

HUMAN DEVELOPMENT REPORT 2017

TELANGANA STATE



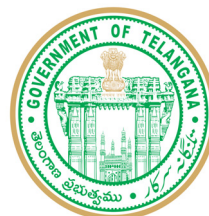
Centre for
Economic and Social Studies



Government of Telangana
Planning Department

Human Development Report 2017 Telangana State

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Government of Telangana
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Message

Human Development Report 2017 for Telangana State completed by the CESS takes into account the findings for Telangana from its earlier study on Human Development Report 2007 for Andhra Pradesh, and carries the study forward through a comprehensive and in-depth analysis of the subsequent developments in Telangana including for the period after the formation of Telangana State.

The study reveals that there has been a decline in disparities in the levels of human development between different districts and social groups, but growth in per capita income has been more pronounced than the improvements in indicators on education and health, suggesting that economic growth has not been translated into commensurate development in social sectors, particularly for rural areas and for vulnerable sections of society, e.g., less developed areas, women, B.C.s, S.C.s, S.T.s, and minorities. The analysis of the linkages between economic growth and social development through the rise in purchasing power of the people as well as improved capacity of the government to invest, is interesting. Equally interesting is the analysis of the reverse relationship between social development and economic growth, among other things, through the rise in labour productivity. The Report emphasizes the importance of forest cover, soil moisture, irrigation, drinking water and sanitation for enhancing and sustaining human development.

The interface between policies, analysis of experiences and seeing the way ahead comes out clearly in the Report. I am sure, this study would be extremely useful for policy makers in Telangana, as it contains an in-depth as well as comprehensive analysis, district-wise, covering various dimensions - rural-urban, gender and other social groups. Researchers and public at large will find it equally illuminating and useful.

C.H.Hanumantha Rao

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Message

Conventional measures are now known to be inadequate for understanding the link between economic indicators and well-being. The UNDP has therefore developed a people-centric Human Development Index to estimate real levels of well-being, which are used to measure and compare human development across countries and at sub-regional levels. The present report by CESS offers a disaggregated assessment of human development in Telangana state at the district level and even the sub-district level along with policy suggestions.

R. Radhakrishna

Chairman, CESS

Telangana became the 29th state of the Indian Union after the bifurcation of Combined Andhra Pradesh. The desire for inclusive development through decentralized governance and for deepening and widening of the democratic functioning of the state, market and civil society to protect the rights of the every citizen of the state is the policy priority for the new state. The policy goals of the government of Telangana broadly converge with the development paradigm of UNDP that human development is the expansion of people's freedom to live long, healthy and creative lives; to advance the other goals they have reason to value; and to engage actively in shaping development equitably and sustainably. The social structure in Telangana is highly skewed with socially marginalized sections-backward castes, scheduled castes and scheduled tribes and religious minority groups- which constitute 85 percent of the state population. Hence, a new social framework that allows inclusive and participatory development should be able to meet the aspirations of the people.

The report on Human Development in Telangana State is prepared by the Centre for Economic and Social Studies (CESS) at the invitation of the Planning Department, Government of Telangana. We are highly thankful to B.P. Acharya, Special Chief Secretary, Planning Department for giving us the opportunity for preparing this report.

This is the first human development report for the state of Telangana. UNDP methodology has been used to compute Human Development Index (HDI) for the 10 districts of Telangana during 2004-05 and 2011-12 and projected for 2015-16.

This Report bench marks the patterns of Human Development across districts, caste groups, gender groups, occupational groups, rural and urban areas in Telangana before the formation of Telangana State. This enables the State Government to monitor the progress of Human Development in the State. This Report has also brought out clearly the ways and means to bring improvements in Human Development and reduction in its inequalities. Telangana has improved its rank in Human Development Index (HDI) from 13 in 2004-05 to 10 in 2011-12 among the states in India. There were considerable improvements in HDI during this period among all districts in Telangana. Inequalities in human development across social groups, rural-urban areas and hence across the districts have declined. However, the inequalities still persist. Variations in the nature of growth, allocation of funds under social and economic services, functioning of education and health institutions and variations in deprivations in agricultural related natural resources are associated with the variations in levels, improvements and inequalities in human development of Telangana. The related policies of

Preface

the government of Telangana State have the potential to address the concerns of human development.

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We hope the analysis and findings of the Report would be useful for improving human development of Telangana State in future.

S.Galab

Director. CESS

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Hyderabad.

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Executive Summary

Context

This report is an attempt to benchmark the pattern of human development in terms of levels, improvements and inequalities across the districts, rural-urban areas, caste groups, gender groups and occupational groups in Telangana before the formation of Telangana State. This facilitates the monitoring of the patterns of human development in Telangana State. In this backdrop, the objective of this report is to address three major issues: what was the status of human development in Telangana in the combined State of Andhra Pradesh? What should be done to improve the status of human development in Telangana State? And, will the public policies of Government of Telangana State have the potential to improve the level of human development in Telangana State?

The Human Development Index (HDI) is a simple measure to assess the overall status of a human development in terms of three dimensions - such as long and healthy life, knowledge and decent standard of living. According to the UNDP methodology, life expectancy for long and healthy life, literacy rate and school enrolment rate for knowledge and per capita Gross District Domestic Product (GDDP) for decent standard of living are the indicators considered for these three dimensions. Following the UNDP methodology, HDI has been computed for the 10 districts of Telangana for the years 2004-05 and 2011-12. Monthly Per Capita Consumer Expenditure (MPCE) for measuring the standard of living, adult (15 + years) literacy (with one-third weight) and average years of schooling (6-14 years) with two-thirds weight for knowledge and infant survival rate for long and healthy life are used to estimate HDIs at district levels. Equal weight is given to all the three dimension for arriving at HDI.

Human Development Scenario of Telangana

There has been a significant improvement in HDI across all the Indian States. The rank of Telangana improved from 13 in 2004-05 to 10 in 2011-12. The level of improvement in HDI at the state level is also reflected at the district level. There has been an improvement in HDI across all the districts of Telangana during the period under consideration. Inequalities in human development had declined during the period under consideration due to the public policies pursued in the combined state. The same is true in the case of the components of human development-income levels or standard of living, health and education. Gender inequalities have also declined across the districts. Gaps in human development across the caste groups - Scheduled Castes (SCs), Scheduled Tribes (STs), Backward Castes (BCs) and Other Castes (OCs) - have declined in Telangana. Similarly, inequalities across the occupational groups have also declined in the rural as well as the urban areas of the Telangana. The HDI of urban Muslims, who constitute 75 percent of the total Muslim population, is lower than the state average of urban Telangana during all the time points, though total HDI (urban + rural) as well as rural HDI of Muslims are higher than the respective state averages. All these have contributed to the reduction in inequalities in human development across districts.

Business as Usual Approach does not Suit Telangana State

Inequalities still persist across districts, rural-urban areas, caste groups, gender groups and occupational groups. Moreover, the rate of decline of inequalities in human development across caste groups during the period 2007-08 and 2012-13 was considerably

higher than during 2002-04 and 2007-08. Sustainance of this rate of reduction is very essential in HDI as well as social and occupational groups. Hence it is a big challenge. The share of the standard of living in the total change of HDI between 2004-05 and 2011-12 is higher ranging between 10.6 to 57.5 percent for most of the districts whereas the contribution of health and education has been lower ranging 6.3 to 27.3 percent and 3.5 to 19.7 percent respectively. Hence the share of education and health in the change in human development needs to be expanded.

Will the **Business as Usual** approach in terms of the continuation of the public policies of the combined state by the Government of Telangana State accelerate the process of enhancing the levels of human development and reduction in the spatial, social and occupational inequalities in human development? The impact of the continuation of policies of the combined state in the future has been assessed through the estimated HDI for 2015 across the districts, on the basis of the rates of improvement in the components of HDI between 2004 and 2012. But, the results have indicated that the **Business as Usual** approach would not bring any significant shifts in the patterns of human development and therefore will not enable Telangana State to address the concerns of human development. The analysis conducted in the report also provides evidence to this. Hence significant changes are required in public policies and related programmes in relation to human development.

Higher and Inclusive Growth should be the Key for Human Development

In the higher economic growth context of Telangana, the relationship between economic growth and improvements in education and health components of human development has weakened. That is, in spite of economic growth, corresponding improvements have not taken place in the educational status and health status of households across the districts. It is evident that higher growth is a necessary condition but not a sufficient condition to bring about improvements in human development. The support of state interventions, outside the growth process, to enhance household incomes and social security programmes came to the rescue of the districts with lower economic growth. But inclusive economic growth (sharing

widely the income benefits of growth) has contributed more to improvements in human development.

The relationship of economic growth with the growth in educational status and growth in health status can be strengthened by allocating more funds on the conversion of improvements in education and health status to enhance labour productivity. Moreover, this also demands the allocation of more funds on improvements in education and health status from the revenues generated through higher economic growth. This ultimately expands the contribution of education and health to the changes in human development.

