least. This complex weave of patriarchy and poverty reflects on the nutritional status of women (Srivastava, Nisha 2003).

The National Family Health Survey (NFHS-2, 1998-99) provides the information on nutritional status of women and children. Anthropometric data tell us a great deal about the adequacy of food and nutritional intake of people, as also their ability to lead healthy and active lives.

The height of an adult for instance depends, among other factors, on consumption during childhood and adolescence. Mothers who are short are more likely to have a low birth babies and those, whose height is below the range of 140-150 cm are considered nutritionally at risk. The mean height of women in Uttar Pradesh is just around 150 cm. Table 2.3¹ shows that, the mean height varies only slightly (between 149 & 153 cm.) for women in different region and income group. There are large numbers of women (16.4 percent) who are below 145 cm in height and these are more likely to belong to Central and Eastern region of Uttar Pradesh and economically deprived classes.

Another measure of nutritional adequacy is Body Mass Index (BMI), which is the ratio of weight (in kg), to height (in mt.squared). The BMI can be used to assess both thinness and obesity. The mean BMI for women in Uttar Pradesh is 20 (varying within a narrow range of 19-22 for all the regions and income groups). Chronic energy deficiency is usually indicated by a BMI of less than 18.5. More than one third (36 percent) of women in Uttar Pradesh have a BMI below 18.5, indicating a high prevalence of nutritional deficiency. Nutritional problems, as indicated by the BMI, are particularly serious among women living in

Bundelkhand and central region. The standard of living is strongly related to chronic energy deficiency. Women from households with a low standard of living are more than a twice as likely to have a low BMI as women from households with a high standard of living.

In Uttar Pradesh, 48.7 percent women suffer from anaemia, which usually results from nutritional deficiency of ironfolate, vitamin B12 or some other nutrients. This type of anaemia is commonly referred to as iron-deficiency anaemia. A woman receives no extra food or care during pregnancy, although her nutritional requirement increases dramatically during this period. She gains only half of the weight necessary to have a healthy baby and as many as 46 percent of pregnant women in Uttar Pradesh are anaemic.

Table 2.32 Nutritional status of women in Uttar Pradesh

Particulars		Height		Weight-for height		Percentage of women with any anaemia
		Mean height	Percent <145cm.	Mean BMI	Percent with BMI<18.5	
Regions	Hill	151.6	8.6	20.2	32.3	45.3
	Western	151.0	14.0	20.5	31.1	37.9
	Central	149.5	19.8	19.8	40.1	54.0
	Eastern	149.8	19.0	19.7	37.5	57.9
	Bundelkhand	151.7	7.1	19.4	43.1	41.2
	All UP	150.3	16.4	20.0	35.8	48.7
	India	151.2	13.2	20.3	35.8	
Standard of living	Low	149.2	20.6	19.0	44.9	53.0
	Medium	150.3	16.4	19.7	36.8	49.1
	High	151.9	11.4	22.1	20.9	42.2
Height	<145cm					50.7
	≥145 cm					48.2
BMI	<18.5					53.1
	≥18.5					46.9

Source: National Family Health Survey India 1998-99

Anaemia may have detrimental effects on the health of women and children and may become an underlying cause of maternal mortality¹¹ and perinatal mortality. Anaemia results in an increased risk of premature delivery and low birth babies. In effect, Uttar Pradesh has the highest maternal mortality rate in the country---707 against 407 nationally. The prevalence of

¹¹ The number of women who die as a result of child bearing, during the pregnancy or within the 42 days of delivery or termination of pregnancy in one year, per 100,000 live births during that year

anaemia in Uttar Pradesh is highest in Eastern region followed by Bundelkhand region. Women suffering from chronic energy deficiency and from poor households are more vulnerable to anaemia.

2.7.2 Children

Forty seven percent of India's children below the age of three years are malnourished- almost twice the rate of malnutrition reported by many countries of Sub-Saharan Africa. Such high levels of malnutrition grossly violate the rights of children to survive and develop into healthy and creative adults. Scientific evidence suggests that compared with the risk facing a well-nourished child, tripled for moderately malnourished child, and may even as high as eight times for a severely malnourished child¹². There is a close linkage between child malnutrition and maternal malnutrition. Both child and maternal malnutrition are in turn strongly dependent upon the level of schooling attained by women. The pathways of influence between women's education and nutritional well-being could be many. More educated women tend to be better informed, they enjoy better opportunities for employment, and they seek out modern health care and advice much more readily than less educated women.

National Family Health Survey provides information on the nutritional status of the children by three indices: weight-for-age, height-for-age, and weight-for-height. The three indices of nutritional status are expressed in standard deviation unit (z-scores) from the medium for the international inference population. Children who are more than two standard deviations below the reference medium on any of the indices are considered to be undernourished, and children who fall more than three standard deviations below the reference median are considered to be severely undernourished. Each of these indices provides somewhat different information about the nutritional status of children. The measures, weight-for-age takes into account both chronic and acute undernutrition. If it is more than two standard deviation below the reference median the children is considered 'underweight'. The height-for-age indices measure the extent of growth retardation. The children who are more than 2SD below the reference median are considered short for their age or 'stunted' and this indicates the prevalence of chronic undernutrition resulted from failure to receive adequate nutrition over a long period of time. Therefore, this does not vary appreciably by the season. The weight-for-height index examines the body mass in relation to body length. A figure 2SD below the median reference

¹² See UNICEF (1995)

are considered 'too thin' or 'wasted' and it indicates the prevalence of acute undernutrition due to failure to receive adequate nutrition or/and consequences of some illness.

Table 2.33 shows that in Uttar Pradesh 52 percent children below the age of three years are undernourished and 22 percent of them are severely undernourished. The percentage of severely undernourished children is higher in rural areas and those belong to low economic status. The systematic sex bias reflected in higher deprivation of girls' vis-à-vis boys. The sex bias is reflected in the greater prevalence of undernourishment of various degrees among girls than among boys. The data shows that by and large girls are more likely to be underweight (weight-for-age criteria) and stunted (height-for-age criteria) compared to the boys in Uttar Pradesh.

Table 2.33 Nutritional Status of Children in Uttar Pradesh

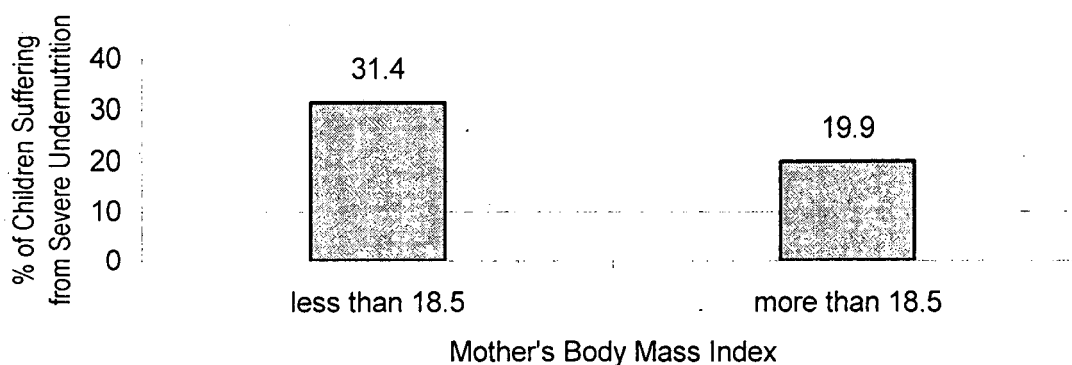
Area	weight-for-age		height-for-age	
	% below-3SD	% below-2SD	% below-3SD	% below-2SD
Urban	16.3	42.6	21.8	46.7
Rural	23.1	53.6	32.9	57.3
Regions				
Hill	16.3	40.8	24.5	43.9
Western	23.1	50.1	31.7	57.8
Central	22.5	58.2	31.8	58.4
Eastern	20.2	50.4	30.0	53.2
Bundelkhand	28.5	58.3	34.7	54.7
Standard of living				
Low	29.3	61.5	39.0	62.4
Medium	21.1	51.1	31.4	56.4
High	9.7	34.4	13.4	38.6
Sex of Child				
Male	19.8	49.6	28.4	53.4
Female	24.2	53.9	33.7	57.7
All UP	21.9	51.7	31.0	55.5
India	18.00	47.00	23.00	45.50

Source: National Family Health Survey India 1998-99.

A major factor adversely affecting the birth of healthy babies is the poor nutritional status of women. Data from the National Family Health Survey-2 for 1998-99 suggests that more than one-third (36 percent) of women in Uttar Pradesh have body mass index less than 18.5 kg/m² indicating a high level of nutritional deficiency. Added to this, given the heavy burden of

work on most women and the persistent anti-female biases in the society, pregnant women rarely get adequate attention, care, diet and rest. As a result, the child in the womb is affected, and the birth of a low birth weight baby represents an inter-generational transfer of malnutrition.

Fig: 2.3 Mother's BMI & Nutritional Status of Children



Source: National Family Health Survey India 1998-99.

As it is clear from the above figure that the under nutrition is more common for children of mothers whose BMI index is less than 18.5 than for other children. The percentage of severely undernourishment is more than one and half times higher for children of mothers whose BMI index is less than 18.5 or suffering from chronic energy deficiency.

2.8 Factors Affecting the Nutritional Status

While empirical evidence tends to suggest a positive association between the calorie intake and nutritional status, the responsiveness is likely to be affected by the factors relating to health and environment. For example, safe drinking water, housing conditions and access to health services are important for proper absorption of food. Nutritious diet, as well as medical care should go together in respect of pregnant women, lactating mothers, infants and children. Keeping this background in mind we tried to shed some light on the performance of some of these indicators with respect to Uttar Pradesh in comparison to Indian average.

Table 2.34 shows that in rural Uttar Pradesh only 8 percent of the households get water from tap sources; while around 70 percent of the households gets from tube well/hand pump. The average figures for all India shows that 24 percent of the rural households use tap water for drinking purpose. Only 36 percent of the households in Uttar Pradesh have electricity in their houses; while in India 60 percent of the households have this facility. Regarding sanitation

facilities, 26 percent of the population in Uttar Pradesh has a toilet or latrine in their houses. Several types of fuel are used for cooking in Uttar Pradesh but majority of them i.e. 83 percent of the households use biomass fuel for cooking. The housing condition is worst in Uttar Pradesh. Regarding type of house construction, only one-fourth of the households in Uttar Pradesh live in houses that are Pucca compared with one-third households in India.

Table 2.34 Performance of some selected indicators regarding Drinking water and Housing condition

Sr. No.	Particulars	Unit	Uttar Pradesh	India
1.	Households by major source of drinking water (rural)			
A	Tap	%	8.30	23.20
B	Tube Well/Hand pump	%	69.30	49.00
C	Tankers	%	0.20	0.40
D	Pucca well	%	20.50	21.80
E	Tank/Pond (Reserved)	%	0.00	1.50
F	River/Canal	%	0.30	1.40
G	Others	%	1.30	2.50
2.	Selected housing characteristics of households			
A	With electricity	%	36.6	60.1
B	With a toilet or latrine facilities	%	26.5	35.9
C	Using biomass fuel for cooking	%	82.8	71.7
D	Living in a Pucca house	%	24.8	32.0

Source: National Family Health Survey India 1998-99

Consumption, lack of disease and better absorption depend not only on nutrition knowledge, education and resources but also on the type of health care facilities available in the state. Good health infrastructure is important to keep population free from disease. We have considered some key health care facilities, on which data is available, as determinant of health infrastructure. Compared to the all India, availability of health infrastructure, and availability in other state, Uttar Pradesh performance is not well.

Table 2.35 Health Care Services (Per lakh population)

Sr. No.	Indicators	Year	Uttar Pradesh	Kerala	India
1	Number of hospitals	1998	0.6	6.7	1.6
2	Beds	1998	42.41	309.36	71.5
3	Dispensaries	1998	1.4	0.2	2.7
4	Primary Health Centre	1998	3.0	4.3	3.3
5	Primary sub Centre	1998	15.8	22.9	19.7
6	Doctors and	1991	23.91	56.72	47.19
7	Nurses	1991	9.24	78.41	36.88

Source; Uttar Pradesh Human Development Report.

Table 2.35 shows that average availability of infrastructure is poor in Uttar Pradesh compared to the all India average in all the indicators compared- hospitals, dispensaries, beds, PHCs, Sub-centres, and doctors and nurses.

A comparison with Kerala, which has high level of social development, is instructive in this regard. Compared to 6.7 hospitals per lakh population, UP had only 0.6 hospitals per lakh population. While Kerala had 309 beds per lakh population UP had only 42. Kerala had more than eight times of nurses and more twice the number of doctors per lakh population compared to Uttar Pradesh.

2.9 Social Group and Some Aspects of Food Security

The systematic social and economic discrimination of SC/ST population is reflected in their lower employment, wages, health and education outcomes, which leads to struggle every day for food, livelihood, shelter and other basics of life. While affirmative action and conscious policy has benefited a small section of schedule castes and tribes, the majority still live lives circumscribed by poverty and discrimination. NSSO data provides information regarding food consumption by social groups. It compares the monthly per capita consumption expenditure on various items of food by different social groups. The table 2.36 shows that average monthly per capita consumption expenditure (proxy for income) for SC/STs is much less than the other social group. The expenditure on food declines as we go down the social ladder from 'other' caste to 'other Backward caste' and Scheduled Caste. This is so for all items of food, except meat, fish and eggs.

Table 2.36 Monthly Per-capita Consumption Expenditure on Food Items by Different Social Groups in Uttar Pradesh

Social group	Cereals	Pulses	Milk	Edible oil	Meat, eggs & fish	vegetables	Fruits	Sugar	Total food	Total exp.
ST	95.90	20.29	30.40	18.04	14.26	27.44	3.66	12.12	248.45	425.66
SC	96.39	18.99	27.23	15.16	8.34	25.20	4.01	10.50	229.64	399.33
OBC	98.23	21.24	45.18	17.16	6.69	26.81	4.60	12.25	258.83	442.14
Other	99.20	26.30	66.00	20.37	9.08	31.18	8.22	16.46	315.04	562.99

Source: NSSO (1999-2000)

This underscores the point that probably the calorie intake for them will also be less than the other caste people. Scheduled caste and scheduled tribe population contributes the highest percentage of the population who go hungry or who do not get two square meals a day. Results obtained from NSSO 1999-2000 (Table 2.37) shows that in Uttar Pradesh around 1.79 percent of the households reported that they do not get two square meals a day either during

some months or throughout the year. But this proportion is highest for the schedule caste households for them it is around 3.67 percent and least for 'other caste' households.

Table 2.37 Percentage of Households Who Report Getting adequate food by Social Group, Uttar Pradesh

Social group	Number per 1000 of households getting enough food everyday			
	Throughout the year	Only some months of the year	Not even some months	All
Scheduled tribe	98.60	0.45	0.95	100
Scheduled caste	96.34	2.36	1.31	100
Other backward class	98.58	1.03	0.39	100
Others	98.14	0.67	0.19	100
Total	98.21	1.23	0.56	100

Source: NSSO (1999-2000)

The lower level of consumption, lack of balanced diet and considerable disparity in access to health care services is reflected in lower health indicators of these discriminated castes. The National Family Health Surveys provide information on nutritional status of children (under 3 years) by social category by three anthropometric measures discussed earlier. Table 2.38 suggests that children belonging to scheduled caste and backward caste families are more likely to be underweight (weight-for-age) and stunted (less height-for-age) compared to others and this indicates the prevalence of chronic undernutrition resulted from failure to receive adequate nutrition over a long period of time.

Similarly, they are more prone to be wasted, that is thin in relation to their height, measured by weight-for-height index. A figure 2SD below the median reference are considered 'too thin' or 'wasted' and it indicates the prevalence of acute undernutrition due to failure to receive adequate nutrition or/and consequences of some illness.

The probability of dying in early childhood is higher in 'Schedule Caste' and 'Other Backward Castes' population group. According to the National Family Health Survey of 1998-99, IMR and child mortality is the highest in case of schedule caste population followed by 'Other Backward Castes'.

Table 2.38 Percentage of Undernourished Children under 3 Years of Age by Social Groups in Uttar Pradesh

Social groups	Weight-for-age		Height-for-age		Weight-for-height	
	% below-3SD	% below-2SD	% below-3SD	% below-2SD	% below-3SD	% below-2SD
SC	24.10	60.30	36.30	63.10	2.80	11.50
ST	33.50	59.40	40.40	69.30	3.20	13.70
OBC	25.60	53.30	32.90	55.70	2.70	13.60
Others	17.60	45.90	26.60	50.30	1.40	9.30
Uttar Pradesh	21.90	51.70	31.00	55.50	2.10	11.10
India	18.00	47.00	23.00	45.50	2.80	15.50

Source: National Family Health Survey India 1998-99

The main reason for such a high level of mortality among these social groups is the poor health and nutrition status of the mother. Her malnutrition is passed down to the unborn child in her womb. This is compounded by inadequate antenatal care, lack of sanitation, lack of information and awareness.

Table 2.39 Nutritional status of women by social group in Uttar Pradesh

Caste /tribe	Height		Height-for-age		Percentage of women with any anaemia
	Mean height	Percent <145cm.	Mean BMI	Percent with BMI<18.5	
SC	149.6	18.40	19.4	41.3	51.9
ST	149.6	18.90	19.7	32.6	53.6
OBC	149.8	18.5	19.6	37.3	51.0
Others	151.1	13.5	20.6	31.9	45.2

Source: National Family Health Survey India 1998-99

Table 2.39 shows that fifty-two percent of scheduled caste women suffer from anaemia as opposed to 45 percent other castes women which reflects the nutritional deficiency of ironfolate, vitamin B12 or some other nutrients. The scheduled caste women's are also disadvantaged on other anthropometric measures like Body Mass Index (BMI), which is the ratio of weight (in kg), to height (in mt.squared). The BMI can be used to assess both thinness and obesity. Chronic energy deficiency is usually indicated by a BMI of less than 18.5. Percentage of women having BMI less than 18.5 is the highest in scheduled caste women as compared to other caste women which is reflection of both poor access to health services and nutritional intake.

2.10 Conclusion

The analysis of this chapter tends to suggest that Uttar Pradesh faces a paradoxical situation with respect to food security.

It is a food surplus state, which contributes 22 percent of India's total food grain production, and is the largest producer of wheat, and the second largest producer of rice. For most of the years between 1970 and 2000, the per capita net availability of food grain in Uttar Pradesh was not only higher than that of the all India average, but also has remained higher than the per capita requirement of food grains 460 grams (based on the conventional approach) per day in India.

But this abundance in food supply did not translate into adequate access to food for all. Over a period of two and a half decade-that is, between 1972-73 and 1999-2000-the per capita consumption of cereals has shown a sharper decline in rural areas than that of urban areas. The most striking aspect is the low level of cereal intake of the poorest quintile compared to the average as well as richest quintile. The situation with respect to calorie intake presents a mixed picture. On the one hand, the average figures regarding the intake of different nutrients shows a higher value than the all India average, but on the other hand, the low level of calorie intake of the poorest quintile compared to the average as well as richest quintile. There is a downtrend even in this low level of intake. In Uttar Pradesh about 9 percent of the rural and 17 percent of the urban population is nutritionally at risk.

Using the Sen's entitlement thesis, we found in our analysis that the increase in income of the poorest 20 percent of the population was higher enough to cover the increase in food prices between 1977-78 to 1999-2000. The same results were obtained when we used the cereals (the main source of calorie) price instead of food grain prices. Therefore, one can infer that per capita calorie intake of the population is declining not because of economic constraint.

Regarding the factors accounting for the observed decline in per capita consumption of cereals as well as calorie intake, we found that, per capita calorie intake of the population is declining by choice not due to any economic constraints that is, population in general and poor in particular, are diversifying their consumption basket at the cost of calorie intake.

Another important aspect of food security that we tried to analyse in this chapter is the intra-household issue by looking on some indirect information on gender bias, tends to suggest that in Uttar Pradesh more than one third (36 percent) of women have a BMI below 18.5,

indicating a high prevalence of nutritional deficiency. In Uttar Pradesh, 48.7 percent women suffer from anaemia, which usually results from nutritional deficiency of ironfolate, vitamin B12 or some other nutrients. The sex bias is also reflected in the greater prevalence of undernourishment of various degrees among girls than among boys. The data shows that by and large girls are more likely to be underweight (weight-for-age criteria) and stunted (height-for-age criteria) compared to the boys in Uttar Pradesh.

While empirical evidence tends to suggest a positive association between the calorie intake and nutritional status, the responsiveness is likely to be affected by the factors relating to health and environment. For example, education, safe drinking water, housing conditions, access to health services and so on. It is clear from our analysis that in Uttar Pradesh population in general and poor in particular are deprived of basic education. Literacy in Uttar Pradesh is marked by acute disparities between men and women, between social groups, between economic group and between regions and districts. Regarding the access to health services, the average availability of infrastructure is poor in Uttar Pradesh compared to the all India average with respect to all the indicators.

These facts underscore the need for government intervention in ensuring food security. Or in other words it raises the question of what has been the state's response to the issue of food security. What has been its policy and what are the programmes it has adopted to address the issue? How well they fared in practice? The next chapter is an attempt in this regard, where we shall focus on state's response to food security.

Chapter 3

STATE RESPONSE TO FOOD SECURITY- ROLE OF GOVERNMENT INTERVENTIONS

3.1 Introduction

This chapter focuses on the state's response to the issue of food security. As mentioned in first chapter, various types of policy interventions deployed to provide food security may be classified into two broad groups.

- Support-led strategies and
- Growth-led strategies.

A growth-led strategy mainly focuses on economic growth and improving human capabilities for meeting food and other basic needs. For example, investment in research and development in agriculture or investment in infrastructure or institution of land reforms will have an indirect, but significant impact on the availability of food. On the other hand, support-led strategy recognises the importance of government provision of public support system to food security. Government interventions can be clubbed into two types. The first one is food based interventions that directly provide food to beneficiaries, such as public distribution system which provides subsidised food grains to the poor, mid-day meal for school going children, and the Integrated Child Development Scheme (ICDS), which provides nutritional supplement to young children, pregnant women and lactating women. The second types of interventions are those that aim to reduce poverty and enhance the income by a multitude of anti-poverty programmes.

In this chapter, we shall focus only on the food based intervention programmes, at the household as well as individual level, and for that purpose we shall look on the Public Distribution System (PDS), Integrated Child Development Scheme (ICDS) and Mid-day Meal scheme. The functioning of these schemes shall be evaluated on the basis on its coverage, targeting and the extent to which they succeeded in achieving their objectives.

