Research for the Sustainable Development of the Mega Cities of Tomorrow – Energy and Climate Efficient Structures in Urban Growth Centres

---

Hyderabad as a Megacity of Tomorrow: Climate and Energy in a Complex Transition towards Sustainable Hyderabad – Mitigation and Adaptation Strategies by Changing Institutions, Governance Structures and Consumption Patterns

Project funded by Federal Ministry of Education and Research (BMBF), Germany

FOOD, CONSUMPTION AND NUTRITIONAL STATUS IN HYDERABAD

An empircial study on poor and middle-income households

Chada, Radha R. / Christoph Dittrich

Analysis and Action for Sustainable Development of Hyderabad

Hyderabad as a Mega City of Tomorrow: Climate and Energy in a Complex Transition towards Sustainable Hyderabad – Mitigation and Adaptation Strategies by Changing Institutions, Governance Structures, Lifestyles and Consumption Patterns

Project funded by Federal Ministry of Education and Research (BMBF), Germany: "Research for the Sustainable Development of the Mega Cities of Tomorrow"

Humboldt University Berlin
Leader of the Project Consortium
Prof. Dr. Dr. h.c. Konrad Hagedorn

Coordinator of the Project:
Dr. Ramesh Chennamaneini

Department of Agricultural Economics and Social Sciences
Division of Resource Economics
Philippstr. 13, House 12
10099 Berlin
Germany

Phone: ++49 30 20936305
Fax: ++49 30 20936497

Email: k.hagedorn@agrar.hu-berlin.de
r.chennamaneini@agrar.hu-berlin.de
Web: http://www.sustainable-hyderabad.de
http://www.agrar.hu-berlin.de/wisola/fg/ress/

Food, Consumption and Nutritional Status in Hyderabad

An empirical study on poor and middle-income households

Radha R. Chada / Christoph Dittrich

for
Institute of Cultural Geography
University of Freiburg, Germany
Werthmannstrasse 4, D-79085 Freiburg
and
Sannihita, Center for Women & Girl Children Society, Hyderabad, 500020
Email:
Project coordination in Germany: christoph.dittrich@geographie.uni-freiburg.de
Project coordination in India: sannihitaindia@yahoo.com
Authors: chadaradha@yahoo.co.in
christoph.dittrich@geographie.uni-freiburg.de

Background Study

May 2009

Abstract
While poverty levels are declining in India, concerns over food and nutrition are increasing. In the changing food scenario of globalising urban India two contradictory trends can be recognised: The first concerns the underprivileged urban dwellers, still highly exposed to food insecurity and hunger. Deficient diets cause severe incidence of malnutrition particularly among women and children. The second major trend concerns the rapidly changing food consumption patterns and diet transition among the emerging urban middle classes. Due to economic growth and new lifestyle choices their demand for greater variety of food products has never been as it is at the present. Supermarkets and fast food outlets mushrooming all over the big cities are just one indicator of this. The objectives of this background study are to analyse the food status of different socio-economic groups in the emerging mega city of Hyderabad, to gauge their food consumption patterns, and to assess nutrition-related health issues as well.

TABLE OF CONTENT

1. INTRODUCTION

At the time of independence India faced two major nutritional problems – one was the threat of famine and acute starvation due to low agricultural production and lack of appropriate food distribution system, and the other was chronic energy deficiency because of low dietary intake mainly due to poverty and low purchasing power. Poor environmental sanitation and lack of access to safe drinking water led to high prevalence of infections. Nutrition toll of infections was high because of poor access to health care. The country initiated multi-sectoral, multi-pronged programmes to combat poverty. Simultaneously essential goods and services were provided to people below poverty line at a subsidized rate to improve their nutritional and health status.

After a steady, but slow gross domestic product (GDP) growth in the initial four decades after independence, India has become one of the fastest growing economies in the world Currently GDP growth is above 6 % (1), (for AP 2007-08 it is 7.42 %)(2). But the fruits of economic growth have not benefited everybody in the same manner. Some are left behind and the others are not touched by the benefits of economic growth. Economic growth has been accompanied by rising urbanization. Indian cities are expanding with substantial increases in the growth rates. An alarming feature of the urban population growth is the proportion of the people still living in poverty.

Globalization and urbanization are defining development by transforming cities to mega cities. The mega cities are losing their original historical and cultural diversities. These mega cities create certain changes in market needs, lifestyles and dietary habits, thus facilitating the policies of global liberalization policies. These policies have an impact on consumption patterns and livelihoods. Urbanization implies not just a change in the location of the dwellings, but also a change in lifestyles, value systems and dietary habits (3).

A key feature of this remarkable period of growth has been the change in the nature of the Indian diet. As the world economy becomes more integrated and communication faster, diet transition would have been inevitable. But is clear that, during the most recent decade, globalization has played an enormously important role in the transformation of food consumption patterns of Indian households. This is particularly evident in urban areas. The change in consumer tastes and demand has critical implications for the whole food supply systems.

While the country is yet to overcome problems relating to undernourishment and communicable diseases, it is increasingly facing problems of overnutrition and obesity. Although obesity rates are higher in urban high-income group, the low-income group is not totally free from overnutrition. Research studies in India have highlighted the possibility that undernourishnent in childhood might be one of the predisposing factors for overnutrition, obesity and rise in non-communicable diseases in adult life (4). Some aspects of the changing complex relationship between economic growth, poverty, and nutritional status and diet diversification in India can be explored.

India is passing through a transitional phase of diet diversification with socio-economic development. Considering the implications of the double burden of disease in the country with a paucity of data in Hyderabad among the middle income and the poor, the present study is taken up. Reliable data on various attributing factors, with the following objectives conform basis for planning, preventing strategies.

- to assess the prevalence of problems due to over nutrition in adults from different socio-economic groups;
- to determine the BMI and compare between different income groups;
- to gauge the consumption patterns and consumption volume for various foods and food products;
- to assess the concept of safe food and the quality parameters when buying foods and food products from out side; and.
- to investigate the lifestyle practices and patterns that have an impact on the individual

This background study looks into the food consumption patterns and its changing impact on the nutritional status of the poor and the middle-income groups. Section 2 analyes diet and nutrition changes in India and the crucial factors that strongly influence these changes. Section 3 provides an insight view of the profile of the emerging mega city Hyderabad where the study is taken up. Section 4 explains on the methodology of the study. Chapter 5 provides detailed results of the empirical research carried out in February and March 2009. Chapter 6 presents a short case study of a slum visited and section 7 includes conclusion and recommendations for further research.

2. THE NUTRITION TRANSITION IN INDIA

Economic Growth in India

Since the 1980's India has enjoyed quite remarkable economic growth. India recognized the importance of planned growth of the economy with, emphasis on human resource development and fostered both agricultural and industrial development (5). The increase in GDP growth is mainly due to service sector and industrial growth. Despite higher growth rates, jobs in the unorganized sector have not increased. Agriculture, which remains the major sector for rural employment, has even lost its growth momentum. As a result of this the pace of decline in unemployment and the proportion of population below poverty line has been modest. There is inequitable distribution of income between groups in the state and the country. The relationship between economic growth and poverty reduction is no longer linear. It is estimated that 40 % of the poor household's share in income is only 20 percent while the richest 20 % households of the country have 46 % of the national income (6).

Indian cities are expanding with substantial increases in the growth rates. Demographic trends show that while urban average growth rate stabilized to 2-3% over the past decade (1991-2001), the slum growth rate was double at 5-6%. Projections suggest while the urban population shall double in the next 10 years, the urban poor shall double in just five years (7).

A major change in the last few years is the large-scale movement of rural populations to urban areas (8). Figures about migration in AP show that 14 % of the total migrants moved from rural to urban as per Censes 2001(8). While urbanization has had its positive effects and has contributed to overall economic growth, it has also led to undesirable side effects. There has been a rapid emergence of globalization, which certainly contributed to macroeconomic development. But Khadija Haq (2001) caution, "if globalization is superimposed on a poorly educated and poorly trained labour force with poor systems of governance and infrastructure, it would not lead to growth nor reduce poverty" (9). Urban poverty poses the problems of housing and shelter, water, sanitation, health, education, social security and livelihoods along with special needs of vulnerable groups like women, children and the aged. Poor people live in slums, which are overcrowded, often polluted and lack basic civic amenities like clean drinking water, sanitation and health facilities. Most of the people living there are involved in informal sector

activities where there is constant threat of eviction, removal, confiscation of goods and almost non-existent social security cover (10).

Expenditure Patterns on Food

Access to food grains at a subsidized cost through the public distribution system has a beneficial impact on consumption and expenditure on food. National Sample Survey Organization reports that there has been considerable decline in expenditure on food, mainly due to low cost of cereals (provided to the poor under PDS) which are the major source of energy in Indian diets. The share of food in total consumer expenditure has fallen from 64 percent to 42 percent in urban areas. The share of cereals has fallen from 23 percent of consumer expenditure to 10 percent in urban India (11). As a result of this there was an improvement in energy intake with reduced expenditure.

Diet Diversification

Economic growth altered the structure of the labour force in urban areas characterized by increased female participation with important consequences for the family diet. Whilst women may still have prime responsibility for providing the daily meals, the nature of these meals may change. As incomes go up, the food basket becomes more diversified. Cereal consumption decreases and the consumption of other foods increases. Even though people spend a smaller share of their income on food, they spend more in absolute terms. The consumption of ready made meals or foods that cut the long preparation time of traditional dishes, are likely to be predominant feature of the diet for families. With the increased emergence of nuclear families, increase in economic growth and greater integration in the global market, we may see an even stronger upward shift in demand for convenience foods (12). Households start to adopt food consumption patterns that differ from the traditional ones. Consumers exhibit strong preferences for meat or fish, temperate zone foods such as apples and highly processed convenience foods and drinks all of which are readily available in the emerging supermarkets and fast food outlets (13). Substantial increases are also seen in the consumption of tea, biscuits, salted snacks, prepared sweets, edible oils and sugar. There is a decline in the intake of fruit and vegetable.

Thus, consumers are no longer constrained in their demand to purchasing local products. The process of diet globalization is clearly assisted by the globalization of the media. The

proliferation of global entertainment through popular television programmes permits the wide-scale advertising of global products. This adoption of a globalized diet is seen as a dynamic process among the upper middle and high-income classes, but there is a paucity of studies showing this dramatic change in the lower middle-income class and the poor.

The 1990s by contrast, saw a significant change in the pattern of food consumption. There was a marked increase in the consumption of animal products, especially fats, whereas the increase in the consumption of vegetable products was relatively modest. Among vegetable products, there were large increases in the consumption of wheat, starchy roots, vegetable oil, sugar and other sweeteners and fruits, whereas the consumption of rice, pulses and cereals has declined. The 1990s were associated with the consumption of significantly larger amounts of energy-dense foods in the form of fats, oils and starchy roots. Whilst starchy roots represent a staple, the considerable increase in the 1990s captures the increased consumption of potatoes, a food with strong associations with energy-dense food products such as fries and potato chips. It is important to note that the use of wheat in the diet is changing as well to more commercialized bread products similar to those found in Europe and the USA. Traditionally wheat represented a key staple in North India whereas in the South rice and rice products tended to dominate the habitual diet. With economic growth, dietary preferences in souhern India are moving away from rice towards wheat. There is a general decline in the consumption of traditional foods such as millets like ragi, jowar and bajra. The National Nutrition Monitoring Bureau Reports (14, 18) indicate that the urban food consumption patterns show a reversal of trend of cereal and pulse intake of the rural group. The average pulse consumption in the urban population is higher than the pooled rural data while that of cereals is lower. There is a clear socio economic gradient in the consumption patterns of cereals and pulses. The higher income levels being associated with lower intake of cereals and higher intake pulses and fats and oils. An important social aspect of the globalization of the diet is that, once the traditional food consumption habits have been displaced by the new consumption patterns, the change becomes largely irreversible. This process of change where the availability of convenience food will lead to a rapid loss in the ability of households to prepare the traditional foods. Popkin (1993) stated that future generation might start to consider the energy dense diet as their traditional diet and move away from the original foods (13).

