REPORT ON THE STATE OF FOOD INSECURITY IN URBAN INDIA

M S Swaminathan Research Foundation
Centre for Research on Sustainable Agriculture and Rural Development

World Food Programme
The Food Aid Organization of the United Nations

Front cover : Mid-Day Meal Scheme in action
Back cover : Sharp contrasts in living conditions in the face of urban development

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The administrative headquaters of Chandigarh, Haryana and Punjab are at Chandigarh.

The inter-state boundaries among Arunachal Pradesh, Assam and Meghalaya shown on this map are as interpreted from the North-Eastern Areas (Reorganisation) Act 1971, but have yet to be verified.

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The spellings of names in this map have been taken from various sources.

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The boundaries and names shown and the designations used on the maps in this book do not imply official endorsement or acceptance by the UN.

Contents

List of Acronyms

AAY	Antyodaya Anna Yojana
AIE	Alternative and Innovative Education
BPL	Below Poverty Line
BSUP	Basic Services for Urban Poor
CAG	Comptroller and Auditor General of India
CDS	Current Daily Status
CED	Chronic Energy Deficiency
CIP	Central Issue Price
CMR	Child Mortality Rate
CSS	Centrally Sponsored Scheme
Cu	Consumer Unit
EGS	Employment Guarantee Scheme
ESCAP	Economic and Social Commission for Asia and the Pacific
FAO	Food and Agriculture Organisation
FDI	Foreign Direct Investment
FIAUI	Food Insecurity Atlas of Urban India
FPS	Fair Price Shop
GDP	Gross Domestic Product
GoI	Government of India
HCR	Head Count Ratio
Hhs	Households
HRD	Human Resource Development

ICDS	Integrated Child Development Services
IHSDP	Integrated Housing and Slum Development Programme
IMR	Infant Mortality Rate
JNNURM	Jawaharlal Nehru National Urban Renewal Mission
Kcal	Kilocalories
KSY	Kishori Shakti Yojana
MDG	Millennium Development Goal
MDMS	Mid-Day Meal Scheme
MoHUPA	Ministry of Housing and Urban Poverty Alleviation
MPCE	Monthly Per Capita Expenditure
MSP	Minimum Support Price
MSSRF	M S Swaminathan Research Foundation
MT	Million Tonnes
NCEUS	National Commission for Enterprises in the Unorganised Sector
NFHS	National Family Health Survey
NGO	Non-Governmental Organisation
NNMB	National Nutrition Monitoring Board
NPAG	Nutrition Programme for Adolescent Girls
NREGA	National Rural Employment Guarantee Act
NSSO	National Sample Survey Organisation
NUS	Nutritious Underutilised Species
OBC	Other Backward Classes
PDS	Public Distribution System
PEO	Performance Evaluation Organisation
PMGY	Pradhan Mantri Gramodaya Yojana
POU	Prevalence of Undernutrition
PPP	Public Private Participation

PUCL	People's Union for Civil Liberties
RDA	Recommended Dietary Allowance
RSFIRI	Report on the State of Food Insecurity in Rural India
SC	Scheduled Caste
SDW	Safe Drinking Water
SJSRY	Swarna Jayanti Shahri Rozgar Yojana
SOFI	State of Food Insecurity in the World
ST	Scheduled Tribe
TPDS	Targeted Public Distribution System
UA	Urban Agglomeration
UIDSSMT	Urban Infrastructure Development Scheme for Small and Medium Towns
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations International Children Emergency Fund
UNWFP	United Nations World Food Programme
URGD	Urban Rural Growth Differential
WHO	World Health Organisation
WPR	Work Participation Rate

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Foreword

In early 2000, the M. S. Swaminathan Research Foundation (MSSRF) and the World Food Programme (WFP) agreed to collaborate in mapping the food security situation in rural and urban India. As a result of this partnership, the *Food Insecurity Atlas of Rural India* (April 2001), the *Food Insecurity Atlas of Urban India* (October 2002) and the *Atlas of the Sustainability of Food Security in India* (February 2004) were developed and distributed widely. The analysis in these atlases provides an important basis for generating public awareness and political action.

We appreciate the fact that there is a need for these reports to be updated periodically, so that they remain relevant to policy makers taking critical decisions that influence public spending. An update of the *Food Insecurity Atlas of Rural India* of 2001 – *Report on the State of Food Security in Rural India* – was released in early 2009 to capture the changes in the scenario and highlight the parameters that will lead to improved food security in India. This report is an update of the *Food Insecurity Atlas of Urban India* of October 2002.

In recent years, the pace of urbanisation has been increasing. In deliberations on food and nutrition security, the situation in urban areas is often overlooked. About half the women in urban areas are estimated to be anaemic and undernutrition among women, indicated by chronic energy deficiency, is increasing. As pointed out in this report, the access and absorption indicators of urban food insecurity, in spite of the rapid economic growth during the 1990s, reveal an alarming picture. Smaller towns are significantly worse off than large cities and metropolitan areas when it comes to key food security indicators.

The urban report also shows that there is considerable variability within the country relating to the levels of food security. For example, Tamil Nadu, which not only has a universal PDS but is also supplying up to 20 kg of rice per month at the rate of Re.1/- per kg to 185 lakh families, is in a much better situation than most other States in India. This reveals that, where there is the necessary political will and action, hunger can be eliminated earlier than normally considered possible.

This updated report on urban food insecurity is an important tool for policy makers and other stakeholders who are working towards achieving the UN Millennium Development Goals by 2015. Urban food insecurity deserves serious attention since an important component of urbanisation is the proliferation of slums caused by the unplanned migration of the rural poor to urban areas in search of livelihoods.In preparing these reports, we are deeply aware of the limitations imposed by the quality and availability

of data, as well as limitations in the scope of the study. It is probable that certain situations described within the report will have changed in view of recent progress made since the time of data collection. We hope the report will stimulate further research into urban vulnerability, to help guide policy makers and implementers on the type of interventions that really work.

Our gratitude goes to all our colleagues at MSSRF and WFP. Our special thanks to Professor Venkatesh Athreya for his guidance in the preparation of this report as well as to Ms. R. V. Bhavani, Dr. R. Rukmani, Ms. G. Anuradha and Mr. R. Gopinath at MSSRF and Ms. Pradnya Paithankar, Dr. K. S. Murali and Mr. Balparitosh Dash at WFP, for their dedicated efforts in bringing out a meaningful report which can be an effective instrument for public action.

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Executive Summary

In 2001, The M. S. Swaminathan Research Foundation and the World Food Programme released the *Food Insecurity Atlas of Rural India*. In 2002, the *Food Insecurity Atlas of Urban India* (FIAUI) was published. Again, in 2008, MSSRF and WFP brought out the *Report on the State of Food Insecurity in Rural India* (RSFIRI). The current *Report on the State of Food Insecurity in Urban India* is an updating of FIAUI and a companion exercise to RSFIRI, using new and enlarged data that has become available from sources like NSSO, NFHS and Census 2001. The focus is on chronic food insecurity, with the main concern being with describing and analysing the status and challenge of urban food security in the contemporary context across the major States of India. Mapping the relative position of the States on a food insecurity scale on the basis of a select set of indicators is part of this exercise.

A review of the global context in respect of food security points out that the slowing down of the growth rate of food production has led to a decline in per capita output of grain between the 1970s and the first decade of the twenty-first century, due in most part to the reduced ability/willingness of governments to raise and spend the required amount of resources by way of public investment on rural and agricultural development. This is equally apparent in the areas of urban infrastructure and public health, given the policy framework of far greater reliance on markets and private investments, and a much lesser role for governments. The result has been difficulties in tackling problems relating to all three dimensions of food security, namely, availability, access and absorption, especially affecting the world's poor, including the urban poor.

The Indian context – in particular, the urban situation – is no different. Rising urban inequality, significant underinvestment in urban health and nutrition infrastructure, an increasingly insecure workforce with mostly casual or contract employment or even less remunerative self-employment, growth of slums and slum populations lacking in the most elementary health and hygiene facilities including shelter, safe drinking water, sanitation and drainage, all taken together, make for a situation of a permanent food and nutrition emergency in urban India. The mere availability of food in urban markets does not guarantee food security in an environment in which access has been seriously compromised both by patterns of employment and earnings, and by the rapid rise in the prices of essential commodities beginning with food and shelter **(Chapter 1)**.

The concept of food insecurity is multidimensional in nature and is determined by a whole range of issues such as domestic production of food, import and export of food, purchasing power of people to access food as well as factors that influence absorption of food in the body. The different elements that influence food security can be classified into three broad dimensions – food availability, food access and food absorption.

The various elements that have a bearing on the status of food insecurity of the urban Indian population include the extent and nature of employment opportunities available, accessibility to basic amenities, level and pattern of food consumption, and the nutritional status of the urban population across the different States and across various size classes of urban units . An analysis of these factors has brought out the following salient points. First, the employment pattern shows that there is a significant increase in the proportion of both male and female workers in the self-employment category in the

urban areas across all the States of India. A predominant section of workers are unorganised, and earn less than the minimum wages. There is also a tendency towards using more weakly placed, especially females. The rate of unemployment is also higher for females. In general, smaller towns exhibit higher unemployment rates as well as greater casualisation of the workforce. At the same time, since slum populations display the expected pattern of higher incidence of marginal workers compared to non-slum populations, and slums account for significant proportions of the populations of metropolitan cities and big towns, the problem of urban food insecurity is quite severe in these categories of urban areas too. Second, significant sections of the urban population are not yet covered by basic amenities and there is vast scope to improve housing conditions, sanitation and drinking water supplies for urban households across the country. The availability of basic amenities is much more of a problem for households in small towns compared to those who reside in large towns. Third, there has been a decline in the average consumption of cereals, pulses, meat and sugar by an average urban consumer in the country as a whole in 2004-05 compared to 1993-94. Every State has exhibited a decline in cereal intake over this period, irrespective of the initial levels of consumption. Moreover, the prevailing level of consumption is also lower than the recommended dietary allowance (RDA) prescribed by the Indian Council of Medical Research. Fourth, as regards nutrition levels, the extent of child undernutrition remains quite high in urban India. About half the women in urban areas are estimated to be anaemic and undernutrition among women, indicated by chronic energy deficiency, is increasing. Despite rapid economic growth since the early 1980s, and especially since the 1990s, the access and absorption indicators of urban food insecurity tell a dismal story of relatively little improvement in nutritional intake and worsening in terms of livelihood insecurity. Smaller towns are significantly worse off than large cities and metropolitan areas with regard to the status of food security **(Chapter 2)**.

An important exercise undertaken in this Report has been the construction of an index of food insecurity and a computation of the values of this index for the major States of India to provide an analytical comparison at two different points in time. Since it would be difficult to get a reliable measure of food availability in the urban setting, indicators that capture the access and absorption dimensions of food security have been relied upon. In all, 11 indicators have been examined:

- Percentage of urban population consuming less than 1890 Kcal per consumer unit per day
- Number per 1000 of urban male workers not “regularly employed”
- Number per 1000 of urban female workers not “regularly employed”
- Percentage of urban households without access to safe drinking water
- Percentage of urban households without access to toilets
- Percentage of ever-married women (15-49 years) with any anaemia
- Percentage of ever-married women (15-49 years) with chronic energy deficiency (CED)
- Percentage of children (6-35 months) with any anaemia
- Percentage of children (6-35 months) who are stunted
- Percentage of children (6-35 months) who are underweight for age
- Percentage of children (6-35 months) who are wasting

The first three indicators relate to the dimension of access to food. The second and third indicators reflect material deprivation as well as instability in earnings, both of which have implications for food security. The fourth and fifth indicators, relating to absorption, are input indicators that have implications for nutritional outcomes and thus for food and nutrition security. The remaining 6 indicators are all outcome indicators. The overall urban food insecurity index has been worked out in several variants, alternating the child nutrition outcome indicators among themselves as well as trying the index with and without the indicator of proportion of households without access to safe drinking water.

The index is intended as a summary measure of a complex, multidimensional concept, which cannot be captured by a single indicator alone. The analysis assigns equal weights to all the indicators, after normalising the individual indicators through the use of a relative distance measure. Thus, in comparing the different States, for any given indicator, the difference between the value of the indicator and the minimum value is taken as a proportion of the difference between the maximum and the minimum values. A map has been obtained for each indicator and also the final composite index, for two different time intervals, – 1998-2000 and 2004-06. This will help assess the relative changes in the position of the States with regard to these indicators.

Based on the level of food and nutrition insecurity, the States have been placed into one of five categories: very low, low, moderate, high and very high. The picture emerging from a study of the performance in terms of each indicator is rather mixed. At the all-India level, the position seems to have improved with respect to access to toilets, proportion of female workers regularly employed and percentage of children underweight. In respect of the other indicators, the situation has worsened between 1998-2000 and 2004-06. The deterioration at the national level is marginal with regard to most indicators but is somewhat substantial with regard to the percentage of women with anaemia and children wasting, with the situation worsening in 14 out of 15 States. With regard to women with CED, the situation has worsened in 11 States, although marginally in most of them. With regard to the percentage of children stunted, the situation has become worse in 9 States. The percentage of urban children wasting has risen in 12 States. In respect of the indicators of access to toilets, female workers regularly employed and percentage of children underweight, the situation has improved in 10 or more States. However, many of the nutritional outcome indicators suggest an unacceptably high level of insecurity.

Six variants of the index were computed, of which one was identified as most appropriate. While there has been improvement between 1998-2000 and 2004-06 in the food security situation in urban India as measured by any of the six variants, it must also be noted that the improvement has been rather modest. The rankings across the States did not change dramatically across the different variants considered. The most appropriate variant in terms of the quality of data and the issue of chronic food and nutrition insecurity excludes both lack of access to safe drinking water and percentage of children underweight, but includes the percentage of children stunted. In terms of this variant (variant 1), the decline in the composite urban food insecurity index is quite small, from 0.542 in 1998-2000 to 0.538 in 2004-06. This is the performance during a period when India's GDP growth rate has been in excess of 6 per cent per annum compound. Clearly, there has to be more than the rhetoric of inclusive growth if a significant improvement in the food security situation in urban India is to occur **(Chapter 3).**

In an economy where a substantial proportion of the population is food insecure and where markets for foodgrains are poorly integrated, besides being characterised by significant elements of monopoly, there is an obvious need for public food delivery systems. It can, in fact, be claimed that public food delivery systems have an even more important role in the urban context vis-à-vis the rural, where some amount of own or subsistence cultivation and consumption may be expected of owner-cultivator households and there is also sometimes payment in kind for labour. The urban population, on the other hand, is largely dependent on the market, making the urban poor in particular more vulnerable to price shocks and food and nutrition insecurity.

Historically, the most important of such systems in India has been PDS, which has been an extremely important instrument of food security in urban India for more than six decades now. In the 1980s, expansion of PDS on a large scale to cover non-urban and non-food-deficit areas took place. In a major policy shift, a targeted PDS (TPDS) was introduced in 1997 by the Government of India, and most States fell in line. TPDS, by restricting access to only the BPL households as per the consumer expenditure figure derived from applying the methodology of the 1993 Report of the Expert Committee set up by the Planning Commission, seems to be excluding large numbers of undernourished BPL as well as APL households. The universalisation of PDS is imperative to counter food insecurity in urban India. The exercise presented in this Report shows that the fiscal burden of universal PDS to provide 35 kg per month to all households at two rupees a kg may not be prohibitive. It has to be emphasised, however, that it is important to improve the functioning of PDS, which is far from satisfactory in many respects.

The National Programme of Nutritional Support to Primary Education (NPNSPE), popularly known as the Mid-Day Meal Scheme (MDMS), started by the Government of India in 1995, seeks to improve the nutritional status of children in classes I-VIII in government, local body, government body and government-aided schools; children studying in the centres under the Education Guarantee Scheme (EGS); and in Alternative and Innovative Education (AIE) centres. The scheme initially provided for distribution of fixed quantities of dry foodgrains to schoolchildren. This was replaced by cooked meals with effect from September 2004. While the scheme has had a significant positive impact on enrolment and retention across the country, concurrent monitoring and evaluation systems of a participatory nature need to be strengthened to ensure better delivery.

The Integrated Child Development Services (ICDS) scheme launched in 1975 aims at holistic development of children up to six years of age as well as adolescent girls and pregnant and lactating mothers by providing a package of services comprising supplementary nutrition, immunisation, health check up, referral services, non-formal pre-school education and health and nutrition education. The Government of India is responsible for the programme planning and infrastructure funding and the State Governments for programme implementation and supplementary nutrition. The services under ICDS are offered through a network of *anganwadi* centres. As on 31 March 2009, around 1 million anganwadi centres were in operation in the country, covering around 72 million children in the 6 months to 6 years age group as well as 15 million pregnant women and lactating mothers under the supplementary nutrition programme. The Union Budget for 2009-10 has proposed that all services under ICDS would be extended to every child under the age of six by March 2012 – a tall order, considering that only about 30 per cent of the children were covered as on 31 March 2006. The allocations for ICDS in the

2009-10 and 2010-11 budgets have been rather inadequate, given the ground to be covered, let alone run the existing ICDS centres properly **(Chapter 4)**.

The *Report on the State of Food Insecurity in Urban India* concludes by offering some policy recommendations to promote urban food security. These include:

1. Detailed recommendations have been made in the *Report on the State of Food Insecurity in Rural India* (RSFIRI) (MSSRF-WFP 2008) concerning policies to promote food and nutrition security for all. Many of those recommendations are not specific to rural India, and are applicable to urban areas as well. This is especially true for all proposals pertaining to increasing food availability. The only additional recommendation in the context of urban India is that the potentialities of urban agriculture should be seriously explored.

2. Access and absorption are the main issues in urban food security. In respect of access, the key is the quality and quantity of employment. Urban asset distribution is, of course, quite skewed, with large industrial and service sector establishments being an important feature of the urban landscape. The central issue is therefore of enabling expansion of productive and remunerative employment. This will involve special assistance to the numerous small and tiny enterprises in the urban economy. While such support is necessary to help enhance the incomes of the self-employed and thereby their access to food, it is equally important to enhance both the quantity and quality of wage-paid employment. The real need is to ensure that the workers in the unorganised sector and those in informal employment in the formal sector are provided decent wages and working conditions as well as a modicum of social security. Skill development, both for the self-employed and those seeking or already in wage employment, is an important input to improve the quality of employment as well as enhance the probability of finding employment. Any effort in this direction has necessarily to be on a very large scale and appropriately decentralised for effective implementation. Most importantly, along the lines of the National Rural Employment Guarantee Act, an Urban Employment Guarantee Act should be urgently enacted. This can be integrated in a synergistic manner with the need to improve urban amenities, especially in the small and medium towns.

3. Absorption is the other key issue in urban food security. In essence, improving absorption requires easy and guaranteed access to safe drinking water in adequate quantities and as and when needed; toilet facilities, ideally inside one's own premises, and if not, at a location sufficiently close to residence, with adequate water and appropriate arrangements for maintenance and upkeep; hygienic sanitation and drainage facilities for all urban areas including slums; and nutrition education, covering both undernutrition and "overnutrition". Adequate investments have to be made in this regard. Special attention has to be paid to small and medium towns which happen to be most poorly provided for in this respect so far. While the funding has to come from higher levels of government, design and implementation have to be decentralised and vested with elected local bodies. Urban health facilities are important to minimising urban morbidity and thereby improving the absorption dimension of food security. Currently, municipalities with population levels below 100,000 are very poorly served by the public

health care system. The town panchayats come under the service area of primary health centres and the health subcentres under them. Municipalities (including corporations) with population exceeding 100,000 are covered under national programmes like the India Population Project and its successors. So, there is need for a special focus on the smaller towns and municipalities in the National Urban Health Mission.

4. There are some general points to be kept in mind. JNNURM and other urban development/ urban poverty alleviation programmes tend to emphasise the urban unit as a whole, which de facto means privileging the more affluent sections of the urban population. It is important to focus urban interventions in JNNURM and other programmes on the needs of small and medium towns and on the needs of urban slums in all cities, taking care to address the needs of the poor with regard to shelter, water, sanitation, drainage and nutrition education. It is a matter of political will that adequate resources be found through the regular fiscal mechanisms to undertake the necessary infrastructure investments in urban areas that address these basic needs. It is also important to ensure that PDS, ICDS and MDMS reach the poor effectively.

5. The elected urban local bodies need to be invested with both power and responsibility for designing and implementing all food and nutrition programmes, and provided the necessary financial support by the higher levels of government, especially the Central government. To ensure effective devolution, the capabilities of local bodies need to be strengthened considerably through appropriate programmes of capacity building. Elected urban local bodies could be encouraged to involve local communities in promoting hygiene and sanitation, with the voluntary support of the numerous community organisations working on these issues. Education, social mobilisation and regulation will all be needed.

6. A Nutrition Literacy Movement should be launched and home gardens promoted, wherever this is feasible, based on the principle of finding a horticultural remedy for every nutritional malady (with particular reference to micronutrient deficiencies).

7. Based on the recent experience with food prices inflation, it will be desirable to promote consumer cooperatives in urban areas to minimise the very wide gap between wholesale and retail prices. Consumer cooperatives can be a supplement to fair price shops.

8. The minimum support price announced for a number of crops is being implemented only in the case of wheat and rice. It is necessary to broaden the food basket by including nutritious millets, legumes and tubers. Providing appropriate remunerative prices for these crops will help expand their production PDS can cover other nutritious foods, in addition to basic staples.

9. The need to link nutrition with disease management is particularly important in cases like tuberculosis, HIV/AIDS, leprosy, etc., where a drug-based approach alone will not help to cure the patient. A food-cum-drug based approach will be important.

10. Finally, urban food security is not a matter of urban policy alone. It is bound up with the urban economic structure characterised by a high degree of inequality and also with the impact of

macroeconomic policies that impinge on urban areas. Urban food security is as much a matter of the fiscal policy framework as it is of programme implementation on the ground. While outcomes are indeed important, a precondition for achieving targeted outcomes is adequate outlays. This is crucially dependent on the macroeconomic policy framework. Economic reforms, therefore, need to be ***re-formed*** if inclusive urban development that addresses the needs of urban food security for all is to occur **(Chapter 5)**.

Chapter 1

Introduction and Overview

1.1 The Context

At the beginning of the twentieth century, there were less than 20 cities in the world with a population of one million or more. Most of these cities were in advanced industrial economies. By the turn of the twenty-first century, this figure had crossed 400. Around 75 per cent of these cities were in low and middle income countries (Cohen 2004). By 2008, more than half of the world's population lived in urban areas. This figure is expected to increase to 70 per cent by 2050. Most of this growth will be in the developing world (UN HABITAT 2008). Clearly, managing urbanisation is a key contemporary challenge across the developing world.

As the Third World urbanises rapidly, ensuring food security has become another daunting challenge. For the first time since 1970, the number of hungry people in the world has crossed one billion. The proportion of the undernourished in the developing world which had steadily declined from 34 per cent in 1969-71 to 16 per cent by 2004-06 has risen to nearly 20 per cent in 2009 (FAO 2009). Global food prices rose by 83 per cent between 2005 and 2008. Between January 2005 and June 2008, the price of rice rose by 170 per cent and that of wheat by 127 per cent while the price of maize nearly tripled. Despite the price decline following the financial crisis, the FAO food price index in October 2008 was still 28 per cent higher than in October 2005 (Mittal 2009). Liberalisation policies across the Third World have led to serious declines in productive investments in agriculture as well as declines in the rate of growth of output of grain and oilseeds since 1990 as compared to the period 1970 to 1990. While output growth rate has declined from 2.2 per cent per annum between 1970 and 1990 to 1.3 per cent between 1990 and 2007, yield growth rates declined from 2.0 per cent to 1.10 per cent over the time frame. Also, '… the greater participation of hedge funds, index funds, and sovereign wealth funds in agricultural commodity markets, has been a key force behind the recent hyperinflation of basic food staples' (Mittal 2009). Globally, per capita annual availability of grain has declined between the 1970s and the 2000s.

It remains true that, on the average, urban areas seem to do better than rural areas in terms of food and nutrition security. For instance, global data suggest that the prevalence of under-nutrition among urban children is consistently lower than that among rural children. However, these average figures hide considerable intra-urban inequalities. Specifically, as Ruel and Garret (2004: 248) point out, '…studies have shown that i) there are large socioeconomic differentials in childhood stunting; ii) these differentials are commonly greater in urban than in rural areas; and iii) the most disadvantaged urban children have rates of stunting that are on average only slightly lower than those of the most disadvantaged rural children'.

An important aspect for consideration is the impact of the current global financial and economic crisis. The global crisis began with the economy of the United States going into recession in the last quarter of 2007 – well before the collapse of Lehman Brothers in September 2008 – and is still with us. While the prognosis for the world economy in the period ahead is mixed, even optimists who see 'green shoots' in the sense of an impending recovery of output do not see unemployment rates in the advanced countries coming down in the near future. This has serious implications for poor countries as it will greatly impact their exports by strengthening protectionism in the advanced countries and thus deepening the crisis in the export sector. These developments have particularly ominous implications for urban areas in the Third World which have already seen huge job losses, since the urban economy is tied up with the export sector in many ways.

In addition to taking into account the outcome of the current global recession, one must also consider the impact of the processes of globalisation underway for over two decades and more on urban areas of the Third World. While globalisation has been associated with a relatively high rate of growth of GDP in countries like India, it is also a fact that this has been accompanied by rapid growth of urban slums and environmental degradation, with infrastructure development lagging behind GDP growth, and with employment intensity being low. It has been noted that:

> Much of the economic and political environment in which globalisation has accelerated over the last 20 years has been instituted under the guiding hand of a major change in economic paradigm – neo-liberalism, which is associated with the retreat of the national state, liberalisation of trade, markets and financial systems and privatisation of urban services. Globally, these neo-liberal policies have re-established a rather similar international regime to that which existed in the mercantilist period of the 19th century when economic booms and busts followed each other with monotonous regularity, when slums were at their worst in Western cities and colonialism held global sway (UN-HABITAT 2003: 2).

It has also been pointed out that:

> The major disadvantage (of globalisation) is the wholesale loss of formal-sector job opportunities in both the public sector and the private import-substitution industries, so that informal-sector jobs, with no security and often with subsistence wages, are all that is left. As well, inequality increases as the part of urban society able to access global opportunities increases its income. This means that the prime resources of the city are increasingly appropriated by the affluent. And globalisation is inflationary as the new rich are able to pay much more for a range of key goods, especially land. This is exacerbated by removal of price fixing on subsistence goods, and increased utility charges through privatisation and the removal of cross subsidy. The poor are marginalised in the worst parts of the city – the slums. The ability of national governments to act on their behalf is curtailed, while local governments in poor areas have no tax base with which to assist (UN-HABITAT 2003: 52).

The rapid growth of slums, which typically have poor access to safe drinking water, sanitation and drainage, is of particular relevance for the issue of food security. By 2001, nearly a third of the world's population was in slums.

While in general urban poverty ratios in the Third World tend to be lower than rural ones, it is also true that over the late 1990s and early 2000s official poverty ratios seem to be converging across rural and urban areas. Data from eight developing countries containing two-thirds of the developing world's population indicate that the proportion and absolute number of poor people living in urban areas have grown over the last twenty years and that from the early to mid-1990s, the share of malnourished children in urban areas has increased. The rate of growth of the number of urban poor and undernourished has been higher than in rural areas over the last two decades of the twentieth century (UNWFP 2002).

Thus, the study of urban food security is of considerable importance and policy relevance.

1.2 Urban India

1.2.1 Urban GDP

The Eleventh Five Year Plan of the Government of India notes that '….the contribution of the urban sector to India's GDP has increased from 29 per cent in 1950-51 to 47 per cent in 1980-81. The urban sector presently contributes about 62 per cent to 63 per cent of the GDP and this is expected to increase to 75 per cent by 2021'.. By one estimate, per capita urban GDP increased by 29 per cent between 1980-81 and 1993-94, and by 60 per cent between 1993-94 and 1999-2000. A large share of urban GDP is contributed by four key sectors: (a) manufacturing, (b) trade, hotels and restaurants, (c) financing, insurance, real estate and business services, and (d) community, social and personal services (Narayana 2008).

While urban share of GDP has grown rapidly over the last decade or more, the share of urban population to total has grown rather more slowly, implying a widening disparity between urban and rural per capita incomes. While this is true of per capita incomes, it must also be kept in mind that urban inequality has been growing so that one cannot assume that the rise in per capita urban income implies significant reduction in urban poverty. It has been noted that for most States, the already high urban inequality worsened in 2004-05. Urban inequality for all of India, in terms of consumer expenditure, increased substantially from a Lorenz ratio of 0.354 in 1987-88 to 0.372 in 2004-05 (Chand 2007).

1.2.2 Urban Concentration

As per the Census of 2001, India's urban population was 286.1 million comprising 27.8 per cent of the total population of 1028.6 million. Cities with a population of over 100,000 each accounted for about 68 per cent of the total urban population, thus signifying a continued concentration of urban population in the large cities.

A graphic description of the increasing concentration of urban population occurring in the country can be had from the following extracts:

> The process of urbanisation in India is marked by increasing concentration in comparatively larger cities. In 2001, 68.7 per cent of the total urban population was living in Class I cities (with a population of over one lakh). The shares of medium and small towns stood at 21.9 per cent and 9.4 per cent respectively. The number and proportion of cities with a population of one million or more have grown significantly in recent decades. From 12 cities in 1981 with 26.8 per cent

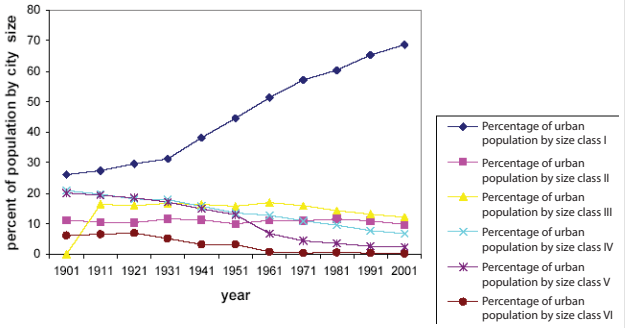
share of the total urban population, the number of million plus cities has increased to 35 in 2001 with 37 per cent share of the total urban population. The seven magnet cities with a population of over 4 million, namely, Mumbai, Kolkata, Delhi, Chennai, Bangalore, Hyderabad and Ahmedabad have a total population of 64.54 million which was 22.56 per cent of the total population at the beginning of the 21st century (2001). Excluding Bangalore, the average annual growth rate between 1991-2001 in 'peripheral areas' of these large cities ranged between 1.70 per cent to 4.18 per cent as compared to only 0.40 per cent to 3.90 per cent in 'core areas'. The outward expansion of these cities had led to urban sprawl or what can also be termed as metropolitisation of large cities. The intervening space between large urban agglomerates and their rural hinterland is marked by intense financial speculation related to sale-purchase of land (MoHUPA 2009).

In 1991, there were 3768 urban agglomerations (UAs)/towns. About one-third of the urban population in 1991 resided in 23 metropolitan cities; another one-third in the remaining 277 Class I cities and the rest in the 3468 UAs/towns. In 2001, there are 4368 UAs/towns. About 38 per cent of the total urban population are residing in 35 metro cities, 30.6 per cent in remaining 358 Class I cities and the rest in 3975 UAs/towns (Sivaramakrishnan and Singh 2005).

A longer term view is provided by **Figure 1.1.**

A feature of urban growth between 1991 and 2001 was that the core metro city exhibited a much

Figure 1.1 Growth of City by Size Class



Source: Datta 2006

slower growth of population than its expanding periphery. This pattern was evident in Mumbai and Delhi. Thus, the population of the city of Mumbai grew at 1.5 per cent annually from 1991 to 2001, but the brand new satellite city of Navi Mumbai grew at the rate of 6.9 per cent. A survey in 2000 estimated that 43 per cent of the families currently settled in Navi Mumbai migrated from Mumbai. Similarly, New Delhi (not including the whole metropolitan area) experienced negative population growth between 1991 and 2001 but Noida, a city adjacent to New Delhi and home to a part of the Delhi workforce, grew at 5.8 per cent per year. The same was true of many other feeder towns in and around New Delhi (UN-HABITAT 2008).

While the big cities and urban agglomerations have been growing, underlying processes have also led to the growth of large numbers of slums across the country's urban centres.

1.2.3 Slums

The Census of India 2001 defines slums as follows:

i. All specified areas in a town or city notified as 'Slum' by State, UT Administration or Local Government under any Act including a 'Slum Act'.

ii. All areas recognised as 'Slum' by State, UT Administration or Local Government, Housing and Slum Boards, which may have not been formally notified as slum under any act;

iii. A compact area of at least 300 population or about 60-70 households of poorly built congested tenements, in unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities.

The slum population in India was estimated at 61.82 million in 2001 by the Census. While this was the estimate of slum population for the country as a whole, 640 towns, each with a population exceeding 50,000, reported a total slum population of 42.58 million based on enumeration. This figure constituted 23.1 percent of the population of these towns.

It is to be noted that both the 2001 Census and the National Sample Survey of 2002 estimated that every seventh person in urban India was a slum dweller. Out of the 640 towns reporting slum populations in 2001, there was a considerable concentration of slum population in 27 large cities, each with a population of one million or more. These accounted for 41.6 per cent of the total slum population of the country. Greater Mumbai Municipal Corporation alone accounted for one-seventh of India's slum population while the four metropolitan municipal corporations of Greater Mumbai, Delhi, Kolkata and Chennai together accounted for 25 per cent. These four cities also accounted for 60 per cent of the total population living in cities with a population of one million or more (Chandramouli 2003).

Slums have particular relevance in the context of urban food security. This has been recognised in the articulation of the Millenium Development Goals (MDG). One of the MDGs is to improve the lives of at least 100 million slum dwellers. Also, Goal 7 of MDGs talks of 'halving the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015' and achieving 100 per cent access by 2025, which in the urban setting is a challenge primarily related to slums. Since urban food security is especially about the access and absorption aspects of food and nutrition, the prevalence of slums becomes an important issue.

1.2.4 Urban Poverty

Poverty as officially measured – in the Indian context, in terms of a household's monthly per capita consumer expenditure – is not identical with food and nutrition insecurity. Food and nutrition security relate not only to the intake of food that would provide the required calories but also the effective biological utilisation of food by the individual. So, it is clearly not coterminous with poverty[1]. Also, on the other side, a meaningful measure of poverty would recognise the multidimensional nature of poverty and thus not limit it to food security in the sense of a specified level of calorie intake. Nevertheless, poverty and food insecurity are clearly related, though not identical. It is therefore of interest to take a brief look at trends in urban poverty in a discussion of urban food security.

Globally, there is some evidence to suggest that poverty is getting 'urbanised'. This is at least partly the result of increasing urbanisation itself in the sense of increase in the proportion of population

[1] In addition, Patnaik (2007, 2009) has drawn our attention, in the Indian context, to the increasing disconnect between the proportion of population with a monthly per capita consumer expenditure level at the 'poverty line' ostensibly based on a calorie norm and the actual per capita calorie intake at that level of per capita expenditure, as brought out by a careful examination of NSSO data on consumer expenditure.

living in urban areas. But it also reflects increasing urban inequality whereby, even as per capita incomes in cities rise, the worsening distribution of income and wealth serves to increase the numbers of the urban poor and possibly their share in urban population. In India, there is evidence to suggest that the rate of reduction in poverty has slowed down since the onset of economic reforms in 1991, and that this slowing down is particularly significant in the case of urban India, even by the official poverty count.

Using the uniform recall period, the population below the poverty line in urban India is estimated to have risen from 7.63 crores in 1993-94 to 8.08 crores in 2004-05 (Damodaran 2007). The National Urban Housing and Habitat Policy 2007, which goes by the official poverty count, notes that:

Poverty in India has declined from 320.3 million in 1993-94 to 301.7 million in 2004-05. While there has been a decline of 18 million persons in the total numbers of the poor in India, the NSSO reports that the number of the urban poor has risen by 4.4 million persons during the same period. One fourth of the country's total urban population, numbering 80.7 million persons is below the poverty line. The urban poor constitute 26.7 per cent of the total poor in the country. The fact that the number of urban poor has risen is in stark contrast with rural poverty, where both the total number of rural poor and its incidence vis-à-vis the rural population has fallen (Planning Commission 2007).

Leaving aside the claim that the numbers of poor people in the country as a whole as well as in its rural areas have declined between 1993-94 and 2004-05, what is striking about the passage quoted is that it provides official recognition of the increase in the number of urban poor.

Similarly, confining themselves to the official method of measuring poverty, Sen and Himanshu point out that '….poverty reduction by comparable uniform recall period (URP) between 1993-94 and 2004-05 was 0.82 ppa[2] in rural areas and 0.30 ppa in urban areas, so that the rural poverty reduction rate appears to have increased but urban poverty reduction decreased once comparisons are so shifted, avoiding the period of disruption immediately following the reforms of 1991' (Sen and Himanshu 2007).

Utsa Patnaik argues that 'directly measured by counting the persons unable to access the official nutrition norm of 2100 calories through their total monthly spending on all goods and services, urban poverty declined slightly between 1983 and 1993-94, but has risen substantially between 1993-94 and 2004-05 while poverty depth has increased. This is particularly evident in the states with the conurbations – Delhi, Mumbai, Chennai and Kolkata – while states with smaller urban centres have fared better' (Patnaik 2009).

Thus, while the official head count ratio (HCR) of urban poverty declined from 33.2 per cent in 1993-94 to 25.7 per cent in 2004-05, the direct measure of HCR using the per capita calorie intake data rose from 57 per cent in 1993-94 to 64.5 per cent in 2004-05.

While the absolute number of the urban poor has risen during the period between 1993-94 and 2004-05 even by the uni-dimensional official measure, several other aspects of poverty in urban areas also need to be taken into account. A study of the poor in Mumbai points out that '… the urban poor are forced to settle on hazardous areas such as toxic dumps, near refineries, near railroads and highways. The slum habitats have no infrastructure to speak of. There is no sanitation facility and no provision of drinking water. In Mumbai the

[2] 'ppa' refers to percentage point reduction per annum

sanitation ratio is one toilet seat per 500 inhabitants' (Sridhar 2006). Urban poverty in Mumbai, it has also been observed, was '...characterised by nearly 70 per cent households living in flimsy shacks and temporary dwellings, 2m x 2m housing space per person, 28 LPCD water consumption, 1.5 per cent households having access to sewer and only half of the people having access to toilets. Similarly, health status was shown as nearly 11 per cent people sick at any point of time; and TB and asthma patients numbering as many as 18 and 11 per thousand population respectively. The annual (number of) cases of water-related diseases such as diarrhoea, typhoid and malaria is estimated as 614,68,126 per thousand of population respectively' (Karn et al. 2003). More generally, it is known that only about 18.5 per cent of the urban poor have access to piped water at home as compared to 62.2 per cent of the "urban not poor" and less than half of urban poor households have sanitary facilities (NFHS 2007).

It has been suggested that 'although the recent urban growth was much higher than in the past, not only was this associated with increased urban inequality but also many urban areas failed to offer either linkage to their rural hinterlands or escape for the rural poor. This suggests that urban poverty is a phenomenon in itself, rather than a mere overflow of rural poverty' (Awasthi et al. 2009). Child, infant and neonatal survival among the urban poor was similar to those of the rural population. In many States, undernutrition among urban poor children was worse than in rural areas (Agarwal and Sangar 2005).

During the period of economic reforms in India, it is clear that the annual compound rate of growth of GDP since 1991 has been impressive at over 6 per cent. However, with increasing urban inequality, it appears that urban poverty has not declined significantly. What can be said about the trends in food security during this period?

1.2.5 Urban Livelihoods: Dominance of the Informal Sector

The overall global food security situation has worsened in recent years and the trend of decline in the number of hungry persons has been reversed. In most developing countries, there has been a rise in the number of undernourished persons, with only a few countries such as China and Vietnam showing significant absolute decline (FAO 2009). Within this context, urban food security has also become a greater challenge than earlier. In an analysis of nationally representative consumption/expenditure surveys from ten African countries, the percentage of the population found to be energy deficient surprisingly turned out to be higher in urban areas in six of the ten countries studied (Ruel and Garrett 2004).

Urban areas typically have more retail outlets and average urban incomes make stocking of food viable. This may generally imply that physical availability of food is not a critical issue in urban settings except when there is severe overall physical shortage and unavailability in the economy as a whole. However, both access and absorption pose serious challenges for urban food security.

The two most important factors that determine the access of a household to food are household income and prevailing prices of essentials. Income, in turn, depends on ownership and utilisation of productive assets as well as on access to remunerative employment.

It is well recognised that even in many economies experiencing rapid rates of GDP growth, the accompanying urbanisation does not automatically translate into similar growth in better-paid and more stable employment. It has been pointed out that in most urban areas, '… employment opportunities in the informal sector are growing, while those in the formal sector are rapidly

shrinking. The absence of formal employment limits the livelihood opportunities available to the urban poor. Informal-sector employment is highly unstable, poorly remunerated and susceptible to seasonal variations. Much of the informal-sector activity takes place outdoors (construction, street vending, or rickshaw drawing) making the rainy season an especially difficult period.' Moreover, even where urban agriculture or rural to urban food transfers are significant, most food in urban areas is purchased, 'highlighting the importance of markets and income-earning opportunities to urban livelihoods and household food security' (UNWFP 2002).

Ruel and Garret (2004) observe that 'the poor work in a variety of jobs, but working long hours in often precarious conditions for low wages is a constant. Jobs tend to be irregular and tenure insecure. The poor may work in clothes factories, run small shops, sell food or cigarettes in the street, scavenge in rubbish dumps, sweep streets and clean latrines, drive rickshaws, or seek day work in construction'.

The ESCAP report on poverty reduction argues that 'urban food security depends on issues related to access and utilisation rather than availability…. In many cases, the urban poor pay up to 30 per cent more for their food than the rural poor, and spend 60 per cent or more of their total expenditure on food' (ESCAP 2007).

The Indian experience with urbanisation during the period of economic reforms has shown that urban inequality has increased. Access to productive assets is either minimal or non-existent for a majority of urban households. A significant section of the urban population does not even own a place of shelter, not to speak of ownership of productive assets. With more than 23 per cent of the urban population living in slums, and this percentage being much higher for metropolitan cities like Mumbai (54 per cent), a substantial chunk of the urban population faces highly insecure tenure in respect of shelter.

The emerging picture in terms of employment and earnings is also discouraging. The rate of growth of urban employment fell from 3.20 per cent per annum compound from1983 to 1993-94 to 3.12 per cent between 1993-94 and 2004-05. The growth in employment between 1993-94 and 2004-05 consisted of two distinct and contrasting phases. Between 1993-94 and 1999-2000, the growth of employment was very slow. Between 1999-2000 and 2004-05, employment grew much more rapidly, but most of this growth was in self-employment, with low average earnings, reflecting more of distress and lack of access to better-paid wage employment than of expansion in productive self-employment opportunities. Most of the growth in employment – nearly all of it, in fact – between 1999-2000 and 2004-05 was in informal employment, which carries no provision of any social security. The total employment figure, including both rural and urban areas, between 1999-2000 and 2004-05 was 59.3 million. Of this, 57.9 million was in the category of informal employment – both self- and wage-paid. As the NCEUS final report points out: 'Although employment increased by 14 per cent in the organised sector over this period, the entire increase has been mostly informal in nature, i.e., without any job or social security.' More than three-fourths of wage workers in agriculture (77 per cent) and all workers in non-agriculture (75 per cent) were either landless or land-poor (NCEUS 2009).

Table 1.1

Growth Rates of Daily Earnings of Workers Aged 15-59 Years in India

Population Segments	Worker Status	1983 to 1993-94		1993-94 to 2004-05	
		Agriculture	Non-Agriculture	Agriculture	Non-Agriculture
Rural male	Regular	4.6	4.4	4.1	2.6
	Casual	3.6	4.0	2.2	2.4
Rural female	Regular	2.5	3.5	3.4	3.1
	Casual	3.6	4.1	2.2	3.8
Urban male	Regular	4.5	3.1	0.2	2.0
	Casual	2.1	2.3	0.9	1.2
Urban female	Regular	5.0	4.0	0.2	1.9
	Casual	3.1	3.6	0.5	1.6
Growth rate in GDP		2.8	6.1	2.5	7.5

Source: NCEUS 2009

What is the story on earnings? The growth rates of daily earnings of workers has been reproduced in **Table 1.1.** The data show that the growth rate of average daily earnings for all categories of urban wage workers – male or female, regular or casual, working in agriculture or non-agriculture – has declined significantly between 1983 to1993-94 and 1993-94 to 2004-05.

From 1999-2000 to 2004-05, the average daily earnings for almost all categories of paid urban workers (male and female, in agriculture and in non-agriculture) – with the tiny exception of women workers in agriculture in urban areas – has actually declined in real terms. This is shown in **Table 1.2.**

Table 1.2

Growth Rate of Average Daily Earnings of Workers in the Age Group 15-59 Years (1993-94 Prices) between 1999-2000 and 2004-05, India

Population Segments	Status	Agriculture	Non-Agriculture
Rural male	Regular salaried	-1.44	-0.58
	Casual workers	1.74	1.04
Rural female	Regular salaried	0.32	-10.79
	Casual workers	1.40	1.89
Urban male	Regular Salaried	-10.92	-0.98
	Casual workers	-1.30	-0.57
Urban female	Regular salaried	0.36	-4.70
	Casual workers	-2.38	-0.82

Source: NCEUS 2009

The situation of self-employed is possibly worse in many respects than even that of the casual workers. For instance, according to data analysed by NCEUS, the average daily income of a male vendor was Rs.70 in most cities while women vendors earned an even more paltry Rs.40 per day, and this is despite long hours of work. The picture was hardly any different for urban rickshaw pullers.

NCEUS estimates the urban labour force at 119.7 millions (Males 94.0m, Females 25.7m) and the urban workforce at 114.3 millions. (Males 90.37m, Females 23.99m). Of the urban work force in 2004-05, 45.16 per cent were self-employed (Males 44.62 per cent, Females 47.19 per cent), up from 42.24 per cent in 1993-94. Among the urban self-employed, nearly two-thirds were own account workers or employers and the remaining were unpaid family workers. But these proportions were very different between men and women, with only a fifth of the male self-employed being unpaid family workers as against nearly half for females. As pointed out by the NCEUS final report: 'In non-agriculture, majority of the self-employed are own account workers i.e., working as tiny enterprises often with the help of family labour or with one or two workers, although women "helpers" or "unpaid workers" predominate' (NCEUS 2009). Most of these own account workers operate on an extremely small scale, and at very low productivity. A high percentage of 'own account enterprises' (OAEs) were engaged in a struggle for survival rather than being profit-oriented business enterprises.

The data from the Economic Census of 2005 estimated the total number of urban enterprises at 16.135 million. Only 2.2 per cent of all urban enterprises employed 10 or more workers while nearly one-sixth operated without any premises. The estimated numbers employed in these enterprises amounted to 48.8 million, of whom 63.6 per cent were hired workers and the rest self-employed. Of the total number of persons employed, about one-seventh consisted of females. These figures make clear that most enterprises were tiny and unlikely to have provided comfortable levels of income for their owners and workers alike. While systematic and comprehensive data on the earnings of the self-employed are not available, interesting nuggets of information from NCEUS on their working conditions are very likely not atypical. For handloom workers, who may number around 3 million including both rural and urban areas, 'a major constraint was the poor and traditional premises in which the looms were set up. The thatched roof, if not repaired regularly, resulted in leakage. The water drops stained the cloth and rendered large losses. The orders for such stained products were often cancelled.' Another important category of self-employment was street vending. 'The number of street vendors ranges from 1.5 -2 lakhs in metropolis like Mumbai and Kolkata to 30000 in small cities like Bhubaneswar…The SCs and other backward castes dominate the trade. Approximately 25-30 per cent of the street vendors in the cities are illiterates and another 20-24 per cent has only primary education.' (NCEUS 2009) Rickshaw pullers, another significant category, are primarily migrants. They generally own no land and have a low level of literacy. In the compelling description of NCEUS: 'Most of the rickshaw pullers stay in jhuggies or unauthorised colonies, owner's workshops or below staircases, on footpaths, under hanging balconies on the roadside, in the rickshaws or even in open space. The stressful life with no rest day coupled with unhygienic living conditions and limited food results in poor health of most workers. Diseases like backache, tuberculosis, asthma, hernia, weak eyesight and underweight are common. They have no medical insurance or access to health care facilities…'. The self-employed operating small and tiny units confront a situation of '…a very low penetration of formal credit, low overall access to credit, and a high unmet credit need'.

Rustagi et al. (2009) point out that 'the urban areas have registered a decline in the casual employment, even for poor women. An increasing trend of recourse to self-employment is noted with a majority of poor women working as helpers in household enterprises'.

Finally, while data on the earnings of the self-employed are not readily available, the fact that when interviewed and asked what they would consider a satisfactory level of earning from their self employment, half of them reported a figure of Rs.3000 a year, which amounts to less than Rs.8 a day[3]!

While the discussion has been on the situation of those in paid employment and those in self-employment, it must also be noted that over 1993-94 to 2004-05, the unemployment rate as measured by the current daily status has gone up. This is evident for the period 1993-94 to 1999-2000, when, as shown in **Table 1.3,** both urban and rural employment growth rates fell sharply compared to 1987-88 to 1993-94, while additions to the labour force continued unabated. Despite the more rapid growth of employment between 1999-2000, and 2004-05, however, the rate of unemployment as measured by the current daily status rose over the same period for both males and females, and in both rural and urban areas as shown in **Table 1.4.**

Thus, the livelihood situation in urban India causes concern, from the aspect of access to food and nutrition security.

Table 1.3

Annual Rate of Growth of Total Employment in India (per cent)

Period	Rural	Urban
1983 to 1987-88	1.36	2.77
1987-88 to 1993-94	2.03	3.39
1993-94 to 1999-2000	0.58	2.55

Source: Adapted from Chandrasekhar and Ghosh 2001

Table 1.4

Unemployment Rates by Current Daily Status in India (per cent)

Period	Rural Male	Rural Female	Urban Male	Urban Female
1999-2000	7.2	7.0	7.3	9.4
2004-05	8.0	8.7	7.5	11.6

Source: Ministry of Finance 2007

[3] Even if one were to reckon 300 'working days', the implicit average daily earning per working day would only amount to Rs.10, a truly miserable figure. If this were to be perceived as satisfactory, one can imagine the plight of the self-employed.

1.2.6 Urban Amenities

It is evident that, despite rapid economic growth, the urban livelihoods scenario is not encouraging for a significant part of the urban population, both those in paid employment and those self-employed. This has obvious implications for the access aspect of urban food security. What is particularly relevant for the absorption dimension of food security is the provision of safe drinking water, sanitation, drainage and shelter facilities. In this sub-section, the position in urban India with respect to these amenities is discussed.

On a global level, it had been pointed out in 2003 that:

> It has been estimated that one third of the world's urban population today do not have access to adequate housing, and lack access to safe water and sanitation. These people live in overcrowded and unserviced slums, often situated on marginal and dangerous land. They lack access to clean water, for which they will pay a premium. Their waste not only remains untreated, it surrounds them and their daily activities and affects their health, especially their children's (UN HABITAT 2003).

ESCAP (2007) notes that the urban poor '… often suffer health problems as a result of unhealthy living conditions and this prevents the proper utilisation of food, in particular the absorption of the necessary nutrients….Data indicate a higher incidence of diarrhea among urban children than among rural children less than 5 years of age'.

Even though Millennium Development Goal 7 talks of halving the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015 and 100 per cent access by 2025, this seems to be a very difficult challenge, especially given the policy climate across the world of relying primarily on markets and deregulation, with only a minimal role for the state.

Rapid urban growth in India in recent years has exacerbated problems of inadequate urban infrastructure in the areas of shelter, sanitation, drinking water and drainage. More than 40 per cent of urban India lived in one-room tenements. The national average floor area per person is 6.89 sq.m, but one third of the population had an average area of 5 sq.m or less (Aldrich and Sandhu 1998).

The National Urban Housing and Habitat Policy 2007 notes: 'At the advent of the 21st Century (2001), the housing stock in India stood at 50.95 million for 55.8 million urban households. Significant segments of this housing stock were characterised by congestion and obsolescence. Congestion is particularly acute in inner city slums and peripheral slums'.

According to Sivaramakrishnan and Singh (2005), '… the urban environment, particularly in large cities, is deteriorating very rapidly. All cities have severe shortage of water supply, sewerage, developed land, housing, transportation and other facilities. The level, quality and distribution of services have been very poor. Several studies have indicated large segments of urban population do not have access to drinking water, sanitation, basic health services and education. These deficiencies have serious health impacts particularly affecting the urban poor'.

Shaw Annapurna (2007), comparing select states with regard to urban amenities, observes that, '… while there has been progress in the coverage of basic amenities across urban India, it has been of a qualitatively different order in the higher income states compared to the lower and middle income states…. The poorer states will need continued assistance from the central government to catch

up with their economically well off counterparts and this should be factored into the Eleventh Plan deliberations on 'inclusive growth'.

An official document of the Government of India provides some sobering statistics:

> 12.04 million (7.87 per cent) urban households do not have access to latrines and defecate in the open. 5.48 million (8.13 per cent) urban households use community latrines and 13.4 million households (19.49 per cent) use shared latrines. 12.47 million (18.5 per cent) households do not have access to a drainage network. 26.83 million (39.8 per cent) households are connected to open drains. The status in respect of the urban poor is even worse. The percentage of notified and non-notified slums without latrines is 17 per cent and 51 per cent respectively. In respect of septic latrines, the availability is 66 per cent and 35 per cent. In respect of underground sewerage, the availability is 30 per cent and 15 per cent respectively. More than 37 per cent of the total human excreta generated in urban India is unsafely disposed. This imposes significant public health and environmental costs to urban areas that contribute more than 60 per cent of the country's GDP. Impacts of poor sanitation are especially significant for the urban poor (22 per cent of total urban population), women, children and the elderly.

The document goes on to add:

> The loss due to diseases caused by poor sanitation for children under 14 years alone in urban areas amounts to Rs.500 crore at 2001 prices. Inadequate discharge of untreated domestic/municipal wastewater has resulted in contamination of 75 per cent of all surface water across India (MoUD, GoI).

The Eleventh Five Year Plan provides information on urban amenities as of 2001 in **Table 1.5.**

Table 1.5

Urban Amenities in India, 2001

Total Urban Housing Stock	**52.0 million**
Pucca houses	79.16 per cent
Semi-*pucca* houses	15.58 per cent
Katcha houses	5.27 per cent
Tenure Status of Households	
Owned dwelling	66.8 per cent
Rented dwelling	28.5 per cent
Other	4.7 per cent
Households having Access to	
Safe drinking water	90.01 per cent
Electricity	87.59 per cent
Toilet	73.72 per cent
Drainage	77.86 per cent
Kitchen within the house	75.96 per cent
LPG for cooking	47.96 per cent
Electricity for cooking	0.31 per cent
Biogas for cooking	0.37 per cent

Source: MoHUPA 2009

While these numbers appear to suggest substantial achievement in provision of basic amenities, this is not quite reflective of the situation on the ground. First, these are all-India urban figures. There is considerable variation, both across size classes of urban units and across States. More important, across different sections of the urban population there are critical intra-

urban inequalities that call for a rather more sober assessment of access to infrastructure facilities.

For instance, with regard to access to drinking water, on the average 73 per cent of households living in cities with a population of 100,000 and above are covered. This figure drops to 63 per cent for cities with population between 50,000 and 100,000, 61 per cent for cities with population between 20,000 and 50,000 and 58 per cent for cities with population below 20,000. Similarly, a survey of municipalities found that only 2.7 per cent reported supplying more than 100 litres of water per capita per day (lpcd), with 28 per cent providing less than 50 lpcd[4]. Though nearly half the urban population was said to be covered by sanitation services, only 28 per cent of urban households were connected to the public sewerage system. Of 300 urban centres with sewerage systems, only 70 had sewage treatment facilities. Likewise, a significant proportion of garbage – as much as 30 to 40 per cent – was left uncollected on urban streets on the average (Mathur et al. 2007). 43 per cent of households in urban areas either had no latrines or no connection to a septic tank or sewerage. Sewerage connections varied from a low 48 per cent to a high 70 per cent. Data from the Central Pollution Control Board indicate that the waste water generated in 300 Class I cities was about 15800 million litres a day while the treatment facilities existed for hardly 3750 million litres per day. Out of total waste generated in the million plus cities hardly 30 per cent was treated before disposal (Planning Commission 2007).