3.2 The Public Distribution System

3.2.1 Introduction

The Public Distribution System in India has a long history. Rationing was first introduced in India in 1939 in Bombay. In 1943, the first food grain policy committee recommended

continuation of rationing due to the fall of Burma (Mayanmar), which was a major supplier of rice to India and the great Bengal famine in the preceding year. Immediately after independence, rationing was abolished, and introduced in 1950 as food shortages led to high prices. The rationing system thus introduced due to scarcity of food evolved into a Public Distribution System in mid-1960s. The Public Distribution System, over the years, became an important instrument of government policy of ensuring availability of food grains to the public at affordable prices, regulating the open market prices of essential commodities¹ and enhancing food security at the household level. They are supplied at below market prices to consumers. The access to Public Distribution System till 1997 was universal. During the first few decades of its existence, the Public Distribution System had actually never operated as an anti-poverty programme but merely as an instrument of price stabilization. Till the late 1970s, the Public Distribution System was mainly restricted to the urban areas and food deficit regions. The main emphasis was on price stabilization and as an alternative channel to private trade. Since the Sixth five-year plan, however, the welfare importance of the Public Distribution System has been recognized and its coverage has been extended to rural areas in some states as well as areas with a high incidence of poverty in the early eighties.

Under the Public Distribution System, the central government has assumed responsibility for procurement and supply of essential commodities to the state for distribution. These commodities are made available at fixed central issue prices (CIP), which are determined by the central government and generally involve subsidies borne by the central government. The food subsidy is composed of two components. The first component is the consumer subsidy that comes about from the fact that the difference between the issue price (at which the government sells) and the economic cost. Economic cost includes cost involved in procurement, storage, transport and distribution. The second component is the cost of carrying buffer stocks.

With a network of more than 4.62 lakh Fair Price Shops (FPS) distributing annually commodities worth more than Rs 30,000 crore, to about 16 crore families, the PDS in India is perhaps the largest distribution network of its type in the world (Parikh, 2001). The system is designed to help both the producers and consumers of food grains by linking procurement to support prices and ensuring their distribution at affordable prices throughout the country. This huge network can play a more meaningful role only if the system translates the macro level

¹ Like Rice, Wheat, Edible oil and Kerosene.

self-sufficiency in foodgrains achieved by the country into micro level, i.e. by ensuring availability of food for the poor households.

3.2.2 Problem with Public Distribution System

One of the major problems involved in the operation of PDS is the issue of containing food subsidy at reasonable level. It is also said that the PDS is not cost-effective, its operations are costly and the ratio between procurement and transportation is high, pointing to wasteful movements sometimes. The storage losses are also reported to be high (Nawani, 1994).

Table 3.1 Food Subsidy of the Central Government

Year	Amount	% of Total Government Expenditure
1990-91	2450	2.33
1991-92	2850	2.53
1992-93	2785	2.27
1993-94	5537	3.90
1994-95	4509	2.80
1995-96	4960	2.78
1996-97	5166	2.46
1997-98	7500	3.23
1998-99	8700	3.11
1999-2000	9200	3.03
2000-01	12125	3.61
2001-02	13675	3.64

Source: Parikh, 2001. Report of the working group on Public Distribution System and food security

The annual food subsidy involved in maintaining the system is huge. For the year 2001-02 an amount of Rs. 13675 crore is proposed to spend on food subsidy according to the budget estimates, which accounts for 3.64 percent of the total government expenditure (table 3.1). In India food subsidies as a proportion of total government expenditure has gone up from a level of 2.33 percent during 1990-91 to more than 3.6 percent today.

Despite the mounting food subsidy bills, various evaluation studies of the PDS have shown that the system has failed to translate the macro level self-sufficiency in food grains achieved by the country into household level food security for the poor. In a system with access to all, rich and poor alike, the quantum of PDS supply to each household formed only a small proportion of a family's total requirement. The increases in the Minimum Support Prices (MSP) over the years, which were considered necessary by the Government to keep up the

production of foodgrains, led to corresponding increases in the consumer prices in the PDS, adversely affecting the economic access of the poor to the PDS foodgrains. Parikh (1994), showed that PDS has marginal impact as far as income transfer to poor households is concerned, "the value of subsidy is very little for those households who make all their purchases from rationshops. For the bottom 20 percent of the rural population, the subsidy is no more than Rs. 2.08 per capita per 30 days." Another fall out of the universal PDS has been that the States with the highest incidence of poverty, viz. Orissa, Bihar, Madhya Pradesh and Uttar Pradesh are the ones whose per capita PDS off-take has been the lowest (Parikh, 1994). It thus became clear that the PDS, which existed till recently, did not serve the poor well, especially in the poorer States.

In sum, the Public Distribution System has experienced several implementation problems and it was criticised for its failure to serve the population Below Poverty Line (BPL), for its perceived urban bias, negligible coverage in states with a high density of rural poor and lack of transparent and accountable arrangements for delivery. Given that backdrop, the Government acted to streamline PDS during the Ninth Five Year Plan period by issuing special cards to BPL families and selling to them foodgrains through PDS outlets at specially subsidized prices (operational since June, 1997).

In view of the mounting food subsidy in recent years, coupled with the fact that the PDS did not reach the poor, a view has emerged that the universal coverage of the PDS is neither sustainable nor desirable.

Realizing this, the government of India streamlined the PDS into a Targeted Public Distribution System (TPDS) in June 1997, so as to raise cost-effectiveness in reaching the poor. Under the new Targeted Public Distribution System (TPDS), each poor family is entitled to 10 kilograms of food grains per month at specially subsidized prices. This is likely to benefit about six crore poor families, to whom a quantity of about 72 lakh tonnes of food grains per year is earmarked. The identification of the beneficiaries is done by the States, based on state-wise poverty estimates of the Planning Commission. The thrust is to limit the benefit to the truly poor and vulnerable sections, landless agricultural labourers, marginal farmers, rural artisans/craftsmen, potters, tappers, weavers, blacksmiths, and carpenters in the rural areas. Similarly those covered by TPDS in urban areas are slum dwellers and people earning livelihood on a daily basis in the informal sector like the porters and rickshaw pullers and handcart pullers, fruit and flower sellers on the pavements, etc.

Keeping in view the consensus on increasing the allocation of food grains to Below Poverty Line category and to better target the food subsidy, the Government of India increased the allocation to Below Poverty Line families from 10 kgs to 20 kgs of food grains per family per month at 50 percent of the economic cost from April 1, 2000. The allocation for APL was retained at the same level as at the time of introduction of TPDS but the central issue price for APL was fixed at 100 percent of economic cost from that date so that entire consumer subsidy could be directed for the benefit of the Below Poverty Line population.

One of the drawbacks under the current TPDS is the diversion of commodities supplied through the PDS to the open market. The dual pricing provides hefty incentive for leakage. A study was conducted by the Tata Economic Consultancy Services (1998) to ascertain the extent of diversion of commodities supplied under Public Distribution System from the system. At the national level, it is assessed that there is 36% diversion of wheat, 31% diversion of rice and 23% diversion of sugar. It is significant to note that the diversion is estimated less in the case of sugar as compared to rice and wheat. The PDS is better organised in towns where sugar is consumed while its infrastructure is weak in rural areas, especially in poorer northern, eastern and north-eastern states.

In a recent study by Jha and Srinivasan, 2003 shows that TPDS has only magnified the problem. The off-take of food grains for the distribution to APL families has fallen since the ration prices have risen close to the open market prices. The off-take from the BPL allocation has been impressive, but a larger part of the grains is diverted to the black market because of large difference in open market price and BPL price of food grains. The TPDS thus appears to have failed in serving both its objectives.

3.2.3 Functioning of PDS in Indian States

In a vast country like India the functioning of PDS varies across the states. For example it was noted that the present PDS exists in any meaningful form only in seven states, viz, Kerala, Andhra Pradesh, Tamil Nadu, Jammu and Kashmir, West Bengal, Karnataka, and Delhi. In all other states, the coverage is quite low, leakages are high and it is hardly an instrument for ensuring access to a minimum food to the poor (Kannan, et al. 2000). It is interesting to observe the experience of Kerala, which is a food deficit state. Kannan (2003) in his recent study showed that Kerala PDS is by far the most efficient and egalitarian under Indian conditions where access of the poor to food remains the single most factor in their poverty

status. He found that 97 percent of the households have ration card and 99 percent of the villages in Kerala have a fair price shop within two km distance. One of the most powerful arguments for the PDS is the question of economic access, because of the unequal distribution of income poorer section of the society are most vulnerable to their food entitlement. A Study by George (1979) and Suryanarayana (1996) revealed that nearly two-thirds of total purchase of rice of the poor in the Kerala comes from the PDS. Turning to a state like Andhra Pradesh, which is a food grain surplus state, Indrakant and HariKishan (2003) showed that while PDS covers a large section of the population the benefit of PDS do not always reaches to the targeted group. A state like Bihar which is characterized by poverty, vulnerability to food shortage PDS is also not functioning properly. Mooji (2003) in her recent paper examined the PDS experience and political economy of PDS in Bihar and Jharkhand. In her view people in Bihar have hardly benefited from PDS. In reality only a small part of PDS food grain was reaching to the cardholders. The way in which the public food distribution system implemented in Bihar showed many problems, like, large scale misappropriation of food grains at all levels, unsatisfactory distribution of cards to BPL families, financially weak position of Bihar food and civil supply department and what is more a good amount of money has to be thrown away to bribe the officials. She further mentioned that problems with PDS in Bihar is a part of a larger pattern of governmental ineffectiveness.

A study of the delivery system for the PDS in Bihar by Jharwal in 1999 reported that dealership and even membership of vigilance committees there are seen as positive where money can be made. The procedure to appoint them was highly politicized, and mostly clients of MLAs were appointed. On the one hand, problems of lack of infrastructure and shortage of funds with government agencies and on the other hand, corruption involved in selection of beneficiaries and diversion of food grains to the open market are the main constraints in proper functioning of the scheme in the state. In contrast to Bihar, a state like Karnataka which is average state with regard to poverty PDS is functioning relatively better. In Karnataka 69 percent of rice and 56 percent of wheat lifted from FCI reached to the cardholders. While, in case of Bihar only 17 percent of the wheat lifted from the FCI reaches to the cardholders. Unlike the Bihar, most of the cardholders in Karnataka were reasonably satisfied regarding the quality of rice. Generally villagers were informed in advance regarding the opening of PDS shop.

Similar experiences like Bihar, though to lesser degree, were found in Orissa and even in Maharashtra. A study done by Sarap on Orissa in 1997 shows that food delivery system has

limited coverage in terms of percentage of households as well as in terms of amount of food grain supplied. There were many contributory factors responsible for the inadequate and inefficient food delivery system, such as lack of purchasing power among the poor that kept some of their limited quota unlifted and poor infrastructure.

Given the background of functioning of PDS at the national level with some regional experience, now we shall move to the Uttar Pradesh situation, where we shall see whether the vast food security network in the state has served its purpose to provide food security to the vulnerable sections or not.

3.2.4 The Public Distribution System: Overall Trends in Uttar Pradesh

Given the above background of the functioning of Public Distribution System, let us begin with some of the dimensions of the Public Distribution System in Uttar Pradesh. One of the main objectives is to examine whether, Targeted Public Distribution System is successful in its objective of providing food security to the poor both through improved absorption and through targeting of poor households.

The Targeted Public Distribution System was introduced in Uttar Pradesh in 1997. A massive exercise was launched to identify the Below Poverty Line households on the basis of poverty estimate arrived at by the “Expert Group on Estimation of Proportion and number of poor (Lakdawala Committee). In Uttar Pradesh, 41 percent households were estimated to lie below the poverty line. Allocation to state was calculated on the basis of the norm of 10 kgs per month per Below Poverty Line family together with an additional amount for Above Poverty Line households. The allocation to Below Poverty Line households was increased to 20 kgs in April 2000. The changes introduced in 2000 were (1) Issue price of rice and wheat for BPL households has been increased at Rs 4.15 for wheat and Rs 5.65 for Rice with increase in entitlement. (2) Subsidies on cereal purchase to Above Poverty Line households have been completely removed; (3) Sugar has been removed from the list of subsidized commodities. In 2001 the allocation for Below Poverty Line families was further increased to 25 kgs, in view of the excessive supply position.

Historically, the Public Distribution System has played a much smaller role in Uttar Pradesh compared to states like Kerala, Andhra Pradesh, Maharashtra, West-Bengal and Tamil Nadu. Table 3.2 shows the allocation and off-take of food grains under Public Distribution System between 1986-87 and 1995-96. It throws up some important feature regarding the functioning

of Public Distribution System in Uttar Pradesh. First, during 1986-87 to 1995-96 state lifted only 661.41 thousand MTs of food grain (Rice and Wheat) that was only 4.52 per cent of the national Public Distribution System off-take of rice and wheat, while other states like Kerala, A.P and Maharashtra they lifted 12.15, 11.68 and 10.18 per cent respectively of the national PDS off-take. Second, off-take, as a percentage of state's food grain allocation was also low in case of Uttar Pradesh during the period 1986-87 to 1995-96. Uttar Pradesh was able to lift only 43 percent of the allotted food grains, while, states like Kerala, Maharashtra, West Bengal and Tamil Nadu lifted 100 percent of the allotted food grains.

Table 3.2 Allocation and off-take of food grains under Public Distribution System Between 1986-87 to 1995-96 among major states of India

States	Allocation in '000 MTs	Off-take			% Of national PDS Allocation
		In '000 MTs	% of allocation	% of national PDS off-take	
Kerala	1776.47	1776.47	100.00	12.15	10.18
Andhra Pradesh	2396.40	1708.34	71.29	11.68	13.74
Maharashtra	1489.20	1489.20	100.00	10.18	8.54
West Bengal	1453.68	1453.68	100.00	9.94	8.33
Tamil Nadu	1010.73	1010.73	100.00	6.91	5.79
Uttar Pradesh	1537.14	661.41	43.00	4.52	8.81
All India	17445.77	14622.89	83.82	100.00	100.00

Source: Indiatat.com

An analysis of the Public Distribution System state level data shows that overall off-take from the Public Distribution System changed marginally as result of the introduction of the Targeted Public Distribution System.

Table 3.3 Allocation and off-take of food grains before and after introduction of Targeted Public Distribution System in Uttar Pradesh

Year	Allocation ('000 tonnes)	Off-take ('000 tonnes)	% off-take/allocation
1994-95	1736	400.00	23.04
1995-96	1736	436.00	25.12
1996-97	1570	1251.00	79.68
1997-98	1449	953.00	65.77
1998-99	1951	1466.00	75.14
1999-2000	2269	1172.00	51.65
2000-01	2244	718.00	32.00

Source: Bulletin of food statistics

Table 3.3 shows that compared to a Total cereal off-take of 661.41 thousand mt during 1986-87 to 1995-96 and 1215 thousand mt in 1996-97, the total off-take was 953 thousand mt during 1997-98, rising to 1466 thousand mt during 1998-99. The available estimate of 2000-01 shows a decline in off-take. Thus, the evidence at our disposal does not show a clear picture regarding the significant increase in off-take of cereals in the state after the introduction of Targeted Public Distribution System.

In Targeted Public Distribution System, a separate allocation is made both for Above Poverty Line and Below Poverty Line families. Table 3.4 shows that the off-take improved dramatically for the Below Poverty Line families. In case of wheat for them, it has increased from 76 percent in 1997-98 to 97 percent in 1999-2000, while, in case of rice the increase was from 61 percent to 71 percent during the same period of time. Thereafter, the percentage of off-take has again gone down.

Table 3.4 Allocation and off-take of Wheat and Rice before and after Introduction of the TPDS in Uttar Pradesh

Year	Below Poverty Line			Above Poverty Line			Total		
	Allocation	Off-take	%	Allocation	Off-take	%	Allocation	Off-take	%
Wheat									
1994-95							1186	203	17
1995-96							1186	226	19
1996-97							1038	894	86
1997-98	640	486	76	367	207	56	1007	693	69
1998-99	768	741	96	351	262	75	1319	1003	76
1999-2000	768	748	97	761	61	8	1529	808	53
2000-01	1274	476	37	233	1	1	1507	478	32
Rice									
1994-95							550	197	36
1995-96							550	210	38
1996-97							532	357	67
1997-98	315	194	61	127	66	52	442	260	59
1998-99	378	330	87	254	133	52	632	463	73
1999-2000	378	267	71	362	97	27	740	364	49
2000-01	619	239	39	119	1	1	737	240	33

Source: Bulletin of Food Statistics, year

While in case of Above Poverty Line families the off-take has declined from 56 percent in 1997-98 to 8 percent in 1999-2000, in case of wheat, while in case of rice the decline was from 52 percent to 27 percent.

Although the above analysis does not show any significant change in cereal off-take in Uttar Pradesh since the launch of the Targeted Public Distribution System, it would be useful to examine what is the trend regarding off-take from the 65,557 rural and 11,905 urban fair price shops set all over the state. In other words, what is the proportion of population (both rural and urban) purchasing food grain from the fair-price shops in the State?

3.2.5 Reaching the Population through Public Distribution System

A study conducted by Parikh in 1994 by using the NSS 42nd round data (table 3.5) shows that in rural Uttar Pradesh 98 percent of the population does not purchase any cereals from Public Distribution System. A very small percentage of the population (i.e. one and half percent) only makes all purchase from PDS. In case of urban areas, this percentage is slightly higher than the rural areas, where 7 percent of the population makes either full or partial purchase from Public Distribution System. Situation looks worst if one compares it with the other states like Kerala, Andhra Pradesh and Maharashtra. In Kerala more than 87 percent, in Andhra Pradesh around 60 percent and in Maharashtra more than 45 percent of the rural population makes either full or partial purchase from Public Distribution System.

Table 3.5 Percentage distribution of population according to source of purchase among major states of India

States	No Purchase from PDS	Partial Purchase from PDS	All Purchase from PDS
Rural			
Kerala	12.30	79.00	8.60
Andhra Pradesh	40.30	47.30	12.40
Maharashtra	52.30	32.40	15.30
West Bengal	73.10	22.70	4.10
Tamil Nadu	46.50	44.90	8.50
Uttar Pradesh	97.90	0.60	1.60
Urban			
Kerala	13.00	83.80	3.30
Andhra Pradesh	48.60	47.90	3.50
Maharashtra	56.20	38.50	5.30
West Bengal	40.20	51.20	8.50
Tamil Nadu	44.60	52.80	2.70
Uttar Pradesh	93.00	4.60	2.50

Source: Parikh, 1994

For 1993-94, the NCAER human Development Survey (Shariff, 1999) estimated that 5.2 percent of the rural households in the state had used the Public Distribution System

(compared to 33.2 percent nationally) to purchase 33.4 kg of cereals per household. Cereals purchased through the Public Distribution System met only 24.5 percent of the cereal requirement and 15.2 percent of the total food grain requirement of these reporting households. Surveys conducted by other scholars also pointed out the limited role of the Public Distribution System in supplying the cereals to the rural households. In a survey conducted in Eastern Uttar Pradesh villages, Srivastava (1996) found that “during 1995-96, except in RPDS villages, there was no supply of cereals through the PDS shops i.e. fair-price shops”.

All these studies regarding the off-take from the fair-price shops are confined before the implementation of Targeted Public Distribution System, but the question here is that whether after the implementation of TPDS, was there any significant improvement in off-take from the fair-price shops. There are some studies by different scholars based on the primary as well as on secondary information, which shows the functioning of TPDS in Uttar Pradesh.

A detailed study on the Targeted Public Distribution System carried out among 2,250 households across 120 villages in 25 districts in 4 economic regions of Uttar Pradesh by Ravi Srivastava showed that “overall purchase of cereals from the Public Distribution System are restricted to only 12.9 percent households. This compares with 46.7 per cent households purchasing sugar from the Public Distribution System, and 88.25 per cent households purchasing Kerosene from the Public Distribution System.”

National Sample Survey Organization (NSSO) in its 55th round i.e. 1999-2000 collected information on purchase of rice, wheat, sugar and Kerosene made in fair price shops. By analyzing this data, Mahendra Dev² (2003) showed that in Uttar Pradesh Public Distribution System is accessible to about 8 percent of rural households for rice and only 7 percent for wheat. The corresponding figures for the states like Kerala, Andhra Pradesh, Maharashtra, West Bengal and Tamil Nadu shows a large variation- from 75 percent for Tamil Nadu to 17 percent in West Bengal in case of rice and 43 percent in Maharashtra to 15 percent in Tamil Nadu in case of wheat (table 3.6).

² S.Mahendra Dev, 2003. Right to food in India.

Table 3.6 Percentage of Households Accessing PDS: 1999-2000, major states of India

States	Rural		Urban	
	Rice	Wheat	Rice	Wheat
Kerala	68.52	37.08	59.99	39.88
Andhra Pradesh	62.93	1.84	29.34	15.86
Maharashtra	44.26	43.43	15.17	14.75
West Bengal	17.49	16.06	6.87	18.36
Tamil Nadu	75.21	15.09	52.59	30.32
Uttar Pradesh	8.07	7.34	3.29	2.93
All India	32.38	16.59	20.28	15.12

Source: Mahendra Dev, 2003

Another study by Nisha Srivastava in 2003 by using the NSSO data for 1999-2000 shows that only about 6.64 per cent households in rural areas and about 1.76 per cent in urban areas purchase either some or their entire requirement of rice from the PDS. Similarly, only 6.25 percent households in rural and 1.25 per cent in urban areas buy some or all their requirement from the PDS. It further shows that the commodity, in supply of which Public Distribution System plays a critical role, is kerosene, for around 79 percent households in rural areas and about 59 percent in urban areas of the state, the PDS is the only chief source of supply for kerosene.

Thus, it is clear from the studies that even TPDS also has not played much role in distributing cereals to the households, as we saw in other states like Kerala, Andhra Pradesh and so on. Now, we will see that whatever quantity has lifted who is getting benefited out of this, whether, poor people getting out benefit from the scheme or not. Based on the SLCC survey, Srivastava (2000) showed that in rural Uttar Pradesh, compared to 29.9 percent beneficiaries identified for the Targeted Public Distribution System, only 12.9 per cent (43.1 per cent of those considered eligible) made purchases of wheat and rice from the Targeted Public Distribution System. Even in the two lowest quintiles, only about 17 percent households (compared to 40 percent considered eligible) had made cereal purchases. It further shows that even if all the beneficiaries were correctly identified (no exclusion error), only a quarter of the estimated poor income households in the region had been able to use the TPDS for making purchases from the TPDS. The probability of poor households purchasing cereals from the PDS was higher in the state than the non-poor households. For instance, 19 percent of the households in the poorest quintile purchased wheat, compared to 6.94 percent in the

highest quintile. It was reversed in the case of sugar, which is untargeted, where a high proportion of non-poor households makes purchases.