Diet Diversification and the Double Burden of Disease

The process of diet transformation has far-reaching consequences for public health. The adoption of a more varied and nutritionally balanced diet generally leads to substantial improvement in public health indicators. On the one hand, the availability of a much broader range of food products enables consumers to overcome the limitations of the traditional local diets in terms of availability of resources. Also, the process of standardization that is put in place by large food distributors and supermarket chains can ensure higher levels of food hygiene. Both these aspects would be associated with an improvement in health indicators.

The incidence of moderate and severe malnutrition in India for children between the ages of 1-5 years has fallen markedly across all states. The figures for severe and moderate malnutrition have fallen for India and Andhra Pradesh since 1992 to till date represented in table 1(14-18).

Table 1: Percent Distribution of Children (aged 1-5 years) by Nutritional Grade in Rural Areas

State	Period	Normal	Mild	Moderate	Severe
Andhra Pradesh	1975-79	6.1	32.4	46.1	15.4
	1991-92	9.1	39.2	41.9	8.9
	2000-01	11.5	48.6	35.8	4.1
	2004-05	11.1	45	41.5	2.3
All India	1975-79	5.9	31.6	47.5	15
	1991-92	7.2	36.3	45.1	11.1
	2000-01	9.0	43.3	41.3	6.4
	2004-05	13	44.2	38.2	4.5

It is due to the marked increase in the consumption of milk, animal protein, fruits and vegetables that can explain the reduced incidence of malnutrition. While the gains of the past have been impressive, a great deal more needs to be done before the problems of poverty and malnutrition in the country are fully eliminated.

On the other hand, the increased consumption of high calorific and more energy dense food could lead to an increased obesity and of diet-related diseases like diabetes, coronary heart

disease and certain types of cancer. It seems obvious that dietary patterns are contributing to a clear change in the trends of chronic diseases in India (19). Shetty (2002) remarks that "there is clear evidence of a demographic, epidemiological and nutrition transition in India that is fuelling the epidemic of chronic diseases and obesity, particularly in the urban areas". Popkins et al. (2001) carried out an analysis of diet trends and nutritional status in India and China. Whilst the incidence of undernourishment by their estimates is declining the incidences of obesity, diabetes and hypertension are rising (20).

An unhealthy diet also pose social costs in terms of aggregate public health indicators that are not considered by individual consumers. The worsening of the health indicators would bring about a larger health care expenditure. In addition, they could have severe negative economic implications for instance in terms of a lower productivity of the workforce and in the worst-case scenario this could jeopardize the very potential for growth of the economy. It is well established that there is a close link between nutrition and productivity, particularly in agrarian societies.

3. CURRENT TRENDS IN THE MEGA CITY OF HYDERABAD (8, 21)

With a population of about 7.5 millions, the emerging mega city of Hyderabad is the capital of the Indian state of Andhra Pradesh. The city of Hyderabad was founded on the banks of the Musi River in 1591. Today the city is well connected nationally and internationally. There are good employment opportunities in and around Hyderabad in broad range of fields including IT, ITES, biotechnology, pharmaceuticals, textiles, food processing, safety and security and defense. Apart from that a large a number of people is also engaged in other activities, like trade, manufacturing, construction and transport, etc.

Migration

Given it advantages of being a major trade and business center, Hyderabad attracts a large number of migrants, from poor labourer to well established industrialists and businessmen, not only from other parts of the state but also from other states of India. About 25% of the total population of the Hyderabad Urban Authority in 2001 are migrants to the city. Of the total number of migrants, about one-quarter stated that the reason for migration was

work/employment or business. The other reasons stated were education, after marriage, moved with family, moved after birth.

Basisc Amenities

The slum /non-slum breakdown in the reports of Human Development Report 2007 and NFHS-3, follows the census designation of slums, slum areas as defined in the census include (1) all specified areas in a town or city notified as 'Slum' by the state/local Government and UT Administration under any Act including a Slum Act. (2) All areas recognized as 'slum' by the state/local government and UT Administration, Housing and Slum Boards, which may have not been formally notified as slum under any act and (3) a compact area of at least 300 population or about 60-70 households of poorly built congested tenements, in an unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities.

With the effect of the real estate boom, and consequent soaring prices of land, housing and house rents, the affordability of housing has been affected for the middle class and lower income house holds.

The increasing influx of migrants and floating population along with inadequate road infrastructure and public transport system in addition to the increasing number of private vehicles have worsened traffic problems.

The increasing number of extremely polluted industrial areas in fertilizers, pharmaceutically, bulk drugs, pesticides, dye and dye intermediaries, textiles, paper and pulp and sugar are the rising cause of air and water pollution.

Education

Based on 2001 census data, the school attendance rate in Hyderabad district was 79.2 %.

There are 820 government schools in the city. Of these 267 schools have their own buildings and 211 are functioning in rented buildings. A large number (342) are operating in the community hall most of them are single room structures built in slum areas. They have neither proper lighting nor ventilation and no drinking water and toilet facilities. It is common in these localities for students of all the elementary these classes to sit in a single room hall in cramped conditions. These schools get undeclared holidays whenever there is any cultural activity in the locality (22).

A survey conducted in 2004 by one NGO (23) of 391 schools serving around 68,000 students in the old city of Hyderabad found that about 69% of students dropped out in 2002-03, 410 teacher posts were remaining vacant, 259 schools had no drinking water facility, 270 schools did not have electricity, 121 had no toilets, 74 were functioning in rented building, 137 buildings were not in good condition and most of those schools had only 2 rooms.

Health Care

Health care facilities in the city, particularly the large number of secondary and tertiary level hospitals, serve not only the people living in and around the city but also people from more remote parts of A.P. But the rapid expansion of health care facilities particularly in the private sector is a cause for concern because of the increasing burden of health care expenditure on individual households, especially, the poor. Another disadvantage is the inadequacy of services at the primary health centers and government hospitals in the city.

Slum dwellers are only slightly worse off than non-slum dwellers with respect to almost all health, nutrition and population indicators. The total fertility rate is slightly higher in slum (1.9 children per woman) than in non-slums (1.7). The contraceptive prevalence rate is slightly lower in slums (65 %) than non-slums (67 %).

The same proportion of mother in slums and non-slums (91 %) had at least three antenatal case visits for their most recent birth, but the consumption of iron folic Acid (IFA) tablets for at least 90 days was much lower for women who were pregnant with their last child in slums (47 %) than in non-slums (54 %). In slums 79 % received postnatal care within two days of birth. Children aged 12-23 months in slums (53 %) have received all the recommended vaccinations against childhood diseases.

The situation with respect to the nutrition of children and adults is quite mixed. Children in slum are stunted (low height for age), wasted (low weight for height) and also more under weight (low weight for age). 21 % of women in slums are abnormally thin. Nonetheless, it is striking that even in slum areas of Hyderabad, about one in three women (31 %) and one in five men (22 %) are overweight or obese.

The prevalence of anemia among young children is higher in slum areas (59%) than non-slum areas (53 %). The prevalence of anemia among adults is also higher in slum areas than in non-slum areas (55 % vs.49 % for women and 13 % vs. 12 % for men) (21).

Disease Profile

One recent study (24) based on information collected for 5 years from 2001 September 2006 in addition to monthly data for 2005 and 2006 for 34 diseases from the Ronald Ross Institute of Tropical Diseases, Hyderabad, popularly known as the fever hospital, which is a major referral hospital for infectious diseases for the poor and low-income families in the city, shows that the member of inpatients has been more than 11,000 every year, with the number going up to 15,703 in 2005. A developmental feature is the lower number of death over the last 5 years, though the number has that fallen below 100.

Of the 34 diseases, 14 diseases are the major causes of morbidity and mortality. Some of these are diarrhea, malaria, enteric fever and viral pyrexia/fever, which account for more than 90 % of the morbidity and an even higher share of deaths. Diarrhea and viral pyrexia/fever are the two major causes of hospitalization of the poor in the city. It may be noted that both these diseases are related to lack to clean drinking water, poor sanitation and low resistance. Though the number of cases of rabies and tetanus are fewer, the diseases are fatal, accounting for over one-half of all death cases. Diphtheria is known to have been controlled through immunization but has resurfaced. The number of cases is increasing each year and has crossed 800 in the first nine months of 2006. After tetanus and rabies, diphtheria is the third important cause of mortality followed by diarrhea.

The changing nature of urban lifestyles itself lead to new set of illnesses among the urban population. The spread of now variants of diseases like chikunganya and epidemics such as HIV/AIDS are mostly concentrated in urban areas of Andhra Pradesh.

The number of outpatients visiting the hospital has also been continuously increasing. What is disturbing is that even while the number of new patient is rising, the number of visits by the old patients (repeated visits) is also increasing. This indicates that even if the patients are not admitted to the hospital, they are not getting free from health, problems and are thus forced to visit the hospital frequently. The disease pattern thus indicates the inadequate provision of clean drinking water and environmental sanitation in the more than 1,000 slums of Greater Hyderabad.

4. METHODOLOGY

Study Setting and Respondents

The study was conducted among adult males and females aged 20-65 years residing in slums/bastis of Hyderabad. Four areas were randomly selected from the geographic zones of the city. The areas selected were 1) Jeedimetla, where al large number of low and lower middle income industrial workers reside; 2) Motinagar, Ameerpet, where mostly migrated population groups live, working as employees in the nearby office complexes; 3) Himayatnagar, a highly polarized and fragmented city-quarter, where the impact of urbanization and globalization is evident; 4) Moosarambagh, an unrecognized (illegal) slum settlement where most of the poor women work as domestic helpers.

Research Methods

Both the qualitative and qualitative research methods were used for data collection. For obtaining the quantitative data, a pre-tested knowledge, attitudes, belief and practices (KABP) questionnaire consisting of approximately 50 closed-ended multiple-choice questions was used. This questionnaire aimed to elicit information on demographic characteristics (age, occupational status, education, number of children, type of family type of house) of respondents, household assets, type of fuel, food purchasing characteristics, frequency of consumption of various foods, types of oil used, medical problems, and physical activity and life style patterns.

For the qualitative data, focus group discussions (FGDs) were conducted. FGDs are a well-established method of getting participant's understanding of and perspectives on certain issues. They usually constitute 5-6 people selected for their homogeneity on some factor important to the research, such as age or sex. Discussions are 'focused' on the topic of interest to the researcher. In preparation for FGDs, a 'theme guide', which listed the themes/topics around which the discussion would focus, was evolved from a review of literature, preliminary discussions with the other team members and from the results of the earlier studies. The broad areas of discussions included

- access to subsidized food household,
- expenditure for food items,
- reasons for selecting a particulars place for purchase of foods,

- quality parameters when buying foods from outside,
- changes in the family food consumption pattern,
- healthcare services and its effectiveness.

Sample Size

Quantitative data (using KABP questionnaire) was collected from 523 individuals randomly selected from the slums/Bastis. Two focus group discussions were conducted with 4-5 women in each group. Care was taken not to include those who participate in the KABP questionnaire survey for the FGDs.

Data Collection

Quantitative data was collected by the KABP questionnaire in the personal interview made in the residences of the respondents after obtaining consent from them. The FGDs were conducted in Telugu and Hindi (the local languages). The entire discussion was recorded using an audio device with the permission of the respondents.

To assess the nutritional status of the adults, anthropometrical measurements of height and weight were also carried out.

Data Analysis

The data from KABP questionnaires were coded and entered into Microsoft excel 2007 before carrying out statistical analysis viz., frequency distributions, cross tabulations, chi-square tests using SPSS package (Version 15.0).

The recorded discussions were transcribed on the day after the discussion and written down in English and shall be compiled into related categories in the results.

5. ECONOMIC CHALLENGES AND NUTRITION OUTCOME

The socioeconomic status data on ownership of house, type of house, number of rooms, type of family, caste, education, occupation and income of the family was analyzed individually to retrieve more meaningful data on each aspect.