Decentralized Method of Financing Human Development should be the Strategy

The available evidence shows that the allocation of funds has not been made on the basis of the level of demand for the allocation of funds under social services. Similarly, the funds under economic services were inadequate to increase economic growth. The allocation of funds to the districts for financing human development should be based on a need specific decentralized method in contrast to whatever method was followed earlier. This becomes even more important in view of the recent decentralization initiatives in terms of the reorganization of 10 districts into 31 districts in Telangana State.

Educational Institutions Need Structural Reforms

Parents have responded positively to the policies of the government to enroll the children in government schools. But the quality of learning outcomes of children in government schools is poor compared to private schools. The rising aspiration of parents, especially mothers to improve the educational trajectories of their children is clearly visible. This is reflected in the fact that even illiterate mothers are sending their children to private schools thus investing in their children's education. The private schools have not penetrated into the districts where the quality of learning outcomes of the children is poor or the districts where there are deficits in the school infrastructure of the government. More boys than girls, a relatively lower

proportion of children from SCs and STs and also from the poor are enrolled into private schools with the hope that the private schools would provide quality education. Moreover, income inequalities across the social groups have led to widening the existing social divide across gender, caste and class in schooling.

On the other hand, the quality of learning outcomes in terms of numeracy and literacy skills appropriate to the grades have declined over time in government schools as well as private schools (Low fee Schools). Inadequate and inefficient utilization of school infrastructure has constrained the learning outcomes of children. But the government decisions in the combined state in expanding the school infrastructure was not in line with the requirements in the districts. The dropout rate of children from schools is a big challenge that needs to be addressed on a war footing. These concerns demand a big push of reforms from the Government of Telangana State. Continuing the "Business as Usual" model of addressing the concerns of school education will not yield the desired results in the immediate run.

Health Institutions should gear up to meet the Challenges

The inadequacy of public health infrastructure has constrained the health status in some of the districts of Telangana. Further, the inefficient utilisation of the public infrastructure has depressed the health status in some other districts. Similarly, the reproductive health status is constrained due to inadequate and inefficient utilisation of public infrastructure. There are inadequacies in reproductive health services. The Sample Registration System (SRS) data has revealed that IMR in Telangana State declined to 34 in 2015 as compared to 35 in 2014. However, the NFHS Survey 2015-16 reported that IMR in the state is 28. A further reduction of IMR requires better medical care at the neonatal stage which should be extended during pregnancy and delivery. However, there are wide inter-district variations in MMR ranging from 71 in Hyderabad to 152 in Adilabad.

A higher percentage of children are stunted in Khammam and Adilabad districts which have a high concentration of tribal population, and in the bottom level HDI districts of Nizamabad, Mahbubnagar and Medak. A better reproductive health status enhances the nutritional status of

children. The population of women in the reproductive age (15-49 years) is expected to increase from 98 lakhs in 2011 to 126 lakhs in 2026, growing at the rate of 1.7 percent per annum. This future situation would create a severe pressure on additional maternal, new-born and child health services in the coming years. The scaling up of the RMNCH+ A (Reproductive, Maternal, Newborn Child and Adolescent Health) will enable the state to address these concerns and to streamline the functioning of the public health institutions in Telangana State. However, more funds need to be allocated to the health sector in the state.

Sustainability of Improvements in Human Development should be the Bottom Line

A high incidence of natural resource deprivation is pronounced across the districts of Telangana due to overdrawing of ground water, lower forest base and higher moisture stress. The situation is equally bad in regard to the household health facilities like the availability of safe drinking water and toilet facility in the household premises. Further there are huge variations across the districts in these resources in Telangana. The reduction in the levels of natural resources deprivation and improving access to the two basic health amenities at the household level will not only address the inequalities in human development across the districts but also bring about a further improvement and its sustainability in human development.

Policies of the Government of Telangana State and Emerging Challenges

The policy framework of the government of Telangana State should be related to the concerns emerging from the above analysis to have a greater impact for improving human development and reducing inequalities, strengthening the inter-linkages between economic growth and human development; providing adequate public funds for social services and economic services; and strengthening the functioning of public institutions relating to education and health.

Decentralisation - a Visionary Move

The state is planning to function on a decentralised-participatory model of development. The decentralisation measure of reorganising the 10 districts into 31 districts reflects this and offers a

greater potential for reducing inter-district inequalities in economic growth and human development. Further, all the institutions including education and health at the district level and below become accountable and transparent for the people as the administrative area becomes smaller and direct interaction between people and government also becomes feasible. Given the active civil society, the participation of people in monitoring local governance and other institutions becomes possible. It also has a tremendous potential for addressing concerns specific to the districts. Integrating village plans and aggregating them at the mandal and in turn at the district level becomes easy. It becomes possible to fix the targets for human development, economic growth and linkages between the two. Hence this initiative can address the concerns about strengthening the functioning of the institutions, especially relating to health and education, and the preparation of practical district plans to fix the targets of economic growth and human development and their interrelation.

Minimizing Economic and Social Inequalities

The recent budget of Telangana state has made budget allocations to the Backward Castes, the most backward castes, Scheduled Castes, and Scheduled Tribes and Minorities. This would be a strong contribution to inclusive growth. This new social framework model for the development of Telangana has the potential for inclusive economic growth and social development (human development). This also enables the state to link human development to economic growth through utilising the existing stock of skills of the Backward Castes and the most Backward Castes. This policy initiative addresses the concern which has been spelt out in the analysis that economic growth should be inclusive and that human development should also contribute to economic growth through the efficient utilisation of the existing skills and subsequently upgrading the skills of the people. It also addresses the concern that inequalities in human development among social and occupational groups should be reduced.

There are variations across the districts in regard to economic growth and hence variations in human development. Mission Kakatiya, for renovating tanks for revitalising traditional irrigation structures, will

bring vibrancy in agriculture and allied sectors of the rural economy. This also benefits the small farm holder since a large proportion of these farmers have lands under tanks. Further, the fixed cost and running costs of irrigation systems like bore wells will come down and the cost of cultivation will decline to that extent. The initiatives in terms of the landmark industrial sector policies to augment the industrial base of the state and the expansion of Information Technology have the potential to boost the growth in the industrial and service sectors of the economy. Thus the vibrancy in these three sectors has the potential for increasing economic growth in the state.

The expansion of the industrial sector, especially agro-based industries, enables the labour force to shift from agriculture to non-agricultural activities. As a result, productivity goes up in both the sectors and the income disparities between the two sectors will decline. The government has also initiated measures to include households belonging to SCs, STs and women to be a part of the expansion of the industrial base as entrepreneurs to make industrial growth inclusive. These initiatives in agriculture and non-agriculture sectors will also make economic growth inclusive.

Sustainability of Improvements in Human Development

There are emerging concerns that some of the mandals in the newly formed districts are deprived of the natural resource base (moisture status, ground water and forest cover) and basic household health facilities like drinking water and sanitation inside house premises. Harithaharam and Mission Bhageeratha have the potential to address these concerns. Harithaharam has expanded the tree cover throughout Telangana which would contribute to a reduction in temperatures resulting in less evaporation of water in rural and urban areas. Mission Bhageeratha has the mandate of providing adequate and safe drinking water to all the households in their premises across the villages and urban areas. The water for this mission is drawn from the two perennial rivers Godavari and Krishna. This would reduce the withdrawal of ground water for drinking purposes. Mission Kakatiya would also add to the ground water resources. These three initiatives together with the planned major and

medium irrigation projects and watershed programmes have the potential for protecting the natural resource base and provide drinking water, the basic health facility.

The state has initiated measures to address the concerns in education and health sectors. This has the potential for improving the functioning of the education and health institutions in the state. Thus the **DECENTRALISED-NEW SOCIAL FRAMEWORK - SUSTAINABLE DEVELOPMENT MODEL** of the Government

of Telangana State is radically different from the **DEVELOPMENT MODEL** pursued in the combined state. This innovative development model also has the potential to improve the bargaining capacity of Telangana state with the national government and international institutions for financing human development-economic growth-human development linkages. However, the state has to establish an official unit for monitoring human development.

1.0 Context

Telangana became the 29th state of the Indian Union after the bifurcation of combined Andhra Pradesh. The desire for inclusive development through decentralized governance and for deepening and widening of the democratic functioning of the state, market and civil society to protect the rights of every citizen of the state is the policy priority for the new state. The policy goals of the government of Telangana broadly converge with the development paradigm of UNDP that human development is the expansion of people's freedom to live long, healthy and creative lives; to advance the other goals they have reason to value; and to engage actively in shaping development equitably and sustainably.

The social structure in Telangana is highly skewed towards socially marginalized sections-backward castes, Scheduled Castes and Scheduled Tribes and religious minority groups- which constitute 85 percent of the state population. Hence, a new social framework that allows inclusive and participatory development should be able to meet the aspirations of the people (Rao, 2014).