The same picture is coming out from the NSSO 55th round, i.e. 1999-2000 also. It is clear from the table that poor dominates in purchase of food grain from the PDS. Table 3.7 shows that 12 percent of the poor households buy either full or partial of the rice they need from the PDS, only 1 percent of the rich households do so. The same is true in case of wheat also, Again poor dominate in buying either full or partial of their requirement from the PDS. But the disturbing aspect of the picture is that use of PDS for buying cereals is very less even in case of the poorest households also. Use of PDS is confined mainly in supplying the kerosene. We can see from the table that a relatively much higher proportion (in comparison of cereals) of both poor and rich are buying either full or partial kerosene requirement from the PDS.

Table 3.7 Percentage Distribution of Households by Source of Purchase and Economic Background in Uttar Pradesh

Category	Combined (Rural +Urban)		
	Source		
	PDS	Other	Both
Rice			
Very poor	3.5	53.2	7.7
Poor	2.3	56.4	4.6
Non-poor	2.2	57.0	2.8
Rich	1.1	56.2	1.2
All	2.0	55.6	3.3
Wheat			
Very poor	2.2	55.6	8.9
Poor	1.2	53.6	5.2
Non-poor	1.2	52.9	3.4
Rich	0.7	48.7	1.4
All	1.2	51.6	3.8
Kerosene			
Very poor	60.7	18.5	16.8
Poor	57.0	18.2	21.7
Non-poor	55.1	19.8	20.6
Rich	50.2	22.1	16.3
All	54.2	20.0	18.6

Source: Srivastava, Nisha. 2003

Thus, it is clear from the above analysis that even after the implementation of Targeted Public Distribution System, the vast food security network in the state has failed to serve its purpose

to provide food security to the vulnerable section of the society. Despite the poor off-take by the state from the central allocation, a very small proportion of the population is using PDS to buy the cereals. Its use is confined mainly in supplying kerosene to the households. No doubt that poor households dominate within the total percentage of population buying cereals from the PDS but the total percentage of population using Public Distribution System is very less.

3.2.6 Reasons for Poor Utilization of PDS

Large scale quantitative data do not tell us why only a small proportion of households in general and poor in particular in the state makes use of PDS in buying cereals. This has been analysed in a number of qualitative studies carried out in Uttar Pradesh. Studies carried out (Sharma, 1995; Kriesel and Zaidi, 1999) showed that, PDS shopkeepers operate under excessively small margins and have to cater to illegal demands of influential persons. Both these factors increase the inducement to siphon grain off to the black market. The dual pricing provides another hefty incentive for leakage. Lack of political commitment to the PDS in the state, administrative pessimism and lack of adequate incentives to the PDS shopkeeper compounded the problem. Indeed Sharma suggests that the poor people in the villages are totally indifferent to the possibility of getting ration card because they know that it confers no distinct advantage: a ration card is a mere piece of paper, it does not in reality enable one to buy food grain at a price lower than in the market.

A study conducted by the Tata Economic Consultancy Services to know the how much of the PDS supplies were diverted from the system in 1998. It estimated that at the state level, the extent of diversion for wheat was 46 percent, 49 percent for rice and 36 percent for sugar. This compared unfavourably with the national estimates, which were much lower at 36, 31 and 23 percent respectively (Planning Commission, 2000). Based on the estimates of grain purchased by the rural households in Eastern Uttar Pradesh and Bundelkhand region, and the rural-urban distribution, Kriesel and Zaidi (1999) find that as much as 41 percent of the grain intended for supply through the TPDS may have ended somewhere else.

A study carried out in poorest regions of Uttar Pradesh (Srivastava, 1998; Kozel and Parker, 1998) showed several problems associated with the functioning of PDS, like PDS shops were located far away from the hamlets of the poor. Worse they were invariably located in the hamlets of the rich. Despite the guidelines issued by the government regarding opening the shop there was no fixed day when shop opened, nor were there any fixed timings. Most people complained that they did not get to know in advance when the ration is going to be

distributed. For the poor in terms of their wage loss it was not possible to visit the ration shop several times. Further, the quality of ration was perceived to be poor. Another problem that hinders optimum utilization of the PDS is that shopkeepers want buyers to lift their entire quota in one go. As the poor do not have enough money to do so in one go, they have to forgo their entire month's entitlement. The experience regarding the functioning of PDS in Uttar Pradesh is in contrast with other state's experience like Kerala and Karnataka where PDS is functioning properly.

The government has initiated several changes to improve the transparency and accountability of the PDS to the panchayats. A model citizen charter was introduced in November 1997 stipulating essential information such as entitlement, procedure for issue of ration cards and so on by the centre for adoption by the states. It emphasized the need to constitute of model vigilance committees at all levels. In June 1999, government has also issued the guidelines for the involvement of PRIs at all the levels of PDS so as to ensure greater public participation. Though the responsibilities for monitoring the programme have fallen on the panchayats, panchayats have not developed as truly participatory institutions. Gram sabha meetings are rarely held, and are thinly attended by the villagers. The dominant elite group takes decisions on beneficiaries and schemes. In a recent move, the Public Distribution System (control) order, 2001, was notified in August 2001. The order relates to (1) identification of beneficiaries; (2) ration cards; (3) issue price; (4) distribution of food grains; and (5) monitoring the PDS. Any violation of the order would invoke criminal liability under the Essential Commodities Act, 1955. But unfortunately there is little evidence of these being translated into action programme of government. At all the levels of government, at least on paper, all orders are issued, but at the level of village story gets muddled.

We shall come later to the different political economic situation prevailing in the state, which may give some plausible clues why a scheme functioning efficiently in one state and why not in other state.

So far our discussion regarding states' response in providing food security was focused at the household level. But the analysis of chapter two suggests that ensuring food security at the household level dose not ensure the same at individual level. We saw a systematic discrimination against female in Uttar Pradesh which, got reflected in many indicators like low BMI and percent of women suffering from anaemia and so on. Therefore, in the next section of our analysis we shall focus on intervention programme, like Integrated Child

Development Scheme (ICDS), which provides package of services to children below six years and to pregnant and nursing mothers.

3.3 Integrated Child Development Services (ICDS)

3.3.1 Introduction

The Integrated Child Development Services, is a national level scheme of the government of India started in 1975. It provides package of services to children below six years and to pregnant and nursing mothers, such as supplementary nutrition, immunization, health check-ups, and referral services and pre-primary education. Over the years programme has grown to encompass an estimated 25.8 million children and 5.2 million pregnant or lactating women (PLW), and to spend about Rs. 1,560 crore annually³. It now covers almost all the districts in the country.

The main declared objectives of the scheme are-

1. To improve the nutritional and health status of children below six years.
2. To reduce the incidence of mortality, morbidity, malnutrition and school drop-outs and
3. To achieve effective co-ordination of policy and implementation among various department to promote child developments.

The basic services meant to be provided through the scheme under four broad categories i.e. health, nutrition, early childhood care and pre-school education and convergence of other supportive services are:

1. Health; (a) immunization, (b) health check-ups, (c) referral services, (d) treatment of minor illness.
2. Nutrition; (a) supplementary feeding, (b) growth monitoring and promotion, (c) nutrition and health education (NHE).
3. Early childhood care and pre-school education (PSE).
4. Convergence of other supportive services, such as safe drinking water, environmental sanitation, women's empowerment programmes, non-formal education and adult literacy.

³ All 1999-2000 figures.

The philosophy and approach behind the scheme was based on the consideration that overall impact would be greater if different services were delivered in an integrated manner, as the efficacy of a particular scheme depends on the support it receives from related services. For example, the provision of supplementary nutrition is unlikely to improve health of a child if she continues to be exposed to diarrhoea, infections or unprotected drinking water. Integrated Child Development Services was therefore, developed to take a holistic view of a child development. The package of services is delivered to the beneficiaries at an Anganwadi or childcare center.

3.3.2 Anganwadi

This is the childcare center located within the village area or slum area, and is the focal point for the delivery of services to the beneficiaries residing in that locality. An Anganwadi worker supported by a helper runs each centre. The population coverage through the centre is approximately 1000 in rural and 700 in urban areas. There are 125 to 150 centres in each ICDS.

ICDS is implemented through a team working at the centre level and at the project level. At the centre level there is the AWW and the helper, who run the centre, feed and weigh the children, carry out pre-school activities, maintain records and growth charts, carry out surveys and visit homes.

The Child Development Project Officer (CDPO) heads the team at the project level and they work with a team consisting of a medical officer (doctor), four female anganwadi supervisors, four nurses and other administrative staff. The CDPO provides the link between field staff and government administration, and is responsible for securing anganwadi premises, ensuring regular supply of food, carrying out inspections to check the weight and quality of food items, making payments to suppliers, sending periodical reports to the government, holding monthly meeting of the staff, co-ordinating with health and other departments and ensuring the overall smooth functioning of the centres.

Under universalisation of ICDS, World Bank started giving assistance since 1990-91 for expansion of the Integrated Child Development Services programme. The WB-ICDS project I period between 1991 and 1997 covered 301 ICDS projects in the states of Andhra Pradesh and Orissa. World Bank-ICDS project II (1997-2000) covered 454 projects in the states of Bihar and M.P., it further extended upto 2002. The WB-ICDS project III (1998-2004) started

in 1998-99 aims at covering 461 projects in the states of Andhra Pradesh, Kerala, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh. The World Bank assisted ICDS programme in Andhra Pradesh is being implemented in 257 blocks as part of the total programme of Andhra Pradesh Economic Reconstruction Programme (APERP). The scheme was operational in 4384 blocks in 2000. By the end of 2001-02, 5171 blocks/urban areas are proposed to be covered which implies 90 per cent coverage of blocks by the end of the Ninth Plan. Along with the expansion of this scheme the allocation of central government for this scheme have also increased. During the Ninth plan, a sum of Rs.4960 crore for ICDS scheme has been allocated against which Rs. 2,159 crores were spent during the first three years.

3.3.3 Evaluation of Integrated Child Development Services

The most important evaluation exercise was done by a government agency, *The National Institute of Public Co-operation and Child Development* (NIPCCD) New Delhi in 1992. It reports "the nutritional status of children in ICDS areas was better than that of children in non-ICDS areas. The percentage of normal children was 35 in ICDS and 31 in non-ICDS areas. Non-ICDS areas also recorded 3 percent more children in grade-III and grade-IV (severe) malnutrition (ICDS- 10.8 percent; non-ICDS-13.11 percent). Fifty-two percent expectant mothers in ICDS areas received tetanus toxoid vaccine against 45 percent women in non-ICDS areas.

Other evaluation studies have also found that, despite some unevenness in the quality of services, the ICDS programme has had a positive impact on the survival, growth, and development of young children. For example, a study conducted in rural areas of three southern states (Tamil Nadu, Andhra Pradesh and Karnataka) found that the programme had a significant impact on the psychosocial development of children, for both boys and girls. The study also showed that undernourished ICDS beneficiaries attained higher developmental scores than well-nourished children who were not enrolled in the program.

During the Ninth Plan, ICDS program in Orissa and Andhra Pradesh were evaluated by the National Institute of Nutrition. The World Bank and Government of India have reviewed the ICDS programme in 1997. The findings are

1. ICDS services were much in demand, but there are problems in delivery, quality and Co-ordination. The program might perhaps be improving food security at household

level, but failed to effectively address the issue of prevention, detection and management of undernourished child/mother.

2. Children in 6-24 months age group and pregnant and lactating women did not come to the anganwadi nor did they get food supplements.
3. Available food was shared between mostly 3-5 year old children irrespective of their nutritional status.
4. There was no focused attention on management of severely undernourished children.
5. No attempt was made to provide ready mixes that could be given to 6-24 month child 3-4 times a day; nor was nutrition education focused on meeting these children's need from the family pot.
6. Child-care education of the mother was poor or non-existent.
7. There were gaps in workers training, supervision, and community support.
8. Inter-sectoral coordination was poor (GOI, 2000).

A study done by Kannan (2003) on food security in Kerala shows that under Integrated Child Development Services approximately 84 percent of the beneficiaries are children and rest expectant/nursing mothers. He further showed that close to one million beneficiaries are now covered by the scheme. *Anganwadi* and *Balwadis* centres in the state have been setup with the help of women's welfare organisations.

3.3.4 Integrated Child Development Services (ICDS) in Uttar Pradesh

In Uttar Pradesh, Integrated Child Development Services (ICDS) programme was started in 1975 in three blocks (3 projects) of the state with the objective of improving nutritional and health status of young children. The Directorate of child Development was established in the state in 1988. The WB-ICDS project III was started in 1999 with an aid of Rs. 274.37 crores (including Uttaranchal) for a total period of five years i.e. 1998-99 to 2003-04.

3.3.4.1 Project Coverage in the State

At present, 608 projects are operational in the state. Around 61807 Anganwadi Centres (AWC's) are operational in various remote rural areas as well as in several slums. There are approximately 100 AWC's in project. As per standard, there is one AWC operational on a population of 1000, having on average 102 beneficiaries, involving about 80, 0-6 years children and 20 pregnant/lactating women. Table 3.8 made clear the position of blocks in the states.

Table 3.8 Position of ICDS blocks in Uttar Pradesh

1	Number of urban blocks with ICDS in project areas	19
2	Number of rural blocks with ICDS in project areas	499
3	Number of AWC's operational	52302
4	Number of blocks in ICDS-III programme	110
5	Number of AWC's operational in ICDS-III programme	9505

Source: <http://www.icdsup.nic.in>

3.3.4.2 ICDS-III programme in Uttar Pradesh

It was planned that the DPO will be established and ICDS will be provided in the 110 additional blocks of the state in the project duration 1999-2000 to 2003-2004 with the support of World Bank. In addition to this, qualitative improvement will be brought in 190 child development projects. Hence, 300 blocks of 33 districts in the state will be benefited through this programme.

3.3.4.3 How successful the scheme is in Uttar Pradesh?

Several attempts were made to evaluate the ICDS in Uttar Pradesh by using both qualitative as well as quantitative data.

National Sample Survey Organization (NSSO) in its 52nd round i.e. 1995-1996 collected information on the supplementary nutrition being received by the households through the anganwadi centres. By analysing the NSS data for 1995-96, Srivastava, Nisha in 2003 showed that Anganwadi centres in the state has failed to serve their purpose, i.e. to provide supplementary nutrition to the eligible households.

Table 3.9 Percentage of Eligible Households which Received Food Supplementation, Uttar Pradesh

MPCS Quintile	Whether food supplementation received in last 30 days?					
	Rural			Urban		
	Yes	No	Total	Yes	No	Total
1 st	0.35	99.65	100	0.17	99.83	100
2 nd	0.60	99.40	100	2.25	97.75	100
3 rd	1.44	98.56	100	0.22	99.78	100
4 th	0.38	99.62	100	0.95	99.05	100
5 th	0.11	99.89	100	0.39	99.61	100
Total	0.63	99.37	100	0.81	99.19	100

Source: Srivastava, Nisha 2003. Based on NSS 52nd round data (1995-96).

Table 3.9 shows that 99.37 percent households in the rural areas and 99.19 percent households in the urban areas of the states had not received any food supplementation during the last 30 days. The situation is almost same across the MPCE quintiles.

The disaggregate level analysis is given in table 3.10 which also shows the same picture regarding the nutritional supplement in the state. Except Bundelkhand, where 7.56 percent of the households reported that they had received nutritional supplement through Anganwadi centres during the last 30 days, all the other regions in the state showing a poor performance.

Table 3.10 Percentage of Eligible Households Which Received Food Supplementation in Uttar Pradesh by Regions

Regions	Whether food supplementation received in last 30 days?		
	Yes	No	Total
Hill	0.00	100.00	100
Western	0.39	99.61	100
Central	0.18	99.82	100
Eastern	0.57	99.43	100
Bundelkhand	7.56	92.44	100
Total	0.80	99.20	100

Source: Srivastava, Nisha 2003. Based on NSS 52nd round data (1995-96).

Other qualitative surveys also provide an equally bleak picture regarding the functioning of the ICDS programme in the state. For example, in the SLC survey covering Eastern Uttar Pradesh and Bundelkhand regions shows that only 3.41 percent of the households reported sending their children to the Anganwadi. Only 1.10 percent households said they received the food supplement on most days, while another 1.77 percent reported receiving it on some days. On an average, a child who attended an Anganwadi attended it for 11 days a month.

Qualitative surveys in Eastern Uttar Pradesh and Bundelkhand provide reasons also on why ICDS could not achieve its objectives (Srivastava, 1998; Khare, 1998). Firstly there was little awareness about the scheme and secondly, the common perception was that nutritional supplement meant for children and women was being sold in the open market or fed to livestock. Thirdly, in most of the cases the anganwadi centre was located in the *Pradhan's* house and anganwadi workers were their family members, which prevents poor in approaching to the centre, and at last there were many villages in the state, where Anganwadi worker's post was vacant.

We may conclude this sub-section on ICDS with the observation that the ICDS programme in the state has not drawn young mothers and children to the anganwadi centres. The programme has failed to serve its purpose, i.e. to improve the nutritional and health status of children below six years and to provide supplementary feeding to pregnant and nursing mothers.

The next section of our analysis is devoted to evaluate a scheme, which addresses the child nutrition issue in the state where 52 percent children below the age of three years are undernourished and 22 percent of them are severely undernourished.

3.4 Mid-Day Meal Scheme

3.4.1 Introduction

Offering subsidized or free mid-day meals to schoolchildren is not new in India. The Corporation of Madras introduced such a programme in 1925. Kerala introduced a school lunch programme in 1941, Bombay announced a free midday meal scheme in 1942, and the Corporation of Bangalore in 1946. In 1953, Uttar Pradesh too introduced a similar programme⁴. Providing meals in schools has existed in different forms in Tamil Nadu and Lakshadweep since 1956, in Pondicherry since 1960, in Goa since 1967, in West Bengal since 1977, in Chandigarh since 1980 and in Gujarat since 1984.

In mid-1995, the government of India launched a new 'centrally-sponsored scheme', the national programme of nutritional support to primary education. However, in some state the scheme in its present form started much earlier. For example in Kerala the scheme in its present form started in 1961, much earlier than the currently well known scheme introduced in the state of Tamil Nadu in 1982, covering the entire state. In Kerala until mid-seventies commodity aid for the programme was received from a consortium of American voluntary organization known as CARE (Co-operative for American Relief Everywhere); since then the state government has been providing the commodities required for its stock (Kannan, 2002).

Under this programme, cooked mid-day meals were to be introduced in all government and government-aided primary schools uniformly in all states and Union Territories within two years. The objective of the programme was "to give a boost to universalisation of primary education by increasing enrolment, retention and attendance and simultaneously impacting on

⁴ References have been obtained from the Inaugural Address by Smt. Achala Moulik, Secretary, Elementary Education and Literacy at the Workshop on Midday Meal programmes on March 15, 2001.

nutrition of students in primary classes.” In the intervening period, state governments were allowed to distribute monthly grain ration (known as ‘dry ration’) to school-children instead of cooked meals. Six years later, however, most state governments were yet to make the transition from dry ration to cooked meals.

Envisaging the serving of hot cooked meals with a calorific value equivalent to 100 grams of wheat or rice per student per school day, the central government extended the following assistance:

1. Free of cost foodgrains (wheat and rice) equivalent to 100 grams per child per school where cooked or processed hot meal is being served and 3 kilograms per student per month subject to a minimum attendance of 80 percent where foodgrains are being distributed.
2. Reimbursement of costs of transportation through district authorities for movement of foodgrains from Food Corporation of India (FCI) godowns to the schools at actual costs subject to a maximum of Rs. 50/- per quintal. In addition, a Hill Transport Subsidy is provided to the States through the FCI as with the Public Distribution System in the case of hilly areas.

The cost of conversion of foodgrains into hot cooked meals and its distribution to schools is to be met by the states and Union Territories. The FCI, which supplies the foodgrains, makes the charge on the Ministry of Human Resource Development, which is the nodal agency for the scheme. Earlier, the price charged by the FCI till November 2000, was the economic cost of the foodgrains. Since then, the government has decided that the price for the foodgrains supplied under the scheme would be the price applicable for all persons living below the poverty line.

3.4.2 Role of Mid-Day Meals

The diverse personal and social roles of mid-day meal can be made from at least three crucial perspectives, educational advancement, child nutrition, and social equity (Dreze and Goyal, 2003). To illustrate one basic contribution of mid-day meals is to boost school enrolment (educational advancement) and may also expect to enhance student attendance on daily basis. Going beyond that, it also enhances the learning achievements, in so far as ‘classroom hunger’ undermines the ability of the student to concentrate.

Similarly, the nutritional objective of mid-day meals has several layers, ranging from the elimination of classroom hunger to the healthy growth of the school children. Mid-day meal makes possible not only to raise the intake of calorie and protein, but also provides nutritional supplement such as iron and iodine.

The contribution of mid-day meal to social equity also has a variety of aspects. For instance, mid-day meals help to undermine the caste prejudices, by teaching children to sit together and share a common meal. They also foster gender equity, by reducing the gender gap in school participation, providing an important source of female employment in rural areas, and liberating working women from the burden of having to feed children at home during the day. Finally, school-feeding programmes serve as a very effective mechanism for strengthening the socialization processes. They help to break caste and class barriers, they offer an opportunity for children and teachers to talk about food and nutrition, and they strengthen the bonding between children.

3.4.3 Functioning of Mid-day meal scheme in Indian states

Earlier research on primary education in rural India suggest, that mid-day meal scheme enhance school participation, especially among girls. One recent study by Dreze and Kingdon (2001) estimates that the provision of a mid-day meal in local school is associated with a 50 percent reduction in the proportion of girls who are 'out-of-school'. Earlier, evaluation of mid-day meal programme also points out in the same direction. In a survey of 63 schools in Barmer district of Rajasthan in 2002 (Reetika Khera, 2002) shows that female enrolment at the primary level was 36 percent higher in September 2002 than in September 2001. These findings add to a rapidly growing body of evidence suggesting that mid-day meals have a major impact on school participation, particularly among girls. For instance, Sethi (2003) focuses on Orissa (based on primary survey) where cooked mid-day meals have been provided since 1995. The author finds evidence not only of an increase in class-one enrolment, but also of improved 'retention' throughout the primary cycle. According to the PROBE⁵ survey in north Indian states⁶, most teachers felt that school meals have boosted school attendance which is a view shared by parents as well. Many children reaffirmed the incentive that it offers to them to go to school (they enjoy a free meal) and to be seen as making a useful contribution to their families. Kannan's study on Kerala (2002) also shows

⁵ The PROBE team (1999), "Public Report on Basic Education in India" Oxford University Press, New Delhi.