Demographic Profile

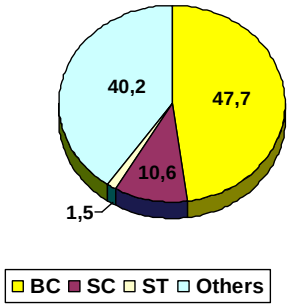
A total of 157 females and 366 males were interviewed. The socioeconomic parameters of the respondents of KAPB study are listed below.

- More than one-half of the respondents owned a house.
- Of the respondents 196 lived in two-rooms house and 185 had a single room house.
- 489 of them had an independent house, which could be a house of one or two rooms.
- About three-quarters lived as nuclear families. It is because of situational reality that there could be an increase in the number of nuclear families. Another major reason provided by the respondent for having a nuclear family is the high rate of migration from rural to the urban area. This increasing number of nuclear families could increase the demand for basic amenities in the city.
- Majority of the households (HHs) interviewed were Hindus (81.5%) and 15.1% were of muslim faith.
- A large-scale migration from Coastal Andhra, neighbouring districts and villages of Hyderabad and from other states of India. Of the study group 7.3 %(38) households belonged to Hyderabad, 5.7 %(30) households migrated from the other states of India. A majority of 87% (455) households migrated to Hyderabad from the other parts of Andhra Pradesh.

Table 2: Characteristics of the Respondents of the KAPB Questionnaire

	PARAMETER ➢	NO. OF RESPONDENTS (%)
1.	**Ownership**	
	Own House	270 (51.6)
	Rent	253 (48.4)
2.	**Type of House**	
	Apartment	31 (5.9)
	Independent	489 (93.5)
	Pucca House	2 (0.4)
	Tenement	1 (0.2)
3.	**Number of Rooms**	
	1 Room	185 (35.4)
	2 Rooms	196 (37.5)
	3 Rooms	74 (14.1)
	4 to 8 Rooms	68 (13.0)
4.	**Family type**	
	Joint	111 (21.2)
	Nuclear	407 (77.8)
	Single mother	4 (0.8)
	Single	1 (0.2)
5.	**Mother Tongue**	
	Telugu	416 (79.5)
	Hindi	20 (3.5)
	Urdu	73 (14)
	Tamil	4 (0.8)
	Kannada	9 (1.7)
	Malayalam	1 (0.2)
6.	**Religion**	
	Hindu	426 (81.5)
	Muslim	79 (15.1)
	Christian	18 (3.4)
7.	**Type of fuel used for Cooking**	
	Liquid Petroleum Gas/LPG/Cooking gas	392 (75%)
	Kerosene	85 (16.3%)
	Charcoal/wood	44 (8.4)

Figure 1: Social Status of Respondents



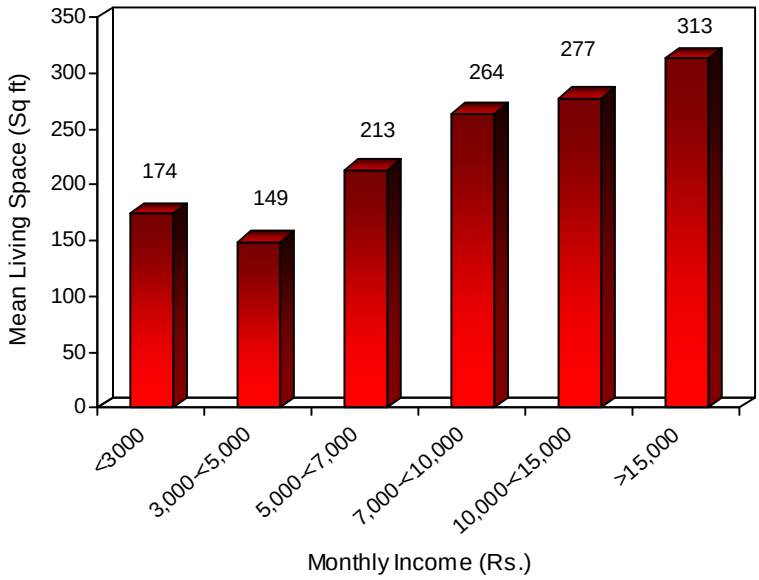
Social Status of Respondents

From the figure 1 it is clear that majority of those who were interviewed belonged to the backward class (47.7 %) and 40.2 % of them belonged to the other communities.

Living Space

It is seen that the living area of the rooms increased as the family income increased, with an exception among the Rs.3,000 to <5,000 which is depicted in the graph below.

Figure 2: Mean Living Space among the Different Income Categories



Household Size

Of the 523 families surveyed, 385 families (73.6 %) have children below 14 years. Among the 385 families, 166 (31.7 %) of them have a single child, 163 (31.2 %) have two children, 43 (8.2 %) have three children and 13 (2.5 %) have more than four children. Of the 385 families who have children, 87 households are joint-family having 187 children, 296 households are nuclear families having 488 children and two households are maintained by single mothers have three children. The larger the family size, the greater is the burden of demand for food, and basic amenities per person within the family. Meeting the increased needs of a large family with a limited income is very challenging making them more vulnerable to poverty. The intra-familial distribution of food will be inadequate along with other needs.

Education

Information on the education of both, the children and the adults (men and women) of the households have been obtained. 108 (20.7 %) members of the households who are > 6 yrs of age can read and write, 370 (70.7 %) members are educated up to 5^{th} class, 365 (69.8 %) up to 10^{th} class, 178 (34 %) up to 12^{th} class and 129 (24.7 %) up to college. The highest level of education in the households ranged from bachelors to masters and even up to technical courses like engineering.

Income Sources

The number of regular income sources distributed across the different income categories and the corresponding number of dependable individuals in the family is tabulated in the tables below. 162 households in the Rs. 3,000-< 5,000 category and 70 households in Rs. 5,000-<7,000-income category depended on one regular income source. 76 households in Rs.3,000-<5,000 category and 25 households in Rs.5,000-<7,000 category had two regular income sources. There is a number of 12 households in each of the above income categories who depended on three regular income sources.

The number of income sources was compared against the number of dependable individuals to understand the extent of economic burden of the households. There are 147 households with single source of income and three dependable members in the house. 96 families' with four

dependable individuals had a single source of income. There are 45 and 29 households with two and three dependable members, respectively with two regular income sources. There are 14 households with more than four dependable individuals who relied on three regular income sources. There are two households whose members were students and hence not included in the distribution. This analysis shows that there is a financial burden in the households where the number of income sources was less and dependable members were more. During the FGDs, the members expressed "we take loans with high rates of interest to sustain the financial burden."

Table 3: Distribution of Number of Regular Income Sources across Income Categories

Number of Regular Income sources	Number of Households in Different Income Categories (Rs)					
	< 3,000	3,000 - < 5,000	5,000 - < 7,000	7,000 - < 10,000	10,000 - < 15,000	>15,000
1	55	162	70	33	15	8
2	14	76	25	2	12	5
3	3	12	12	4	2	1
>3	-	2	2	4	1	1

Source: Own survey, 2009.

Table 4: Number of Regular Income Sources with Corresponding Dependable Members

Number of Regular Income sources	Number of Dependable Individuals Among The Families					
	1	2	3	4	>4	Total
1	16	60	147	96	28	347
2	15	45	29	19	24	132
3	5	7	2	5	14	33
>3	1	-	3	2	3	9

Source: Own survey, 2009.

Occupation

The occupations in the households include salaried employees, daily wage earners, self-employed and others represented in table 5. The salaried employees had fixed regular income source that ensured consistency in their spending pattern. The daily wage earners' potential to be employed consistently is very low. Hence the periodical minimum assured income is not

guaranteed. The self-employed have higher income generation in the household than the other groups.

Table 5: Occupation

Occupation category	Number	Percentage
Salaried employees	252	48.2
Daily wage earners	101	19.3
Self employed	115	22
Others	55	10.5

The salaried classes were engaged in occupations like car drivers, small-time employers, company workers, computers operators, electricians, government employees, domestic helpers, office attendees, etc. The daily wage earners were like constructions laborers, carpenters, painters, packaging employees, municipal sweepers, and domestic helpers. The auto drivers, kirana store shop keepers, internet center owners, petty traders, vegetable fruit vendors, book sellers, labor contractors, tailors, rag pickers were categorized under self employed. The last section of others consists of individuals, who were housewives, and households who got rental income and students.

The salaried were 48.2,%, daily wage earners 19.3 %, self-employed 22 % and the others were 10.5 % shown in table 5.

The salaried class had a regular monthly income. This helped them to plan their budget for the various requirements in the family through some of the respondents mentioned that their salaries were not being sufficient due to the inflation of prices in the market.

The daily wage earners had a very irregular pattern of monthly income. It was dependent on the member of days of work they got per month. During the group discussion, it was found that on average they got work for 20 days in a month. Due to irregular flow of income, they were unable to plan their budget and most often ended up in taking loans at very high rates of interest.

The self-employed were marginally better than the daily wage earners. Some of the self-employed had a high monthly income, but individuals in jobs like rag pickers, fruit and vegetable

vendors and other petty traders had relatively low income, which was not sufficient for the family.

Average Monthly Household Income

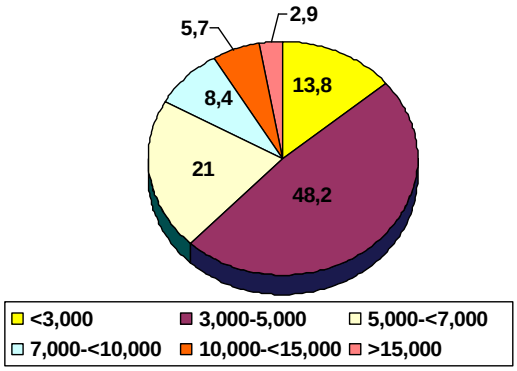
The households interviewed randomly represented all categories of income levels. This representation is helpful in comparing different parameters and draw conclusions. Majority of them are in Rs. 3,000 - <5,000 income bracket and small number of them in the higher income. The table and graph below show the number of females, males and total number in the different income levels.

Table 6: Distribution of Respondents among the Different Income Levels.

Income Categories (In Rs.)	Number of Men and %	Number of Women and %	Total Number and Percent
3,000	44 (12.0)	28 (17.8)	72 (13.8)
3,000 to < 5,000	175 (47.08)	77 (49)	252 (48.2
5,000 to < 7,000	78 (21.3)	32 (20.4)	110 (21.0)
7,000 to < 10,000	37 (10.1	7 (4.5)	44 (8.4)
10,000 to < 15,000	20 (5.5)	10 (6.4)	30 (5.7)
> 15,000	12 (3.3)	3 (0.9)	15 (2.9

Source: Own survey, 2009.

Figure.3. Average Monthly Income of the Surveyed Households



Household Assets

From the table below it is clear that 91.9 % of the total number possessed a cell phone, 89.9 % of them owned a television, 62.1 % had a pressure cooker, and 41.2 % owned a motorcycle. Each of the assets was given a score and the total scores were divided into quartiles. The first quartile had a score of <5, second quartile with 5-8 scores, third quartile with 8-10 scores and the last quartile with >10 scores. The greater the score more is the number of assets. There are 131 households in <5 score, 109 households in 5-8 score, 94 households in 8-10 score and 189 households in >10 score. This shows that a majority of the households had most of the assets. This analysis proves that a considerable amount of their income is being spent on acquiring durables over a period of time to improve living comforts. Increasing mechanization of life can augment sedentary lifestyles.

Table 7: Particulars of the Assets Owned by the Households

Type of Asset		Number	Percent
1.	Radio	34	6.5
2.	Television	462	89.9
3.	Refrigerator	162	31.1
4.	Microwave	4	0.8
5.	Pressure Cooker	325	62.1
6.	Washing machine	28	5.4
7.	Water filter	199	38.1
8.	Bicycle	183	35.0
9.	Two Wheeler	215	41.2
10.	Car	8	1.5
11.	Cell Phone	480	91.9
12.	Computer	45	8.6
13.	Internet	15	2.9

Source: Own survey, 2009.