The Eleventh Plan document itself points out that

> Three-fourths of the surface water resources are polluted and 80 per cent of the pollution is due to sewage alone. Poor sanitation conditions, particularly in slums, are often linked to outbreaks of cholera and gastroenteritis. Water-borne diseases are one of the major causes of mortality throughout India and impose a huge burden in terms of loss of life and productivity. Water and sanitation diseases are responsible for 60 per cent of the environmental health burden. The single major cause of this burden of disease is diarrhoea, which disproportionately affects the children under the age of five (Planning Commission 2007).

It is also the case that 54.71 per cent of urban slums had no toilet facility (UNDP 2009).

There would appear to have been some improvement since the beginning of this millenium. Thus, 'as on 31.03.07, about 63 per cent of the urban population have got access to sewerage, low cost sanitation and septic tank facilities at present, i.e., about 30 per cent population have got access to sewerage and 33 per cent have got access to low cost sanitation and septic tank facilities'(SACOSAN 2008). However, the same source also tells us that, 'the coverage figures mentioned above indicate accessibility only and the quality and quantity of the services may not be as per norms in some cases'.

While the discussion of amenities so far has been mainly in terms of the average urban situation, it must be noted that the situation varies considerably across States, across cities of different population size classes and within any city as between the slum and non-slum areas as well as between recognised and unrecognised slums. The worst placed in terms of amenities which have a significant bearing on food absorption, and thereby on food security, are the unrecognised slums.

[4] It may be mentioned here that the National Drinking Water Mission (NDWM) in the late 1980s fixed 140 lpcd as the norm.

In general, slums are present to a greater extent in the more urbanised /industrialised states. According to Risbud: 'The concentration of slum population is in the states/union territories which are industrialised and have a higher level of urbanisation' (UNDP 2009). At the same time, as Kundu notes, 'developed states generally report a high percentage of households having access to drinking water, electricity and toilet facilities. Similarly, Class I towns, particularly the metropolises, enjoy a distinctly higher level of these amenities compared to other urban centres. In the developed states, the smaller towns, too, report a modest coverage of households under different amenities. The situation in less developed states is, however, quite different' (Kundu 2009). It has also been noted that, in terms of availability of latrines and drainage, the non-notified slums may be as poorly off as rural areas (Chandrasekhar 2005).

1.2.7 Urban Food Security

Summarising, some aspects of the current global context in respect of food security include:

- the slowing down of the growth rate of food production globally, leading to a decline in per capita output of grain between the 1970s and the first decade of the twenty-first century.
- the impact of policies of economic liberalisation across the world on access to food for the world's poor, including the urban poor.
- the reduced ability/willingness of governments to raise and spend the required amount of resources by way of public investment on rural and agricultural development as well as on urban infrastructure and public health, given the policy framework of far greater reliance on markets and private investments, and a much lesser role for governments.
- the resulting difficulties in tackling problems relating to all three dimensions of food security, namely, availability, access and absorption.

While reviewing the urban context in India, the focus has been on the pattern of urbanisation, the growth of the urban economy and urban inequality, the trends in urban poverty, urban livelihoods, employment and unemployment, and the growth of urban slums. All these have a bearing on urban food and nutrition security. The issue of urban food insecurity both at a general level and in the specific context of India today is briefly discussed below.

Perhaps the most distinctive feature of the urban food security situation in much of the developing world is the double burden of malnutrition – the simultaneous existence of a large section of the population being undernourished and a smaller (but growing) section suffering from 'overnutrition' – and associated morbidity patterns that impose a strain on financial resources available for public spending on health.

A publication of the FAO from 1990 studying the patterns in food consumption in developing countries drew attention to the health and economic risks to which urban consumers are exposed when intensive urbanisation occurs. The growing supply of highly processed foods and drinks, usually of lower nutritional quality than the unrefined or traditionally processed foods, is one such risk factor. Ensuring food safety through appropriate regulations and monitoring systems becomes an important responsibility of the government in the context of urban food security (Delisle 1990). The study also notes with prescience:

> Except in conditions of extreme poverty, urban lifestyles and diets are conducive to obesity and other non-communicable diseases of "affluence", particularly non-insulin-dependent diabetes, cardio-vascular disease and hypertension. These may become major public health problems in the years to come.

Mendez and Popkin (2004) point out that the forces of urbanisation and globalisation '… are associated with potentially beneficial dietary shifts such as increases in energy sufficiency and greater consumption of fruit, but also appear to promote potentially obesogenic shifts such as increased intakes of edible oils, animal foods and caloric sweeteners…overweight has become an increasing problem. Among adult women, overweight now exceeds underweight in almost all developing countries… Food availability and intake data suggest that adverse shifts in dietary composition are taking place at a much higher speed than potentially beneficial changes'.

A synthesis of country case studies (FAO 2004) defines malnutrition as follows: 'Malnutrition is any state of nutritional imbalance and includes under- and overnutrition and inadequacies in micronutrients. Undernutrition is the preferred term for describing nutrition disorders related to lack of adequate dietary energy, while overnutrition is used to describe excess dietary energy intake, most often also associated with low energy expenditure or reduced levels of physical activity'. It notes that, 'even in some countries where chronic malnutrition is prevalent in children… the prevalence of overweight and obese adults is of concern'. In other words, under urbanisation in the context of globalisation, even while 'the issue of food and nutrition security has not been resolved, yet another level of complexity is being added to the problem as the incidence of diet-related non-communicable diseases (NCD) increases'. The study correctly concludes that 'a concerted effort to diminish inequalities and focus on delivering positive gains is needed to stem the tide of the increasing double burden of undernutrition and overnutrition coupled with excessive urbanisation rates and growing poverty'. It also draws attention to the fact that, 'the rapid pace of urbanisation in many cities outstrips the capability of municipalities to provide basic services such as water, sanitation and housing. In this respect, the forces of globalisation appear to drive the phenomenon of urbanisation to a pace that is beyond the accommodative capacity of municipalities'.

A later FAO study (2006) on the double burden of the simultaneous presence of over- and undernutrition in urban areas of developing countries states the argument succinctly:

> Underweight and obesity are both among the top ten leading risk factors for the global burden of disease …The current double burden of malnutrition seen in many developing countries is brought about by a coupling of risk factors. Progress in improving water and sanitation systems has been slow and the development of sound public health systems weak, thwarting efforts to reduce undernutrition. At the same time, increasing urbanisation and changing dietary patterns and lifestyles are contributing to a rapid rise in overweight and diet-related chronic diseases.

Developing a typology of the double burden, the study points out that India, along with the Philippines, is characterised by '… a high prevalence of undernutrition in children and adults, a high prevalence of micronutrient deficiency and

emerging problems of overnutrition, diabetes and high blood pressure, mainly in urban areas'.

A careful examination of the data for India, as part of the FAO 2006 study, concludes that 'data suggest that there has not been much change in the predominantly cereal-based dietary intake in India over the last three decades, except among affluent segments of the population. In spite of increasing per capita income and reduced poverty, dietary diversity is seen mainly among the affluent. Undernutrition rates remain high; starting before birth, they are aggravated throughout infancy by poor infant feeding practices and perpetuated in childhood by poor intra-family distribution of food and poor access to health care'[5].

This MSSRF study is broadly in agreement with such an assessment. Rising urban inequality, significant underinvestment in urban health and nutrition infrastructure, an increasingly insecure workforce with mostly casual or contract employment or even less remunerative self-employment, growth of slums and slum populations lacking in the most elementary health and hygiene facilities – including shelter, safe drinking water, sanitation and drainage – all these make for a situation of a permanent food and nutrition emergency. Mere availability of food in urban markets does not guarantee food security in an environment in which access has been seriously compromised both by patterns of employment and earnings, and by rapid rise in the prices of essential commodities beginning with food and shelter. So, it would be broadly correct to identify undernutrition as the key issue for policy, even while recognising the need to address the 'overnutrition' part of the double burden through health and nutrition education.

1.3 Some New Challenges: Climate Change and Food Price Inflation

Recent years have seen an emerging consensus that climate change is a major new challenge to humanity, and especially so with respect to the issue of food and nutrition security. Urban food security will be directly and negatively impacted by climate change in so far as it implies greater volatility in climatic conditions and thus also in foodgrain output and availability. Negative consequences will also occur from climate change leading to a greater frequency of extreme events, which can be especially catastrophic for urban settlements with high densities of population.

The other important contemporary challenge is the emergence of high rates of inflation in respect of food articles, something that India has been experiencing of late. While a part of this may be associated with supply-demand imbalances, it increasingly appears that the role of speculation and futures trading in foodgrains is also an important factor.

It is important to emphasise that policies relating to urban food security will have to tackle these two contemporary challenges effectively and imaginatively. In particular, far greater attention would have to be paid to ensuring safe shelter through appropriate materials of construction for vulnerable sections of the population as well as arranging dispersed and easily retrievable storage points for foodgrains in urban centres. Similarly, with food price inflation, a dedicated and universal public distribution system appropriately governed and monitored, becomes crucial.

[5] The paper on India does point out, however, that over the decade from the mid-1990s to the mid-2000s, 'in affluent urban segments, increased energy intake from fats, refined cereals and sugar, combined with simultaneous reductions in physical activity have contributed to steep increases in over nutrition in all age groups' (FAO 2006).

1.4 Overview of the Report

In the chapters that follow, various aspects that have an effect on the status of food insecurity of the urban population will be discussed. These will include the extent and nature of employment opportunities, accessibility to basic amenities, level and pattern of food consumption and the nutritional status of the urban population across the different States of India. Since the food security situations may be expected to vary significantly not only across States but also across cities and towns of different population size classes, the food security situations across various size classes of urban units will be examined wherever possible. The Report will go on to talk about the choice of indicators for food insecurity, construct an Index of Food Insecurity, compute the values of this Index for major States of India at two different points in time and, based on these values, provide an analytical comparison across States. The contribution made to food and nutrition security by the three major food-related interventions of the government, namely, the public distribution system (PDS), the national programme of nutritional support to education more commonly known as the mid-day meal scheme (MDMS) and the integrated child development services (ICDS) will then be explored. The final chapter will bring together the findings and offer some suggestions for policy.

Chapter 2

Dimensions of Food Insecurity in Urban India

The concept of food insecurity is multidimensional in nature and is determined by a whole range of factors such as domestic production of food, import and export of food, purchasing power of people to access food as well as factors that influence absorption of food in the body. The different elements that influence food security can be classified into three broad dimensions – food availability, food access and food absorption. In this chapter some key issues pertaining to food insecurity in urban areas across the major States of India are discussed. Analysing the status of food insecurity across different States would indicate variation in the nature of food insecurity concerns among them. Aspects relating to food access would be a more important problem for urban households in some States while lack of basic amenities that affect food absorption would be more crucial in others. Thus, classifying the problem of food insecurity into different dimensions would not only help in a better understanding of the complexity but will also aid in identifying appropriate interventions to address the situation. However, it is difficult to arrive at a measure of food availability across States given the difficulty in collection of data on net import of grain into a State on private account as well as changes in the amount of privately held stocks. Therefore, the discussion in this chapter essentially relates to the other dimensions of food security, namely, aspects pertaining to food access and absorption as well as the nutritional status of the population.

Before entering into a discussion on urban food insecurity, it is important to consider the broad pattern of urbanisation experienced by the country[6]. Urbanisation is the process whereby larger proportions of population live in urban areas. In any country, the specific manner in which the process of urbanisation comes about is related to the nature of the overall development process experienced by that country. **Table 2.1** indicates the salient features of urbanisation across the major States of India. The overall level of urbanisation in the country was about 28 per cent in 2001. Given that the process of development is uneven across the country, the patterns of urbanisation are also not uniform. Tamil Nadu, Maharashtra and Gujarat have had more than one-third of their population living in urban areas in 1991 as well as 2001, while in Madhya Pradesh, Rajasthan, Uttar Pradesh, Bihar, Orissa and Assam this proportion was less than one-fourth. Town density, a measure of the spread of urbanisation, indicates that the urban spread was relatively better in Tamil Nadu, the Punjab and Haryana while it was very low in Orissa and Rajasthan. From 1991 to 2001, the annual population growth rate in urban areas in

[6] Considering that the latest data available is from the Census of India 2001, this section largely relies on the *Food Insecurity Atlas of Urban India* (FIAUI) (MSSRF-WFP 2002).

Table 2.1
Salient Features of Urbanisation across the States, 1991 and 2001

Sl. No.	States	Degree of Urbanisation		Town Density		Percentage of population living in large towns	Rate of growth of urban population	URGD	Percentage of slum population
		1991	2001	1991	2001	2001	1991-2001	1991-2001	2001
1	Andhra Pradesh	26.89	27.08	0.96	0.76	88.19	1.37	0.09	32.24
2	Assam	11.10	12.72	1.19	1.59	54.22	3.14	1.59	6.00
3	Bihar	13.14	13.36	1.56	1.45	66.65	2.59	0.19	12.00
4	Gujarat	34.49	37.35	1.35	1.23	67.40	2.87	1.27	14.70
5	Haryana	24.63	29.00	2.13	2.40	76.17	4.19	2.30	33.06
6	Karnataka	30.92	33.98	1.60	1.41	75.12	2.57	1.42	12.73
7	Kerala	26.39	25.97	5.07	4.09	63.87	0.74	-0.22	2.02
8	Madhya Pradesh	23.18	24.98	1.05	1.10	66.44	2.83	1.01	27.85
9	Maharashtra	38.69	42.40	1.09	1.23	85.19	2.99	1.57	33.31
10	Orissa	13.38	14.97	0.80	0.89	59.36	2.64	1.34	22.20
11	Punjab	29.55	33.95	2.38	3.12	74.38	3.21	2.08	20.49
12	Rajasthan	22.88	23.38	0.65	0.65	71.04	2.75	0.29	16.88
13	Tamil Nadu	34.15	43.86	3.61	6.40	57.48	3.63	4.16	20.00
14	Uttar Pradesh	19.84	21.02	2.56	2.68	60.76	2.88	0.74	19.94
15	West Bengal	27.48	28.03	4.30	4.23	53.23	1.86	0.28	27.11
	India	**25.71**	**27.78**	**1.51**	**1.63**	**66.78**	**2.75**	**1.08**	**23.10**

Note:

1. Large towns are towns with population 50,000 and above
2. Census of India, 2001 conducted survey of slums only in large towns (with population 50,000 and above) of Census 1991 and percentage of slum population is with reference to these large towns
3. Town density is number of towns per 1000 sq.km
4. URGD – Urban - Rural growth differential
5. The entire analysis in this study includes the States of Jharkhand, Chhattisgarh and Uttarakhand in the States of Bihar, Madhya Pradesh and Uttar Pradesh respectively. Weighted averages are used for clubbing the States

Source: Census of India 1991; Census of India 2001

India was at 2.75 per cent while in rural areas it was 1.67 per cent. Thus the Urban Rural Growth Differential (URGD) for the country as a whole was at 1.08 per cent per annum. The nature of the larger development process in India has been such that it has led to a low level of urbanisation combined with a relatively high rate of growth of urban population and a high and increasing concentration of urban population in large cities in the country.

This chapter is an attempt to discuss various factors that have a bearing on the food security of the urban population. The first section discusses aspects relating to employment, the second section is on basic amenities and the third section analyses food consumption. The fourth section briefly discusses the nutritional outcomes among slums and non-slum areas in selected metropolitan cities.

2.1 Employment

For the urban population, access to food generally depends on the ability to buy food. In the absence of data on income and wealth that would broadly determine the purchasing power of the population, one can use employment indicators as a proxy for purchasing power. The ability of people to access food in the market is likely to be low in an area where the availability of employment is low or unemployment is high. Apart from the availability of employment, it is also the quality of employment that determines the capacity of the population and therefore its means to purchase food in the market. The nature and extent of employment available in a society is related to the overall development process experienced by that society. The Indian economy is predominantly rural in character, with 72 per cent of total population residing in villages according to the Census of 2001. However, while just about 28 per cent of the population lives in towns, in terms of absolute size this means a staggering 285 million persons. So, urban food security is a massive challenge. Moreover, there are certain specificities in the pattern of urban growth in India, such as high concentration of urban population in large cities and high rates of urban expansion, which have implications for food security in urban areas. Further, as discussed earlier, not only has the Indian development process bypassed a large section of population, there is also significant imbalance across sectors and across space. A specific consequence of this development process is the predominance of unorganised or informal workers in urban areas of the country. In other words, the nature of urban growth in India entails informal employment, underemployment as well as unemployment to a significant extent in urban areas. The National Commission for Enterprises in the Unorganised Sector (NCEUS) set up by the Central Government in 2004, defines unorganised workers thus: "Unorganised workers consist of those working in the unorganised enterprises or households, excluding regular workers with social security benefits, and the workers in the formal sector without any employment/ social security benefits provided by the employers" (NCEUS 2007:3). It would be reasonable to assume that access to secure, organised sector employment would guarantee better access to food. On the other hand, employment in the unorganised or informal sector as well as informal employment in the organised sector usually fetches an income that is not only low but also irregular and therefore provides relatively poorer access to food.

NCEUS has made detailed computations using the National Sample Survey Organisation (NSSO) data for 2004-05 on the magnitude and nature of unorganised sector employment in the country. According to this study, of the 198.5 million non-agricultural workers in the country in 2004-05, 166.5 million, that is, 84 per cent were

unorganised workers. Even within the organised sector engaged in non-agricultural activities, out of 56.5 million workers, 24.5 million, that is, about 43 per cent were informal workers. Total informal workers consist of those in the unorganised sector as well as informal workers in the organised sector. Comparing the extent of informal workers in the Indian economy in 1999-2000 and 2004-05, NCEUS concluded that the process of informalisation of the formal or organised sector has increased in the country.

Table 2.2 provides data on Work Participation Rate (WPR) for males and females in the urban areas of the major States of India for three employment rounds of NSSO, viz., 1993-94, 1999-2000 and 2004-05[7]. WPR provides the number of persons employed per 1000 population. Here, total usually employed or all workers are taken into account by considering usual principal and subsidiary activity together. WPR thus provides a crude estimate of availability of employment for a given population. **Table 2.2** illustrates some trends:

Table 2.2

Work Participation Rate (WPR) for Males and Females in Urban Areas of Major States of India, 1993-94 to 2004-05

Sl. No.	States	Work Participation Rate					
		Males			Females		
		1993-94	1999-2000	2004-05	1993-94	1999-2000	2004-05
1	Andhra Pradesh	544	511	560	199	178	224
2	Assam	528	522	551	92	112	109
3	Bihar	439	432	466	69	75	112
4	Gujarat	535	536	578	142	135	151
5	Haryana	519	506	511	152	98	132
6	Karnataka	542	545	576	181	178	181
7	Kerala	559	558	547	203	203	200
8	Madhya Pradesh	471	488	527	142	134	166
9	Maharastra	526	532	560	169	137	190
10	Orissa	510	475	504	151	145	148
11	Punjab	553	549	572	93	125	133
12	Rajasthan	490	486	508	163	138	182
13	Tamil Nadu	575	563	593	230	215	241
14	Uttar Pradesh	482	490	521	102	94	123
15	West Bengal	550	567	595	143	117	155
	India	**521**	**518**	**549**	**155**	**139**	**166**

Note: WPR is defined as usually employed persons (Principal Status + Subsidary Status) per 1000 persons

Source: NSSO 1997b; NSSO 2001a; NSSO 2006

[7] The entire analysis in this chapter does not consider Jharkhand, Chhattisgarh and Uttarakhand separately but includes them in their respective erstwhile undivided States of Bihar, Madhya Pradesh and Uttar Pradesh. This has been done to enable comparison with earlier years.

- First, in general, across all urban areas in the country, WPR for females was lower than WPR for males and in urban India as a whole, it was nearly three times lower compared to WPR for males in all the three years under consideration.
- Second, WPR for males was higher in States that are relatively more urbanised and more developed, the exception being Haryana[8]. In Bihar, Madhya Pradesh, Uttar Pradesh, Rajasthan and Orissa WPR for males was lower than the all-India average all through. In 2004-05, WPR for males was highest in West Bengal at 595 workers per 1000 persons, closely followed by Tamil Nadu with a figure of 593. For females, Tamil Nadu registered the highest WPR amongst all States in the three time points under consideration. The overall pattern exhibited by female WPR was not similar to that of males in that Assam, West Bengal, Gujarat and the Punjab that exhibited high work participation rates for males showed a low participation rate for females.
- Third, while for males as well as females, in general, WPR has increased over the period 1993-94 to 2004-05 there is variation in the pattern exhibited. In most States, WPR has dropped in 1999-2000 compared to 1993-94, but has increased during the latter period, 1999-2000 and 2004-05. Six States (West Bengal, Uttar Pradesh, Maharashtra, Madhya Pradesh, Karnataka and Gujarat) in the case of males and two States (Bihar and the Punjab) in the case of females have registered an increase in WPR since 1993-94, without a decline in 1999-2000. Kerala shows a different pattern compared to all other States in that WPR for males and females has not increased over the years. In Haryana too, WPR for females has declined over the period 1993-94 to 2004-05.

Table 2.3 provides data on status of employment of 1000 usually employed males in urban areas of the 15 major States in the country. In urban India, 417 out of 1000 male workers in 1993-94 were self-employed and their proportion increased to 448 in 2004-05. All States except Assam and Uttar Pradesh have registered an increase in male workers in the self-employment category. However, in both these States the proportion of self-employed has always been above the country's average. Orissa and West Bengal have registered the highest increase in the proportion of workers who are self-employed over the 12 years under consideration. As a corollary to the pattern exhibited by the category of self-employed workers, the proportion of male workers in regular employment declined from 422 to 406 for every 1000 male workers, in the country as a whole over 1993-94 to 2004-05. However, Tamil Nadu, Uttar Pradesh, Gujarat and Assam did not exhibit a decline in regular employment. By 2004-05, regular employment remained the most important work category for male workers only in the three most urbanised States of the country, namely, Tamil Nadu, Gujarat and Maharashtra. As regards casual employment among male workers, while most States have registered a decline, it has increased in Assam, Bihar, Orissa, Rajasthan, West Bengal and Maharashtra.

Table 2.4 provides data on the status of employment of female workers over three time points – 1993-94, 1999-2000 and 2004-05 – in the urban areas of the major States of India. Changes observed in the pattern of employment of female

[8] In 2001, while the percentage of urban population in the country was 27.78, in Haryana it was 29.

workers, over the 12 years since 1993-94, have been somewhat different from that exhibited by male workers in urban India. The proportion of workers in self-employment as well as regular employment has registered an increase while casual labour has fallen with regard to female workers in urban India as a whole. The segment of workers classified as regular has increased in

Table 2.3

Status of Employment of Males in Urban Areas of Major States of India, 1993-94 to 2004-05

Sl. No.	States	Status of Employment of Males								
		Self-Employment			Regular Employment			Casual Labour		
		1993-94	1999-2000	2004-05	1993-94	1999-2000	2004-05	1993-94	1999-2000	2004-05
1	Andhra Pradesh	382	358	428	401	420	386	217	222	186
2	Assam	478	483	453	420	405	433	102	112	114
3	Bihar	484	541	497	367	310	339	149	149	164
4	Gujarat	373	408	414	449	359	482	178	233	104
5	Haryana	419	433	478	454	444	447	127	123	75
6	Karnataka	399	379	416	406	417	390	195	204	194
7	Kerala	375	374	405	268	280	252	357	346	342
8	Madhya Pradesh	407	452	452	421	369	399	172	179	150
9	Maharastra	367	330	387	525	540	473	108	130	141
10	Orissa	371	419	462	481	399	357	148	182	181
11	Punjab	487	474	486	398	404	428	115	122	86
12	Rajasthan	472	461	503	432	404	374	96	135	123
13	Tamil Nadu	345	330	380	403	454	452	252	216	167
14	Uttar Pradesh	574	531	546	314	334	364	112	135	91
15	West Bengal	374	431	447	476	399	373	150	170	179
	India	**417**	**415**	**448**	**422**	**417**	**406**	**161**	**168**	**146**

Note:

1. Status of employment is given for 1000 usually employed males
2. NSSO's definitions for the terms are:

   Self-employment: Persons who operated their own farm or non-farm enterprises or were engaged independently in a profession or trade on own account or with one or a few partners;

   Regular employee: Persons who worked in others' farm or non-farm enterprises and received salary or wages on a regular basis;

   Casual labour: Person who was casually engaged in others' farm or non-farm enterprises and received wages according to the terms of the daily or periodic work contract

Source: NSSO 1997b; NSSO 2001a; NSSO 2006

all the States except Rajasthan, West Bengal and Bihar, while all have registered a decline in the proportion of casual employment. Rajasthan had the highest share of workers in self-employment in 1993-94 and this further increased to 727 out of 1000 female workers being in the self-employed category by 2004-05. To recapitulate, in the case of males as well as females, the proportion of workers in the self-employment category has increased remarkably between 1993-94 and 2004-05. The pattern with respect to regular employment is quite different between males and females. Among females, regular employment has registered an increase in all but three States (Bihar, Rajasthan and West Bengal) while that has not been the case with respect to male workers. Though the preliminary analysis of the employment pattern of workers in urban India illustrated a decline in casual employment, it did not however reflect an improvement in the employment situation per se. The analysis carried out by NCEUS showed that the increase in the numbers in the self-employment and regular employment categories did not necessarily point towards betterment in working conditions.

Table 2.4

Status of Employment for Females in Urban Areas of Major States of India, 1993-94 to 2004-05

Status of Employment for Females									
Sl. No.	States	Self-Employment			Regular Employment			Casual Labour		
		1993-94	1999-2000	2004-05	1993-94	1999-2000	2004-05	1993-94	1999-2000	2004-05
1	Andhra Pradesh	460	393	487	175	285	300	365	322	212
2	Assam	283	251	264	500	556	545	217	193	191
3	Bihar	426	513	471	265	252	250	309	235	279
4	Gujarat	426	419	429	241	264	303	333	317	268
5	Haryana	573	535	587	204	330	320	223	135	92
6	Karnataka	459	415	437	254	326	371	287	259	192
7	Kerala	458	509	426	266	319	381	276	172	193
8	Madhya Pradesh	451	504	403	239	172	328	310	324	270
9	Maharashtra	367	374	361	391	410	438	242	216	201
10	Orissa	377	460	379	291	212	352	332	328	269
11	Punjab	500	491	439	415	434	514	85	75	47
12	Rajasthan	638	653	727	202	209	186	160	138	87
13	Tamil Nadu	397	394	443	301	407	412	302	199	145
14	Uttar Pradesh	657	661	593	196	257	330	147	82	77
15	West Bengal	364	436	524	441	401	367	195	163	109
	India	**448**	**453**	**477**	**292**	**333**	**356**	**260**	**214**	**167**

Note:

1. Status of employment is given for 1000 usually employed females
2. Definitions of employment category as in Table 2.3

Source: NSSO 1997b; NSSO 2001a; NSSO 2006

Table 2.5 provides data on non-agricultural workers in the organised and unorganised sectors, classified by different employment status – self-employment, regular employment and casual workers – for the year 2004-05. Out of 66.7 million regular workers, 24.8 million or 37 per cent were in the unorganised sector. A very high percentage of self-employed (97 per cent) figured in the unorganised sector. Considering that non-agricultural activities are predominantly in urban areas, the prevalence of a very high percentage of unorganised workers in non-agriculture has serious implications for food security in urban areas. This is further corroborated by the poverty ratios for different categories of workers estimated by NCEUS.

Table 2.6 indicates that the incidence of poverty was lower among organised workers compared to unorganised workers. Nearly one-fourth of all non-agricultural workers in the unorganised sector in urban areas have been classified as poor in 2004-05. On an average, 42 out of every 100 workers in the casual labour category were estimated to be poor. Though the corresponding percentage was lower for regular workers and self-employed at 20 and 21, it was by no means insignificant. However, the fact that the incidence of poverty has been the least for regular workers in the organised as well as unorganised sectors suggests that lack of regular employment indicated higher levels of poverty and insecurity. The extent of vulnerability of unorganised sector

Table 2.5

Size and Distribution of the Organised and Unorganised Workers in Non-Agriculture, All India, 2004-05

Category of Workers	Number of Workers (in million) in Non-Agriculture		
	Organised sector	Unorganised sector	Total
Self-employed	2.9	89.2	92.1
	(3.15)	(96.85)	(100.00)
Regular worker	41.9	24.8	66.7
	(62.82)	(37.18)	(100.00)
Casual worker	11.7	28.1	39.8
	(29.40)	(70.60)	(100.00)
Total	**56.5**	**142.1**	**198.5**
	(28.46)	**(71.58)**	**(100.00)**

Note: Figures in brackets are percentages with respect to different category of workers

Source: NCEUS 2007: 240

workers in non-agricultural activities is also clear from the fact that a very high percentage of workers – 57 per cent of casual workers and 47 per cent of regular workers – earned below the minimum wage of Rs. 66 per day in 2004-05 (NCEUS 2007: 259, 262). During the period 1993 to 2005, the Indian economy experienced high rates of growth and it is therefore a worrisome feature that the growth has excluded a vast majority, leaving them behind as poorly paid unorganised workers.

That the nature of employment that was generated during the 1990s was of poor quality comes out from the census data too. **Table 2.7** indicates a clear tendency towards using marginal workforce among males and females across all States. While the percentage of marginal workers among males in urban India was less than 0.7 per cent and among females about 11 per cent in 1991, the corresponding percentages in 2001 was 6.7 and 21 respectively. That is, the share of marginal workers among males increased by 6 percentage points and that among females by 9.7 percentage points over 1991-2001. The extent of such marginal workers has been much higher among females compared to males across all States.

The incidence of unemployment in the urban economy is the next point of discussion. Unemployment rate is defined as the number of persons unemployed per 1000 persons in the labour force.

The rate of unemployment for males in urban India measured by the usual status approach has remained more or less stagnant over the three time points: 45, 48 and 44 in 1993-94, 1999-2000 and 2004-05 respectively (**Table 2.8**).

Table 2.6

Poverty Ratios among Non Agricultural Workers by Category of Workers in India, 2004-05 (in percentage)

Category of Workers	Incidence of poverty among non-agricultural workers in urban India	
	Organised sector	Unorganised sector
Self-employed	11.4	21.4
Regular worker	6.8	20.2
Casual worker	35.0	41.5
All workers	**10.4**	**24.1**

Source: NCEUS 2007: 25

Usual status approach to unemployment indicates the proportion of persons unemployed for a relatively longer period during the year. In Karnataka, Tamil Nadu and the Punjab, unemployment rates for males were relatively low and declining over time. On the other hand, Orissa, Bihar, Assam, Kerala, Maharashtra and West Bengal have shown relatively high levels of unemployment. Further, except Maharashtra and West Bengal, the rest of the States in this group have registered an increase in unemployment rate

Table 2.7

Percentage of Marginal Workers among Males and Females in Urban Areas of Major States of India, 1991 and 2001

Sl. No.	States	Percentage of Marginal Workers			
		Males		Females	
		1991	2001	1991	2001
1	Andhra Pradesh	0.4	7.1	7.2	20.5
2	Assam	0.6	5.4	10.7	18.4
3	Bihar	0.4	10.0	15.8	32.0
4	Gujarat	0.4	2.8	16.5	23.5
5	Haryana	0.1	7.4	8.4	28.1
6	Karnataka	0.6	5.5	7.3	15.8
7	Kerala	4.7	12.3	13.2	21.7
8	Madhya Pradesh	0.7	7.7	13.9	26.7
9	Maharashtra	1.2	5.4	9.4	16.8
10	Orissa	1.0	7.0	13.2	28.0
11	Punjab	0.1	4.3	3.9	19.2
12	Rajasthan	0.5	7.3	25.7	32.7
13	Tamil Nadu	0.3	6.1	10.1	14.8
14	Uttar Pradesh	0.4	10.0	21.6	34.2
15	West Bengal	0.6	6.4	6.7	20.8
	India	**0.7**	**6.7**	**11.3**	**21.0**

Note: Census defines 'Marginal workers' as those workers who had not worked for the major part of the reference period (i.e. worked less than 6 months)

Source: Census of India 1991; Census of India 2001

over 1993-94 to 2004-05. Current daily status (CDS) unemployment rate, which is the most inclusive rate of unemployment, has increased from 67 per 1000 persons in the labour force in 1993-94 to 73 in 1999-2000, and further to 75 in 2004-05 in urban India as a whole. While the usual status unemployment rate is stagnant, an increase in the CDS unemployment rate suggests that the day-to-day variation in employment availability was very high. Considering that a predominant section of non-agricultural workers were unorganised workers who did not have any employment security, the observed pattern of high unemployment rate by current daily status was to be expected. Tamil Nadu and Andhra Pradesh that had relatively low rates of unemployment by

Table 2.8

Rate of Unemployment for Males in Urban Areas of Major States of India, 1993-94 to 2004-05

Sl. No.	States	Rate of Unemployment for Males					
		Usual Status			Current Daily Status		
		1993-94	1999-2000	2004-05	1993-94	1999-2000	2004-05
1	Andhra Pradesh	35	42	39	75	72	78
2	Assam	62	91	71	65	99	81
3	Bihar	71	76	78	83	87	99
4	Gujarat	33	21	29	57	40	42
5	Haryana	26	27	36	65	45	58
6	Karnataka	34	30	22	56	53	51
7	Kerala	76	69	90	141	155	174
8	Madhya Pradesh	57	43	39	70	72	65
9	Maharashtra	46	61	46	60	77	81
10	Orissa	73	72	93	98	98	119
11	Punjab	33	31	30	39	48	54
12	Rajasthan	20	27	31	26	47	63
13	Tamil Nadu	49	39	32	86	90	81
14	Uttar Pradesh	36	45	40	48	63	57
15	West Bengal	77	77	64	102	100	99
	India	**45**	**48**	**44**	**67**	**73**	**75**

Note: NSSO defines the terms thus:

Usual Status: The activity status of a person during the reference period of 365 days preceding the date of survey

Current Daily Status: A person is considered working for the entire day if he had worked four hours or more on any day of the reference week preceding the date of survey

Rate of unemployment: Number of persons unemployed per 1000 persons in the labour force

Source: NSSO 1997b; NSSO 2001a; NSSO 2006

usual status exhibited high rates of unemployment by current daily status, indicating higher levels of seasonality in employment. In seven States – the Punjab, Haryana, Gujarat, Karnataka, Rajasthan, Uttar Pradesh and Madhya Pradesh – unemployment rates were low when estimated by either approach. Kerala, which exhibited a decline in work participation rate, recorded very high levels of unemployment by both approaches.

Table 2.9 indicates that, in general, the rate of unemployment was much higher among females. While the rate of unemployment by usual status approach stagnated with regard to males, the corresponding rate among females registered an increase. Kerala exhibited very high rates of unemployment evidenced by both the approaches used. Gujarat, Karnataka, Rajasthan, and Madhya Pradesh showed similar patterns of low rates of unemployment among males as well as females. However, in the Punjab, Haryana and Uttar Pradesh the unemployment rates were low in 1993-94 and 1999-2000, but have increased above the all-India average in 2004-05.

Table 2.10 presents the status of employment of male workers across different size classes of towns in the major States of India during 1999-2000

and 2004-05. All urban areas are not homogenous in character. Towns vary with regard to size of population, basic economic characteristics and the nature of their linkages with the hinterland. The employment issue varies across different types of towns and the discussion here pertains to towns classified by size of population. The NSSO classifies towns into three categories: Class 1 towns or metropolitan ci ties that have population over 1 million; Class 2 towns with population in the range of 50,000 to 1 million; and Class 3 towns with population less than 50,000. Considering the employment status of male workers as a whole, a marked tendency of increase in self-employment was observed in the States between 1999-2000 and 2004-05. The pattern exhibited by all three size classes of towns was similar. However, in the metropolitan cities, regular employment was more prominent than the other two categories of employment. In 1999-2000, among all the metropolitan cities, except in Patna (Bihar), Kanpur and Lucknow (Uttar Pradesh), regular employment was more prominent. But, in 2004-05, while in a majority of the metropolitan cities regular employment remained the most prominent category, the pattern changed in Hyderabad (Andhra Pradesh) and Bhopal (Madhya Pradesh) so that in five cities (Hyderabad, Bhopal, Patna, Kanpur and Lucknow), the share of workers in self-employment was more prominent. Tamil Nadu was the only State where regular employment was the most important category even among Class 3 towns. While casual employment has declined across all size classes of towns, in 2004-05 it

Table 2.9

Rate of Unemployment for Females in Urban Areas of Major States of India, 1993-94 to 2004-05

Sl. No.	States	Rate of Unemployment for Females					
		Usual Status			Current Daily Status		
		1993-94	1999-2000	2004-05	1993-94	1999-2000	2004-05
1	Andhra Pradesh	43	42	43	95	89	83
2	Assam	289	223	156	256	219	140
3	Bihar	112	94	37	123	135	56
4	Gujarat	62	26	40	78	54	72
5	Haryana	80	46	131	72	49	131
6	Karnataka	75	47	62	89	59	94
7	Kerala	244	264	429	278	282	423
8	Madhya Pradesh	46	16	25	59	57	74
9	Maharashtra	58	78	58	78	100	112
10	Orissa	78	67	304	93	82	271
11	Punjab	86	35	200	58	53	177
12	Rajasthan	8	37	47	15	35	50
13	Tamil Nadu	84	58	54	127	86	98
14	Uttar Pradesh	16	46	95	48	50	105
15	West Bengal	196	111	137	208	139	137
	India	**82**	**71**	**91**	**105**	**94**	**116**

Note: For definitions of unemployment, refer to Table 2.8

Source: NSSO 1997b; NSSO 2001a; NSSO 2006

Table 2.10

Status of Employment of Males across Different Size Classes of Towns, 1999-2000 to 2004-05

Sl. No.	States	Status of Employment of Male Workers in Different Size Classes of Towns																	
		Class 1						Class 2						Class 3					
		1999-2000			2004-05			1999-2000			2004-05			1999-2000			2004-05		
		SE	RE	CL	SE	RE	CL	SE	RE	CL	SE	RE	CL	SE	RE	CL	SE	RE	CL
1	Andhra Pradesh	323	494	184	447	427	126	356	436	208	410	392	198	414	315	271	482	325	193
2	Assam	-	-	-	-	-	-	397	501	103	418	458	124	559	330	111	507	395	99
3	Bihar	529	406	64	509	402	89	520	331	148	501	333	166	566	252	182	475	374	151
4	Gujarat	361	376	263	345	594	60	395	375	230	526	347	127	490	318	191	393	456	151
5	Haryana	-	-	-	231	742	26	400	508	92	546	392	62	514	276	209	515	319	166
6	Karnataka	272	582	146	352	462	186	409	391	200	416	397	187	436	325	239	509	276	215
7	Kerala	-	-	-	-	-	-	349	337	313	408	279	313	397	230	373	404	225	372
8	Madhya Pradesh	404	433	163	525	399	76	448	403	149	455	426	119	469	329	202	410	330	260
9	Maharashtra	313	631	57	378	528	94	321	483	197	390	442	169	425	354	222	412	343	245
10	Orissa	-	-	-	-	-	-	391	427	182	426	426	148	446	369	185	522	251	227
11	Punjab	350	497	153	345	604	50	497	428	75	508	406	86	525	276	199	574	302	125
12	Rajasthan	385	556	58	450	466	84	431	410	159	498	380	122	532	340	128	576	260	164
13	Tamil Nadu	311	479	210	351	545	104	347	487	166	407	430	163	331	389	280	358	436	206
14	Uttar Pradesh	453	381	166	512	414	74	512	379	109	576	350	74	637	223	140	511	390	99
15	West Bengal	440	426	134	372	437	191	425	408	167	449	380	171	443	352	206	565	258	177
	India	**368**	**510**	**122**	**395**	**512**	**93**	**408**	**426**	**166**	**460**	**390**	**149**	**473**	**317**	**210**	**488**	**316**	**196**

Note:

1. Class 1 towns: population 1 million and above; Class 2 towns: population between 50,000 and 1 million; Class 3 towns: population less than 50,000
2. SE – Self-employed; RE - Regularly employed; CL - Casual labourers
3. Assam, Kerala and Orissa do not have Class 1 cities

Source: NSSO 2001b; NSSO 2007a

accounted for 19.6 per cent of workers in Class 3 towns, 14.9 per cent in Class 2 towns and 9.3 per cent in Class 1 towns in the country as a whole.

Among female workers, the increase in self-employment was visible across all size classes of towns though it was higher in the metropolitan cities (**Table 2.11**). As in the case of male workers, among female workers too regular employment was most prominent in the metropolitan cities while in the other size classes of towns it was self-employment. While the incidence of casual employment among female workers has declined across all three size classes of towns, it still accounted for 23 per cent among Class 3 towns in 2004-05.

Analysing the status of employment among males and females across different size classes of towns, it is clear that in metropolitan cities regular employment has been more prominent and casual employment the least important. On the other hand, the percentage of casual workers has been the highest in Class 3 towns. Regular employment need not necessarily guarantee employment security (given the informalisation tendency even within the formal sector). However, **Table 2.6** has shown that in 2004-05 the incidence of poverty was the least among workers in the regular employment category and highest among workers in casual employment. Therefore, it would not be incorrect to argue that given the high extent of casualisation of labour force in smaller towns, the problems of food access would also be more severe here. Data on current daily status of unemployment across different size classes of towns substantiates this argument (**Table 2.12**).

In general, current daily status unemployment rate has been the highest in Class 3 towns among males and females in 1999-2000 as well as in 2004-05. There are however some exceptions to this general pattern. Nonetheless it should not be taken to mean that the problems of food security in metropolises and big towns are not severe. Not only would the magnitude be more severe in bigger towns, it would also be more severe among certain sections of the population. For instance, Census 2001 conducted a survey of slums in all the towns that had a population above 50,000 that year. An analysis of this data indicates that the percentage of marginal workers was much higher in slums compared to non-slum areas in all the States (**Table 2.13**). The percentage of marginal workers was also much higher among females compared to males.

In sum, the discussion on employment patterns indicates that there has been a significant increase in the proportion of workers in the self-employment category, among males and females, over 1993-94 to 2004-05, across all the States of India. However, regular employment has remained the most important status of employment for male workers in the most urbanised States of Tamil Nadu, Maharashtra and Gujarat. A predominant section of both male and female workers in the urban areas of the country were unorganised, and earned below the minimum wage level. There has also been a tendency towards using marginal workers and this was more prominent among females whose rate of unemployment was also relatively high. Analysing the pattern of employment across different size classes of towns, it is seen that problems of food access were more severe among small towns compared to big towns. In general, smaller towns exhibited higher unemployment rates as well as greater employment of casual workforce. At the same time, since slum populations displayed the expected pattern of higher incidence of marginal workers and slums accounted for significant proportions of the populations of metropolitan cities and big towns, the problem of urban food insecurity would be quite severe in such urban areas too.

Table 2.11

Status of Employment of Females across Different Size Classes of Towns, 1999-2000 to 2004-05

Sl. No.	States	Status of Employment of Female Workers in Different Size Classes of Towns																	
		Class 1						Class 2						Class 3					
		1999-2000			2004-05			1999-2000			2004-05			1999-2000			2004-05		
		SE	RE	CL	SE	RE	CL	SE	RE	CL	SE	RE	CL	SE	RE	CL	SE	RE	CL
1	Andhra Pradesh	312	382	306	321	542	137	398	278	324	456	308	236	436	261	303	661	138	201
2	Assam	-	-	-	-	-	-	190	583	226	112	615	273	395	509	96	473	432	96
3	Bihar	315	584	101	278	722	0	563	246	190	331	354	315	495	135	369	559	221	220
4	Gujarat	506	239	256	368	383	249	285	315	400	556	272	173	457	264	279	406	242	352
5	Haryana	-	-	-	613	378	8	520	360	120	556	365	79	561	285	154	631	205	164
6	Karnataka	249	584	167	239	672	90	395	349	256	430	369	201	554	140	306	586	161	253
7	Kerala	-	-	-	-	-	-	458	408	133	402	434	163	544	258	199	450	328	221
8	Madhya Pradesh	386	420	193	498	442	60	533	189	278	351	462	188	515	110	376	357	174	469
9	Maharashtra	320	602	77	304	612	85	411	322	267	410	336	253	434	142	423	442	138	420
10	Orissa	-	-	-	-	-	-	518	235	247	344	451	205	410	199	391	429	210	361
11	Punjab	65	863	72	398	508	94	417	497	86	412	554	34	692	251	57	509	443	48
12	Rajasthan	380	546	74	799	167	34	653	233	114	634	277	89	676	143	180	734	123	144
13	Tamil Nadu	298	577	125	226	762	12	452	392	156	480	388	132	398	320	282	442	354	204
14	Uttar Pradesh	584	342	74	594	320	86	555	361	84	405	433	161	802	121	77	594	373	34
15	West Bengal	302	549	148	503	449	49	417	392	192	486	393	120	617	244	139	636	208	157
	India	**352**	**523**	**125**	**382**	**528**	**90**	**447**	**335**	**218**	**472**	**362**	**165**	**525**	**213**	**262**	**547**	**221**	**232**

Note: For definition of size class of towns refer to Table 2.10
Source: NSSO 2001b; NSSO 2007a

Table 2.12

Rate of Unemployment for Males and Females across Different Size Classes of Towns in Major States of India, 1999-2000 to 2004-05

Sl. No.	States	Current Daily Status Unemployment Rate											
		Males						Females					
		1999-2000			2004-05			1999-2000			2004-05		
		Class 1	Class 2	Class 3	Class 1	Class 2	Class 3	Class 1	Class 2	Class 3	Class 1	Class 2	Class 3
1	Andhra Pradesh	72	67	86	44	91	66	110	100	54	69	104	39
2	Assam	-	64	127	-	86	74	-	101	401	-	86	224
3	Bihar	73	101	73	137	76	123	290	107	121	235	61	50
4	Gujarat	30	40	49	49	26	50	32	80	52	97	32	69
5	Haryana	-	32	82	-	59	102	-	61	34	-	144	159
6	Karnataka	42	45	70	40	53	57	85	26	65	185	74	46
7	Kerala	-	146	163	-	163	185	-	333	240	-	405	442
8	Madhya Pradesh	90	60	78	81	52	83	38	39	71	65	60	83
9	Maharashtra	80	68	87	74	81	105	114	68	106	70	151	149
10	Orissa	-	91	103	-	112	132	-	80	84	-	263	296
11	Punjab	11	53	67	17	66	59	14	74	31	41	197	196
12	Rajasthan	36	40	61	72	66	54	24	56	14	30	81	30
13	Tamil Nadu	85	75	106	64	71	101	58	100	91	41	89	134
14	Uttar Pradesh	75	65	50	49	52	63	45	78	22	39	147	83
15	West Bengal	76	121	81	75	108	102	112	194	75	130	126	212
	India	**65**	**72**	**80**	**61**	**75**	**87**	**84**	**105**	**90**	**77**	**127**	**132**

Note: For definition of size class of towns refer to Table 2.10

Source: NSSO 2001b; NSSO 2007a

2.2 Food Absorption

Food absorption is an important dimension of food security and refers to the ability of people to absorb food. It is by now well established that access to certain crucial factors such as safe drinking water, health care and environmental hygiene determines the conversion efficiency of food into energy. Given the close link between basic amenities and food absorption, the status of some crucial amenities across the different States of India are discussed here.

2.2.1 Housing Conditions

Assessing housing conditions and basic amenities in urban India, Amitabh Kundu notes: 'The rapid growth of the urban population and the low investment in urban development has created serious shelter problems and deficiencies in basic amenities in the towns and cities of the country' (Kundu 2009: 162). **Table 2.14** provides the percentage distribution of urban households by structure of building.

Table 2.13

Percentage of Marginal Workers in Slums and Non Slum Areas, India, 2001

Sl. No.	States	Males		Females	
		Slums	Non Slum Areas	Slums	Non Slum Areas
1	Andhra Pradesh	8.89	5.68	21.29	15.60
2	Assam	4.83	4.31	14.85	12.04
3	Bihar	12.10	8.48	33.30	23.18
4	Gujarat	3.44	2.21	21.22	17.98
5	Haryana	9.14	5.85	29.54	17.40
6	Karnataka	7.44	4.56	15.62	11.87
7	Kerala	14.08	9.94	18.08	15.29
8	Madhya Pradesh	9.51	6.24	23.24	17.48
9	Maharashtra	6.53	4.12	16.41	12.24
10	Orissa	7.91	4.65	24.45	16.85
11	Punjab	5.41	3.79	21.86	14.61
12	Rajasthan	10.62	6.03	29.81	21.30
13	Tamil Nadu	7.19	3.95	13.87	9.35
14	Uttar Pradesh	12.01	8.45	29.43	22.29
15	West Bengal	7.77	5.41	20.37	15.68
	India	**7.82**	**5.15**	**19.87**	**14.54**

Note:

1. For definition of marginal worker refer to Table 2.7
2. The data on non-slum population in this table is with reference to towns with population 50,000+ where slums were enumerated

Source: Census of India, 2001

Over 1993-94 to 2002, the percentage of pucca houses has registered an increase in the urban areas of all the States except Karnataka, Kerala, Punjab and West Bengal[9]. In these four States, the percentage of katcha structures has registered an increase. In urban India as a whole, 77 per cent of households lived in pucca structures in 2002 as against 71 per cent in 1993-94. On the other hand, households in semi-pucca structures have declined from 10 per cent in 1993-94 to 3 per cent in 2002 while households in katcha structures have remained the same at 20 percent over the same period. Even within the slums and squatter settlements in urban India, about 67 per cent of households lived in pucca structures (NSSO 2004). There is, however, wide variation across the States

[9] See note to Table 2.14 for definitions of pucca, katcha and semi-pucca.

Table 2.14

Percentage Distribution of Urban Households by Structure of Building, 1993-94 and 2002

Sl. No.	States	Percentage Distribution of Households by Structure of Building					
		Pucca		Katcha		Semi-Pucca	
		1993-94	2002	1993-94	2002	1993-94	2002
1	Andhra Pradesh	66.5	80.0	15.8	15.0	17.7	5.0
2	Assam	45.9	65.0	26.4	25.0	27.7	10.0
3	Bihar	64.3	68.6	25.8	27.0	9.9	4.2
4	Gujarat	80.0	91.0	15.7	8.0	4.3	1.0
5	Haryana	90.0	90.0	4.6	10.0	5.4	0.0
6	Karnataka	67.2	64.0	25.9	33.0	6.9	3.0
7	Kerala	67.7	53.0	19.6	44.0	12.7	3.0
8	Madhya Pradesh	58.2	59.1	37.6	39.0	4.2	1.6
9	Maharashtra	74.7	83.0	20.4	16.0	4.9	1.0
10	Orissa	59.0	68.0	15.6	21.0	25.4	11.0
11	Punjab	89.1	85.0	8.1	14.0	2.7	1.0
12	Rajasthan	85.7	87.0	8.2	9.0	8.0	4.0
13	Tamil Nadu	64.1	63.0	19.8	29.0	16.2	8.0
14	Uttar Pradesh	73.1	92.3	18.0	7.0	8.9	0.9
15	West Bengal	68.1	65.0	22.8	33.0	9.2	2.0
	India	**70.7**	**77.0**	**19.5**	**20.0**	**9.9**	**3.0**

Note: Following are the definitions given by NSSO:

A pucca structure is one whose walls and roof are made of burnt bricks, stone, cement, concrete, jack board (cement - plastered reeds), mosaic, tiles or timber. Tiles, galvanised tin or asbestos cement sheets used in construction of roofs will be regarded as pucca material

A katcha structure is one whose walls and roofs are made up with mud, bamboo, grass, leaves, reeds, thatch or unburnt bricks

A semi-pucca structure is one of which either the roof or the walls, but not both, is made like that of a pucca structure

Source: NSSO 1997c; NSSO 2004

in percentage of pucca houses in slums, with 90 per cent in the Punjab and 17 per cent in Bihar. The predominance of pucca structures in urban areas – in slums as well as non-slum areas – does not necessarily mean that the quality of housing has been very good. **Table 2.15** clearly shows a positive association between use of pucca materials and monthly per capita expenditure (MPCE). In the lowest consumption expenditure class, 47 per cent of households in non-slum areas lived in dwellings made of non-pucca flooring material while the corresponding percentage for slum areas was as high as 64. Considering the plinth area of houses or dwelling units, in urban slums 80 per cent of households and in non-slum areas 48 per cent of households lived in less than 50 sq.m of area in 2002 (NSSO 2004: 36). An analysis of the type of material used in construction as well as the

Table 2.15

Percentage of Dwelling Units with Pucca Floor, Pucca Roof and Pucca Wall in Urban India, 2002

MPCE (Rs.)	Percentage of dwelling units in								
	Slum Areas			Non-slum Areas			All Urban		
	Pucca Floor	Pucca Wall	Pucca Roof	Pucca Floor	Pucca Wall	Pucca Roof	Pucca Floor	Pucca Wall	Pucca Roof
0 - 300	36	48	68	53	71	87	50	66	83
300 - 350	53	66	75	52	70	84	52	69	82
350 - 425	69	70	86	61	76	88	63	75	88
425 - 500	64	69	82	71	81	88	69	79	87
500 - 575	76	79	86	77	84	91	77	83	90
575 - 665	85	86	94	86	87	94	86	87	94
665 - 775	88	91	90	90	92	97	90	92	96
775 - 915	91	88	97	94	93	97	93	92	97
915 - 1120	95	92	95	97	97	99	96	97	98
1120 - 1500	97	97	96	98	99	99	98	99	99
1500 - 1925	98	98	99	99	98	99	99	98	99
1925 or more	96	99	94	99	100	100	99	100	100
not reported	53	59	55	78	87	91	77	86	90
All Classes	**79**	**81**	**89**	**87**	**91**	**95**	**87**	**90**	**95**

Note:

1. According to NSSO, a slum is a compact area with a collection of poorly built tenements, mostly of temporary nature, crowded together, usually with inadequate sanitary and drinking water facilities in unhygienic conditions
2. In this Table, slums include squatter settlements which are unauthorised settlements with unauthorised structures

Source: NSSO 2004

plinth area of houses in urban India has indicated that a high percentage of pucca houses did not necessarily point to good quality housing.

2.2.2 Safe Drinking Water and Toilets

The Bhore Committee, which studied the public health problem in India as far back as the pre-Independence 1940s, emphasised the importance of improving general sanitation in order to address largely preventable illnesses. Despite the link between basic amenities such as clean water supply and sanitation and the health status of a population being well established, the availability and accessibility of such amenities in the country has been far from satisfactory. The percentage of urban households having access to safe drinking water has gone up in all the States during the 1990s. In the country as a whole, access to safe drinking water among urban households increased from 81 per cent in 1991 to 90 per cent in 2001. According to the census terminology, drinking water supplies from taps, hand pumps or tubewells is considered "safe" while supplies from wells and tanks is considered "unsafe". Under this definition of safe drinking water, Kerala that relies largely on well water for

drinking purposes has been figuring poorly. It is a worrisome factor that even in Tamil Nadu, which is considered a developed State, nearly 12 per cent of urban households did not have access to safe drinking water in 2005-06. Orissa and Assam also faired poorly as is clear from **Table 2.16.** The picture is even more bleak if the loose definition of "access to safe drinking water" adopted by the Census is taken into account. In the words of Amitabh Kundu: 'The Census of 2001, however, has introduced a special 'away' category within the category 'outside the premises' which would prompt many of these households to report positively to the question of having access, thereby inflating the figure' (Kundu 2009: 165). According to the National Family Health Survey (NFHS), the percentage of urban households without access to safe drinking water in the country as a whole remained more or less the same, at 7.4 in 1998-99 and 7.7 in 2005-06. The overall pattern exhibited by data from the Census and NFHS has been similar as regards access to safe drinking water for urban households across the States. However, Karnataka's position has worsened according to NFHS while it has improved with regard to the Census.