All the above need a concise but comprehensive policy oriented analysis with a strong empirical base in order to formulate new policies replacing the old policies of the combined state of Andhra Pradesh with regard to the human development situation in Telangana society, socio-economic inequalities and the inter-linkages with economic growth. These constitute the concept and content of this report. This analysis also helps to benchmark the human development dynamics in Telangana State.

1.1 Policy Questions

This report addresses the following issues:

What is the status of inter-district and inter-community inequalities in the state in regard to human development?

What is the role of economic growth in determining human development in Telangana?

What is the role of public financing in improving human development and reducing inequalities?

How are institutions of school education and health determining the status of human development?

Whether improvements in human development are sustainable?

Are the policies of Telangana state in line with the concerns which have emerged from the analysis?

1.2 Approach and Contribution of the Report

The approach adopted has four strands. The first strand is developing a narrative on the status of and inequalities in human development from below the state level (disaggregate) to develop it for the state (aggregate) for capturing the varied contexts in the state. This is for providing inputs for the decentralized paradigm approach to be pursued to ensure that human development will reach everyone.

The second strand is centering the whole discourse through locating the correlates of human development in the domain of economic growth, financing human development and functioning of institutions for human development. This is for providing policy inputs in three domains. Locating human development in the domain of economic growth enables us to provide policy inputs to achieve the desirable levels and pattern of economic growth. The nature of economic growth has been analyzed in terms of diversification of growth from agriculture

to non-agricultural sectors, percolation of the benefits of economic growth to household income and households investing the income in turn in human development (this reflects the economic growth-human development linkages); and human development in turn leading to improvements in labour productivity (this reflects the linkages between human development and economic growth). This means that the nature of economic growth has been assessed in terms of the mutually reinforcing linkages between economic growth-human development-economic growth. Linking human development to the allocation and utilization of funds relating to social services and economic services enables us to identify the (in)adequacy in the allocation of funds and the (in)efficient utilization of funds allocated across the districts. This analysis provides inputs for public expenditure policies with regard to human development. Associating human development with the institutions for human development facilitates the analysis to assess the (in)efficiency of the institutions of education and health. The analysis of public expenditure also throws light on this issue.

The third strand relates to the issue of the weakening relationship of human development with economic growth even in high economic growth contexts. High growth had been achieved in the Telangana economy even in the combined state of Andhra Pradesh from 2004-05 onwards. Hence we have considered the period between 2004-05 and 2011-12 to examine the relationship between economic growth and human development in the context of high economic growth. This timeframe also facilitates the identification of the impact of the public policies pursued in the combined state on human development in Telangana. Moreover, the estimation of the status of human development by 2014-15 in Telangana through 2004-05 and 2011-12 enables us to assess further the impact of the continuation of public policies of the combined state by 2015 on human development in Telangana, just a few months after the formation of Telangana State.

The fourth strand relates to the issue of sustainability of growth in human development. This examines through exploring the implications of natural resource deprivations relating to agriculture for growth in human development.

This report is unique in many ways. This is the first human development report for the newly formed state of Telangana which serves as a baseline

for taking stock of issues, challenges and opportunities for improving human development. Second, the report estimates HDI for the vulnerable groups classified as structural and occupational, besides the conventional HDI for the state and districts. Comparable human development indices have been estimated for the social groups of Scheduled Castes (SCs), Scheduled Tribes (STs), and women who suffer from structural vulnerabilities; Muslim Minorities; and occupational groups which suffer from occupational vulnerabilities. Third, and very importantly, questions relating to the financing of human development have been brought into the report. Given the limited scope of published data on annual budgets, the report has estimated the extent of public expenditure needed for human development at the district level which would help the state to design appropriate policy measures. Fourth, the report effectively addresses the larger issue of the weakening link between economic growth and human development across the districts in the state. And finally, the status of natural resources is analysed to explore the implication of natural resource deprivation in regard to the inequities, improvements and sustainability in human development across the newly formed districts.

1.3 Structure of the Report

The report is organized into eight chapters. The first chapter deals with the context, objectives and approach and contribution of the report. The second chapter presents estimates and analysis of HDI across the districts and for structurally and occupationally vulnerable groups in Telangana. The link between economic growth and human development is examined in the third chapter while the fourth chapter analyses public policy in terms of public financing and its impact on human development across districts. The fifth and sixth chapters unpack the human development index respectively into education and health to examine in detail the functioning of the institutions related to these two dimensions of human development. The seventh chapter deals with the identification of the mandals that need immediate attention in regard to natural resource conservation to revitalize agriculture and also to identify the deficits in household facilities in these mandals, like drinking water and sanitation, to support health services. The eighth, the last chapter, presents the interface of concerns emerged from the analysis with the policies of the government of Telangana State.

Human Development in Telangana State

2.0 Introduction

The basic objective of this chapter is to identify the policy concerns for improving the level of human development and at the same time reducing inequalities in the State of Telangana.

More specifically, this chapter addresses itself to three policy questions: What are the policy concerns that arise from the analysis of human development patterns which have resulted due to the policies of the combined state? What policy concerns emerge from the human development outcome patterns in the 'Business As Usual' approach? What are the policy measures which need to be undertaken by the Government of Telangana State to reduce the inequalities across spaces (districts, rural and urban), social groups (caste and gender) and occupational groups?

2.1 Patterns of Human Development in Telangana in Combined Andhra Pradesh

2.1.1 Spatial Patterns

The patterns of human development of Telangana have been considered to assess the contribution of the policies pursued in the combined state of Andhra Pradesh. For this, the years 2004-05 and 2011-12 have been selected.

There has been a significant improvement in HDI across all the states. However, the relative rankings of the states changed in the seven years between 2004-05 and 2011-12. In both the years, Kerala, Tamil Nadu, Himachal Pradesh and Punjab were ranked in the top four

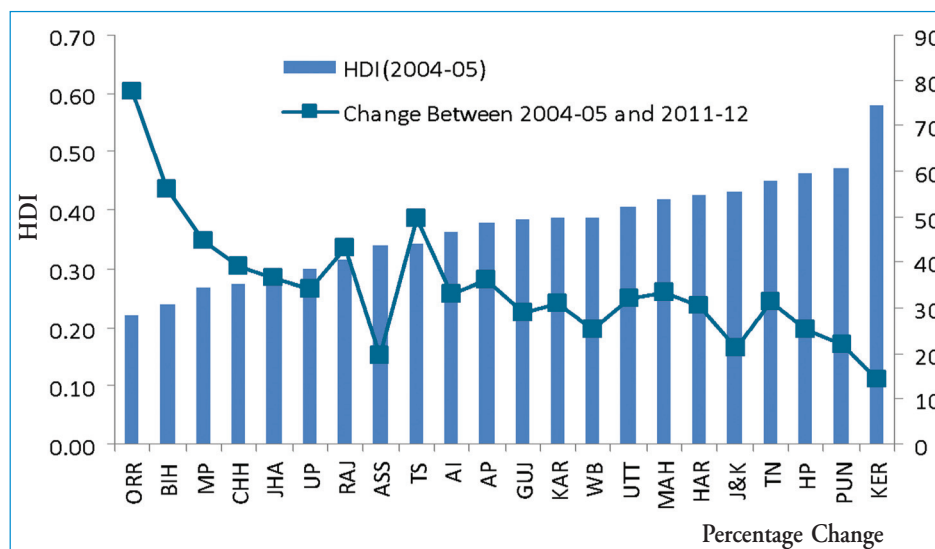
positions, while Bihar, Madhya Pradesh, Chhattisgarh and Odisha were the bottom four. But, the rank of Telangana improved from 13 in 2004-05 to 10 in 2011-12 (Table A2.1). The components of HDI across the states are given in table A2.1a and fig. 2.1 to 2.5.

The improvements of HDI in Telangana state level are also reflected at the district level. There has been an improvement in HDI across all the districts of Telangana during the period under consideration.