Type of Cooking Fuel

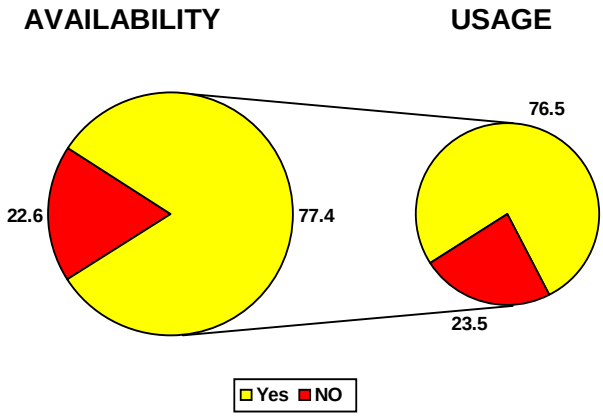
The type of cooking fuel used by the respondents is tabulated in table 2. About three-quarters of the study group used LPG, 16.3 % of the respondents used kerosene in their homes. The LPG to a majority of the users was sanctioned free to cost under the public distribution system scheme. The individual obtains the refill of the cylinder by paying Rs. 310/cylinder. Each cylinder is utilized on an average for 45 days. This cost of the cylinder is another burden on their

monthly income. In some of the households the LPG is used for cooking and kerosene stove is used for heating water for bathing in winter. Those families who used kerosene stoves also used wood/charcoal for heating purposes. Kerosene is purchased at the PDS by the members of the HHs who are allotted a regular quota of 10 liters of kerosene for subsidized cost. This quota is most often not totally availed due non-availability of kerosene at the PDS.

Access to Subsidized Food

The allotment of ration card to a family is of two types. Pink colored ration card is given to high-income families. The use of the card by these families is very poor. The White care is allotted to the low-income families and the poor. This card should ensure access to food grains and other foodstuffs at subsidized costs. Under the PDS scheme, the identified poor households with a white card are provided with 20 kg of food grains (rice) at highly subsidized price (Rs. 2/kg). In addition, they have an extra quantity of food grains (wheat) increased food basket consisting of edible oil sugar etc. The figure below shows that 77.4 % of the households had a ration card. Of these three-quarters of them used the card for procuring the food grains from the PDS.

Figure 4: Issue and Usage of Ration Cards



A group discussion was held among the women who expressed the following views and their problems about PDS.

- Non-availability of food grains at the fair price shops. One of the problems of PDS is the diversion of food grain to the open market. Various studies show that one third of the grains supplied to PDS looked into the open market in the universal public distribution system (UPDS) programme. The leakage level had increased to 41 % in the targeted public distribution system (TPDS) programme because the price gap between TPDS and the open market was wider (25). Even the urban poor community is not aware of what they are entitled in the PDS. As a result, the fair price shop owners cheated them.

- Another problem that they expressed was the lack of purchasing power of the poor. The food grains are supplied to them once in a fortnight. It is difficult for the families who are financially poor to buy food grains for two weeks in one go. The poor do not have the purchasing power to buy 20 kg of food grains at a time. This resulted in many not availing the PDS and the unutilized food grains are being diverted to the open market.

- The women also expressed that the quality of the food grains provided to them at the fair price shops was bad.

The number of hungry people in India far outstrips those that live in any other country in the world, says the UN World Food Programme (WFP) report prepared jointly with the MS Swaminathan Research Foundation. Coming down heavily on TPDS as a programme that has failed to serve intended goals. The report says, it has only led to greater food insecurity for the poor. It attributes the failure of the PDS to corruption and inefficiency besides, faulty information and wrong assessment of household characteristics and the amount of grain entitlement (26).

Source of procurement of foodstuffs

Table 8: Places of Purchase of Foodstuffs

Food stuffs	Kirana No.Percent	Supermarket No.Percent	MobileVendor No.Percent	Rythu Market No.Percent	RationShop No.Percent	Others No.Percent
Grain/pulses	275 (52.6)	-	-	5(1)	232 (44.4)	10 (2)
Grocery/Fruits	290 (55.5)	-	69 (13.2)	156 (29.8)	-	1.5 (8)
Milk	435 (83.2)	-		-	-	88 (16.8)
Oil	286 (54.7)	-		-	237 (45.3)	-
Meat/Fish	-	-	-	-	-	476 (91)
Egg	452 (86.4)	-		37 (7.1%)	-	-
Sugar	(53.5) 280	-		-	243 (46.5)	-
Spices/pickles	400 (76.5)	-	13 (2.5)	-	-	108 (20.7)
Sweets/biscuits	247 (47.2)	-	(14.3) 75	-	-	200 (38.2)
Coffee/Tea	475 (90.8)	-		-	-	47 (9)
Soft drinks	426 (81.5)	-		-	-	90 (17.2)

Source: Own Survey, 2009.

The food purchasing characteristics of the households majorly revolved around the kirana stores (small scale general store) and the ration shop (fair price shop). 52.6 % of the respondents purchased food grains and pulses in the kirana stores and 44.4 % of them purchased in the ration shop. The family members purchased a particular amount of food in kirana stores only when it is not available at the ration shop. Five households purchased their grains in the rythu market apart from the ration shop due to the cost being less than in kirana stores.

Grocery was again purchased mainly in the kirana store (55.5 %). Vegetables and fruits were purchased from the mobile vendors (13.2 %) although a few of them went to the rythu market (29.8 %) on their way back home to buy them. A small percentage of them (1.5 %) purchased from the vegetable and fruit shops where the prices were slightly higher than in rythu market or from the mobile vendor.

Milk consumption by the household members is found to be low. The majority used a small quantity for preparing tea and the rest used for setting curd which afterwards was made into

buttermilk. 83.2 % of them purchased the milk from the kirana store, 16.8 % obtained it from the milk vendors.

Oil was again purchased from kirana store and the fair price shops. A majority of then (54.7 %) purchased oil from the kirana store. The reasons that was expressed where that " we usually go twice or three times to the fair price shop to purchase our food requirements when we have money, but there is inevitably no stock and since our money will be spent, so we buy the food items in the kirana store." 45.3 % of them purchased oil in the fair price shop.

There were 9 % (47) of the respondents who claimed to be vegetarians. The non-vegetarians 91 % purchased meal/chicken/fish in the butcher's shop.

The total number of subjects who consumed eggs was 489. Less than 10 % of the families did not consume eggs at all. 86.4 % and 7 % of the families purchased eggs in the kirana store and by the market, respectively.

About one-half of the respondents purchased sugar in the kirana store, the other one-half purchased it from the ration shop.

Pickles are regularly consumed in Andhra Pradesh. There were two families who expressed that they do not consume pickles. A good observation made here was that the families who migrated from the other states also consumed pickles regularly, although it was not their traditional consumption pattern, but was acquired due to their stay in Hyderabad. 76.5 % purchased the packed pickles from the kirana store that would cost them Rs. 5-10 per packet, 2.5 % of them purchased pickles from the mobile vendor who came to their homes on a cycle and 20.7 % of them prepared the pickle at home and preserved it for long term use.

One family expressed that they did not consume biscuits and sweets. 47.2 % (247) purchased biscuits and sweets in the kirana store, 14.3 % (75) purchased the sweets and biscuits from the mobile vendors and 38.2 % (200) from the bakery or a sweet shop.

One family did not have tea or coffee. The large majority purchased the tea power from the kirana stores and consumed tea that is prepared at home. A few of them also expressed that they had tea during the work hours from the roadside tea stall or at the Iranian restaurant (low cost

restaurant). There were 9 % (47) members of the households, who did not prepare tea at home but consumed tea outside either at the roadside tea stall or at a low cost restaurant.

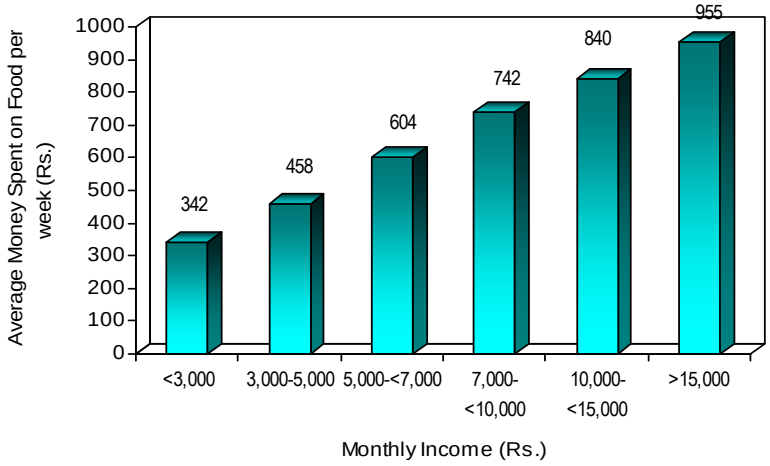
There were 81.5 % (426) of them purchased the soft drinks from the kirana store and 17.2 % (90) of them purchased from the bakeries.

There was one household, which consisted of students, who consumed prepared food at the mess.

Food Expenditure

The statistical analysis of the data showed that the amount of money spent on food items per week increased as the income of the family increased. The mean values of the money spent on food per week among the various income levels are represented in figure 5.

Figure 5: Average Money Spent On Food per Week among the Income Classes



An important observation made from the analysis of the survey is that, the percentage of the total income spent on food decreased with the increase in the family monthly income. The details are presented in the table below.

Table 9: Household Expenditure on Food per Week

Family Income (Rs)	Number of families	Money spent on food per week (Rs) (Mean ±SD)	Percent of the total family income per week spent on food
<3,000	72	341.7 ± 119.6	11.4
5,000 - < 7,000	252	457.5 ± 143.5	11.5
7,000 - < 10,000	110	603.6 ± 218.1	10.1
10,000 - < 15,000	44	742 ± 301.7	8.7
15,000 - < 20,000	15	955 ± 368.1	5.5

Source: Own Survey, 2009

Food Purchasing Characteristics

Table 10: Quality Parameters when Buying Food

Quality parameter	Very Important	Important	Not so Important	Not Important at all
Freshness/purity	259 (49.5)	233 (44.6)	31 (5.9)	-
Price	275 (52.6)	231 (44.2)	17 (3.2)	-
Label	63 (130)	145 (27.7)	134 (25.6)	176 (33.7)
Decorative Package	-	146 (27.9)	191 (36.5)	186 (35.6)
Nutrient content	217 (41.5)	194 (37.1)	59(11.1)	54 (10.3)
Calorie richness	213 (40.7)	195 (37.3)	62 (11.9)	53 (10.1)
Region provenance	70 (13.4)	151 (28.9)	106 (20.3)	196 (37.5)
Seasonal Supply	193 (36.9)	142 (27.2)	107 (20.5)	81 (15.5)
Shelf life	237 (45.3)	228 (43.6)	29 (5.5)	29 (5.5)
Genetically unmodified	-	-	30 (5.7)	493 (94.3)

Source: Own Survey, 2009.

All the respondents were aware of the quality parameters when buying foods. Most of them purchased goods from the kirana store and fair price shops, where they were not packed foods with a quality symbol. About one-half of them looked for freshness and purity and said it was very important, the other one-half said freshness was important. In the focus group discussion (FGD), a 32 year old woman expressed that they usually return food items back to the vendor if they were not fresh and take something else in exchange.

Price was very important for 96.8 %, because of their deficient monthly household income. “The food items are checked for freshness, but negotiated for the minimum possible cost,” one woman remarked during the group discussions. The groups also ridiculed that the fair price shops always sells sub-standard food stuff.

Food label was not important at all for 59.3 % of the households, because they purchase food items, which are sold loose. Label and food packaging was present when they bought foods like soft drinks, biscuits, milk, oil, tea powder and precooked dehydrated noodles (magi brand). They also expressed that they are not interested in decorative packaging, because that would cost them additional amount of money.