⁶ Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh.

the positive impact of mid-day-meal scheme in the state. He found that state's intervention in providing food security in the form of noon-meal programme has played a major role in reducing child deprivation in the sense of reducing the proportion of out-of-school children.

A survey conducted by Centre for equity Studies (CES), New Delhi in 2003 in three states, namely Chhattisgarh, Rajasthan, and Karnataka also suggest that school enrolment in sample villages shot up after mid-day meals were introduced. This observation is based on comparing school enrolment in July 2002 with the corresponding figure earlier, before mid-day meal was introduced. Two nutrition-related achievements do emerge from the survey. First, mid-day meals facilitate the elimination of classroom hunger and second, in the more deprived areas, where some children do not get two-square meals a day, the mid-day meal is protection against hunger in general. Apart from promoting school attendance and child nutrition, survey also shows the mid-day meals important in socialization value. As children sit together and share a common meal, one can expect some erosion of caste and class inequality. The CES survey suggests that open discrimination is rare. There was no separate sitting arrangement, or of discriminatory practices in the sample villages. Another way in which mid-day meals contribute to gender equity is by creating employment opportunities for poor women. In the sample schools, large majorities (68 percent) of the cooks are women, and most of them come from underprivileged background (Bhardwaj, R.K. 2003).

Tamil Nadu has established one of the most extensive mid-day meal programmes in the country. In 2000-01, hot cooked food was served under Tamil Nadu's Noon Meal Programme to 7.75 million children spread over 71,138 centres. This included close to 1.36 million children who were fed in 30,701 preschool centres. These preschool centres catered additionally to 535,799 old-age pensioners and pregnant women throughout the state. Several features characterize Tamil Nadu's noon meal scheme programme.

1. A long history of political support beginning with Kamraj in 1956 and later developed by M.G. Ramachandran in 1982.
2. Mid-day meals operate both on working days and on holidays except Sunday. The programme works from the day the child is born until he or she completes class tenth. This makes it a much more effective nutritional support programme than one, which targets only those children in primary school.
3. Food is not cooked in schools nor is the arrangement for cooking made by schoolteachers. Separate staff has been appointed (Noon meal manager, Noon meal organizer, cook and helper) to look after the mid-day meal programme.

4. Presence of separate staff at for non-meal programme at the district and block levels reduces the administrative burden on the existing staff.
5. Every primary school in Tamil Nadu has a brick built kitchen room with a verandah.

3.4.4 Mid-day meal scenario in Uttar Pradesh

Despite the wake-up call of Supreme Court in November 28, 2001 in the form of an order directing state government to introduce cooked mid-day meals in primary schools within six months, Uttar Pradesh government has yet to comply this. Almost eight years after the announcement of the mid-day meal programme, the state government has unfortunately not introduced school meals. The government has instead put in place a scheme of 'dry rations', whereby children receive monthly grain rations (3 kilograms per child) to make up for not providing cooked food. The rations are intended for children with at least 80 percent attendance, but in practice, most teachers distribute it to all children. The 'dry ration' scheme defeats the very purpose of the school meal programme. It encourages enrolment rather than attendance. In terms of the nutrition and socialization arguments (discussed earlier) offering 'dry rations' is utterly useless. In a state like Uttar Pradesh, where children get foodgrains instead of a hot cooked meal, it is not at all clear how much of this food is actually consumed by the child. To that extent, assessing the nutritional gains becomes meaningless.

The expected reason for not giving cooked meals by the state is 'lack of funds'. For instance, "it would cost the Uttar Pradesh government a mere Rs.300 crore per year to provide mid-day meals to all primary school (upto class V) children. However, it has been seen that it is more lack of the political will to implement the scheme rather than anything else. The PROBE survey also found several irregularities in the administration of the 'dry ration' scheme. In many areas, monthly rations had been replaced by quarterly rations, and the distribution system was corrupt and caught in red-tape.

However, on the other ground it has done relatively well. The fact coming out from the countrywide survey on coverage and impact of mid-day meal scheme by the Operation Research Group⁷ in India during 1997-98, shows that 76 percent of the children (75 percent of boys and 78 percent of girls) in the eligible age group were covered under mid-day meal scheme in Uttar Pradesh as compared to the national average of 59 percent. It further shows

⁷ Operations research group (1999), "Evaluation study to access the efficiency and effectiveness of the nutritional programme for nutritional support to primary education in ten states of India".

that proportion of scheduled caste and scheduled tribe children covered under this scheme was around 41 percent. Regarding the supply and quality of foodgrains 87 percent of the households reported that it was regular, but 96 percent of households reported that most of time they get between 2-3 kg of ration. Only 12 percent of the families who got the foodgrains said that it was poor; while the rest appeared satisfied with the quality of foodgrains supplied to the children under this scheme.

A study carried out by the Giri Institute of Development Studies⁸ Lucknow in 2000 shows that in Uttar Pradesh mid-day meal scheme has not played a very significant role in increasing enrollment, retention and attendance of the student at the primary level of education. The quantity of wheat/rice distributed to the students is reported to have been irregular and less than the prescribed norm of 3 kgs per student per month. Besides, whatever is given to children under the scheme is mostly consumed by the entire family and not by the child alone and that too within not more than a week's time.

In a state like Uttar Pradesh where 52 percent children below the age of three years are undernourished and 22 percent of them are severely undernourished. The very purpose of mid-day meal scheme is jeopardized to a large extent.

3.5 Discussion and Conclusion

What comes out from the analysis of this chapter is the generalized failure of the government's direct interventions programme in providing food security in a state with adequate food availability, very similar to states like Orissa, Bihar and unlike Kerala which is a food deficit state.

While comparing the functioning of PDS in two entirely different states in terms of all development indicators like Kerala and Bihar, one could see that, in a state like Kerala where the question of food security has enjoyed a remarkable degree of political consensus the scheme is also functioning very well (Kannan, 2003). Unlike Bihar where extreme social equality exists food security issue also could not enjoy political consensus. Worse, they (politician) in collusion with mafia groups were involved in diverting food grains intended for the PDS. In Kerala the situation is rather different in the sense that PDS food grain is subject

⁸ "National Programme of Nutritional Support to Primary Education (Mid-day Meals): Comparative lessons of experience in Uttar Pradesh and Himachal Pradesh.

of local political struggle in which general public participate. Villagers/cardholders sometime take the initiative to launch a complaint against a ration dealer involved in misconduct. In this way, the bureaucracy is forced to take some action. On other occasions local political parties take initiative and make the struggle for a proper implementation of the PDS part of much wider struggle for political followers and legitimacy (Mooji, 1999).

What one can conclude from the experiences in these two states is that organisational set-up of the system (compulsory off-take of ration, no possibility to buy on credit, limited opening of the shop) as well as the type of intervention which restricts the usefulness of the scheme as far as the most vulnerable group is concerned. So one important conclusion is that there are 'conditions for implementation' of a policy like PDS. On the basis of the Kerala-Bihar comparison, one could hypothesize that these conditions includes: (1) the absence of extreme social inequalities; (2) the existence of active interactions of people's organizations; (3) the presence of a benign form of a populism and (4) expectation among the beneficiaries that the government is there for them and has to deliver.

Uttar Pradesh's achievements in education, health and poverty alleviation is very poor⁹. Exclusion based on social identity is not only deeply ingrained but also a powerful contributing factor to the persistence of poverty. Despite years of development, society in the state remains deeply fragmented along caste lines. Social identity is a strong predictor of who is poor and who is not poor, who is illiterate, who is employed in low paid jobs. Despite decades of effort on the part of successive governments, poverty among the SC/STs population is markedly higher as compared to others. The poor people have to fight at every stage to get a ration card, to obtain the entitlement of supply, to retain their cards and so on. Life for poor is a daily struggle in the state. Non-functioning of the PDS in the state is only part of larger governmental ineffectiveness. For example many of the hurdles in distributing ration arise from the fact that the ration-shop keeper has a strong incentive (because of dual pricing) to prevent his customers from buying their ration, and to sell the grain in open market. The whole system looks like that it has been designed to fail. Given the inadequacy in official commissions, only those who have enough clout to resist public scrutiny and sell on the black market are likely to bid for ration-shop licenses. And once the corrupt dealers are in control of the license, the door is wide open for large-scale diversion of PDS grain to the black market.

⁹ See chapter two.

This is compounded by the lack of political commitment to the PDS in the state, administrative cynicism and lack of adequate incentives to the PDS shopkeeper. Multiplicity of agencies with poor co-ordination has led to lower administrative accountability.

The ICDS programme in the state has not drawn young mothers and children to the anganwadi centres. The programme has failed to serve its purpose, i.e. to improve the nutritional and health status of children below six years and to provide supplementary feeding to pregnant and nursing mothers. Because of the fact that poor in the state are not aware about the scheme, larger part of the nutritional supplement meant for children and women was being sold in the open market and in most of the cases the anganwadi centre was located in the *Pradhan's* house and anganwadi workers were their family members, which prevents poor in approaching to the centre.

The mid-day meal scheme in the state has some positive impact on the school enrollment. But the 'dry ration' scheme defeats the very purpose of the school meal programme. In terms of the nutrition and socialization arguments, also offering 'dry rations' is utterly useless. The expected reason for not giving cooked meals by the state is 'lack of funds'. However, it has been seen that it is more lack of the political will to implement the scheme rather than anything else. In a state like Uttar Pradesh where children get food grains instead of a hot cooked meal, it is not at all clear how much of this food is actually consumed by the child.

In order to make the Targeted Public Distribution system (TPDS) more focused so as to serve the poorest of the poor the government of India introduced the Antoyadaya Anna Yojana on December 25, 2000. To provide food security to poorest of the poor by providing larger quantity of foodgrains at highly subsidized prices. The next chapter looks into the different aspects of functioning of Antoyadaya Anna Yojana in the state by using the primary source of information.

Chapter 4

FUNCTIONING OF ANTYODAYA ANNA YOJANA

4.1 Introduction

Ensuring food security for all, creating a hunger-free India and reforming and improving the public distribution system so as to serve the poorest of the poor in rural and urban areas has been high on most governments' agendas. The Antyodaya Anna Yojana was introduced on December 25, 2000 and is addressed to the poorest of the poor, who are identified by the gram panchayat and gram sabhas. This scheme started functioning in early 2001. According to a sample survey, about 5 per cent of the total population of the country sleep without two square meals a day for the best part of the year, as they do not have the necessary purchasing power to buy foodgrains. In order to make the Targeted Public Distribution System (TPDS) more focused towards the poor and needy population, the Antyodaya Anna Yojana seeks to provide food security to them by providing them larger quantity of foodgrains at highly subsidized prices. Antyodaya households have special ration cards and are entitled to 25 kilograms (kgs) of grains a month. To enable these families to purchase foodgrains within their present purchasing power for the whole year, it has been decided to charge Rs. 2 per kg for wheat and Rs. 3 per kg for rice against the current issue price of Rs. 4.15 per kg for wheat and Rs. 5.65 per kg for rice for BPL families.

In the fiscal year 2001-02, under this scheme, one crore families comprising around 5 crore poorest of the poor people were covered and the food grains were provided to these households at rates much below the rate charged for BPL families. Total subsidy involved in the implementation of the Antyodaya Anna Yojana was around Rs. 2300 crores in a full year. In July 2002, entitlements were raised from 25 kgs of grain to 35 kgs of grain each month, to the selected households. In the budget 2003-04, an additional allocation of Rs. 507 crores was made. With this expansion, 25 percent of the population below the poverty line was covered in the fiscal year 2003-04. In the case of Uttar Pradesh under this scheme the number of beneficiaries has increased from 11.37 Lakhs to 24.56 lakhs during the same financial year (Uttar Pradesh government annual plan). This means that there was an increase of 8.191 lakhs beneficiaries, which is now 23 percent of the total Below Poverty Line households.

4.2 Guidelines for the Selection of Antyodaya Households

The guideline issued by the Uttar Pradesh State government for the selection of beneficiaries suggest that in rural areas under Antyodaya Anna Yojana, the number of beneficiaries should be 23 percent of the total 'Below Poverty Line families'. In every gram panchayat one village secretary will be appointed for the selection of beneficiaries. He will select families from the Below Poverty Line list, on the basis of income so that the poorest household in that village will be the first household to be listed in the Antyodaya list. It is envisaged that while preparing the list, the following priority groups should get special attention.

1. All the female headed households or household heads suffering from incurable disease or physically handicapped or more than 60 years of age and do not have any secure source of livelihood or social support.
2. Single men or widows or physically handicapped or suffering from incurable disease or more than 60 years age and has no social or family support or no secure means of livelihood.
3. All the schedule tribe households.

This list will be approved by the district magistrate at the district level or by the Block Development Officer at the block level. Once the list is prepared, it should be advertised in the village properly, so that if any person has any objection he/she can raise his/her voice. After this, there will be an open meeting of the village panchayat in which village secretary and gram pradhan will approve the list. During this meeting, there will be one block level officer who will supervise the meeting. If he finds any discrepancy or irregularities in the Antyodaya list he will inform it directly to the District Magistrate. After finalizing the list in each village it will be compiled at the block level and then at the district level. This district level list will be 25 percent of the total Below Poverty Line families of that district. In the urban areas, local ward officer and Nagar¹ panchayat officer will assist in the selection of beneficiaries. The identified beneficiaries will get one red colour card. In rural areas, Antyodaya Anna Yojana's ration card will be issued by the assistant development officer (panchayat) and in urban areas, it will be by supply inspector. District Supply Officer will be

¹ Nagar means Municipality

responsible for the proper distribution of food grain to the beneficiaries and to avoid any malpractice in distribution of food grains.

4.3 Experience of Functioning of Antyodaya Anna Yojana

A survey of destitution in five states (Andhra Pradesh, Chattisgarh, Jharkand, Rajasthan, and Uttar Pradesh) indicates that the Programme is doing well, in contrast, with other component of Public Distribution System². The selection of Antyodaya households appears to be quite fair. Among the 450 Antyodaya households living in the sample villages, a majority of them are poor. Antyodaya also seems to be reasonably successful, in terms of the timely and effective distribution of food rations. This is particularly the case in Andhra Pradesh, where most of the sample households had received their full quota every month, since the programme was initiated. The programme has however, some problems. In some areas, the survey found that many Antyodaya households had been deprived of their entitlements. Rationshop dealers took advantage of their powerlessness. But in a state like Uttar Pradesh where the Public Distribution System historically has had weak roots³ and nearly 4 percent of the rural population in the state purchased grain from the public distribution system. Even under the Targeted Public Distribution System, both operative constraints as well as under identification of poor households (exclusion error) have significantly reduced the efficacy of this scheme and due to bad administrative arrangement, a substantial portion of whatever grain is lifted is often sold in black market. Thus, it is quite possible that the Antyodaya Anna Yojana, which is functioning properly as compared to other components of Public Distribution System may not be doing so well particularly in Uttar Pradesh, as reported in Dreze's survey finding. However, further research is called for to examine the different aspects of the functioning of the Antyodaya Anna Yojana like selection beneficiaries, amount and duration of food grain received, prices charged by them and so on. Against this background, a study was conducted in three villages of a backward district of Uttar Pradesh during 2003-04.

² See Dreze (2002)

³ See Chapter 3

4.4 Methodology

A scientifically planned and carefully carried out study throws up useful results, which help in understanding various aspect impinging on the functioning of the Antyodaya Anna Yojana.

Such a study enables the policy makers to undertake suitable policy measures to improve upon the efficiency of the scheme, which ultimately leads to an increase in the standard of living of the people. The adoption of a sound well-planned methodology is, therefore, essential to arrive at reliable results that have wider applicability. The present study has followed all the steps required for the completion of a study. The following steps were followed in carrying out the present study.

4.4.1 The Selection of Study Area

The Kaushambi district of the Uttar Pradesh has been purposively chosen for conducting the study due to the fact that it is one of the backward districts of the state. The idea about the development in the district can be had from different indicators shown in the appendix table 4.1. The simple random sampling procedure has been followed to select the sample villages and households. The sample has been selected following the procedure outlined below.

4.4.2 Selection of Sample

First, three villages namely Osha, Babura and Gaura of Manjhanpur block of district Kaushambi in Uttar Pradesh were selected randomly for data collection.

Secondly, after the selection of the villages, a separate list of destitute and non-destitute households were prepared for the each villages, on the basis of a quick survey done in the sample villages. The indicators used to identify the destitute households were (a) land less than or equal to 1.5 Bigha⁴ (b) kaccha house and (c) casual labour. All those households who satisfied all these criteria came under the destitute households' category and remaining were under the category of non-destitute households. While dividing the households in destitute and non-destitute category, on the basis of these indicators, the households those who got the house under the Indira Awas Yojana were also considered as destitute households, if they were satisfying the other two criteria.

⁴ One Bigha equals to 0.253 hectare of land

Third, a list of the Antyodaya households was obtained from the block headquarter for these three villages. After getting all the Antyodaya households' list for these villages, we divided it into earlier formed two categories i.e. destitute and non-destitute households.

Table 4.1
Distribution of Antyodaya households in sample villages

Sr. No.	Villages	Antyodaya Households		Total Antyodaya Cards
		Destitute households	Non-destitute households	
1	Osha	27	20	47
2	Babura	10	4	14
3	Gaura	16	13	29
4	All	53	37	90

Source; field survey 2003-04

Fourth, a sample of 36 destitute households, 24 Non-destitute households and 40 excluded households were selected randomly from these villages through proportional allocation method. The details of the samples selected from each village are given in Table 4.2.

Table 4.2
The details of the sample

Sr. No.	Villages	Antyodaya Households		Excluded Households	Total
		Destitute hhs.	Non-destitute hhs.		
1	Osha	17	14	17	48
2	Babura	8	2	5	15
3	Gaura	11	8	18	37
4	Total	36	24	40	100

Source; field survey 2003-04

Before the analysis of sample data, we tried to explore the errors of inclusion and exclusion in accessing Antyodaya scheme in the sample villages.

4.4.3 Targeting Errors or Errors of Inclusion and Exclusion

In any targeted welfare programme, there are two types of errors that occur due to imperfect measurement. Cornia and Stewart (1993) divided the errors of 'target' government expenditures on poor people into two, errors of wrong exclusion (Type I errors or F mistakes) refer to the exclusion of genuinely poor or deserving households from a programme, while those wrong inclusion (Type II errors or E mistakes) refer to the inclusion of non-eligible persons or households in a programme.

We can measure these errors on the basis of number of persons or households that are destitute and non-destitute and the numbers that are included and excluded by the scheme or in other words it can be find out by using the following formula.

$$(1) \text{ Target ratio TR I} = (\text{Nrp} / \text{Nr}) * 100, \quad 0 < \text{TRI} > 100$$

Where, Nrp = Destitute people using the Antyodaya scheme.

Nr = Total number of people using the Antyodaya scheme.

If all the households having Antyodaya card were destitute, this ratio would be 100. But this is an ideal situation. Generally ratio would lie between 0 to 100 and indicates the extent of leakage of the scheme going to the non-destitute households. It thus covers the 'E' mistakes.

$$(2) \text{ Target ratio TR II} = (\text{Nrp} / \text{Np}) * 100, \quad 0 < \text{TRII} > 100$$

Where Np = Total number of Destitute households.

This ratio gives the size of the destitute households who are left out of the scheme. In other words it covers the 'F' mistakes.

We estimated these two target ratios for Antyodaya scheme for all three-sample villages. Table 4.3 shows the distribution of households in different categories in all the sample villages. Total households were divided into two categories destitute and non-destitute households (table 4.3a). Further destitute households were divided into two categories, first, destitute households having Antyodaya card and second, destitute households having no Antyodaya card i.e. excluded households. The similar analysis was done for Non-destitute households also (table 4.3b).

Table 4.3a
Distribution of households among destitute and non-destitute

Sr. No.	Villages	Total households		Total Antyodaya hhs	Total Below Poverty Line hhs
		Destitute hhs	Non-destitute hhs		
1	Osha	50	911	47	205
2	Babura	21	334	14	60
3	Gaura	63	369	29	122
4	All	134	1614	90	387

Source; field survey 2003-04

Table 4.3b
Distribution of Antyodaya card

Sr. No.	Villages	Destitute households			Non-destitute households		Total Antyodaya cards
		Antyodaya	Excluded	Total	Antyodaya	Rest	
1	Osha	27	23	50	20	891	47
2	Babura	10	11	21	4	330	14
3	Gaura	16	47	63	13	356	29
4	All	53	81	134	37	1577	90

Source; field survey 2003-04

On the basis of above exercise, we estimated both the target ratios for all three-sample villages by using the earlier mentioned formula. Table 4.4a provides our estimate on targeting ratio TRI i.e. type II error or 'E' mistakes. The following points emerge from the table. First, the TR I vary from 55.17 in Gaura to 71.43 in Babura or in other words, the leakages for non-poor varies 28.57 percent in Babura to 44.83 percent in Gaura. Second, on an average TR I was 58.89 for all sample villages means 41.11 percent non-poor were included in the scheme by wrong selection. Third, out of three sample villages only in Babura village maximum number of beneficiaries turned out to be destitute.

Table 4.4a
Percentage of destitute households having Antyodaya card
Among the total Antyodaya households

Sr.No.	Villages	TR I Ratios
1	Osha	57.45
2	Babura	71.43
3	Gaura	55.17
4	All	58.89

Source; Calculated from table 4.3b.

The above conclusions relate to the proportion of the destitute among the Antyodaya households. This is not enough because many of destitute households may have been left out of the scheme for various reasons. TR II gives an idea about the size of the destitute households that is left out of the Antyodaya scheme. Target ratio i.e. TR II are given in table 4.4b. The following conclusions emerge from the table.

Table 4.4b
Percentage of destitute households having Antyodaya card
in total destitute households

Sr.No.	Villages	TR II Ratios
1	Osha	54
2	Babura	47.62
3	Gaura	25.40
4	All	39.55

Source; Calculated from table 4.3b.