Table 2.16

Percentage of Urban Households Without Access to Safe Drinking Water 1991, 2001 and 2005-06

Sl. No.	States	Percentage of Urban Households without Access to SDW in		
		1991	2001	2005-06
1	Andhra Pradesh	26.18	9.80	3.60
2	Assam	35.93	29.60	21.80
3	Bihar	26.61	8.80	12.26
4	Gujarat	12.77	4.60	4.10
5	Haryana	6.82	2.70	1.40
6	Karnataka	18.62	7.90	14.40
7	Kerala	61.32	57.20	52.00
8	Madhya Pradesh	20.55	11.40	8.51
9	Maharashtra	9.50	4.60	1.50
10	Orissa	37.17	27.70	21.20
11	Punjab	5.76	1.10	0.40
12	Rajasthan	13.49	6.50	2.40
13	Tamil Nadu	25.83	14.10	11.80
14	Uttar Pradesh	14.22	2.80	2.01
15	West Bengal	13.77	7.70	3.60
	India	**18.62**	**10.00**	**7.70**

Note:

1. According to Census, SDW refers to water from taps, hand pumps and tubewells
2. According to NFHS 3, SDW refers to water from piped sources or public taps or tubewells

Source: Census of India 1991; Census of India 2001; NFHS 2007

From NSSO data for the year 2002, it is clear that just about one-fourth of urban households (26.6 per cent) in the country had access to drinking water within the dwelling. Among the more developed States, Tamil Nadu, Andhra Pradesh and West Bengal faired poorly and among the less developed States, Orissa, Assam and Madhya Pradesh faired equally poorly, with regard to drinking water within the premises **(Table 2.17)**.

Analysing the access to safe drinking water for urban households across different size classes of towns, it is clear that the problem has been relatively more acute among the smaller size classes of towns **(Table 2.18)**. Across all the States, a lower percentage of households had access to safe drinking water in Class 3 towns compared to Class 2 and Class 1 towns. In Tamil Nadu, however, access to safe drinking water was more severe in metropolitan cities (Class 1) compared to the big and medium towns (Class 2). It is quite likely that the disparity between different size classes would have surfaced more sharply if towns had been grouped into more size classes than the three broad size classes considered. **Table 2.18** also brings out the fact that the percentage of households that accessed safe drinking water within their premises was not only low but varied across different size classes of towns. In the country as a whole, even in the

Table 2.17

Some Aspects on Accessibility of Urban Households to Safe Drinking Water, 2002

Sl. No.	States	Percentage of Households having Safe Drinking Water		
		Within Dwelling	Outside Dwelling Within Premises	Outside Premises
1	Andhra Pradesh	16.30	21.40	62.20
2	Assam	11.30	50.40	38.20
3	Bihar	21.73	18.27	61.00
4	Gujarat	40.40	21.70	37.00
5	Haryana	36.40	13.30	47.10
6	Karnataka	16.40	21.70	61.80
7	Kerala	20.70	48.70	30.60
8	Madhya Pradesh	12.72	14.49	72.63
9	Maharashtra	28.30	20.60	51.10
10	Orissa	8.70	16.60	74.60
11	Punjab	63.40	24.20	12.40
12	Rajasthan	26.70	14.00	58.40
13	Tamil Nadu	15.70	14.60	69.40
14	Uttar Pradesh	42.40	14.58	43.00
15	West Bengal	19.00	16.60	64.50
	India	**26.60**	**20.10**	**53.00**

Source: NSSO 2004

Table 2.18

Percentage of Urban Households having Safe Drinking Water across Different Size Classes of Towns, 2001

Sl. No.	States	Percentage of Households with access to SDW in			Percentage of Households with SDW within premises in		
		Class 1 towns	Class 2 towns	Class 3 towns	Class 1 towns	Class 2 towns	Class 3 towns
1	Andhra Pradesh	94.48	89.73	85.95	78.07	54.99	44.07
2	Assam	NA	NA	NA	NA	NA	NA
3	Bihar	94.35	77.06	72.42	66.11	73.24	35.29
4	Gujarat	97.06	95.85	91.60	80.08	76.38	72.21
5	Haryana	97.16	97.81	96.18	66.92	82.68	73.23
6	Karnataka	96.22	92.27	87.34	75.14	53.72	42.44
7	Kerala	-	51.20	27.80	-	75.20	70.80
8	Madhya Pradesh	96.40	92.27	84.47	52.74	52.46	35.44
9	Maharashtra	97.35	94.85	89.00	76.41	74.10	71.25
10	Orissa	-	72.85	71.59	-	60.52	36.76
11	Punjab	99.45	99.01	98.01	93.32	94.07	89.67
12	Rajasthan	94.70	94.84	90.43	83.51	82.10	73.37
13	Tamil Nadu	85.63	88.91	83.29	38.10	58.15	70.83
14	Uttar Pradesh	99.20	74.94	71.98	68.41	82.20	44.50
15	West Bengal	97.48	91.62	87.25	59.81	55.51	37.21
	India	**98.49**	**92.16**	**86.13**	**74.98**	**67.78**	**57.89**

Note:
1. For definition of size class of towns refer to Table 2.10
2. Town-wise data not available for Assam
3. Figures for India refer to the 14 major States that are considered here

Source: Census of India 2001

metropolitan cities just about three-fourths of households were able to access safe drinking water within their premises. This percentage was much lower in Class 2 and Class 3 towns, at 67.78 and 57.89 per cent, respectively. All the States, with the exception of Haryana and the Punjab, replicated the pattern. The variation in access to safe drinking water within the premises was very sharp across different size classes in Andhra Pradesh, Karnataka, Tamil Nadu and Bihar while in Gujarat, Rajasthan, the Punjab and Haryana the difference as not very much. As regards availability of safe drinking water in the slums, the major source of drinking water was taps followed by tubewells and hand pumps in most States, while in the Punjab, Rajasthan and Bihar sources other than taps were predominant in 2002 (NSSO 2003).

Access to toilets has been a major problem for urban households in India. Though **Table 2.19** indicates an improvement in the situation over the 1990s, it is clear that one out of every four households did not have access to toilets in urban India in 2001. The problem was very acute in Madhya Pradesh, Orissa and Bihar as well as in Tamil Nadu.

Table 2.19

Percentage of Urban Households without Access to Toilets, 1991 and 2001

Sl. No.	States	Percentage of Urban Households without Access to Toilets in				
		1991	2001			
		All Urban	Class 1	Class 2	Class 3	All Urban
1	Andhra Pradesh	45.40	9.00	22.00	40.00	21.93
2	Assam	13.94	NA	NA	NA	5.40
3	Bihar	43.46	9.01	27.27	45.52	30.31
4	Gujarat	34.29	13.05	19.11	30.83	19.45
5	Haryana	35.75	21.59	14.64	29.41	19.34
6	Karnataka	37.48	0.11	19.20	37.19	24.77
7	Kerala	27.34	-	7.92	8.09	7.98
8	Madhya Pradesh	47.00	18.00	29.70	44.09	32.30
9	Maharashtra	35.55	44.22	36.00	46.55	41.90
10	Orissa	50.73	-	33.42	50.00	40.31
11	Punjab	26.77	8.39	10.86	24.39	13.48
12	Rajasthan	37.73	13.85	19.95	36.90	23.89
13	Tamil Nadu	42.53	10.22	26.94	50.90	35.67
14	Uttar Pradesh	33.46	24.52	10.65	20.97	19.99
15	West Bengal	21.25	4.65	14.69	31.06	15.15
	India	**36.15**	**25.03**	**21.81**	**38.52**	**26.28**

Note:

1. For definition of size class of towns refer to Table 2.10
2. Town-wise data not available for Assam
3. Figures for India refer to the 14 major States that are considered here

Source: Census of India 2001

With the exception of Uttar Pradesh, in all the other States there was a progressive deterioration in access to toilets as one moved from large towns to small ones. Among Class 3 towns, Tamil Nadu had the worst scenario with one out of two households without access to toilets. Needless to say, the situation was quite serious among the slums compared to non-slum areas. Among the eight metropolitan cities of Chennai, Mumbai, Nagpur, Hyderabad, Meerut, Kolkata, Delhi and Indore where NFHS conducted a survey in 2005-06, the percentage of households without toilet facility was the highest in Delhi slums (19), followed by Meerut (18) and Nagpur (12.5) (NFHS 2007).

In sum, the discussion on the status of basic amenities suggests that significant sections of urban population are not yet covered. There is vast scope to improve housing conditions, sanitation and drinking water supplies for urban households across the States of India. Availability of basic amenities is much more of a problem for households in small towns compared to those in large ones. The Government of India and the various State Governments have taken a large number of initiatives over the years to improve

the provision of basic services for the urban population. The Jawaharlal Nehru National Urban Renewal Mission (JNNURM) is being implemented in 63 cities across the country, addressing the problems of infrastructure and basic services in a holistic manner by planning for poor and non-poor residents, over a seven-year period from 2005 to 2012. Under the aegis of the Ministry of Urban Development and Ministry of Housing and Urban Poverty Alleviation, the Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) and the Integrated Housing and Slum Development Programme (IHSDP) have been launched in a number of towns. While the stated objective of these programmes is to have inclusive urban development that would benefit all sections of the urban population, given the magnitude of the shortfall in basic amenities across the country, it is quite clear that provision of such amenities will remain a huge problem unless strategies are changed drastically, with far greater attention being paid to small towns.

2.3 Consumption

There is a substantial body of literature on average consumption levels in India that indicates not only low levels of per capita calorie consumption, but also a trend that reflects either stagnant or declining consumption levels over time across the various States of India (Patnaik 2009; Ray 2007; Radhakrishna 2006; Ghosh 2003).

Table 2.20 indicates a decline in the average consumption of cereals, pulses, meat and sugar by an average urban consumer in the country as a whole in 2004-05 compared to 1993-94. On an average, an urban consumer in India consumed 10.63 kg of cereals per month in 1993-94, which declined to 9.94 kg per month in 2004-05. Every State has exhibited a decline in cereal consumption over this period, irrespective of the initial levels of consumption. As regards consumption of pulses and pulse products, there has been a drastic reduction in per capita monthly consumption in Rajasthan, West Bengal, Madhya Pradesh and Andhra Pradesh while consumption levels have improved in Kerala, Tamil Nadu and Assam. Average consumption of milk has marginally improved for urban consumers in all the States except Rajasthan and West Bengal over this period. Rajasthan stands out in terms of decline in monthly per capita consumption of all major food items.

Not only has there been a general decline in average consumption levels of cereals and pulses, the prevailing level of consumption was also lower than the Recommended Dietary Allowance (RDA) prescribed by the Indian Council of Medical Research[10]. **Table 2.21** indicates that with the exception of Orissa, the average consumption levels of cereals have been lower than the required norm in all the other States. In the country as a whole, per capita consumption of cereals of an average urban consumer accounted only for 84 per cent of RDA in 1993-94.This percentage further declined to 79 per cent in 2004-05. As regards pulses, the average per capita consumption remained below RDA in all the States and the situation worsened in 7 of them over the 12 years. Consumption of eggs, fish and meat was also way below the required norm in almost all the States. However, the status with regard to milk, edible oil and sugar was far better. Radhakrishna's analysis of the survey findings of NNMB in rural areas of seven selected States over 1975-79, 1988-90, 1996-97 indicated that the average intake of food items by children in the age group of 1 to 3 years as well as those in the age group 4 to 6 years was below the recommended

[10] 'RDA is defined as the nutrient present in the diet which satisfies the daily requirement of nearly all individuals in a population…..Nutrient requirement can be defined as the minimum amount of the absorbed nutrient that is necessary for maintaining the normal physiological functions of the body'(Sivakumar 2009).

Table 2.20

Average Monthly Per capita Consumption of Selected Food Items in Urban Areas of Major States, 1993-94 and 2004-05

Sl. No.	States	Average Monthly Per capita Consumption of Food Items (in Kg.)															
		Cereals		Pulses		Milk		Oil		Eggs		Fish		Meat		Sugar	
		1993-94	2004-05	1993-94	2004-05	1993-94	2004-05	1993-94	2004-05	1993-94	2004-05	1993-94	2004-05	1993-94	2004-05	1993-94	2004-05
1	Andhra Pradesh	11.30	10.51	0.85	0.80	3.53	3.94	0.48	0.62	0.27	0.33	0.08	0.08	0.23	0.10	0.64	0.55
2	Assam	12.05	11.92	0.72	0.77	1.49	1.80	0.54	0.65	0.31	0.35	0.54	0.68	0.24	0.09	0.65	0.60
3	Bihar	12.82	12.15	0.79	0.88	3.14	3.51	0.47	0.61	0.11	0.14	0.13	0.18	0.16	0.06	0.62	0.68
4	Gujarat	8.96	8.29	0.94	0.94	5.59	6.03	0.96	1.06	0.05	0.05	0.04	0.02	0.09	0.05	1.00	1.14
5	Haryana	10.46	9.15	0.71	0.70	8.19	8.63	0.64	0.56	0.06	0.09	0.00	0.02	0.00	0.01	1.31	1.21
6	Karnataka	10.87	9.70	0.88	0.89	3.98	4.38	0.41	0.55	0.20	0.26	0.14	0.12	0.23	0.11	0.86	0.82
7	Kerala	9.46	8.83	0.48	0.64	2.94	3.29	0.30	0.47	0.31	0.34	1.62	1.95	0.24	0.01	0.91	0.89
8	Madhya Pradesh	11.32	10.99	1.03	0.91	3.67	3.38	0.60	0.64	0.10	0.22	0.04	0.08	0.13	0.04	0.99	0.93
9	Maharashtra	9.37	8.39	0.93	0.91	4.25	3.95	0.65	0.79	0.19	0.20	0.16	0.11	0.24	0.10	1.04	0.94
10	Orissa	13.36	13.11	0.73	0.70	1.98	2.02	0.38	0.42	0.17	0.19	0.30	0.37	0.19	0.09	0.72	0.53
11	Punjab	9.01	9.01	0.93	0.90	8.73	9.52	0.64	0.74	0.09	0.08	0.00	0.00	0.07	0.02	1.59	1.43
12	Rajasthan	11.52	10.84	0.71	0.51	6.78	6.64	0.64	0.58	0.05	0.04	0.01	0.01	0.10	0.08	1.13	1.00
13	Tamil Nadu	10.05	9.48	0.85	0.95	3.42	4.34	0.34	0.55	0.32	0.34	0.17	0.14	0.20	0.10	0.63	0.69
14	Uttar Pradesh	11.08	10.95	0.94	1.00	5.07	5.24	0.56	0.61	0.08	0.16	0.02	0.04	0.26	0.06	1.02	1.08
15	West Bengal	11.64	10.39	0.59	0.55	2.46	2.33	0.54	0.69	0.36	0.55	0.72	0.90	0.21	0.05	0.58	0.63
	India	**10.63**	**9.94**	**0.86**	**0.82**	**4.40**	**4.60**	**0.56**	**0.66**	**0.19**	**0.22**	**0.20**	**0.21**	**0.20**	**0.07**	**0.90**	**0.87**

Note: One litre of milk is taken to weigh 900 grams; one egg is taken to weigh 125 grams

Source: NSSO 1996a; NSSO 1997a; NSSO 2007b

Table 2.21

Proportion of Average Per capita Consumption per Day to RDA for Selected Food Items in Urban Areas of Major States, 1993-94 and 2004-05

Sl. No.	States	Proportion of Average Per capita Consumption to RDA of Food Items (in Kg.)															
		Cereals		Pulses		Milk		Oil		Eggs		Fish		Meat		Sugar	
		1993-94	2004-05	1993-94	2004-05	1993-94	2004-05	1993-94	2004-05	1993-94	2004-z05	1993-94	2004-05	1993-94	2004-05	1993-94	2004-05
1	Andhra Pradesh	0.90	0.83	0.71	0.67	0.78	0.88	0.73	0.94	0.20	0.24	0.11	0.10	0.31	0.13	0.71	0.61
2	Assam	0.96	0.95	0.60	0.65	0.33	0.40	0.82	0.98	0.23	0.26	0.72	0.91	0.32	0.12	0.72	0.66
3	Bihar	1.02	0.96	0.66	0.73	0.70	0.78	0.71	0.20	0.08	0.10	0.17	0.23	0.21	0.09	0.69	0.75
4	Gujarat	0.71	0.66	0.78	0.78	1.24	1.34	1.45	1.60	0.04	0.04	0.05	0.03	0.12	0.06	1.11	1.26
5	Haryana	0.83	0.73	0.59	0.59	1.82	1.92	0.97	0.85	0.05	0.07	0.00	0.03	0.00	0.02	1.46	1.35
6	Karnataka	0.86	0.77	0.73	0.74	0.88	0.97	0.62	0.84	0.15	0.20	0.19	0.16	0.31	0.14	0.96	0.91
7	Kerala	0.75	0.70	0.40	0.53	0.65	0.73	0.45	0.72	0.23	0.25	2.16	2.59	0.32	0.02	1.01	0.98
8	Madhya Pradesh	0.90	0.87	0.86	0.76	0.82	0.75	0.91	0.19	0.08	0.09	0.05	0.11	0.17	0.06	1.10	1.03
9	Maharashtra	0.74	0.67	0.78	0.76	0.94	0.88	0.98	1.20	0.14	0.15	0.21	0.14	0.32	0.13	1.16	1.05
10	Orissa	1.06	1.04	0.61	0.59	0.44	0.45	0.58	0.64	0.12	0.14	0.40	0.49	0.25	0.12	0.80	0.59
11	Punjab	0.72	0.72	0.78	0.75	1.94	2.11	0.97	1.13	0.07	0.06	0.00	0.01	0.09	0.03	1.77	1.59
12	Rajasthan	0.91	0.86	0.59	0.42	1.51	1.48	0.97	0.88	0.03	0.03	0.01	0.01	0.13	0.10	1.26	1.11
13	Tamil Nadu	0.80	0.75	0.71	0.79	0.76	0.96	0.52	0.84	0.24	0.25	0.23	0.19	0.27	0.14	0.70	0.76
14	Uttar Pradesh	0.88	0.87	0.78	0.84	1.13	1.16	0.85	0.23	0.06	0.11	0.03	0.05	0.35	0.08	1.13	1.20
15	West Bengal	0.92	0.82	0.49	0.46	0.55	0.52	0.82	1.05	0.27	0.41	0.96	1.20	0.28	0.07	0.64	0.70
	India	**0.84**	**0.79**	**0.72**	**0.69**	**0.98**	**1.02**	**0.85**	**1.00**	**0.14**	**0.16**	**0.27**	**0.27**	**0.27**	**0.09**	**1.00**	**0.97**

Note: The Recommended Dietary Allowance (RDA) of ICMR is being revised.

Source: NSSO 1996a; NSSO 1997a; NSSO 2007b

dietary allowance, thereby leading to a shortfall of nutrient intake (Radhakrishna 2006). To quote from his study: 'The average nutrient intake was substantially below the recommended level for all nutrients other than proteins, especially calcium, iron, vitamin-A, thiamin, riboflavin, niacin and vitamin C' (ibid). While these findings pertain to rural areas, it is unlikely to have been very different in urban areas.

Considering the predominance of foodgrains as a source of nutrition for the Indian population, calorie intake is taken as the nutrition norm in India. In 2004-05, foodgrains – cereals and cereal substitutes and pulses and pulses products – accounted for 62.76 per cent of the total calorie intake and 67.2 per cent of total protein intake of the urban consumer (NSSO 2007c). Average calorie consumption in India, which is largely related to consumption of foodgrains, has been on the decline over the years. Average per capita calorie consumption has declined from 2071 Kcal per day in 1993-94 to 2020 Kcal per day in 2004-05 in urban India as a whole. Analysing the changes in calorie consumption levels across different expenditure classes, it is seen that Maharashtra, Madhya Pradesh, West Bengal and Rajasthan have shown a decline in per capita calorie consumption level of the lowest 30 per cent expenditure classes as well as the overall urban population (all classes) in 2004-05 compared to 1993-94 (**Table 2.22**).

Table 2.22
Average Per Capita Calorie Consumption across Different Expenditure Classes in Urban Areas of Major States, 1993-94 and 2004-05

Sl. No.	States	Average per capita calorie consumption (Kcal/day)							
		Bottom 30% of Expenditure Classes		Middle 40% of Expenditure Classes		Top 30% of Expenditure Classes		All Classes	
		1993-94	2004-05	1993-94	2004-05	1993-94	2004-05	1993-94	2004-05
1	Andhra Pradesh	1603	1618	2025	2003	2497	2461	1992	2000
2	Assam	1674	1744	2031	2055	2519	2578	2108	2413
3	Bihar	1858	1850	2314	2383	2862	3208	2188	2372
4	Gujarat	1501	1537	2038	1942	2517	2393	2027	1991
5	Haryana	1584	1558	2061	1930	2556	2465	2140	2033
6	Karnataka	1566	1583	2043	1904	2518	2352	2026	1944
7	Kerala	1361	1382	1874	1863	2477	2474	1966	1996
8	Madhya Pradesh	1718	1610	2116	2013	2586	2374	2082	2011
9	Maharashtra	1570	1535	1869	1787	2332	2137	1989	1847
10	Orissa	1861	1853	2283	2236	2839	2701	2261	2139
11	Punjab	1522	1633	1931	2013	2450	2535	2089	2150
12	Rajasthan	1741	1707	2195	2128	2588	2740	2184	2116
13	Tamil Nadu	1440	1550	1923	1857	2520	2334	1922	1935
14	Uttar Pradesh	1747	1829	2123	2181	2691	2628	2114	2169
15	West Bengal	1701	1681	2100	1978	2516	2319	2131	2011
	India	**1636**	**1678**	**2033**	**1984**	**2537**	**2412**	**2071**	**2020**

Note: Top 30% for Haryana is an estimated value for 1993-94

Source: NSSO 1996b; NSSO 2007c

On the other hand, Tamil Nadu, Karnataka, Andhra Pradesh, Kerala, Uttar Pradesh and Gujarat have shown an increase in per capita calorie consumption of the bottom expenditure classes. From Tables 4.2 and 4.4 in Chapter 4, it is clear that the States that registered an increase in calorie consumption by the lower expenditure classes were also those where PDS has had a significant reach. Assam and Punjab are the only two States that exhibited an increase in calorie consumption levels across all the three expenditure classes considered. In sum, the levels as well as changes in calorie consumption in urban India, to say the least, have been worrisome. Per capita calorie consumption levels do not take into account the variations in calorific requirements according to age and gender. Incorporating a conversion factor for age and gender, NSSO has estimated the calorie consumption level for consumer units in urban areas across the States. The pattern of change in consumption levels for consumer units is similar to what was observed for per capita (**Table 2.23**).

Considering the general decline in consumption levels in urban areas, urban poverty measured as the percentage of people not able to spend enough on food to reach a daily intake of 2100 calories rose from 57 per cent in 1993-94 to 64.5 per cent in 2004-05 (Patnaik 2008). Patnaik's analysis for selected States shows a massive rise in urban poverty – measured directly through the observed level of calorie intake – from 52.5 per cent to 85 per cent in Maharashtra, from 49 per cent to 68.5 per cent in West Bengal and from 35 per cent to 57 per cent in Delhi over the period 1993-94 to 2004-05 (ibid).

The significance of street foods for daily wage labourers in the urban context is illustrated in **Box 1.**

2.4 Nutritional Outcome

Some of the crucial determinants of nutritional outcomes of a population include level and type of the consumption basket used, availability and access to safe drinking water, and health care and environmental hygiene. From the discussion so far, it is clear that the attributes that have a bearing on nutrition have continued to perform very poorly since the 1990s in urban India: the consumption levels have declined from an already low level; the magnitudes of shortfall with respect to access to safe drinking water and toilets have also remained huge. Given this, the levels of malnutrition are bound to be high for the urban population. The extent of child under-nutrition remained quite high in urban India with 30.1 per cent of children (6-35 months) estimated to be underweight in 2005-06, as per NFHS[11]. Undernutrition among women, indicated by chronic energy deficiency, has increased to 25 per cent in 2005-06 compared to 22.6 per cent in 1998-99 in urban India. About half the women in urban areas were estimated to be anaemic in 2005-06. A combination of high extent of undernutrition, inadequate dietary intake, insufficient access to basic amenities and infestation of diseases lead to high mortality and morbidity among the urban population. Infant and child mortality rates are usually taken to reflect the quality of life and socioeconomic development in an area. While infant mortality rates (IMR) and child mortality rates (CMR) have been lower in urban India compared to rural India, by no means have they been at acceptable levels. **Table 2.24** shows that infant mortality in urban India was 41 deaths (at age 0-11 months) per 1000 live births while child mortality was 10 deaths (at age 1-4 years) per 1000 children reaching age one. Rajasthan, Madhya Pradesh, Uttar Pradesh, Bihar and Assam fared poorly with regard to infant and

[11] State-level variations in nutrition indicators are discussed in Chapter 3

Box 1 *Koozh* in Chennai

Koozh is the Tamil name for a porridge made from broken rice and the flour of Finger Millet *(Eleusine coracana)* — Kelvaragu in Tamil — or Pearl Millet *(Pennisetum typhoides)* — *Cumbu* in Tamil. It is commonly sold by street vendors in Tamil Nadu, and consumed as breakfast or lunch food. A semi-solid fermented dish, koozh is thinned for consumption by adding water, salt, onion, buttermilk, curry leaves and coriander leaves and served with side dishes including green chillies, raw onion, pickles and mango spiced with red chillies and pepper and sometimes with *karuvattu kuzhambu* (dry fish curry) (htpp://en.wikipedia.org/wiki/koozh). Koozh is a popular dish in rural Tamil Nadu mostly among poor households.

A brief study of Koozh in Chennai was undertaken using a questionnaire in September 2009 covering 35 Koozh stalls spread across the city. In addition, 44 consumers were also interviewed. The salient results that have a bearing on food security are summarised below:

The price of half a litre of Koozh varied between Rs.6 and 8 at the time of the survey, depending on the location, with the price being lower in the outskirts of the city.

52 per cent of those consumers interviewed belonged to the age group 26-40, and 27 per cent belonged to the age group 41-55 years. This indicated that the dish was popular among the present younger generation.

93 per cent of the consumers interviewed were daily labourers suggesting that Koozh stalls serve a useful function for urban workers. Most of the consumers of Koozh were workers, notably truck drivers, haulers and coolies involved in loading and unloading goods, auto drivers, labourers involved in construction work, all contributing to important services in urban locations. There were stray cases of IT employees consuming Koozh, claiming that it was good for their health. According to the Koozh sellers, many well-to-do and rich people also bought Koozh for coonsumption.

The popularity of Koozh among urban workers suggests that neglected and underutilised cereals such as nutritious millets can be very useful in achieving nutritional security of the urban poor. As with other street foods, a code for good food-handling practices for Koozh may be developed and disseminated among the vendors, considering that educating them on food safety is an urgent task. Clean water for drinking and washing is another important area of concern. Provision of clean paper cups or earthen cups/vessels can reduce contamination.

Koozh sellers are excellent entry points for bringing neglected and underutilised species like nutritious millets into the urban food basket.

Source: V. Arivudai Nambi, Maria Phillip and K. Muniyappan. Koozh in Chennai. October 2009. Chennai: MSSRF

Table 2.23

Average Calorie Consumption Per Consumer Unit across Different Expenditure Classes in Urban Areas of Major States, 1993-94 and 2004-05

Sl. No.	States	Average calorie consumption per consumer unit (Kcal/day)							
		Bottom 30% of Expenditure Classes		Middle 40% of Expenditure Classes		Top 30% of Expenditure Classes		All Classes	
		1993-94	2004-05	1993-94	2004-05	1993-94	2004-05	1993-94	2004-05
1	Andhra Pradesh	2001	1995	2485	2441	3040	3010	2455	2449
2	Assam	2051	2120	2450	2485	3008	3109	2543	2593
3	Bihar	2301	2271	2798	2942	3393	3837	2667	2907
4	Gujarat	1876	1901	2429	2339	3009	2799	2491	2436
5	Haryana	1978	1935	2555	2356	3035	3002	2616	2487
6	Karnataka	1943	1958	2494	2331	3061	2868	2485	2385
7	Kerala	1708	1784	2447	2559	3166	3133	2445	2534
8	Madhya Pradesh	2139	2122	2593	2559	3113	2956	2556	2463
9	Maharashtra	1952	1906	2280	2172	2830	2612	2432	2261
10	Orissa	2302	2256	2790	2696	3332	3234	2754	2596
11	Punjab	1938	2011	2381	2438	2967	3078	2569	2614
12	Rajasthan	2202	2120	2714	2583	3146	3306	2704	2586
13	Tamil Nadu	1788	1923	2369	2287	3061	2897	2366	2394
14	Uttar Pradesh	2204	2230	2617	2654	3279	3243	2615	2641
15	West Bengal	2091	2073	2541	2401	3034	2866	2587	2467
	India	**2040**	**2077**	**2491**	**2418**	**3070**	**2945**	**2542**	**2475**

Note: Top 30% for Haryana is an estimated value for 1993-94

Source: NSSO 1996b; NSSO 2007c

child mortality rates while Kerala and Tamil Nadu were substantially better.

Table 2.25 provides data on infant mortality and nutritional indicators for slum and non-slum population for eight metropolitan cities in 2005-06. The nutritional status of the population varied in an expected fashion across slum and non-slum populations. The percentages of children who were stunted or wasted or underweight for age or anaemic were much higher among slum populations than non-slum populations in all the cities except for the percentage of children underweight for age in Meerut. Similarly, the incidence of chronic energy deficiency among women was higher in slums than non-slums. With regard to incidence of anaemia, however, there was no clear pattern. Women living in non-slum areas appeared to be as prone to anaemia as women from slum areas. Infant mortality rates were higher in slums compared to non-slum areas in all the cities except Mumbai and Kolkata[12]. Prevalence of very high levels of malnutrition among children in the country has indicated that a sizeable section of them would not have reached their physical or mental potential. There is thus an urgent need to address this issue on a priority basis.

Table 2.24

Infant Mortality and Child Mortality Rates in Urban India, 2005-06

Sl. No.	States	IMR	CMR
1	Andhra Pradesh	47.70	8.00
2	Assam	50.60	17.60
3	Bihar	52.32	19.96
4	Gujarat	44.60	9.90
5	Haryana	30.20	11.50
6	Karnataka	40.00	6.20
7	Kerala	11.60	2.20
8	Madhya Pradesh	59.66	14.57
9	Maharashtra	28.40	8.80
10	Orissa	40.90	19.20
11	Punjab	42.60	9.20
12	Rajasthan	65.10	12.00
13	Tamil Nadu	31.00	3.80
14	Uttar Pradesh	53.47	19.66
15	West Bengal	46.40	6.80
	India	**41.50**	**10.60**

Note:

1. NFHS defines IMR as number of deaths at age 0 to 11 months per 1000 live births;
2. CMR as number of deaths at age 1 to 4 years per 1000 children reaching age one

Source: NFHS 2007

[12] It is important to note that data on IMR would be more reliable from Sample Registration System (SRS) than from the source used here, namely, NFHS. However, considering that SRS provides only State level estimates, NFHS data has been used.

Table 2.25

Some Salient Features of Slum and Non-Slum Populations, 2005-06

City	Classification of Area	Percentage of children (6 -59 months) who are				Percentage of women		IMR
		Stunted	Wasted	Underweight	With any anaemia	With CED	With any anaemia	
Chennai	Slum	27.6	22.8	31.6	72.2	18.4	50.5	38.0
	Non slum	24.8	17.6	20.6	59.9	15.0	51.4	24.2
Mumbai	Slum	47.4	16.1	36.1	50.2	23.1	46.0	24.9
	Non slum	41.5	16.4	25.8	46.9	21.4	47.9	40.1
Nagpur	Slum	47.5	18.1	41.7	71.1	35.5	48.7	48.4
	Non slum	26.5	15.5	28.4	58.4	27.6	51.8	39.2
Hyderabad	Slum	32.4	11.1	26.0	59.0	20.9	54.6	37.9
	Non slum	32.0	9.1	18.4	53.1	20.8	48.9	36.4
Meerut	Slum	46.2	9.4	26.3	68.8	22.0	40.1	71.2
	Non slum	41.6	9.5	30.3	66.7	18.9	48.4	55.0
Kolkata	Slum	32.6	16.8	26.8	54.7	20.8	52.3	33.4
	Non slum	23.1	14.0	15.6	55.3	13.5	56.8	47.0
Delhi	Slum	50.9	14.5	35.3	71.4	21.2	47.8	54.1
	Non slum	37.9	15.6	23.9	51.6	12.8	43.5	36.1
Indore	Slum	39.6	34.0	49.6	59.8	33.0	42.9	56.4
	Non slum	30.6	27.6	36.7	53.4	23.0	39.8	38.4

Note:

1. NFHS uses three internationally recognized standards to assess children's nutritional status - weight-for-age, height-for-age, and weight-for-height
2. Children who are more than two standard deviations below the median of an international reference population are considered underweight (measured in terms of weight-for-age), stunted (height-for-age), or wasted (weight-for-height)

Source: NFHS 2007

To sum up, despite rapid economic growth since the early 1980s, and especially since the 1990s, the access and absorption indicators of urban food insecurity tell a dismal story of relatively little improvement in nutritional intake and worsening in terms of livelihood insecurity. Given the limitations of official sources of information in representing ground realities in such matters as access to safe drinking water and toilets, the state of urban food insecurity may even be worse than that suggested by the data. What this chapter has also brought out is that smaller towns are significantly worse off than large cities and metropolitan areas. It is also important to note that the situation in slums, especially illegal squatter settlements and non-notified slums in large cities, is likely to be very poor[13].

[13] The issue of food and nutrition security in slums, while clearly very important for policy, has not been dealt with in this Report as comprehensively as we would have liked. The main problem has been paucity of data. We have used the data available for slums in respect of eight metropolitan cities in the text. It needs to be emphasised, however, that issues of legality and non-recognition or non-notification are crucial in determining the access of urban slum areas to basic amenities that impact greatly on food and nutrition security, especially in terms of absorption.

CHAPTER 3

Urban Food Insecurity Across States

3.1 Introduction

This chapter is devoted, in part, to an updating of the exercise undertaken in the Food Insecurity Atlas of Urban India (FIAUI) (MSSRF-WFP 2002) to develop an index of urban food and nutrition insecurity, for India and major States. The focus in this Report is on chronic food insecurity. Issues such as sustainability and hidden hunger as well as transitory food insecurity caused, for instance, by catastrophic events are not dealt with. Further, the main concern of this Report is with describing and analysing the current state of food and nutrition insecurity in urban India. Mapping the relative position of the States on a food insecurity scale on the basis of a select set of indicators is part of this larger exercise.

There are two other respects in which the current exercise differs from the earlier one presented in FIAUI. The first relates to data. New data has become available since the previous exercise. FIAUI had made use, for the most part, of data from the 50th and 55th rounds of the NSSO pertaining to reference years 1993-94 and 1999-2000 respectively, the National Family Health Survey of 1992-93 (NFHS 1) and the Census of India (1991 and 2001). Since then, data from the 55th and 61st "full sample" rounds of the NSSO as well as data from two further rounds of the NFHS – NFHS 2 (reference year 1998-99) and NFHS 3 (reference year 2005-06) – as well as more data from Census 2001 have become available. The current exercise utilises data from these sources and attempts to draw a comparative picture between two points of time.

The second departure from the previous exercise is in respect of the choice of indicators that would go into the index to be constructed. In the exercise presented in FIAUI, a total of 17 variables were identified as indicators having relevance to a comparison of the urban food insecurity situation across the Indian States. These were then combined in distinct clusters as affordability index, access index, discrimination index, housing index, sanitation and health index and nutritional outcome index. Individual chapters discussed the position of these six indexes across the States and, within the discussion of each (clustered) index, the position in respect of each of the indicators constituting the (clustered) index. All the 17 indicators were utilised to create an overall index of food insecurity. This was done by adding, for each State, its rank on each of the 17 indicators, and taking the average to give it a so-called mapping index. The final ranks of the States in terms of food insecurity were then based on the value of their respective mapping index. A similar exercise, but with different sets of indicators appropriate to a comparison of urban units of different population size classes, was carried out in the second part of the FIAUI exercise.

The current exercise focuses more on outcome indicators rather than on input variables[14]. A smaller number of 11 indicators have been identified for comparison of performance across the States, with some of them being mutually alternate indicators. In constructing the final index, several variants were tried out. In all the variants, either 6 or 7 indicators have been combined to yield the composite index. The final choice was made after due reasoning and trying out different permutations and combinations with a larger basket of indicators. The picture that emerged with the larger basket of indicators was found to be effectively captured with the smaller set chosen. The exercise in FIAUI comparing the urban units of different population size classes has also been carried out and the results discussed in this Report.

3.2 Choice of Food Insecurity Indicators in the Construction of an Index of Food and Nutrition Insecurity

It is useful to discuss food security in terms of three aspects/dimensions: availability, access and absorption. As pointed out in FIAUI, it is not possible to obtain reliable data on *urban* food availability at the State level, given the predominance and importance of private trade on which information is not readily accessible. Moreover, physical availability of food per se may not be a big problem in urban settings, given the existence of a widespread retail trade network. So, it is appropriate to focus on access and absorption. FIAUI recognised the important role of the public distribution system (PDS) in improving access to food in urban areas, and used per capita consumption of grain from PDS as an indicator of food access in the sense of affordability. It used the calorie intake per capita of the bottom consumer expenditure decile also as such an indicator. It combined these two into an "affordability" index.

Considering that poverty, employment as a casual labourer, and illiteracy would all imply poor earnings/earning capability, FIAUI combined the following variables into an "access" index: percentage of population below the poverty line, percentage of households in the bottom decile of the consumer expenditure distribution which are casual labour households, and percentage of illiterates. On the ground that caste and gender discrimination can also influence access to food, FIAUI combined the proportion of Scheduled Castes and the daily earnings differential between men and women measured as the ratio of the male wage rate to that of the female wage rate into a "discrimination" index.

It is well recognised that the absorption aspect of food security is particularly important in urban settings since these are often characterised – especially in slums – by issues such as very poor drinking water, sanitation, drainage and waste disposal facilities, besides having to deal with urban morbidity brought about in part by a polluted environment. FIAUI sought to capture the absorption aspect by means of three clusters of variables. It combined the percentages of urban population living in slums, of households without a toilet, of households without access to safe drinking water and the number of persons per hospital bed into a "sanitation and health" index. It combined the percentage of households living in katcha houses and the percentage living in semi-pucca houses into a "housing" index. Finally, taking into account the link between absorption and nutrition, it combined IMR, life expectation at the age of 1 year, percentage of population chronically ill and the juvenile sex ratio (girls per 1000 boys in the age group 0-6 years) into a "nutritional outcome" index. Besides analysing urban food insecurity across the States using the cluster-based indexes,

[14] As Deaton and Dreze (2008) have argued, outcome indicators, though not without problems, may be better pointers to food security status than input indicators.

FIAUI also worked out an overall urban food insecurity index for India and select States.

The present exercise has been carried out on the premise that though the indicators used in FIAUI were relevant to food insecurity, a comparison of the urban food security situation in various States can be carried out with a smaller number of indicators. For reasons that have been elaborately explained in the *Report on the State of Food Insecurity of Rural India* (RSFIRI) (MSSRF-WFP 2008), 8 or 9 indicators – both input and outcome indicators – have been chosen in each variant of the overall index of food insecurity. Since it would be difficult to get a reliable measure of food availability in the urban setting, indicators that capture the access and absorption dimensions of food security have been relied upon. In all, 11 indicators have been examined.

1. Percentage of urban population consuming less than 1890 Kcal per consumer unit per day
2. Number per 1000 of urban male workers not 'regularly employed'
3. Number per 1000 of urban female workers not 'regularly employed'
4. Percentage of urban households without access to safe drinking water
5. Percentage of urban households without access to toilets
6. Percentage of ever-married women (15-49 years) with any anaemia
7. Percentage of ever-married women (15-49 years) with chronic energy deficiency (CED)
8. Percentage of children (6-35 months) with any anaemia
9. Percentage of children (6-35 months) who are stunted
10. Percentage of children (6-35 months) who are underweight for age
11. Percentage of children (6-35 months) who are wasting

The first three indicators relate to the dimension of access to food. The first indicator, namely the proportion of the urban population consuming less than 1890 Kcal per consumer unit per day, is a direct measure of calorie deprivation and thus of inadequate intake of food [15]. The second and third indicators reflect material deprivation as well as instability in earnings, both of which have implications for food security. The NCEUS final report gives us a fair indication of how earnings in self-employment and casual wage labour are both low and precarious [16].The fourth and fifth indicators relate to absorption. They are input indicators that have implications for nutritional outcomes and thus for food and nutrition security. The remaining 6 indicators are all outcome indicators. The overall urban food insecurity index has been worked out in several variants, alternating the child nutrition outcome indicators among themselves as well as trying the index with and without the indicator of proportion of households without access to safe drinking water.

3.2.1 Percentage of Population Consuming Less than 1890 Kcal /Cu/diem

The calorie, a unit of energy, has always been considered as the main measure of food adequacy and is the basis of poverty measurement

[15] In so far as the official measure of poverty is based on a calorie norm, this can also be taken as reflecting poverty incidence. But it is well known that the reported official poverty ratios deviate significantly from the proportion of the population facing calorie deprivation and tend to understate poverty. So the measure used here is preferable.

[16] NCEUS 2009, Final Report, Volume 1.

in India[17]. What is the calorie level that can be considered adequate for a healthy life? There is no clear answer. The actual calorific requirements of an individual depend on factors such as sex, age, bodyweight and nature of work, all of which vary across people. Fixing a norm, therefore, requires a detailed analysis of the population being studied.

In setting the poverty line, the Government of India applied a norm based on ICMR recommendations, of 2400 Kcal per consumer unit for rural India and 2100 Kcal per consumer unit for urban India[18]. In this Report, the figure of 1890 Kcal per consumer unit per day – 70 per cent of the international norm of 2700 Kcal – has been taken as the measure of the extent of food inadequacy, and the percentage of urban population with a calorie intake below this figure has been included as an indicator in the index. The minimum calorie requirement calculations have been based on age-sex composition, the lowest acceptable weight for the typical height of the group in a country and the light activity norm (FAO 2000). It is safe to say that a person consuming anything below this bare minimum level is likely to face long-term ill effects of malnourishment.

The percentage of urban population taking in less than 1890 Kcal per consumer unit per day can be worked out for the major States and for India as a whole from NSSO data on the per capita calorie intake of urban households. This Report has made use of data from the 55th and 61st rounds of the NSSO for reference years 1999-2000 and 2004-05, respectively.

3.2.2 Percentages of Male and Female Workers not "Regularly Employed"

It is clear that for most urban households, employment is the key to survival and food security. A large proportion of the urban workforce is in self-employment or casual/contract wage employment. These are precarious sources of earning and very low on the average. Regular (paid) employment, on the other hand, provides a modicum of food security even when the rates of payment are modest. It seems plausible therefore that the percentages of male and female workforces not regularly employed would serve as reasonable measures of lack of access to food security. The data on this pair of indicators is separately available for male and female workers from the large sample 55th and 61st NSSO rounds on employment and unemployment pertaining, respectively, to the reference years 1999-2000 and 2004-05.

3.2.3 Percentage of Households Not having Access to Safe Drinking Water

Water is defined as safe if it is free from biological contamination (guinea worm, cholera, typhoid, etc.) and chemical contamination (excess fluoride, brackishness, iron, arsenic, nitrate, etc.). Besides playing a vital role in nearly every function of the body, including protecting the immune system and helping removal of waste matter, water is crucial for nutrition. Access to safe water is thus a fundamental human need and should be considered a basic human right. It has been argued that as consumption of safe water in adequate quantities ensures the physical and social health of all people and plays a crucial role in their nutritional well being, providing safe drinking water to all communities should be the basic starting point to achieve nutrition targets (Meenakshisundaram 2004). Access to safe drinking water is crucial for ensuring effective biological utilisation of food taken by an individual. It is a key element of the absorption aspect of food and nutrition security.

[17] There are other important necessary nutrients but when the calorie intake is low, determining the use of proper proteins is not possible and nutritional assessment is made by treating calories as the single largest item (Sengupta and Joshi 1978).

[18] Planning Commission 1993.

Data on percentage of households without access to a safe source of drinking water is available from the Census of India reports for the years 1991 (used in RSFIRI) and 2001, separately for both rural and urban areas. There is also data from the NFHS 2 for reference year 1998-99 and NFHS 3 for 2005-06. However, there are some difficulties of interpretation that must be kept in mind. The definition of "safe source of drinking water"[19] used in the Census or in NFHS is not entirely satisfactory. Additionally, the data in NFHS 3 relate to "access to an improved source of water" while those in NFHS 2 refer to water from a hand pump or piped water. Despite these problems, in view of its importance in food absorption, the indicator of "proportion of households without access to safe drinking water" has been retained in some of the variants of the overall index.

3.2.4 Percentage of Households without Access to Toilets

The World Health Organization (WHO) defines sanitation as safe management of human excreta, including the provision of latrines and the promotion of personal hygiene. Environmental sanitation is a broader term, encompassing excreta disposal, solid waste management, wastewater disposal, vector control, and drainage. Personal hygiene includes practices such as washing hands with soap after defecation and before contact with food, and in a broader sense, extends to the collection, storage and handling of safe water.

The higher incidence rates of infection in an undernourished child can be accounted for by the poor sanitation and environmental hygiene in the household. Poor sanitation can cause and prolong communicable diseases leading to poor nutrition. Children who are malnourished also tend to come from families with the least access to potable water, sanitation and healthcare services (NFHS 2007). Thus, higher incidence rates of infection in an undernourished child could well be accounted for by the poor hygienic environment that the child lives in (Sagar and Qadeer 2004). This has a direct impact on the biological absorption of food in the body. The percentage of households without access to toilets is thus a plausible indicator of food and nutrition insecurity, capturing as it does an important aspect of the dimension of absorption.

Data on this indicator for India and the various States is available from NFHS 2 for 1998-99 and NFHS 3 for 2005-06.

3.2.5 Anaemia among (a) Ever-married Women Age 15-49 Years and (b) Children in the Age Group of 6-35 Months

In Indian settings, iron deficiency is known to be the major cause of anaemia[20]. It must, however, be noted that infectious diseases – in particular, those such as malaria, tuberculosis and HIV/AIDS – are important factors contributing to the high prevalence of anaemia in many populations. Besides lack of iron, nutritional deficiencies of folate, vitamin B12 and vitamin A can also cause anaemia, although the magnitude of their contribution is unclear. On the whole, a high level of anaemia may be seen as an indicator of poor health and nutrition.

Two important outcome measures of food and nutrition insecurity used in this Report are the

[19] As per the Census of India, if a household has access to drinking water supplied from a tap, hand-pump/tube well within or outside the premises, it is considered as having access to safe drinking water. Such access may be more notional than real where the concerned source has either dried up or is not functioning. Besides, water from open wells, boiled and drunk, would also be safe by any reasonable definition.

[20] vhttp://www.imanational.com/Anaemia.htm#Appeal%20to%20IMA%20Members

percentage of ever-married women in the age group of 15-49 years with anaemia and the percentage of children in the age group of 6-35 months who are anaemic. The first measure captures anaemia among both adolescent girls and women in the fertile age group. The second measure is a critical indicator in a lifecycle approach to food and nutrition security.

Data on both indicators are available for urban areas for two different points in time from the second and third rounds of the NFHS pertaining to reference years 1998-99 and 2005-06.

3.2.6 Percentage of Women (15-49 yrs) with Chronic Energy Deficiency

A typical and frequently used indicator of poor nutrition is the body mass index (BMI). BMI is defined as the ratio of weight of a person to the square of the person's height, with the weight normally measured in kilograms and the height in metres. BMI is known to be a good predicter of the risk of morbidity and mortality (Floud 1992; Fogel 1997). A level of BMI below 18.5 thus measured indicates a state of chronic energy deficiency. One reason for choosing the percentage of women with CED as an indicator of food and nutrition insecurity is that female health has a significant lifecycle impact; very often children tend to be malnourished because their mothers are. Women's health is also of particular concern in India due to the economic, social and cultural dimensions of entrenched gender inequality (Ramachandran et al. 2006). The second reason for choosing this indicator is that there is all-India and State level data for this indicator from the second and third rounds of NFHS.

3.2.7 Percentage of Children (6-35 Months) who are Stunted

Growth stunting, defined as height for age below the fifth percentile on a reference growth curve, is traditionally used as an indicator of nutritional status in children. Growth stunting is a population-based indicator and can indicate the prevalence of malnutrition or nutrition-related disorders among an identified population of children. Stunting of growth results from prolonged or repeated episodes of nutritional deficiency. While short stature in any individual child may reflect normal genetic variation and not chronic malnutrition, the growth-stunting rate for a population of children can provide evidence of the extent to which children in that population are experiencing long-term nutritional deficiencies and suffering from other negative consequences (fatigue, dizziness, frequent headaches, frequent colds and infections, and difficulty concentrating) of not getting enough to eat (FRAC 1995).

Child weight-and-height performance can be viewed as the output of a "health production function" whose inputs also include elements such as nutritional intake, exposure to infections, and healthcare. Human populations respond to chronic hunger and malnutrition by decreasing body size, known in medical terms as stunting or stunted growth. This process starts *in utero* if the mother is malnourished and continues through approximately the third year of life. Once stunting has occurred, improved nutritional intake later in life cannot reverse the damage. Limiting body size as a way of adapting to low levels of energy (calories) adversely affects health in three ways:

- Premature failure of vital organs occurs during adulthood. For example, a 50 year-old individual might die of heart failure because his/her heart suffered structural defects during early development.
- Stunted individuals suffer a far higher rate of disease and illness.
- Severe malnutrition in early childhood often leads to defects in cognitive development.

The presence of stunting in children indicates early malnutrition. Stunting reflects growth impairment caused by either a past episode (or episodes) of acute malnutrition, or a routinely limited diet over an extended period, even where current nutrition is adequate. It is an indicator of chronic malnutrition.

3.2.8 Percentage of Children (6-35 months) who are (a) Underweight for Age and (b) Wasting

Besides stunting, the other two important indicators of malnutrition are being underweight for age and wasting. Data in respect of children between 6 months and 35 months of age are available for urban India and the States from the second and third rounds of NFHS for the reference years 1998-99 and 2005-06, respectively. While wasting in place of stunting/underweight has been discussed as an indicator in variants of the overall index, it does not figure in the final index.

3.3 Composite Index of Food and Nutrition Insecurity

Using 8 or 9 of the 11 indicators at a time, a set of variants of a composite index of food and nutrition insecurity in urban India has been obtained. The index (in its several variants) is intended as a summary measure of a complex, multidimensional concept, which cannot be captured by a single indicator alone. There is inevitably an element of judgment or arbitrariness when an index is constituted from a number of indicators.

One important question is that of weights to be attached to each of the individual indicators when combining them to form a single index. This often introduces a certain amount of subjectivity into the analysis. Prior theoretical considerations can be invoked in some contexts to assign different relative weights to the various indicators entering into the construction of the index. Alternatively, a simple rule such as assigning an equal weight to each indicator can be followed. While there is inevitably some loss of information when an index is constructed from a number of indicators, one of the merits of a single index to summarise a complex phenomenon or process is that, in the context of policy-making, it is a more readily comprehended decision support tool.

The convention adopted in earlier MSSRF exercises on the construction of a food insecurity index – that of assigning equal weights to all the indicators, after normalising the individual indicators through the use of a relative distance measure – has been followed in this Report. Thus, in comparing the different States, for any given indicator, the difference between the value of the indicator and the minimum value has been taken as a proportion of the difference between the maximum and minimum values.

3.3.1 Methodology of Indexing

The 9 or 10 indicators considered for obtaining the final food and nutrition insecurity index are all unidirectional in the sense that a higher value of the indicator implies a higher level of food insecurity. The individual indicators chosen for working out composite indices are measured in different units and hence, in general, are not directly additive. It therefore becomes necessary to convert them to some standard 'units' so that the initial scale chosen for measuring the indicators do not prejudice the results. One way of doing this in an inter-State comparison exercise is to express the performance of each State with respect to each individual indicator as a value between 0 and 1 by applying the following formula:

$$\text{index} = \frac{\text{(actual value-minimum value)}}{\text{(maximum value - minimum value)}}$$

Among the States being compared, the most insecure one with respect to any particular indicator will have a "dimension index" value of 1 while the least insecure State will have a value 0. The States have been placed into one of five categories based on the level of food and nutrition insecurity. A map has been obtained for each indicator and also the final composite index, for two different time intervals, namely 1998-2000 and 2004-06. This will help assess the relative change in the position of the States with regard to these indicators.

3.3.2 Mapping Methodology

The States under analysis have been classified into five typologies based on the level of insecurity using equal class intervals for enabling comparison of the maps at two different time points. The States depicted in the darkest shade of red indicate very high level of insecurity with regard to that particular indicator and the lighter shades of red indicate relatively lower levels of insecurity, with the least red indicating the least insecure.

3.3.3 States Analysed

The analysis presented in this Report pertains to urban India and the urban areas of 18 States. However, the data for three States formed after the 1991 census and during or before the 2001 census – Chhattisgarh, Jharkhand and Uttarakhand – have been merged with the data for the respective "parent" States – Madhya Pradesh, Bihar and Uttar Pradesh, respectively. Thus, the comparison between 1998-2000 and 2004-06 relates to the 15 composite major States in existence in 1998, all with population of 20 million or more each as per Census 2001.

For the period 2004-06, the data available separately for Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Uttar Pradesh and Uttarakhand have been used in obtaining the relevant value of the indicator for the corresponding composite State as an appropriately weighted average of the values for the constituent States.

The abbreviations used for the States in the Tables that follow are listed below:

The data sets used in the construction of the index have been obtained from the NSSO reports for the 55th and 61st Rounds (reference years 1999-2000 and 2004-05, respectively) and the second and third NFHS Reports for 1998-99 and 2005-06, respectively.

3.4 Indicator-wise Performance of States

This subsection reviews the performance of the States in respect of each indicator in the two periods under consideration, 1998-2000 and 2004-06.

States	Abbreviation	States	Abbreviation	States	Abbreviation
Andhra Pradesh	AP	Jharkhand	JD	Punjab	PU
Assam	AS	Karnataka	KA	Rajasthan	RA
Bihar	BI	Kerala	KE	Tamil Nadu	TN
Chhattisgarh	CHH	Madhya Pradesh	MP	Uttar Pradesh	UP
Gujarat	GU	Maharashtra	MA	Uttarakhand	UT
Haryana	HA	Orissa	OR	West Bengal	WB

3.4.1 Proportion of Urban Population with Calorie Intake below 1890 Kcal per Consumer Unit per Day

Table 3.1 presents the proportions of urban population in each State that have a calorie intake of less than 1890 Kcal per day in 1999-2000 and 2004-05. For India as a whole, there has been a slight deterioration, with the marginal difference in the percentage of urban population with a calorie intake less than 1890 Kcal per day going up from 16.2 to 16.7.

Among the 15 States, 9 have shown improvement while the situation has worsened in the other 6. Assam, Uttar Pradesh and Bihar have shown significant improvement while the situation has worsened equally significantly in Rajasthan, Orissa and Maharashtra.

The distribution of the States in terms of the degree of food insecurity with respect to this indicator in the two periods is shown in **Table 3.1a** and **Maps 3.1a** and **3.1b**. Interestingly, the more urbanised states like Tamil Nadu and Maharashtra and Kerala with their unique "urban" profile have figured among the most food insecure by this indicator.