Nutrient content and calorie richness was important to a large number of households although they did not have clarity of information on these parameters.

Seasonal supply was not looked for food grains but surely looked for fruits and vegetables. This attribute was important to 64.1% of the households, because the seasonally available food items were cheaper and thus formed a part of their regular meals more often.

The household members were aware of what it means by “shelf life” and “expiry date”, but did not apply to them when they purchased goods at the kirana store or the fair price shop.

Of all the respondents, 94.3 % reported that they were not aware of the concept of genetically modified foods. They expressed that they knew only about pesticides and that they should wash the fruits and vegetables before consuming or cooking.

Nobody of the respondents was aware of organic food.

Consumption Patterns

Type of diet:

Of the total respondents surveyed 8 % (42) were vegetarians, 11.1 % (58) were non-vegetarians and 80.9% (423) were having a mixed diet where they consumed egg and fleshy foods.

Meal frequency:

First, the households were explained about what it means by full meals and what it means by snacks. After having clarity on the concept of full meals, it was found that 4.2 % (22) had one meal, 49.9 % (261) had two meals and 45.9% (240) consumed three full meals a day. The individuals who had one meal, had it either in the morning at brunch time or at dinner. The rest of the meal times they consumed snacks like samosas, puffs, biscuits or a bun with tea. Those, who had two meals, mostly skipped breakfast but had lunch and dinner. The rest had all the three meals breakfast, lunch and dinner. It is observed that there was no subject in the monthly family income of Rs. < 3000 that had one meal a day.

Breakfast: The traditional breakfast of Andhra Pradesh consists of preparations like chapatti or phulka, idly, dosa, upma, jowar/bajra roti or most of the time it could be rice also. A majority of them 45.5 % (238) skipped breakfast, 47.2 % (247) had rice-based breakfast and 2.5 % (13) had wheat based and 4.8 % (25) consumed a mixed diet. During the group discussions the respondents expressed that “most of the time we take breakfast consisting of idly or dosa which we purchase from a vendor who sells these items from his bicycle.” Some of the respondents even consumed bread dipped in tea for breakfast. Some of them consumed leftover rice from the previous day’s dinner.

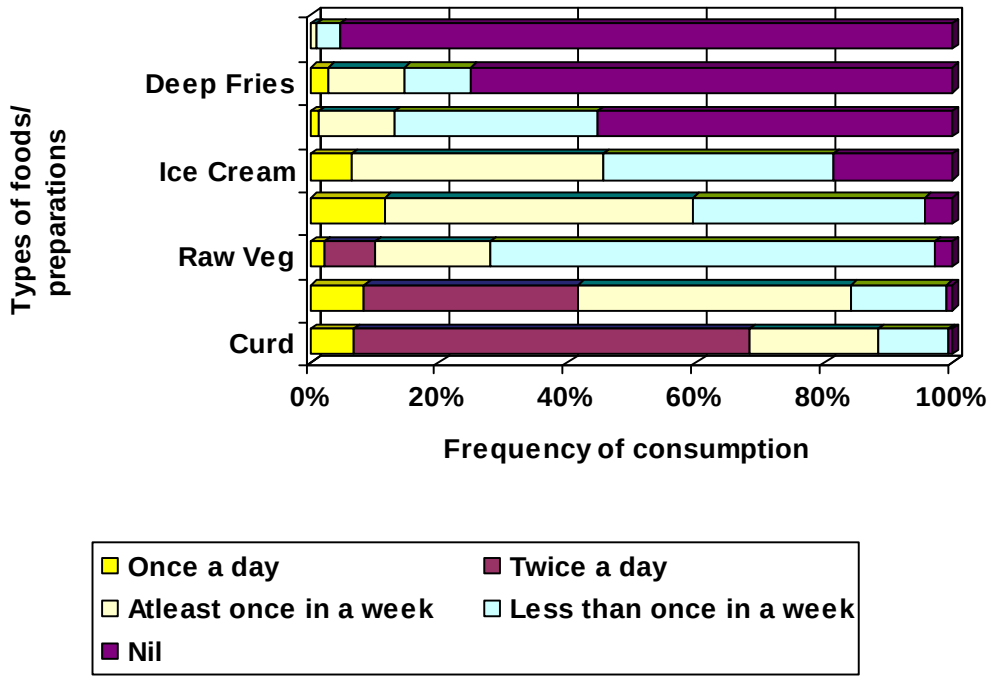
Lunch: Rice is the staple food of the people of south India. 99.8 % of them consumed rice for lunch. Lunch was had with dhal (pulse preparation), Vegetable curry (most often the seasonal vegetable) and curd or buttermilk. With curd rice they had pickle. A few of families expressed that on some days they would have the rice with pickle and skip the pulse and vegetable preparations.

Dinner: is generally prepared fresh. 91.8 % (480) of the respondents had rice-based dinner, 3.1 % (16) had wheat based dinner and 5.2 % (27) of them had mixed diet. The rest 4.2 % were those who had one meal.

Frequency of Consumption of Food Preparations

The frequency of consumption of foods (curd, fruits, raw vegetables, soft drinks, ice cream, fast foods, deep fries, deep frozen foods and convenient foods) is demonstrated in the graph below.

Figure 6: Frequency of Consumption of Food Preparations



Although 61.6 % (322) consumed curd twice day the quantity was very less or the curd is diluted with water to make buttermilk.

There were five respondents who did not consume fruits at all. A majority of them 42.4 % (222) consumed fruit at least once in a week and 33.3 % (174) had fruit twice a day. There are a

small number 8.4 % (44) who had one fruit in a day. Banana was the most common fruit consumed by the members, as it was the cheapest fruit. Some consumed banana and guava in a day. Some of them had orange, banana and guava. Most often these fruits were relatively cheaper than fruits like apples, pomegranate and chikoo.

The concept of eating raw vegetables like cucumber, carrot, tomato regularly was very less. Raw vegetables were consumed less than once a week by 69.4 % (363) of the households. A small percentage did not consume raw vegetables at all or consumed them once a day. Most often onions were consumed raw.

The consumption of soft drinks has increased relatively even among the middle income classes and the poor. About one-half of them had soft drinks at least once in a week and 11.5 % consumed every day. About one-third of the respondents had soft drinks less than once a week and 4.2 % (22) of them did not take them at all.

Children mostly consumed ice cream. Grated ice dipped is different sweetened colors called as ice gola were more commonly consumed of them. 39.2 % (205) consumed ice cream at least once a week, 35.6 % of them had less than once in a week although 6.5 % of them had ice creams everyday. The ice cream eaten by these children were not branded products. They purchased it from mobile vendors.

Likewise one-half of the children had chocolates, 31.5 % had at least once in a week, 14 % had less than once in a week.

Preliminary discussions were carried out to make the members of the household understand the about the foods that are called as fast foods. Of all the respondents, 55.3 % (289) did not eat fast foods and 31.5 % (165) have less than once in a week.

Three-quarters of the interviewed persons did not eat deep fried foods, although some of them consumed everyday. Preparing deep fried foods was only on festivals or when there is a rare occasion to celebrate among the family members.

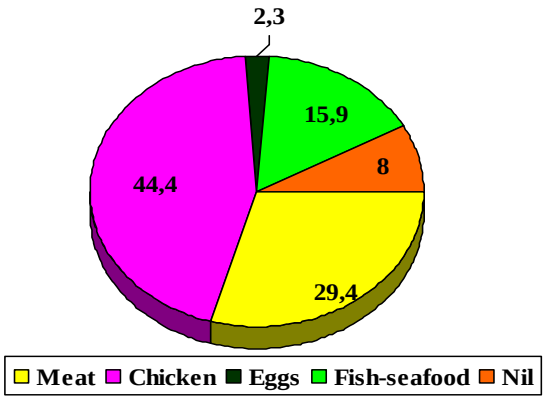
A large majority of the households did not have deep frozen foods and also did not consume convenience food items. Of those who said that they consumed convenience foods, had only “magi”, which are a precooked dehydrated noodles.

Chicken was consumed by 44.4 % (232) of the households, as it was cheaper than mutton. Mutton was consumed by 29.4 % (154). 15.9 % of them consumed fish. These households

belonged to those migratory groups from the coastal areas of Andhra Pradesh where fish is a part of their regular meal. This is shown in figure 7.

Most of them 75.1 % consumed fleshy foods once a week and 12.6 % of them ate twice a week. A small percent (3.1 %) of them had less than once a week and 1% of them had fleshy foods everyday.

Figure.7. Percentage of Household Consumption of Fleshy Foods



The oils that were majorly used were groundnut oil (36.7 %), sunflower oil (36.1 %) and palm oil (25.2 %). These oils used were mostly refined. Among the others 30.2 % and 30.8 % used unrefined and mixed oils respectively. This is depicted in figures 8 and 9.

Figure 8: Type of Oil Preferred

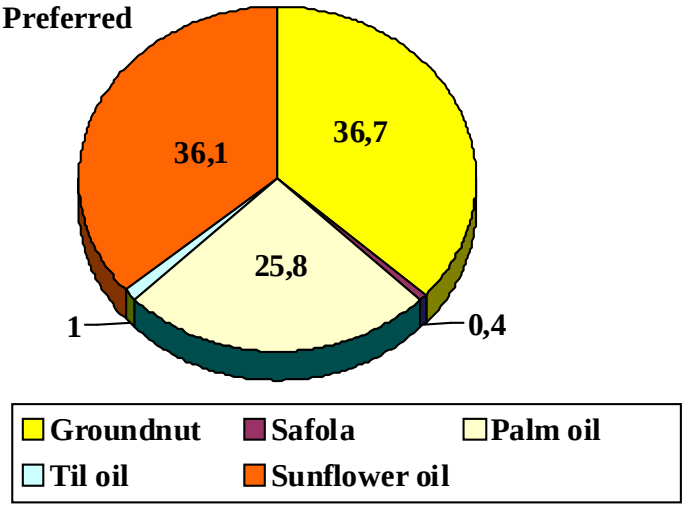
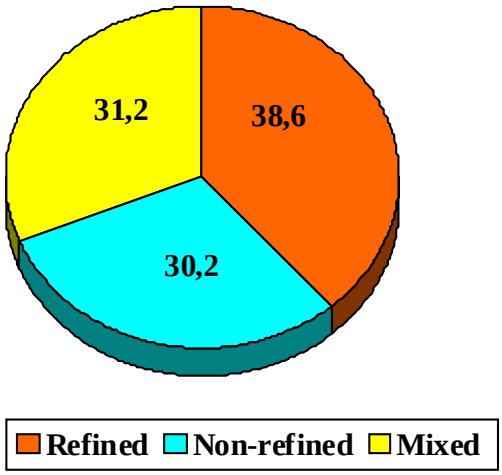


Figure 9: Quality of Oil Preferred

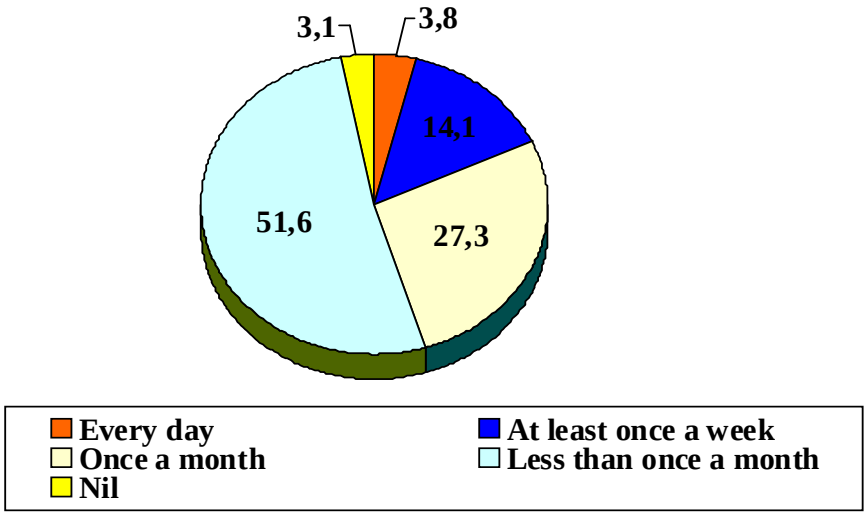


Majority of the households interviewed used one teaspoon of sugar, about 10 % of them used half teaspoon of sugar. Individuals who had a medical problem used artificial sweetener (4.2 %), which was advised by their doctors.