First, TR II varies from 25.40 in Gaura to 54 in Osha. In other words type I error varies from more than 74 percent in Gaura to 46 percent in Osha. Second, on an average TR II was 39.55 for all three-sample villages which means more than 60 percent of the destitute households were not covered under the Antyodaya scheme. Third, out of three sample villages only in Osha, village maximum number of destitute households out of total destitute households in the village was covered under Antyodaya scheme.

In the remaining sections of the chapters, a detailed analysis is done on the various aspects of the functioning of Antyodaya scheme in the sample villages by using the sample households' data.

To start with, a comparative analysis has done on the various aspects of the socio-economic difference among three categories of Antyodaya households i.e. destitute households, non-destitute households and destitute but the excluded one.

4.5 Socio-economic Characteristics

The understanding of the diverse socio-economic features like social background, land status, housing condition, educational status, employment and food and consumption habits of the different categories of the households gives us important insights regarding their relative vulnerability. It also provides clues about the policy initiatives that can be undertaken to improve the efficacy of the Antyodaya scheme in terms of better targeting. It is against this background, the present section discusses the different aspects of the socio-economic conditions of the all three categories of the households.

4.5.1 Social Background

Social identity is a strong predictor of who is poor and who is not poor, who is illiterate, who is employed in low paid jobs. In Uttar Pradesh, exclusion based on social identity is not only deeply ingrained it is also a powerful contributing factor to the persistence of poverty. In this context it is important to see the social background of the sample households. Their social identity throws up particular barriers to their economic and social mobility. Table 4.5 provides the information regarding the social background of the sample households.

Table 4.5 Social Background of the Sample Households

Sr. No.	Category	Antyodaya Households		Excluded Households
		Destitute households	Non-destitute households	
1	Other Backward class	25	79	25
2	Scheduled caste	75	21	75
3	Scheduled tribe	-	-	-
4	Others	-	-	-
5	Total number of households	36(100)	24(100)	40(100)

Source; field survey 2003-04

It is clear from the table that three-fourth of total destitute and excluded sample households were belonging to scheduled caste category. While, majority of non-destitute households i.e. around 80 percent of the total sample households were from other backward class category. As we saw in chapter two that individual with low caste status (Scheduled caste) are far more likely to be deprived than people from other caste category, the same is coming out from here also. It is clear from the table that non-destitute households were able to get the Antyodaya card but majority of excluded households could not get the card and most of them were from scheduled caste background. The similar results are coming out from the detailed village level analysis also for all these three categories of households (appendix table 4.2 a & b). In case of excluded households in Osha village 80 percent of the sample households were belonging to scheduled caste. On the other hand in case of non-destitute households, in two-sample villages i.e. Babura and Gaura majority of the sample households were from other backward class category. It is important to mention here is that in Uttar Pradesh other backward caste people enjoy higher social status in comparison to scheduled caste or scheduled tribe people.

4.5.2 Land Status

The distribution of owned land has been brought out in table 4.6. The table shows that among three categories of the households, around 40 percent of the total sample destitute households were landless. The situation was worse in case of excluded households, 63 percent of the households were landless. Among the households who owned the land, a very small proportion owned between 1.01-1.50 Bigha. In case of non-destitute households, all the sample households owned some amount of land. Around 60 percent of the total sample households owned between 1.51-2.00 Bigha.

A significant proportion of the non-destitute households owned land between 3.01-4.50 Bigha. The average size of holding was very small in the case of destitute and excluded households categories. It varied from 0.34 Bigha, in case of excluded households to 0.73 Bigha in case of destitute households. A detailed analysis on land status of these three categories of the households for each sample villages, shows that in case of destitute as well as excluded households category, Gaura village was having maximum number of landless households i.e. 67 percent of the total sample households for both the categories (appendix table 4.3 a & b). The highly unequal distribution of land among these three categories of the households suggesting a sharp polarization process among them. The very high incidence of landlessness and low level of land with excluded and destitute households brings out their low productive base.

Table 4.6
Distribution of Land holdings among households (percent)

Sr. no.	Size Category (in Bigha)	Antyodaya households		Excluded households
		Destitute households	Non-destitute households	
1.	No land	39	-	63
2.	0.01-0.50	3	-	10
3.	0.51-1.00	22	-	25
4.	1.01-1.50	36	-	2
5.	1.51-2.00	-	58	-
6.	2.01-3.00	-	21	-
7.	3.01-4.50	-	21	-
8.	Total number of households	36(100)	24(100)	40(100)
9.	Average size of land holding	0.73	2.54	0.34

Source; field survey 2003-04

One important feature needs to be mentioned here is excluded and destitute households were allotted some amount of land under the land distribution programme, but most of them leased it out. This could be attributed to the fact that they do not own necessary implements and other assets like bullocks to cultivate the land.

4.5.3 Educational Status

The results on educational status of the sample households are summarized in table 4.7. The table shows that while in two categories of the sample households, i.e. destitute and excluded households, around two-third of the sample households were illiterate, in the remaining one category i.e. non-destitute households, the percent of illiterate households was only one-fourth. Among the literate households, the table shows that in case of non-destitute households more than fifty percent of the sample households were educated beyond middle level, while in case of destitute and excluded households most of the them were educated upto middle only. A village level analysis of all three categories of the households shows that in case of destitute and excluded households, the maximum number of illiterate households were in Osha village it was around 65 percent and 76 percent respectively (appendix table 4.4 a & b). Regarding the literate households, similar trend is coming out from village level analysis also. Here again, majority of the destitute and excluded households were educated upto middle level only. Only in one village, in case of destitute households two percent of the sample households were educated upto matric level.

Table 4.7
Educational status of the households (percentage)

Sr. no.	Particulars	Antyodaya households		Excluded households
		Destitute households	Non-destitute households	
1	Illiterate	64	25	65
2	Literate			
2.1	Primary	17	4	25
2.2	Middle	17	17	10
2.3	Matric	2	25	-
2.4	+2	-	29	-
3	Total number of households	36(100)	24(100)	40(100)

Source; field survey 2003-04

As is well known, the low human capital base, among other things, is the most important factor affecting the economic status of the households. And it is their (Excluded and destitute households) low level of education that put them in a disadvantageous position as compared to non-destitute category of the households.

4.5.4 Housing Condition

Housing condition is one of the important indicators of economic well-being of the households. Information were collected during field survey on different aspects of the housing condition like types of house, required major repair or not, waterproof houses, having electricity or not and so on. The results on different aspects of housing conditions are summarized in table 4.8. Some important features regarding the housing condition of the households is summarized here. First, around 80 percent of the destitute and 90 percent of the excluded sample households were living in kaccha houses. Those who were having pacca houses in these two categories got the house under Indira Awas Yojana. Majority of the non-destitute households were found to be having pacca houses. Second, most of the destitute and excluded households were living in houses that required major repair. The important feature need to be mentioned here is that destitute and excluded households were having on an average two rooms, kaccha house and that too was not water proof. During rainy season it was very hard for them to manage the condition. Very few of them were having cots to sleep and they sleep on ground by putting some old cloths on rice straw. Third, very small proportion of the destitute households were having electricity in their houses and those who were having either they got through *Janta* connection or through *Katiya* i.e. illegal connection (without in knowledge of electricity office).

Village level analysis (appendix table 4.5 a & b) shows that in case of excluded households in two-sample village, no households were having electricity in their house. Only in Osha village, a very small proportion of the destitute households i.e. 6 percent of the total sample households were having electricity in their house.

Table 4.8
Housing condition of households (percent)

Sr. no.	Particulars	Antyodaya households		Excluded households
		Destitute households	Non-destitute households	
1.	Type of house			
	Kaccha	85	5	90
	Pucca	15	95	10
2.	House need major repair			
	Yes	83	11	90
	No	17	89	10
3.	Water-proof house			
	Yes	17	89	10
	No	83	11	90
4.	House have electricity			
	Yes	22	50	3
	No	78	50	97
5	Total number of households	36(100)	24(100)	40(100)

Source; field survey 2003-04

On the other hand, half of the non-destitute households were having electricity connection in their houses and most of them were having television sets also. The housing condition of this category of households was much better as compared to excluded households in terms of all indicators discussed earlier. As is well known housing condition depends upon the level of income of the households. This, in turn, again depends upon the type of activities in which households is engaged. In the next section, occupational structure of the households is discussed.

4.5.5 Occupational Structure

The socio-economic features discussed in the preceding sections, directly impinge and condition the occupation structure of the sample households. The occupational structure of the sample households, given in table 4.9, confirms the fact that a very high majority of the destitute and excluded households had casual labour as their main occupation either by working as casual agricultural labour or as a casual labour in construction works.

Table 4.9
Occupational status of the households (percentage)

Sr. No.	Particulars	Antyodaya households		Excluded households
		Destitute households	Non-destitute households	
1	S.E. Non-agril.	-	50	-
2	Agril.lab	42	-	50
3	Other lab.	42	4	38
4	S.E. Agril	-	33	-
5	Others	16	13	12
6	Total number of households	36(100)	24(100)	40(100)

Source; field survey 2003-04

A significant proportion of destitute and excluded households reported other occupations like grazing animals, petty trade, stone cutting etc. On the other hand, fifty percent of the non-destitute households were self-employed in non-agriculture sector having their own business like shops. Village level analysis shows that in Gaura village, two-third of sample destitute households were working as casual labour, while in case of excluded households it was highest in Babura village. In case of non-destitute households in Babura village, 100 percent of the sample households were self-employed in non-agriculture sector, while the percentage of non-destitute households self-employed in agriculture sector was highest in Gaura village (appendix table 4.6 a & b). This could be attributed to the fact that in Gaura village around one-fourth of the sample households owned land between 3.01-4.50 Bigha.

4.5.6 Food and Consumption Habits

Given the poor social background, low literacy levels coupled with absence of any technical/professional education and low land base with fewer farm investments brings out low productive base of the destitute and excluded households and oblige them to seek their livelihood from daily wage paid employment. The results on the occupational structure of the destitute and excluded households confirm this pattern. This occupational pattern further leads to them to low level of income and creates a short of vicious circle of poverty. These have a direct impact on their food and consumption habit. The salient features about the food and consumption habit of all three categories of households are summarized in table 4.10. First, all the destitute and excluded sample households reported that during the last 12 months, there have been days when they did not know in the morning that they would be able to feed the family in the evening. On the other hand, only one-fifth of the non-destitute sample

households faced this problem. Second, the number of days in an average month when they faced this problem varies from 7 in case of destitute households to 10 in case excluded households respectively. Third, eating wheat or rice with salt or *mirchi*, borrowing from *Banya*/landlord, skipping meals and borrowing from neighbors, relatives or friends came out as important coping measures adopted by the destitute and excluded households at the time when it was difficult to feed the family. Fourth, more than 95 percent of the destitute and all the excluded sample households reported that they use to get occasional help to survive from other households in the village, while, a very small proportion of non-destitute sample households reported getting occasional help to survive. Fifth, consumption of grain⁵ in an average month was lowest in case of excluded households followed by destitute households. It varies from 12.22 kg per-capita per month in case of excluded households to 14.40 kg per-capita per month in case of non-destitute households. On the other hand consumption of food grain was much higher in case of non-destitute households. It was 17.17 kg per-capita per month. The destitute and excluded sample households reported that present consumption level is not enough to ensure that no-one goes hungry at any time. Sixth, more than 90 percent of destitute households and 97 of the excluded sample households reported that they are not getting two square meals-a-day throughout the year. This percentage was as low as 20 percent in case of non-destitute households. The average number of days during the last 12 months when some or all-family members were not able to get two square meals varies from 4 days in case of destitute households to 6 days in case of excluded households. In case of non-destitute households, it was non-significant. Seventh, around two-third of destitute households and fifty percent of excluded sample households reported that in some months, it is particularly hard to feed the family. In their opinion the most difficult months, as far as feeding the family is concerned were July-August and November-December. This could be attributed to the fact that most of the households who reported this, were engaged either in construction work or were working as a casual labour and it was a difficult period for them to obtain work. Eighth, regarding the consumption of food items in an average month, the consumption of vegetables was on maximum number of days. It was, on an average, 17 days in case of destitute households, while in case of excluded households it was two week in a month. Consumption of cereals, pulses and milk was very less in both the categories. In case of excluded

⁵ Food grain includes consumption of cereals and pulses.

Table 4.10
Food and Consumption habit of households (percent)

Sr. No.	Particulars	Unit	Antyodaya households		Excluded households
			Destitute households	Non-destitute households	
1	Faced difficulty to feed the family during the last 12 month				
(a)	Yes	%	100	20	100
(b)	No	%	-	80	-
1.1	Average number of days in a month when faced difficulty	Days / month	6.99	1.63	9.98
1.2	Coping measures adopted by the households during difficult period				
(a)	Ate wheat or rice with Salt or Mirchi	%	100	21	100
(b)	Skipped meals and went hungry	%	51	13	84
(c)	Collected food from jungle	%	-	-	-
(d)	Borrowed from banya / landlord to feed the family	%	94	21	88
(e)	Borrowed from neighbours, relatives or friends	%	31	17	70
2	Getting occasional help to survive				
(a)	Yes	%	97	8	100
(b)	No	%	03	92	-
3	Consumption of food grain	Kg (Per-capita per month)	14.40	17.17	12.22
4	Is there any specific month when it is hard to feed the family				
	Yes	%	67	11	53
	No	%	29	89	47
	Not responded	%	4		
5	Households getting two square meals-a-day throughout the year				
	Yes	%	8	80	3
	No	%	92	20	97
5.1	Average number of days in a year when not getting two square meals-a-day	Days/year	4.5	0.71	6.33
6	Consumption of food items in a month				
(a)	Vegetables	Days/month	17.25	22.70	13.13
(b)	Dal	Days/month	3.81	14.47	4.35
(c)	Milk	Days/month	3.06	14.12	0.13
(d)	Tea	Days/month	9.63	22.14	9.06
(e)	Eggs, Meat or Fish	Days/month	-	8.12	-
7	Non-food expenditure	Rs. (per capita per month)	120.07	303.31	69.24
8.	Total number of households		36(100)	24(100)	40(100)

Source; field survey 2003-04

households, there was no consumption of milk, while non-destitute households were consuming these food items for much more number of days in an average month. As regards total expenditure, destitute households were spending around Rs. 120 per capita per month to run the family, while in case of excluded households it was only Rs. 69 per capita per month. A major proportion of non-food expenditure was on medical expenditure. Non-food expenditure was more than four times higher in case of non-destitute households than the excluded households' non-food expenditure.

To conclude, the analysis of different socio-economic features of all three categories of households brings out their relative vulnerability. In terms of all socio-economic features discussed earlier, non-destitute households (having Antyodaya card) were found to be better off as compared to destitute and excluded households. In case of destitute and excluded households, given the poor social background, low literacy levels coupled with absence of any technical and professional education and low land base with fewer farm investments brings out their low productive base oblige them to seek their livelihood from daily wage paid employment. The results on the occupational structure of the destitute and excluded households confirm this pattern. This occupational pattern further leads to them to low level of income and creates a vicious circle of poverty. These have a direct impact on their food and consumption habit, which got confirmed from the results on food and consumption habit of destitute and excluded households. The discussion on other different aspects of functioning of Antyodaya scheme is, therefore, essential to understand how efficiently the scheme is working in these sample villages to serve its core objective of providing food security to the poorest of the poor.

In the next section, a detailed analysis is shown on the basis of the sample households regarding the different aspects of functioning of Antyodaya scheme in the sample villages.

4.6 Salient Features of Functioning of Antyodaya Scheme in the Sample Villages

Some aspects of functioning of Antyodaya scheme in the sample villages are summarized in table 4.11. First, in our sample villages, cards were distributed to the households at different stages. But, majority of sample households got the card in April 2001 in all three villages.

In Babura village, only one-fifth of the total sample households got the card in 2003. Second, regarding the entitlement of grain each month on Antyodaya card and prices, most of the households in the sample villages were not aware. Only in Osha village, a significant proportion of households were aware about the entitlement and prices. While the comparative analysis of households shows (appendix table 4.7) that majority of the non- destitute households were aware about the entitlement and prices of food grain, this could be attributed to their higher level of literacy. Third, regarding the amount of ration actually obtained by the households' response came like "I received 25 kgs every 2-3 months" or "I received about 15 kgs per month on average" from the sample households. On an average, the amount of ration obtained by the households was 28 kgs. It was as high as to 35 kgs (full quota) in Gaura village to 24 kgs in Osha village. There were different quantities of ration received by the households. On an average, 10 percent of the total Antyodaya sample households were getting ration less than or equal to 24 kgs. Only in Gaura village, all the sample households reported getting full amount of ration, while, in Osha village not even a single household was getting full quota of ration. In Babura village, 40 percent of the sample households reported getting only 24 kgs of ration. Fourth, this low quantity of ration was also not available every month to the households. On an average, households were getting ration once in every two months. The gap in getting ration was highest in Osha village (once in every three months), while, in Gaura village households were getting ration every month. Fifth, the distribution of the total households in all sample villages, according to gaps in months in getting ration shows that 40 percent of the total sample households were getting ration every month. The proportion of sample households getting ration once in every three months was the highest in the sample villages. It was as high as 77 percent of the total sample households in Osha and negligible in Gaura. In Gaura village, 95 percent of sample households reported getting ration every month. A comparative analysis (appendix table 4.7) of Antyodaya households' shows that a significantly higher proportion of non-destitute households was getting rations every month than the destitute households. Sixth, since receiving the Antyodaya card, only 32 percent of the total sample households were able to obtain full quota of grain each month from the PDS shop. In the sample villages, it was highest in Gaura where 95 percent of the sample households were able to buy full quota every month since receiving the Antyodaya card. In Osha village, no one could purchase full quota. The proportion of non-destitute households was higher than the proportion of destitute households (appendix table 4.7).

Table 4.11

Some aspects of functioning of Antyodaya Scheme

Sr. no.	Particulars	Unit	Villages			
			Osha	Babura	Gaura	Total
1	Year of getting Antyodaya card					
	2001	%	97	70	84	88
	2002	%	3	10	16	8
	2003	%	-	20	-	4
2.	Awareness about the entitlement of grain and prices					
	Yes		39	20	32	34
	No		61	80	68	66
3.	Average amount of ration	Kgs	24.39	27.60	35.00	28.28
4.	Amount of ration actually getting in kg.					
	11.00	%	3	-	-	1.7
	20.00	%	3	-	-	1.7
	24.00	%	-	40	-	6.7
	25.00	%	94	30	-	53.3
	35.00	%	-	30	100	36.7
5.	Average number of months gap in getting ration	Month	2.71	2.40	0.11	1.83
6.	Gaps in months in getting ration					
	Every month	%	13	20	95	40
	Once in every two month	%	-	20	5	5
	Once in every three month	%	77	10	-	47
	Once in every four month	%	10	20	-	8
7.	Full quota each month since receiving the card					
	Yes	%	-	10	95	32
	No	%	100	90	5	68
8.	Getting some amount of ration every month					
	Yes	%	13	20	95	40
	No	%	87	80	5	60
9.	Best quantity of ration (in kg) obtained by the respondent since receiving the card					
	11.00	%	3	-	-	1.7
	20.00	%	3	-	-	1.7
	24.00	%	-	40	-	6.6
	25.00	%	32	20	-	20
	35.00	%	62	40	100	70
10.	Do you agree with the information mentioned on the card					
	Yes	%	-	10	95	32
	No	%	68	90	5	52
	Not responded	%	32	-	-	16
11.	Total		31(100)	10(100)	19(100)	60(100)

Source; field survey 2003-04

Seventh, only 40 percent of the total sample households were getting some amount of ration every month. In Gaura village, 95 percent of the sample households were getting some amount of ration every month, while, in Osha village, this percentage was as low as 13 percent. A higher proportion of non-destitute households was getting some amount of ration every month, as compared to destitute households. It was around 46 percent in case of non-destitute while, only 36 percent in case of destitute sample households. Eight, regarding the best estimate of the total quantity obtained by the respondent, since receiving the Antyodaya card results shows that 10 percent of the total sample households had received only less than or equal to 24 kgs of ration. In the sample villages, only in Gaura, all respondents reported their full quota of ration as their best estimate of ration since getting the Antyodaya card (this percentage was only 62 in Osha and 40 in Babura village). A comparative analysis of destitute and non-destitute households on this aspect shows that around 80 percent of the non-destitute households reported their full quota of ration as their best estimate of ration, since getting the Antyodaya card, while this percentage was only 64 in case of destitute households.

One important feature needs to be mentioned when we examined the person's Antyodaya card. The amount of grain, he or she has received in different months is entirely different on each card. Every month, full quota of ration was mentioned at the official announced prices for wheat and rice. When we asked the respondents whether they agree with the information given on the card, 52 percent of the total sample households said that they do not agree. A significant proportion of the households did not respond to this question. Only in Gaura village, 95 percent of the households were in agreement with the information mentioned on their card. Interestingly, in Osha village, 32 percent of the sample households did not respond to the question. This could be attributed to the fact that came out in informal discussion with households, that because of their powerlessness and poor economic condition, households were scared in revealing the truth. One household in the sample village told,

“ Sir we have to stay here only. After two or three days, you will return to your place and if today I am telling anything to you against the shopkeeper, then I will loose my entire quantity of ration, whatever I am getting now.”

It is worthwhile to mention here that the PDS shopkeeper in Osha village was an active member of a political party and a close friend of sitting MLA of that constituency.

The results on reasons for not getting ration every month and ability to buy ration every month (table 4.12a) confirms the above-mentioned fact. Almost all the sample households are those who were not getting ration every month and informed that this is a usual scenario. About 7 percent of the sample households reported non-availability of grain at the PDS shop as reason for not getting ration every month. Lack of cash at the time when grain was available at the PDS shop as a reason for not getting ration every month was cited by only 30 percent of the sample households. In their view, if they do not have cash at the time when grain is available at the PDS shop they could borrow from relatives or friends. Lack of cash at the time, when grain was available at the PDS shop was an important reason for not getting ration every month in case of destitute households than the non-destitute households (table 4.12b). Lack of information about the opening of PDS shop also came out as an important reason for not able to buy ration every month in case of destitute households than the non-destitute households (table 4.12b); in sample villages, in Osha 35 percent of the sample households cited it as reason for not able to buy ration every month (table 4.12a).

Regarding ability to buy full ration every month, 85 percent of the total sample households reported that in case, if grain is always available and shop is open every day they will buy their full ration every month. In the sample villages, only in Babura about 30 percent of the sample households replied in negative. In comparative analysis of destitute and non-destitute households (table 4.12b), only 78 percent of the destitute households reported their ability to buy full ration every month if grain is always available and shop is open every day, while, this percentage for non-destitute households was 96 percent.