Hyderabad and Ranga Reddy have retained their top two positions in the spectrum of human development of Telangana State, in both the years (2004-05 and 2011-12). Nizamabad, Medak and Mahbubnagar have remained in the bottom. Warangal, Karimnagar, Khammam, Adilabad and Nalgonda have stayed in the middle (Table A2.2). The districts are categorised as top, middle and bottom level HDI based on ranks of HDI in 2011-

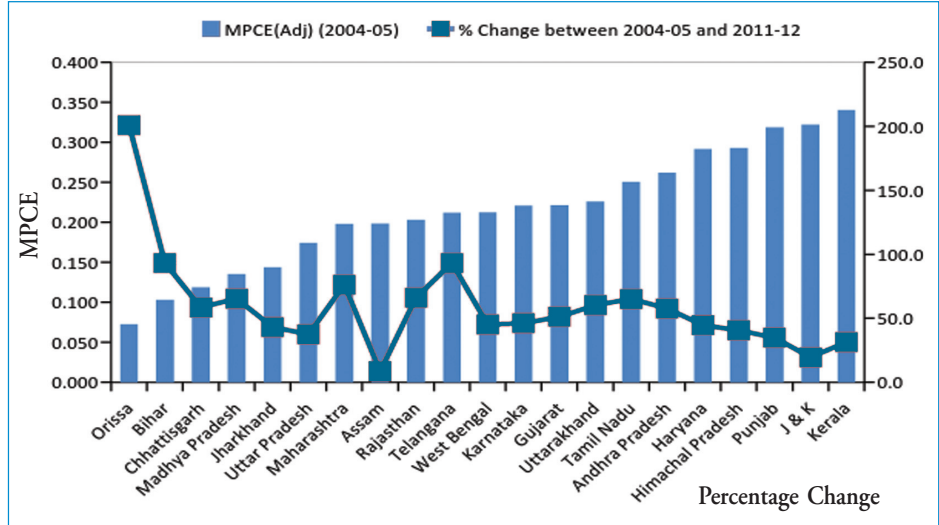
The HDI rank of Telangana improved from 13 in 2004-05 to 10 in 2011-12

Fig. 2.1: HDI of States (2004-05) - Change in HDI between 2004-05 and 2011-12 (%)



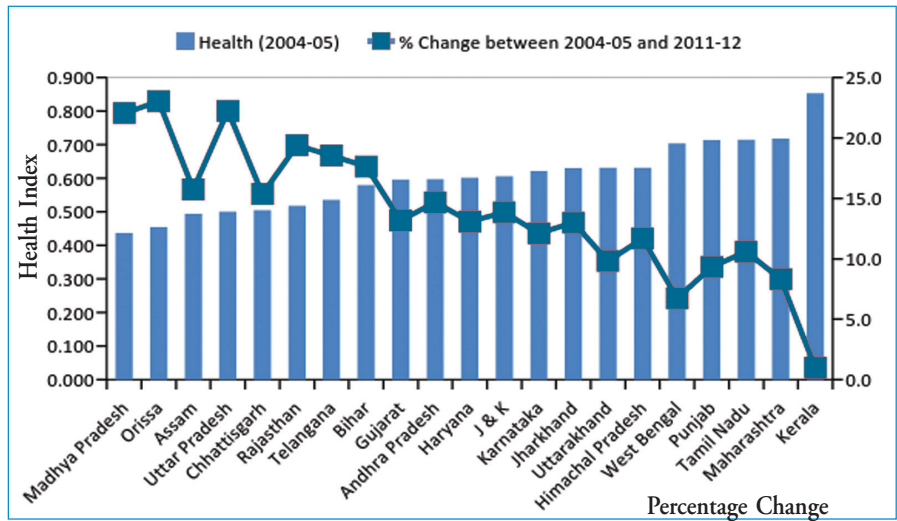
Source: Based on the data given in Table 2.1

Fig. 2.2: MPCE (Adj) Index of States (2004-05) and Change in MPCE between 2004-05 and 2011-12 (%)



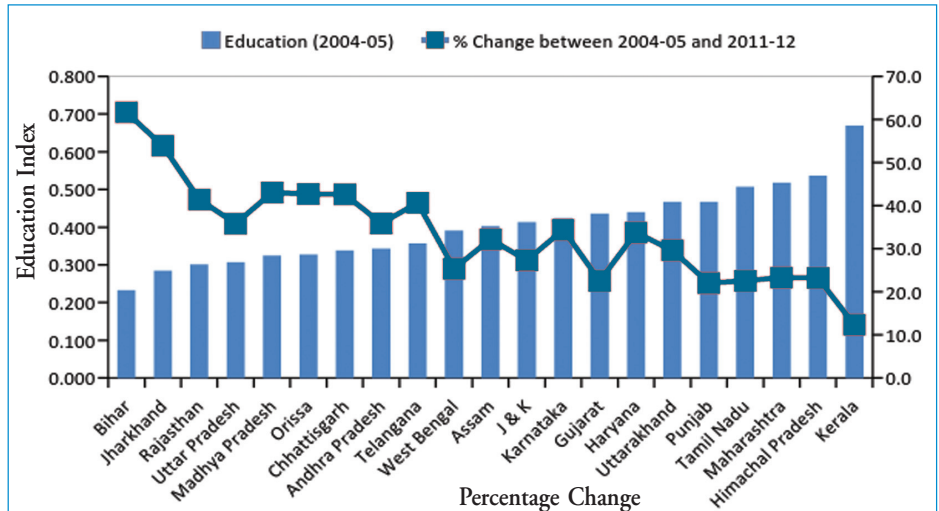
Source: Based on the data given in Table 2.1A

Fig. 2.3: Health Index of States (2004-05) and Change in Health Index between 2004-05 and 2011-12 (%)



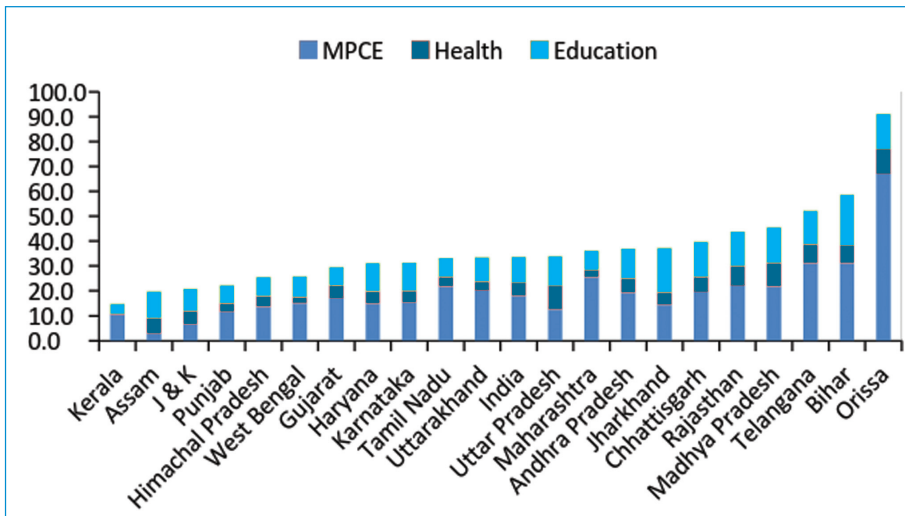
Source: Based on the data given in Table 2.1A

Fig.2.4: Education Index of States (2004-05) and Change in Education Index between 2004-05 and 2011-12 (%)



Source: Based on the data given in Table 2.1A

Fig.2.5: Decomposition of Change in HDI (%)



Source: Based on the data given in Table 2.1A

12 (Table A2.3). The projections for 2015-16 give a picture of HD in the districts (Table A2.4) if the 'Business As Usual' approach followed and their relative rankings are shown in Table A2.5.

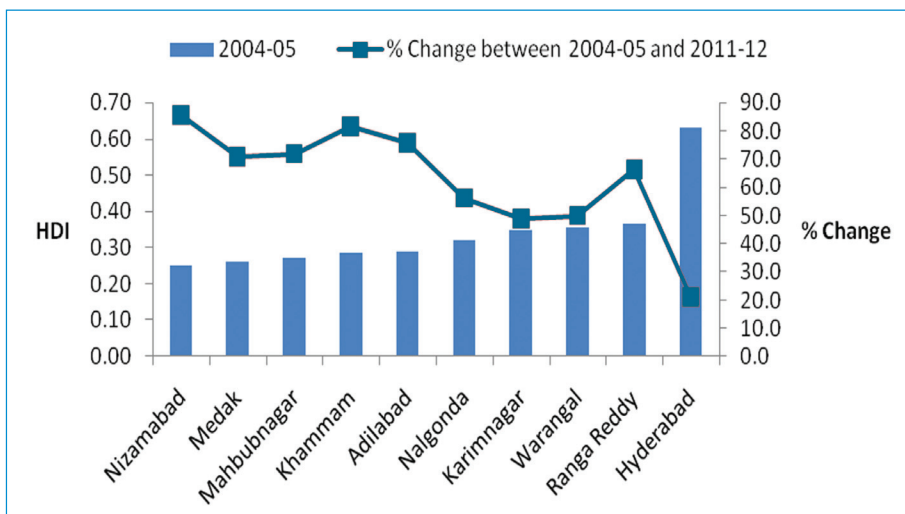
The districts with a low human development in 2004-05 have improved their human development faster by 2011-12 in comparison to the districts with higher human development (Fig. 2.6 to 2.9). Further, the districts with a low standard of living in 2004-05 have improved their standard of living faster compared to the districts with a higher standard of living. Similar is the case with the status of health and education. Thus, it is evident that the inequalities in human development and its components - income levels or standard of living, health and education -

had declined during the period under consideration in Telangana due to the public policies pursued in the combined state.

The decomposition of the changes in HDI between 2004-05 and 2011-12 across the districts reveals that the share of standard of living in the total change is higher for most of the districts whereas health and education occupied second and third places respectively. The exceptions were: Ranga Reddy in the case of health, Karimnagar in the standard of living and Nizamabad where the proportions of health and education are equal (Fig. 2.10).