Table 3.1

Percentage of Urban Population Consuming Less than 1890 Kcal/Cu/diem, 1999-2000 and 2004-2005

Sl. No.	States	Percentage of Population Consuming Less than 1890 Kcal/Cu/diem	
		1999-2000	2004-05
1	Andhra Pradesh	17.6	17.4
2	Assam	14.7	6.6
3	Bihar	14.0	9.3
4	Gujarat	16.4	15.2
5	Haryana	13.9	16.3
6	Karnataka	19.0	16.3
7	Kerala	19.8	21.8
8	Madhya Pradesh	17.2	16.0
9	Maharashtra	18.4	24.4
10	Orissa	6.2	12.5
11	Punjab	11.7	9.6
12	Rajasthan	7.4	15.7
13	Tamil Nadu	22.5	21.3
14	Uttar Pradesh	16.7	10.6
15	West Bengal	14.2	15.6
	India	**16.2**	**16.7**

Source: NSSO 2001b; NSSO 2007c

3.4.2 Share of Urban Male Workforce Not Regularly Employed

Table 3.2 presents data on the number of urban male workers not "regularly employed" per 1000 workers for the two periods 1999-2000

Table 3.1a
Distribution of States by Prevalence of Calorie Deprivation, 1999-2000 and 2004-05

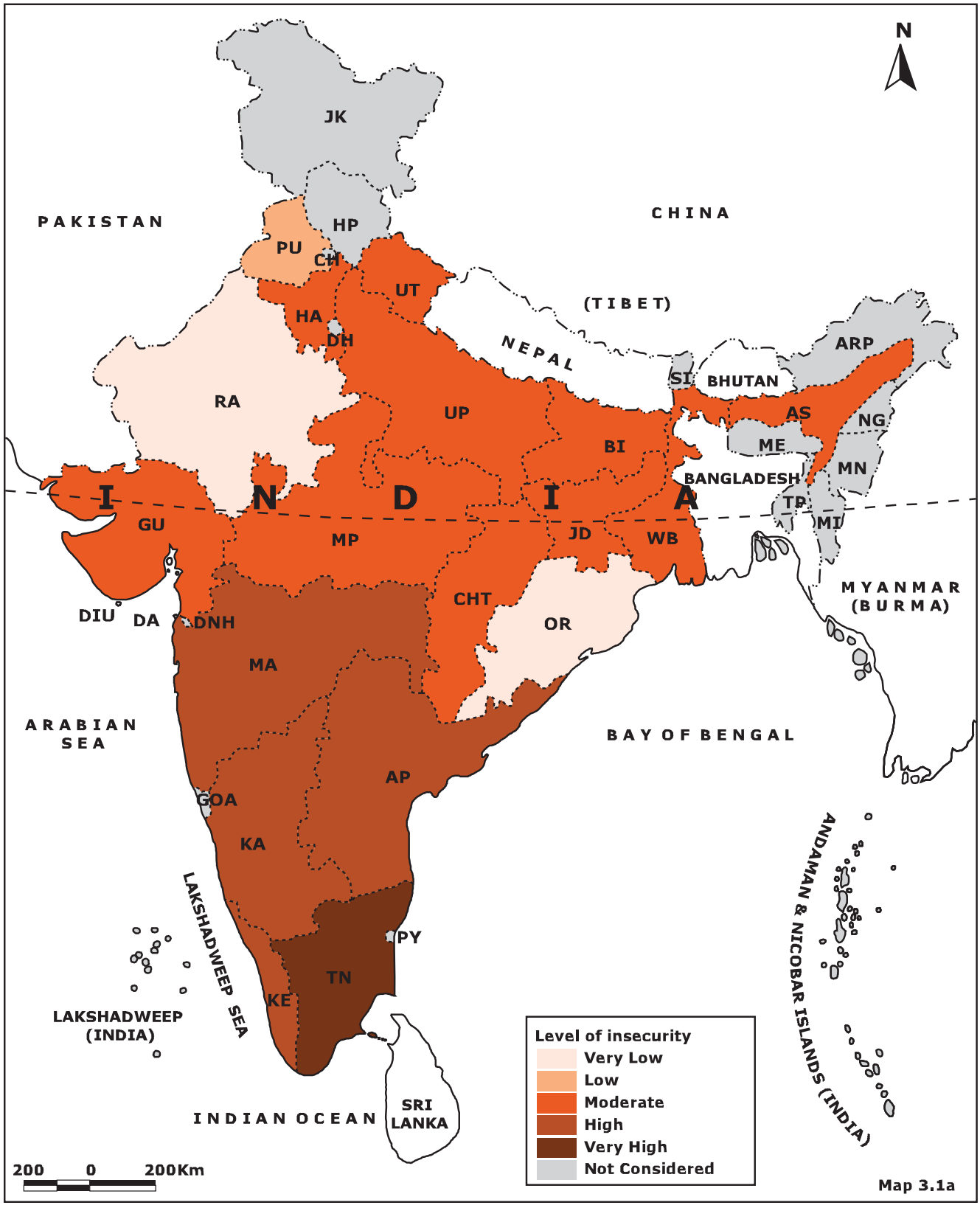
Percentage of Population Consuming Less than 1890 Kcal/Cu/diem	1999-2000	2004-05
6 - 9.8 (Very Low Insecurity)	OR, RA	AS, BI, PU
9.8 - 13.6 (Low Insecurity)	PU	UP, OR
13.6 - 17.4 (Moderate Insecurity)	GU, HA, MP, WB, BI, AS, UP	GU, HA, MP, WB, RA, KA, AP
17.4 - 21.2 (High Insecurity)	AP, MA, KA, KE	–
21.2 - 25 (Very High Insecurity)	TN	TN, KE, MA

Table 3.2
Number per 1000 Urban Male Workers Not Regularly Employed, 1999-2000 and 2004-05

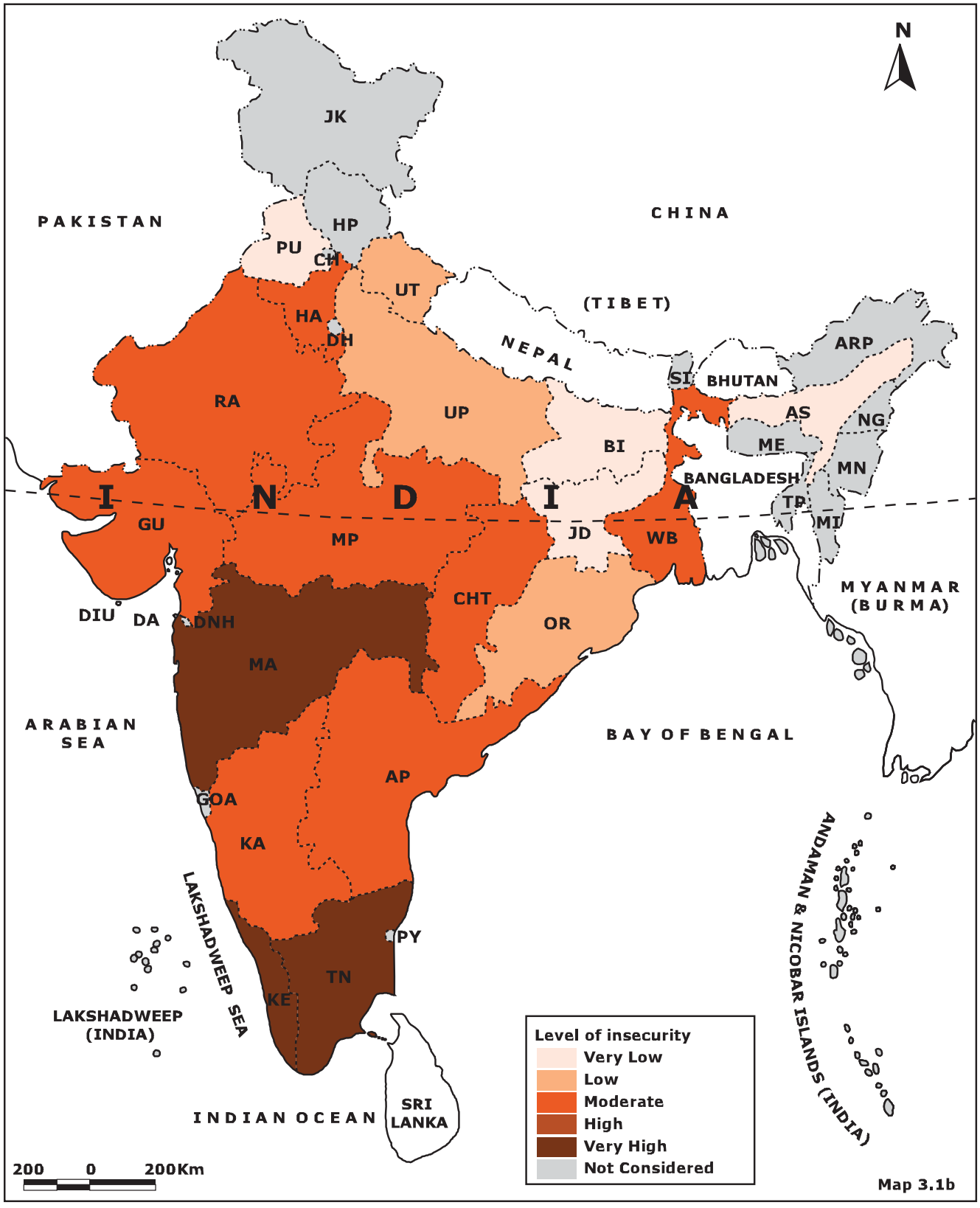
Sl. No.	States	Number per 1000 Male Workers Not Regularly Employed	
		1999-2000	2004-05
1	Andhra Pradesh	580	614
2	Assam	595	567
3	Bihar	690	661
4	Gujarat	641	518
5	Haryana	556	553
6	Karnataka	583	610
7	Kerala	720	748
8	Madhya Pradesh	631	601
9	Maharashtra	460	527
10	Orissa	601	643
11	Punjab	596	572
12	Rajasthan	596	626
13	Tamil Nadu	546	548
14	Uttar Pradesh	666	636
15	West Bengal	601	627
	India	**583**	**594**

Source: NSSO 2001a; NSSO 2006

Percentage of Population Consuming less than 1890 Kcal/Cu/diem in Urban India (1999-2000)



Percentage of Population Consuming less than 1890 Kcal/Cu/diem in Urban India (2004-05)



and 2004-05. At the all-India level, there has been a marginal increase in the proportion of the workforce that is either self-employed or is in casual employment. Gujarat showed the largest decline in the percentage of the urban male workforce not regularly employed while its neighbour Maharashtra showed the largest increase. It is difficult to discern any pattern linked to the degree of urbanisation/industrialisation. Urbanised Tamil Nadu displayed hardly any change but Maharashtra and Gujarat, both relatively more industrialised than many other States, moved in opposite directions. Among the relatively less industrialised States, while Bihar, Madhya Pradesh and Uttar Pradesh showed an increase in the share of regular employment, Orissa and Rajasthan exhibited a decrease. Overall, 7 States have shown an increase in the proportion regularly employed, and 8 a decrease. Haryana and Tamil Nadu had the smallest change. It seems as if State-specific factors rather than the degree of urbanisation or industrialisation per se may have been at work.

Table 3.2a and **Maps 3.2a** and **3.2b** present the distribution of States by category of insecurity with respect to earnings from work.

In terms of this indicator, Kerala has emerged as the most insecure State while Maharashtra showed the highest proportion of regularly employed in 1999-2000 but was second behind Gujarat in 2004-05 in this respect. However, with a general increase in the proportion of workers not regularly employed, none of the States figured in the least insecure category. Most States have retained the same insecurity status in both periods. Maharashtra and Orissa moved down a category while the Punjab and Assam moved up a category. Gujarat improved considerably, rising two categories higher in 2004-05.

3.4.3 Share of Urban Female Workers Not Regularly Employed

Table 3.3 presents the number of urban female workers per 1000 not regularly employed in the two periods.

Unlike in the case of urban male workers, there has been in fact an increase from 333 to 356 in the number of females regularly employed between 1999-2000 and 2004-05 at the all-India level. Similarly, 10 States reported a decline in the number of urban female workers who are not

Table 3.2a

Distribution of States by Earnings Insecurity among Urban Male Workers, 1999-2000 and 2004-05

Number of Male Workers Not in Regular Employment (per 1000)	1999-2000	2004-05
460 - 517.6 (Very Low Insecurity)	MA	–
517.6 - 575.2 (Low Insecurity)	HA , TN	HA, TN, AS, GU, MA, PU
575.2 - 632.8 (Moderate Insecurity)	AP, KA, MP, RA, WB, AS, OR, PU	AP, KA, MP, RA, WB
632.8 - 690.4 (High Insecurity)	BI, UP, GU	BI, UP, OR
690.4 - 748 (Very High Insecurity)	KE	KE

regularly employed. Only West Bengal reported a significant increase. Four other States – Andhra Pradesh, Assam, Bihar and Haryana – all showed only small changes. Several States show large increases in the proportion of urban female workers who are regularly employed, but most of these are interestingly, relatively less urbanised States like Madhya Pradesh, Uttar Pradesh and Orissa as well as the more urbanised Gujarat, Karnataka and the Punjab have exhibited a significant increase in the proportion of urban female workers regularly employed. Kerala too showed a large increase, while there was little change in Tamil Nadu once again.

Table 3.3a and **Maps 3.3a** and **3.3b** show the distribution of States by the degree of insecurity based on the indicator of proportion of urban female workers not regularly employed. A general decline in insecurity in terms of this indicator is evident.

Rajasthan, Gujarat, Bihar, Andhra Pradesh, Tamil Nadu, Karnataka, Maharashtra, West Bengal and Assam remained in the same insecurity category in both periods, while the Punjab, Kerala, Uttar Pradesh, Orissa and Madhya Pradesh declined in insecurity. Only Haryana moved in the opposite direction.

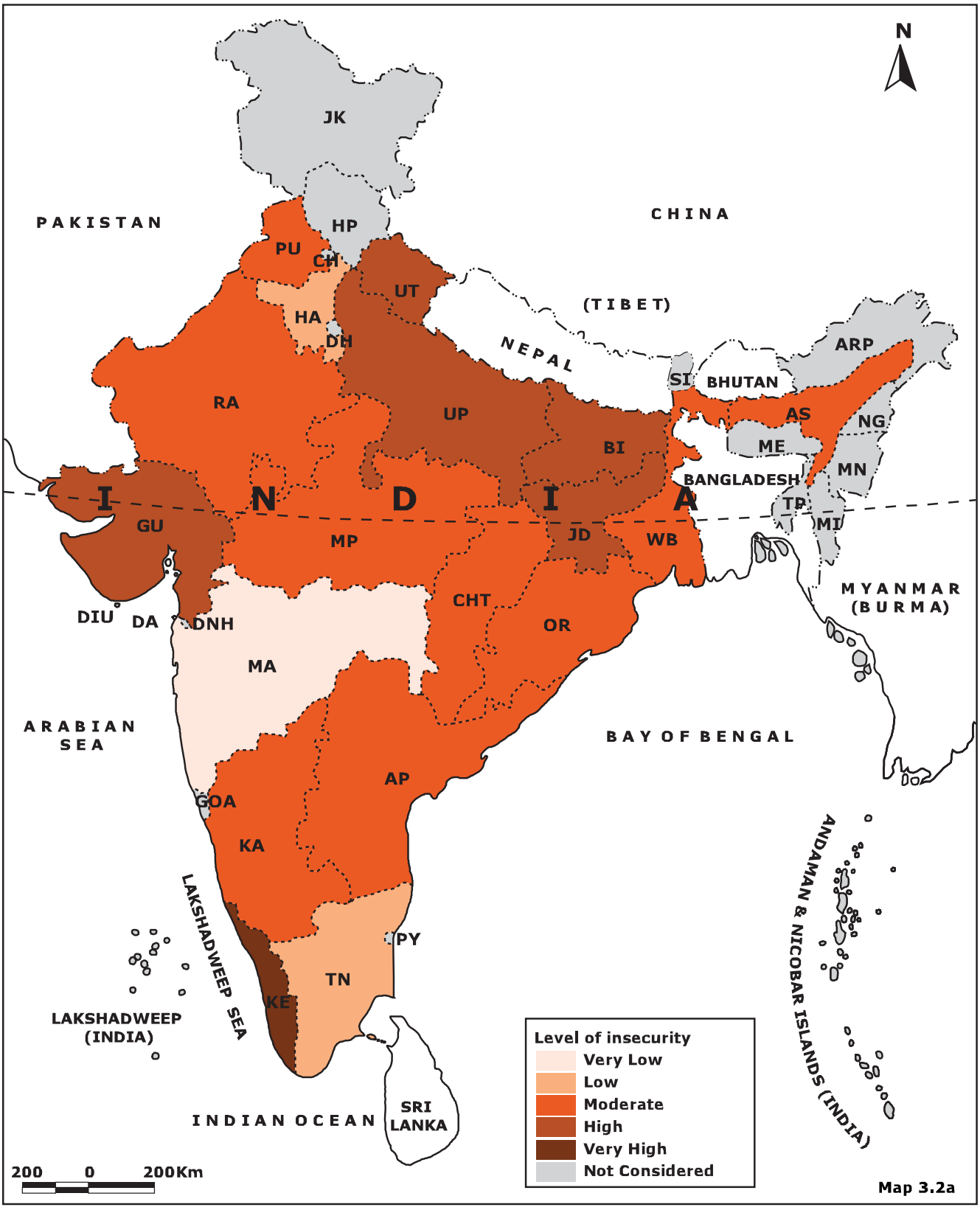
Table 3.3

Number Per 1000 Urban Female Workers Not Regularly Employed, 1999-2000 and 2004-05

Sl. No.	States	Number per 1000 Female Workers who are Not Regularly Employed	
		1999-2000	2004-05
1	Andhra Pradesh	715	700
2	Assam	444	455
3	Bihar	748	750
4	Gujarat	736	697
5	Haryana	670	680
6	Karnataka	674	629
7	Kerala	681	619
8	Madhya Pradesh	828	672
9	Maharastra	590	562
10	Orissa	788	648
11	Punjab	566	486
12	Rajasthan	791	814
13	Tamil Nadu	593	588
14	Uttar Pradesh	743	670
15	West Bengal	599	633
	India	**667**	**644**

Source: NSSO 2001a; NSSO 2006

Number per 1000 Urban Male Workers not in Regular Employment (1999-2000)



Number per 1000 Urban Male Workers not in Regular Employment (2004-05)

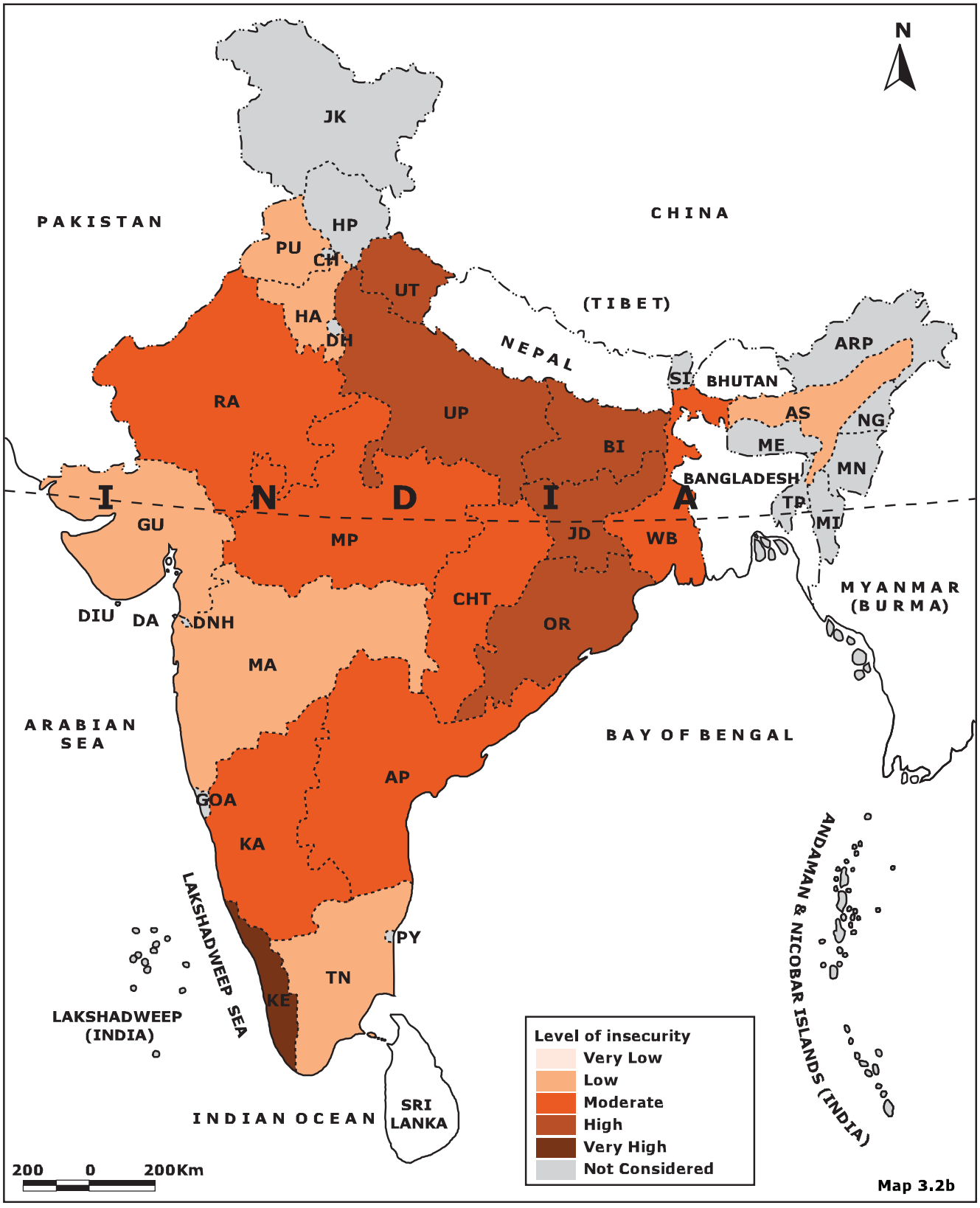


Table 3.3a

Distribution of States by Earnings Insecurity among Urban Female Workers, 1999-2000 and 2004-05

Number of Female Workers (per 1000) Not in Regular Employment	1999-2000	2004-05
444 - 520.8 (Very Low Insecurity)	AS	AS, PU
520.8 - 597.6 (Low Insecurity)	MA, TN, PU	MA, TN
597.6 - 674.4 (Moderate Insecurity)	KA, WB, HA	KA, WB, KE, MP, OR, UP
674.4 - 751.2 (High Insecurity)	AP, BI, GU, KE, UP	AP, BI, GU, HA
751.2 - 828 (Very High Insecurity)	RA, MP, OR	RA

3.4.4 Percentage of Urban Households without Access to Safe Drinking Water

Table 3.4 shows the percentage of urban households without access to safe drinking water in 1999-2000 and 2004-05. NFHS data has been used for a comparison of the situation in the two periods. On closer examination, the definitional differences between NFHS 2 and NFHS 3 earlier noted with regard to this indicator do not appear to affect the comparison significantly.

Table 3.4

Percentage of Urban Households Without Access to Safe Drinking Water, 1998-99 and 2005-06

Sl. No.	States	Percentage of Households Without Access to SDW	
		1998-99	2005-06
1	Andhra Pradesh	4.6	3.6
2	Assam	17.4	21.8
3	Bihar	15.0	12.3
4	Gujarat	4.1	4.1
5	Haryana	0.5	1.4
6	Karnataka	3.9	14.4
7	Kerala	60.2	52.0
8	Madhya Pradesh	9.0	8.5
9	Maharashtra	3.0	1.5
10	Orissa	19.0	21.2
11	Punjab	0.2	0.4
12	Rajasthan	4.5	2.4
13	Tamil Nadu	11.4	11.8
14	Uttar Pradesh	1.9	2.0
15	West Bengal	7.8	3.6
	India	**7.4**	**7.7**

Source: NFHS 2000; NFHS 2007

Seven States showed improvement while the other 8 marginally worsened, for the most part. The all-India figure did not change much. Kerala significantly improved while Karnataka equally significantly deteriorated. In the other States, the changes were marginal. A point that needs to be made about the figure for Kerala is that if one were to include "other improved sources" of drinking water (mainly referring to boiling of water), the percentage of households without access to safe drinking water declined to 22.7.

Table 3.4a and **Maps 3.4a** and **3.4b** show the distribution of the States by their level of insecurity with respect to access to safe drinking water. There is only one change between the two periods: Karnataka has moved into a category of greater insecurity in 2005-06 as compared to 1998-99 [21].

3.4.5 Percentage of Households without Access to a Toilet

Table 3.5 presents data on the position of various States with regard to the proportion of urban households without access to a toilet facility.

In general, there is an improvement in the situation with respect to access to toilets as measured by this indicator over the period 1998-99 and 2005-06. The proportion of households without access to toilets has declined in 13 States. The only two States where it has increased are Tamil Nadu and West Bengal, but the increases have been marginal. However, the improvement in most of the other States has also been modest, not dramatic, except for Gujarat where the proportion without access to toilets has declined by nearly 50 per cent. Bihar, Haryana and Rajasthan also showed significant improvement. The decline at the all-India level has been modest [22].

Table 3.4a

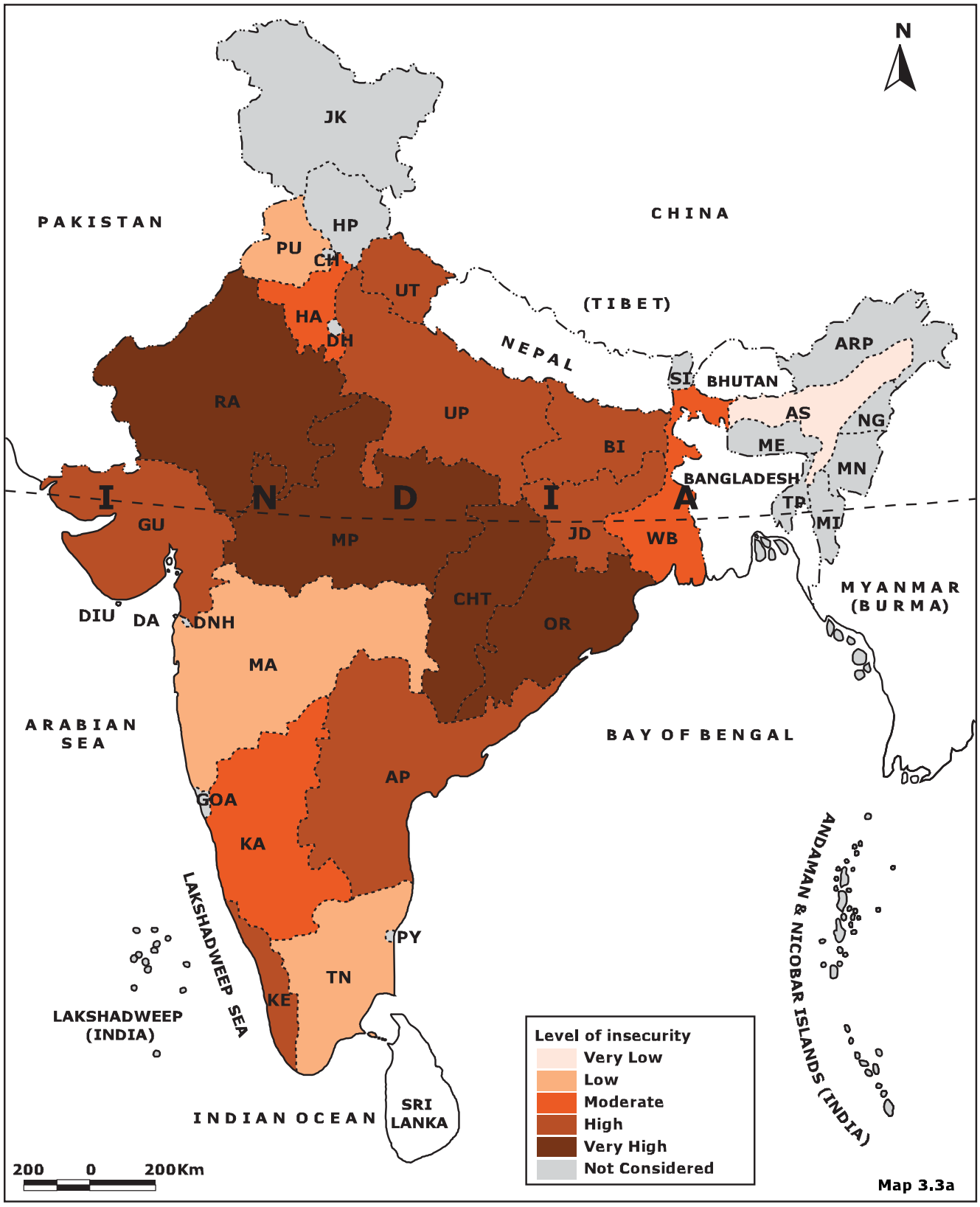
States by Level of Insecurity with regard to Access to Safe Drinking Water, 1998-99 and 2005-06

Percentage of Households without Access to SDW	1998-99	2005-06
0 - 12.2 (Very Low Insecurity)	AP, GU, HA, KA, MA, MP, PU, RA, TN, UP, WB	AP, GU, HA, MA, MP, PU, RA, TN, UP, WB
12.2 - 24.4 (Low Insecurity)	AS, BI, OR	AS, BI, OR, KA
24.4 - 36.6 (Moderate Insecurity)	–	–
36.6 - 48.8 (High Insecurity)	–	–
48.8 - 61 (Very High Insecurity)	KE	KE

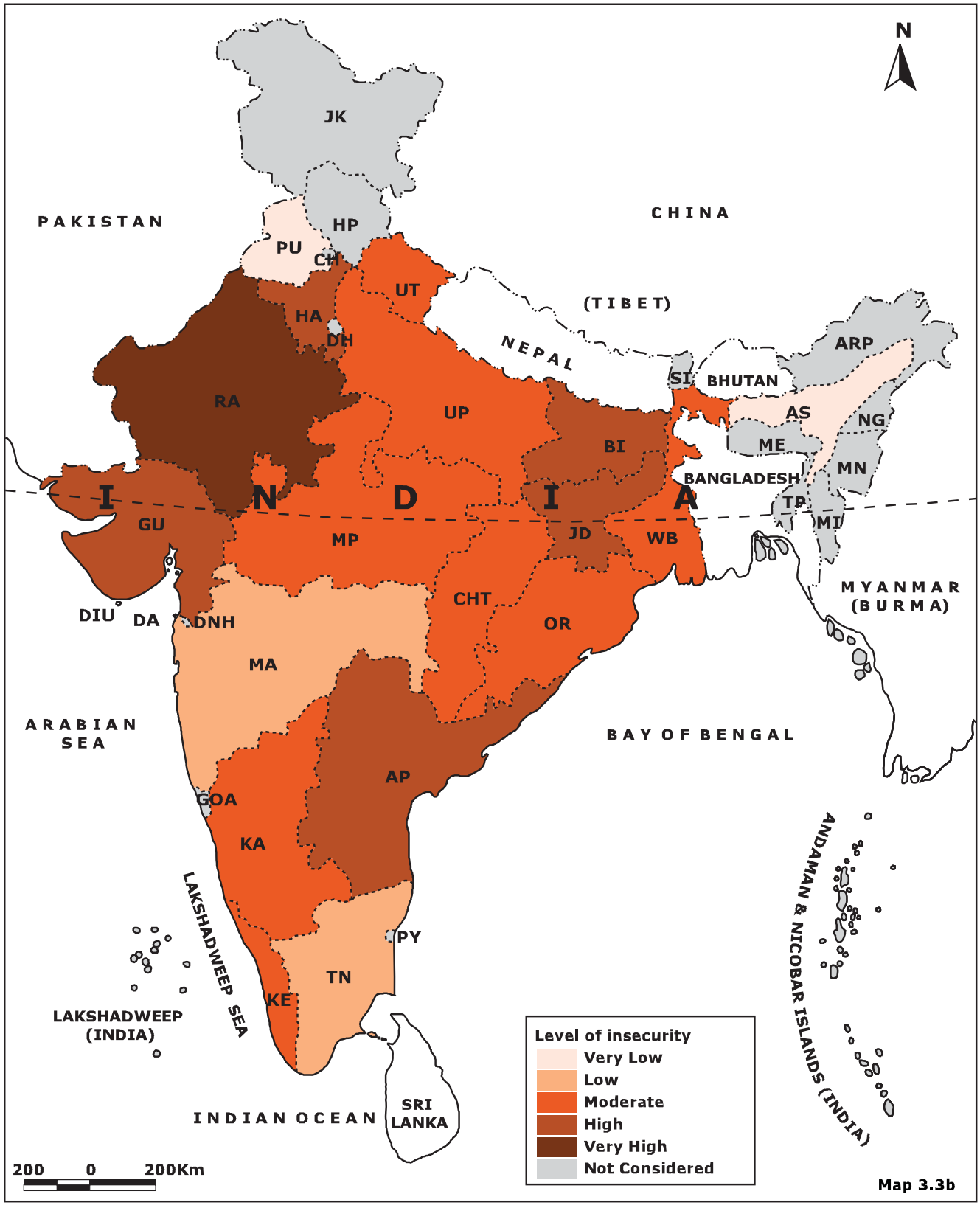
[21] Though Kerala is categorised here as most insecure, the practice of boiling water that prevails in Kerala makes a big difference, rendering the categorisation somewhat misleading.

[22] It needs to be stressed that the mere availability of a toilet may not imply safe disposal of human excreta with corresponding implications for improving hygiene.

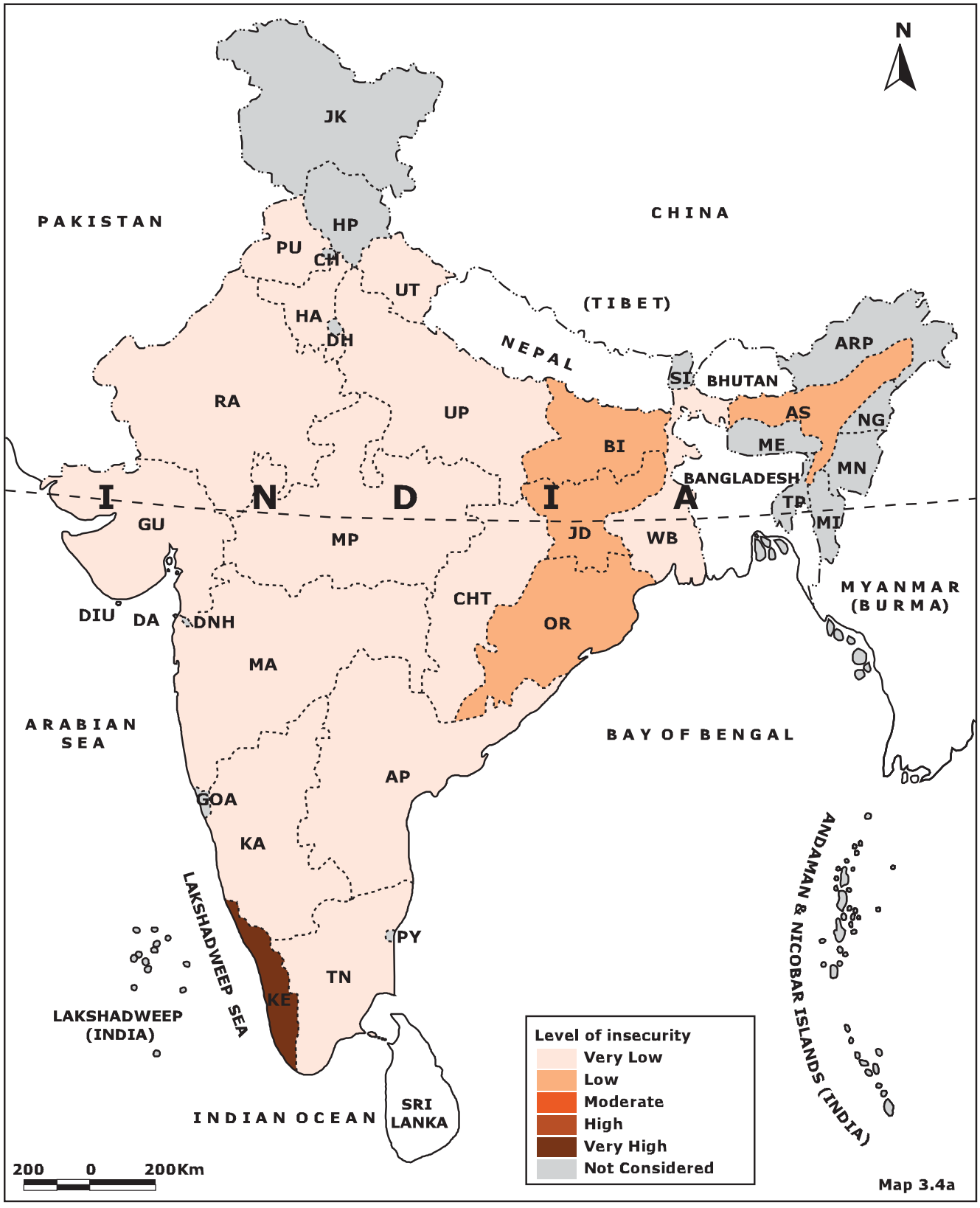
Number per 1000 Urban Female Workers not in Regular Employment (1999-2000)



Number per 1000 Urban Female Workers not in Regular Employment (2004-05)



Percentage of Urban Households without Access to Safe Drinking Water (1998-99)



Percentage of Urban Households without Access to Safe Drinking Water (2005-06)

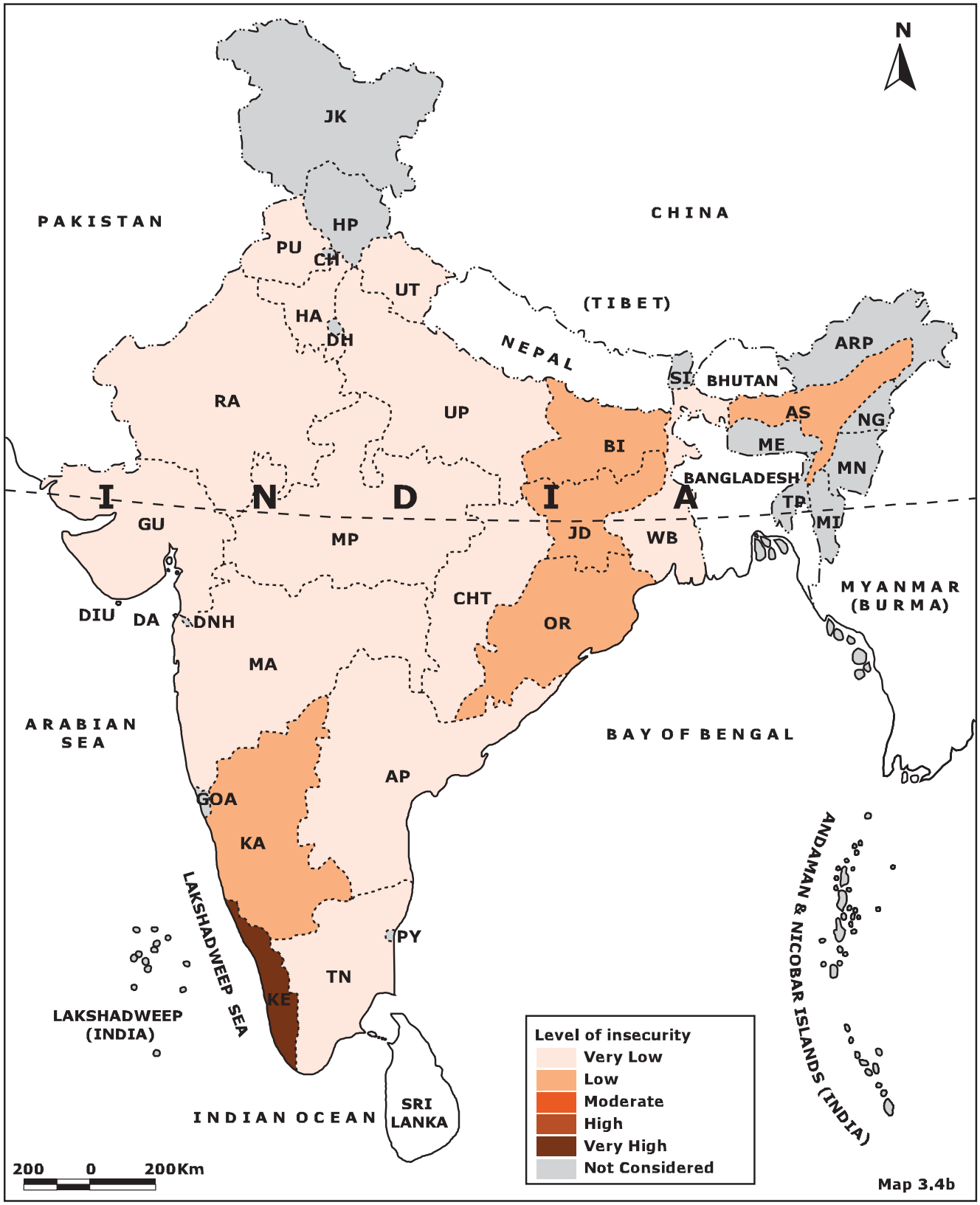


Table 3.5a and **Maps 3.5a** and **3.5b** illustrate the distribution of the States by the category of insecurity with respect to access to toilets. Though most States remained in the same category in 2005-06 that they were in 1998-99, Gujarat, Rajasthan, Karnataka, Andhra Pradesh and Orissa, however, have all moved to the next less insecure category.

Table 3.5

Percentage of Urban Households without Access to Toilet Facilities, 1998-99 and 2005-06

Sl. No.	States	Percentage of Households with No Toilet Facility	
		1998-99	2005-06
1	Andhra Pradesh	28.1	24.3
2	Assam	5.1	2.5
3	Bihar	33.5	26.5
4	Gujarat	23.1	11.7
5	Haryana	17.9	10.8
6	Karnataka	19.0	17.0
7	Kerala	6.8	1.6
8	Madhya Pradesh	35.2	31.2
9	Maharashtra	13.6	12.1
10	Orissa	45.0	40.9
11	Punjab	7.1	6.3
12	Rajasthan	22.9	14.7
13	Tamil Nadu	25.3	26.5
14	Uttar Pradesh	16.5	10.6
15	West Bengal	8.6	9.5
	India	**19.3**	**16.8**

Source: NFHS 2000; NFHS 2007

Table 3.5a

States by Level of Insecurity with regard to Access to Toilets, 1998-99 and 2005-06

Percentage of Households with No Toilet Facility	1998-99	2005-06
1 - 9.8 (Very Low Insecurity)	AS, KE, PU, WB	AS, KE, PU, WB
9.8 - 18.6 (Low Insecurity)	HA, MA, UP	HA, MA, UP, GU, KA, RA
18.6 - 27.4 (Moderate Insecurity)	TN, GU, KA, RA	TN, AP, BI
27.4 - 36.2 (High Insecurity)	MP, AP, BI	MP
36.2 - 45 (Very High Insecurity)	OR	OR

So far the discussion has been on input indicators, of which the first three related to the access dimension of food security and the last two to the absorption dimension. Now, a set of outcome indicators that reflect the outcome of both access and absorption aspects are explored.

3.4.6 Percentage of Urban Women with Anaemia

Table 3.6 presents the data on the percentage of urban women aged 15 to 49 years with anaemia. There has been a rise of over 5 percentage points in the proportion of urban women with anaemia for the country as a whole. Only one State, Assam, showed a (marginal) decline. The rise has been especially steep in Andhra Pradesh, Gujarat, Haryana, Karnataka and Kerala. Despite the large increase, however, Kerala depicted the lowest incidence of anaemia among all the States, with the Punjab being the next best. It is a matter of great concern that the incidence of anaemia among women in the reproductive age group is considerably more than 50 per cent in 5 States and hovers around 50 per cent in 7 other States.

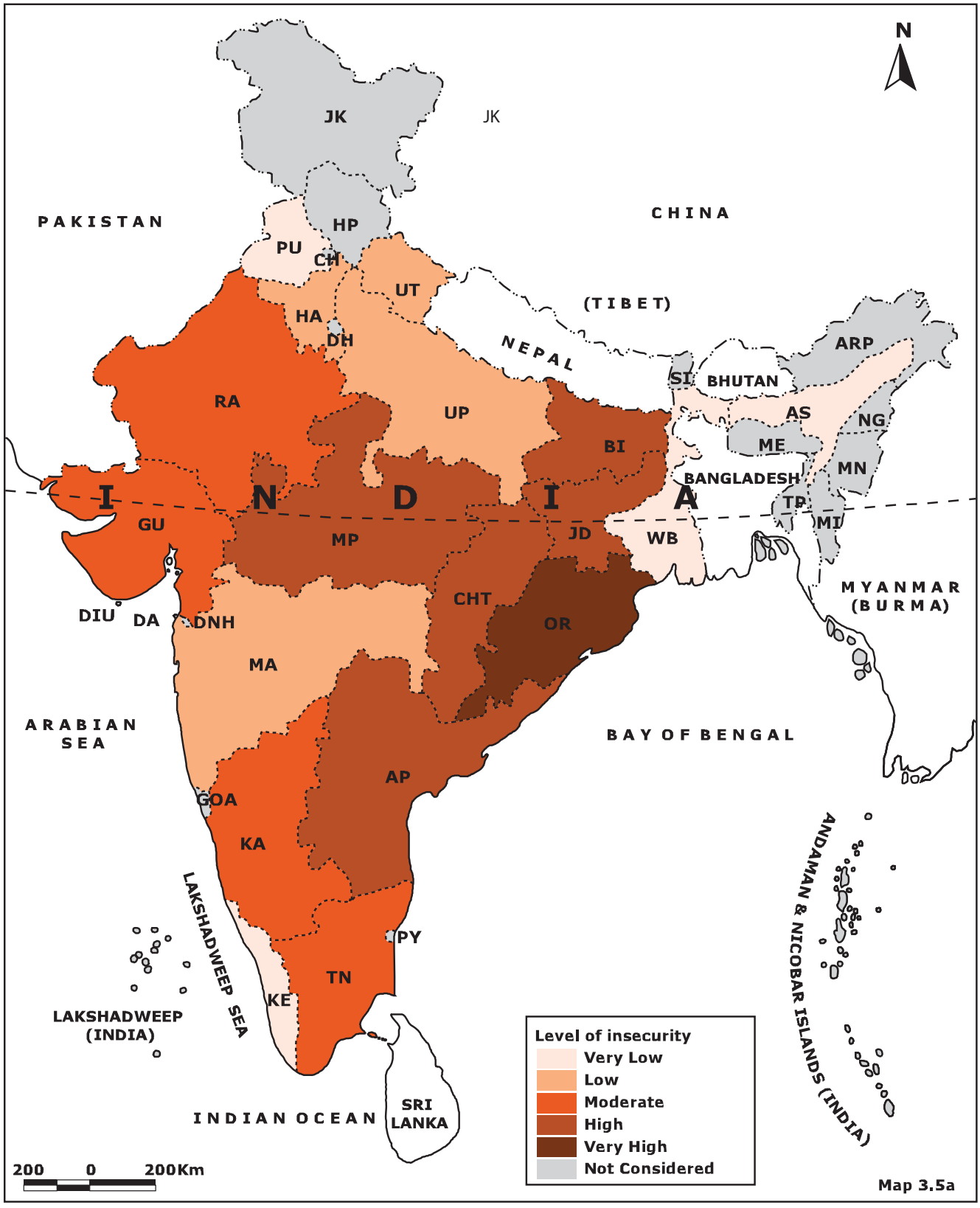
Table 3.6a and **Maps 3.6a** and **3.6b** portray the distribution of States by their level of insecurity with respect to the incidence of anaemia among urban women. The Table brings out the general worsening in the situation between 1998-99 and 2005-06. Bihar, the Punjab, Maharashtra, Madhya Pradesh, Rajasthan, Tamil Nadu, Orissa and Assam showed no change in the category of insecurity in which they have figured. The remaining States all moved to a category of greater insecurity.

Table 3.6
Percentage of Urban Women (15-49 years) with Anaemia, 1998-99 and 2005-06

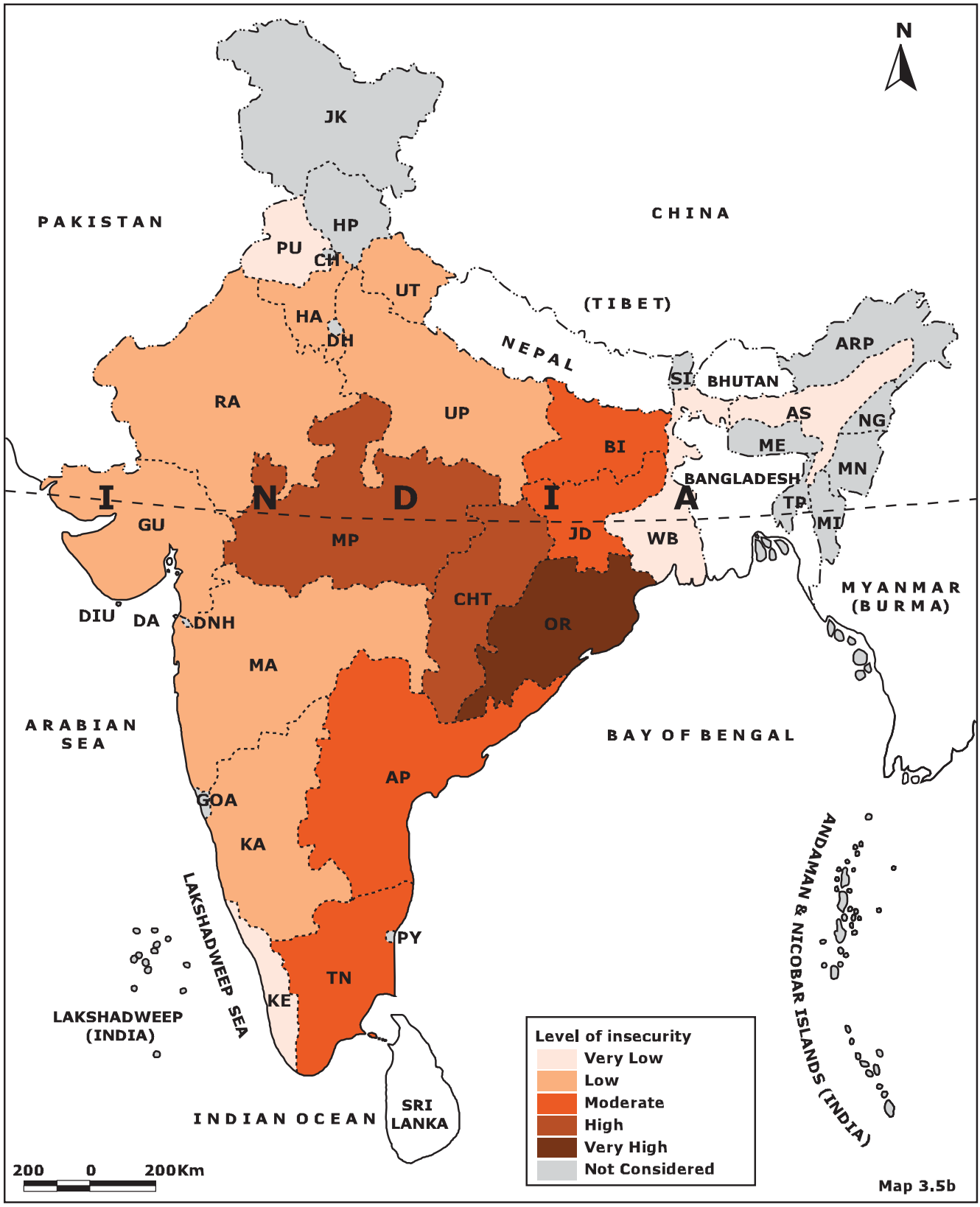
Sl. No.	States	Percentage of Urban Women (15-49 years) with Anaemia	
		1998-99	2005-06
1	Andhra Pradesh	47.4	59.7
2	Assam	67.2	65.9
3	Bihar	59.6	61.2
4	Gujarat	39.5	50.9
5	Haryana	45.8	55.2
6	Karnataka	35.7	48.3
7	Kerala	20.4	34.1
8	Madhya Pradesh	46.2	48.0
9	Maharashtra	44.8	46.0
10	Orissa	54.8	55.9
11	Punjab	39.0	39.1
12	Rajasthan	46.7	48.0
13	Tamil Nadu	51.6	52.0
14	Uttar Pradesh	46.0	49.6
15	West Bengal	57.8	59.4
	India	**45.7**	**50.9**

Source: NFHS 2000; NFHS 2007

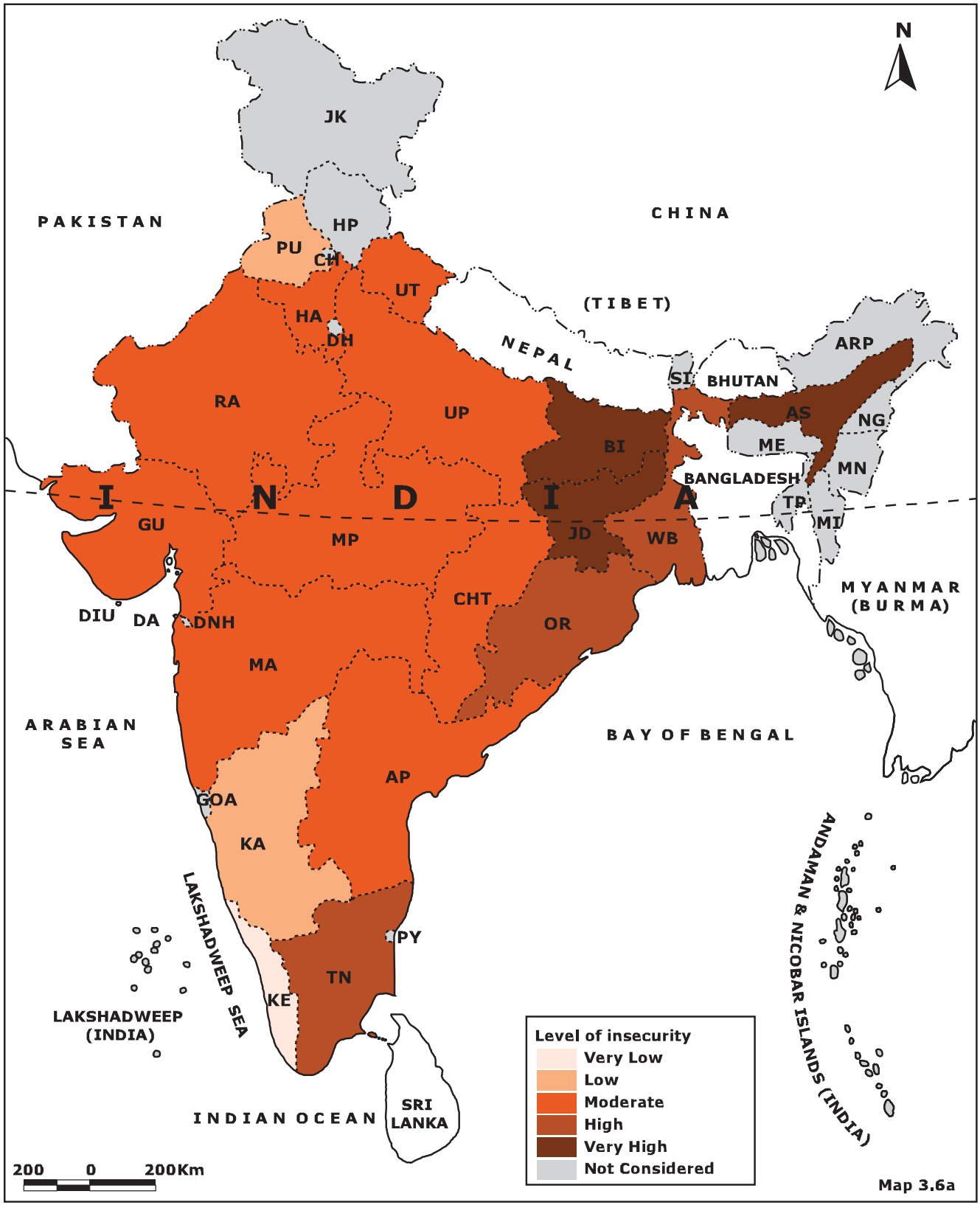
Percentage of Urban Households without Access to Toilets (1998-99)



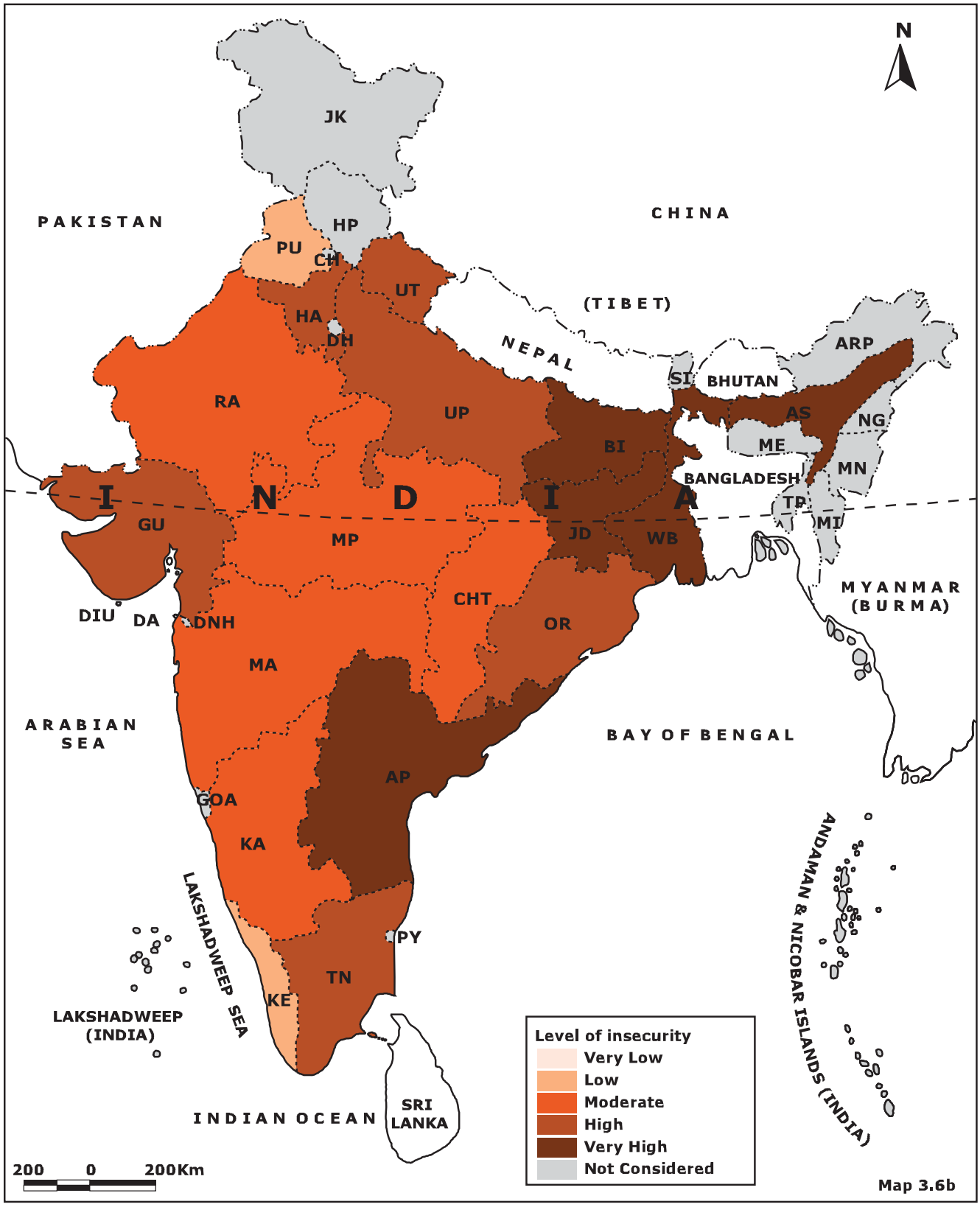
Percentage of Urban Households without Access to Toilets (2005-06)



Percentage of Ever-married Urban Women with Any Anaemia (1998-99)



Percentage of Ever-married Urban Women with Any Anaemia (2005-06)



3.4.7 Percentage of Urban Women with Chronic Energy Deficiency

Table 3.7 presents the situation with regard to another outcome indicator of food insecurity that is also gender sensitive, namely, the percentage of women with chronic energy deficiency.