Frequency of Eating Out

From figure 10 it is understood that majority of them 51.6% (270) ate outside their house less than once a month and 27.3% of them ate out once a month.

Figure 10: Percentage of Respondents Eating Out



Among those interviewed 96.9 % (507) did not visit western food outlets, 20.5 % of did not visit local dhabas and hotels, 74.2 % (388) did not visit regular restaurants and 20.1 % (105) did not eat at the street food vendors. The majority of respondents was not entitled not eat outside because of insufficient monetary income. However 77.1 % (403) of them could visit and eat food at the local dhabas/hotels, as the meals and snacks there are cheaper.

When asked about their favorite dish a majority of them said that they liked non-vegetarian dishes, like chicken biryani, chicken curry, chicken fry, chicken tandoori, and a few of them preferred mutton biryani and egg curry.

Of the total respondents, 81.3 % (425) of them could not realize any major changes in their food consumption pattern during last 10 years. About one-fifth, however, opined that changes have taken place in their diets. Some of these changes are

- reduced use of chili powder;
- change type of cooking oil;
- more cooking oil;
- increasing frequency of fleshy food consumption;
- changing eating times;
- regular consumption of vegetables, but in less quantities;
- increase in consumption of noodles;
- Reduced consumption of millet like ragi, jowar, bajra;
- more wheat consumption like chapatti
- Regular consumption of deep fried items and currys;
- more usage of iodised salt;

Health Aspects

Table 11 shows the age and anthropometric measurements of the respondents.

Table 11: Anthropometrical Measurements of the Respondents.

Parameter	**Men (mean ± SD)**	**Women (mean ± SD)**	**Total (mean ± SD)**
Number	366 (70%)	157 (30%)	523
Age (years)	36.63 ± 10.03	37.64 ± 9.74	37.33 ± 9.83
Height (Cms)	165.31 ± 6.64	162.48 ± 7.03	164.46 ± 6.87
Weight (Kg)	61.78 ± 8.89	59.76 ± 10.12	61.18 ± 9.32
BMI	22.67 ± 3.49	22.68 ± 3.89	22.36 ± 3.86

Source: Own Survey, 2009.

The recorded measurements were used to calculate the body mass index (BMI) and were compared with the reference standards to classify the total number of individuals into four categories.

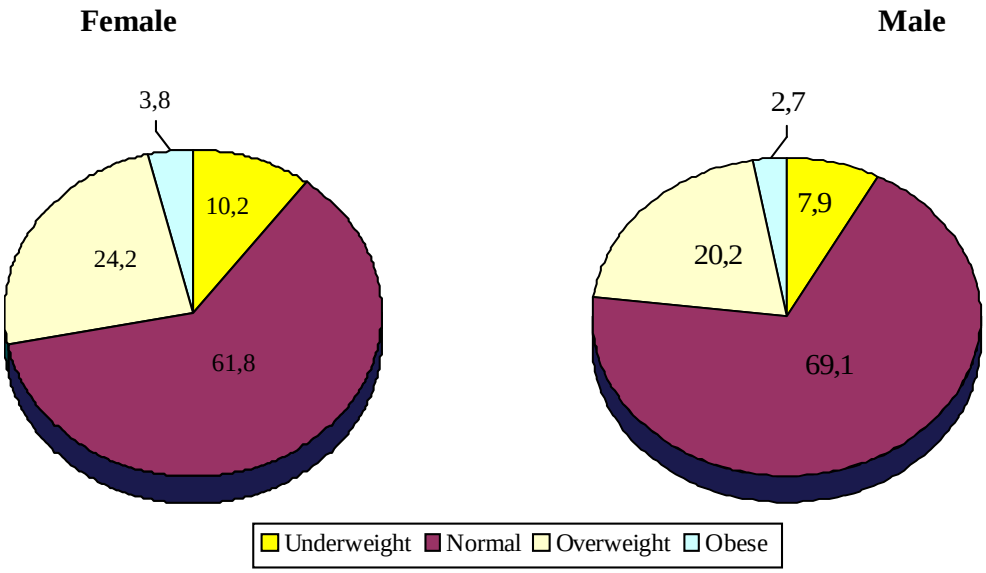
Table 12: Reference Body Mass Index in Adults (WHO Technical Report Series 854)

INTERPRETATION	**BMI Class**
Underweight	**< 16 – 18.49**
Normal	**18.5 – 24.99**
Over weight	**25 – 29.99**
Obese	**30 – 39.99**

Source: WHO, Technical Report, Series 854 and own survey, 2009.

After the analysis, figure 11 highlights the interpretation of the nutritional status of the adult males and females and across the different income status.

Figure 11: Nutritional Status of Males and Females



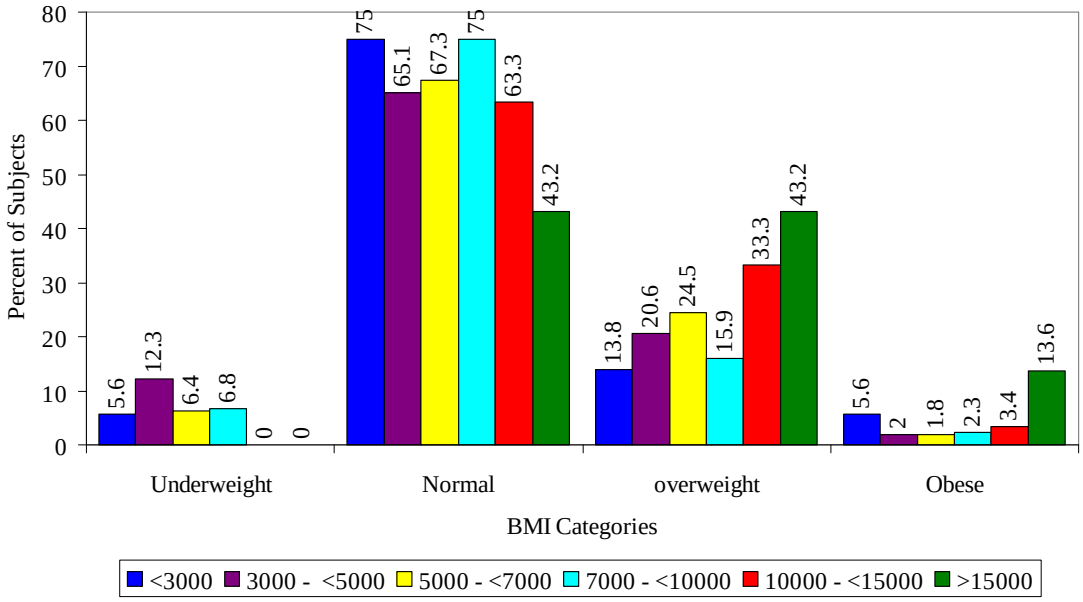
From figure 11 it is evident that majority of respondents, both males (69.1 %) and females (61.8 %) were normal weight. Simultaneously there is a smaller percentage (10.2 % females, 7.9 % males) that was underweight and a larger percentage (28.0 % females, 22.9 % males) is overweight and obese. These percentages of underweight and overweight clearly show the double burden of disease in India and in Hyderabad among the poor. In the 1970s to 1980s, India predominantly had high rates of malnutrition resulting from lack and insufficiency of food. With developmental programs being introduced on a large scale, India now is facing reduced number of undernourishment cases and an over escalating number of overnutrition cases. The same scene is also being observed among the poor and the lower middle-income groups.

When the BMI are compared between men and women, it is observed, that the men showed lower percentage of underweight, overweight and obese than the women in the present study. The association (chi-square value 44.32 and $P < 0.001$) between income and prevalence of overweight and obesity for females were found to be very significant but not significant in males.

The BMI categories were also observed for pooled men and women distributed against different income groups. This comparison also showed that as the income increased, there was a substantial increase in the prevalence of overweight and obese among both men and women. The

number of underweight individuals reduced as the income increased. This showed significant (chi-square value 44.52 and P < 0.001) association between income and the BMI categories. This is clearly depicted in the graph below.

Figure 12: Distribution of Individuals across BMI Categories by Socio Economic Status



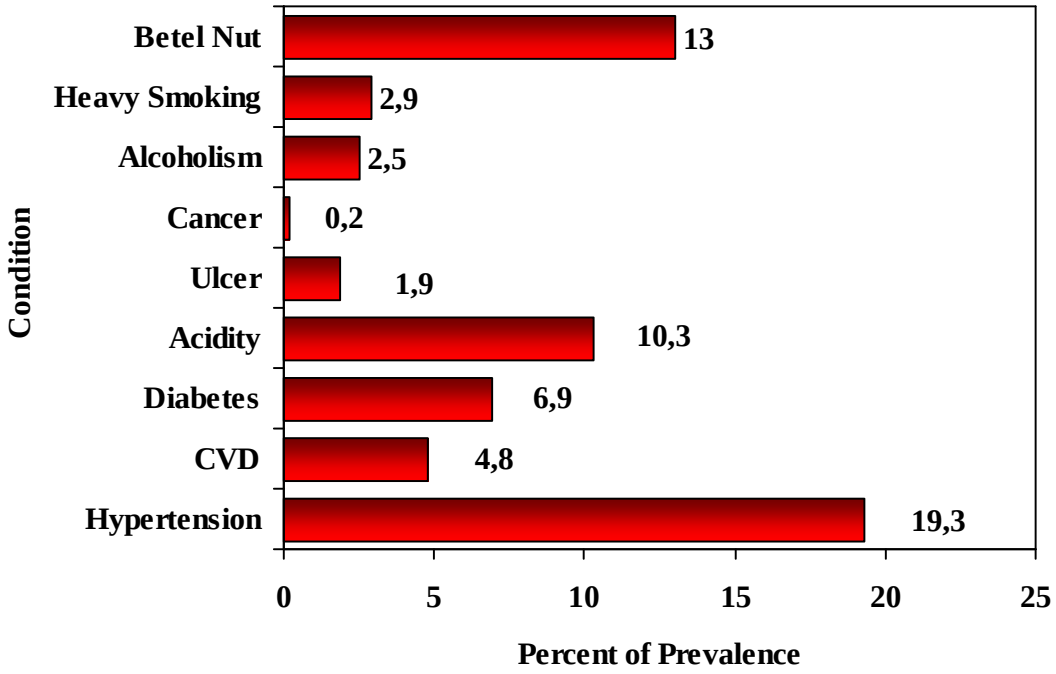


Figure 13: Prevalence of Communicable Diseases and Lifestyle Patterns

The households were questioned on the prevalence of certain non-communicable diseases and certain unhealthy lifestyles like alcoholism, heavy smoking and betel nut abuse.

From the figure 13, it is understood that one-fifth of the persons interviewed suffer from hypertension, 5 % from coronary heart diseases and 7 % from diabetes. All these diseases probably are due to overweight and obesity. It could also be due to changed lifestyle and dietary practices. The prevalence rates are steadily increasing, which become a major public health problem.

The rates of prevalence of alcoholism, heavy smoking and betel nut indicate that a good part of the family's monthly income is being spent on such practices. This expenditure adds to the burden the family income that is low.

Average Money Spent on Health

Table 13 shows the mean ±SD of the money spent on illness distributed among the different income classes. It is observed that the money spent on illness is increasing with the income increase. A possible conclusion from this observation is that the lower income groups mostly

went to the government hospitals and also availed the services of the Rajiv Arogya Sri (government sponsored medical service for the white coloured ration card holders). In both these sections medical services are free of cost. As the income level increased, the individuals in the households visited the private hospitals where they had to spend money for consultation.