The above outcomes have been divided into two categories as follows:

Fig. 2.6: HDI of Districts (2004-05) and Change in HDI between 2004-05 and 2011-12 (%)

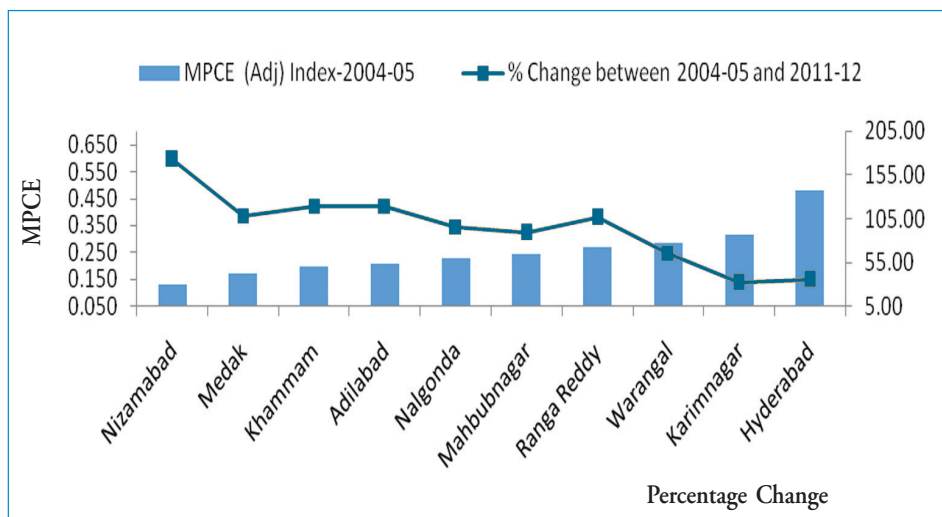


Source: Based on the data given in Table 2.2

The inequalities in human development and its components (standard of living, health and education) had declined

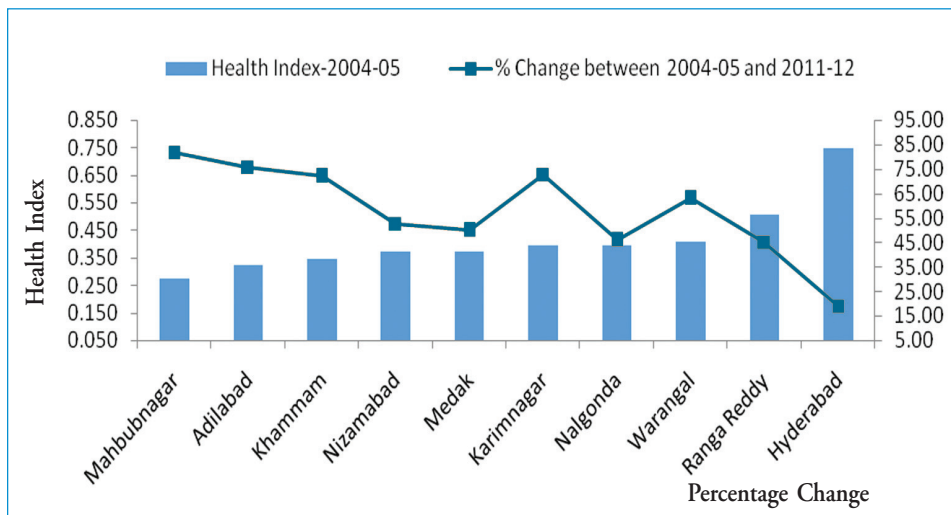
Standard of living component has emerged as the dominant factor in the improvements of HDI

Fig. 2.7: MPCE of Districts (2004-05) and Change in MPCE between 2004-05 and 2011-12 (%)



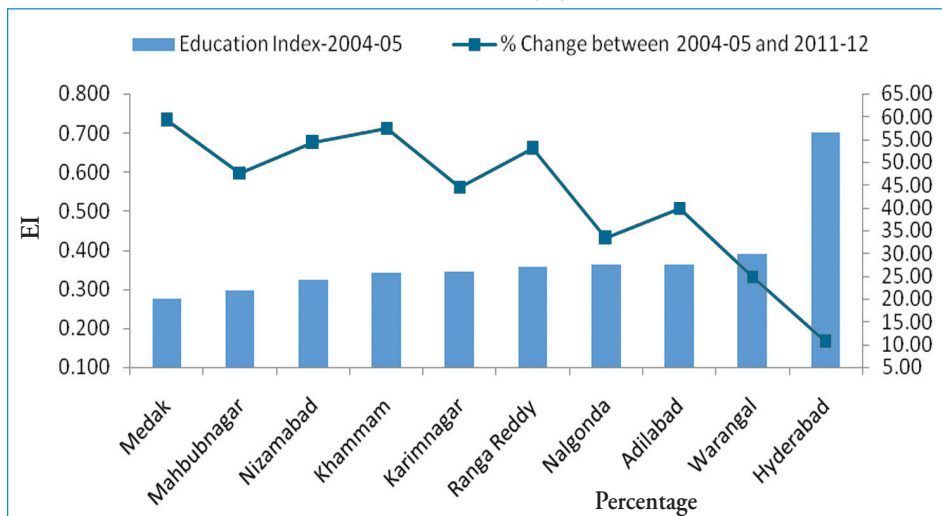
Source: Based on the data given in Table 2.3

Fig. 2. 8: Health Index (2004-05) and Change in Health Index between 2004-05 and 2011-12 (%)



Source: Based on the data given in Table 2.3

Fig.2.9: Education Index (2004-05) and Change in Education Index between 2004-05 and 2011-12 (%)

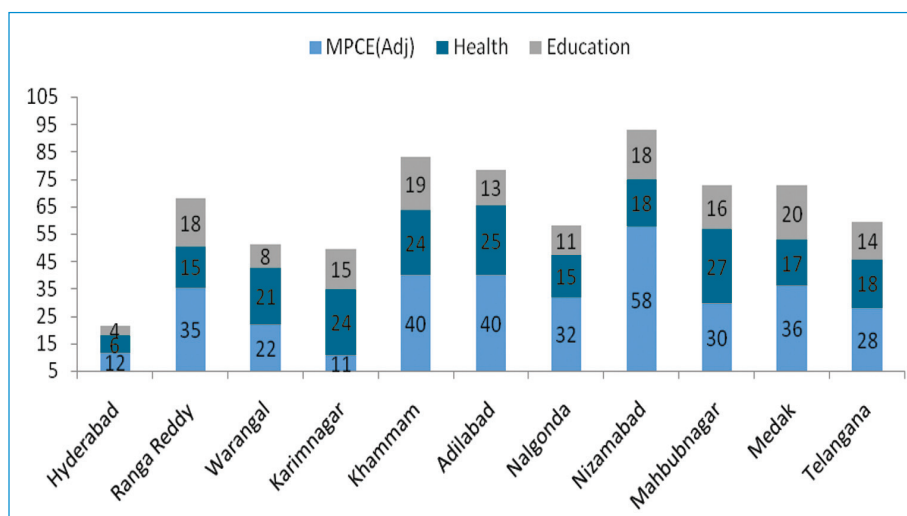


Source: Based on the data given in Table 2.3

Upbeat Outcomes

- ❖ Telangana was ranked 10th in the Human Development Index (HDI) in 2011-12, among twenty-one major states of India, through a significant improvement over its previous rank of 13 in 2004-05.
- ❖ Its index was higher than the national average in 2011-12.
- ❖ The overall improvement in human development at the state level was also reflected in all the districts.

Fig.2.10: Decomposition of Changes in HDI across Districts of Telangana (%)



Source: Based on the data given in Table 2.3

- ❖ The districts with a lower HDI in 2004-05 had improved their HDI status faster compared to the other districts by 2011-12. This reflects the declining inequalities in HDI across the districts. The same is evident in the case of the three components of HDI, viz., standard of living, health and education. Thus convergence in HDI has taken place across the districts of Telangana.

Alert Upholds

- ❖ None of the middle order districts have joined the ranks of the top districts.
- ❖ Nizamabad, Medak and Mahabubnagar have remained at the bottom.
- ❖ The contribution of the non-economic components (health and education) was lower than that of economic component.

2.1.2 Vulnerable Groups and Human Development

This section discusses the situation of the vulnerable groups when compared with the rest of society. The discussion revolves around the components of human development (HD), the position of vulnerable groups in each of the components of HD - standard of living, education and health- vis-a-vis the rest of the groups in the mainstream. To be more specific, this section focuses on vulnerable groups such as caste groups (SCs, STs, BCs and OCs), gender groups, Muslim minority group and occupational groups.

Scheduled Castes and Scheduled Tribes

The Human Development Report (2014) identifies 'structurally vulnerable groups' of people who are more vulnerable than the rest of society because of prejudicial / unequal treatment by the latter. SCs and STs have historically been disadvantaged and vulnerable as they have been subject to social exclusion and discrimination and are therefore left behind in the development process.