In this respect, there has been deterioration between 1998-99 and 2005-06 for India as a whole,

Table 3.6a
Distribution of States by Level of Insecurity in terms of Incidence of Women with Anaemia, 1998-99 and 2005-06

Percentage of Women with Anaemia	1998-99	2005-06
20 - 29.6 (Very Low Insecurity)	KE	–
29.6 - 39.2 (Low Insecurity)	PU, KA	PU, KE
39.2 - 48.8 (Moderate Insecurity)	MA, MP, RA, AP, GU, HA, UP	MA, MP, RA, KA
48.8 - 58.4 (High Insecurity)	OR, TN, WB	OR, TN, GU, HA, UP
58.4 - 68 (Very High Insecurity)	AS, BI	AS, BI, AP, WB

Table 3.7
Percentage of Urban Women (15-49 years) with Chronic Energy Deficiency, 1998-99 and 2005-06

Sl. No.	States	Percentage of Urban Women with CED	
		1998-99	2005-06
1	Andhra Pradesh	19.7	22.1
2	Assam	18.8	26.4
3	Bihar	31.1	30.5
4	Gujarat	22.8	24.6
5	Haryana	13.7	20.6
6	Karnataka	23.8	26.3
7	Kerala	14.7	15.2
8	Madhya Pradesh	28.2	30.7
9	Maharashtra	26.2	26.6
10	Orissa	32.9	28.6
11	Punjab	9.2	17.2
12	Rajasthan	28.5	30.9
13	Tamil Nadu	17.5	22.8
14	Uttar Pradesh	23.3	22.9
15	West Bengal	24.5	23.3
	India	**22.6**	**25.0**

Source: NFHS 2000; NFHS 2007

Table 3.7a

States by Level of Insecurity in terms of CED among Urban Women, 1998-99 and 2005-06

Percentage of CED among Urban Women	1998-99	2005-06
9 - 13.8 (Very Low Insecurity)	PU, HA	–
13.8 - 18.6 (Low Insecurity)	KE, TN	KE, PU
18.6 - 23.4 (Moderate Insecurity)	AP, AS, GU, UP	AP, HA, TN, UP, WB
23.4 - 28.2 (High Insecurity)	KA, MA, MP, WB	KA, MA, AS, GU
28.2 - 33 (Very High Insecurity)	BI, OR, RA	BI, OR, RA, MP

with the percentage of women with CED increasing from 22.6 per cent to 25 per cent. Eleven States showed an increase in the percentage too, with the situation in 3 – the Punjab, Haryana and Assam – considerably worse. Bihar, Orissa, Uttar Pradesh and West Bengal marginally improved. All the other States performed more poorly in 2005-06 than in 1998-99.

In absolute terms, Kerala was the best performer in 2005-06 and Punjab in 1998-99. The States which reported a higher percentage of urban women with CED than the country average in 2005-06 included Assam, Bihar, Karnataka, Madhya Pradesh, Maharashtra, Orissa and Rajasthan.

The distribution of States by category of food insecurity in 1998-99 and 2005-06 as measured by the percentage of urban women with CED is presented in **Table 3.7a** and **Maps 3.7a** and **3.7b.**

There has been a worsening in the sense that 4 States – Madhya Pradesh, Assam, Haryana, and the Punjab – have moved to higher insecurity categories over this period, with the situation being quite severe in the last three. Improvement, where it has occurred, has been marginal.

3.4.8 Percentage of Urban Children with Anaemia

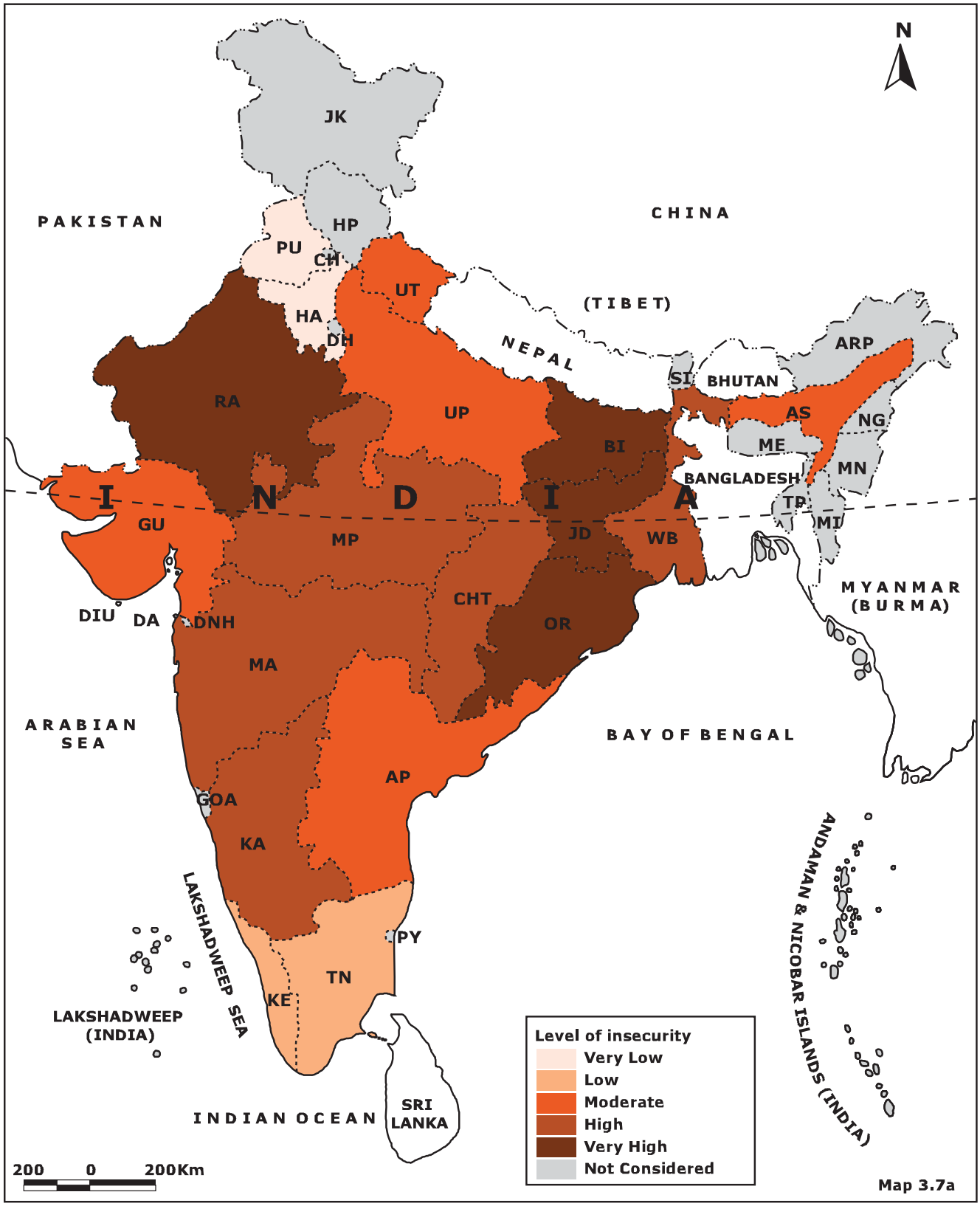
Table 3.8 presents the data on the percentage of urban children with anaemia.

The percentage of children with anaemia for urban India as a whole has increased marginally between 1998-99 and 2005-06, from an already high level of 70.8 per cent to 72.2 per cent. Seven States reported a decline while the rest reported a rise in the incidence of anaemia among urban children between 1998-99 and 2005-06. In every single State, more than half the children were anaemic in 2005-06. Assam and Karnataka showed an alarming rise while in Bihar there was an impressive decline. Overall, however, anaemia rates among urban children remained unacceptably high.

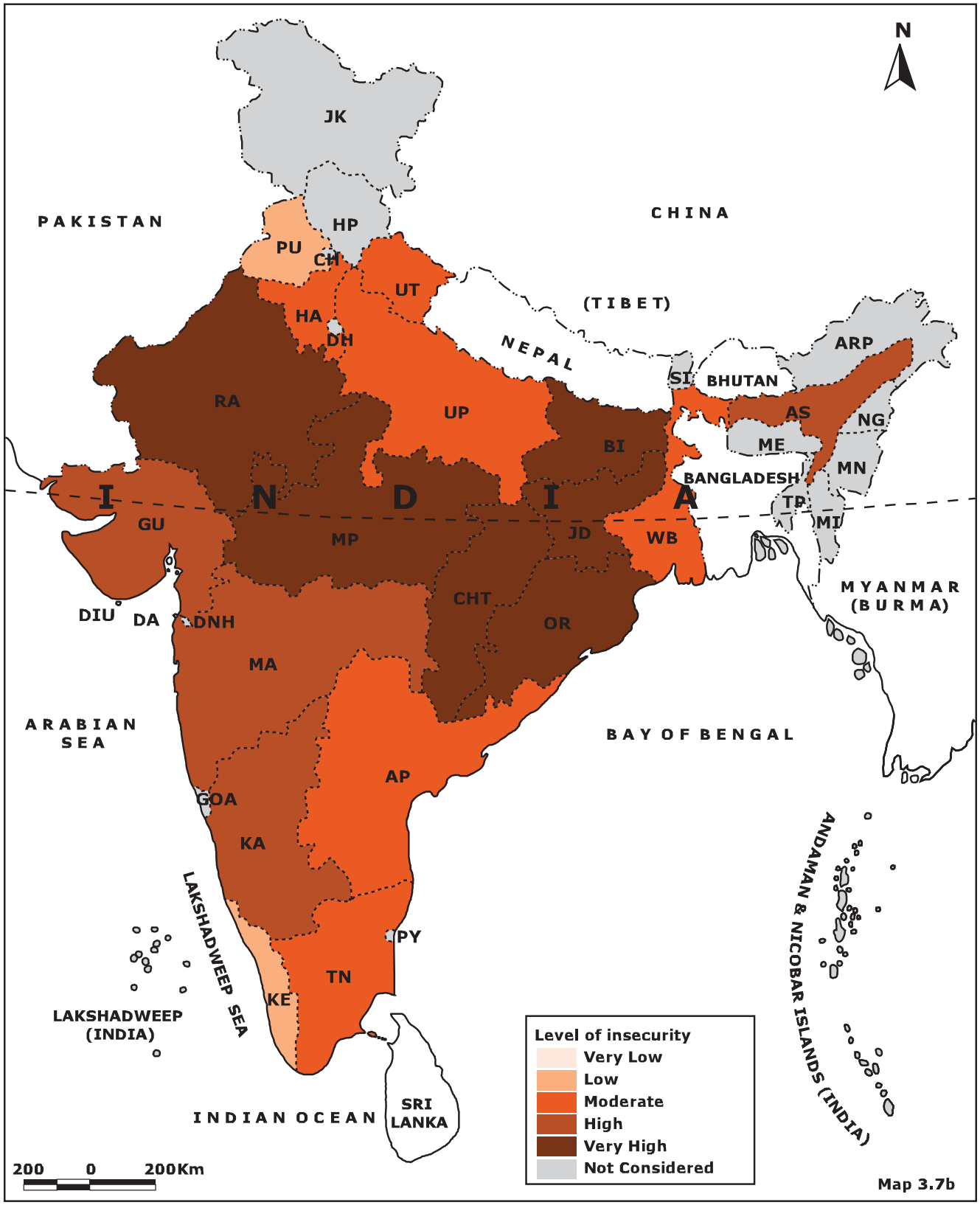
Table 3.8a and **Maps 3.8a** and **3.8b** present the distribution of States by the category of insecurity with respect to the indicator of percentage of anaemia among urban children in the age group of 6-35 months.

Bihar has moved up from being highly insecure in 1998-99 to being moderately insecure in 2005-06. The other States to have moved to a less insecure category between 1998-99 and

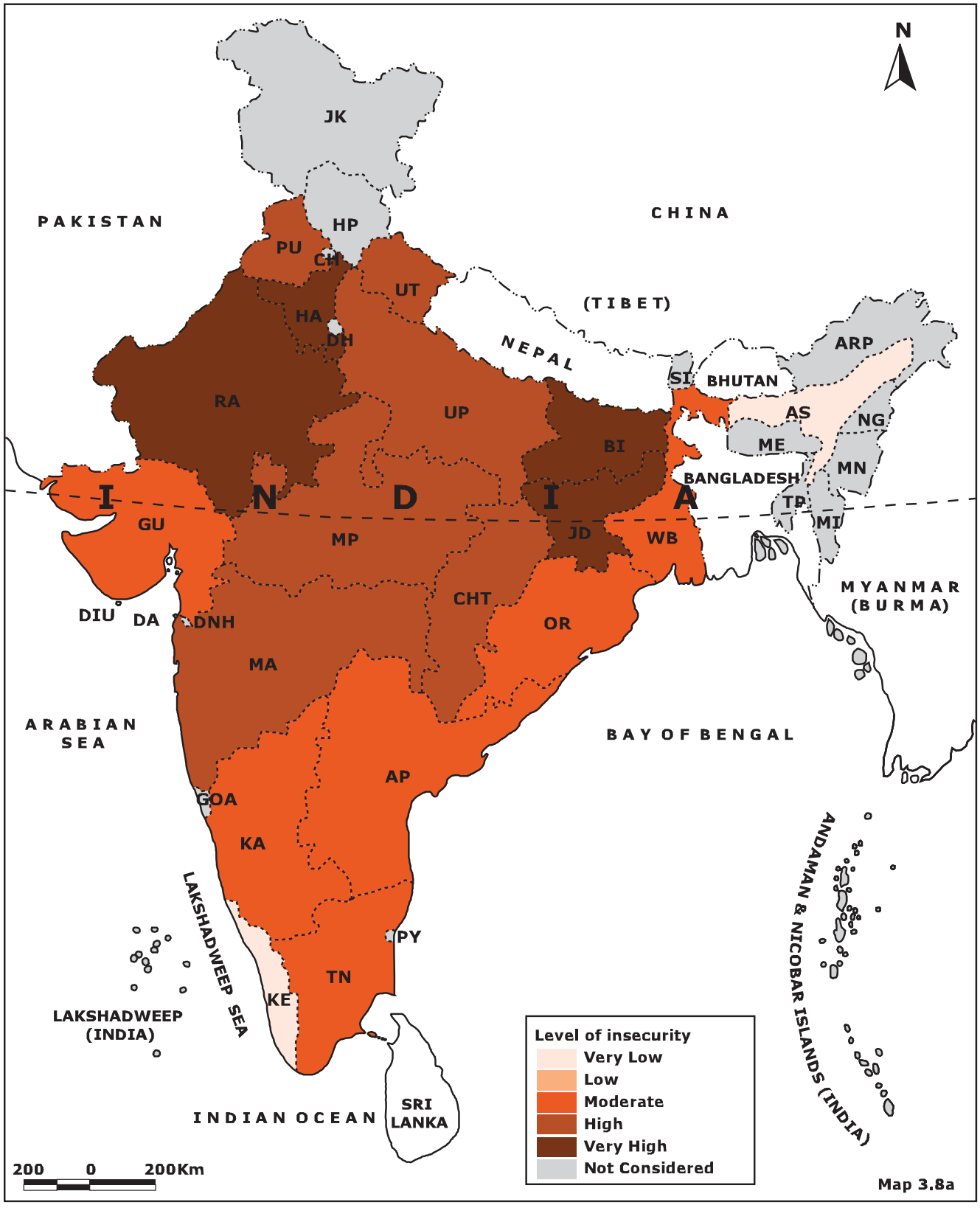
Percentage of Ever-married Urban Women with Chronic Energy Deficiency (1998-99)



Percentage of Ever-married Urban Women with Chronic Energy Deficiency (2005-06)



Percentage of Urban Children (6-35 months) with Any Anaemia (1998-99)



Percentage of Urban Children (6-35 months) with Any Anaemia (2005-06)

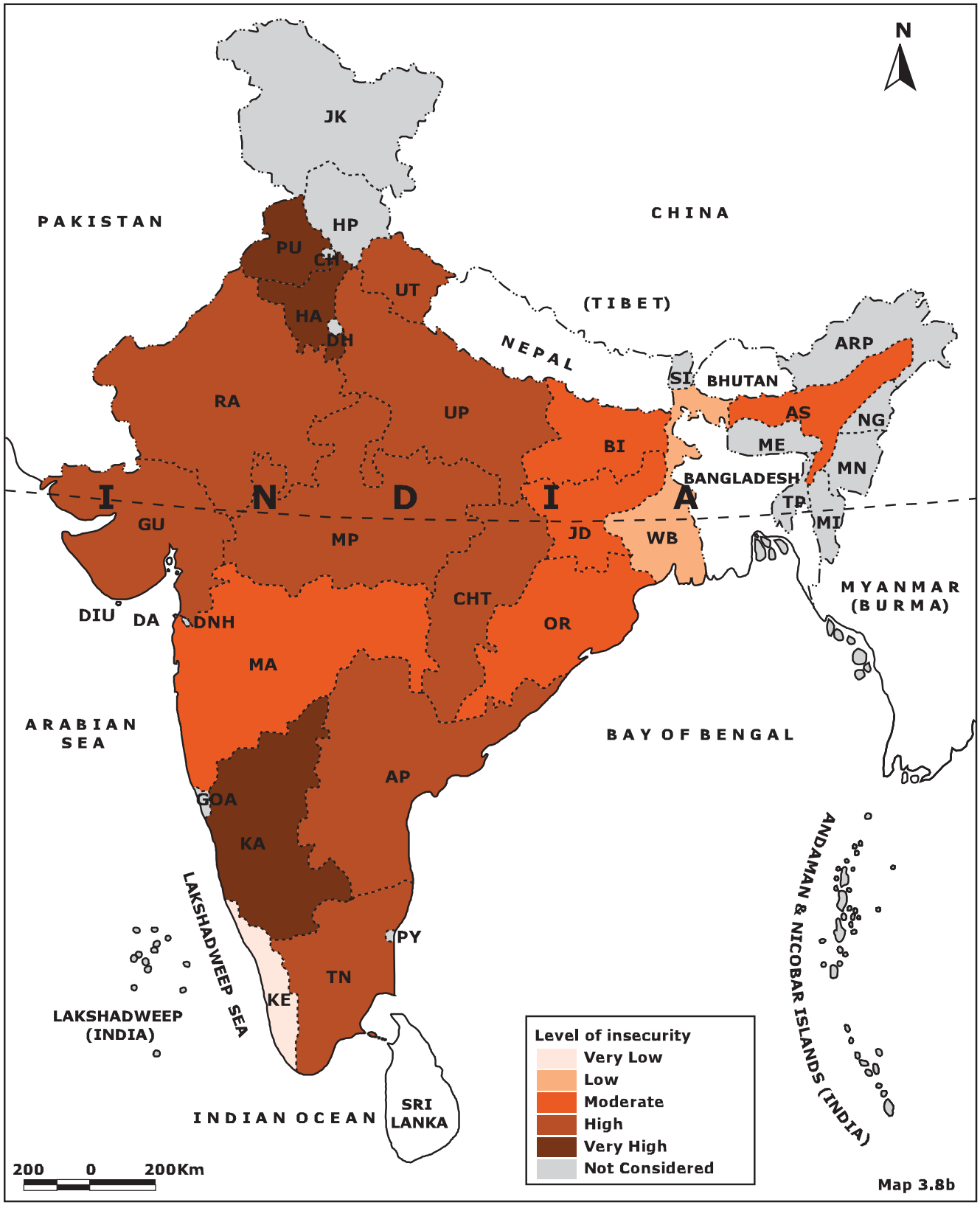


Table 3.8

Percentage of Urban Children (6-35 months) with Anaemia, 1998-99 and 2005-06

Sl. No.	States	Percentage of Children with Anaemia	
		1998-99	2005-06
1	Andhra Pradesh	69.5	73.5
2	Assam	52.3	70.4
3	Bihar	80.7	69.1
4	Gujarat	67.9	73.8
5	Haryana	86.6	79.8
6	Karnataka	66.3	81.6
7	Kerala	46.8	53.2
8	Madhya Pradesh	73.7	75.4
9	Maharashtra	72.8	65.7
10	Orissa	68.3	63.2
11	Punjab	77.2	80.5
12	Rajasthan	81.3	78.5
13	Tamil Nadu	66.2	74.2
14	Uttar Pradesh	74.1	73.5
15	West Bengal	64.1	58.2
	India	**70.8**	**72.2**

Source: NFHS 2000; NFHS 2007

Table 3.8a

Distribution of States by Category of Insecurity in terms of Children with Anaemia, 1998-99 and 2005-06

Percentage of Children with Anaemia	1998-99	2005-06
46 - 54.2 (Very Low Insecurity)	KE, AS	KE
54.2 - 62.4 (Low Insecurity)	–	WB
62.4 - 70.6 (Moderate Insecurity)	OR, AP, GU, KA, TN, WB	OR, AS, BI, MA
70.6 - 78.8 (High Insecurity)	MP, UP, MA, PU	MP, UP, AP, GU, RA, TN
78.8 - 87 (Very High Insecurity)	HA, BI, RA	HA, KA, PU

2005-06 were West Bengal, Maharashtra and Rajasthan, each by one category. At the other end, Assam and Karnataka moved down two notches in 2005-06. Kerala, Orissa, Madhya Pradesh, Uttar Pradesh and Haryana remained in the same respective category. All the other States moved down a level to a more insecure category.

3.4.9 Percentage of Urban Children Stunted

Table 3.9 presents data for the years1998-99 and 2005-06 on the percentage of urban children in the age group of six to thirty-five months who were stunted.

Table 3.9
Percentage of Urban Children (6-35 months) who are Stunted, 1998-99 and 2005-06

Sl. No.	States	Percentage of Children who are Stunted	
		1998-99	2005-06
1	Andhra Pradesh	29.7	33.2
2	Assam	37.1	35.3
3	Bihar	42.2	38.2
4	Gujarat	38.5	42.4
5	Haryana	40.3	36.1
6	Karnataka	30.9	33.9
7	Kerala	18.5	27.3
8	Madhya Pradesh	39.8	41.1
9	Maharashtra	33.3	40.0
10	Orissa	37.0	36.0
11	Punjab	29.4	32.9
12	Rajasthan	44.0	29.4
13	Tamil Nadu	27.1	30.1
14	Uttar Pradesh	46.7	33.1
15	West Bengal	25.5	29.6
	India	**35.6**	**37.4**

Source: NFHS 2000; NFHS 2007

As with anaemia among children, there was a slight deterioration between 1998-99 and 2005-06 at the all-India level in terms of the incidence of stunting among urban children. Nine States showed a worsening while six improved. Kerala suffered a major deterioration in 2005-06 compared to its position in 1998-99, but still retained its position as the best performer. Maharashtra also showed a large increase in the percentage of children stunted, but Rajasthan and Uttar Pradesh improved dramatically. In the case of all the other States, the changes have been small, though a general worsening is evident.

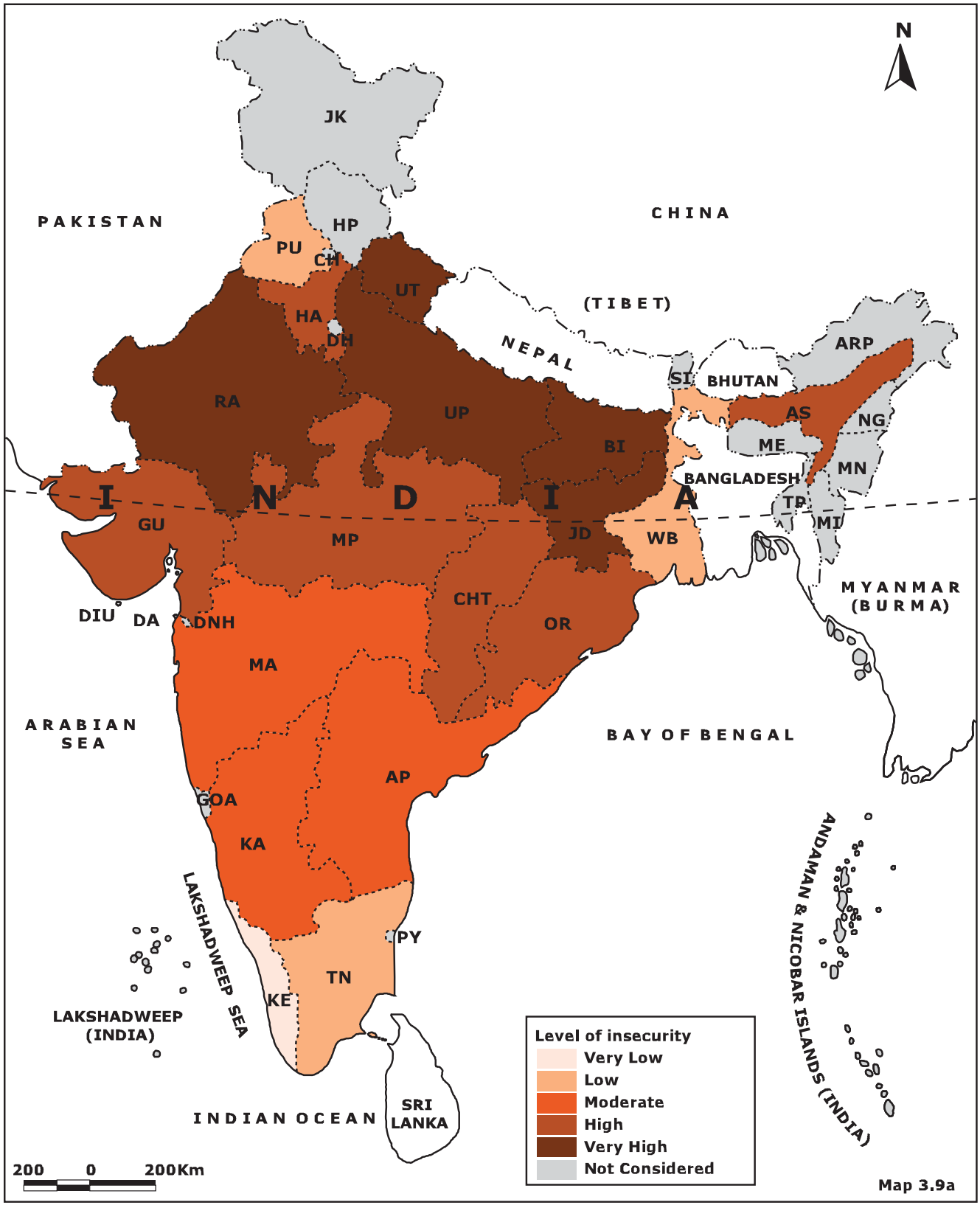
Table 3.9a and **Maps 3.9a** and **3.9b** describe the distribution of States by category of insecurity in terms of child stunting.

Kerala moved down a category as did Tamil Nadu, the Punjab, Maharashtra and Gujarat. By contrast, Rajasthan transformed from being a very highly insecure State in 1998-99 to a low insecurity status in 2005-06. Uttar Pradesh too did well to move from a very highly insecure status to one of moderate insecurity. Bihar and Assam shifted up a notch while West Bengal, Andhra Pradesh, Orissa and Karnataka showed no change of category.

3.4.10 Percentage of Urban Children Underweight for Age

Table 3.10 presents the percentage of underweight urban children for age in 1998-99 and 2005-06. This is one indicator in respect of which there has been considerable improvement

Percentage of Stunted Children (6-35 months) in Urban India (1998-99)



Percentage of Stunted Children (6-35 months) in Urban India (2005 06)

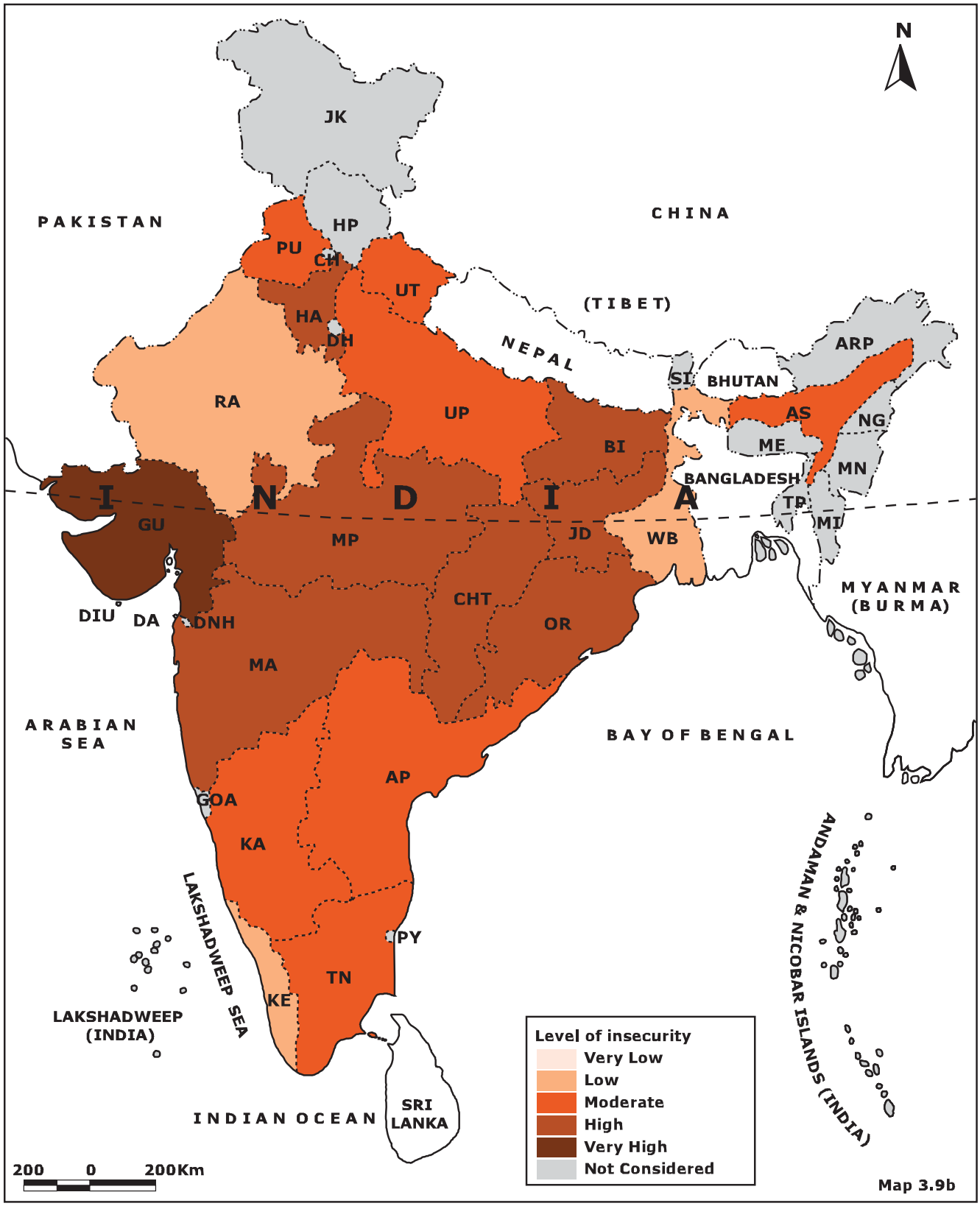


Table 3.9a

Distribution of States by Category of Insecurity with respect to the Incidence of Stunting among Urban Children, 1998-99 and 2005-06

Percentage of Urban children (6-35 months) Stunted	1998-99	2005-06
18 - 23.8 (Very Low Insecurity)	KE	–
23.8 - 29.6 (Low Insecurity)	WB, PU, TN	WB, KE, RA
29.6 - 35.4 (Moderate Insecurity)	AP, KA, MA	AP, KA, AS, PU, TN, UP
35.4 - 41.2 (High Insecurity)	HA, OR, MP, AS, GU	HA, OR, MP, BI, MA
41.2 - 47 (Very High Insecurity)	BI, RA, UP	GU

Table 3.10

Percentage of Urban Children (6-35 months) Underweight for Age, 1998-99 and 2005-06

Sl. No.	States	Percentage of Children Underweight	
		1998-99	2005-06
1	Andhra Pradesh	28.6	23.9
2	Assam	27.3	27.9
3	Bihar	47.4	33.4
4	Gujarat	38.1	35.7
5	Haryana	31.3	36.7
6	Karnataka	38.7	26.4
7	Kerala	22.4	15.3
8	Madhya Pradesh	44.3	44.1
9	Maharashtra	44.1	27.1
10	Orissa	45.3	28.4
11	Punjab	18.6	19.6
12	Rajasthan	46.0	26.1
13	Tamil Nadu	33.5	22.6
14	Uttar Pradesh	42.6	25.8
15	West Bengal	31.5	24.5
	India	**38.4**	**30.1**

Source: NFHS 2000; NFHS 2007

between 1998-99 and 2005-06. At the all-India level, the percentage of urban children aged 6-35 months underweight has declined substantially from 38.4 to 30.1. Twelve out of 15 States showed a decline as well, with Rajasthan, Maharashtra, Uttar Pradesh, Orissa, Karnataka, Bihar and Tamil Nadu greatly improving. Only Haryana showed a significant worsening, mirroring the all-India trend in the opposite direction.

Table 3.10a and **Maps 3.10a** and **3.10b** present the distribution of States by the category of insecurity with respect to children underweight.

Only one State – Haryana – moved to a more insecure category between 1998-99 and 2005-06. The Punjab, Assam, Gujarat and Madhya Pradesh reported no category change. Of these, the Punjab was in the least insecure category in both periods anyway! All the other States – 11, to be precise – moved to lower categories of insecurity between 1998-99 and 2005-06.

3.4.11 Percentage of Urban Children Wasting

Table 3.11 presents the position in respect of the percentage of urban children aged 6-35 months who are wasting.

At the all-India level, there has been a significant increase in percentage of urban children wasting from 13.1 per cent in 1998-99 to 19 per cent in 2005-06. Twelve States recorded an increase in the percentage of urban children wasting, with Haryana, Madhya Pradesh, Bihar and Rajasthan showing very large increases. Only three States recorded a decline, with Kerala and Maharashtra registering only a marginal decline. The only State to show a significant improvement was Orissa.

Table 3.11a and **Maps 3.11a** and **3.11b** show the distribution of States by the category of insecurity with respect to the incidence of wasting among urban children. Only one State, i.e, Orissa moved to a less insecure category between 1998-99 and 2005-06. There was no change in category status for Kerala, the Punjab, Maharashtra, Tamil Nadu and Karnataka, while Madhya Pradesh, Assam, Rajasthan, Haryana, West Bengal, Andhra Pradesh, Uttar Pradesh and Gujarat moved down marginally to a more insecure category in 2005-06. Bihar fared most poorly, moving from being a low insecurity State in 1998-99 to a very high insecure status in 2005-06.

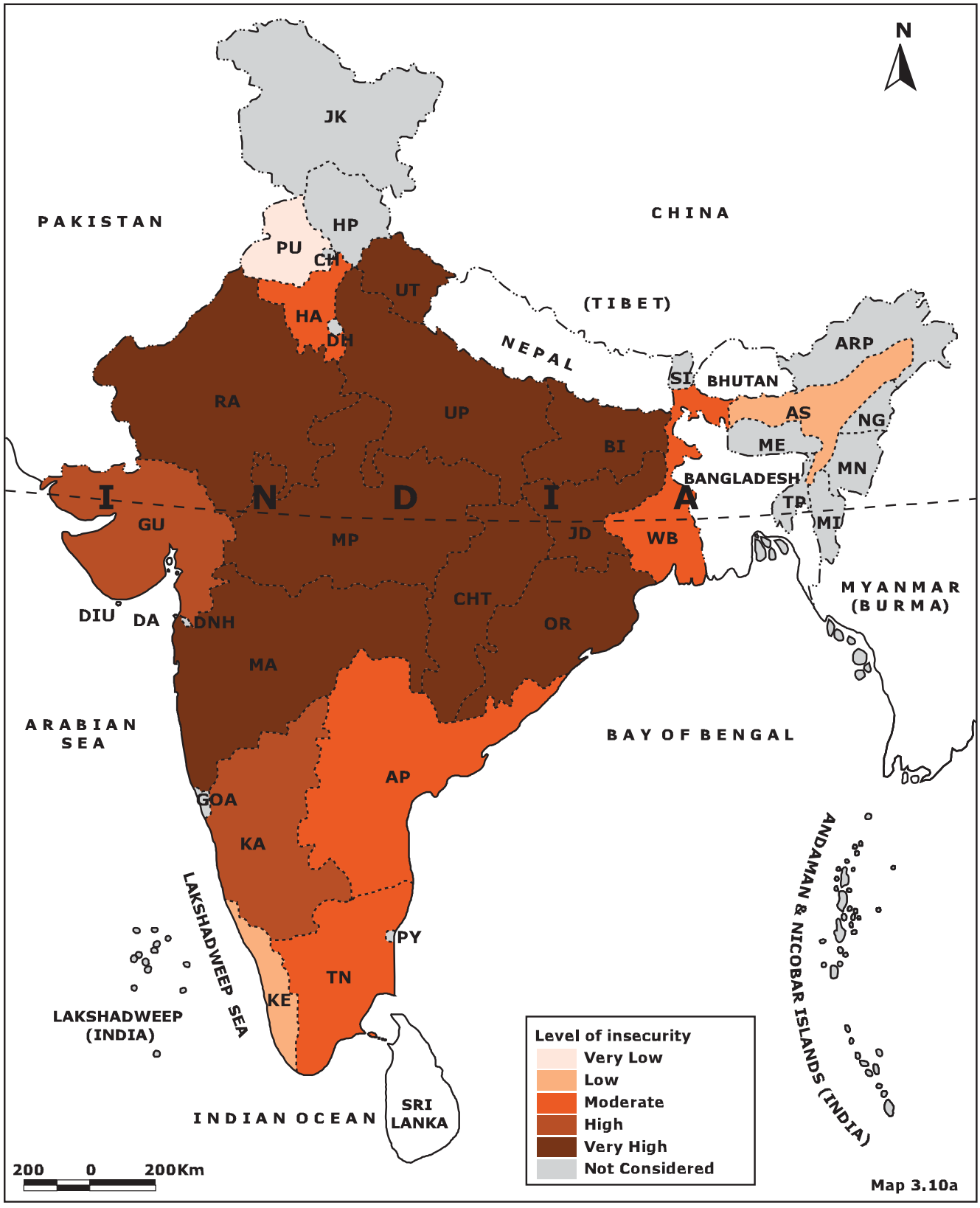
3.5 The Composite Index of Urban Food Insecurity

Going beyond the urban food insecurity situation in respect of India and 15 States in terms of each of the chosen indicators for the two periods 1998-2000 and 2004-06, the discussion turns to how the States and the country have performed in terms of the composite index.

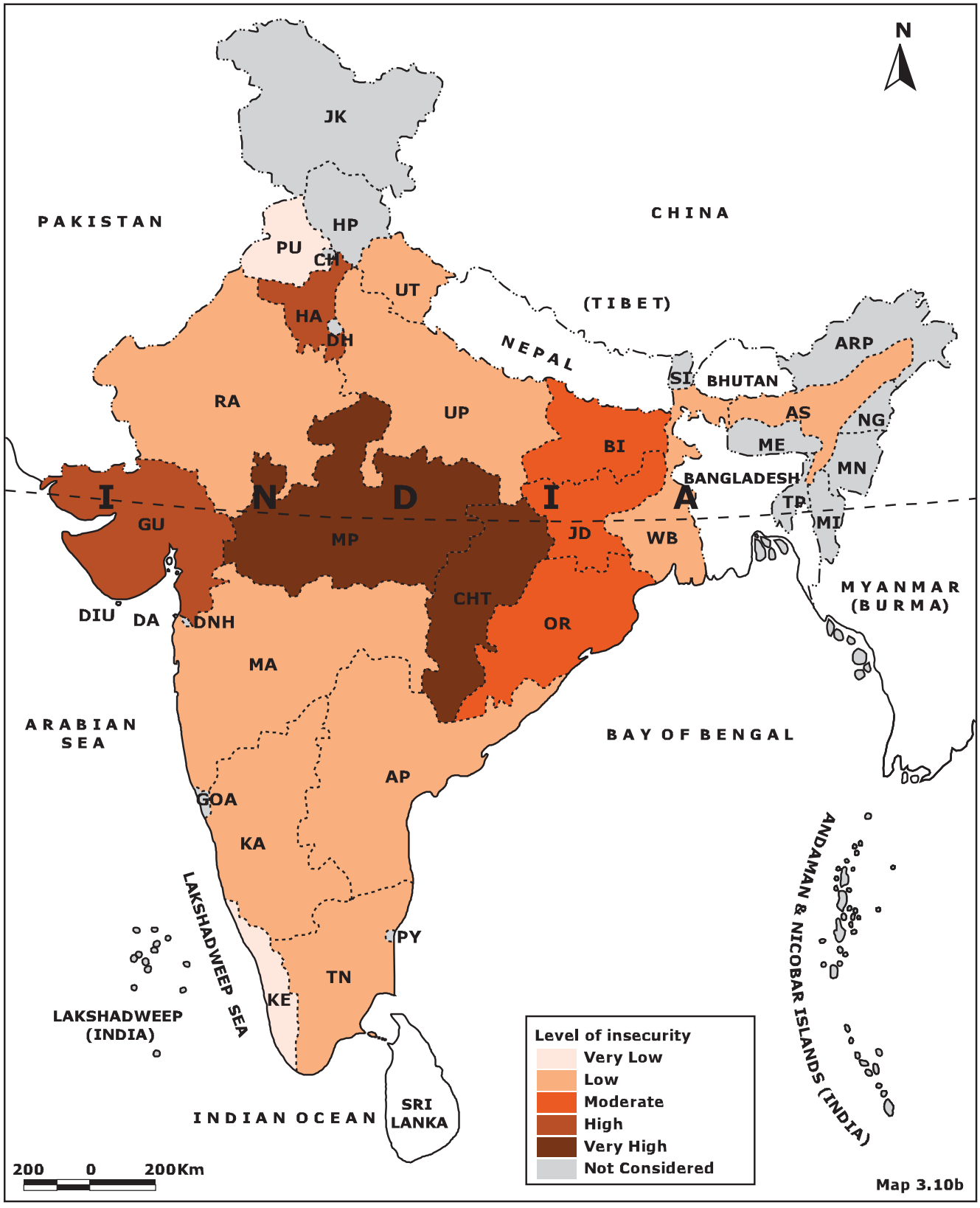
Table 3.10a
Distribution of States by Category of Insecurity with respect to Urban Children Underweight, 1998-99 and 2005-06

Percentage of Urban Children (6-35 months) Underweight	1998-99	2005-06
15 - 21.6 (Very Low Insecurity)	PU	PU, KE
21.6 - 28.2 (Low Insecurity)	AS, KE	AS, AP, KA, MA, RA, TN, UP, WB
28.2 - 34.8 (Moderate Insecurity)	AP, HA, TN, WB	BI, OR
34.8 - 41.4 (High Insecurity)	GU, KA	GU, HA
41.4 – 48 (Very High Insecurity)	MP, BI, MA, OR, RA, UP	MP

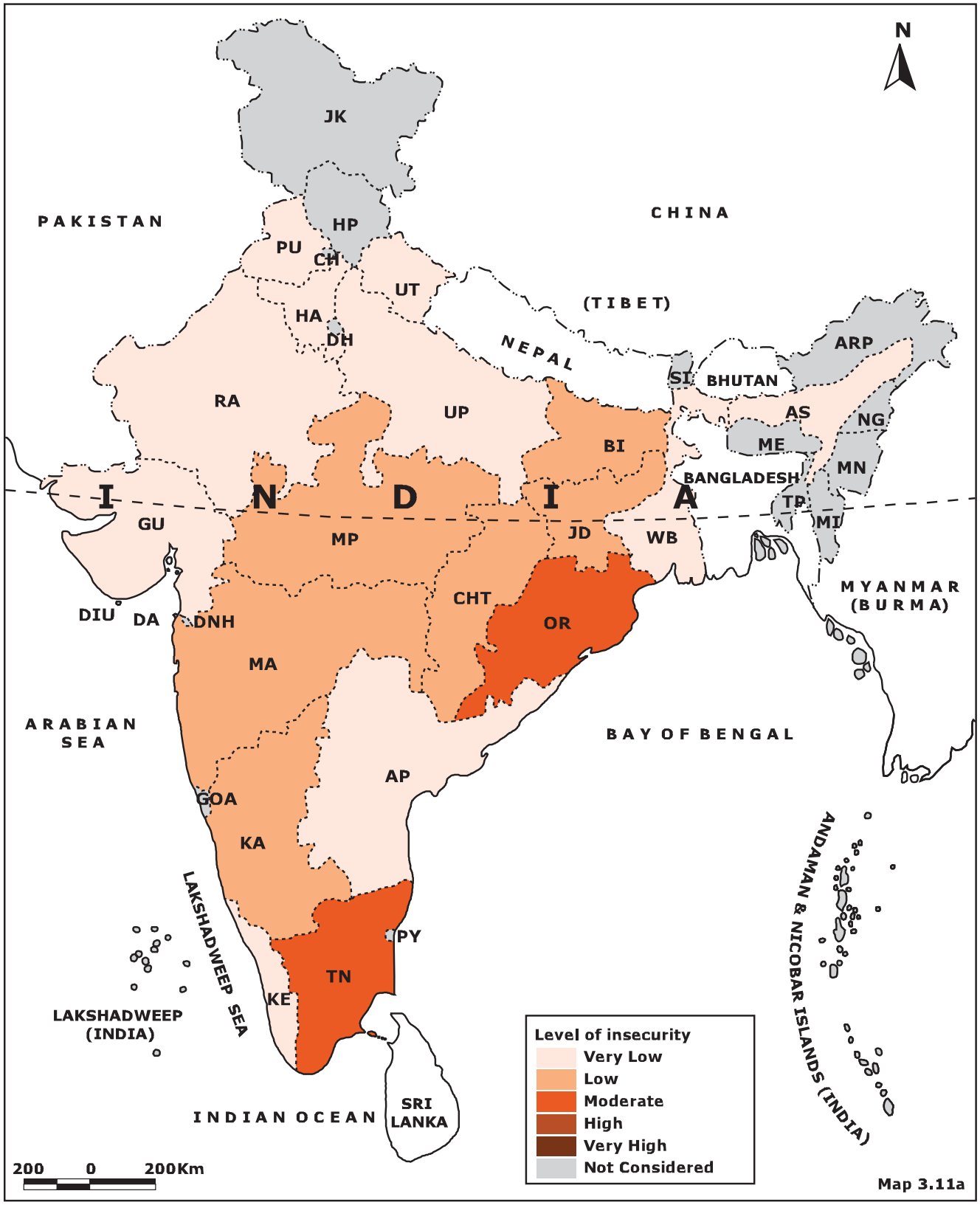
Percentage of Children Underweight (6-35 months) in Urban India (1998-99)



Percentage of Children Underweight (6-35 months) in Urban India (2005-06)



Percentage of Urban Children Wasting (6-35 months) (1998-99)



Percentage of Urban Children Wasting (6-35 months) (2005-06)

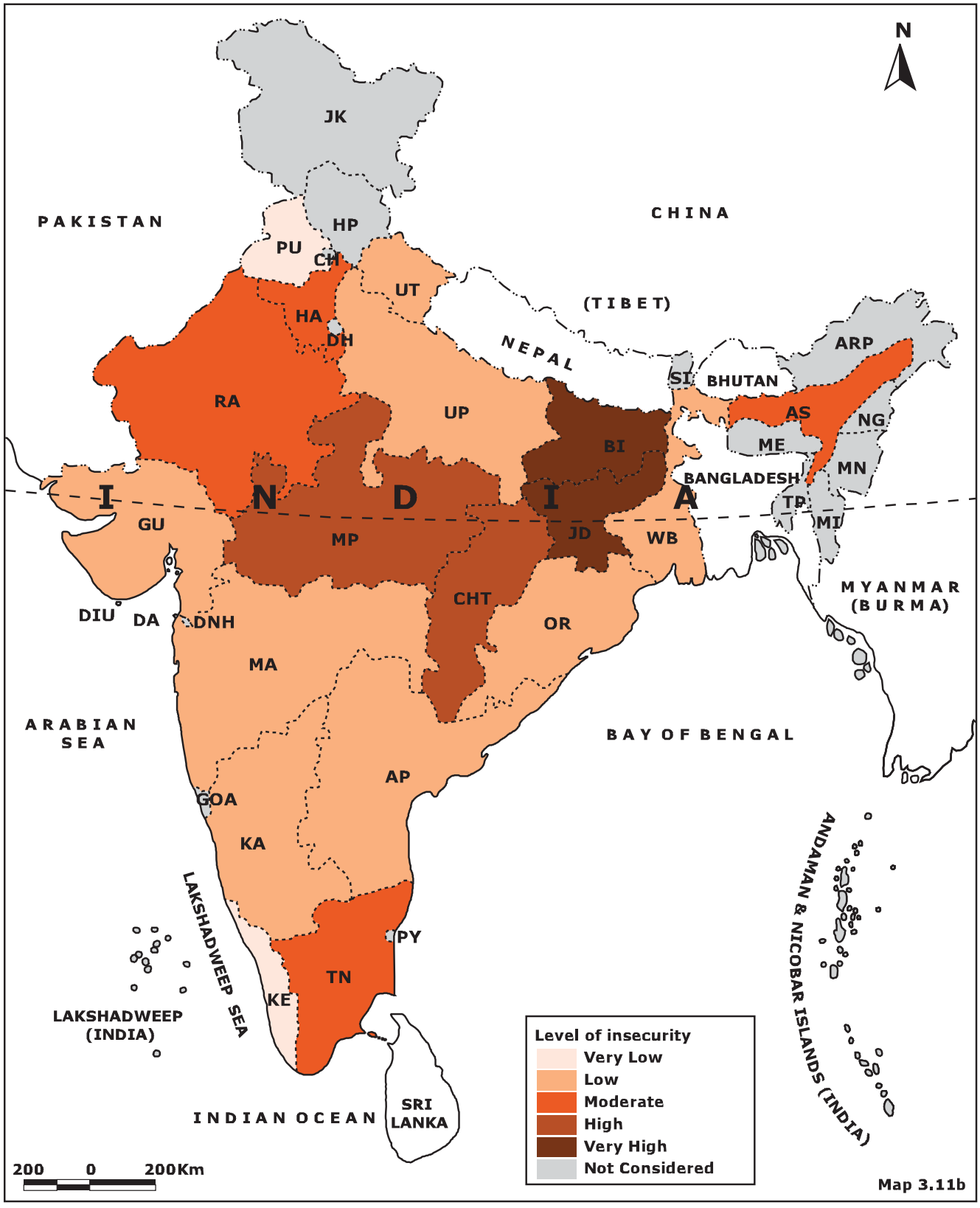


Table 3.11
Percentage of Urban Children (6-35 months) Wasting, 1998-99 and 2005-06

Sl. No.	States	Percentage of Children Wasting	
		1998-99	2005-06
1	Andhra Pradesh	7.6	14.6
2	Assam	10.4	19.1
3	Bihar	17.1	37.4
4	Gujarat	11.3	16.7
5	Haryana	5.5	23.8
6	Karnataka	16.2	17.0
7	Kerala	10.9	9.1
8	Madhya Pradesh	17.3	31.2
9	Maharashtra	15.7	14.9
10	Orissa	23.6	13.8
11	Punjab	7.4	10.7
12	Rajasthan	8.6	19.6
13	Tamil Nadu	20.6	22.3
14	Uttar Pradesh	9.5	12.8
15	West Bengal	11.1	15.5
	India	**13.1**	**19.0**

Source: NFHS 2000; NFHS 2007

Table 3.11a
Distribution of States by Category of Insecurity with respect to Wasting among Urban Children, 1998-99 and 2005-06

Percentage of Children (6-35 months) Wasting	1998-99	2005-06
5 - 11.6 (Very Low Insecurity)	KE, PU, AP, AS, GU, HA, RA, UP, WB	KE, PU
11.6 - 18.2 (Low Insecurity)	KA, MA, BI, MP	KA, MA, AP, GU, OR, UP, WB
18.2 - 24.8 (Moderate Insecurity)	TN, OR	TN, AS, HA, RA
24.8 - 31.4 (High Insecurity)	–	MP
31.4 - 38 (Very High Insecurity)	–	BI

The picture emerging from a study of the performance in terms of each indicator is rather mixed. At the all-India level, the position seems to have improved with respect to access to toilets, proportion of female workers regularly employed and percentage of children underweight. In respect of the other indicators, the situation worsened between 1998-2000 and 2004-06. The

deterioration at the national level was marginal with regard to most indicators, but was somewhat substantial with regard to percentage of women with anaemia and children wasting. With respect to the indicator of women with anaemia, the situation has worsened in 14 out of 15 States. With regard to women with CED, the situation has worsened in 11 States, although marginally in most of them. With regard to the percentage of children stunted, the situation has declined in 9 States. The percentage of urban children wasting has risen in 12 out of the 15 States. In respect of the indicators of access to toilets, female workers regularly employed and percentage of children underweight, the situation has improved in 10 or more States. It must also be noted that many of the nutritional outcome indicators have suggested an unacceptably high level of insecurity.