In the FGD, the women opined that the services of the government hospitals are poor and most of the time the medicines were not available and they lack guidance in the hospital.

Table 13: Money Spent on Health per Month

Monthly Income	Number of Households	Amount of money spent (Mean ± SD) (In Rs.)
< 3,000	72	170.4 ± 204.5
3000 - < 5,000	255	156.4 ± 170.5
5,000 - < 7,000	107	199.1 ± 227.4
7,000 - < 10,000	44	238.6 ± 241.3
10,000 - < 15,000	30	345.0 ± 410.3
15,000 - < 20,000	15	363.6 ± 261.8

Source: Own Survey, 2009.

From table 13 it is also seen that the households with Rs < 3,000 spent more money than Rs. 3,000 - < 5,000 group. This may be because of the rates of illness being very high among the first group. It could probably be because of malnutrition and the high rates of infection due to poor sanitation and lack of safe drinking water.

Physical Activity and Lifestyle

Of them 89.5% (468) said that they do not do any physical exercise other than their regular work.

Nature of Work

From the survey 4.6 % (24) do sedentary work, 90.6 % (474) have moderate work and 4.8 % (25) heavy work.

Smoking

Of the total 366 men surveyed, 58.7 % (215) men were non smokers, 28.4 % (104) men smoked lass than five cigarettes a day and the rest 8.8 % men smoked more than five cigarettes. Among the total number none smoked beedis.

Alcohol

There is 45.5 % (238) of the total number who did not consume alcohol. There were about 40 % of male respondents who said that they had alcohol only on weekends and at least 15.3 % (80) of them consumed everyday.

Cigarettes and alcohol are yet another component in the household expenditure these would also contribute to their burden on their income.

Television Consumption

Of the 87.4 % who owned a television, 55.1 % watched for at least three hours a day and 23.3 % watched less than 5 hours a week. Of them 51.6 % opined that they do not eat while watching television.

6. CASE STUDY

NAME OF THE BASTI/SLUM: LAXMAIAH HUTS,

AREA: TEEGALAGUDA, AFJAL NAGAR, MOOSARAMBAGH, HYDERABAD

Slums are usually settled on land not used by others for any regular purposes (27). These could be low-lying lands, areas near railway lines or drains, riverbanks or peri-urban areas. Each of them has their own peculiar depreciating factors. Slums are almost always initially informal settlements with no land tenure rights. Hidden and missing pockets of urban poverty such as limestone workers, construction site workers, workers of local industry (leather, jute, glass) are clusters where services usually do not reach, as they are not part of official slum lists. Owing to long delays in updating of official slums list in most cities, slums remain un-recognized for years (28).

One of such slums was visited and the status of the slum is outlined below.

Land Status

Unauthorized settlement i.e., slum not recognized. It is state government land adjacent to the Musi River. There are about 80 households with about 400 inhabitants.

Housing

Predominantly Kuchha houses with a very weak structure; no separate place for cooking and minimal ventilation; hut size of about 10-15 sq. feet.

Services

(a) Toilets

No toilets available and defecation in the open by all-men, women and children.

(b) Water Supply

No water supply in the slum; people have to go out of their area of living to fetch water at public taps; most of them use bicycles to fetch water and store it in plastic drums.

(c) Drainage

No drains; sewage water and forms puddles of dirty water; no pucca roads.

(d) Electricity

No regular electricity connections, but tapped unauthorized.

Employment Pattern

They are mostly migrants, but a few families are residents staying in this basti for 10-12 years. Their family income is Rs. 2,000-4,000 per month. They are mostly daily wage earners with irregular income pattern. The women mostly work as domestic helpers. The men work as construction workers, carpenters, painters, and truck drivers. They are also engaged in hazardous work like rag picking and stone chipping.

Credit

Due to the meager, irregular, salaries, they take loans from unorganized sector at mortgage or high rate of interest as much as 10 % per month. The amount of debt accumulated usually exceeds their income per year.

Health Status

Most of the households have three children. Women and children are malnourished and have high incidence of illnesses. They have reported cases of child mortality. Majority of the children

are insufficiently immunized. They have an ANM (auxiliary nurse mid wife) who visits them once in a month and distributes medicines for common illness like fever, diarrhea fever and body pains. She also distributes iron and folic acid tablets to pregnant women. But due to lack of awareness programs, most often the women end up throwing away the iron and folic acid tablets. They do not have a government hospital or dispensary within 2-3 km radius. They have even reported high incidence of malaria in their bastis.

Food Patterns

They generally purchase food grains and stuffs from the near by kirana store. Most often they buy the perishables from the mobile vendor.

Most of them have kerosene or wood stoves for cooking purposes. Most of them consume two meals a day. Banana is the common fruit they consume. All opined that they consume seasonally available vegetables, which are obtained at cheaper costs. Children do eat snacks like chips, muruku (a traditional deep fried snack), ice creams, chocolates, ice gola, and soft drinks.

Education

Majority of children go to the near by government school. There are small percentage children who go the domestic workers' union school free to cost. There is one girl who has completed graduation in nursing and is looking out for job placements. Her father, a carpenter was very particular in her education has succeeded in it. There is illiteracy in the adult population.

Gender Status

Sensitivity on gender issues is generally low, seen in incidence of domestic violence. Men who are alcohol abused do not work and the women take up the burden.

Identity Proofs

Majority of respondents have ration cards that are utilized for provisions. The interviewees felt that the supply of foodstuffs at the fair price shop is not regulated properly. They are eligible for 10 liters of kerosene from the shop, but most often it is unavailable. The quality of the rations foodstuff is bad and again they have to visit the shop for at least 3-4 times to get their share of stock.

7. CONCLUSION AND RECOMMENDATIONS

Many developing countries are currently in different stages of demographic and developmental transition. The pace of this transition has been particularly marked in countries of the so-called third world, especially in recent times. In India far-reaching changes affecting the lives of millions of people are now being brought about as part of this developmental transition. While the country has still to overcome problems arising from underdevelopment and poverty, it is also facing problems related to industrialization and urbanization. With this unbalanced transition, several undesirable lifestyle alterations in the form of diets rich in saturated fats, excess salt and calories and low fiber, decreased physical activity, addictions like tobacco and alcohol and the augmentation of psychosocial stress come into play. From the present study we can conclude that

- a majority 51.6 % owned a house, 93.5 % lived in an independent house, which consisted of one to two rooms.
- Majority of respondents belonged to the socio-economically backward class.
- Rural to urban migration shows a sizeable increase. Migrants in the city are contributing to the increase in slum population and urban poverty creating a burden on resources and infrastructure facilities.
- Of the total 407 nuclear families, 296 households have on an average two children below 14 years. The Rs. 3,000-<5,000 income-class had 162 households dependent on one regular income source, 70 households on two sources of income and 12 households on three sources of regular income. Apart from that, there were 147 households with single regular income source and three dependable members. To satisfy the financial demand of the family, they acquired loans at high rates of interest.
- Many daily wage earners experienced irregular monthly income, thereby making it impossible to plan their budget. Moreover they had no savings.
- Among the households surveyed, a majority belonged to Rs. 3,000-<5,000 income category. Their monthly income was insufficient owing to the high cost of living in the city.
- It is observed that 189 households were in the last quartile of household assets score, which means they possessed higher material assets.

- About three-quarters of the surveyed households obtained ration cards of which 76.5% utilized it for procuring foodstuffs from the PDS. A majority of them expressed dissatisfaction on the efficiency of the PDS to supply foodstuffs to them at subsidized rates.
- A large majority of respondents purchased food items either from the PDS or at the local kirana store.
- The amount of money spent on food items per week increased as the monthly income increase. Simultaneously, the percentage of the total family income spent on food decreased with the increase in the family monthly income.
- All the respondents were aware of the quality parameters when buying foods. The respondents returned the foodstuffs back to the kirana store if the quality was not satisfactory, but had to compromise with the quality of foodstuffs purchased at the PDS.
- A majority of the families were ignorant about genetically modified and organic foods.
- About one-half of the households surveyed had two meals, the second half consumed three full meals per day.
- About 45 % of respondents skipped breakfast, 99.8 % consumed rice-based lunch and 91.8 % had rice based dinner.
- A mere 2.8 % consumed wheat based breakfast and dinner. This probably is because the cost of wheat at the PDS is relatively higher than rice.
- It is observed that the consumption of fruits and vegetables was poor and there was a substantial increase in the consumption of fats and oils (used in their food preparations), fleshy foods, ice creams, chocolates, sugar and soft drinks. This shift in the consumption patterns can be attributed to the prevalence of high percentage of overweight and obesity, coexisting with 9 % of undernutrition among the respondents.
- There is also an increase in prevalence of co-morbidities of overweight like hypertension, cardiovascular disease and diabetes that further proves the existence of double burden of disease among the poor and the middle-income families in Hyderabad.
- The mean amount of money spent on health purposes per month increased with rising affluence. This may be due to their visits to the private hospitals where there are high consultation charges.

- It is observed that about 90 % of the respondents did not do any physical exercise, which further explains the prevalence of non-communicable diseases.

These findings can be summed up with the following recommendations.

- ✓ The government must take poverty ending and healthcare approaches seriously and devote more share to these issues. Millennium development goals have been evolved to fight poverty and ill health. A target driven approach is required.
- ✓ To discourage migration from the rural areas, economic reforms should be able to create adequate employment opportunities in the rural areas.
- ✓ There should be greater equity in the provision of employment and basic services like housing, electricity, safe water supply, sanitation, solid waste management, drainage systems etc.
- ✓ Effective monitoring and surveillance systems should improve access to subsidized food items.
- ✓ Urban health care should be taken up in mission mode, to facilitate programmatic focus, resource commitment and accountability for effectively addressing the health needs of the urban poor.
- ✓ Vigorous community mobilization campaigns and formation of youth brigades within the community to spread the message of good health and healthy nutrition.
- ✓ An intensive programme of health education through the media should be designed to promote healthy practices and regular exercise.

REFERENCES

1. Prema Ramachandran. Poverty nutrition linkages. Indian Journal of Medical Research. New Delhi: Oct 2007.Vol. 126, Issue 4; p. 249-61.
2. Asia Economy Watch. Andhra Pradesh Annual Plan 2008-09, June 4th, 2008. Filed under Countries, India, Politics and Government. Available from: http://www.asiaeconomywatch.co.uk/2008/06/04/ andhra-pradesh-annual-plan-2008-09-finalized/ (accessed: 18.03.2009)
3. Gopalan. C. Nutrition Foundation of India, New Delhi, India. Current food and nutrition situation in South Asian and Southeast Asian countries. Biomed Environ Sci. 1996 Sept; 9(2-3): 102-16.
4. FAO. Double burden of malnutrition: case studies from six developing countries, FAO Food and Nutrition Paper 84, Rome: FAO; 2006 p. 99-160.
5. Government of India. Economic Survey of India. New Delhi.2005-06. Available from: http://indiabudget.nic.in/es2006-07/ (accessed: 04.04.2009)
6. Planning Commission. Tenth Five-Year Plan 2002-2007. Available from: http://planningcommission.nic.in/plans/planrel/fiveyr/10th/volume2/v2ch3.pdf (accessed: 04.04.2009)
7. Catley-Carlson, Margaret, Silimperi, Diana. Health and environment in urban poor areas: Avoiding a crisis through prevention. Environmental Health Program Capsule Report. 1996 March. Available from: http://www.dec.org/pdf_docs/pnaby450.pdf (accessed 15.04.2009)
8. Human Development Report 2007 Andhra Pradesh. Prepared for Government of Andhra Pradesh by Centre for Economic and Social Studies, Hyderabad. First published in May 2008.
9. Khadija Haq.M.U. Human Development Center. Human development in South Asia report, Islamabad. 2001.
10. India: Urban Poverty Report 2009. Available from: http://www.data.undp.org.in/poverty_reduction /IUPR _Summary.pdf (accessed: 15.04.2009)
11. National Sample Survey Organization. Reports of NSSO 2004-05 Consumer expenditure survey. Department of Statistics, Government of India. Available from: http://www.mospi.nic.in (accessed 15.04.2009)