The human development index is a summary index that reveals the status of human development of SCs and STs and also gives the relative position of their status compared to the other social groups in the social structure. The changes that have taken place over time in human development for SCs and STs and the drivers / barriers that have contributed / blocked provide an opportunity to analyze those changes, benchmark their status and plan for a roadmap to reduce the gap between the socially vulnerable groups and mainstream society in Telangana State.

HDI is constructed on the basis of data from the 2nd round (2002- 04), 3rd round (2007-08) and 4th round (2012-13) of District Level Household Surveys (DLHSs), broadly adopting the UNDP approach. However, the indicators considered for the construction of indices, component-wise, vary from those employed in the standard measurement of HDI.

The HDI inequalities across caste groups have declined but still persist

The caste inequalities in HDI were higher in rural areas than in the urban

The estimates of HDIs are consistent with the normal expected pattern of HDI. The HDI value was the lowest for the STs (0.257) and low for SCs (0.348) followed by BCs (0.387) and OCs (0.510) in 2007-08 (Table A2.6). In other words, there was no change in the relative positions in the social structure. The relative HDI status of SCs and STs had been the same even in 2002-04. The HDI of the OCs was 2.19 times that of STs in 2002-04 while it was 1.98 times in 2007-08. This indicates that inequalities in HDI had begun to come down over time. This is due to the faster growth in the HDIs of socially vulnerable groups vis-a-vis the other social groups. Interestingly, all the social groups have higher HDIs in urban areas than in rural areas in both the periods. This indicates that urbanization, as a development process, can improve the HDIs of the SCs and STs, but it is not the only solution to depend on. Providing urban facilities and opportunities in the rural areas would also enable the socially vulnerable groups to improve their HDI level. The inequalities in HDI were higher in the rural areas than in the urban areas of Telangana, but the rate of decline in inequalities was faster in rural areas than in urban areas during the period under consideration.

What factors were responsible for the variations in the HDI between the socially vulnerable and other social groups? The decomposition of HDI in terms of the Standard of Living Index (SLI), Health Index (HI) and Education Index (EI) enables us to address this question. The lower levels of standard of living and also educational status have depressed the HDI of the SCs and STs compared to other social groups. Of the two, the lower status in education has contributed to their lower levels of HDIs and ultimately led to higher inequalities in HDI. The higher decline in inequality in the standard of living, rather than the marginal decline in the inequality of educational status, has been the main factor which has contributed to the decline in inequalities in HDI between the socially vulnerable and other social groups. This was true both in the rural and urban areas of Telangana. It is very striking to note that the rate of decline has been faster in rural areas over time as compared to urban areas. However, the inequalities in the standard of living as well as education continue to be higher in rural areas.

Gender and Human Development

This section analyses the gender gap in HDI and its components across districts in Telangana. There are social-structure based differences between men and women in human development achievements which are captured by gender specific indices. The Gender Development Index (GDI) is one such measure that is estimated to capture the inequalities in achievements between men and women. GDI is adjusted for gender differences in achievements either in all the three dimensions-viz. income, education, health-or in any one dimension¹. The gender gap measured through the inequalities in achievements can be captured in its complete form when Human Development indices are estimated for men and women differently. A comparison of HDI for men and HDI for women shows the gender gap (ratio of male to female HDI) in HDI. Gender differentials in human development indicate social structure inequalities between men and women which may increase the vulnerability of women in times of shock and in conditions of risk. Therefore, it becomes important to assess the gender gap.

The absolute value of HDI for men and women had increased for the state and also across the districts in 2011-12 over 2004-05. Gender differentials (male/female ratio) in HDI had also come down for all districts except Adilabad (Table A2.7).

The rate of change in gender differentials in HDI was higher for districts with a low female HDI like Mahbubnagar, Nalgonda, Nizamabad and Karimnagar. The percentage rise in female HDI in Mahbubnagar, Karimnagar and Nizamabad districts was more than the state average in 2011-12 resulting in a narrowing of the gender gap in HDI. Medak district presents a different model, starting with a low base for HDI for women but gender differentials had not fallen much by 2011-12. Hyderabad, an urban district, started with a high base and also achieved a high value of HDI for women in 2011-12 so that the gender differential narrowed (Table A2.7). Khammam and Adilabad districts had a high gender gap in HDI in 2011-12. This might have been due to the higher percentage of tribal communities in these districts.

It can be seen that the gender gap has narrowed for all the components of HDI - income, education

¹ For example, income is adjusted to wage differentials between men and women

and health across all the districts (except Adilabad) in 2011-12. However, among all the three components, education differentials were the highest followed by income differentials across the districts in 2011-12 (Table A2.7a).

Minorities-Muslims

Muslim population constitute 12.8 percent of the total population of Telangana (Census 2011), the most important minority community in the state. They are concentrated in Hyderabad, Ranga Reddy, Nizamabad, Medak and Mahbubnagar districts. Nearly 75 percent of the Muslim population live in urban Telangana.

Of the total urban Muslim population about two-thirds live in top two HDI districts- Hyderabad and Ranga Reddy - and remaining one-third spread across the middle (nearly 19 percent) and bottom (15 percent) level districts.

The Human development indices (HDIs) are constructed for Muslim Minorities on the basis of data from 2nd (2002-04), 3rd (2007-08) and 4th (2012-13) rounds of District Level Household Surveys (DLHSs) with the same approach used for social groups.

The HDI of Muslim Minorities has increased from 0.391 in 2002-04 to 0.461 in 2007-08 and further to 0.600 in 2012-13 growing at an annual rate of 4.2 during 2002-2008 and 5.4 percent during 2007-2013 (Table A2.7b). The growth of health index has contributed more during the first period while the standard of living and education indices have contributed considerably during the latter period (Table A2.7c).

The HDI of Muslim Minorities is higher in urban Telangana as compared to rural Telangana during all the three time points, as the 66 percent of them live in top level HDI districts- Hyderabad and Ranga Reddy.

The urban-rural inequalities have not shown a consistent decline. The urban-rural inequalities have increased by 2007-08 over 2002-04. The same has declined by 2012-13 over 2007-08. Still there are considerable inequalities between urban and rural areas. In order to reduce inequalities focus should be more on improving the standard of living and education in rural Telangana.

The HDI and its components for Muslim Minorities are higher than the state average during all the three time points. However, the HDI and its components of urban Muslims who constitute 75 percent of total Muslim population are lower than the state average for urban areas. On the contrary, rural Muslims who constitute 25 percent of total Muslim population have shown higher HDI (and also its components) than the state average for rural areas.

Occupational Groups and Human Development

The occupational status of the members of a household determines its income level, which in turn determines the command of the household over resources. Thus the household's capacity to lead a decent life can be enhanced through a better occupation. The nature of the occupation of a person promotes better health and education not only for those who are employed but also for those who are dependent on them. Various occupations would reflect the various effects on the living standard of a household in terms of education, health and basic amenities. Since a better occupation strengthens livelihoods and human development, an attempt is made to construct human development indices (HDIs) by taking the occupational divisions given in Interviewers Manual of district level household survey, DLHS - III (2007-08) and DLHS IV (2012-13). The study has categorized the occupations into Professionals, Clerks, Self-employed trade, Casual Labour Services, Self-employed Agriculture, Casual Labour Agriculture, Skilled non-agriculture and Unskilled non-agriculture. The human development indices have been constructed broadly adopting the UNDP approach. However, the indicators considered for the construction of component-wise indices vary from those employed in the standard measurement of HDI.

Rural Occupational Groups

Self-employed and casual labour in agriculture and allied sectors and skilled and unskilled labour in the non-agricultural sector were the important occupational groups in rural Telangana. Among these groups, the HDI was higher among skilled non-agricultural workers as compared to the other occupational groups. This is due to the very high levels of HI and EI for this group (Table A2.8). But this is not true in the case of skilled and self-

The further improvements in HDI of Muslim Minorities should come more from improvements in the standard of living and education

The HDI was higher among skilled non-agricultural workers as compared to the other occupational groups in rural Telangana

Casual workers both in agriculture and non-agriculture have a low level of human development in rural Telangana

employed handloom weavers (see Box 2.1). The gap in HDI between skilled non-agricultural workers and the rest of the occupational groups ranged between 17 and 21 percent. The gap was high for EI and ranged between 16 percent for the self-employed in agriculture to 34 percent for unskilled non-agricultural labour. The gap in SLI was 26 percent for the self-employed in agriculture and 18 percent for unskilled non-agricultural labour. Casual workers both in agriculture and non-agriculture have a low level of human development.

Urban Occupational Groups

Unskilled labour, production related skilled workers, professionals, casual labour in agriculture, self-employed in trade and casual labour in services were the important occupational groups in urban Telangana. Among these occupational groups, the level of development was low for casual labour in services in urban areas (Table A2.9). This could be attributed to the low level of their educational status.