3.5.1 Variants of the Urban Food Insecurity Index

In the final analysis, out of the 11 indicators considered so far, that of wasting among urban children has been excluded for the overall index. From the 10 remaining indicators, 6 variants of the composite index have been generated for detailed examination. Common to all the variants are the following indicators:

1. Percentage of urban population consuming less than 1890 Kcal per day
2. Number (per 1000) of urban male workers not in regular employment
3. Number (per 1000) of urban female workers not in regular employment
4. Percentage of urban households without access to toilets
5. Percentage of ever-married urban women (15-49 years) with any anaemia
6. Percentage of ever-married urban women (15-49 years) with chronic energy deficiency

In addition, each of the 6 variants includes either two or three other indicators from the 10 considered. The indicators specific to each variant are shown below:

Variant 1 (The preferred variant)

- Percentage of urban children (6-35 months) with any anaemia
- Percentage of urban children (6-35 months) stunted

Variant 2

- Percentage of urban households without access to safe drinking water
- Percentage of urban children (6-35 months) with any anaemia
- Percentage of urban children (6-35 months) underweight

Variant 3

- Percentage of urban households without access to safe drinking water
- Percentage of urban children (6-35 months) with any anaemia
- Percentage of stunted urban children (6-35 months)

Variant 4

- Percentage of urban children (6-35 months) with any anaemia
- Percentage of urban children (6-35 months) underweight

Variant 5

- Percentage of urban households without access to safe drinking water

- Percentage of urban children (6-35 months) stunted

Variant 6

- Percentage of urban households without access to safe drinking water
- Percentage of underweight children (6-35 months)

Based on the index values for any given variant, the States have been classified on a five-point scale of food insecurity for each of the time periods 1998-2000 and 2004-06, ranging from very low levels of food insecurity to very high levels.

The composite index has been arrived at as follows:

1) For each of the indicators, the actual value for any given State has been converted into a relative distance measure or index value by using the formula discussed in section 3.3.1. The State with the maximum indicator value has been given the index value of 1 and that with the minimum value an index value equal to zero.

2) This procedure has been carried out for all the indicators and the resulting index values for the States for each of the indicators for the two time periods has been brought together in **Tables 3.12** to **3.17**. Based on these index values for each State for each indicator included in the particular variant of the composite index in each of the two time periods, the value of the composite index for each State has been calculated in each period.

3.5.2 Variant 1

In choosing the preferred index of urban food insecurity, two points have been kept in mind. First, it has been argued by many, not entirely without merit, that the indicator for access to safe drinking water could be misleading as a measure of food insecurity. This is, in part, due to definitional problems and comparability across time periods and data sources. On a closer examination of the NFHS data, this Report has taken the view that there are no serious comparability problems between the second and third rounds of NFHS. However, it is true that Kerala, with its cultural practice of boiling water before drinking, is less insecure on this count than would be suggested by NFHS figures. Another important issue is that the availability of a safe drinking water facility by official reckoning is no guarantee of adequacy of supply or of quality control, especially given the suspected degree of contamination of water supplies in urban settings. Second, among the various child malnutrition indicators, the percentage of children stunted has been considered the most apposite indicator of chronic malnutrition.

So, the preferred index, called Variant 1, includes, besides the six common indicators listed earlier, the two indicators relating to children with anaemia and children stunted.

The positions of different States in terms of this chosen index are presented in **Tables 3.12** and **3.12a**.

Kerala topped the States in 1998-2000, closely followed by the Punjab. In 2004-06, the Punjab took over the list, followed closely by Kerala. The Punjab, Kerala, Assam and West Bengal remained the four top States in both 1998-2000 and 2004-06. Maharashtra, which occupied the fifth place in 1998-2000 was replaced by a dramatically improved Uttar Pradesh in 2004-06. The five bottom States in 1998-2000 were familiar faces: Bihar, Madhya Pradesh, Orissa, Uttar Pradesh and Rajasthan. Despite significant improvement between 1998-2000 and

Table 3.12
Composite Index of Urban Food Insecurity, Variant 1 (V1), 1998-2000 and 2004-06

Sl. No.	States	1998-2000	2004-06
1	Andhra Pradesh	0.554	0.579
2	Assam	0.405	0.386
3	Bihar	0.790	0.667
4	Gujarat	0.594	0.533
5	Haryana	0.532	0.511
6	Karnataka	0.510	0.552
7	Kerala	0.341	0.289
8	Madhya Pradesh	0.734	0.671
9	Maharashtra	0.470	0.498
10	Orissa	0.671	0.610
11	Punjab	0.347	0.278
12	Rajasthan	0.637	0.598
13	Tamil Nadu	0.504	0.491
14	Uttar Pradesh	0.666	0.455
15	West Bengal	0.457	0.414
	India	**0.542**	**0.538**

2004-06, four of these five remained at the bottom in 2004-06 as well. The exception was Uttar Pradesh, as already noted. Andhra Pradesh had the unenviable distinction of becoming the fifth worst performer in 2004-06.

The picture of general improvement continued, with 12 States showing improvement, with the "backward" States of Bihar, Madhya Pradesh, Orissa and Uttar Pradesh showing the most impressive improvement. Only three States deteriorated between 1998-2000 and 2004-06 – Andhra Pradesh, Karnataka and Maharashtra.

The location of various States by the category of insecurity in both periods is shown in **Table 3.12a.**

Table 3.12a
Distribution of States by Category of Food Insecurity (V1), 1998-2000 and 2004-06

Index Class Interval, Variant 1	1998-2000	2004-06
0.278 - 0.380 (Very Low Insecurity)	KE, PU	KE, PU
0.380 - 0.483 (Low Insecurity)	AS, WB, MA	AS, WB, UP
0.483 - 0.585 (Moderate Insecurity)	AP, HA, KA, TN	AP, HA, KA, TN, GU, MA
0.585 - 0.688 (High Insecurity)	OR, RA, GU, UP	OR, RA, BI, MP
0.688 - 0.790 (Very High Insecurity)	BI, MP	–

There has generally been not much change in the category status of the States across the two periods. Most States remained in the same category in 2004-06 that they occupied in 1998-2000 (**Maps 3.12a** and **3.12b**). Bihar and Madhya Pradesh improved from a very high insecurity category to a high insecurity category. Gujarat moved up from being highly insecure in 1998-2000 to being moderately insecure in 2004-06 while Maharashtra, the only State to have moved to a more insecure status, became moderately insecure in 2004-06, after having been in the low insecurity category in 1998-2000. Uttar Pradesh has been the outstanding performer, moving from being highly insecure in 1998-2000 to the low insecurity category in 2004-06.

3.5.3 Variant 2

In the preferred first variant, the percentage of children who are stunted has been used as an indicator of child nutrition as it reflects the nutritional status of children. In the relevant literature, the percentage of children who are underweight has also often been considered as an indicator of malnutrition. Keeping this in mind, the index values have been recalculated using the percentage of urban children (6-35 months) underweight as an indicator in place of the corresponding percentage of stunted urban children. Also included has been the indicator pertaining to access to safe drinking water. The other indicators remain the same as in the preferred first variant. The results are shown in **Tables 3.13** and **3.13a**.

Four States have depicted deterioration between 1998-2000 and 2004-06, while all the others showed improvement. The top five positions in 1998-2000 belonged to the Punjab, Assam, Kerala, Haryana and West Bengal. However, Haryana became more insecure in 2004-06 and has been replaced by a much improved Maharashtra.

Table 3.13

Composite Index of Urban Food Insecurity, Variant 2 (V2), 1998-2000 and 2004-06

Sl. No.	States	1998-2000	2004-06
1	Andhra Pradesh	0.495	0.512
2	Assam	0.353	0.379
3	Bihar	0.747	0.608
4	Gujarat	0.532	0.450
5	Haryana	0.437	0.474
6	Karnataka	0.489	0.515
7	Kerala	0.429	0.368
8	Madhya Pradesh	0.684	0.624
9	Maharashtra	0.463	0.397
10	Orissa	0.662	0.574
11	Punjab	0.266	0.223
12	Rajasthan	0.579	0.562
13	Tamil Nadu	0.493	0.469
14	Uttar Pradesh	0.577	0.406
15	West Bengal	0.442	0.394
	India	**0.504**	**0.476**

The bottom five positions in 1998-2000 were occupied by the usual suspects – Bihar, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh. However, Uttar Pradesh improved dramatically between the two periods, and ended up sixth from the top in 2004-06, just behind Maharashtra. While Bihar, Madhya Pradesh and Orissa all showed significant improvement, they still brought up the rear in 2004-06 along with Rajasthan which was only marginally better. Karnataka joined them at the bottom part of the distribution as the fifth worst State in 2004-06 while Andhra Pradesh was just ahead. Tamil Nadu and Gujarat remained the middling States.

Table 3.13a illustrates the position of the various States in terms of the category of insecurity.

The general improvement is evident from the fact that there was no State in the very highly insecure category in 2004-06, with Bihar, Madhya Pradesh and Orissa moving up a category (**Maps 3.13a** and **3.13b**). Uttar Pradesh shifted dramatically from being highly insecure in 1998-2000 to the category of low insecurity in 2004-06. West Bengal and Maharashtra moved up a notch from moderate insecurity to low insecurity, while the remaining States showed no change in category between 1998-2000 and 2004-06.

3.5.4 Variant 3

In this variant, along with the six common indicators, three more have been included: percentage of urban population with access to safe drinking water, percentage of urban children (6-35 months) with anaemia and percentage of urban children (6-35 months) stunted. The results are shown in **Tables 3.14** and **3.14a.**

The Punjab has been the best performer in both periods, with Assam taking the second place in 1998-2000 and Kerala in 2004-06. Kerala was in third place in 1998-2000 and West Bengal in 2004-06. Unsurprisingly, Bihar was at the bottom in both periods, with Madhya Pradesh and Orissa as the second and third worst performers in both periods. In terms of the direction of movement between the two periods, many States have shown improvement. Only Andhra Pradesh, Karnataka and Maharashtra showed deterioration, with Karnataka the worst. The "backward" States of Uttar Pradesh, Bihar and Madhya Pradesh showed considerable improvement. Rajasthan, Orissa, Gujarat and Kerala showed some improvement as well.

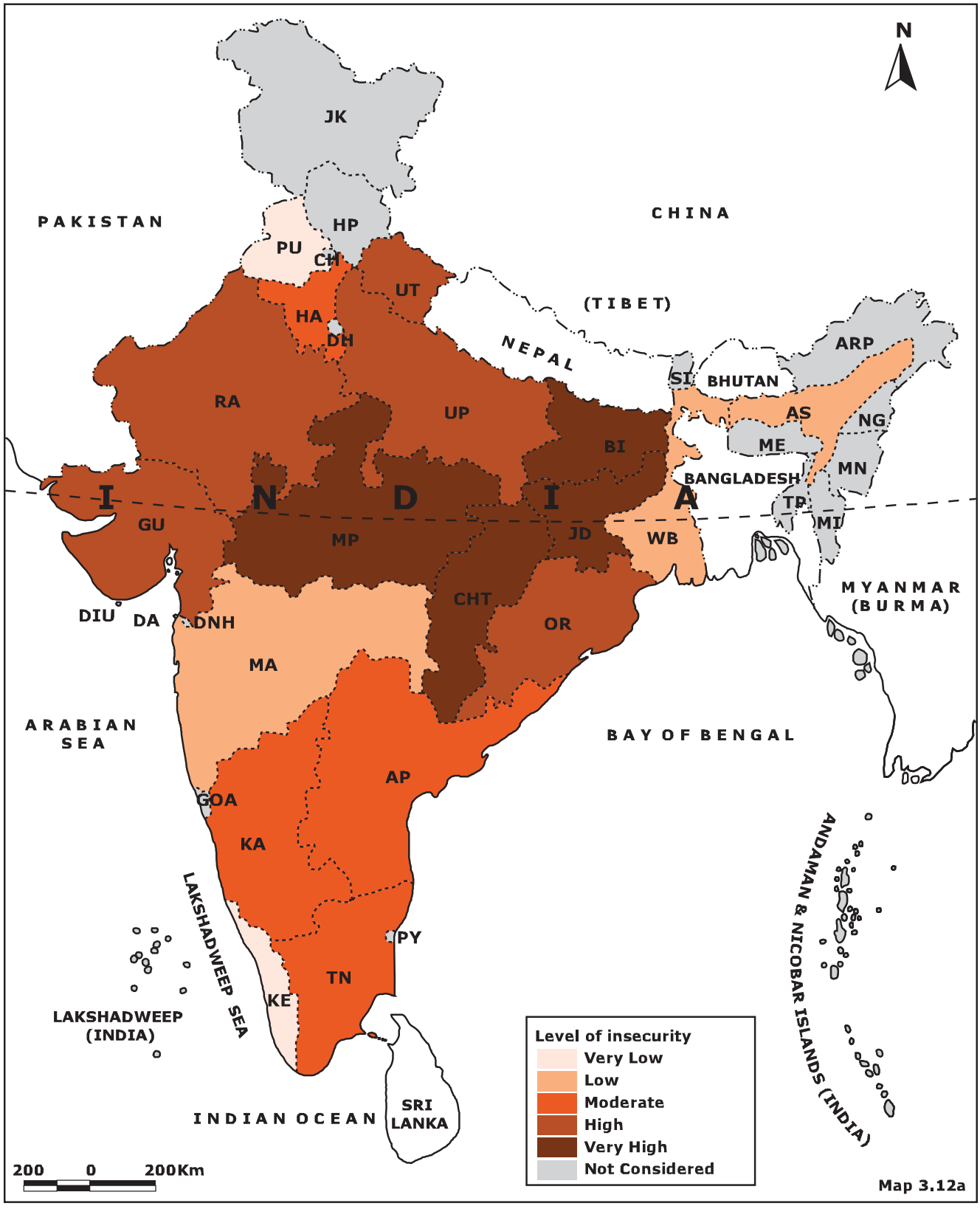
While the Punjab, Kerala, Assam and West Bengal remained the four best States in both periods, the fifth place, occupied by Maharashtra in 1998-2000, was taken by a rapidly improving

Table 3.13a

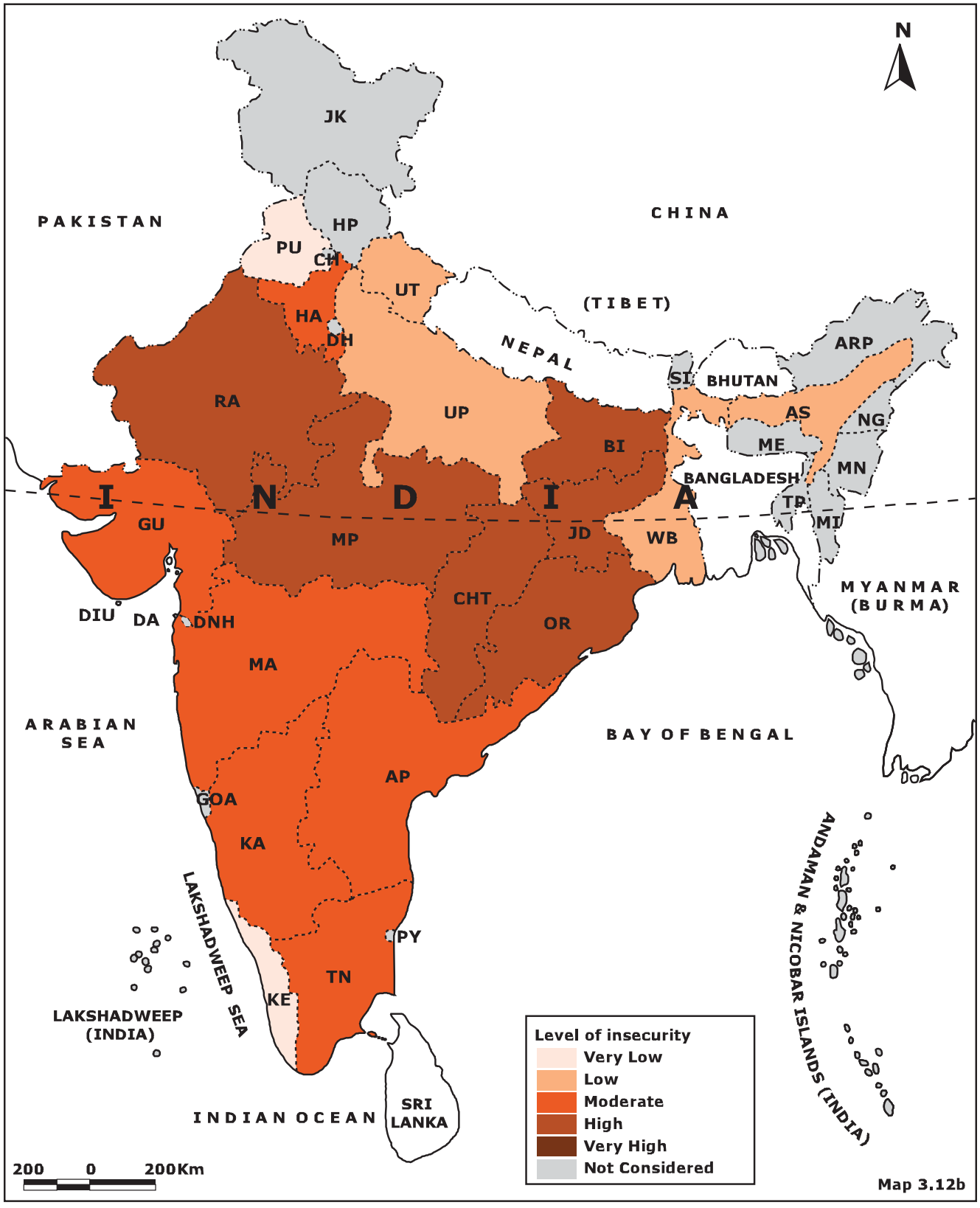
Distribution of States by Category of Food Insecurity (V2), 1998-2000 and 2004-06

Index Class Interval, Variant 2	1998-2000	2004-06
0.223 - 0.328 (Very Low Insecurity)	PU	PU
0.328 - 0.433 (Low Insecurity)	AS, KE	AS, KE, MA, UP, WB
0.433 - 0.537 (Moderate Insecurity)	AP, GU, HA, KA, TN, MA, WB	AP, GU, HA, KA, TN
0.537 - 0.642 (High Insecurity)	RA, UP	RA, BI, MP, OR
0.642 - 0.747 (Very High Insecurity)	BI, MP, OR	

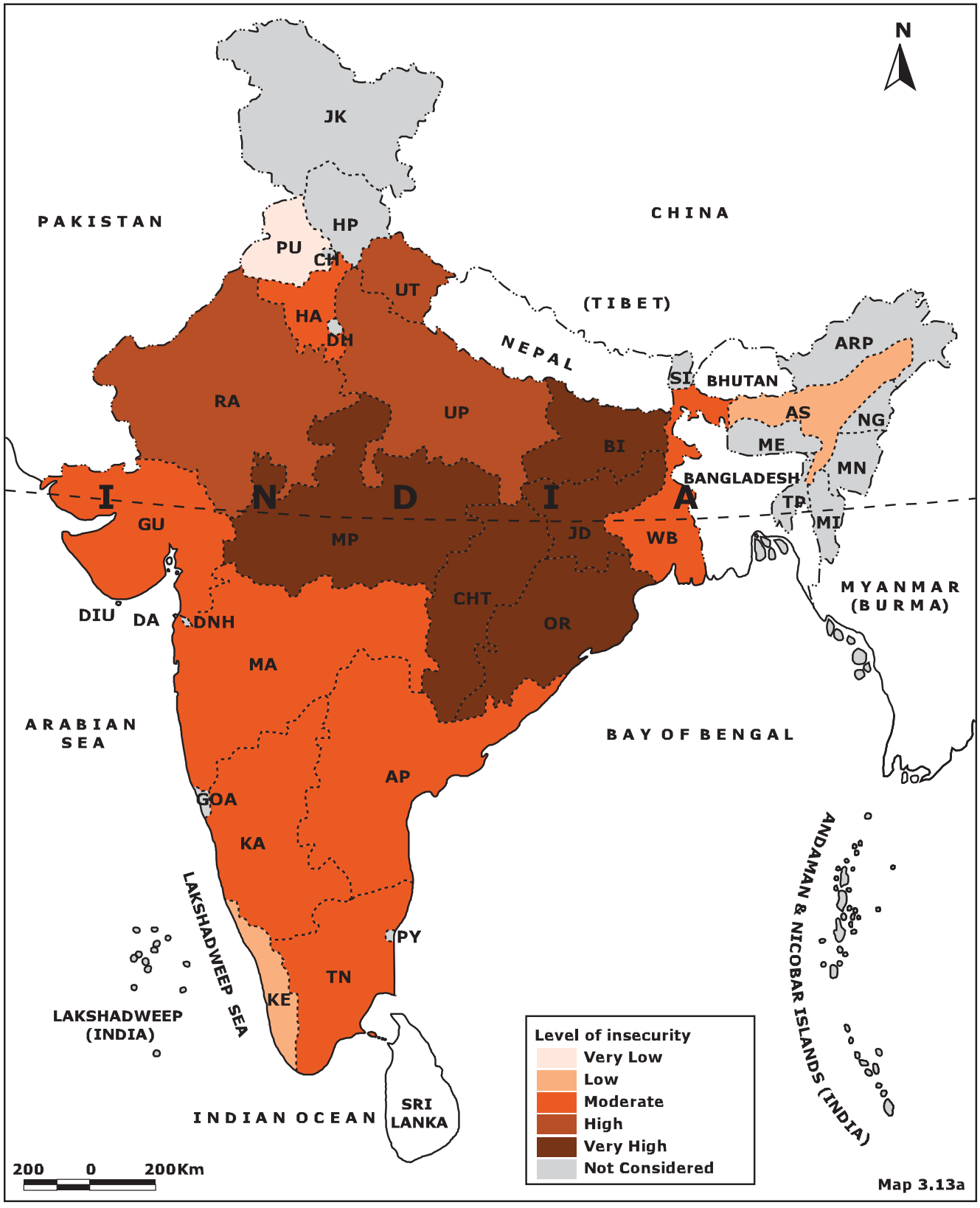
Composite Index of Urban Food Insecurity (Variant 1)
(1998-2000)



Composite Index of Urban Food Insecurity (Variant 1)
(2004-06)



Composite Index of Urban Food Insecurity (Variant 2)
(1998-2000)



Composite Index of Urban Food Insecurity (Variant 2)
(2004-06)

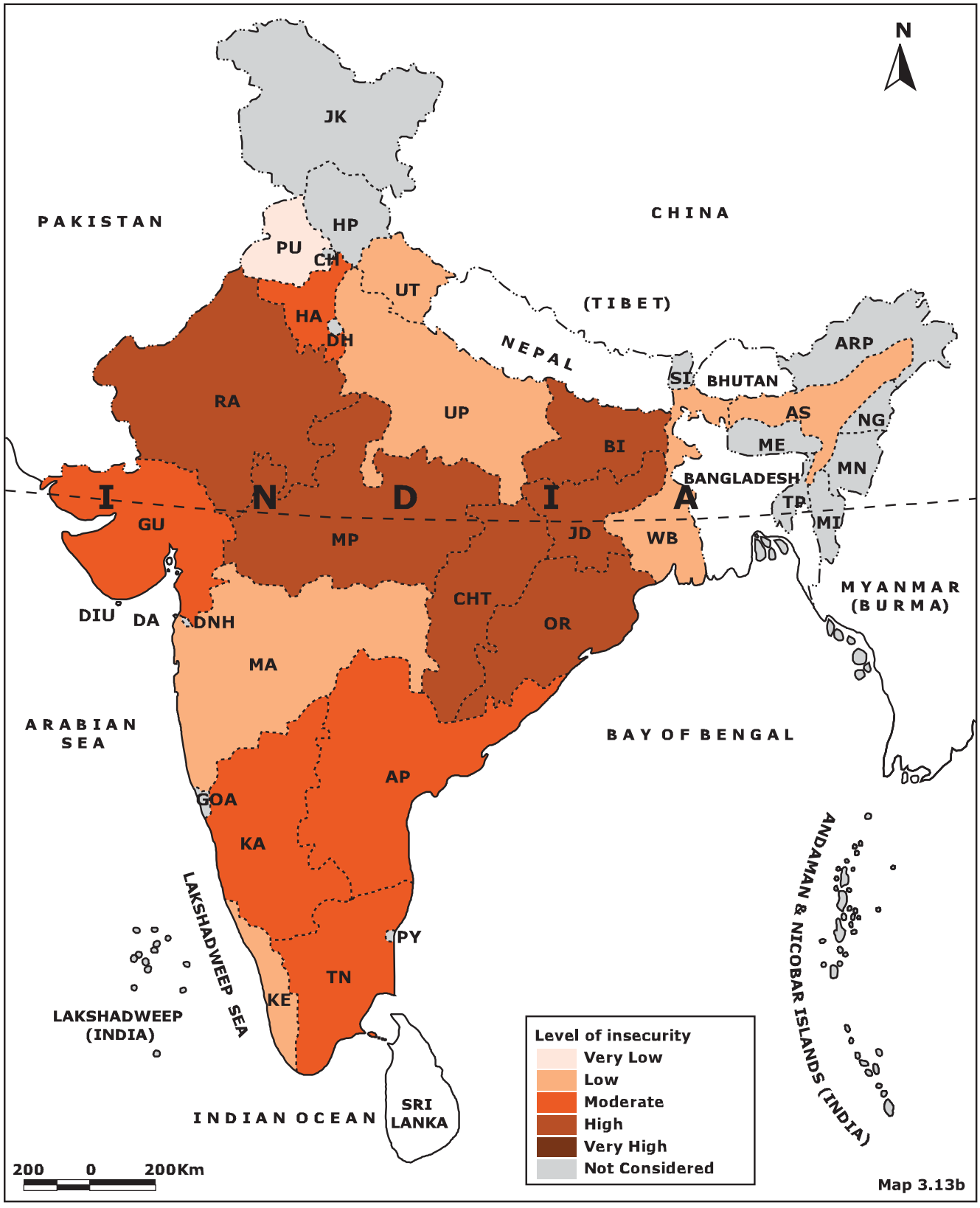


Table 3.14

Composite Index of Urban Food Insecurity, Variant 3 (V3), 1998-2000 and 2004-06

Sl. No.	States	1998-2000	2004-06
1	Andhra Pradesh	0.500	0.522
2	Assam	0.392	0.389
3	Bihar	0.730	0.618
4	Gujarat	0.536	0.482
5	Haryana	0.474	0.456
6	Karnataka	0.460	0.520
7	Kerala	0.414	0.368
8	Madhya Pradesh	0.669	0.614
9	Maharashtra	0.423	0.445
10	Orissa	0.631	0.587
11	Punjab	0.308	0.247
12	Rajasthan	0.574	0.536
13	Tamil Nadu	0.469	0.461
14	Uttar Pradesh	0.595	0.408
15	West Bengal	0.420	0.375
	India	**0.495**	**0.494**

Uttar Pradesh in 2004-06. Likewise, the bottom three States in both periods were Bihar, Madhya Pradesh and Orissa, but the fourth place from the bottom, occupied by Uttar Pradesh in 1998-2000, went to Rajasthan in 2004-06.

The value of the index increased for Andhra Pradesh between 1998-2000 and 2004-06 from 0.500 to 0.522, signifying a worsening of the food security situation. This is an interesting result, given that the general impression has been that urban Andhra Pradesh was a "happening" place in the period under reckoning.

Based on the index values, the States have been classified by their level of food insecurity in **Table 3.14a**.

Table 3.14a

Distribution of States by Category of Food Insecurity (V3), 1998-2000 and 2004-06

Index Class Interval, Variant 3	1998-2000	2004-06
0.247 - 0.344 (Very Low Insecurity)	PU	PU
0.344 - 0.440 (Low Insecurity)	AS, KE, WB, MA	AS, KE, WB, UP
0.440 - 0.537 (Moderate Insecurity)	AP, GU, HA, KA, TN	AP, GU, HA, KA, TN, MA, RA
0.537 - 0.633 (High Insecurity)	OR, RA, UP	OR, BI, MP
0.633 - 0.730 (Very High Insecurity)	BI, MP	–

The four top States in both periods were the same: the Punjab, Kerala, West Bengal and Assam (**Maps 3.14a** and **3.14b**). Uttar Pradesh went up two categories from being highly insecure in 1998-2000 to the status of low insecurity in 2004-06, while Rajasthan, Madhya Pradesh and Bihar all moved up by one category to a less insecure status over the same period. Maharashtra shifted down a bit, while there was no change of insecurity status in the case of the remaining States.

3.5.5 Variant 4

This variant differs from the one just discussed in only one particular: the percentage of urban children underweight has been included in place of percentage of children stunted. The results are presented in **Tables 3.15** and **3.15a**.

Once again, the Punjab, Kerala, Assam and West Bengal figured in the top four in both periods, in the same order. The fifth spot was taken by Haryana in 1998-2000 and Maharashtra in 2004-06. Andhra Pradesh, Assam, Haryana and Karnataka deteriorated marginally between the two periods. The most impressive improvements again came from Uttar Pradesh, Orissa and Bihar, with Maharashtra and Madhya Pradesh also showing impressive progress. Kerala, Tamil Nadu, the Punjab and West Bengal also showed decent improvement. In short, most States did better in 2004-06 than in 1998-2000.

The distribution of States by category of insecurity between 1998-2000 and 2004-06 is shown in **Table 3.15a**.

Table 3.15

Composite Index of Urban Food Insecurity, Variant 4 (V4), 1998-2000 and 2004-06

Sl. No.	States	1998-2000	2004-06
1	Andhra Pradesh	0.548	0.568
2	Assam	0.361	0.374
3	Bihar	0.810	0.655
4	Gujarat	0.590	0.497
5	Haryana	0.491	0.531
6	Karnataka	0.542	0.545
7	Kerala	0.357	0.289
8	Madhya Pradesh	0.751	0.682
9	Maharashtra	0.515	0.444
10	Orissa	0.705	0.595
11	Punjab	0.299	0.251
12	Rajasthan	0.643	0.627
13	Tamil Nadu	0.531	0.500
14	Uttar Pradesh	0.645	0.453
15	West Bengal	0.481	0.435
	India	**0.552**	**0.518**

Table 3.15a
Distribution of States by Category of Food Insecurity (V4), 1998-2000 and 2004-06

Index Class Interval, Variant 4	1998-2000	2004-06
0.251 - 0.363 (Very Low Insecurity)	KE, PU, AS	KE, PU
0.363 - 0.475 (Low Insecurity)	–	AS, MA, UP, WB
0.475 - 0.586 (Moderate Insecurity)	AP, HA, KA, TN, MA, WB	AP, HA, KA, TN, GU
0.586 - 0.698 (High Insecurity)	RA, GU, UP	RA, BI, MP, OR
0.698 - 0.810 (Very High Insecurity)	BI, MP, OR	–

The Punjab and Kerala remained at the top in the category of very low insecurity while Haryana, Tamil Nadu, Andhra Pradesh and Karnataka remained moderately insecure in both periods (**Maps 3.15a** and **3.15b**). Rajasthan stayed highly insecure while Assam moved down from a very low insecurity status to low insecurity status. Seven States have shown improvement. Uttar Pradesh was the most impressive, moving from high insecurity to low insecurity status. West Bengal, Maharashtra, Gujarat, Bihar, Madhya Pradesh and Orissa all moved to the next lower level of insecurity in 2004-06 relative to their position in 1998-2000.

3.5.6 Variant 5

Two anaemia indicators – one relating to anaemia among women and the other to anaemia among children – figure in this discussion. It may be worthwhile to drop one of these and examine the resulting picture, carrying out the exercise in two variants. Variant 5 includes 8 indicators: calorie deprivation, proportion of male workers not regularly employed, the proportion of female workers not regularly employed, the proportion of households without access to safe drinking water, the proportion of households without access to toilet facilities, the proportion of women with anaemia, the proportion of women with CED and the proportion of children stunted. The sixth and final variant discussed in the next subsection has one change from variant 5, with the proportion of children underweight used in place of the proportion stunted. In both these variants, the indicator of percentage of urban children anaemic has been dropped.

The results in terms of variant 5 are presented in **Tables 3.16** and **3.16a.**

Kerala's performance in both periods has immediately worsened by the inclusion of lack of access to safe drinking water, a misleading indicator as far as that State is concerned. Nevertheless, Kerala did show improvement between 1998-2000 and 2004-06. Once again, Andhra Pradesh, Karnataka and Maharashtra showed deterioration. All the other States improved, and Uttar Pradesh, the Punjab, Bihar, Gujarat and Madhya Pradesh did so significantly. The overall trend between 1998-2000 and 2004-06 has clearly been one of improvement.

While the Punjab remained at the top in both periods, and by a long way, there have been distinct changes in the top five as compared to earlier variants of the index, and across the two periods. In 1998-2000, the Punjab, Maharashtra, Haryana, West Bengal and Assam figured in the top five, and Kerala did not. In 2004-06, the Punjab, Assam, Haryana and West Bengal remained at the top, but Uttar Pradesh replaced Maharashtra.

Table 3.16

Composite Index of Urban Food Insecurity, Variant 5 (V5), 1998-2000 and 2004-06

Sl. No.	States	1998-2000	2004-06
1	Andhra Pradesh	0.492	0.498
2	Assam	0.424	0.362
3	Bihar	0.714	0.626
4	Gujarat	0.536	0.452
5	Haryana	0.408	0.396
6	Karnataka	0.456	0.460
7	Kerala	0.466	0.414
8	Madhya Pradesh	0.668	0.593
9	Maharashtra	0.394	0.446
10	Orissa	0.643	0.616
11	Punjab	0.252	0.158
12	Rajasthan	0.537	0.491
13	Tamil Nadu	0.467	0.427
14	Uttar Pradesh	0.584	0.370
15	West Bengal	0.418	0.400
	India	**0.482**	**0.472**

The bottom five States in 1998-2000 – Bihar, Madhya Pradesh, Orissa, Uttar Pradesh and Rajasthan – remained the same as in earlier variants, with Gujarat performing almost as badly as Rajasthan. The five at the bottom in 2004-06 included Bihar, Orissa, Madhya Pradesh and Rajasthan again, but Uttar Pradesh has been replaced by Andhra Pradesh which in fact performed marginally worse than Rajasthan. Uttar Pradesh zoomed from the fourth position from the bottom in 1998-2000 to the third position from the top, just behind Assam but a long way behind Punjab in 2004-06.

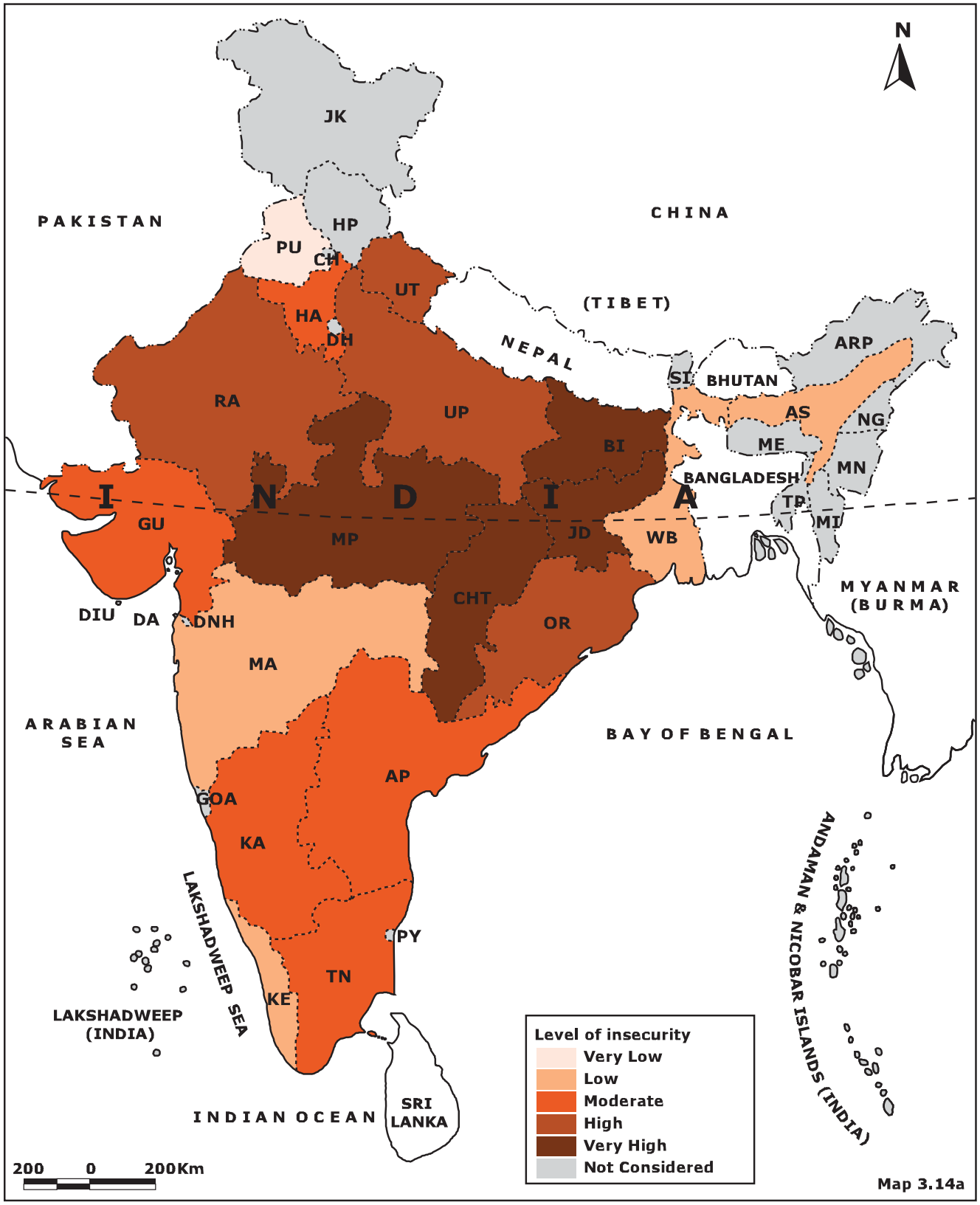
Table 3.16a illustrates the distribution of States by their category of insecurity.

Table 3.16a

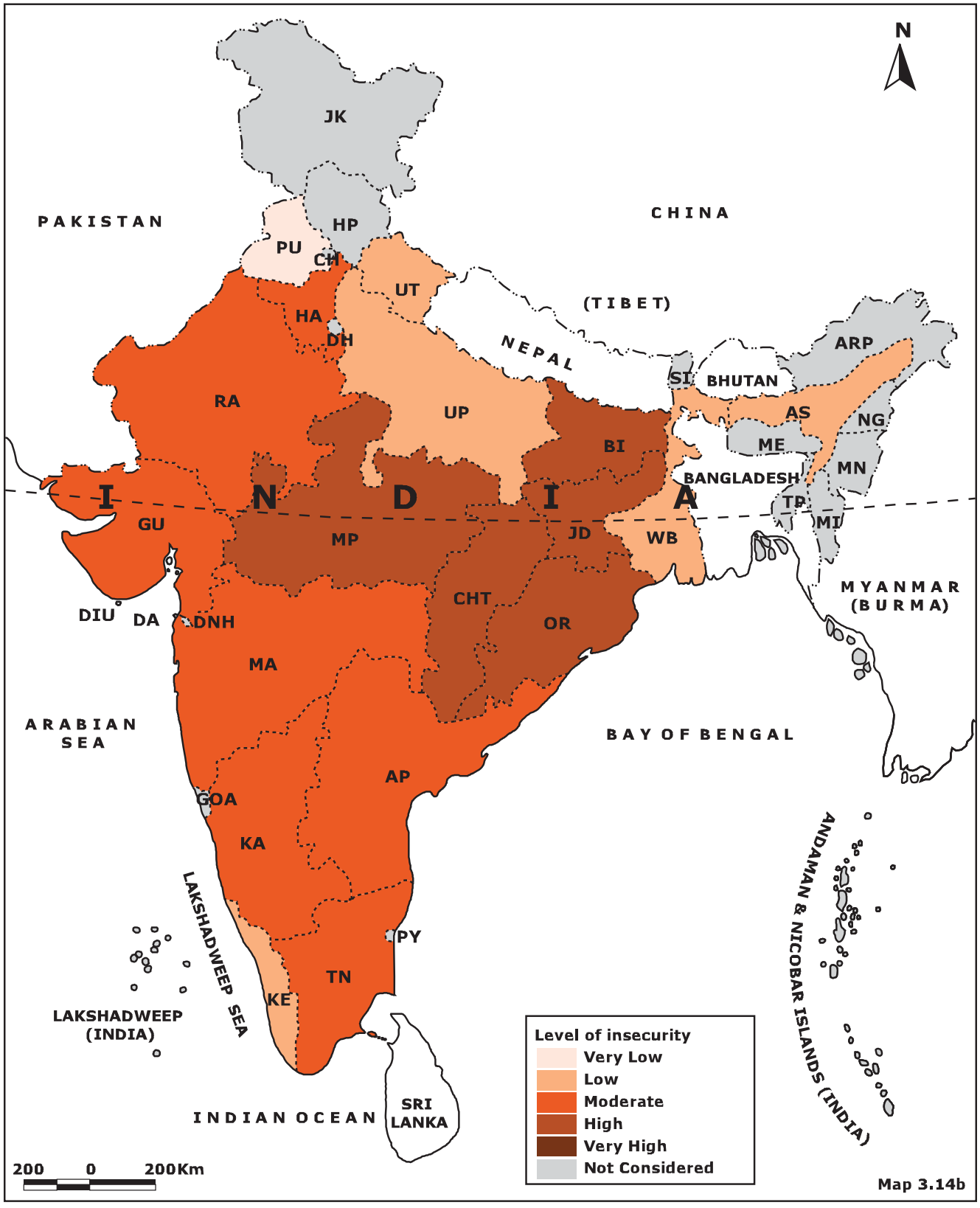
Distribution of States by Category of Food Insecurity (V5), 1998-2000 and 2004-06

Index Class Interval, Variant 5	1998-2000	2004-06
0.158 - 0.269 (Very Low Insecurity)	PU	PU
0.269 - 0.380 (Low Insecurity)	–	AS, UP
0.380- 0.492 (Moderate Insecurity)	HA, KA, KE, MA, TN, WB, AP, AS	HA, KA, KE, MA, TN, WB, GU, RA
0.492 - 0.603 (High Insecurity)	GU, RA, UP	AP, MP
0.603 - 0.714 (Very High Insecurity)	BI, MP, OR	BI, OR

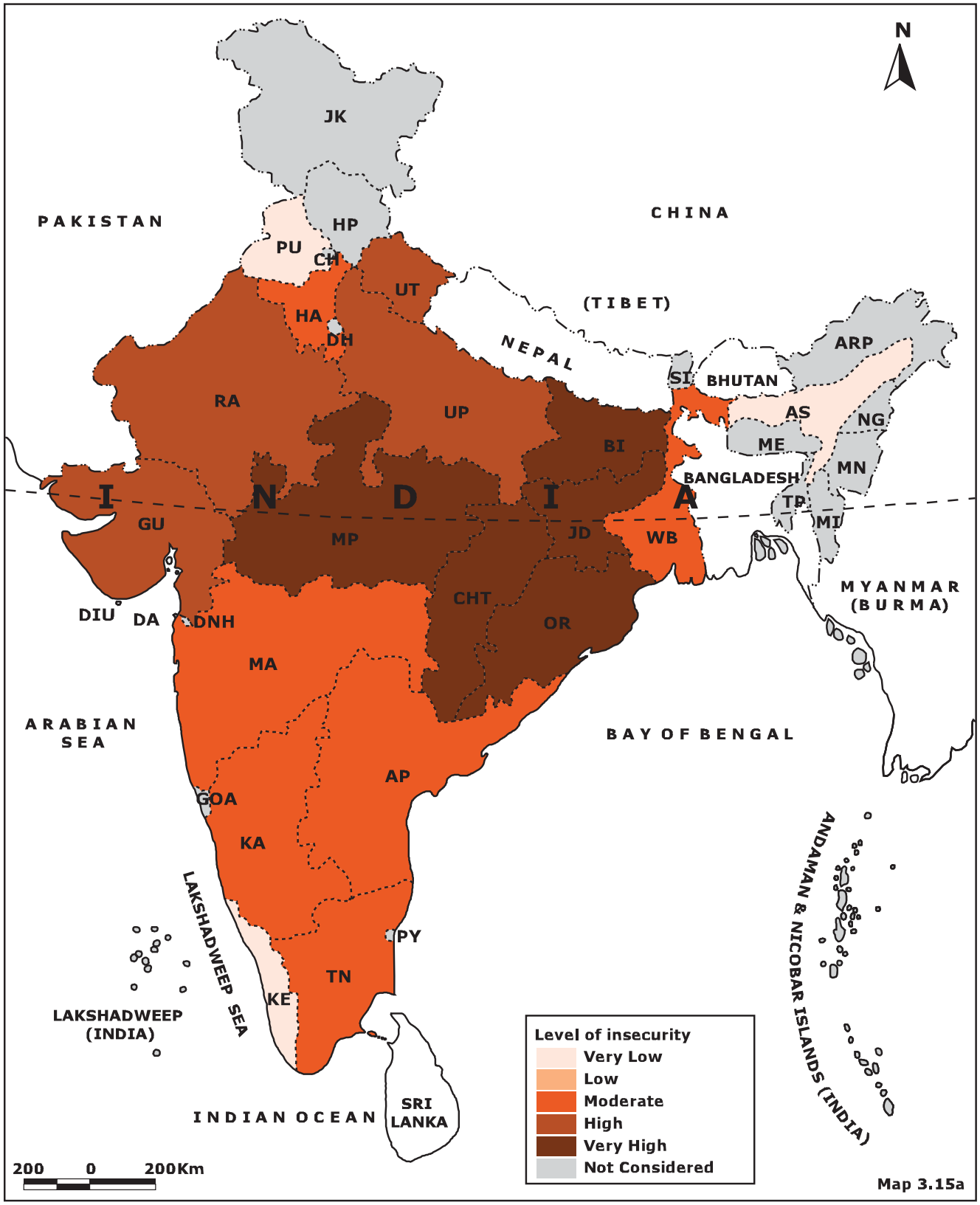
Composite Index of Urban Food Insecurity (Variant 3)
(1998-2000)



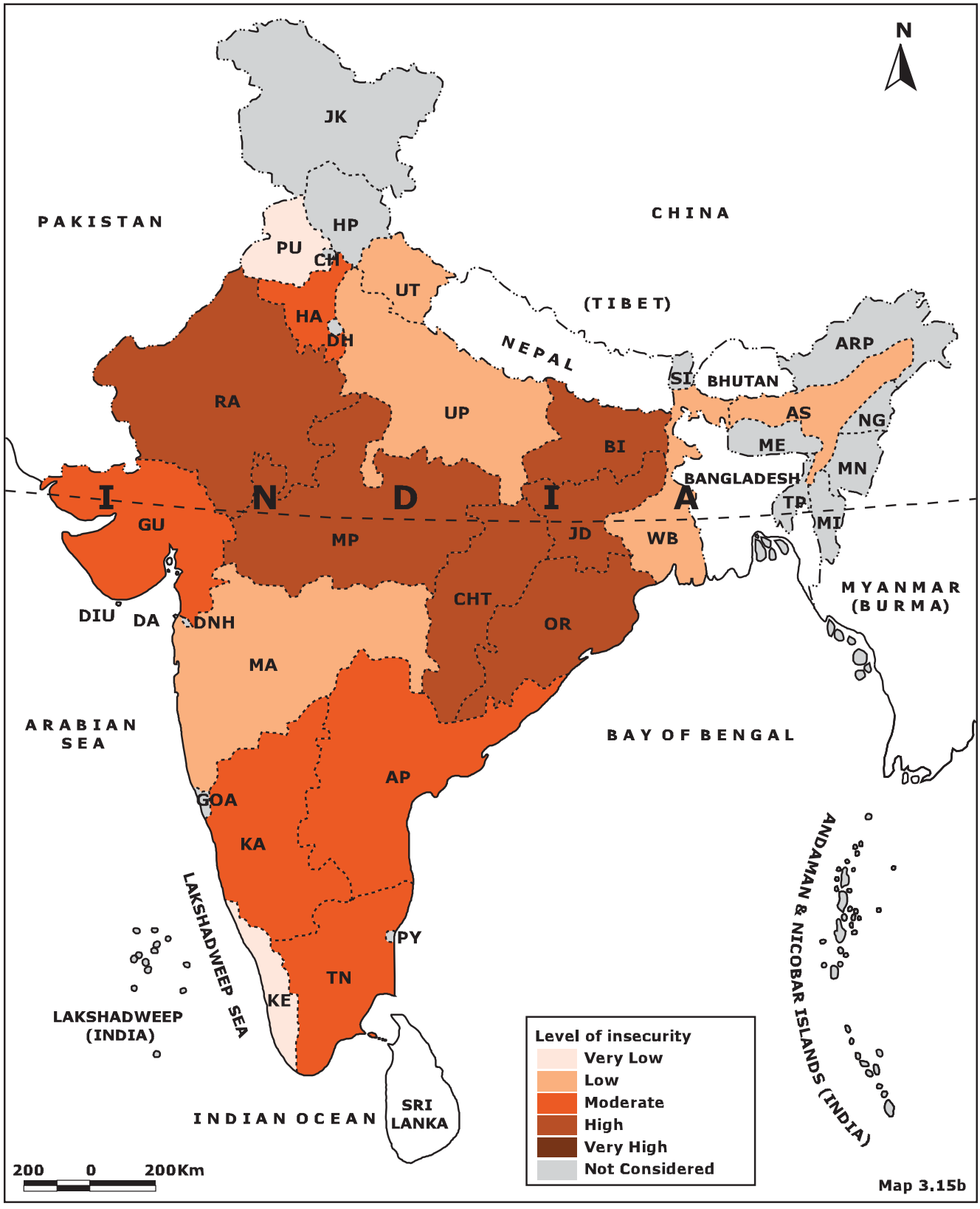
Composite Index of Urban Food Insecurity (Variant 3)
(2004-06)



Composite Index of Urban Food Insecurity (Variant 4)
(1998-2000)



Composite Index of Urban Food Insecurity (Variant 4)
(2004-06)



Most States have remained in the same category in 2004-06 as they were in 1998-2000 (**Maps 3.16a** and **3.16b**). Uttar Pradesh has shown dramatic improvement, moving from high insecurity in 1998-2000 to low insecurity in 2004-06. Assam, Gujarat, Rajasthan and Madhya Pradesh all moved up in 2004-06 to the next less insecure category. The remaining States, except Andhra Pradesh, showed no change of category.

3.5.7 Variant 6

The discussion in this section ends with a presentation of the results using the sixth and final variant of the composite index. This differs from the previous variant in only one respect. Stunting among urban children has been replaced by the incidence of underweight among them. The results are shown in **Tables 3.17** and **3.17a**.

Practically every State has shown improvement between 1998-2000 and 2004-06. The only exceptions were Haryana whose index value rose to 0.416 from 0.366 and Andhra Pradesh which worsened marginally from 0.485 to 0.486. Once again, Uttar Pradesh, Bihar, Madhya Pradesh and Orissa displayed impressive improvement, as did Gujarat, the Punjab, Kerala and Tamil Nadu.

The Punjab, Haryana, Assam, Maharashtra and West Bengal were the top five States in 1998-2000. In 2004-06, the Punjab, Assam, Maharashtra, Uttar Pradesh and Kerala were the top five, but several other States were closely behind, including Gujarat, West Bengal and Haryana.

The bottom five States in 1998-2000 were again Bihar, Madhya Pradesh, Orissa, Uttar Pradesh and Rajasthan. However, in 2004-06, Uttar Pradesh was replaced by Andhra Pradesh.

Table 3.17

Composite Index of Urban Food Insecurity, Variant 6 (V6), 1998-2000 and 2004-06

Sl. No.	States	1998-2000	2004-06
1	Andhra Pradesh	0.485	0.486
2	Assam	0.379	0.350
3	Bihar	0.734	0.614
4	Gujarat	0.532	0.415
5	Haryana	0.366	0.416
6	Karnataka	0.489	0.454
7	Kerala	0.482	0.414
8	Madhya Pradesh	0.685	0.604
9	Maharashtra	0.439	0.392
10	Orissa	0.677	0.601
11	Punjab	0.203	0.130
12	Rajasthan	0.543	0.521
13	Tamil Nadu	0.493	0.435
14	Uttar Pradesh	0.563	0.368
15	West Bengal	0.443	0.421
	India	**0.492**	**0.452**

Changes have been similar to what was seen with earlier variants of the index.

The distribution of the States by the category of insecurity is shown in **Table 3.17a**.

Most States improved to higher categories between 1998-2000 and 2004-06 (**Maps 3.17a** and **3.17b**). Only Haryana moved from low insecurity to moderate insecurity. Uttar Pradesh jumped from high insecurity to low insecurity. Assam, Tamil Nadu, Gujarat, Madhya Pradesh and Orissa all improved by one category from their respective positions in 1998-2000. The remaining States showed no change.