In the above sections, we have discussed the quantitative aspects of the scheme like amount of ration obtained by the households, regularity in getting ration, reasons for not getting ration and so on. In the following sections, monetary and qualitative aspects of the scheme like price charged by the households for ration, money paid for getting Antyodaya card and quality of ration getting through the Antyodaya scheme shall be discussed.

Table 4.12a
Reasons behinds not getting the ration every month and ability to buy ration

Sr. no.	Particulars	Unit	Villages			
			Osha	Babura	Gaura	Total
1.	Reasons for not getting ration every month					
	Grain not available at the PDS shop	%	3	22	-	7
	Lack of information about the opening of the shop	%	35	22	-	32
	Lack of cash	%	30	22	-	30
	Not interested in buying from the PDS shop	%	-	-	-	-
	Use to give only after some interval	%	97	100	100	98
2.	Ability to buy full ration every month if grain is available at the shop all the time.					
	Yes	%	81	70	100	85
	No	%	19	30		15
	Total number of households		31(100)	10(100)	19(100)	60(100)

Source; field survey 2003-04

Table 4.12b
A comparative analysis of destitute and non-destitute households for Reasons behinds not getting the ration every month and ability to buy ration

Sr. no.	Particulars	Unit	Antyodaya households		
			Destitute households	Non-destitute households	Total
1.	Reasons for not getting ration every month				
	Grain not available at the PDS shop	%	12	-	7
	Lack of information about the opening of the shop	%	40	19	32
	Lack of cash	%	40	6	30
	Not interested in buying from the PDS shop	%	-	-	-
	Use to give only after some interval	%	96	100	98
	Total number of households		25(100)	16(100)	41(100)
2.	Ability to buy full ration every month if grain is available at the shop all the time.				
	Yes	%	78	96	85
	No	%	22	4	15
	Total		36(100)	24(100)	60(100)

Source; field survey 2003-04

The results on price paid by the households for getting ration and perceptions of households on quality have been presented in table 4.13. The table shows that the average price for wheat charged by the households was Rs.2.30 per kg and in case of rice, it was Rs.3.30 per kg. In the sample villages, in Osha the maximum price been charged for wheat and rice. It was Rs. 2.50 per kg in case of wheat and Rs.3.50 per kg in case of rice. Only in Gaura village, households were paying the price for wheat and rice equal to the price declared by the government.

Table 4.13
Price paid for wheat and rice in Rs/kg
And perception of households regarding quality of the ration (in percentage)

Sr. no.	Particulars	Unit	Villages			
			Osha	Babura	Gaura	Total
1.	Price paid for Wheat					
	2.00	Rs./kg.	-	10	100	33
	2.25	Rs./kg.	-	70	-	12
	2.50	Rs./kg.	100	20	-	55
	Total		31(100)	10(100)	19(100)	60(100)
2.	Price paid for Rice					
	3.00	Rs./kg.	-	10	100	33
	3.25	Rs./kg.	-	70	-	12
	3.50	Rs./kg.	100	20	-	55
	Total		31(100)	10(100)	19(100)	60(100)
3.	Average price of Wheat	Rs./kg.	2.50	2.30	2.00	2.30
5.	Average price of Rice	Rs./kg.	3.50	3.30	3.00	3.30
6.	Quality of Ration					
	Poor	%	58	10	16	37
	Average	%	39	40	79	51
	Good	%	3	50	5	12
	Total		31(100)	10(100)	19(100)	60(100)

Source; field survey 2003-04

The distribution of the households in all sample villages, according to the prices paid for wheat and rice show that 55 percent of the total sample households were paying the Rs. 1 extra for each kg of ration (wheat + rice) than the official priced announced by the government. In the sample villages, this was true for all the sample households in Osha and one-fifth in case of Babura. It was only in Gaura village where all the households were getting the ration at the official price only i.e. Rs. 2 per kg in case of wheat and Rs. 3 per kg in case of rice. More than two-third of the sample households in Babura village were paying Rs. 0.50 extra for each kg of ration. More than fifty percent of the total sample households reported that quality of ration is average. A significant proportion of the households (more than one-third) reported that quality of ration is poor. In the sample villages, in Osha more than fifty percent

of the households reported that quality of ration is poor. In other words, the food grains cannot be consumed. It was as low as one-tenth of the sample households in case of Babura village, where fifty percent of the households reported it as good. A comparative analysis of destitute and non-destitute households (appendix table 4.8) also showed similar picture. There was no significant difference among destitute and non-destitute households on the aspects discussed here.

The malpractices adopted in card distribution are also observed from table 4.14a. Table summarizes the results on one of such aspects, i.e. amount of money paid in getting the Antyodaya card by the households in sample villages. Two-third of total sample households reported that money being charged by them, while distributing the Antyodaya card. In Osha, more than three-fourth of the sample households reported occurrence of such instance while distributing the card. The distribution of the households in all sample villages, according to the amount of money paid for getting the Antyodaya card shows that around one-fourth of the total sample households paid money more than or equal to Rs. 25 for getting the Antyodaya card. In the study villages, this percentage was highest in Gaura village where 70 percent of the households paid money equal to or more than Rs. 25, while in Osha village 96 percent of the sample households reported that they have given money for getting Antyodaya card less than or equal to Rs. 20.

A comparative analysis of destitute and non-destitute households regarding this aspect is brought out in table 1.14b. Table shows that a much-higher percentage of destitute sample households being charged while distributing the Antyodaya card than the non-destitute sample households. The average amount of money being charged by the destitute households while distributing the card was around Rs. 20, while in case of non-destitute households it was around Rs. 18 only. This shows the extent to which an actual needy household faces problem in getting the Antyodaya card. This could be one probable reason for some of excluded households being left out of the scheme.

Table 4.14a
Amount of money paid for getting the Antyodaya card (in percentage)

Sr. no.	Particulars	Unit	Villages			
			Osha	Babura	Gaura	Total
1.	Did you paid any money to obtain Antyodaya card					
	Yes	%	74	60	53	65
	No	%	26	40	47	35
	Total		31(100)	10(100)	19(100)	60(100)
2.	Amount paid for getting the card in Rs. term					
	10.00	%	22	-	-	13
	15.00	%	52	-	20	36
	20.00	%	22	67	10	26
	25.00	%	-	-	70	18
	30.00	%	4	17	-	5
	50.00	%	-	16	-	2
	Total		23(100)	6(100)	10(100)	39(100)

Source; field survey 2003-04

Table 4.14b
A comparative analysis of amount of money paid for getting the Antyodaya card by households (in percentage)

Sr. no.	Particulars	Unit	Antyodaya households		
			Destitute households	Non-destitute households	Total
1.	Did you paid any money to obtain Antyodaya card				
	Yes	%	72	54	65
	No	%	28	46	35
	Total		36 (100)	24 (100)	60 (100)
2.	Average amount of money paid	Rs.	19.81	17.69	19.10
3.	Amount paid for getting the card in Rs. term				
	10.00	%	4	31	13
	15.00	%	42	23	36
	20.00	%	31	15	26
	25.00	%	15	23	18
	30.00	%	4	8	5
	50.00	%	4	-	2
	Total		26 (100)	13 (100)	39 (100)

Source; field survey 2003-04.

On the basis of earlier discussion, one can think about the importance of scheme in family welfare of a destitute households in a situation, where households are getting much less than the specified norm and that too not every month and whatever they are getting is also not very good in quality. The results regarding these aspects are summarized in table 4.15 a. Table

provides important insights in this regard. First, a very high majority of sample households reported that the whole process in obtaining the Antyodaya card is quite easy. Only 3 percent of households reported that it is very difficult in the sample villages. However, in Babura about 20 percent of the households reported that it is difficult for them to getting the Antyodaya card. It was true in the sense that nowhere in the entire village one could find government guidelines being followed, while distributing the Antyodaya card. In fact cards were distributed to the households on the basis of personal relationship with the village *pradhan*⁶ or to those who were able to pay the money to the village secretary. This was mentioned in discussions with excluded households (please refer next section).

Table 4.15a
Perception of households regarding the importance of scheme in family welfare (in percentage)

Sr. no.	Particulars	Unit	Villages			
			Osha	Babura	Gaura	Total
1.	Process of obtaining of Antyodaya card					
	Very easy	%	-	10	12	5
	Quite easy	%	100	70	88	92
	Somewhat difficult	%	-	-	-	-
	Very difficult	%	-	20	-	3
	Not responded	%	-	-	-	-
2.	Importance of scheme in family's welfare					
	Very important	%	-	-	5	2
	Quite important	%	45	60	63	50
	Not important	%	55	50	32	48
	Not responded	%	-	-	-	-
3.	Total number of households		31(100)	10(100)	19(100)	60(100)

Source; field survey 2003-04.

Secondly, when we asked the households to describe the importance of scheme in their family's welfare, only two percent of the total sample households reported that scheme is playing very important role in their family's welfare, while 48 percent of total sample households reported that scheme is not important in their family's welfare. In Osha more than fifty percent of the sample households reported no role of scheme. This could be attributed to the fact that in all three villages, the functioning of scheme was relatively worse in terms of all the indicators discussed earlier. This hypothesis is confirmed by the fact that in case of Gaura

⁶ Pradhan means village head.

village where scheme is functioning relatively well in comparison to other two villages, 63 percent of the total sample households reported that scheme is playing quite important role in their families' welfare.

Table 4.15b A comparative study of perception of households regarding the Importance of scheme in family welfare (in percentage)

Sr. no.	Particulars	Unit	Antyodaya households		
			Destitute households	Non-destitute households	Total
1.	Process of distribution of Antyodaya card				
	Very easy	%	-	13	5
	Quite easy	%	94	87	92
	Somewhat difficult	%	-	-	-
	Very difficult	%	6	-	3
	Not responded	%	-	-	-
2.	Importance of scheme in family's welfare				
	Very important	%	3	-	2
	Quite important	%	67	24	50
	Not important	%	30	76	48
	Not responded	%	-	-	-
3.	Total number of households		36(100)	24(100)	60(100)

Source; field survey 2003-04

The results of comparative analysis of destitute and non-destitute households on these aspects are summarized in table 4.15b. Table shows a relatively higher percentage of destitute sample households reporting that scheme is playing important role in their welfare than the non-destitute sample households, whereas 76 percent of them reported otherwise. An interesting finding emerging from the table is that, a relatively higher percentage of destitute sample households reported the whole process in obtaining the Antyodaya card is quite easy than the non-destitute sample households.

As far as the analysis on different aspects of functioning of Antyodaya scheme was based on perception of Antyodaya households, the information is still incomplete. To get a fuller understanding into the functioning of the scheme it is important to examine the perception of excluded households regarding the functioning of scheme. In the following section, we shall try to explore the views of excluded households on some aspects of the functioning of the scheme.

4.6.1 Perception of Excluded Households Regarding Antyodaya Scheme

Some light is thrown on how sincerely, village machinery followed the guidelines issued by the government while distributing the Antyodaya card in the sample villages. The perception of excluded households regarding Antyodaya scheme is summarized in table 4.16. First, majority of the excluded households in the study villages were not aware about the fact that some households in this village have an Antyodaya card through which they are entitled to 35 kgs of grain at highly subsidized price from the PDS shop. The percentage of such households varies from 60 percent in Babura to 88 percent in Osha. Secondly, at the time when the Antyodaya card was being distributed, 88 percent of the total households were not aware that was happening in their village. These percentages were as high as 94 percent in Osha to 60 percent in Babura village. These results clearly underscore the fact that while distributing the Antyodaya card in the sample villages, village machinery and government officials involved in it have violated the guidelines issued by the government since it is strictly mentioned in the guidelines that “once the list of beneficiaries is ready, it should be advertised in the village properly so that if any person has any objection he/she can raise his/her voice”. But we do not find anyone asking for their fair share of benefits through the scheme.

Table 4.16 Perception of Excluded Households regarding Antyodaya Scheme

Sr. no.	Particulars	Unit	Villages			
			Osha	Babura	Gaura	Total
1.	Awareness about the Antyodaya scheme running in the village					
	Yes	%	88	60	83	83
	No	%	12	40	17	17
2.	Awareness at the time of distribution of card in the village					
	Yes	%	6	40	11	12
	No	%	94	60	89	88
3.	Did you make any effort to obtain the card					
	Yes	%	76	60	50	63
	No	%	24	40	50	37
4.	Perception regarding distribution of card in the village					
	Fair	%	-	-	-	-
	Unfair	%	89	98	94	94
	No view	%	5	2	-	2
	Not responded	%	6	-	6	4
5.	Total number of households		17 (100)	5 (100)	18 (100)	40 (100)

Source; field survey 2003-04

Thirdly, more than 60 percent of the total sample households made some effort to obtain the Antyodaya card. The percentage of this type of excluded households was highest in Osha to 50 percent in Babura village. But they could not succeed in getting the card, because of some or other reasons. The most common reasons cited by the households in this regard are as follows. The Osha village secretary gave the reason that some of the excluded households were not included even in the BPL list. Therefore, while preparing the Antyodaya list, it was not possible to include these households. But on the other hand, we found in our survey that some of non-destitute households those who were having Antyodaya card, their names were also not included in the BPL list. Majority of excluded households reported their inability in giving money asked by the village secretary during selection stage of beneficiaries in the sample villages. One household in Osha village reported that,

“Sir, for me it is very hard to manage daily ration for my family, from where I will get Rs. 50 to give village secretary in order to get the Antyodaya card”.

Majority of excluded households of Gaura village reported that those households who got the Antyodaya card were relatives of village *Pradhan* or they were close to village secretary. Fourth, 94 percent of the total sample households viewed distribution of Antyodaya card as unfair. It varies from 89 percent in Osha to 98 percent in Babura village. Almost all the excluded sample households, in all three villages reported that there was no open meeting of village panchayat regarding selection of beneficiaries. In their view, if there would have any meeting of village panchayat in this regard they would have come to know. In their view, Antyodaya list was prepared in consultation with *pradhan*, and all those households who were relatives of *pradhan* or gave money to village secretary were included in the list.

4.6.2 Diversion from the Antyodaya Ration

It is important in this context to know the distribution chain of Antyodaya ration. The distribution chain that we found in our study area is shown in figure 4.1. It is clear from the figure that diversion of the stocks may occur at the three stages of distribution chain. In earlier discussion, we found that sample households in our study villages were getting less amount of ration than the specified norm and that too not every month. This underscores the point that somewhere there is problem may be at one stage in distribution chain or more than one stage. To find out these stages we collected data from the PDS shop dealer allocated to each

respective villages. We found in their stock register that all three PDS shop dealers were getting full amount of ration every month on the basis of number of Antyodaya cards they have and they accepted this fact, in discussion also. This fact got confirmed when we checked the entry register maintained at the FCI block godown from where these shopkeepers were lifting the ration every month. Therefore, it is clear from the above discussion that all diversion of Antyodaya ration occurred at the third stage of distribution chain only.

We tried to quantify the extent of leakage on the basis of difference in how much ration PDS shopkeeper received and how much they distributed to the Antyodaya households. One point needs to be mentioned here in this regard is that stock register maintained by shopkeeper shows that all the Antyodaya household had lifted their full quota every month. The same information was confirmed when we checked the Antyodaya card of the households but that was not true in the sense that majority of them were not in agreement when they came to know what is written on their card. This could be attributed to their low level of literacy.

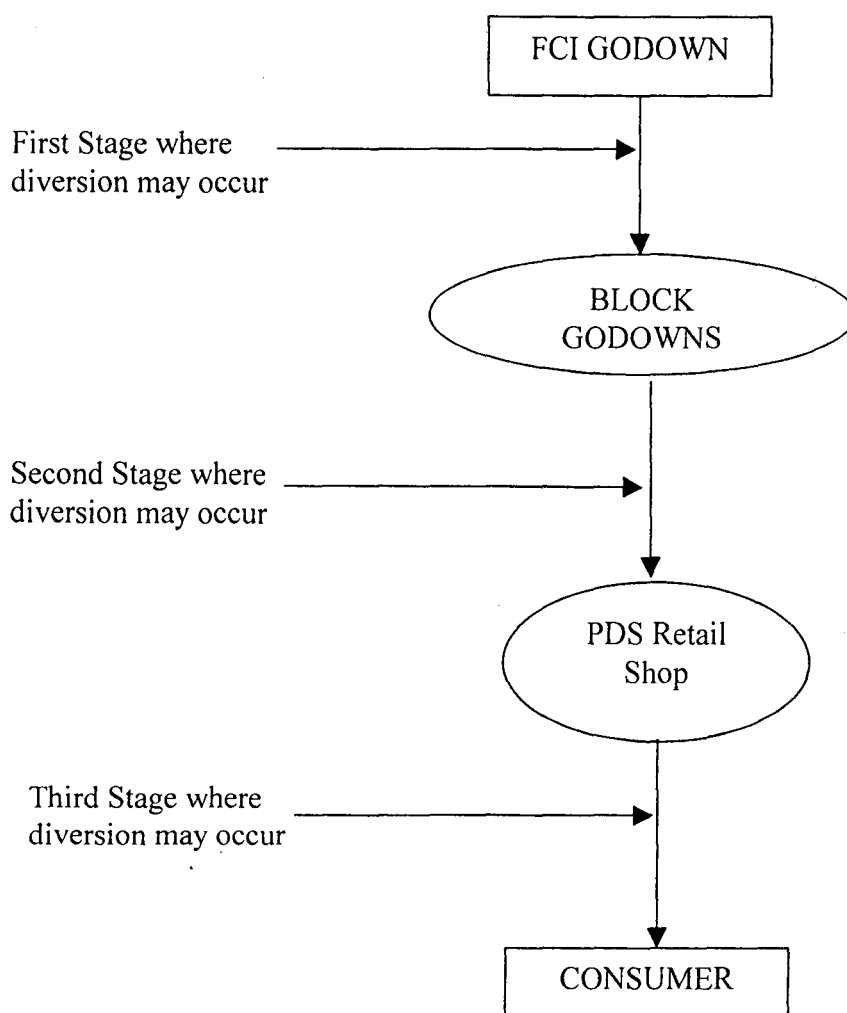


Figure 4.1 Distribution chain of Antyodaya ration in study area

While, calculating the extent of diversion of Antyodaya ration, we examined for previous year and for whole ration because it was not possible to do separate analysis for wheat and rice since there was no fixed pattern in giving ration to the households. Sometimes households were getting more amount of wheat than the specified norm and this was true in case of rice also. Diversion of ration for each village was calculated by using following formula: -

$$\text{Diversion of ration} = \frac{\text{Total amount of ration allocated for Distribution} - \text{total amount distributed}}{\text{Total amount of ration allocated for Distribution}}$$

Where,

$$\text{Total amount of ration allocated in particular village for distribution} = \frac{\text{Number of Antyodaya households in particular village} \times \text{specified norm of ration} \times 12}{12}$$

And,

$$\text{Total amount of ration distributed in a year} = \frac{\text{Total Number of Antyodaya households} \times \text{average amount of ration getting every time} \times \text{number of times getting ration in a year}}{\text{number of times getting ration in a year}}$$

Table 4.16 shows the extent of diversion of Antyodaya ration for each village in the last one year i.e. July 2002 to June 2003. Table shows that as much as 60 percent of Antyodaya ration intended for supply to destitute households through PDS retail shops in sample villages has ended somewhere else.

Table 4.17
Extent of leakage from Antyodaya ration in sample villages

Sr. No.	Villages	Total ration allocated to village for distribution during last year in kgs	Total ration distributed to the households during the last year in kgs	Leakage of ration during last one year in kgs	Leakage as a percentage of allocation
(1)	(2)	(3)	(4)	(5=3-4)	(6)
A	Osha	13020	2976	10044	77.14
B	Babura	3360	1344	2016	60.00
C	Gaura	7980	7980	0	0
D	Total	24360	9744	14616	60.00

Source; authors own calculation based on table 4.10

This percentage was as high as 77 percent in Osha village, where households on an average were getting only 24 kgs of ration and that too once in every three months. Out of villages only in Gaura the scheme is functioning relatively better at least in terms of ration distribution

to the households. In Osha village, shopkeeper was taking advantage of powerlessness of Antyodaya households. Even block administration was also aware about the facts but because of his political support they were helpless. The block development officer of Manjhanpur told in an informal discussion,

“You are asking, why we are not taking any action against him, but the fact is that we are here only on his mercy. When he will want, we will get posted to other places. He only decides who will work here and who will not.”

4.7 Perceptions of Ration Shops Keeper Regarding Antyodaya Scheme

As a part of primary data collection, we have collected some information from the dealer of PDS shop of the respective village, which are discussed below.

Mr. Kallu Prasad was the in-charge of the PDS shop of Osha village. He was dealing all the Antyodaya card of the village. The information that we got from the stock register of Mr. Kallu Prasad, shows that every month, he has got the full quota of ration of Antyodaya households. He has not received any official commission on Antyodaya grain, not even reimbursement of transport cost. On the other hand, he was paying Rs. 24 for each quintal of ration as transportation cost plus some additional Rs. 200 every month as bribes to the government officials to lift the ration from FCI block Godown. He was having complaint regarding not getting any commission on Antyodaya grain. In his perception, the selection of beneficiaries in the village was unfair. In his view, out of total Antyodaya households, only 25 percent of the households are destitute households.

The PDS shopkeepers in remaining two villages, Babura and Gaura also cited more or less similar opinion to that of Osha village PDS shopkeeper. Both of them were also not getting any official commission on Antyodaya grain not even reimbursement of transport cost. The only difference was in Babura village, where PDS shopkeeper was paying more money in transportation cost. He was paying Rs. 30 for each quintal of ration as transportation cost plus some additional Rs. 100 every month as bribes to government officials to the lift the ration from FCI block.

One interesting point needs to be mentioned, is none of these PDS shopkeepers were having any unlifted quota in their stock. In their view, the entire amount, which they got to distribute

to the Antyodaya households, is distributed to them. While charging extra money on ration from households, Osha and Babura village shopkeepers accepted it and justified by arguing,

“If we are taking Rs. 0.50 per kg on wheat and rice than nothing is wrong in that since we are spending some amount of money from our pocket than only households are able to take ration. If you are so much worried about this, you make some arrangement so that we can get some official commission on Antyodaya grain or at least reimbursement of transport cost. Then we will not charge extra money from Antyodaya households for ration.”