The percentage gap in human development in various occupations is derived by taking professionals/senior executives as control groups for urban areas. The percentage gap was higher for all the indicators except for education in the case of casual labour in services than in the other occupations. It was observed that in 2007-08 there was a gap of 44 percent in HDI, 57 percent in EI and 42 percent in SLI. The gap was wide for other vulnerable occupations such as casual labour in agriculture and unskilled labour also as compared to professionals in urban areas. This indicates that migrating to urban areas is not a better option for workers as there is no additional gain in working as casual labour in urban areas. Except in education, skilled labour and the self-employed in trade were not much below the level of professionals.

Occupational Groups, Rural-Urban Gap

The HDI scores for all occupational groups were lower in the rural areas of Telangana as compared to urban areas. The percentage gap in HDI between rural and urban areas was 25 to 30 percent for skilled and unskilled workers during 2007-08. This gap declined to 5 to 16% during 2012-13. This declining inequality is due to a decline in the gap in SLI followed by EI.

2.2 Impact of 'Business As Usual' approach on the Human Development Outcomes in the Newly Formed State

The impact of 'Business As Usual' approach has been assessed through the estimated HDI for 2015, on the basis of the rates of improvement in the components of HDI between 2004 and 2012 across the districts (Tables A2.10-A2.13a). The human development outcomes would be as follows:

Upbeat Outcomes

- ❖ According to the estimated HDI for 2015-16, the top 3 districts would be Hyderabad, Ranga Reddy and Khammam.
- ❖ Khammam, one of the middle order districts, would join the ranks of the top districts.
- ❖ Nizamabad, one of the bottom districts, would join the middle order districts

Alert Upholds

- ❖ Medak and Mahbubnagar would continue to be in the bottom of the human development.
- ❖ Nalgonda, one of the middle order districts, would slip to the bottom districts.

Thus, the continuation of earlier policies in the newly formed state of Telangana State cannot bring any remarkable shifts in human development. Hence significant changes are required in public policies and related programmes. The major challenges include: uplifting human development in the districts that remained at the bottom - Medak and Mahbubnagar; dealing with the inability of the middle order districts, except Khammam, to join the ranks of the top districts; and the fact that the contribution of non-income components to improvements in human development is not considerable. These concerns need to be addressed.

The same is the case with social and occupational groups (Tables A2.10 to A2.13a). The rate of decline in inequalities, between male and female; or SCs, STs and BCs vis-a-vis the other castes, which are the dominant and the better off castes in the social structure; between occupational groups in rural as well as urban areas, should improve. The business as usual approach will not accelerate the rate of decline in inequalities.

2.3. Policy Changes need to be improved to reduce Inequalities in Human Development

After analysing of the factors that were responsible for the variations in the HDI (and also its components) between the socially vulnerable groups and other social groups (caste-wise and gender-wise) and also occupational groups, and after analyzing the projections if the earlier policies were to be continued in future in the newly formed state of Telangana State, it is found that there will not be any remarkable shifts in human development. Hence, the Policy measures need to be renewed or redesigned to reduce inequalities in Human Development.

2.3.1 Social Groups

The discrimination that exists in the social structure across the country encompassing gender, caste, class, and ethnic identity impinges on the development of all disadvantaged groups, particularly their standard of living, health and education. Women experience discrimination as members of a specific caste, class or ethnic group in addition to facing gendered vulnerabilities. The scenario is the same for occupational groups.

2.3.1.1 Caste Groups

The discrimination against Scheduled Castes, Scheduled Tribes other backward castes is reflected not only in the retardation in their development in all aspects but also extends to the younger generations.

Health Inequalities

Table A2.6 shows that inequalities in health status between the SCs and STs and other social groups are quite narrow. This is because we have considered coverage under safe motherhood and childhood facilities to measure the health status. But a low level of inequality in this may not necessarily result in less inequality in health outcomes on parameters like the nutritional status of children, since many other factors determine the nutritional outcomes for children. Stunted children, who fall below the required height for a specific age reflecting chronic malnutrition, constitute a larger proportion among the SCs and the STs as compared to the forward castes in Telangana as mentioned below.

Nutritional Status across Social Groups (2013)				
Nutrition	SC	ST	BC	OC
Stunning	39.0	32.2	34.4	24.1

Source: Galab *et al.*, (2014)

Stunting, thus, serves as a proxy for the health status in HDI of the social groups and captures health inequalities across the social groups and might have increased the inequalities in HDI across social groups. The issue therefore is: how to reduce the nutritional gap between SCs and STs and other social groups. The nutritional status of children is set in the first thousand days of their lives. The recovery of children from malnutrition is possible in the post-infancy phase also. But, this demands more investment on children than in infancy. Moreover, the older the children are beyond infancy, the more the requirements. Growth recovery is positively associated with cognitive performance as long as it occurs early. Hence, caring and feeding practices during infancy among the SCs and STs is crucial for reducing the nutritional gap across social groups (Liza *et al.*, 2014). Child marriages are more prevalent among SCs and STs and should be discouraged since there is a higher probability that children born to young mothers married below 18 years would be malnourished (Galab and Prudhvikar Reddy, 2015).

Children who have had an advantage in regard to mothers married at relatively older age and ensured of pre-natal care as well as socio-economic status are found to be normal (not stunted) throughout the childhood period of five years. It is quite obvious that the children who are at a disadvantageous position in regard to these two domains are persistently stunted. The other patterns of mobility are 'moving out of stunting' and 'moving into stunting'. Children who are provided adequate food and a diversified diet in a healthy environment at home have the potential to escape from being persistently stunted when compared to children with mothers married at very young age and have deficits in pre-natal care, given all the other factors-namely health of the child, safe motherhood and childhood practices and mothers' autonomy. Children with mothers married at relatively older age and ensured of pre-natal care with better socio-economic status are able to become normal when they are five years old, even though they were stunted when they were one year old. However, children, from among the

The continuation of earlier policies in the newly formed state of Telangana State cannot bring any remarkable shifts in human development.

The supply of non-staple food items from the Public Distribution System at cheaper prices may arrest the stunting among children by overcoming the negative effects of the rise in food prices

Washing hands before a meal and cleaning hands properly after defecation by children is equally important as having an individual toilet facility.

normal set of children, who have been disadvantaged in regard to both these conditions have slipped into stunting when they are five years old, though they were normal at one year old. Thus, the interventions such as age at marriage, pre-natal care and better socio-economic status are required to ensure that children do not remain stunted in pre-school years.

Children from households that grow only food crops had a less diversified diet and had a higher probability of being stunted, particularly children with deficits in safe motherhood and safe childhood practices, mothers married at younger age and household hygienic conditions. Households growing non-food crops have a more diversified food basket than households growing only food crops. This is most likely due to having disposable income available from selling non-food crops. It is possible that this disposable income might have enabled the households to diversify their diets, and access health care for improving the nutrition outcomes. Persistent stunting is associated with long-term health problems of children, younger mothers, and growing only food crops, along with a less diversified dietary basket. Recovery from stunting is associated with a relatively higher income through non-agricultural activities (for food-crop-farming households) allowing a more diversified diet. Public policies that focus on improving the productivity of small farms, reducing the costs of production to increase incomes from agriculture, and augmenting the income of small farmers belonging to SCs and STs from other economic activities would help the farming households to provide a more diversified dietary basket for their children. Encouraging households to create kitchen gardens would also help to enable women to provide a diversified consumption basket for their children (Galab and Prudhvikar Reddy, 2013).

Covariant shocks like a rise in the price of food commodities hurt the SC and ST children the most and contribute negatively to the linear growth of children. The children who were in a disadvantageous status with regard to nutrition at the age of one year had been hit severely when they reached five years due to a rise in food prices. These are mostly children belonging to Scheduled Caste and Scheduled Tribe households. The existing household income enhancement programmes of the government had enabled the households to cope

with a less than 15% rise in food prices by obtaining more income from these programmes. The potential of the income enhancement programmes of the government tapers off when food prices rise beyond 15 %. The households start utilizing food-based and non-food based coping mechanisms that result in micronutrient deficiency that in turn results in stunting. Of course, the noon-meal scheme did arrest stunting to some extent. The supply of non-staple food items from the Public Distribution System at cheaper prices may arrest the stunting among children by overcoming the negative effects of the rise in food prices (Galab and Prudhvikar Reddy, 2013). The food security of the household, mother's autonomy and access to government programmes relating to ICDS, Mid-Day Meal (MDM) and NREGS do influence the nutritional outcomes of children.

The decomposition of the sources of the nutrition gap, between the SCs and STs and other social groups into two components-namely, variation in the determinants of nutrition and the realisation of the importance of the utilisation of these determinants-shows that the former component has contributed to 70 % of the nutrition gap and the remaining 30% gap is due to lack of awareness on the importance of the nutritional determinants (Jose, 2014). In addition to the drive to reduce the inequalities in the access to endowments (determinants) that determine the nutrition gap, awareness building among the SCs and STs on the importance of the different determinants of nutrition is also important. The second component of the decomposition reflects more on behavioural changes that need to be brought in to reduce the nutrition gap. Washing hands before a meal and cleaning hands properly after defecation by children is equally important as having an individual toilet facility. This type of low cost and zero cost practices that reflect behavioural changes go a long way in reducing the incidence of malnutrition among children across all the social groups in general and those of SCs and STs in particular.