3.6 An Overall Assessment

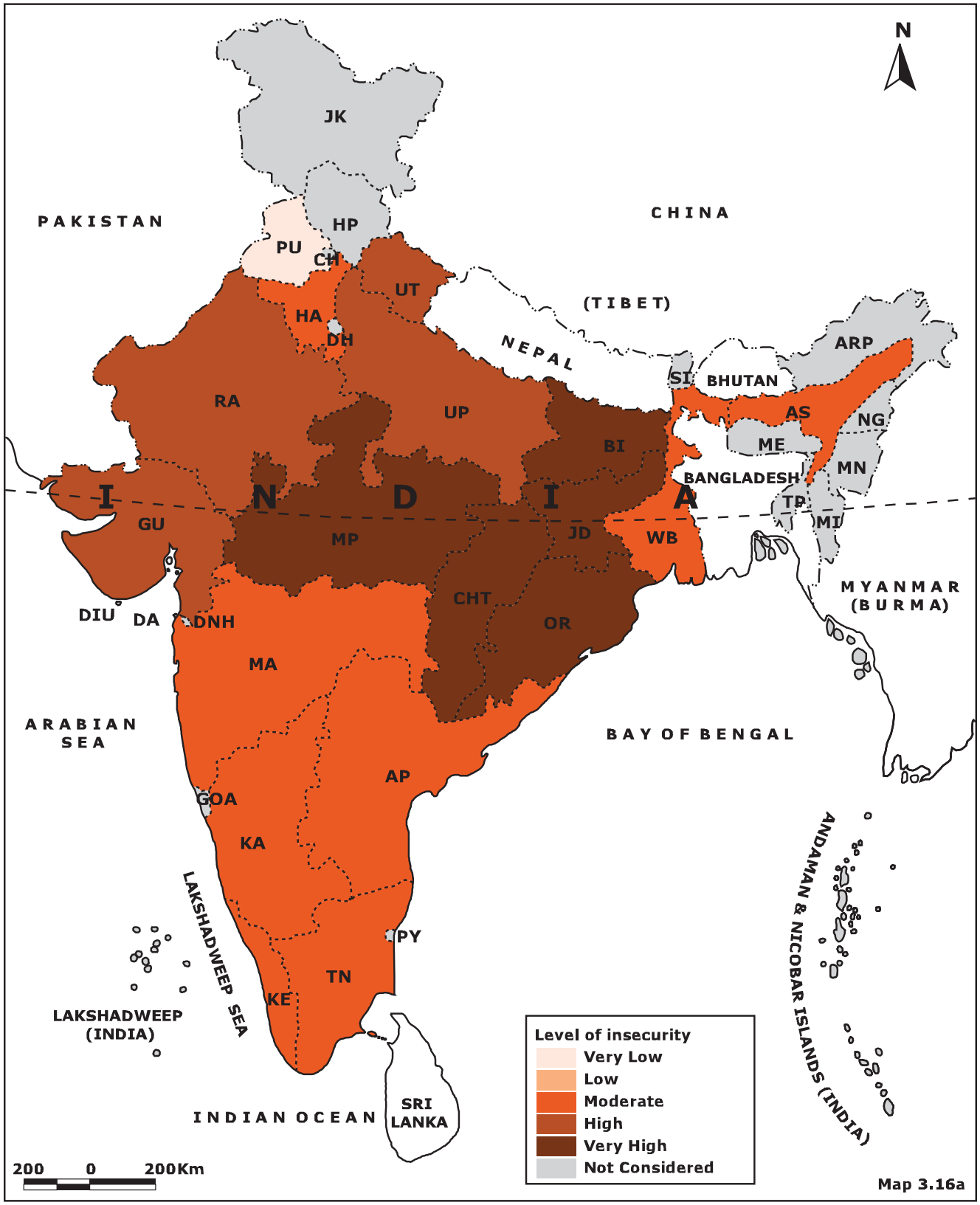
Working with the broad results thrown up by the exercise of index construction, the values of the variants of the index have been calculated for urban India as a whole in the two periods. The data is summarised in **Table 3.18**.

It is clear that no matter which variant of the overall index of urban food insecurity for urban India as a whole is considered, there has been an improvement in the situation. Recalling that a higher value of the index implies a greater degree of food insecurity, it would appear that variants that exclude the indicator of access to safe drinking water reflect a higher degree of food insecurity than the ones which include it. Variant 1, the variant deemed as the most appropriate index for reasons already discussed, and variant 4 – both of which exclude the indicator of lack of access to safe drinking water – may provide a closer approximation to reality than the others. Second, there has been an impressive reduction in the percentage of urban children underweight between 1998-2000 and 2004-06 while there has been a marginal rise in the percentage of urban children stunted. So, it is not a surprising fact that the improvement between 1998-2000 and 2004-06 has been greater in variants that used the percentage of urban children underweight as an indicator than in those that used the proportion of children stunted. Thus, variants 2, 4 and 6 have shown a greater decline in food insecurity between 1998-2000 and 2004-06 than variants 1, 3 and 5. Third, variants 5 and 6 have depicted a lower overall degree of food insecurity than all the other variants. This is not surprising either. The percentage of urban children

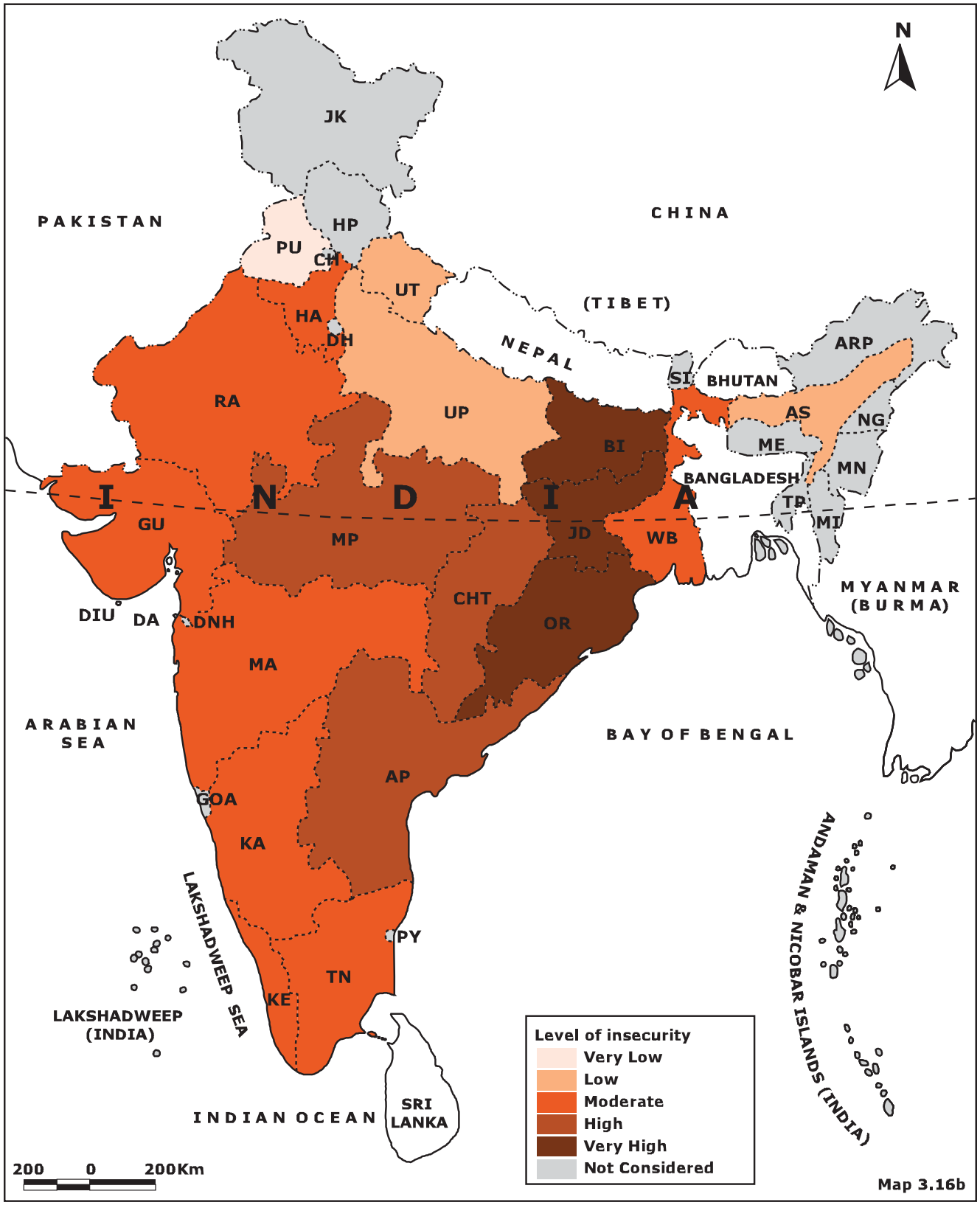
Table 3.17a
Distribution of States by Category of Food Insecurity (V6), 1998-2000 and 2004-06

Index Class Interval, Variant 6	1998-2000	2004-06
0.130 - 0.251(Very Low Insecurity	PU	PU
0.251 - 0.372 (Low Insecurity)	HA	AS, UP
0.372 - 0.492 (Moderate Insecurity)	AP, KA, KE, MA, WB, AS	AP, KA, KE, MA, WB, GU, HA, TN
0.492 - 0.613 (High Insecurity)	RA, GU, TN, UP	RA, MP, OR
0.613 - 0.734 (Very High Insecurity)	BI, MP, OR	BI

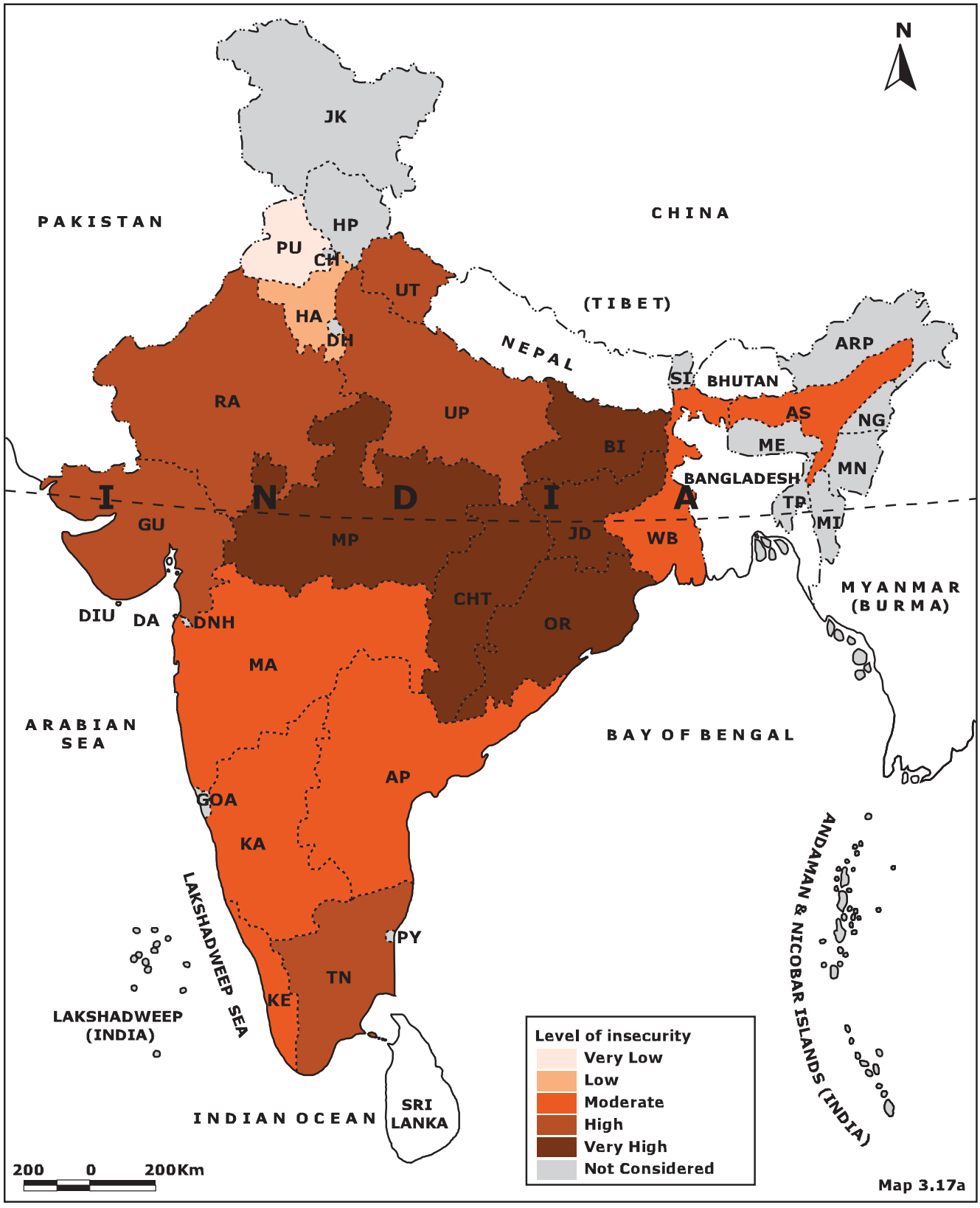
Composite Index of Urban Food Insecurity (Variant 5)
(1998-2000)



Composite Index of Urban Food Insecurity (Variant 5)
(2004-06)



Composite Index of Urban Food Insecurity (Variant 6)
(1998-2000)



Composite Index of Urban Food Insecurity (Variant 6)
(2004-06)

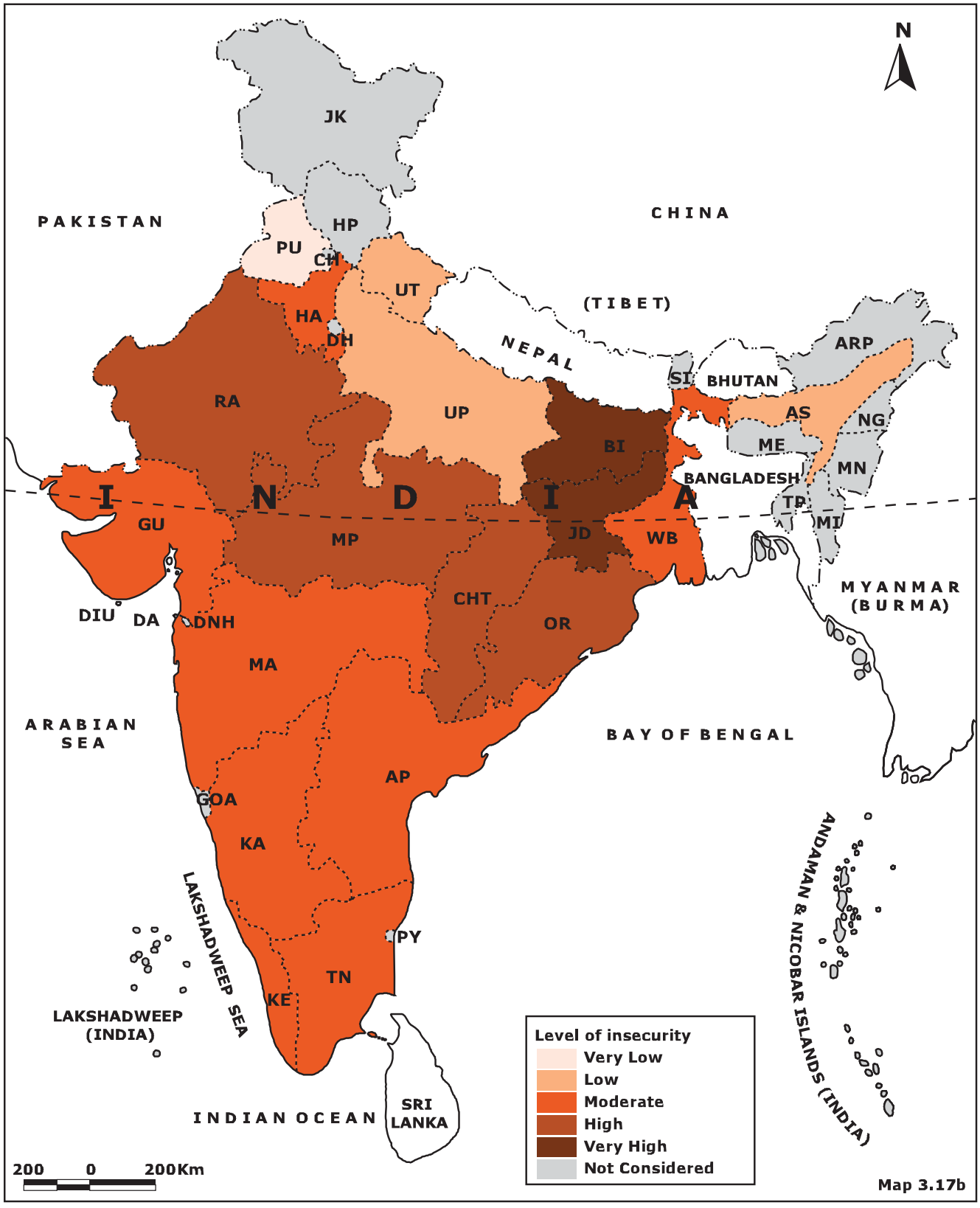


Table 3.18

Values of the Composite Urban Food Insecurity Index Variants for India 1998-2000 and 2004-06

Period	Composite Index Variant 1	Composite Index Variant 2	Composite Index Variant 3	Composite Index Variant 4	Composite Index Variant 5	Composite Index Variant 6
1998-2000	0.542	0.504	0.495	0.552	0.482	0.492
2004-06	0.538	0.476	0.494	0.518	0.472	0.452

with anaemia has increased between 1998-2000 and 2004-06 at the national level, even if not by much. So its exclusion is bound to have resulted in a lower degree of insecurity.

While there has been improvement between 1998-2000 and 2004-06 in the food security situation in urban India as measured by any of the six variants of the composite index, it must also be noted that it has been rather modest.

Perhaps the most appropriate variant in terms of the quality of data and the issue of chronic food and nutrition insecurity is variant 1. This, it may be recalled, excludes both lack of access to safe drinking water and percentage of children underweight, but includes the percentage of children stunted. In terms of this variant, the decline in the composite urban food insecurity index is quite small, from 0.542 in 1998-2000 to 0.538 in 2004-06. This is during a period when India's GDP growth rate has been in excess of 6 per cent per annum compound. Clearly, there has to be more than the rhetoric of inclusive growth if a significant improvement in the food security situation in urban India is to occur.

While detailed analyses of the performance of each State in the two periods and the reasons thereof would require more research, some key aspects can be highlighted from a general understanding of the prevailing scenario in the different States.

The performance of all the States in terms of the value of the composite index of urban food insecurity under all variants in both periods is brought together in **Table 3.19**.

The ranking of the States in terms of the value of the urban food insecurity index emerges as being very similar under all the variants. It is also pretty unambiguous that in 1998-2000, the bottom five States were Bihar, Madhya Pradesh, Orissa, Uttar Pradesh and Rajasthan. Perhaps the most remarakble story in terms of the change between 1998-2000 and 2004-06 has been the enormous improvement in the performance of urban Uttar Pradesh. The other States in this group also improved, with Bihar having done so relatively rapidly, Madhya Pradesh and Orissa not far behind, but Rajasthan progressing only modestly. On the other hand, the three States that one would have expected to do better with rapid growth – Haryana, Andhra Pradesh and Karnataka – have done worse in 2004-06 as compared to 1998-2000 in respect of all the variants, except for Karnataka in variant 6. Among the three top performers, the Punjab and Kerala showed consistent improvement across the two periods under all the variants. Assam has been a mixed bag, improving under all the variants except V2 and V4. Likewise, Maharashtra improved in terms of variants 2, 4 and 6, but deteriorated in terms of variants 1, 3 and 5. On the other hand, Gujarat, Tamil Nadu and West Bengal consistently improved across the two periods

Table 3.19

Comparison of States in terms of Composite Index, All Variants, 1998-2000 and 2004-06

States	V1 98/2000	V1 04/06	V2 98/2000	V2 04/06	V3 98/2000	V3 04/06	V4 98/2000	V4 04/06	V5 98/2000	V5 04/06	V6 98/2000	V6 04/06
AP	0.554	0.579	0.495	0.512	0.500	0.522	0.548	0.568	0.492	0.498	0.485	0.486
AS	0.405	0.386	0.353	0.379	0.392	0.389	0.361	0.374	0.424	0.362	0.379	0.350
BI	0.790	0.667	0.747	0.608	0.730	0.618	0.810	0.655	0.714	0.626	0.734	0.614
GU	0.594	0.533	0.532	0.450	0.536	0.482	0.590	0.497	0.536	0.452	0.532	0.415
HA	0.532	0.511	0.437	0.474	0.474	0.456	0.491	0.531	0.408	0.396	0.366	0.416
KA	0.510	0.552	0.489	0.515	0.460	0.520	0.542	0.545	0.456	0.460	0.489	0.454
KE	0.341	0.289	0.429	0.368	0.414	0.368	0.357	0.289	0.466	0.414	0.482	0.414
MP	0.734	0.671	0.684	0.624	0.669	0.614	0.751	0.682	0.668	0.593	0.685	0.604
MA	0.470	0.498	0.463	0.397	0.423	0.445	0.515	0.444	0.394	0.446	0.439	0.392
OR	0.671	0.610	0.662	0.574	0.631	0.587	0.705	0.595	0.643	0.616	0.677	0.601
PU	0.347	0.278	0.266	0.223	0.308	0.247	0.299	0.251	0.252	0.158	0.203	0.130
RJ	0.637	0.598	0.579	0.562	0.574	0.536	0.643	0.627	0.537	0.491	0.543	0.521
TN	0.504	0.491	0.493	0.469	0.469	0.461	0.531	0.500	0.467	0.427	0.493	0.435
UP	0.666	0.455	0.577	0.406	0.595	0.408	0.645	0.453	0.584	0.370	0.563	0.368
WB	0.457	0.414	0.442	0.394	0.420	0.375	0.481	0.435	0.418	0.400	0.443	0.421
IND	**0.542**	**0.538**	**0.504**	**0.476**	**0.495**	**0.494**	**0.552**	**0.518**	**0.482**	**0.472**	**0.492**	**0.452**

under all the variants, just as Kerala, the Punjab and all the "weaker" States did.

The performance of Karnataka may come as a surprise to those impressed with the economic growth of the State between 1993-94 and 2004-05, a growth that was more-over urban-centered, with Bangalore being a key site. Perhaps the results reviewed here should cause less complaceny about the growth process "taking care" of food security even in urban settings. The improvement of the more backward States is no doubt in part because they were so backward to begin with, but may also reflect a pattern of urbanisation over the period under consideration involving rapid growth in one or two major urban centres accompanied by investments in urban civic infrastructure. This issue is worth pursuing in future research. Uttar Pradesh in particular needs to be closely studied in this regard.

Having reviewed and recognised the general improvement in the state of urban food insecurity in terms of the chosen index in all its variants, it must nevertheless be pointed out that the improvement is far from commensurate with the rate of economic growth that has occurred over the period under consideration. Moreover, the values of many of the indicators – especially the nutritional outcome indicators – are scandalously high in the case of most States. The nature of urban growth, involving growth of employment mostly in the unorganised sector and of informal employment even in the organised sector, implies considerable insecurity of earnings for the workforce. Inadequate investments in urban civic infrastructure has lead to poor environmental hygiene. The growth of very poorly served urban slums, both recognised and otherwise, has also been a key factor in the tardy improvement in the urban food security situation. It needs also to be emphasised that some variants of the index may have overstated the improvement in urban food security in so far as they rely on certain input indicators such as access to safe drinking water and access to toilets where the numbers thrown up by offical data may not reflect the actual situation on the ground in terms of the functioning of the facilities assumed present.

Therefore, the problem of urban food insecurity continues to remain a massive challenge.

CHAPTER 4

Public Food Delivery Systems in Urban India

In an economy where a substantial proportion of the population is food insecure and where markets for foodgrains are poorly integrated, besides being characterised by significant elements of monopoly, there is an obvious need for public food delivery systems. Historically, the most important of such systems in India has been PDS.

It is sometimes argued that the existence of a large number of retail outlets in urban centres makes PDS unnecessary. There is little merit in this debate, given the huge problems of access that the urban poor face. It can, in fact, be claimed that public food delivery systems have an even more important role in the urban context vis-à-vis the rural, where some amount of own or subsistence cultivation and consumption may be expected of owner-cultivator households and there is also sometimes payment in kind for labour. The urban population, on the other hand, is largely dependent on the market, making the urban poor in particular more vulnerable to price shocks and food and nutrition insecurity[23]. In any event, PDS has been an extremely important instrument of food security in urban India for more than six decades now, and it therefore becomes essential to take a look at its functioning in urban India.

There is rich experience from countries across the world with respect to the modes of public provisioning of food to address food insecurity[24]. In India, besides PDS, ICDS and MDMS are the most important schemes of public provisioning of food. Emergency feeding programmes are also undertaken to reach the affected population during times of natural calamities like floods or cyclones.

The Report on the State of Food Insecurity in Rural India (RSFIRI) (MSSRF-WFP 2008) dealt with the three largest public food delivery systems in the country in great detail – PDS, ICDS and MDMS – tracing their history and evolution

[23] FAO's latest report on the *State of Food Insecurity in the World* (SOFI), states: 'The economic crisis will negatively affect large segments of the population in developing countries. The position of those who were hurt most by higher food prices (the rural landless, female-headed households and the urban poor) is particularly precarious because they have already approached, or in many cases reached, the limit of their ability to cope during the food crisis. Among these groups, the urban poor may experience the most severe problems because lower export demand and reduced FDI are more likely to cause employment to fall in urban areas, which are more closely connected to world markets than rural areas' (FAO 2009).

[24] FAO advocates a twin-track approach to achieving food security and the realisation of the right to food. The first track includes measures to increase production, including by small farmers, as well as improve incomes. The second track includes food safety nets, or measures to broaden food access immediately for the food insecure (FAO 2004).

over the years, their performance, lacunae and suggestions for better outreach and delivery. Following the description of each programme in three separate chapters, it looked at their functioning with specific reference to rural areas. The reader is therefore referred to RSFIRI for a detailed description of these programmes. This chapter on urban food delivery systems, based on available secondary data, focuses primarily on the functioning of PDS, ICDS and MDMS in urban areas.

4.1 Public Distribution System

PDS was first introduced as a measure to ensure foodgrain availability in urban areas. Its origins in India date back to the Second World War period, when the colonial government undertook public distribution of foodgrains in 1939 as a wartime rationing measure to ensure foodgrain availability and distribution among the urban population of Bombay (now Mumbai). With inflation spiralling and the food situation deteriorating persistently in many parts of the country, the Foodgrains Policy Committee (1943) recommended the introduction of rationing in urban centres with a population of more than 100,000. The consequent food distribution system was exclusively focused on the urban centres (Planning Commission 2005). It ensured some degree of equitable distribution of foodgrains among urban consumers in the context of rising prices. Till the mid-1960s, PDS continued to be largely confined to urban areas, the aim being to cater to the food needs of the urban population as well as those in highly food-deficit areas. Post Green Revolution, the move came towards developing a system of procurement and countrywide public distribution of foodgrains at affordable prices to the urban working people in the first instance. However, it was only in the 1980s that expansion on a large scale to cover non-urban and non-food-deficit areas took place. In a major policy shift, a targeted PDS (TPDS) was introduced in 1997 by the Government of India, and most States fell in line[25].

Data is available from the 61st round of the National Sample Survey for reference year 2004-05 on the extent to which urban households access PDS for rice and wheat, and on the share of consumption accounted for by PDS purchases. Some of this data has been utilised in the discussion that follows.

Tables 4.1 and **4.2**, respectively, show the percentage of urban households consuming rice from PDS and the percentage of quantity purchased from PDS to total household rice consumption across the major States of the country. **Tables 4.3** and **4.4** show the corresponding figures for wheat.

At the all-India level, just about 26 per cent of urban households in the bottom 30 per cent of monthly per capita expenditure class (MPCE) and 13 per cent of all urban households were found to be consuming rice from PDS. The percentage of households accessing rice from PDS among the bottom 30 per cent of MPCE was generally much higher in the southern States. The highest percentage was in Tamil Nadu at 78 per cent, followed by Andhra Pradesh (57 per cent), Kerala (53 per cent), and Karnataka (46 per cent). The quantitative share of PDS rice in total rice consumption among the bottom 30 per cent of MPCE was also the highest in these four States, ranging between 47 per cent in Tamil Nadu and 38 per cent in Andhra Pradesh. About 25 per cent or

[25] Tamil Nadu has continued with a universal PDS. While the State is required to classify ration cards as APL and BPL, PDS ration is given also to APL cardholders at the same price. Since the Government of India charges the State government the APL price for APL supplies, the State has to incur the subsidy expenditure involved in not charging the APL ration cardholders a different price from that it charges BPL cardholders.

more of households in the middle 40 per cent of MPCE in these States also consumed PDS rice, the highest percentage being in Tamil Nadu at 57 per cent followed by Andhra Pradesh at 33 per cent.

On the other hand, in States such as the Punjab and Haryana hardly any household, irrespective of consumption expenditure classes, depended on PDS for their rice consumption.

Table 4.1

Percentage of Urban Households Reporting Consumption of Rice from PDS, 2004-05

Sl. No.	States	Percentage of urban households reporting consumption of rice from PDS across different consumption expenditure classes			
		Bottom 30%	Middle 40%	Top 30%	All
1	Andhra Pradesh	57.27	32.82	6.24	31.10
2	Assam	11.39	0.32	0.00	2.30
3	Bihar	5.56	1.67	0.00	2.13
4	Gujarat	25.02	8.29	0.58	7.20
5	Haryana	0.10	0.00	0.00	0.00
6	Karnataka	45.95	23.32	3.50	21.00
7	Kerala	53.38	28.18	9.36	23.30
8	Madhya Pradesh	21.56	6.42	1.27	10.63
9	Maharashtra	21.39	4.42	0.56	6.00
10	Orissa	12.27	1.08	0.51	5.80
11	Punjab	0.00	0.20	0.03	0.10
12	Rajasthan	0.37	0.04	0.09	0.20
13	Tamil Nadu	77.74	57.30	20.90	47.70
14	Uttar Pradesh	4.68	1.50	0.41	2.04
15	West Bengal	13.96	3.82	2.37	5.40
	India	**25.67**	**14.15**	**4.17**	**13.10**

Source: NSSO 2007c

Table 4.2

Importance of PDS Rice Consumption among Urban Households, 2004-05

Sl. No.	States	Percentage of PDS rice consumption to total rice consumption across different consumption expenditure classes			
		Bottom 30%	Middle 40%	Top 30%	All
1	Andhra Pradesh	38.30	26.11	6.39	25.20
2	Assam	10.47	0.33	0.00	2.44
3	Bihar	5.36	1.72	0.00	2.24
4	Gujarat	22.30	8.10	0.64	7.33
5	Haryana	0.12	0.00	0.00	0.00
6	Karnataka	39.50	20.77	3.93	20.17
7	Kerala	40.93	23.85	9.66	21.18
8	Madhya Pradesh	19.58	6.38	1.35	10.39
9	Maharashtra	20.89	4.49	0.63	6.32
10	Orissa	11.28	1.20	0.56	5.89
11	Punjab	0.00	0.22	0.04	0.12
12	Rajasthan	0.73	0.06	0.11	0.29
13	Tamil Nadu	47.31	38.23	19.43	34.89
14	Uttar Pradesh	4.75	1.57	0.43	2.12
15	West Bengal	12.65	3.95	2.54	5.50
	India	**23.00**	**13.39**	**4.49**	**12.82**

Source: NSSO 2007c

Table 4.3

Percentage of Urban Households Reporting Consumption of Wheat from PDS, 2004-05

Sl. No.	States	Percentage of urban households reporting consumption of wheat from PDS across different consumption expenditure classes			
		Bottom 30%	Middle 40%	Top 30%	All
1	Andhra Pradesh	0.26	0.64	1.11	0.70
2	Assam	0.00	0.60	0.03	0.30
3	Bihar	3.51	1.80	0.38	1.84
4	Gujarat	23.99	7.39	0.92	6.80
5	Haryana	17.01	4.68	1.23	5.20
6	Karnataka	34.70	14.96	1.76	14.60
7	Kerala	17.49	14.40	8.66	12.10
8	Madhya Pradesh	16.58	4.42	1.54	8.19
9	Maharashtra	21.60	6.17	1.17	6.90
10	Orissa	0.16	0.71	2.72	1.00
11	Punjab	0.51	0.86	0.33	0.60
12	Rajasthan	2.96	2.31	0.34	1.90
13	Tamil Nadu	10.31	15.00	6.75	10.70
14	Uttar Pradesh	4.02	1.84	1.03	2.32
15	West Bengal	9.04	2.80	1.17	3.50
	India	**11.50**	**5.84**	**2.07**	**5.80**

Source: NSSO 2007c

Table 4.4

Importance of PDS Wheat Consumption among Urban Households, 2004-05

Sl. No.	States	Percentage of PDS wheat consumption to total wheat consumption across different consumption expenditure classes			
		Bottom 30%	Middle 40%	Top 30%	All
1	Andhra Pradesh	0.73	1.13	1.52	1.25
2	Assam	0.00	0.73	0.03	0.38
3	Bihar	3.63	1.98	0.44	2.01
4	Gujarat	21.62	7.34	1.03	7.02
5	Haryana	15.69	4.54	1.28	5.15
6	Karnataka	44.62	17.06	2.10	17.44
7	Kerala	31.36	19.67	10.92	16.53
8	Madhya Pradesh	18.60	4.46	1.70	8.69
9	Maharashtra	21.17	6.41	1.34	7.40
10	Orissa	0.31	0.91	3.16	1.47
11	Punjab	0.51	0.86	0.35	0.62
12	Rajasthan	3.02	2.35	0.37	1.98
13	Tamil Nadu	27.63	23.51	8.98	17.17
14	Uttar Pradesh	3.65	1.90	1.08	2.37
15	West Bengal	11.19	3.39	1.38	4.21
	India	**13.95**	**6.75**	**2.42**	**6.80**

Source: NSSO 2007c

A comparison of **Tables 4.1** and **4.3** indicate that a far smaller proportion of households resort to PDS for wheat compared to rice across all the States, except Haryana. In the country as a whole, while one-fourth of the bottom 30 per cent of MPCE reported consumption of rice from PDS, the corresponding percentage for wheat was 11.5 per cent. 35 per cent households in the bottom 30 per cent of MPCE class in Karnataka and 24 per cent in Gujarat reported accessing wheat from PDS. Maharashtra reported 21.60 per cent of households in the same category. Eight major States, none from the south of the country, reported less than 10 per cent of households in the bottom 30 per cent of MPCE accessing wheat from PDS. On the other hand, around 15 per cent of households in the middle 40 per cent of MPCE category in Tamil Nadu, Kerala and Karnataka, which are not traditionally wheat-consuming States, reported consumption of wheat from PDS.

The share of PDS wheat in total wheat consumption was 45 per cent for the bottom 30 per cent of MPCE in Karnataka followed by 28 per cent in Tamil Nadu. While Tamil Nadu ranks way above the rest of the States as regards rice consumption from PDS and performs better than the all-India average with regard to wheat consumption, the Punjab is at the opposite end with less than one per cent of urban households reporting consumption of wheat or rice from PDS.

Data from the 61st Round of the NSSO pertaining to the year 2004-05 showed that expenditure on food accounted for 50 per cent or more of the total expenditure of urban households. The rise in food prices from 2009 is bound to skew the expenditure pattern of these households further. The latest Report on the State of Food Insecurity in the World brought out by FAO draws attention to this aspect: 'In trying to cope with the burden of consecutive food and economic crises, poor people reduce their dietary diversity and spending on essential items such as education and health care. These coping mechanisms were strained during the food crisis, and the poor will now be forced to draw on their meagre assets even more deeply, creating poverty traps and negatively affecting longer-term food security. Infant mortality will increase, with girls being more affected than boys' (FAO 2009).

4.1.1 The Case for a Universal PDS – Evidence from Urban India

The argument made by several scholars for a return to a universal PDS in the interest of ensuring food security for all becomes even more relevant in this context[26]. RSFIRI had this as a key recommendation for ensuring food security. Data reveals that TPDS has led to the exclusion of many from the purview of PDS itself. As emphasised by Madhura Swaminathan (2008), 'during periods of high inflation in food prices, governments must provide a basic minimum quantity of foodgrain and other food items at low prices through public distribution systems to low-income, food-insecure, and vulnerable populations. In India, the ostensible purpose of the Targeted Public Distribution System (TPDS) was to take food to the poor; in practice, it has resulted in the large-scale exclusion of the poor and food-insecure from the public food system' (Swaminathan 2008).

Data available from the NSSO 61st Round clearly highlighted this. At the all-India level,

[26] Jayati Ghosh at the V P Chintan Memorial Lecture in Chennai on 23 October 2009 on "Global food crisis and food security in India", presented a calculation to show that reverting to a universal PDS will cost just about 1.5 per cent of GDP, much less than the amount given as tax concessions to the well-to-do in recent years.

the percentage of population with BPL and AAY (Antyodaya Anna Yojana) cards amounted to just 11.3 per cent (**Table 4.5**). Households with APL cards being effectively excluded from PDS under the targeted system operative in most States, the majority of urban households in India fall under this category. In line with this, looking at the social categories, even among the most deprived sections of the population, one finds that 85.1 per cent of ST households and 81.1 per cent of SC households in urban areas either had no card or possessed an APL card.

From the occupational angle, NSSO defines four types of urban households – self-employed, casual labour, regular wage/salary earning and other households. A household which does not have any income from economic activities is assigned to the 'others' category. In the country as a whole, 26 per cent of casual labour households had BPL cards and 3 per cent had AAY cards, the highest among urban households, indicating that their relatively greater vulnerability has been factored into the system. However, 34 per cent of casual labour households in the country did not have any ration card. The percentage of casual labour households not possessing a ration card was the least in Kerala (17 per cent) followed by Tamil Nadu (20 per cent). In India as a whole, the percentage of households holding any kind of ration card was highest among self-employed households (74 per cent), about 11 per cent of whom held BPL cards[27]. Among "other households", only 51 per cent possessed a ration card (**Table 4.6**).

Madhura Swaminathan (2008) has analysed issues of exclusion and inclusion in PDS in rural India by using the official rural poverty line (an all-India level of Rs.360 per capita per month), and classifying all households with MPCE less than Rs.365 as "poor" households[28]. This Report has carried out a similar exercise for urban areas. Taking the official urban poverty line (Rs.559 per capita per month in 2004-05), all households with MPCE less than Rs.580 (constituting the bottom 30 per cent of the MPCE class) have been classified as 'poor households'[29]. Defining 'inclusion' as 'obtaining a BPL or Antyodaya card', it is observed that only 25.4 per cent of the bottom 30 per cent MPCE class households possessed BPL or AAY card. While 28 per cent households in this category possessed no ration card, 46.5 per cent possessed cards other than BPL or AAY ones. Effectively, therefore, with the exception of Tamil Nadu[30] which follows a universal PDS and covers the non-BPL and AAY cardholders, even the majority of those below the official poverty line were excluded from the urban PDS (**Table 4.7**). The figure for Rajasthan — where only 4.8 per cent of the bottom 30 per cent of the MPCE class households possessed a BPL or AAY card — has been particularly shocking. Only Andhra Pradesh had 50 per cent of the population in this category possessing a BPL or AAY card followed by Kerala at 46.3 per cent and Karnataka at 40.7 per cent. In all the other States, more than sixty per cent of the officially poor were excluded from access to PDS.

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[27] This is quite revealing, if read together with the reports of the National Commission on Enterprises in the Unorganised Sector (NCEUS). The latter brings out the precarious nature of the livelihoods of a large majority of the self-employed.

[28] The official Indian poverty line in fact reflects absolute and extreme deprivation.

[29] MPCE classes as delineated by the 61st Round of NSSO pertaining to the year 2004-05, adopted the following size classes: Rs.0-335; 335-395; 395 to 485; 485-580. Considering that Rs.559 (the poverty line) falls in the MPCE class 485 to 580, all the four classes were considered. Needless to say, the error of inclusion of non-poor would be minimal in this exercise.

[30] 57.4 per cent of the bottom 30 per cent of MPCE class households possessed other cards but had access to PDS.

Table 4.5

Some Aspects on Possession of Different Types of Ration Cards across Social Groups in Urban Areas, 2004-05

Sl. No.	States	Percentage of urban households across different social groups categorised by type of ration cards																			
		Scheduled Tribe				Scheduled Caste				Other Backward Class				Others				All			
		AAY	BPL	Other	No RC	AAY	BPL	Other	No RC	AAY	BPL	Other	No RC	AAY	BPL	Other	No RC	AAY	BPL	Other	No RC
1	Andhra Pradesh	0.0	25.8	18.4	55.7	1.0	36.4	15.5	47.1	2.2	32.1	15.4	50.3	1.0	16.0	22.7	60.3	1.5	26.6	18.2	53.7
2	Assam	0.0	1.1	62.8	36.1	1.3	6.2	36.5	56.1	0.3	5.6	45.0	49.0	0.0	2.0	36.8	61.2	0.2	3.2	40.2	56.4
3	Bihar	2.8	19.1	23.6	54.5	3.0	8.0	28.5	60.4	0.1	10.5	38.6	50.7	0.2	1.3	38.5	59.9	0.8	6.6	36.2	56.4
4	Gujarat	0.0	5.7	43.6	50.7	0.0	14.5	45.5	40.0	0.3	17.3	61.6	20.7	0.0	3.5	75.2	21.4	0.1	8.4	67.1	24.4
5	Haryana	0.0	24.3	75.7	0.0	4.2	17.0	58.5	20.4	2.4	11.2	46.9	39.5	0.3	7.3	67.0	25.4	1.5	9.9	60.7	27.9
6	Karnataka	3.2	38.9	16.3	41.7	5.5	25.9	32.7	35.9	2.1	19.4	31.6	47.0	1.2	6.5	34.2	58.2	2.0	14.4	32.6	51.0
7	Kerala	2.0	8.0	60.4	29.7	4.3	43.2	33.9	18.6	0.8	21.8	59.6	17.9	0.2	10.8	67.4	21.6	0.9	19.8	60.2	19.2
8	Madhya Pradesh	2.5	18.0	27.9	51.7	6.2	20.4	35.7	37.7	2.0	16.6	38.8	42.5	0.6	7.5	49.7	42.2	2.0	13.8	41.6	42.6
9	Maharashtra	1.9	11.1	50.0	37.0	0.3	16.9	58.8	24.0	0.6	8.9	63.9	26.6	0.1	4.9	71.6	23.4	0.3	8.0	67.0	24.7
10	Orissa	0.7	19.5	14.3	65.6	1.0	19.4	25.7	53.9	2.1	12.8	28.7	56.3	0.9	6.6	34.2	58.3	1.3	11.8	29.1	57.8
11	Punjab	0.0	2.1	43.8	54.1	0.1	9.2	53.2	37.5	0.0	3.4	61.2	35.5	0.0	1.5	74.1	24.4	0.0	3.9	66.0	30.1
12	Rajasthan	0.0	3.7	48.3	48.0	2.0	3.7	77.3	17.1	0.1	3.2	84.4	12.3	0.3	1.0	84.7	14.0	0.6	2.4	81.8	15.1
13	Tamil Nadu	1.4	10.4	57.8	30.4	1.3	10.8	66.0	21.9	0.5	14.0	63.2	22.3	0.0	5.7	70.6	23.7	0.6	12.8	64.2	22.4
14	Uttar Pradesh	1.3	38.2	31.9	28.6	0.8	19.2	52.3	27.8	0.2	7.5	62.2	30.0	0.4	2.2	67.7	29.8	0.4	6.6	64.1	28.9
15	West Bengal	0.0	20.5	45.9	33.6	0.5	19.2	59.3	21.0	0.4	9.3	65.1	25.2	0.9	5.9	74.4	18.8	0.8	8.8	70.7	19.7
	India	**1.3**	**13.6**	**37.6**	**47.5**	**1.6**	**17.3**	**49.8**	**31.3**	**0.9**	**14.4**	**51.5**	**33.2**	**0.4**	**5.2**	**61.8**	**32.6**	**0.8**	**10.5**	**55.6**	**33.1**

Note: RC- Ration Card; AAY-Antyodaya Anna Yojana; BPL-Below Poverty Line; Others-Card belonging to none of the mentioned categories

Source: NSSO 2007c

Table 4.6

Some Aspects on Possession of Different Types of Ration Cards across Various Household Types in Urban Areas, 2004-05

Sl. No.	States	Percentage of households possessing ration cards by different household types in urban areas																		
		Self employment				Regular employment				Casual labour				Others				All		
		AAY	BPL	Other	No RC	AAY	BPL	Other	No RC	AAY	BPL	Other	No RC	AAY	BPL	Other	No RC	AAY	BPL	Other	No RC
1	Andhra Pradesh	2.3	32.2	19.9	45.5	0.4	19.5	21.7	58.4	3.9	46.2	8.4	40.8	0.1	9.6	13.6	76.8	1.5	26.6	18.2	53.7
2	Assam	0.4	3.1	43.7	52.8	0.2	3.0	38.4	58.4	0.3	12.6	21.7	65.4	0.0	0.6	42.8	56.6	0.2	3.2	40.2	56.4
3	Bihar	1.5	9.2	43.4	45.9	0.2	3.6	37.0	59.1	2.3	18.8	32.0	46.8	0.0	1.0	24.4	74.6	0.8	6.6	36.2	56.4
4	Gujarat	0.1	9.0	77.5	13.4	0.0	5.2	65.7	29.1	0.4	27.2	41.7	30.7	0.4	5.3	45.0	49.2	0.1	8.4	67.1	24.4
5	Haryana	2.1	13.0	69.0	15.9	0.1	4.8	54.2	40.9	7.2	29.1	37.5	26.3	0.3	0.6	78.2	20.9	1.5	9.9	60.7	27.9
6	Karnataka	1.5	13.8	40.1	44.6	0.8	8.5	34.6	56.1	7.7	37.1	18.9	36.4	0.5	7.0	22.5	70.0	2.0	14.4	32.6	51.0
7	Kerala	0.5	16.6	72.5	10.4	1.3	12.7	64.4	21.6	1.3	38.3	43.5	16.9	0.1	7.6	53.9	38.7	0.9	19.8	60.2	19.2
8	Madhya Pradesh	1.9	17.1	49.4	31.8	1.0	8.3	41.2	49.5	6.2	26.1	23.9	43.8	0.6	5.3	40.7	53.3	2.0	13.8	41.6	42.6
9	Maharashtra	0.4	8.4	71.3	20.0	0.0	4.6	71.1	24.3	0.7	25.0	37.1	37.1	1.2	3.7	65.2	29.8	0.3	8.0	67.0	24.7
10	Orissa	2.2	16.5	29.7	51.6	0.1	3.8	35.9	60.2	2.2	23.9	19.6	55.1	0.6	4.8	17.1	77.5	1.3	11.8	29.1	57.8
11	Punjab	0.0	2.4	78.2	19.4	0.0	4.1	57.3	38.7	0.4	16.7	40.0	42.8	0.0	0.6	59.4	40.0	0.0	3.9	66.0	30.1
12	Rajasthan	0.3	2.4	87.9	9.4	0.1	1.0	85.5	13.4	1.8	6.8	67.9	23.5	2.0	2.3	58.6	37.0	0.6	2.4	81.8	15.1
13	Tamil Nadu	0.3	13.0	71.4	15.3	0.1	11.4	63.6	24.9	3.0	21.1	55.8	20.1	0.4	7.2	55.4	37.0	0.6	12.8	64.2	22.4
14	Uttar Pradesh	0.5	6.9	75.0	17.6	0.2	5.8	56.6	37.4	1.2	10.9	63.7	24.1	0.2	3.3	52.8	43.7	0.4	6.6	64.1	28.9
15	West Bengal	0.6	10.3	71.1	18.1	0.4	4.1	77.9	17.6	3.2	22.9	45.7	28.2	0.1	3.7	71.3	24.8	0.8	8.8	70.7	19.7
	India	**0.8**	**11.4**	**62.0**	**25.8**	**0.3**	**6.5**	**57.6**	**35.6**	**3.0**	**26.4**	**36.8**	**33.8**	**0.5**	**5.0**	**45.4**	**49.1**	**0.8**	**10.5**	**55.6**	**33.1**

Note: RC- Ration Card; AAY-Antyodaya Anna Yojana; BPL-Below Poverty Line; Others-Card belonging to none of the mentioned categories

Source: NSSO 2007c

Table 4.7

Some Aspects on Possession of Ration Cards among Bottom 30 per cent of Consumer Expenditure Classes in Urban Areas, 2004-05

Sl. No.	States	Percentage of urban households classified by type of ration cards possessed among bottom 30% of MPCE class			
		AAY	BPL	Other	No RC
1	Andhra Pradesh	4.2	46.1	12.4	37.3
2	Assam	0.1	11.8	38.2	49.8
3	Bihar	1.4	13.2	36.3	49.1
4	Gujarat	0.2	23.9	48.2	27.7
5	Haryana	6.5	25.6	52.3	15.5
6	Karnataka	4.7	35.4	20.3	39.6
7	Kerala	3.7	42.6	44.3	9.4
8	Madhya Pradesh	4.6	26.2	32.3	36.9
9	Maharashtra	1.4	24.6	47.1	26.8
10	Orissa	2.4	22.3	23.8	51.4
11	Punjab	0.2	12.5	57.8	29.4
12	Rajasthan	0.4	4.4	83.9	11.4
13	Tamil Nadu	1.9	24.2	57.4	16.5
14	Uttar Pradesh	1.0	14.8	67.5	16.7
15	West Bengal	1.9	20.8	57.2	20.1
	India	**2.4**	**23.0**	**46.5**	**28.1**

Note: RC-Ration Card; AAY-Antyodaya Anna Yojana; BPL-Below Poverty Line; Others-Card belonging to none of the mentioned categories

Source: NSSO 2007c

Suryanarayana (2008) comments on the same data: 'The estimates show that the poorest four MPCE classes, which accommodated the poorest thirty per cent of the population, did not exhaust the set of *Antyodaya & BPL* cardholders. More than 50 per cent of the households in these MPCE classes did not have the *Antyodaya & BPL* ration cards. Households possessing the Antyodaya and the BPL ration cards, though generally declining in percentage number, were found across higher percentile classes of expenditure in both rural and urban sectors'.

Transparency International India and the Centre for Media Studies have been undertaking corruption studies since 2002. India Corruption Study 2005 was based on a study of 11 public services. According to this, while the error of inclusion in Andhra Pradesh was 4.29 per cent in urban areas, the error of exclusion was 36.40 per cent. The corresponding figures of errors of inclusion and exclusion for urban Maharashtra were 4.12 per cent and 51.34 per cent respectively[31]. Madhura Swaminathan (1997) has highlighted the aspect of a shift to targeted welfare schemes from universal schemes being accompanied by a big increase in Type I error, namely, the error of exclusion[32]: 'While the costs of wrong inclusion are only fiscal costs, administrative costs for a targeted scheme are usually high, around 2 to 5 per cent of total expenditure, and much higher than for

[31] The corresponding figures of error of inclusion and exclusion for rural areas in Andhra Pradesh was 22.35 per cent and 20.42 per cent respectively and for Maharashtra the figures were, 11.30 per cent and 49.90 per cent respectively.

[32] Refers to the exclusion of genuinely poor or deserving households from a programme.

a universal scheme, with the costs depending on the type of identification required. Besides, there are large welfare costs associated with the error of excluding those deserving from a scheme, and these are the social costs of having a population that is hungry and malnourished'.

Juxtaposing data from the NSSO 61st Round, with household poverty level estimated using NSSO unit level data and State-and sector-specific poverty lines published by the Planning Commission, Suryanarayana (2008) has shown that, except in the case of Andhra Pradesh, Assam, Haryana, Kerala and West Bengal, the percentage of households with AAY or BPL cards were less than the urban household poverty level for the respective States. Ranjan Ray (2007) has shown, using the minimum calorie requirement as the benchmark for prevalence of undernutrition (POU)[33], that the POU levels in both rural and urban areas increased between the NSSO 43rd (1987-88) and 57th (2001-02) rounds, indicating a rise in hunger as well as inability to meet minimum household calorie requirements. The POU percentage in urban areas increased from 37 per cent to 51 per cent between the two rounds[34]. Ray has further calculated the POU rates among the bottom and top deciles in rural and urban areas for 100 per cent and 80 per cent of the calorie requirement using two different vectors of age and gender specific calorie requirement, to counter the criticism that POU estimates are extremely sensitive to the a priori specified minimum calorie requirements. Using NSSO 57th round data, he showed that the percentage of undernourished urban households at the all-India level, even in the 80 per cent of minimum calorie requirement category, was 50 per cent while that in the 100 per cent category was 87.5 per cent[35]. Across the States, the prevalence of undernutrition even at 80 per cent of the calorie requirement was seen to be more than 50 per cent in 7 States, the highest being in Rajasthan at 81 per cent followed by Karnataka and West Bengal at 73 per cent. Interestingly, 15 per cent of households in the top deciles in urban areas and 23 per cent in rural areas were also found to be unable to consume the minimum calorie requirement. TPDS, by restricting access to only the BPL households as per the consumer expenditure figure derived from applying the methodology of the 1993 Report of the Expert Committee set up by the Planning Commission, therefore, seems to be excluding large numbers of undernourished BPL as well as APL households.

The performance evaluation of TPDS by the Planning Commission also echoed these findings, admitting that '…the transition from universal PDS to TPDS has neither benefited the poor, nor helped reduce budgetary food subsidies in the desired manner….. … leakage and diversion (to unintended beneficiaries) are substantial. Only about 42 per cent of the subsidised foodgrains released from the Central Pool reaches the poor, implying very high delivery cost of TPDS' (Planning Commission 2005).

4.1.2 Other Issues

Examining the dependence of BPL respondents in urban areas on PDS, the evaluation

[33] The Indian poverty lines for the rural and urban populations are based on calorie norms of 2400 and 2100 kcal per capita per day, respectively. A household is classified as calorie poor (non-poor) if its observed calorie intake turns out to be less (more) than the required amount. The prevalence of undernutrition (POU) is, then, measured as the percentage of households who are unable to meet their daily calorie requirement (Ray 2007).

[34] The rural POU rate during the same period increased from 48.16 per cent in 1987-88 to 66.90 per cent in 2001-02.

[35] The corresponding figures for the bottom decile in rural areas were 75.6 per cent and 95.6 per cent, respectively.

report on TPDS (Planning Commission 2005) has found that PDS catered to the rural market demand for cereals more than to the urban demand. This dichotomy was greatly pronounced in Karnataka, Kerala (both with exhaustive PDS infrastructure in the rural areas) and Rajasthan, mostly due to exposure to greater (and cheaper) varieties of cereals in the urban areas. Bihar was a glaring exception, reflecting on weak delivery mechanisms and availability of cheaper coarse varieties in the rural areas.

India Corruption Study 2005 and India Corruption Study 2007 have highlighted the issue of corruption and the bribes paid in order to gain access to PDS. The level of corruption was reported to be higher in the States with higher poverty incidence. Non-availability of ration at the Fair Price Shops, repeated visits to get work done, were other aspects reported[36].

A survey by the ORG Centre for Social Research also highlighted lacunae in the functioning of the PDS[37]. According to the Survey, only 10.5 per cent of respondents in urban areas were aware of the process of selection of beneficiaries under the Antyodya Anna Yojana scheme. Nearly 80 per cent of all respondents were unaware of the process by which BPL households were identified and selected. 23 per cent of respondents in urban areas, who had reported not lifting foodgrains in the last one year, said that unacceptable or poor grain quality was the reason.

Suryanarayana (2008) cited quality of foodgrains sold, availability and transaction costs as factors that could deter cardholders from availing PDS.

The Economic Survey 2008-09, while echoing these problems, however talked of smart cards and redirecting of subsidies from PDS to direct feeding programmes: '.. the Eleventh Five Year Plan has observed that PDS seems to have failed in making foodgrains available to the poor as is evident from falling levels of cereal consumption over the last two decades. PDS was redesigned as TPDS where higher rates of subsidies were given to the poor and the poorest among poor. However, some major deficiencies were also identified in TPDS. These included high exclusion and inclusion errors, non-viability of fair price shops, leakages and failure in price stabilisation. In this situation, it may be useful to introduce food stamps/coupons which may be valid outside the PDS outlets once the markets get better integrated. Food coupons will allow the consumers a wider choice. However, their value needs to be indexed to the food inflation. Multi-application smart cards will also enhance the efficiency of administering various schemes. In the PDS system, the smart card will reduce the incidence of bogus ration cards or diversion of foodgrains. Leakages can also be restricted by redirecting subsidies currently under PDS to better funding of other schemes like MDMS or the ICDS' (Ministry of Finance 2009).

Food coupons and other tools of targeting have been tried out in several countries and the experience has generally been far from inspiring. The more basic point is that by making a scheme targeted in this manner, one is reducing the broad political constituency for the scheme, thus making it easier for governments to repeal such schemes themselves in due course, citing reasons of fiscal prudence. For this and for several other reasons already stated, including that of the widespread prevalence of hunger even among officially non-poor households, the policy decision should be in favour of a universal PDS rather than a targeted system.

[36] The 2005 survey covered 14,405 respondents across 20 States. The 2007 survey covered 22,728 randomly selected BPL households across the 31 States and Union Territories.

[37] See MSSRF-WFP 2008 (RSFIRI): 86.