4.8 Conclusions

The study started with the hypothesis formulated on the basis of past experience on functioning of TPDS in Uttar Pradesh that “it is quite possible that the Antyodaya Anna Yojana, which is functioning properly as, compared to other components of Public Distribution System may not be doing so well particularly in Uttar Pradesh as it is reflecting in the Dreze’s survey finding.” It came out true also in our analysis even in some aspects worse than TPDS. Major findings can be summarized as follows: -

1. Selection of beneficiaries was not transparent; around 41.11 percent non-poor were included in the scheme by wrong selection and around 60 percent of the destitute households were not covered under the Antyodaya scheme.
2. The analysis on socio-economic features also confirms this fact. In terms of all socio-economic features discussed earlier, non-destitute households (having Antyodaya card) turned out better as compared to destitute and excluded households.
3. Antyodaya households were not getting their full quota of ration. On an average, the amount of ration obtained by the households was 28 kgs. This low quantity of ration was also not available every month to the households
4. Since receiving the Antyodaya card, only 32 percent of the total sample households were able to obtain full quota of grain each month from the PDS shop.
5. A significant proportion of households that is more than one-third reported poor quality of ration.

6. The malpractices adopted in card distribution are also coming out from the fact that two-third of total sample households reported money being charged by them while distributing the Antyodaya card.
7. As much as 60 percent of the Antyodaya ration intended for supply to destitute households through PDS retail shops, in sample villages has not reached intended beneficiaries.

Chapter 5

Summary and Conclusion

This chapter presents summary and conclusions of the study. Food security has a number of dimensions that go beyond the production, availability and demand for food. There has been a paradigm shift in the concept of food security from food availability and stability to household food insecurity, and from assessment of input measures like energy intake to output indicators such as anthropometrical measures and clinical signs of malnutrition. There is thus an urgent need for public policy to address issues relating to the food and nutrition security of the poor. The present study is an attempt in this regard to understand the issues pertaining to food security in Uttar Pradesh.

The objectives of the study are:

1. To examine food security situation in Uttar Pradesh (in the light of Sen's entitlement and deprivation thesis).
2. To examine the role of state intervention in providing food security.
3. To study the functioning of Antoyadaya Anna Yojana.

The major findings of the analysis may be summarized and some inferences having a bearing on policy on food security may be discussed. There are also pointers of future research.

The study attempts an empirical analysis of food security situation in Uttar Pradesh in the light of Sen's entitlement and deprivation thesis. The analysis tends to suggest that Uttar Pradesh faces a paradoxical situation with respect to food security.

With the average food grain production of about 42.7 million tons and per capita production of 234 kg. per year which is the third highest among major states, UP is considered to be a food grain surplus state. It contributes 22 percent of India's food grain production, and is the largest producer of wheat, and the second largest producer of rice. Regarding food production, there was stagnation in output in recent years and there were large regional imbalances within the state. However, the gap between the different regions has narrowed down somewhat in the recent years.

For most of the years between 1970 and 2000, the per capita net availability of food grain in Uttar Pradesh was not only higher than that of the all India average, but also has remained higher than the per capita requirement of food grains of 460 grams (based on the conventional approach) per day in India.

But this abundance in food supply did not translate into adequate access to food for all. Over a period of two and a half-decade i.e. during 1972-73 to 1999-2000, the per capita consumption of cereals has shown a sharper decline. The most striking aspect of the picture was the low level of cereal intake of the poorest quintile compared to the average as well as richest quintile, and what is more, the downtrend in even this low level of consumption. Another notable feature was that the overall rural-urban difference in the per capita consumption of cereals has come down between 1972-73 to 1999-2000. But the disparity in cereal consumption between the bottom and top 20 percent of the population was higher in rural areas as compared to urban areas.

The situation with respect to calorie intake was showing a mixed picture. On the one hand, the average figures regarding the intake of different nutrients shows a higher value than the all India average, but on the other hand, we found, low level of calorie intake of the poorest quintile compared to the average as well as richest quintile. The disparity in calorie intake between the bottom and top 20 percent of the population was higher in urban areas as compared to rural areas. In our analysis, we found that in Uttar Pradesh about 9 percent of the rural and 17 percent of the urban population are nutritionally at risk.

Despite the fact that incidence of landlessness was very high among poorest 20 percent of the population and most of them were working as agricultural labourers, we found in our analysis, using the Sen's entitlement thesis, that the increase in income of the poorest 20 percent of the population was high enough to cover the increase in food prices between 1977-78 to 1999-2000. The same results were obtained, when we used the cereals (the main source of calorie) price instead of food grain prices. Therefore, one can infer that per capita calorie intake of the population is declining not because of economic constraint. Regarding the factors accounting for the observed decline in per capita consumption of cereals as well as calorie intake, we found that, population in general and poor in particular, are diversifying their consumption basket at the cost of calorie intake with rise in their income.

Inequality between men and women is one of the crucial disparities in the many societies, and is partially so, in Uttar Pradesh. Here, the entitlement comparisons have to go beyond the

limited focus of food entitlements to the more comprehensive concern for entitlements to the different goods and services, which influence nutritional opportunities and achievements. Just as education, opportunity to development, livelihood, and access to other facilities related to survival are not equally accessible to everybody, so also access to food is constrained for some vulnerable groups particularly women, children (boys & girls) and scheduled castes and scheduled tribes. Our analysis tends to suggest that in Uttar Pradesh more than one third (36 percent) of women have a BMI below 18.5, indicating a high prevalence of nutritional deficiency. In Uttar Pradesh, 48.7 percent women suffer from anaemia, which usually results from nutritional deficiency of ironfolate, vitamin B12 or some other nutrients. The sex bias is also reflected in the greater prevalence of undernourishment of various degrees among girls than among boys. The data shows that by and large girls are more likely to be underweight (weight-for-age criteria) and stunted (height-for-age criteria) compared to the boys in Uttar Pradesh.

While empirical evidence tends to suggest a positive association between the calorie intake and nutritional status, the responsiveness is likely to be affected by the factors relating to health and environment. For example, education, safe drinking water, housing conditions, access to health services and so on. It is clear from our analysis, that in Uttar Pradesh population in general and poor in particular are deprived of basic education. Literacy in Uttar Pradesh is marked by acute disparities between men and women, between social groups, between economic group and between regions and districts. Regarding the access to health services, the average availability of infrastructure is poor in Uttar Pradesh compared to the all India average with respect to all the indicators we discussed.

The analysis of this study on state's response showed laissez-faire performance of the government's direct food based interventions on food front. Our analysis showed that Public Distribution System in Uttar Pradesh has played a much smaller role compared to states like Kerala, Andhra Pradesh, Maharashtra, West-Bengal and Tamil Nadu. During the period 1986-87 to 1995-96, the state had lifted only 661.41 thousand million tons of food grain (rice and wheat) that was only 4.52 per cent of the national public distribution system off-take of rice and wheat. Even after the implementation of Targeted Public Distribution System, there was no significant increase in off-take of cereals in the state. Off-take improved dramatically for the BPL families, but has gone down in case of Above Poverty Line families between 1997-98 and 1999-2000. The vast food security network in the state has failed to serve its purpose to provide food security to the vulnerable section of the society. Despite the poor off-take by

the state from the central allocation, a very small proportion of the population was using PDS to buy the cereals. Its use was confined mainly in supplying kerosene to the households. No doubt that poor households were dominated within the total percentage of population buying cereals from the PDS, but the total percentage of population using Public Distribution System was very less. The government has initiated several changes to improve the transparency and accountability of the PDS. But unfortunately these measures could not translate into action programmes.

The another scheme like Integrated Child Development Services, which is supposed to provide package of services such as supplementary nutrition, immunization, health check-ups, and referral services and pre-primary education to children below six years and to pregnant women has not drawn young mothers and children to the *anganwadi* centres. In a way the programme has failed to serve its purpose, i.e. to improve the nutritional and health status of children below six years and to provide supplementary feeding to pregnant and nursing mothers. Qualitative surveys done by researchers in Eastern Uttar Pradesh and Bundelkhand region showed that 1) there was little awareness about the scheme 2) the common perception was that nutritional supplement meant for children and women was being sold in the open market or fed to livestock and 3) in most of the cases the *anganwadi* centre was located in the *Pradhan's* house and *anganwadi* workers were their family members, which prevents poor in approaching to the centre, and lastly there were many villages in the state, where *Anganwadi* worker's post was vacant.

Despite the wake-up call of Supreme Court in November 28, 2001 in the form of an order directing state government to introduce cooked mid-day meals in primary schools within six months, Uttar Pradesh government has yet to comply this. The 'dry ration' scheme defeats the very purpose of the school meal programme. In our analysis, we saw that in terms of the nutrition and socialization arguments, also offering 'dry rations' is utterly useless. We found some positive impact of the mid-day meal scheme in the state on the school enrollment. But in a state like Uttar Pradesh, where children get food grains instead of a hot cooked meal, it is not at all clear how much of this food is actually consumed by the child.

In order to make the Targeted Public Distribution system (TPDS) more focused so as to serve the poorest of the poor the government of India introduced the Antyodaya Anna Yojana on December 25, 2000. To provide food security to poorest of the poor by providing larger quantity of food grains at highly subsidized prices. A qualitative survey has done in order to

examine the different aspects of the functioning of the Antyodaya Anna Yojana in Uttar Pradesh, like selection beneficiaries, amount and duration of food grain received, prices charged by them and so on. The study started with the hypothesis formulated on the basis of past experience on functioning of TPDS in Uttar Pradesh that it is quite possible that the Antyodaya Anna Yojana, which is functioning properly as, compared to other components of Public Distribution System may not be doing so well particularly in Uttar Pradesh'. Similar findings were reported in the study by Dreze. It came out true also in our analysis even in some aspects worse than TPDS.

Selection of beneficiaries was not transparent. Around 41.11 percent of non-poor population was included in the scheme by wrong selection and around 60 percent of the destitute households were not covered under the Antyodaya scheme. Our analysis on socio-economic features also confirms this fact. In terms of all socio-economic indicators we found that, non-destitute households (having Antyodaya card) turned out to be better as compared to destitute and excluded households. Two-third of total sample households reported that money being charged by them, while distributing the Antyodaya card shows the extent of malpractices adopted in card distribution.

Because of their low level of literacy, majority of the destitute households were not aware about the entitlement and prices of food grain. Many Antyodaya households had been deprived of their entitlements, as ration shop dealers took advantage of their powerlessness. On an average, the amount of ration obtained by the households was 28 kgs and 55 percent of the total sample households were paying the Rs. 1 extra for each kg of ration (wheat + rice) than the official priced announced by the government. This low quantity of ration was also not available every month to the households. Since receiving the Antyodaya card, only 32 percent of the total sample households were able to obtain full quota of grain each month from the PDS shop. As much as 60 percent of the Antyodaya ration intended for supply to destitute households through PDS retail shops, in sample villages has not reached intended beneficiaries.

In fact, nowhere in the entire village one could find government guidelines being followed, while distributing the Antyodaya card. Cards were distributed to the households on the basis of personal relationship with the village *pradhan* or to those who were able to pay the money to the village secretary. Majority of the excluded households in the study villages were not aware about the fact that some households in this village have an Antyodaya card through

which they are entitled to 35 kgs of grain at highly subsidized price from the PDS shop. It clearly underscore the fact that while distributing the Antyodaya card in the sample villages, village machinery and government officials involved in it have violated the guidelines issued by the government. We do not find anyone asking for their fair share of benefits through the scheme.

A full discussion on the reasons for the poor performance of government's initiatives in ensuring food security indicates the political economy aspects of food security. A full discussion on the theme, is beyond the scope of our study.

The government has initiated several changes to improve the transparency and accountability of the PDS to the panchayats. A model citizen charter was introduced in November 1997, stipulating essential information such as entitlement, procedure for issue of ration cards and so on by the centre for adoption by the states. It emphasized the need to constitute of model vigilance committees at all levels. In June 1999, government has also issued the guidelines for the involvement of PRI's, at all the levels of PDS so as to ensure greater public participation. Though the responsibilities for monitoring the programme have fallen on the panchayats, panchayats have not developed as truly participatory institutions. Gram sabha meetings are rarely held, and are thinly attended by the villagers. The dominant elite group takes decisions on beneficiaries and schemes. Behind all these failures is an "overarching problem of political marginalization". As one women in our sample village reported that, "there is no point in complaining- no body is going to listen."

Many of the hurdles in distributing ration arise from the fact that the ration-shop keeper has a strong incentive to prevent his customers from buying their ration, and to sell the grain in open market. In disadvantaged areas, the public does not have enough clout to resist this fraud. Many people even do not know their entitlements.

Given the inadequacy in official commissions, only those who have enough clout to resist public scrutiny and sell on the black market are likely to bid for ration-shop licenses. And once the corrupt dealers are in control of the license, the door is wide open for large-scale diversion of PDS grain to the black market.

Policy implications

Some of the policy implications that follow from our study are mentioned below.

1. Effort should be made on consumers' education focusing more on women's, which would enlighten the rural poor on making the right choices in order to improve their nutrition level and health status. In this context, NGO can play an important role.
2. Measures should be taken to ensure the equal accessibility to safe drinking water, access to health services, sanitation etc to all.
3. Better management in handling the ration shop dealers should be undertaken. Making them to work honestly there should be provision of commissions on rations, with condition, that firm action would be taken against corrupt dealers.
4. Gram sabha and gram panchayats should be empowered to appoint and dismiss ration-shop dealers.
5. Since there is little hope of radical change base on government initiative alone, calls for greater attention from popular organizations and social movements is needed.

Pointers of future research

Some questions however remain unanswered. These are-

- I. If there are regional disparities regarding cereal consumption and calorie intake, what is the trend in disparity across the region? More importantly, what explains the patterns in disparities and factors associated with the disparities in the regions of the state?
- II. Why in spite of increase in female work participation, there is not much decrease in gender bias?
- III. What are the factors responsible for diversification of food basket at the cost of calorie intake?

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APPENDIX

Chapter 2

**Table 2.1 Net availability of food grains in U.P. and India
(in grams per capita per day)**

Year	Per capita net availability per day (grams) of total foodgrains	
	Uttar Pradesh	India
1970	533.5	455.0
1971	443.7	468.8
1972	471.1	466.1
1973	387.5	421.6
1974	415.9	451.2
1975	458.7	405.5
1976	419.9	424.3
1977	477.5	429.6
1978	512.7	468.0
1979	373.1	476.5
1980	575.2	410.4
1981	500.2	454.8
1982	533.6	455.1
1983	574.0	437.0
1984	546.1	479.5
1985	571.7	453.4
1986	541.5	477.5
1987	518.2	471.2
1988	645.7	447.6
1989	573.9	493.4
1990	578.0	472.6
1991	601.6	510.1
1992	605.4	468.8
1993	565.6	464.1
1994	608.0	471.2
1995	597.5	495.3
1996	684.2	476.2
1997	654.6	505.5
1998	585.0	450.3
1999	678.6	470.4
2000	596.7	458.6

Source; Bulletin of food statistics various issues.

Chapter 4

Table 4.1 Development of the Study area: some selected indicators

Sr. No.	Particulars	Years	Uttar Pradesh	Kaushambi	Source
1	Sex Ratio	2001	898	894	Census of Uttar Pradesh 2001
		1991	876	883	Census of Uttar Pradesh 2001
2.	Literacy rate				
a.	Total	2001	57.36	40.18	Census of Uttar Pradesh 2001
		1991	40.71	29.56	Census of Uttar Pradesh 2001
b.	Males	2001	70.23	63.49	Census of Uttar Pradesh 2001
		1991	54.82	45.18	Census of Uttar Pradesh 2001
c.	Female	2001	42.98	30.80	Census of Uttar Pradesh 2001
		1991	24.37	11.53	Census of Uttar Pradesh 2001
3	HDI Rank out of 70 districts	2001	-	65	Uttar Pradesh Human Development Report 2002.
4	Decadal growth rate of population	1981-1991	25.55	25.34	Uttar Pradesh Human Development Report 2002.
		1991-2001	25.80	26.73	Uttar Pradesh Human Development Report 2002.
5	Work participation rate by area and sex of main worker				Uttar Pradesh Human Development Report 2002.
	Total Male	2001	-	36.9	
	Total Female	2001	-	12.0	
	Rural male	2001	-	36.9	
	Rural female	2001	-	12.4	
	Urban male	2001	-	36.8	
	Urban female	2001	-	6.2	

Table 4.2a Social background of the Antyodaya households

Categories	Antyodaya households							
	Destitute households				Non-destitute households			
	Osha	Babura	Gaura	Total	Osha	Babura	Gaura	Total
Other Backward class	6	63	27	25	71	100	88	79
Scheduled caste	94	37	73	75	29	-	12	21
Scheduled tribe	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-
Total number of households	17(100)	8(100)	11(100)	36(100)	14(100)	2(100)	8(100)	24(100)

Source; field Survey 2003-04.

Table 4.2b Social background of the Excluded households

Particulars	Excluded households			
	Osha	Babura	Gaura	Total
Other Backward class	18	40	27	25
Scheduled caste	82	60	73	75
Scheduled tribe	-	-	-	-
Others	-	-	-	-
Total number of households	17(100)	5(100)	18(100)	40(100)

Source; field Survey 2003-04.

Table 4.3a Land status of the Antyodaya households

Particulars	Antyodaya households							
	Destitute households				Non-destitute households			
	Osha	Babura	Gaura	Total	Osha	Babura	Gaura	Total
No land	24	38	67	39	-	-	-	-
0.01-0.50	5	-	-	3	-	-	-	-
0.51-1.00	24	25	18	22	-	-	-	-
1.01-1.50	47	37	18	36	-	-	-	-
1.51-2.00	-	-	-	-	64	-	63	58
2.01-3.00	-	-	-	-	14	100	13	21
3.01-4.50	-	-	-	-	22	-	24	21
Total number of households	17(100)	8(100)	11(100)	36(100)	14(100)	2(100)	8(100)	24(100)
Average size of land holding	0.91	0.81	0.40	0.73	2.44	3.00	2.61	2.54

Source; field Survey 2003-04

Table 4.3b Land Status of the Excluded households

Particulars	Excluded households			
	Osha	Babura	Gaura	Total
No land	65	40	67	63
0.01-0.50	6	40	6	10
0.51-1.00	29	10	21	25
1.01-1.50	0	0	6	2
Total number of households	17(100)	5(100)	18(100)	40(100)
Average size of land holding (in Bigha)	0.32	0.38	0.33	0.34

Source; field Survey 2003-04

Table 4.4a Educational status of the Antyodaya households

Particulars	Antyodaya households							
	Destitute households				Non-destitute households			
	Osha	Babur a	Gaura	Total	Osha	Babur a	Gaura	Total
Illiterate	65	63	64	64	28	-	25	25
Literate								
Primary	18	12	18	17	7	-	-	4
Middle	12	25	18	17	22	-	13	17
Matric	5	-	-	2	14	100	25	25
+2	-	-	-	-	29	-	37	29
Total number of households	17(100)	8(100)	11(100)	36(100)	14(100)	2(100)	8(100)	24(100)

Source; field Survey 2003-04

Table 4.4b Educational status of the Excluded households

Sr. no.	Particulars	Percentage of Excluded households			
		Osha	Babura	Gaura	Total
1.	Illiterate	76	60	56	65
2.	Literate				
2.1	Primary	18	40	28	25
2.2	Middle	6	-	16	10
2.3	Matric	-	-	-	-
2.4	+2	-	-	-	-
3.	Total number of households	17(100)	5(100)	18(100)	40(100)

Source; field Survey 2003-04

Table 4.5a Housing Condition of Antyodaya households

Sr. no.	Particulars	Percentage of Antyodaya households							
		Destitute households				Non-destitute households			
		Osha	Babura	Gaura	Total	Osha	Babura	Gaura	Total
1.	Type of house								
	Kaccha	88	75	91	85	7	-	-	5
	Pacca	12	25	9	15	93	100	100	95
2.	House need major repair								
	Yes	88	75	82	83	21	-	-	11
	No	12	25	18	17	79	100	100	89
3.	Water-proof house								
	Yes	12	25	18	17	79	100	100	89
	No	88	75	82	83	21	-	-	11
4.	House have electricity								
	Yes	12	13	45	22	21	100	88	50
	No	88	87	55	78	79	-	12	50
5.	Total number of households	17(100)	8(100)	11(100)	36(100)	14(100)	2(100)	8(100)	24(100)

Source; field Survey 2003-04

Table 4.5b Housing Condition of the Excluded households

Sr. no.	Particulars	Percentage of Excluded households			
		Osha	Babura	Gaura	Total
1.	Type of house				
	Kaccha	88	80	94	90
	Pacca	12	20	6	10
2.	House need major repair				
	Yes	88	80	94	90
	No	12	20	6	10
3.	Water-proof house				
	Yes	12	20	6	10
	No	88	80	94	90
4.	House have electricity				
	Yes	6	0	0	3
	No	94	100	100	97
5.	Total number of households	17(100)	5(100)	18(100)	40(100)

Source; field Survey 2003-04

Table 4.6a Occupational status of the Antyodaya households

Particulars	Antyodaya households							
	Destitute households				Non-destitute households			
	Osha	Babura	Gaura	Total	Osha	Babura	Gaura	Total
S.E. Non-agril.	-	-	-	-	50	100	38	50
Agril.lab	53	38	27	42	-	-	-	-
Other lab.	29	37	64	42	-	-	12	4
S.E. Agril	-	-	-	-	36	-	38	33
Others	18	25	9	16	14	-	12	13
Total number of households	17(100)	8(100)	11(100)	36(100)	14(100)	2(100)	8(100)	24(100)

Source; field Survey 2003-04

Table 4.6b Occupational status of the Excluded households

Sr. no.	Particulars	Percentage of Excluded households			
		Osha	Babura	Gaura	Total
1	S.E. Non-agril.	-	-	-	-
2	Agril.lab	53	20	56	50
3	Other lab.	35	60	33	38
4	S.E. Agril	-	-	-	-
5	Others	12	20	11	12
6	Total number of households	17(100)	5(100)	18(100)	40(100)

Source; field Survey 2003-04

Table 4.7
A comparative study of some aspects of functioning of Antyodaya Scheme

Sr. no.	Particulars	Unit	Antyodaya households		
			Destitute households	Non-destitute households	Total
1.	Year of getting Antyodaya card				
	2001	%	83	96	88
	2002	%	11	4	8
	2003	%	6	-	4
	Number of total households		36(100)	24(100)	60(100)
2.	Awareness about the entitlement of grain and prices				
	Yes		-	83	34
	No		100	17	66
3.	Amount of ration actually getting in kg.				
	11.00	%	3	-	1.7
	20.00	%	-	4	1.7
	24.00	%	8	4	6.6
	25.00	%	53	54	20
	35.00	%	36	38	70
	Total number of households		36(100)	24(100)	60(100)
4.	Gaps in months in getting ration				
	Every month	%	36	46	40
	Once in every two month	%	8	-	5
	Once in every three month	%	42	54	47
	Once in every four month	%	14	-	8
	Total		36(100)	24(100)	60(100)
5.	Full quota each month since receiving the card				
	Yes	%	31	33	32
	No	%	69	67	68
	Total number of households		36(100)	24(100)	60(100)
6.	Getting some amount of ration every month				
	Yes	%	36	46	40
	No	%	64	54	60
	Total number of households		36(100)	24(100)	60(100)
7.	Best quantity of ration (in kg) obtained by the respondent since receiving the card				
	11.00	%	3	-	1.7
	20.00	%	-	4	1.7
	24.00	%	8	4	6.6
	25.00	%	25	13	20
	35.00	%	64	79	70
	Total		36(100)	24(100)	60(100)
8.	Do you agree with the information mentioned on the card				
	Yes	%	31	33	32
	No	%	61	38	52
	Not responded	%	8	29	16
	Total		36(100)	24(100)	60(100)

Source; field Survey 2003-04.