12. Pingali P, Khwaja Y. Globalization of Indian diets and the transformation of food supply systems Inaugural Keynote address, 17th Annual Conference, Indian Society of Agricultural Marketing, Hyderabad, 5-7 February 2004. ESA Working Paper No. 04-05. Available from: www.fao.org/es/esa (accessed 15.04.2009)
13. Popkin, Barry M. Nutritional patterns and transition, Population and Development Review, March 1993, Vol. 19, No.1, p 138-157.
14. Report on Diet and Nutritional Status of Specific Groups of Urban Population. National Nutrition Monitoring Bureau. National Institute of Nutrition. Indian Council for Medical Research, Hyderabad, 1984, table 8, p 43.
15. Technical Report 14 on Nutritional Status of Rural Populations, 1991-92. National Nutrition Monitoring Bureau. National Institute of Nutrition. Indian Council for Medical Research, Hyderabad, 1993.
16. Technical Report 19 on Diet and Nutritional Status of Tribal Populations, Report on first repeat survey, 1998-99. National Nutrition Monitoring Bureau. National Institute of Nutrition. Indian Council for Medical Research, Hyderabad, 2000.
17. Technical Report 21 on Diet and Nutritional Status of Rural Populations, 2000-01. National Nutrition Monitoring Bureau. National Institute of Nutrition. Indian Council for Medical Research, Hyderabad, 2002.
18. Technical Report 24 on Diet and Nutritional Status of Populations and Prevalence of Hypertension among Adults in Rural Areas, 2004-05. National Nutrition Monitoring Bureau. National Institute of Nutrition. Indian Council for Medical Research, Hyderabad, 2006, Table10.1, figure 4 and 7, p26, 33,110. All reports available from http://www.nnmbindia.org /downloads (accessed 15.04.2009)
19. Shetty P. S. Nutrition Transition in India. Public Health Nutrition, 2002, 5(1A), p 1175-182.
20. Popkin, Barry M, Susan H, Soowon K, Ajay M and Jin S. Trends in diet, nutritional status and diet related non- communicable diseases in China and India: The economic costs of nutrition transition. Nutrition Reviews. December 2001 Vol 59, No 12. p 379-390.
21. The National Family Health Survey-3 (NFHS-3) for Andhra Pradesh. Ministry of Health and Family Welfare, Government of India, with The International Institute for Population Sciences, Mumbai.2005-06. p 27-29.

22. “Government Schools these?” Article in Andhrajyothi- a Telugu Daily, Hyderabad, 24 May 2006.
23. A non-governmental organization PUCAR- Peoples Union for Civic Action and Rights, Hyderabad. 2004.
24. Sheela P, Ramachandraiah C. Health services and disease profile of Hyderabad city: A pilot study. A report submitted to the Federal Ministry of Education and Research (BMBF), Germany. 2007.
25. Jha S, Srinivasan P V. Taking the PDS to the poor: Directions for future reform. Economic and Political Weekly 2001; 36(39), September 29: 3779- 86.
26. Simply Distribute: World Food Program says India tops world hunger chart. Editorial article in: The Times of India- an English Daily, Hyderabad 2009 March 9. p 12.
27. UN-HABITAT. The challenge of slums: Global Report on Human Settlements 2003. London: Earthscan Publications Ltd. 2003.
28. Agarwal S, Taneja S. All slums are not equal: Child health conditions among the urban poor. Indian Pediatrics. 2005 March 17: Vol 42. p 233-244.

ANNEXURES

HOUSEHOLD SURVEY QUESTIONNAIRE

Kasturba Gandhi Degree & PG College for Women / Sannihita Centre of Women and Girl Children Society / CultGeo, University of Freiburg (Germany)

Food, Consumption and Nutritional Status in Hyderabad-

An Empirical Study on Poor and Middle Income classes

Code No. ☐ Date ☐☐☐

Questioned Person Female (1) Male (2) ☐

Address: .....

I. Characteristics of Home

1. **Ownership** (1) own house/flat (2) on rent (3) other ☐

2. **Classification of building:**

Independent house.. ☐ Apartment building ☐ Tenement ☐

Pucca ☐ Kutcha hut ☐

3. **Size:** Number of rooms ☐ Size of living space (Sq ft) (approx.) ☐

II. Demographic and Social Particulars

1. Type of Family

Joint family (1) Nuclear (2) Single mother (3) Single (4) other (5) ☐

2. Number of people (permanently living in your household)

Number of children < 14 years ☐ female adults > 14 years ☐

Number of male adults > 14 years ☐ household members > 65 years ☐

3. Mother tongue:

Telugu (1) Hindi (2) Urdu (3) Tamil (4) Kannada (5) other (5) ☐

4. Birthplace of head of household: .....

5. a. Religion:.....

5. b.Community 1.Sc 2.St 3.Bc 4.Others ☐

6. Education

Number of household members > 6 years who can read & write ☐

Up to fifth class ☐ Up to 10th class ☐ Up to 12th class ☐ college & university.☐

Highest graduate in your household: .....

III. Economic Characteristics

1. Number of regular income-sources ☐

2. Number of dependable individuals ☐

3. Occupations in your household:

.....

4. Average monthly household income

Rs < 3.000 (1) Rs.3.000-<5.000 (2) Rs. 5.000-<7.000 (3) Rs 7.000-<10.000 (4)

Rs. 10.000-<15.000 (5) Rs. 15.000-<20.000 (6) > Rs.20.000 (7) ☐

5. Household Assets (indicate number)

Radio		Bicycle	
Television		Two-wheeler	
Refrigerator		Car	
Microwave oven		Cell Phone	
Pressure cooker		Computer	
Washing machine		Internet Access	
Water Purifier			

6. Type of cooking fuel used in your household

Kerosene (1) LPG gas (2) Charcoal/wood (3) other (4) ☐

IV. Food Purchasing and Nutrition

1. Category to which the household/individual belongs

Vegetarian (1) Non-Vegetarian (2) Mixed (3) ☐

2. Access to subsidized food:

Ration cardholder Yes (1) No (2))... ☐

Do you regularly go for your ration quota (Yes (1) No. (2) ☐

3. Weekly household expenditure for food items (approx) ☐

4. At which places do you/your family usually purchase which kind of food items?

	Kirana	Supermarket (Chainstore)	Mobile Vendor	Rythu Market	Other (specify) .....
Grain/pulses					
Grocery/fruits					
Milk products					
Cooking oil /ghee					
Meat/fish					
Eggs					
Sugar/salt					
Spices/curries/pickles					
Sweets/biscuits					
Coffee/Tea					
Soft drinks					
Other (specify).....					

5. While shopping food items you pay attention to the following attributes

Attribute	Very important	Important	Not so important	Not important at all
Freshness/purity				
Price				
Label				
Decorative package				
Nutrient content				
Caloric richness				
Regional provenance				
Seasonal supply				
Shelf-life/expiry date				
Genetically-unmodified				

6. Did you heard about organic food

Yes (1) / No (2)... ☐

If yes, do you regularly buy organic food? Yes (1) No (2).... ☐

If No, why not?.....

If yes, where do you buy? .....

7. Food Frequency

1. Number of full meals per day (average).... ☐

2. Breakfast

Rice based (1) Wheat based (2) Millet based (3) Whole grain (4) Mixed (5)

Fruits (6) Other (7) Usually no breakfast (8) ☐

3. Lunch

Rice based (1) Wheat based (2) Mixed (3) Other (4) Usually no lunch (5).... ☐

3. Dinner

Rice based (1) Wheat based (2) Mixed (3) Other (4) Usually no dinner (5).... ☐

4. Consumption of curd/buttermilk

Once a day (1) Twice a day (2) At least once in a week (3) Less than once in a week (4) ☐

5. Consumption of fruits

Once a day (1) Twice a day (2) At least once in a week (3) Less than once in a week (4) ☐

6. Variety of fruits

One (1) Two (2) More than 2 (3)... ☐

7. Consumption of raw vegetables

Once a day (1) Twice a day (2) At least once in a week (3) Less than once in a week (4)... ☐

8. Frequency of consumption

Foodstuff	Every day	At least once in a week	Less than once in a week	Nil
Soft drinks				
Ice-cream				
Chocolate & other sweets				
Fast-Food (e.g. hamburger)				
Milk shakes				
Deep fried food				
Deep-frozen food				
Convenience food (e.g. soups, chilled food)				

9. Consumption of non-vegetarian diet

Every day (1) At least twice a week (2) Once a week (3) Less than once a week (4)... ☐

10. Type of non-vegetarian dishes you prefer

Meat (1) Chicken (2) Eggs (3) Fish/seafood (4)... ☐

11. Oil used in cooking

Refined (1) Non-refined (2) Mixed (3)....

12. Oil mostly preferred for cooking

Groundnut (1) Safola (2) Palm Oil (3) Til Oil (Nuvvulu) (4) Sunflower Oil (5) Other (6)...

13. How many spoons of sugar do you usually take in one cup of tea/coffee?

14 Do you use alternative sweeteners?

Yes (1) No (2)....

If yes, which kind of? .....

15. Frequency of eating out

Every day (1) At least once a week (2) Once a month (3) Less than once a month (4)...

16. Which places you prefer for eating out (please rank: 1 = most frequently, 2 = second etc.)

Western fast-food outlets	
Local dhabas/hotels	
Restaurants	
Street food vendors	
Other (indicate):.....	

8. Your favourite dishes

1. .....

2. .....

9. Changes in your family's food consumption pattern during last 10 years

1. .....

2. .....

3. .....

V. Health Aspects

Your Age.... ☐ eight (kg) Height ☐) ☐

Calculate BMI: ☐

1. Members in your household suffering from

Hypertension H ☐ t problems Diabe ☐ Acidity ☐ ☐

Ulcer ☐ Cancer ☐ Alcoholism ☐ Heavy Smoking ☐

Bethel-abuse ☐

2. Any medication for any illness mentioned above

Yes (1) / No (2) ☐

If yes, what are they? ……

3. When did you visit dentist last? (Month/year) ☐ ☐

4. Average amount of money you/your family spend on medical treatment/medicines per month ☐

VI. Physical Activity and Lifestyle

1. Are you doing any physical exercise other than regular work routinely?

Yes (1) No (2) ☐

If yes, what exercises? ……

2. Duration of exercise per week

More than 3 hours (1) 2-3 hours (2) 1-2 hours (3) less than one hour (4)

2. Nature of work

Sedentary (1) Physically active work (2) moderate (3) ☐

3. Smoking

More than 20 cigarettes/beedis (1) 10 -20 (2) 5-10 (3) less than 5(4) Non-smoker (5) ☐

4. Alcohol

Every day (1) Only on weekends (2) No alcohol (3) ☐

5. How often do you attend parties, social gatherings and get-together?

At least once a week (1) Usually not more than once a month (2) Once in three months (3)

Nil (4) ☐

6. How long do you usually spent in one week on watching television / DVDs / Video / or working/playing on computer?

More than 20 hours (1) 10 – 20 hours (2) 5 – 10 hours (3) less than 5 hours ☐

7. Do you eat/snack in front of TV/Computer?

Yes (1) No (2) ☐

8. Rank your favourite leisure activities

1.

2.

3.

Further Remarks:

PHOTOGRAPHS

Kitchen area in a single room pucca house

Water collected for daily usage

Child with a packet of chips

Girl eating an ice gola

Banana, the poor man's fruit

Group discussion in progress in an unrecognised slum

Child eating his regular lunch outside his house

Poor sanitation facility in a slum

A typical kitchen in a hut

A young girl washing clothes in front of her house

Betelnut/paan chewing, a common habit among the poor

90% of Kachha households own a television