4.2 Mid-Day Meal Scheme

The National Programme of Nutritional Support to Primary Education (NPNSPE), commonly known as the Mid-Day Meal Scheme (MDMS), was started by the Government of India in August 1995 with the aim of universalisation of primary education by improving enrolment, attendance and retention. In States like Tamil Nadu, MDMS has a longer history and the positive experience of Tamil Nadu was a factor underlying the central government initiative. Another objective of NPNSPE was the raising of the nutritional level of children and inculcating in them appropriate hygiene and sanitation practices. Additionally, as many have pointed out, MDMS was conceived to help break caste prejudices by ensuring the sharing of common meals by children of different castes and, in a similar vein, help foster gender equity, though of course none of these outcomes can be taken for granted! The scheme seeks to achieve its objectives by improving the nutritional status of children in classes I - VIII in government, local body, government body and government-aided schools; children studying in the centres under the Education Guarantee Scheme (EGS); and in Alternative and Innovative Education (AIE) centres. The scheme initially provided for distribution of fixed quantities of dry foodgrains to school children. This was replaced by cooked meals with effect from September 2004 under orders passed by the Supreme Court.

MDMS provides a mid-day meal of 450 calories and 12 grams of protein to children at the primary stage. For children at the upper primary stage, the nutritional value has been fixed at 700 calories. With effect from December 2009, the quantity of pulses to be served was to be 30g, vegetables 75g and the quantity of oil and fat 7.5g (Ministry of Finance 2010). The cooking costs have also been revised to provide for this changed norm. Adequate quantities of micro-nutrients – like iron, folic acid and vitamin A – have also been recommended. During 2009-10, 11.77 crore children (8.41 crore at primary stage, i.e., Classes I-V and 3.36 crore at upper primary stage i.e., Classes VI-VIII) were expected to benefit under the scheme[38]. An outlay of Rs.9440 crore has been provided for this in the Budget for 2010-11, an increase of 18 per cent over the allocation of Rs.8000 crore in each of the previous two years, an increase that seems modest, given the current rates of food inflation.

As with the use of PDS by various MPCE classes and social groups, the 61st round of the NSSO for reference year 2004-05 provided some useful material on access to MDMS by expenditure classes and social groups. **Table 4.8** shows the percentage of urban households across social categories reporting at least one person benefiting from MDMS. It must be kept in mind that the figures reported here are as percentages to all households and not just the eligible households, i.e., those with one or more children attending primary/elementary school. The latter is clearly a subset of all sample households. Nevertheless, these numbers give us a fair idea of the reach of the scheme in urban areas.

At the all-India level, in urban areas, 9 per cent of ST households, 12 per cent of SC households and 11 per cent of OBC households were found to have at least one member benefiting from MDMS. Tamil Nadu, often cited as the model state for the functioning of MDMS, had the highest percentage of households in the vulnerable category (22 per cent ST and 24 per cent SC) using the scheme. In Karnataka, 22 per cent of SC households and 15 per cent OBC households benefited from MDMS. The corresponding figures

[38] http://education.nic.in/Elementary/mdm/index.htm accessed on 15 March 2010

in Kerala were 23 per cent and 14 per cent, respectively. In Andhra Pradesh, 16 per cent ST households, 11 per cent SC households and 10 per cent OBC households in urban areas reported accessing MDMS. In general, it is seen that the access has been higher in the four southern States. with nearly two-fifths of households benefiting from MDMS among the bottom 30 per cent of consumption expenditure classes **(Table 4.9)**.

As against 33.4 per cent rural households in the bottom 30 per cent category having recourse to MDMS at the all-India level in rural areas, the

Table 4.8

Importance of MDMS for Urban Households across Different Social Groups, 2004-05

Sl. No.	States	Percentage of urban households across different social groups with at least one member benefiting from MDMS				
		ST	SC	OBC	Others	All
1	Andhra Pradesh	16.2	11.1	9.7	5.8	8.6
2	Assam	3.7	1.3	4.9	1.0	2.0
3	Bihar	1.8	9.0	2.2	0.9	2.7
4	Gujarat	11.0	7.8	16.9	4.7	8.7
5	Haryana	0.0	7.1	4.8	0.8	2.8
6	Karnataka	6.9	22.3	15.2	6.0	11.3
7	Kerala	1.1	23.3	14.4	6.5	12.5
8	Madhya Pradesh	12.8	12.2	13.3	5.8	10.3
9	Maharashtra	10.3	11.0	11.3	7.9	9.3
10	Orissa	5.4	19.1	11.7	4.7	9.0
11	Punjab	0.0	0.5	1.1	0.0	0.3
12	Rajasthan	0.8	6.1	5.0	1.7	3.8
13	Tamil Nadu	22.1	24.2	15.4	3.8	15.6
14	Uttar Pradesh	1.6	11.0	6.4	1.4	4.1
15	West Bengal	8.5	13.8	8.5	8.2	9.3
	India	**9.0**	**11.8**	**10.7**	**4.8**	**8.0**

Source: NSSO 2007c

The States recording just 2-4 per cent of urban households benefiting from MDMS are the Punjab (0.3), Haryana, Rajasthan, Uttar Pradesh, Assam and Bihar. The performances of Bihar, Uttar Pradesh and Rajasthan were found to be equally poor in rural areas.

The MPCE class-wise figures indicate that one-fifth of all households in the bottom 30 per cent of expenditure classes have at least one member benefiting from MDMS. As expected, Tamil Nadu performed much better than the other States, figure was 19.52 per cent in urban areas. This may be a reflection of an urban demographic transition, with relatively fewer urban families having children in school. Gujarat (30.94 per cent) and Kerala (30.24 per cent) recorded high utilisation of MDMS in the bottom 30 per cent category in urban areas.

Across occupational groups, 18 per cent of casual labour households and 9 per cent of self-employed households reported at least one member benefiting from MDMS (NSSO 2007c).

Table 4.9

Importance of MDMS for Urban Households across Different Consumer Expenditure Classes, 2004-05

Sl. No.	States	Percentage of urban households with at least one member benefiting from MDMS			
		Bottom 30% of the MPCE Classes	Middle 40 % of the MPCE Classes	Top 30% of the MPCE Classes	All Classes
1	Andhra Pradesh	22.00	6.32	0.00	8.6
2	Assam	5.60	2.09	0.19	2.0
3	Bihar	5.92	2.08	0.00	2.2
4	Gujarat	30.94	9.89	0.71	8.7
5	Haryana	10.42	2.61	0.13	2.8
6	Karnataka	25.61	13.99	0.06	11.3
7	Kerala	30.24	14.47	4.92	12.5
8	Madhya Pradesh	21.73	6.07	0.24	11.4
9	Maharashtra	24.66	9.83	1.99	9.3
10	Orissa	16.55	3.96	2.24	9.0
11	Punjab	2.47	0.09	0.00	0.3
12	Rajasthan	7.10	3.82	0.61	3.8
13	Tamil Nadu	38.60	16.68	1.33	15.6
14	Uttar Pradesh	12.31	1.50	0.08	3.1
15	West Bengal	24.70	8.15	1.95	9.3
	India	**19.52**	**7.80**	**1.07**	**8.0**

Source: NSSO 2007c

4.2.1 Performance Audit of MDMS by the Comptroller and Auditor General

The performance audit reports of MDMS in the different States and at the Central level by the office of the Comptroller and Auditor General of India (CAG) have become available[39]. While recent CAG Reports talk of cooked meals not being given to children in some States, the Orissa government has reportedly given the responsibility of cooking the meals to SHGs and the results have been welcomed, according to Press reports[40].

While the test checks by the office of the CAG found improvement in enrolment and retention of children in most cases, the deficiency of proper cooking infrastructure emerged as an issue in all the States. Lack of internal controls and regular monitoring and evaluation were cited as other drawbacks. Feeding teachers and cooks instead of students, engagement of contractors for cooking, inadequate cooking and serving utensils were some of the irregularities cited in the audits in the States.

[39] www.cag.gov.in for performance audit reports pertaining to various States.

[40] http://www.downtoearth.org.in/full6.asp?foldername=20080630&filename=news&sec_id=50&sid=45

An important issue in some of the State level audits was the operation of centralised kitchens by NGOs to supply food to schools in urban areas. Following guidelines issued in December 2004, it had been permitted to set up centralised kitchens, where feasible, to cater to a cluster of schools in urban areas. In such a situation, hot cooked meals would have to be transported under hygienic conditions through a reliable transport system to various schools. Following this, some States (Andhra Pradesh, Madhya Pradesh, Uttar Pradesh, Haryana and Gujarat) had contracted out the responsibility of school feeding in some urban pockets to NGOs. The CAG audits however found that the operations of the NGOs were found wanting, with instances of inadequate quantity, excess claims, lack of implementation of supplementary programmes like de-worming and health check-ups being reported. It was observed that often NGOs were engaged without ascertaining their infrastructure and capacity, which resulted in their unsatisfactory working and unauthorised occupation of space/classrooms in school buildings.

The Union Performance Audit Report of MDMS in 2006-07 has made the following general recommendations applicable across the States (Comptroller and Auditor General of India 2008):

- The Ministry should set realistic and specific objectives and goals for the scheme. It should prescribe outcome indicators to measure and report on improvements in education, health and nutrition. It should use/analyse the data received from the States for such an evaluation.
- The Ministry should vigorously coordinate with the State governments to ensure that the data on enrolment, attendance and retention flows from the school level to State level in a transparent manner, with records of compilation maintained at each level, i.e., school level, district level and State level. Periodical checks should be arranged to cross-check the data for accuracy. It should provide for analysis of feedback received and take remedial action, when required.
- The analysis of outcome indicators and reporting should be brought into an online periodic MIS as far as possible, so that the evaluation flows easily from the data available in real time.
- The Ministry needs to establish a system to ascertain the improvement in nutritional levels of the children. The Ministry should coordinate with the State governments and ensure maintenance of health cards in all the schools to monitor the health status of the children.
- The Ministry/States should ensure that adequate infrastructure, viz., provisions of kitchen sheds, kitchen devices and facility of drinking water are available in all schools. It should put in place a system to ensure that the teaching time of the teachers is not lost in connection with the mid-day meal and there is no adverse impact of the scheme on the primary objective of education.
- The Ministry/State governments need to strengthen internal controls as well as the inspection and monitoring mechanism at all levels. Accountability for maintenance of records at various levels should be prescribed and monitored.

The Union Audit Report has also recommended convergence and linkage with other programmes for accessing funds to

address infrastructural lacunae. For instance, the construction of kitchen-cum-store for schools in urban areas could be linked to the Basic Services for Urban Poor (BSUP), Integrated Housing and Slum Development Programme (IHSDP) for urban areas under the Ministry of Housing and Urban Poverty Alleviation and to the Urban Wage Employment Programme, a component of Swarna Jayanti Shahri Rozgar Yojana (SJSRY) for urban areas outside slums. Likewise, the funds for new school construction and water supply could be linked with the Sarva Shiksha Abhiyan under the Ministry of Human Resources Development.

4.3 Integrated Child Development Services

The Integrated Child Development Services (ICDS) scheme launched in 1975 aims at holistic development of children up to six years of age as well as adolescent girls and pregnant and lactating mothers by providing a package of services comprising supplementary nutrition, immunisation, health check up, referral services, non-formal pre-school education and health and nutrition education. This is a centrally sponsored scheme (CSS) wherein the Government of India (GoI) is responsible for the programme planning and infrastructure funding and the State Government for programme implementation and supplementary nutrition. GoI also provides assistance for implementation of Kishori Shakti Yojana (KSY), Nutrition Programme for Adolescent Girls (NPAG) and Pradhan Mantri Gramodaya Yojana (PMGY), all of which, are implemented through ICDS.

The services under ICDS are offered through a network of anganwadi centres. As on 31 March 2009, around 1 million anganwadi centres were in operation in the country (Ministry of Women and Child Development 2010). They covered 37.5 million children in the 6 months to 3 years category and 34.7 million in the 3-6 years category under the supplementary nutrition programme. 15 million pregnant women and lactating mothers benefited from supplementary nutrition from the centres. 34 million children (17.4 million boys and 16.6 million girls) in the 3-6 years age group benefited from pre-school education at the centres.

The cost per child and nutrition allocation was revised with effect from October 2008. The calorie levels were increased by 200 calories in the case of children and 100 calories in the case of pregnant and lactating mothers. The corresponding protein requirements were increased by 4-5g in the case of children and 2-5g in the case of pregnant and lactating mothers. The details are given in **Table 4.10**.

Following up on this, in response to a PIL filed by the People's Union for Civil Liberties (PUCL), the Supreme Court has reinforced the implementation of the revised norms vide its order of 22 April 2009 and has sought compliance reports from all the States by 15 January 2010.

Table 4.10

Revised Feeding Norms under ICDS, 2009

Category	Revised rate (per beneficiary per day)	Calories (Kcal)	Protein (g)
Children (6-72 months)	Rs.4.00	500	12.15
Severely underweight children (6-72 months)	Rs.6.00	800	20.25
Pregnant women and nursing mothers	Rs.5.00	600	18-20

Source: http://www.wcd.nic.in

The 61st Round of the NSSO provides information on the reach and access to ICDS. The rural picture had been analysed in RSFIRI. A similar exercise has been undertaken here to understand the urban scenario through **Tables 4.11 and 4.12.**

Table 4.11 shows the percentage of urban households from different social categories, reporting at least one person benefiting from the ICDS. Like in the case of MDMS, the figures are percentages of beneficiary households to all households and not just the eligible ones with children below six years of age or one or more pregnant/lactating women. The latter is clearly a subset of all sample households.

Among urban households in the ST category, Karnataka (8.5 per cent), Maharashtra (5.6 per cent), and Orissa (5 per cent) reported utilizing ICDS. Among SC households, the figures were Kerala - 12.6 per cent, Maharashtra – 4.9 per cent and Haryana – 4.5 per cent. The numbers for the other States were much smaller.

In terms of MPCE classes, as expected, utilisation was found to be the highest among the bottom three deciles **(Table 4.12)**.

The all-India average was 3.2 per cent, followed by 1.9 per cent in the middle 40 per cent category. The percentage was highest in Gujarat with 10.8 per cent of urban households in the bottom 30 per cent MPCE category. Kerala, Maharashtra, Orissa, Tamil Nadu and Haryana fared better than the national average in the bottom 30 per cent consumption expenditure classes.

Table 4.11

Importance of ICDS for Urban Households across Different Social Groups, 2004-05

Sl. No.	States	Percentage of urban households across different social groups with atleast one member benefiting from ICDS				
		ST	SC	OBC	Others	All
1	Andhra Pradesh	0.4	2.8	0.5	0.8	1.0
2	Assam	3.0	1.5	0.4	0.0	0.5
3	Bihar	0.2	0.1	0.0	0.0	0.0
4	Gujarat	3.0	2.5	8.2	3.1	4.4
5	Haryana	0.0	4.5	3.7	2.4	3.0
6	Karnataka	8.5	0.1	1.8	0.5	1.1
7	Kerala	0.0	12.6	5.2	4.1	5.3
8	Madhya Pradesh	5.6	4.9	3.1	2.6	3.2
9	Maharashtra	5.6	4.9	3.1	2.6	3.2
10	Orissa	5.0	3.9	7.1	3.7	4.9
11	Punjab	0.0	0.1	0.0	0.1	0.1
12	Rajasthan	0.0	0.0	0.5	0.0	0.2
13	Tamil Nadu	0.0	2.1	3.5	0.8	3.0
14	Uttar Pradesh	0.0	0.0	0.2	0.0	0.1
15	West Bengal	0.2	2.5	0.8	0.9	1.2
	India	**3.2**	**2.2**	**2.3**	**1.2**	**1.8**

Source: NSSO 2007c

Across occupational groups, 4 per cent of casual labour households and 2 per cent of self-employed households reported at least one member benefiting from ICDS (NSSO 2007c).

Table 4.12

Importance of ICDS for Urban Households across Different Consumer Expenditure Classes, 2004-05

Sl. No.	States	Percentage of urban households with at least one member benefiting from ICDS			
		Bottom 30% of the MPCE Classes	Middle 40% of the MPCE Classes	Top 30% of the MPCE Classes	All Classes
1	Andhra Pradesh	2.2	0.8	0.0	1.00
2	Assam	0.4	1.1	0.0	0.50
3	Bihar	0.2	0.0	0.0	0.00
4	Gujarat	10.8	4.5	2.4	4.40
5	Haryana	5.0	3.7	1.6	3.00
6	Karnataka	2.5	1.5	0.0	1.10
7	Kerala	9.9	6.8	2.7	5.30
8	Madhya Pradesh	3.1	2.4	0.3	1.32
9	Maharashtra	9.9	3.1	0.4	3.20
10	Orissa	6.9	3.2	3.5	4.90
11	Punjab	0.1	0.1	0.0	0.10
12	Rajasthan	0.0	0.2	0.3	0.20
13	Tamil Nadu	4.6	3.4	1.8	3.00
14	Uttar Pradesh	0.5	0.0	0.0	0.09
15	West Bengal	2.7	1.2	0.4	1.20
	India	**3.2**	**1.9**	**0.7**	**1.80**

Source: NSSO 2007c

4.3.1 Evidence from State Reports of NFHS 3

State-level reports of NFHS 3 highlight some aspects of access or coverage and delivery/ availing of ICDS services by the target population **(Tables 4.13** and **4.14)**.

The percentage of children in the 0-6-years age group in urban areas covered under ICDS was the highest in Tamil Nadu at 94.5 per cent, followed by Karnataka (85 per cent) and Kerala (83.6 per cent). The percentage of children receiving any service from ICDS was however only 36 per cent in Tamil Nadu and 33 per cent and 16 per cent, respectively, in Kerala and Karnataka. At the lower end in terms of percentage of children covered were the Punjab – 17 per cent, Haryana – 22 per cent and Orissa – 21 per cent. Of this, no child reported receiving any benefit from the service in the Punjab, about 4.3 benefited in Haryana while in Orissa the percentage was 41 per cent. In **Table 4.13**, figures for Bihar, Madhya Pradesh and Uttar Pradesh included Jharkhand, Chhattisgarh and Uttarakhand. The weighted average combining Bihar and Jharkhand has in fact hidden the poor performance of Bihar, with only 14 per cent of children covered and none benefiting from any of the ICDS services.

Table 4.13

Salient Features of ICDS in Urban Areas, 2005-06

Sl. No.	States	Percentage of children age 0-71 months in areas covered by an AWC	Percentage of children age 0-71 months who received some service from an AWC			
			Any Service	Supplementary Food	Immunisation	Health Check-up
1	Andhra Pradesh	74.5	22.4	20.5	10.0	8.5
2	Assam	31.9	21.2	17.8	5.1	4.2
3	Bihar	54.9	14.2	8.2	10.4	2.4
4	Gujarat	68.2	29.0	21.6	20.3	20.1
5	Haryana	21.7	4.3	2.9	2.9	2.9
6	Karnataka	85.0	16.0	11.2	10.7	6.5
7	Kerala	83.6	32.8	24.4	9.4	17.2
8	Madhya Pradesh	41.8	45.3	39.3	26.7	21.9
9	Maharashtra	47.8	23.9	21.5	13.0	16.0
10	Orissa	20.7	41.3	26.9	14.4	26.9
11	Punjab	17.4	0.0	0.0	0.0	0.0
12	Rajasthan	27.3	4.6	2.0	3.3	1.3
13	Tamil Nadu	94.5	36.1	25.2	26.6	22.7
14	Uttar Pradesh	27.0	10.6	8.3	5.1	3.6
15	West Bengal	61.4	18.4	16.2	6.9	7.6
	India	**NA**	**23.4**	**NA**	**13.9**	**NA**

Note: AWC- Anganwadi Centre
AWC services for children include distribution of supplementary food, growth monitoring, immunisation, health check-up and pre-school education

Source: NFHS 2007

Examining the percentage of mothers receiving any service from the anganwadi centres in urban areas **(Table 4.14)**, it is clear that Tamil Nadu presented the best scenario while the Punjab presented the worst. In Tamil Nadu, while 61 per cent of mothers had not received any ICDS service during their pregnancy, in the Punjab no mother had reported receiving any ICDS service. Bihar's performance is equally deplorable with 100 per cent of mothers reporting 'no service' from ICDS. As explained earlier, considering that **Table 4.14** provides the weighted average of Bihar and Jharkhand and presents it as the figure of Bihar, the poor status of Bihar has got hidden here. Tamil Nadu again presented the most positive picture, with 39 per cent women availing of some service from the anganwadi centre, 27 per cent receiving health and nutrition education, 26 per cent undergoing health check-up and 37 per cent receiving supplementary food.

Table 4.14

Utilisation of ICDS Services by Mothers during Pregnancy in Urban Areas, 2005-06

Sl. No.	States	Percentage of mothers received any/no services from an AWC during pregnancy			
		No service	Supplementary food	Health check-up	Health and nutrition education
1	Andhra Pradesh	81.8	17.7	8.2	11.3
2	Assam	83.1	16.9	3.4	4.2
3	Bihar	93.7	6.1	1.4	2.4
4	Gujarat	83.4	14.8	7.2	8.1
5	Haryana	97.1	2.9	0.0	0.0
6	Karnataka	86.8	12.5	6.1	9.5
7	Kerala	81.9	16.3	8.1	11.3
8	Madhya Pradesh	64.8	32.2	16.1	15.0
9	Maharashtra	88.2	9.9	5.6	3.7
10	Orissa	79.8	8.7	19.2	10.6
11	Punjab	100.0	0.0	0.0	0.0
12	Rajasthan	94.1	4.6	3.3	2.6
13	Tamil Nadu	61.4	37.1	26.1	27.1
14	Uttar Pradesh	95.4	4.5	2.6	2.1
15	West Bengal	86.7	12.9	4.5	5.7
	India	**83.2**	**15.6**	**8.5**	**9.3**

Source: NFHS 2007

The availability of other options like private hospitals may be a reason for fewer women going to the ICDS centres for health check-up, but that would not have been a natural choice for the urban poor, had a well-functioning anganwadi centre been accessible to them. The extent of coverage says a lot about the lack of sufficient outreach of the scheme, especially considering the fact that the nutrition indicators (e.g., level of anemia, chronic energy deficiency, underweight), especially with reference to both children and women in the reproductive age group as seen in Chapter 3, have been far from acceptable. At the all-India level, 72 per cent of the children in the under-three age group in urban areas suffered from anemia, 37.4 per cent were stunted and 30 per cent underweight; 51 per cent of ever married women in the 15-49 years category in urban areas suffered from anemia and 25 per cent from chronic energy deficiency.

The Eleventh Five Year Plan has also rightly emphasised the aspect of sanitation and its close link to absorption:

Poor sanitation leads to high incidence of diarrhoeal disease in the early years, undermining whatever little poor nutrition the infant takes in; hence, the Total Sanitation Campaign (TSC) must force its pace, particularly in urban areas where the density of population is high and the risk of fecal contamination even higher than in rural areas. (Planning Commission 2007: 143).

The document further states that the 'aim should be to halve the incidence of malnutrition in children by the end of the Eleventh Plan from 46 to 23 per cent and to reduce anaemia among pregnant women and children to under 10 per cent' (ibid).

It maybe noted in the light of the above, that the Union Budget for 2009-10 has proposed

that all services under ICDS would be extended to every child under the age of six by March 2012 – a tall order, considering that only about 30 per cent of the children were covered under the supplementary nutrition programme under ICDS as on 31 March 2006 (MSSRF-WFP 2008). The budgetary allocation for ICDS in 2009-10 at Rs.6,705 crore was only marginally higher than the Rs.6,300 allocated in 2008-09, just a 6.4 per cent increase compared to the 19 per cent increase in each of the previous two years The allocation in the 2010-11 Budget at Rs.8,700 crore represents a 29.8 per cent increase. This includes expenditure on expansion of the ICDS platform for effective implementation of the Rajiv Gandhi Scheme for Adolescent Girls[41]. Therefore, given the ground to be covered, the increased allocation is rather inadequate.

[41] The Kishori Shakti Yojana (KSY) and the Nutrition Programme for Adolescent Girls (NPAG) have been subsumed under this new scheme.

CHAPTER 5

Conclusions and Policy Recommendations

5.1 Brief Review

This Report began by examining some general aspects of the situation and the challenge of urban food security in the contemporary context. In particular, the concerns in respect of food and nutrition security were explored – in urban areas both worldwide and, more specifically, in India – during the period of globalisation starting from the 1980s. The situation of India and its major States were studied with regard to urban food security by looking at the three aspects of availability, access and absorption. Since data on urban food availability was difficult to obtain, the focus was on the access indicators in terms of employment and calorie intake, and absorption indicators in terms of basic amenities. The situation in slums was also briefly dealt with. Following this discussion, the construction of an index of food and nutrition insecurity for the urban areas of the major States of India was carried out. The emphasis was on chronic food and nutrition insecurity, and the problems of transitory and silent hunger were not dealt with.

Six variants of the index were computed, of which one was identified as most appropriate. It was also shown that the rankings across the States did not change dramatically across the different variants considered.

The outcome measures that have been utilised in one or more variants of the composite index of urban food security included the percentages, respectively, of

- ever married women aged 15-49 years who are anaemic.
- ever married women (15-49 yrs) with chronic energy deficiency.
- children in the age group 6-35 months who are anaemic.
- children in the age group 6-35 months who are stunted.
- children in the age group 6-35 months underweight.

The five input measures considered were the

- percentage of urban population consuming less than 1890 Kcal/cu/diem
- percentage of urban households not having access to safe drinking water
- percentage of urban households not having access to toilets
- number of male workers per 1000 workers not ‘regularly’ employed
- number of female workers per 1000 workers not ‘regularly’ employed

A comparison of the index values for both periods (1998-2000 and 2004-06) suggested a rather modest improvement of the urban food security situation across the country as measured by official data, with the qualifier that the data on access to safe drinking water and to toilets may have, in many cases, overstated the actual access on the ground in view of the reality of non-/inadequate functioning/provision[42]. An examination of the outcome indicators alone suggests worsening in most States in respect of all of them, with the exception of the percentage of urban children underweight. The percentage of anaemia among women and among children, the percentage of women with CED, and the percentage of children stunted or wasting – all these indicators worsened for India as a whole and for a number of States between 1998-2000 and 2004-06. Measured by an index based on these indicators, urban food security has improved for Bihar, Kerala, Maharashtra, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. Of these, the improvement has been marginal in the case of Maharashtra and Tamil Nadu. On the other hand, several States showed considerable deterioration – Andhra Pradesh, Assam, Gujarat, Haryana, Karnataka and Madhya Pradesh. The Punjab showed a marginal worsening. This suggests that the food security situation may have deteriorated rather than improved for a sizeable segment of the urban population in the country between 1998-2000 and 2004-06[43]. When one takes into account the fact that these are urban average indicator values, and that urban inequality has worsened in the period since 1991, the implications for the food security status of the urban poor or slum dwellers are worrying, to say the least.

The analysis brought out significant changes in the relative ranking of various States between 1998-2000 and 2004-2006. While urban Punjab remained the least food insecure, several other States were observed to have become relatively less food insecure between 1998-2000 and 2004-06. In particular, Bihar, Uttar Pradesh, Orissa, Madhya Pradesh and Rajasthan, which figured at the bottom of the list in 1998-2000, have all shown significant improvement in their urban food security status. However, four of these five States continued to be at the bottom end in 2004-06 as well, despite their improvement between the two periods in absolute terms. The only exception has been Uttar Pradesh, which showed a dramatic improvement – worth exploring in detail. Rajasthan has been the most sluggish performer in this group in terms of the degree of improvement between the two periods, though it continued to be ahead of Bihar, Madhya Pradesh and Orissa, except in one variant where it ended up slightly worse off than Orissa. The Punjab, Kerala, Gujarat, West Bengal and Tamil Nadu all showed improvement. Of the remaining five States (Andhra Pradesh, Assam, Haryana, Karnataka and Maharashtra), Andhra Pradesh and Haryana did more poorly in 2004-06 than in 1998-2000, in all the six variants of the composite index considered. Karnataka was in the same situation except for one variant of the index. Assam improved between 1998-2000 and 2004-06 in terms of four of the six variants but worsened in terms of the other two. Maharashtra improved under three variants and deteriorated under the other three. Thus, the overall marginal improvement in urban food security in India as

[42] One may also note the point that the regarding of an increase in the share of 'regular employment' as an indicator of relative security of earnings and hence of food security, while not entirely incorrect, may nonetheless not be categorically valid if earnings have declined in relation to prices over the two periods.

[43] There is little change in the patterns if percentage of children stunted is replaced by percentage underweight, except that, while the index for India as a whole showed improvement, the Punjab did much worse. One wonders whether the apparent decline in the percentage of children underweight may in fact reflect the increasing incidence of overweight children, another manifestation of poor nutrition, but of the opposite kind.

measured by the composite index in all its variants was accompanied by significant improvement in the poorer States, and, in the case of the more developed States, by improvement in some, worsening in others. The fact that the picture looks much less rosy when an assessment based purely on outcome measures is made suggests that there is no room for complacency on the issue of urban food security. If anything, it is disappointing that urban economic growth has made no dent on urban food insecurity.

Detailed analysis of the performance of each State as well as reasons for deterioration in ranking on the urban food security scale would require more State-specific, disaggregated research. It is interesting to note, however, that three States that have seen a spate of farmer suicides in the decade from the year 2000 – Maharashtra, Andhra Pradesh and Karnataka – find themselves in the category where urban food insecurity has worsened between 1998-2000 and 2004-06. Karnataka and Andhra Pradesh have generally been highlighted as urban growth exemplars and their poor performance over the period under discussion is good reason for critical reflection on the underlying model of urban growth. Haryana's poor performance calls for further analysis. Likewise, and in the opposite direction, Uttar Pradesh merits a closer analysis of its seemingly impressive improvement. Finally, while the improvement in the poorer States may be regarded as a cause for satisfaction, it must be emphasised that they are still the most food insecure States, with the exception of Uttar Pradesh, even as measured by the composite index with its reliance on secondary data of uncertain quality in respect of intake indicators relating to absorption.

By this Report's measure of food insecurity, the period of economic reforms and high GDP growth has not seen a clear improvement in urban food security across all the States. While the poorer States have done better than before, these States account for only a small part of the country's urban population. On the other hand, States like Maharashtra, Andhra Pradesh, Karnataka and Haryana, which are relatively more urbanised, have done poorly. It is interesting to recall that, in Mahrashtra, Andhra Pradesh and Karnataka, rural food insecurity had also risen between 1998-2000 and 2004-06. Equally striking, Gujarat's apparent improvement vanished when an outcomes-based index is used to compare performance in 1998-2000 with that in 2004-06. Considering that Gujarat and Karnataka figured among the States with the fastest rates of growth of GDP between 1993-94 and 2004-05, this is decisive proof, if proof were needed, of the proposition that growth by itself will not take care of malnutrition or food insecurity.

This should not be altogether surprising. Many analysts have pointed out that the period of reforms has been marked by deflationary macroeconomic policies that have hurt the purchasing power of the bulk of the working population, in both urban and rural areas. Attention has been drawn to the overwhelming crisis in agriculture, marked not only by the tragic and visible phenomenon of farmers' suicides in several States, but by the near stagnation in foodgrain output for almost a decade between the late 1990s and the first six years of the second millenium. A number of factors have contributed to the crisis of the rural and agrarian economy, including the cutbacks in rural development expenditures of the government, the sharp increase in input costs for farmers because of the reduction in input subsidies as part of the fiscal squeeze, the fall in output prices on account of removal of quantitative restrictions on agricultural imports (which have, incidentally, grown manifold over the reform period), the credit squeeze as a consequence of financial liberalisation resulting both in higher real interest rates and in lower rates of growth of institutional credit for

agriculture and allied activities, and the reduction in government investments and other expenditure on agricultural research and development and extension. Growth of employment in urban India was lower in the period between 1993-94 and 1999-2000, compared to 1988-1993/94, going by the data from the 50th and 55th rounds of the NSSO. The increase in the rate of growth of rural employment between 1999-2000 and 2004-05 as seen from the 61st round of NSSO has still not been sufficient to reach the rural employment growth rates of the period 1983-1993/94. Further, much of the growth in employment in the period 1999-2000 to 2004-05 in both rural and urban India has been in self-employment and in informal sector activities, raising serious questions about the quality and terms of employment and the impact on food security of such employment. This has been brought out in detail in Chapter 2 of this Report, illustrating the fact that, in terms of employment and earnings, consumption levels and calorie intakes, and provision of amenities, the period under discussion has seen little progress and possibly some deterioration in urban India, and especially in the smaller towns. It may not be far off the mark to suggest that the crisis of the rural economy would have had some impact on urban areas as well. Besides, the failure of the government to expand provision of amenities adequately, especially in the case of small and medium towns, would also have had a negative impact on the absorption aspect of urban food security.

After analysing the trends in the status of food and nutrition insecurity in the major States over the period 1998-2000 to 2004-2006, the discussion turned to the flagship food security programme of the country – the public distribution system – as it has evolved over the decades, focusing especially on the period of economic reforms under way since 1991. The salient points that emerged were: First, it was found – a point also noted in the earlier Report on the State of Food Insecurity in Rural India (RSFIRI) – that PDS had served the country well as it expanded from a few urban centres in the early 1950s to more or less the whole country by the early 1980s. There were no doubt several operational problems including inefficiencies and leakages, but few would deny that PDS had played a crucial role in ensuring access to foodgrains for a significant proportion of the population that would otherwise have gone hungry. This role of PDS was closely linked to the strategy for agricultural development evolved in the mid 1960s and to the leading role of the government in India's growth and development. Second, as the country embarked on a structural adjustment programme in 1991, the policy thrust on reduction of budgetary deficits primarily through expenditure reduction meant curtailing of subsidies and a sharp rise in the issue prices of foodgrains through PDS. Subsequently, the policy framework, which saw a reduction in food subsidy as a non-negotiable policy imperative, led to the introduction of the targeted PDS in 1997. Examining the consequences of TPDS for both food security and the viability of PDS itself on the basis of available data and research studies, the conclusion in RSFIRI was that PDS could be improved and made more effective through certain policy interventions and reform. It had also been maintained that if PDS is to address the issue of food security at the household level, the ration must be on a per capita basis and not on a per household basis. Third, the need for effective dissemination of all information including various entitlements pertaining to the PDS to the users had been emphasised. Fourth, it had been argued that elected local bodies must be actively involved in monitoring PDS and that the margin to the owner of the fair price shop has to be revised appropriately to ensure the viability of the ration shop. Given that, under normal circumstances, the food subsidy has been around or less than 1 per

cent of GDP, and given the importance of food and nutrition security from both the rights perspective and a human development viewpoint, it needs to be reiterated that, as the conclusion in RSFIRI pointed out, the case for universal PDS with a uniform, affordable price – which would also restore the market stabilising function of PDS – is indeed compelling.

Following the discussion of PDS, this Report went on to briefly examine two other important interventions of the State in the arena of food and nutrition security, namely, the integrated child development services (ICDS) scheme and the mid-day meal scheme (MDMS). Thanks both to judicial intervention in the form of a series of path-breaking interim orders by the Supreme Court of India, following the sustained work put in by the right to food movement and a number of activist organisations and individuals, and to the outcome of the parliamentary elections of 2004 which led to the formulation of a National Common Minimum Programme (NCMP) by the Government of India on the basis of an understanding arrived at between the ruling coalition and the Left Parties supporting it from outside, the MDMS and the ICDS programmes have moved forward in important ways. The largest gains in terms of food security have come from MDMS. Though the Government of India announced the launch of a National Programme of Nutritional Support to Primary Education (NPNSPE) in 1995, it was only subsequent to the intervention of the Supreme Court in 2001 that things moved forward. Since then, MDMS has become nearly universal, with hot cooked meals being served to millions of primary school children across the country. The guidelines of the Scheme have also been revised twice – in 2004 and 2006 – in ways that strengthen the programme and its impact on the food security of children in government and government-aided primary schools. Two working groups of the Planning Commission have proposed further strengthening of MDMS, through suitable revision of financial norms and extension, to cover children up to Class VIII. This Report has gone into the functioning of MDMS in Chapter 4, concluding that the scheme has made a progressive impact, but that monitoring mechanisms need to be strengthened and their feedback acted upon promptly.

The picture in respect of ICDS is rather mixed. While Court orders with regard to ICDS have been strongly in favour of its universalisation to cover every habitation and hamlet, the response of the Government of India has been rather lukewarm. Though there has been a substantial increase in the number of ICDS centres, financial allocations to ICDS, however, have fallen far short of the requirements for even running the existing centres properly, let alone meet the requirements of universalisation. The problems of quality – addressing some of which require substantial modifications in the design of the scheme itself – and of social exclusion remain a major challenge, as does universalisation. Unfortunately, inadequate allocations in recent budgets for ICDS warrant the comment that this seems to be inconsistent with the government's stated intention to enact legislation ensuring food security for all. ICDS and PDS are two areas where a policy framework with insistence on deficit reduction almost solely through expenditure reduction would not help in enhancing food and nutrition security. This is especially relevant in a context where large tax concessions have been extended to the corporate sector as part of a fiscal stimulus to deal with the impact of the global recession.

Even though universalising PDS will involve a higher quantum of food subsidy, given the hardening of wheat and rice prices in the world market and the higher procurement prices that would have to be provided to Indian farmers, its beneficial consequences in addressing our rather poor record in terms of food and nutrition

security far outweigh these costs. Such universalisation should, of course, go hand in hand with measures to improve the functioning of PDS. The exercise cited in **Box 2** shows that the fiscal burden of universal PDS to provide 35 kg per month to all households at two rupees a kg may not be prohibitive.

5.2 Policy Recommendations

1. Detailed recommendations have been made in the Report on the State of Food Insecurity in Rural India (RSFIRI) (MSSRF-WFP 2008) concerning policies to promote food and nutrition security for all. Many of those

Box 2 Universalising PDS: How much does it cost anyway?
Praveen Jha & Nilachala Acharya

Universalising PDS & Food Security Bill

In this context, the proposal to universalise the PDS in the country calls for cost estimations going beyond the existing practice of food subsidy in the budgets. The budgetary provisions towards food subsidy during the fiscal year 2009-10 were less than one per cent of the country's GDP. This is clearly less than the amount needed to ensure food for all.

Proposal

To ensure food for all, an additional Rs.94,419 crore may be required to supplement the present provisions of food subsidy in the country. This cost estimation of the proposed universalisation of PDS is based on the following assumptions:

- Total number of households in the country at present is 23.96 crore (approx 24 crore) based on the assumption that the size of household is 4.8 (as reported in NFHS-3) and the projected population of the country at present is 115 crore.
- Extending the provision of PDS to all the households in the country would demand subsidised foodgrains at 35 kg per month per household at the central issue price (CIP) of Rs.2 per kg.
- The minimum support price (MSP) as well as economic costs of wheat and rice will not increase from what it is at present, i.e., Rs.1,789.8 for per quintal of rice and Rs.1,392.7 for per quintal of wheat.
- The distribution of rice and wheat will be in the ratio of 2:1.

Based on the above assumptions, the total amount of foodgrains needed for distribution through PDS would be around 1008 lakh tonnes. Out of this, the amount of rice and wheat needed for distribution would be around 672 lakh tonnes and 336 lakh tonnes respectively. As a whole, the total amount as food subsidy per annum would be Rs.1,46,909 crore. At present, the provision of food subsidy accounts for Rs.52,490 crore as per the budget estimate of 2009-10. Therefore in the coming budgets the government will have to make provisions for an additional amount of Rs.94,419 crore.

Contd…

Required Amount of Food Grains and Food Subsidy (Per Annum):

A	Total amount of foodgrains (rice/wheat) to be distributed (per annum) at 35 kg per month per household	1008 lakh tonnes
B	Proposed CIP for foodgrains per tonne (Rs.2 per kg × 1000 kg)	Rs.2000
i	Total amount of rice need to be distributed (per annum)	672 lakh tonnes
ii	Total amount of wheat need to be distributed (per annum)	336 lakh tonnes
C	Total amount which would be recovered through CIP (Rs.2000 × 1008 lakh tonnes)	Rs.20160 crore
D	Economic costs per tonne of rice (Rs.1789.8 × 10) W	Rs.17898
a	Total economic costs for the distribution of proposed amount of rice	Rs.120275 crore
E	Economic costs per tonne of wheat (Rs.1392.7 × 10)	Rs.13927
b	Total economic costs for the distribution of proposed amount of wheat	Rs.46795 crore
F	Total economic cost for the distribution of food grain (rice/wheat) (F=a+b)	Rs.167069 crore
G	Amount of food subsidy required per annum (F-C)	Rs.146909 crore
H	Present budgetary provision as food subsidy	Rs.52490 crore
I	Food subsidy required for the coming budgets over and above the existing provision (I=G-H)	Rs.94419 crore

Source: India Current Affairs, 20 November 2009
http://indiacurrentaffairs.org/universalising-pds-how-much-does-it-cost-anyway-praveen-jha-nilachala-acharya/

recommendations are not specific to rural India, and are applicable to urban areas as well. **Annexure 1** presents the recommendations set forth in RSFIRI. In the present Report, their relevance to urban food security as well is strongly reiterated. This is especially true for all proposals pertaining to increasing food availability. The only additional recommendation in the context of urban India is that the potentialities of urban agriculture should be seriously explored.

2. As already noted, access and absorption are the main issues in urban food security. In respect of access, the key is the quality and quantity of employment. Urban asset distribution is, of course, quite skewed, with large industrial and service sector establishments being an important feature of the urban landscape. The central issue is therefore of enabling expansion of productive and remunerative employment. This will involve special assistance to the numerous small and tiny enterprises in the urban economy. The recommendations of NCEUS in this regard – from credit to marketing support to infrastructure provision – are eminently reasonable.

3. The NCEUS recommendations on social security, provision of remunerative employment, skill development and support in various ways to small and tiny enterprises should be implemented quickly. It is indeed a matter of concern that many of the recommendations of NCEUS in this regard are yet to be acted upon. While support to tiny and small enterprises is necessary to help enhance the incomes of the self-employed and thereby their access to food, it is equally important to enhance both the quantity and quality of wage-paid employment. As NCEUS points out, much of the rhetoric demanding "labour flexibility" is in the nature of a red herring, and the real need is to ensure that the workers in the unorganised sector and those in informal employment in the formal sector are provided decent wages and working conditions as well as a modicum of social security.

4. Skill development, both for the self-employed and those seeking, or already, in wage employment, is an important input to improve the quality of employment as well as enhance the probability of finding employment. Again, the NCEUS recommendations in this regard need to be supported. Any effort in this direction has necessarily to be on a very large scale and appropriately decentralised for effective implementation.

5. Most importantly, along the lines of the National Rural Employment Guarantee Act, an Urban Employment Guarantee Act should be urgently enacted. This can be integrated in a synergistic manner with the need to improve urban amenities, especially in the small and medium towns. The experience obtained from the implementation of NREGA so far can be utilised in the appropriate design of an urban employment guarantee scheme. It is noteworthy that Tripura has already formulated a scheme in this regard and similar initiatives have since been taken by the Governments of Kerala and West Bengal in their budgets for 2010-11.

6. Absorption is the other key issue in urban food security. In essence, improving absorption requires easy and guaranteed access to safe drinking water in adequate quantities and as and when needed; toilet facilities, ideally inside one's own premises, and if not, at a location sufficiently close to residence, with adequate water and appropriate arrangements for maintenance and upkeep; hygienic sanitation and drainage facilities for all urban areas including slums; and nutrition education, covering both undernutrition and 'overnutrition'. Adequate investments have to be made in this regard. Special attention has to be paid to small and medium towns which happen to be most poorly provided for in this respect so far. While the funding has to come from higher levels of government, design and implementation have to be decentralised and vested with elected local bodies.

7. "Overnutrition" is an emerging problem in urban India. However, it cannot be a policy priority given the huge challenge of undernutrition which must be addressed with the greatest urgency. Nonetheless, a beginning can be made to address overnutrition through appropriate nutrition education initiatives.

8. Urban health facilities are important to minimising urban morbidity and thereby improving the absorption dimension of food security. Currently, municipalities with population levels below 100,000 are very poorly served by the public health care system. The town panchayats come under the

service area of primary health centres and the health subcentres under them. Municipalities (including corporations) with population exceeding 100,000 are covered under national programmes like the India Population Project and its successors. So, there is need for a special focus on the smaller towns and municipalities in the National Urban Health Mission.

9. There are some general points to be kept in mind. JNNURM and other urban development/ urban poverty alleviation programmes tend to emphasise the urban unit as a whole, which de facto means privileging the more affluent sections of the urban population. It is important to focus urban interventions in JNNURM and other programmes on the needs of small and medium towns and on the needs of urban slums in all cities, taking care to address the needs of the poor with regard to shelter, water, sanitation, drainage and nutrition education. It is also important to ensure that PDS, ICDS and MDMS reach the poor effectively. There are serious pitfalls in this regard that arise from an obsession with the model of so-called 'public private participation' or PPP. Clearly, PPP with a profit-driven private party will not by itself ensure inclusion of the urban poor or slum dwellers as beneficiaries of such initiatives. It is a matter of political will that adequate resources be found through the regular fiscal mechanisms to undertake the necessary infrastructure investments in urban areas that address the basic needs of safe drinking water, sanitation and hygiene, rather than offload it to the PPP mode, citing resource constraints. As the highest Court of the land has pointed out, Article 21 of the Indian Constitution guarantees the right to life, and the right to life includes the right to food. This cannot be made negotiable on grounds of resource constraints.

10. The elected urban local bodies need to be invested with both power and responsibility for designing and implementing all food and nutrition programmes, and provided the necessary financial support by the higher levels of government, especially the Central government. To ensure effective devolution, the capabilities of local bodies need to be strengthened considerably through appropriate programmes of capacity building.

11. A Nutrition Literacy Movement should be launched and home gardens promoted, wherever this is feasible, based on the principle of finding a horticultural remedy for every nutritional malady (with particular reference to micronutrient deficiencies). Government should provide technical guidance and necessary support by way of seeds and planting material. Moringa can be planted in every home garden in urban areas.

12. Based on the recent experience with food inflation, it will be desirable to promote consumer cooperatives in urban areas to minimise the very wide gap between wholesale and retail prices. Consumer cooperatives can be a supplement to fair price shops.

13. The minimum support price announced for a number of crops is being implemented only in the case of wheat and rice. It is necessary to broaden the food basket by including nutritious millets, legumes and tubers. Providing these crops appropriate remunerative prices will help expand their production. PDS can cover other nutritious foods, in addition to basic staples.

14. There is need to strengthen environmental hygiene, sanitation and toilets. Elected urban local bodies could be encouraged to involve local communities in promoting hygiene and sanitation, with the voluntary support of the numerous community

organisations working on these issues. Education, social mobilisation and regulation will all be needed.

15. The need to link nutrition with disease management is particularly important in cases like tuberculosis, HIV/AIDS, leprosy, etc., where a drug-based approach alone will not help to cure the patient. A food-cum-drug based method will be important.

16. Finally, urban food security is not a matter of urban policy alone. It is bound up with the urban economic structure characterised by a high degree of inequality and also with the impact of macroeconomic policies that impinge on urban areas, especially through large population movements caused by either rural or urban economic changes. For instance, a major issue in urban food security is that of the basic entitlements of migrants. This has remained almost completely unaddressed in policy. This Report has also not explored this aspect on account of various constraints. But the issue of migrants and their food security is only one example of macroeconomic and social policies impinging on urban food security. The more general point to be emphasised is that urban food security is as much a matter of the fiscal policy framework as it is of programme implementation on the ground. While outcomes are indeed important, a precondition for achieving targeted outcomes is adequate outlays. This is crucially dependent on the macroeconomic policy framework. Economic reforms, therefore, need to be re-formed if inclusive urban development that addresses the needs of urban food security for all is to occur.

ANNEXURE 1

Recommendations: Towards Food and Nutrition Security for All

(Extracted from MSSRF-WFP. 2008. Report on the State of Food Insecurity in Rural India. 141– 45.)

1. Availability of foodgrains in adequate quantities needs to be ensured, now and in the future. Keeping in mind the need to ensure livelihoods in rural areas, the strategy for increasing availability must place emphasis on increasing small farmer production and productivity. For this purpose, public investment in irrigation and rural infrastructure needs to be stepped up and other forms of State support, including credit and post-harvest storage facilities such as rural warehouses, provided. Such public investment should also strive to address the issue of regional inequalities. With respect to irrigation, there should be a special focus on revitalisation of existing local water storage systems and water bodies and on decentralised community controlled systems of water use. NREGS and similar schemes could be utilised for this purpose. All these steps will help address availability and access simultaneously.

2. With a view to ensuring assured and remunerative price for produce, the government must expand the minimum support price (MSP) system, based on the cost of production, including a reasonable rate of return on investment and ensuring prompt and open-ended purchase for all major crops including foodgrains other than paddy and wheat. This will serve as an incentive to increase availability and improve access by enhancing the purchasing power of farmers.

3. Economic policies should be reoriented to provide adequate support for India's agriculture and its vast rural population. In particular, policies must provide adequate rural infrastructure, including power, and promote employment, besides ensuring credit facilities and remunerative prices for produce for our farmers. The unfinished agenda of land reforms must be completed and distribution of ceiling surplus land must be done on a priority basis. Appropriate attention should be paid to conservation of common property and biodiversity resources and rehabilitation of wastelands. These steps will address availability, access and sustainability concerns.

4. There should be substantial increase in public investment in agriculture-related infrastructure such as irrigation and drainage, land development, water conservation, development of road connectivity, etc. Such investments are especially needed in the poorer and low rainfall areas of the country.

5. The analysis of the Public Distribution System and its functioning has built a well-argued case for replacement of TPDS by a universal PDS with uniform prices affordable to the poor. The centralisation that took place under TPDS should be reversed and State governments should, in the first instance, have the right to

determine the required allocation under PDS for their State.

6. Further, the allocation per household in PDS should be based on the number of consumption units in the household. Besides rice and wheat, other relevant and nutritious foodgrains and pulses may be distributed through PDS at subsidized rates, in order to enhance nutritional outcomes. Further, in order to improve viability of Fair Price Shops (FPS), and simultaneously enhance the purchasing power of the incomes of the poor, commodities like edible oil, cloth and other daily use items may be sold in such shops. Ration shops should be strengthened and made viable through the provision of appropriate margins or subsidies. To ensure effective utilisation of PDS, the public must be free to draw their allocations on a weekly basis. Migrants should be able to access PDS allocations in the area where they work.

7. Panchayati Raj Institutions (PRIs) may also be actively involved in the monitoring of PDS. PRIs should be empowered, trained and facilitated in monitoring hunger and malnutrition as well as schemes implemented to reduce hunger/malnutrition such as PDS, MDMS, ICDS and FFWP. This will help strengthen the delivery mechanisms.

8. While a universal PDS, appropriate supplementary programmes and other safety nets funded by the government are critical to ensuring food security, there is also an important role for community-based food security systems, such as community grain banks. Community food security systems appear especially relevant in socially cohesive communities characterised by limited inequality and in locations which find it difficult to access other delivery mechanisms such as PDS. Community food security systems may also be encouraged in order that the production of nutritious millets and other local foodgrains receive much needed support. To ensure sustainability, such initiatives must work closely with elected local bodies.

9. The overall approach of the food delivery system should be lifecycle based and involve appropriate supplementation programmes to ensure that all stages of the lifecycle are addressed. Horizontal integration of vertically structured programmes is urgently called for.

10. While food and nutrition insecurity need to be addressed at all stages of the lifecycle, certain groups such as pregnant and lactating mothers, adolescents and children under three years of age need to be given special attention because of their physiological needs. MDMS and ICDS are crucial programmes in this regard and their effective implementation can contribute to better health and food security of the population.

11. Food and nutrition security needs to be addressed through integrated complementary strategies, namely, dietary diversification, supplementation, food fortification and community and public health measures.

12. Substantial investments need to be made in health and education, particularly for the rural population. Improvement in basic infrastructure like ensuring access to safe drinking water, toilets and healthcare facilities will have a positive impact on the health and nutrition of the population as highlighted by the States with better facilities. Education will lead to greater awareness and understanding on practices to be adopted as underscored by the experience of States like Kerala.

13. Changes in macroeconomic policies to enhance aggregate demand will enhance the prospects of the growth of rural employment. Quality employment has to be promoted. This requires improving the skill levels of the labour force on a large-scale through massive training and capacity building programmes, both by government and the private sector. In this context, the expansion of NREGA to the whole country is a step in the right direction. The National Commission on Farmers has in fact called for moving forward from this towards a Food Guarantee Act.

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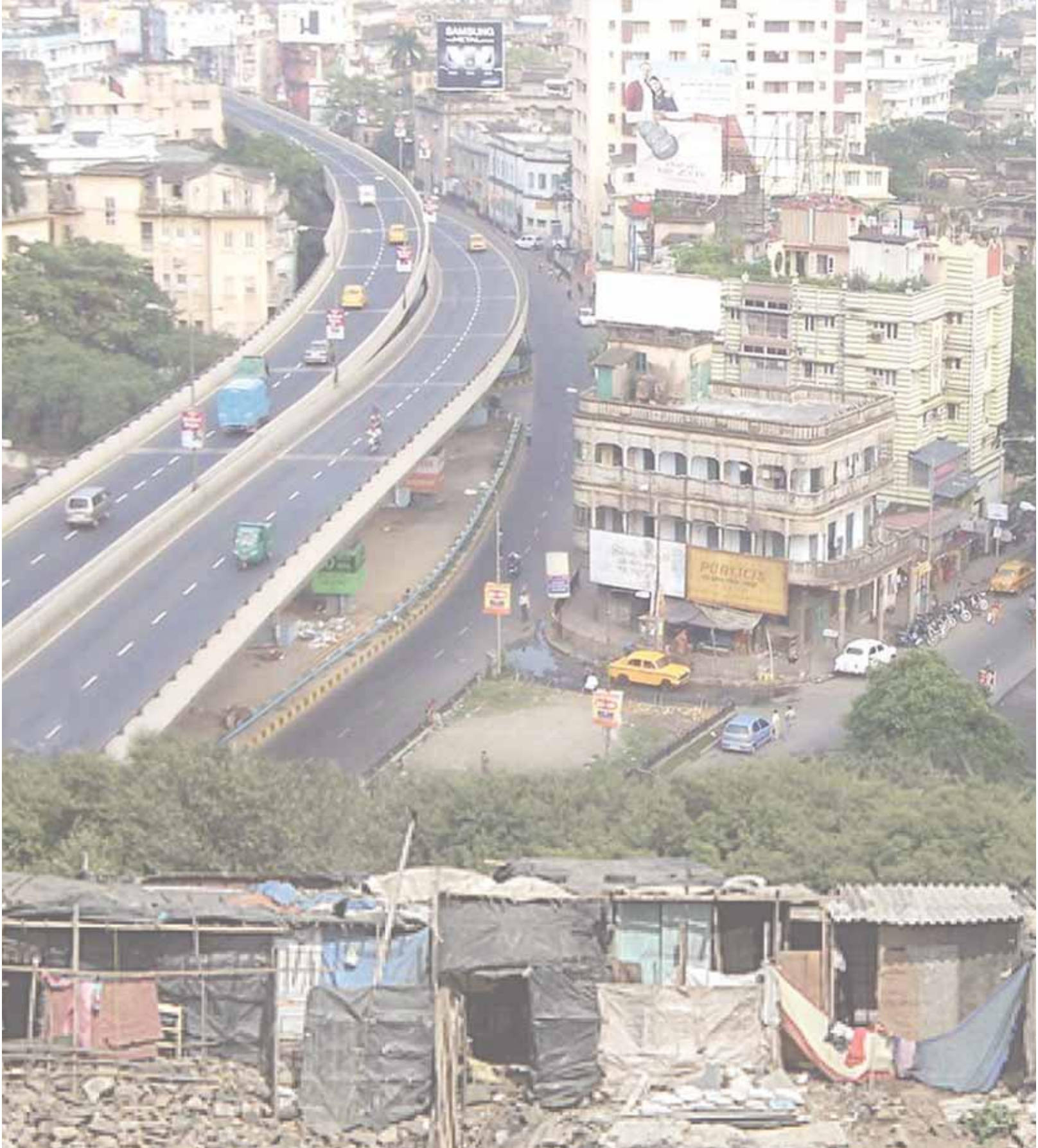

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