Table 4.8
A comparative study Price paid for wheat and rice in Rs/kg
And perception of households regarding quality of the ration (in percentage)

Sr. no.	Particulars	Unit	Antyodaya households		
			Destitute households	Non-destitute households	total
1	Price paid for Wheat				
	2.00	Rs./kg.	33	33	33
	2.25	Rs./kg.	14	9	12
	2.50	Rs./kg.	53	58	55
	Total		36(100)	24(100)	60(100)
2.	Price paid for Rice				
	3.00	Rs./kg.	33	33	33
	3.25	Rs./kg.	14	9	12
	3.50	Rs./kg.	53	58	55
	Total		36(100)	24(100)	60(100)
3.	Average price of Wheat	Rs./kg.			
5.	Average price of Rice	Rs./kg.			
6.	Quality of Ration				
	Poor	%	39	33	37
	Average	%	47	58	51
	Good	%	14	9	12
	Total		36(100)	24(100)	60(100)

Source; field Survey 2003-04.

Centre for Development Studies
M.Phil Programme in Applied Economics, 2002-04
Issues in Food Security from A Regional Perspective: The Case of Uttar Pradesh in the National Context of India

Qnre.No.

PART 1: "ANTYODAYA HOUSEHOLDS" QUESTIONNAIRE

Date: _____ Name of the investigator: _____

Name of the village: _____

Panchayat: _____ Block: _____

District: _____ State: _____

I. GENERAL INFORMATION

1. Name of the household head: _____

2. Number of household members: / ____ /

3a. Caste/community (name): _____

3b. Caste/community (group): SC (1)/ ST(2)/OBC(3)/Caste Hindu(4)/Muslim(5)/Other(6)

4. Main occupations:

5. Amount of land owned (excluding homestead land): / ____ acres/

6. Amount of land cultivated: / ____ acres/

7. "Do you own the land on which your house is situated?" Yes/No/NR

8. Housing condition based on observations.

a. Number of *pacca* rooms: / ____ /

b. Number of *kaccha* rooms: / ____ /

c. Is the house in need of major repair? Yes/No/NR

d. Is the house water-proof? Yes/No/NR

e. Does the house have a fan? Yes/No/NR

f. Does the house have electricity? Yes/No/NR

9. "Does any other household in the village (e.g. close relatives or neighbours) give you regular help to survive?"

Yes/No/NR

10. [If yes] "Who and how? Please describe in detail."

11. "Do you get occasional help to survive from other households in the village?" Yes/No/NR

12. [If yes] "From whom and in what way? Please describe in detail."

13. "During the last 12 months, have there been days when you didn't know in the morning whether you would be able to feed your family in the evening?"

Yes/No/NR

14. [If yes] "Approximately how many such days are there, in an average month?"

/ ____ days

15. "At times when it was difficult to feed the family, did any of the following happen (during the last 12 months)?" [Tick all the relevant responses.]

a. "We ate wheat or rice with salt or *mirchi*" / ____ /

b. "We skipped meals and went hungry" / ____ /

c. "We ate food collected from the jungle (e.g. mahua, saag, roots)" / ____ /

d. "We ate food that could be dangerous for health (e.g. mango kernels)" / ____ /

e. "We borrowed from a *sahukar/banya*/landlord to feed ourselves" / ____ /

f. "We borrowed from neighbours, relatives or friends" / ____ /

g. "Some of us went begging" / ____ /

h. Any other step (please specify) _____ / ____ /

II. ANTYODAYA PROGRAMME

16. "When did you get your Antyodaya card?" Month: / ____ / Year: / ____ /

17. "To your knowledge, how much grain are you entitled to obtain each month with this card, and at what price?" [If respondent is not aware, please write "NA".]

Quantity (kgs/month): / ____ kg

Price (wheat): / ____ Rs/kg

Price (rice): / ____ Rs/kg

18. Amount actually obtained, as described by the respondent (please note full details):

19. Since receiving the Antyodaya card, has the respondent been able to obtain 25 kgs of grain each month from the PDS shop?

Yes/No/NR

20. Has the respondent been able to obtain some grain each month?

Yes/No/NR

21. What is your best estimate of the total quantity obtained by the respondent since he/she received the Antyodaya card?

/ _____ kgs

22. Examine the person's ration card and note down how much grain (wheat + rice) he or she obtained, according to the card, in different months.]

Jul 2002: / _____ kg/ Aug 2002: / _____ kg/ Sep 2002: / _____ kg/

Oct 2002: / _____ kg/ Nov 2002: / _____ kg/ Dec 2002: / _____ kg/

Jan 2003: / _____ kg/ Feb 2003: / _____ kg/ Mar 2003: / _____ kg/

Apr 2003: / _____ kg/ May 2003: / _____ kg/ Jun 2003: / _____ kg/

23. "Do you agree with the information given on the ration card?"

Yes/No/NR

24. [If not] "In what respect is the card inaccurate? Please explain in detail."

25. "In months when you have not been getting your full quota of 25 kgs, what was the main reason for not getting the full quota?"

a. Grain not available at the PDS shop / _____ /

b. Lack of information about opening times of the PDS shop / _____ /

c. Lack of cash at the time when grain was available at the PDS shop / _____ /

d. Not interested in buying grain from PDS shop / _____ /

e. Other responses (please specify) _____ / _____ /

26. "Suppose that the shop was open every day and that grain was always available. In that case, would you buy your full ration of 25 kgs every month?"

Yes/No/NR

27. [If not] "Why not?"

28. "Last time you obtained grain from the PDS shop, how much wheat and how much rice did you get?"

Wheat: / _____ kg

Rice: / _____ kg

29. "How much did you pay for this?" Rs ____/
30. "In your understanding, what is the reason why you have been overcharged?"
31. "How would you describe the quality of the grain you have been receiving? Poor, average or good?"
Poor(1)/Average(2)/Good(3)/NR
(4)
32. "How far is the PDS shop from your house?" / ____ km
33. "How long does it take you to get there?" / ____ hours ____ mins
34. "How long does it take you, on average, to go to the PDS shop, obtain your grain ration, and come back home?"
/ ____ hours ____ mins
35. "How many days does the PDS shop usually open in a month?" / ____ days
36. "Do you get to know in advance that the shop is going to open?" Yes/No/NR
37. [If yes] "How many days in advance do you normally get to know?" / ____ days
38. "Do you feel that the opening days of the PDS shop are adequate?" Yes/No/NR
39. "Do you feel that you have adequate information about the opening days of the PDS shop?"
Yes/No/NR
40. "How would you describe the attitude of the PDS dealer: helpful, unhelpful or indifferent?"
helpful(1)/unhelpful(2)/indifferent(3)/NR(4)
41. "Did you have to pay any money to anybody in order to obtain the card?" Yes/No/NR
42. [If yes] "Please tell me how much you had to pay, to whom, and for what reason."
43. "On the whole, would you say that it was easy or difficult to obtain an Antyodaya card?"
very easy(1)/quite easy(2)/somewhat difficult(3)/very difficult(4)/NR(5)
44. "How would you describe the importance of this programme for your family's welfare? Very important, quite important or not important?"
very important(1)/quite important(2)/not important(3)/NR(4)

45. "Do you have any suggestions for improving the Antyodaya programme?"

III. FOOD AND CONSUMPTION

46. "How much grain does your household consume in an average month?" _____ kg

47. "Is this enough to ensure that no-one goes hungry at any time?" Yes/No/NR

48. [If not] "How much grain would be required, in a month, to ensure that no-one goes hungry at any time?" [If you don't get a credible answer, write "NR".]

_____ kg

49. "Does everyone in your household get at least two square meals a day throughout the year?"

Yes/No/NR

50. [If not] "During the last 12 months, approximately how many days have there been when some or all members of the family were not able to get two square meals?"

_____ days

51. "In general, are there specific months in the year when it is particularly hard to feed the family?"

Yes/No/NR

52. [If yes] "What are the hardest months, as far as feeding the family is concerned?"

53. "In an average month, on how many days does your family eat the following items?"

Vegetables / _____ /

Dal / _____ /

Milk / _____ /

Tea / _____ /

Eggs / _____ /

Meat or fish / _____ /

54. "Leaving food aside, how much do you spend in an average month (approximately) to run your household?"

Rs _____ /

Centre for Development Studies
M.Phil Programme in Applied Economics, 2002-04
Issues in Food Security from A Regional Perspective: The Case of Uttar Pradesh in the National Context of India

Qnre.No.

PART 2: "EXCLUDED HOUSEHOLDS"

Date: _____ Name of the investigator: _____

Name of the village: _____

Panchayat: _____ Block: _____

District: _____ State: _____

I. GENERAL INFORMATION

1. Name of the household head: _____

2. Number of household members: / ____ /

3a. Caste/community (name): _____

3b. Caste/community (group): SC (1) ST(2)/OBC(3)/Caste Hindu(4)/Muslim(5)/Other(6)

4. Main occupations:
a. _____

b. _____

5. Amount of land owned (excluding homestead land): / ____ acres/

6. Amount of land cultivated: / ____ acres/

7. "Do you own the land on which your house is situated?" Yes/No/NR

8. Housing condition of the respondent's based on observations

a. Number of *pacca* rooms: / ____ /

b. Number of *kaccha* rooms: / ____ /

c. Is the house in need of major repair? Yes/No/NR

d. Is the house water-proof? Yes/No/NR

e. Does the house have a fan? Yes/No/NR

f. Does the house have electricity? Yes/No/NR

9. "Does any other household in the village (e.g. close relatives or neighbours) give you regular help to survive?"

Yes/No/NR

10. [If yes] "Who and how? Please describe in detail."

11. "Do you get occasional help to survive from other households in the village?" Yes/No/NR

12. [If yes] "From whom and in what way? Please describe in detail."

13. "During the last 12 months, have there been days when you didn't know in the morning whether you would be able to feed your family in the evening?"

Yes/No/NR

14. [If yes] "Approximately how many such days are there, in an average month?"

/ ____ days

15. "At times when it was difficult to feed the family, did any of the following happen (during the last 12 months)?"

a. "We ate wheat or rice with salt or *mirchi*" / ____ /

b. "We skipped meals and went hungry" / ____ /

c. "We ate food collected from the jungle (e.g. mahua, saag, roots)" / ____ /

d. "We ate food that could be dangerous for health (e.g. mango kernels)" / ____ /

e. "We borrowed from a *sahukar/banya*/landlord to feed ourselves" / ____ /

f. "We borrowed from neighbours, relatives or friends" / ____ /

g. "Some of us went begging" / ____ /

h. Any other step (please specify) _____ / ____ /

II. ANTYODAYA PROGRAMME

16. "Are you aware that some destitute households in this village have an Antyodaya card that entitles them to 25 kgs of grain at low prices from the PDS shop?"

Yes/No/NR

17. "At the time when the Antyodaya cards were being distributed, were you aware that this was happening?"

Yes/No/NR

18. "Did you make any effort to obtain an Antyodaya card?"

Yes/No/NR

19. [If not] "Why not? Please explain."

20. [If yes] "Please explain exactly what happened and why you did not succeed in getting an Antyodaya card."

21. In this village, do you feel that the distribution of Antyodaya cards has been fair or unfair?

fair(1)/unfair(2)/no

view(3)/NR(4)

22. Please describe any malpractice, arbitrariness or unfairness which you feel has happened in the distribution of Antyodaya cards.

III. FOOD AND CONSUMPTION

23. "How much grain does your household consume in an average month?" _____ kg
24. "Is this enough to ensure that no-one goes hungry at any time?" Yes/No/NR
25. [If not] "How much grain would be required, in a month, to ensure that no-one goes hungry at any time?" [If you don't get a credible answer, write "NR".] _____ kg
26. "Does everyone in your household get at least two square meals a day throughout the year?"
Yes/No/NR
27. [If not] "During the last 12 months, approximately how many days have there been when some or all members of the family were not able to get two square meals?" _____ days
28. "In general, are there specific months in the year when it is particularly hard to feed the family?"
Yes/No/NR
29. [If yes] "What are the hardest months, as far as feeding the family is concerned?"
30. "In an average month, on how many days does your family eat the following items?"
- | | |
|--------------|-----------|
| Vegetables | / _____ / |
| Dal | / _____ / |
| Milk | / _____ / |
| Tea | / _____ / |
| Eggs | / _____ / |
| Meat or fish | / _____ / |
31. "Leaving food aside, how much do you spend in an average month (approximately) to run your household?"
Rs _____ /

Centre for Development Studies
M.Phil Programme in Applied Economics, 2002-04
Issues in Food Security from A Regional Perspective: The Case of Uttar Pradesh in the National Context of India

Qnre.No

PART 3: "PDS" QUESTIONNAIRE

Date: _____ Name of the investigator: _____

Name of the village: _____

Panchayat: _____ Block: _____

District: _____ State: _____

1. How many Antyodaya cards are you dealing with? / ____ /

2. During the last few months, how much grain (wheat and rice together) have you distributed to Antyodaya households?

Jul 2002: / ____ kg/ Aug 2002: / ____ kg/ Sep 2002: / ____ kg/

Oct 2002: / ____ kg/ Nov 2002: / ____ kg/ Dec 2002: / ____ kg/

Jan 2003: / ____ kg/ Feb 2003: / ____ kg/ Mar 2003: / ____ kg/

Apr 2003: / ____ kg/ May 2003: / ____ kg/ Jun 2003: / ____ kg/

3. In months when actual distribution fell substantially short of the full quota of 25 kgs per Antyodaya households, what have been the main reasons for the shortfall?

a. Antyodaya households did not "lift" their full quota / ____ /

b. Full quota not available from FCI godown / ____ /

c. Delay/hassles in obtaining the full quota from FCI / ____ /

d. Dealer not interested because he makes a "loss" on Antyodaya quota / ____ /

e. Dealer not interested for other reasons / ____ /

f. Antyodaya quota was partly sold on the "black market" / ____ /

g. Other reasons (please specify): _____ / ____ /

4. Do you usually lift the full Antyodaya quota from the FCI go down? Yes/No/NR

5. If not, why not?

6. What are the official commissions you receive (per quintal) on Antyodaya grain?

	Wheat	Rice
a. Basic commission	_____ Rs/Ql	_____ Rs/Ql
b. Reimbursement of transport costs	_____ Rs/Ql	_____ Rs/Ql
c. Any other benefits (e.g. "bora") (please specify below)	_____ Rs/Ql	_____ Rs/Ql

7. What are the costs that you have to bear (per quintal) when you distribute Antyodaya grain?

	Wheat	Rice
a. Transport costs	_____ Rs/Ql	_____ Rs/Ql
b. Bribes and unofficial "commissions" (Please give details below)	_____ Rs/Ql	_____ Rs/Ql
c. Any other costs (please specify below)	_____ Rs/Ql	_____ Rs/Ql

8. Everything considered, do you feel that the Antyodaya scheme is a good scheme or a bad scheme?

Good(1)/Bad(2)/Indifferent(3)/NR(4)

9. Why? Please explain.

10. Are there any problems or complaints about the Antyodaya programme which you would like to mention?

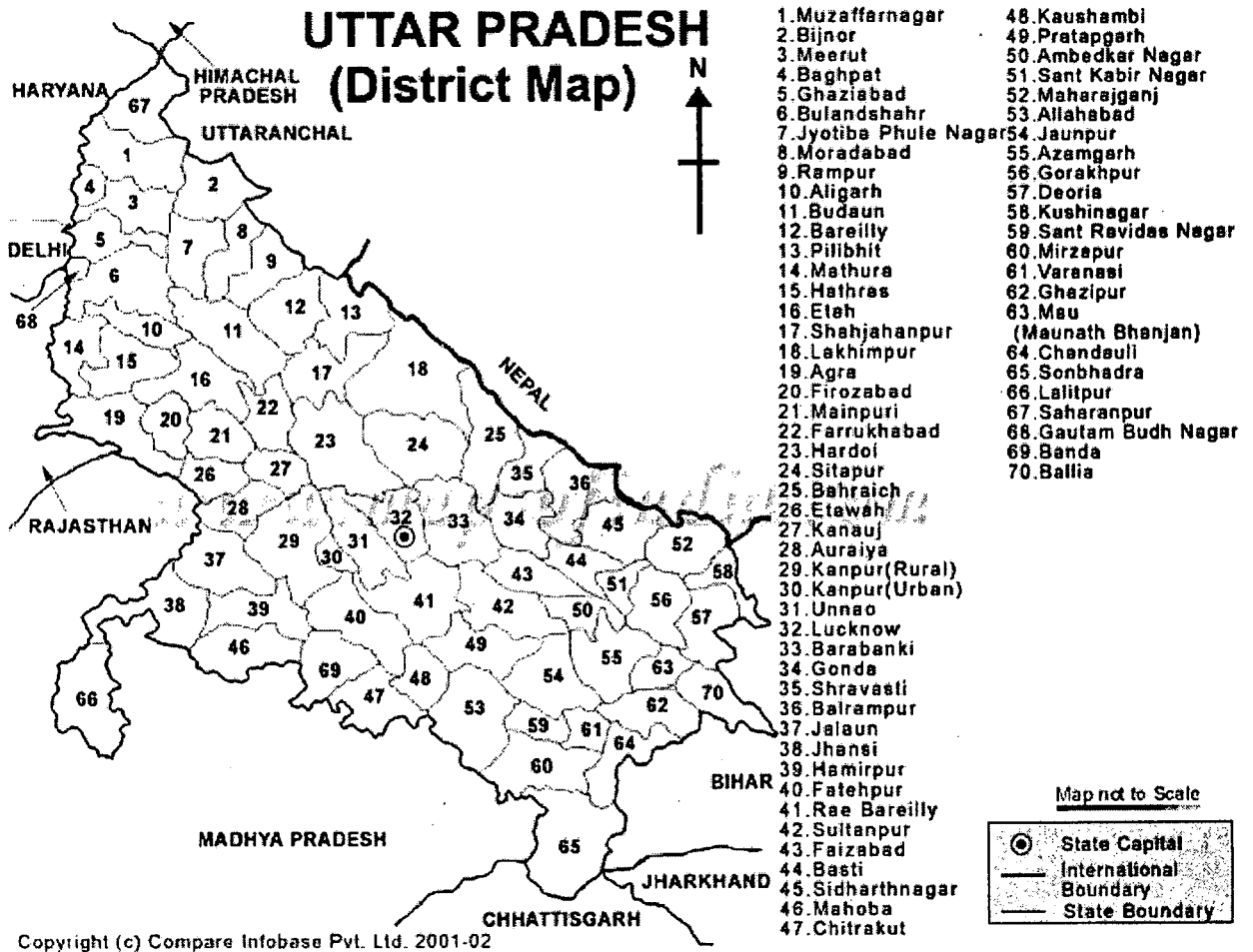
11. Do you feel that the distribution of Antyodaya cards in this area has been fair or unfair?

Fair(1)/Unfair(2)/No view(3)/NR(4)

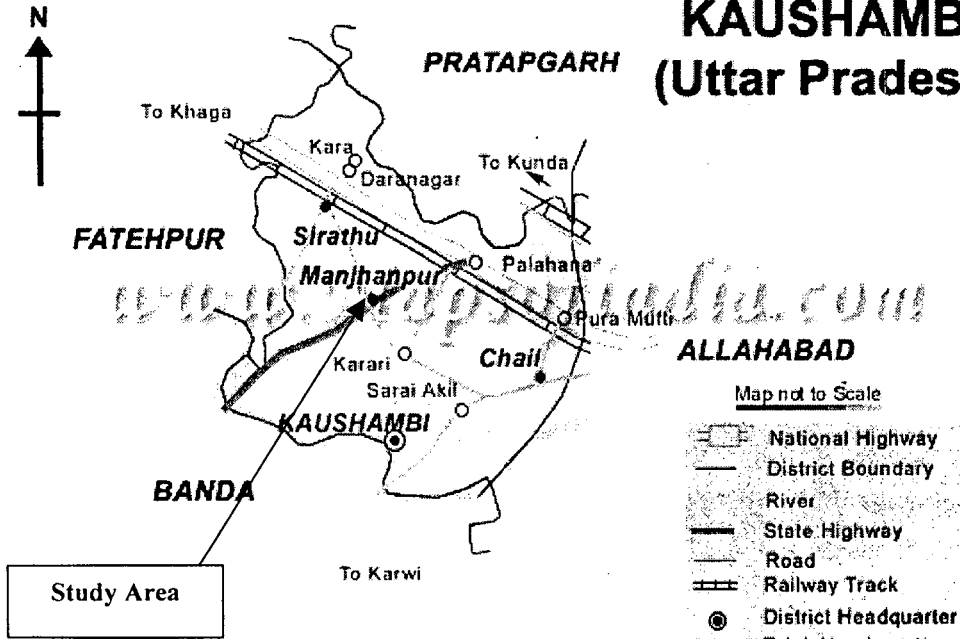
12. Out of 100 Antyodaya cardholders, approximately how many do you think are genuinely destitute households, and how many are households that should not have received a card in the first place?

Destitute households: / _____ %

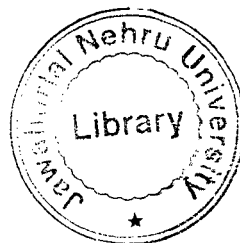
"Rogue" households: / _____ %



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