Education Inequalities

The enrolment of children has become almost universal in primary as well as in upper primary classes among all the social groups (Table A2.14). But beyond upper primary school, enrolment declines sharply among all the social groups, and

especially among the children of SCs and STs. Further, the children of SCs and STs constitute a larger share of the children who drop out from primary and upper primary schooling, though this has been declining over time (Table A2.15). The percentage of children who never attended school in the age group of 5-14 in 2011-12 was higher among STs and SCs than among other caste groups in Telangana (Table A2.16). The performance of children in terms of school achievements has declined over time, and more so among the SCs and STs than the other social groups (Table A2.14). School related factors, along with the household related factors, are responsible for the drop-outs and the declining performance of the children.

The percentage of children enrolled in private schools has been increasing over time, due to the general perception that private schools provide good quality education as compared to the government schools. The enrolment of children from SCs and STs is low as compared to other social groups (Table A2.14). The performance of children in government schools is poor though the schools have better qualified teachers with command over the subjects they teach as compared to teachers in private schools. Thus, it is evident that the better qualifications and command over subjects of the teachers in government schools have not resulted in the better performance of children. Why this is so? The reasons for this can be located in the governance of the schools. The better governance of schools may provide an enabling environment to translate the abilities of teachers into better learning outcomes of the children.

The accountability of the teachers is one of the crucial dimensions that may ensure better governance. In contrast to the teachers in government schools, teachers in private schools are held accountable due to the fact that the parents feel that it is their right to negotiate with the teachers and the management of schools as they are paying fees (Marrow and Emma Wilson, 2014). The institutionalisation of parents' negotiations with the teachers through parent-teachers associations is the highlight of the private schooling system. The system ensures transparency, participation of parents in the negotiation processes and opportunity for all the parents cutting across all social groups without any discrimination. The school management committees in the case of government

schools are the most crucial institutions to bring about accountability in school governance. But, most of the school management committees on the ground are found to be ineffective. But the prevalence of strong women's self-help group federations at the village level and their participation through school management committees have institutionalised the negotiation process to make school governance transparent, accountable and participatory without discrimination. This process has contributed to a dramatic increase in the children's school achievements overall as well as those of children belonging SCs and STs (Galab *et al.*, 2013). An active civil society coupled with increasing literacy (Table A2.17) in Telangana may contribute to the effective governance of School Management Committees.

What are the issues of governance of government schools that need to be improved? The experience of schooling by children and the perceptions of parents on the quality of schooling, and classroom observations on interpersonal interactions between teachers, teaching aids if any, and students in the classroom throw light on the issues of governance.

Parents felt that teachers should make sure that children are attending school and informing parents if they are not (Marrow and Emma Wilson, 2014). The experiences of children clearly show the insensitive attitude of teachers towards their responsibilities in terms of punctuality, correcting the homework of the students, questioning the students when they do not bring the correct books to the school as well as the lack of bare minimum infrastructure in the schools, and physical punishment in the school. These observations of the children indicate that the system needs urgent remedies. The children are not engaged properly during lessons through discussion/interaction with the whole class, guiding group work and talking/working with children to inspire children to learn more (Galab *et al.*, 2013; Galab *et al.*, 2014).

Ensuring quality in early education is equally important. for details see Singh, 2017 Woodhead *et al.*, 2009)

Income (Standard of Living) Inequalities

The aspirations of the SCs and STs have gone up, particularly those of the youth. State interventions in education and employment have brought changes

The accountability of teachers is one of the crucial dimensions that may ensure better governance of schools

The experiences of children clearly show the insensitive attitude of teachers towards their responsibilities in terms of punctuality, correcting the homework of the students, questioning the students when they do not bring the correct books to the school as well as the lack of bare minimum infrastructure in the schools, and physical punishment in the school

in their life trajectories. Three broad categories of life trajectories of youth are emerging from among the social groups in the contemporary social structure of Telangana.

The emergence of a new generation of educated youth which desires to get into government jobs and new type of occupations that are quite different from the occupations of their parents is the first category of youth that has emerged in the social structure. This is the reason why they are continuing their education. Out of the total youth population, this category constitutes a lower proportion, among SCs and STs (Galab *et al.*, 2014). The higher percentage of regular workers belonging to SCs and STs in the top 20 percent expenditure class working in the government sector is a testimony to this trend (Table A2.18).

The second category of youth has discontinued their studies and entered into the labour market. They constitute around 38% among SCs and 24% among STs and only 30% among forward castes. Mostly they have gone into unskilled occupations in agriculture and non-agriculture. They are employed at lower wages. There is also another group of youth which has not acquired adequate educational achievements to become eligible for any government jobs and new type of jobs and as a result they are forced to depend on the occupations of their parents. This is the third category of youth in the social structure. This is a highly frustrated section because they are neither able to come to grips with the occupations of their parents nor able to get into government jobs and new type of jobs, given the rise in their aspirations. They are ultimately out of the labour market. This is the most vulnerable group. They constitute a relatively large proportion among the SCs and STs (around 15 %) as compared to the forward castes (11%). The latter two categories of youth eventually contribute to the chronic poverty among the structurally vulnerable social groups. The presence of a higher percentage of households from the SCs and STs in the bottom 20% expenditure class provides substantial evidence to this trend (Table A2.19).

The fourth category includes the relatively older generation which depends on agriculture and related occupations.

The work participation rates were higher among SCs and STs as compared to other groups in rural

as well as urban areas of Telangana during 2011-12 (Table A2.20). The incidence of child labour was high (Table A2.21).

The unemployment rates were low (Table A2.21). The percentage of poor was higher for STs and SCs as compared to the other caste groups, despite higher work participation including children and a low unemployment rate (Table A2.22).

This means that the workers from SCs and STs were working in low paid economic activities. Thus there was a high percentage of the working poor among these social groups compared to other social groups in Telangana. Moreover, they were working more in the informal sector where social security is almost non-existent, in contrast to the other social groups. The dependency on agriculture was high among SCs and STs as compared to other social groups. There were fewer self-employed persons and casual labourers were more in agriculture as well as non-agriculture among SCs and STs, in contrast to other social groups. Further, the diversification to non-agriculture was relatively very low among SCs and STs (Tables A2.23 to A2.25).

What should be the course of action to reduce the income inequalities between SCs and STs and other social groups? The first category of youth should be encouraged to get into the private sector in the domestic job market and international job market. The second and third category of youth should be provided with appropriate skills to make them employable and to emerge as entrepreneurs, providing employment to others also. The fourth category of households should be provided with the following support:

In the case of STs, declining forests resources, emergence of settled agriculture, penetration of commercial crops in the cropping pattern, expansion of livestock and the surfacing of problems associated with mainstream agriculture at present are the transformation processes that the older generation who want to stay back in the forests have to grapple with in carrying out their livelihoods in the forest area. The developments due to neo-liberal reforms have led the national and state governments to indiscriminately exploit resources like water, minerals and forests located in tribal areas for removing infrastructural bottlenecks that are emerging in

mainstream economy to sustain and expand economic growth. This has led to cutting down of forests, construction of dams and extraction of minerals. All these have destabilized the livelihoods of tribals and led to ecological destruction in the forest areas. Moreover, growing inequalities among the tribes is also a matter of serious concern. These are the new causes of deprivation among tribals.

The saga of unsuccessful attempts for the resettlement and rehabilitation of tribals is a part of their unforgettable memories of agony because a sharp deterioration in their living and livelihood conditions after their displacement due to development projects has been the harsh reality. The major steps of policy action required to improve the living conditions of this category of tribal include restoration and protection of the existing land and other natural resource base of the tribals; raising agricultural productivity and improvement of governance in tribal areas (Rao, 2015).

In the case of SCs, the following support should be provided:

The landless should be provided with land. Cost reducing, yield enhancing, resource conserving, low-energy-intensive, local resource-based agricultural technologies should be provided to make agriculture viable, sustainable and remunerative. Post-production technologies and allied agricultural activities should be provided to overcome the low landholding size of the farmers. Collective institutions of these farmers should be promoted to negotiate with the market and the state so that they can get inputs and sell the agriculture produce at the right prices.

For all the categories of households among the tribals, the recent acts like the Andhra Pradesh Scheduled Castes Sub-Plan and Tribal Sub-Plan (Planning, Allocation and Utilization of Financial Resources) Act, 2013 (Act No.1 of 2013), Forest Rights Act (FRA) and Panchayats (Extension to Scheduled Areas) Act or PESA; and in the case of SCs, the Andhra Pradesh Scheduled Castes Sub-Plan and Tribal Sub-Plan (Planning, Allocation and Utilization of Financial Resources) Act, 2013 (Act No.1 of 2013), need to be calibrated to suit the socio-economic transformation of tribals and scheduled caste households for ensuring a high standard of living.

2.3.2 Gender Groups

Economic growth indicated by GDDP percolates to households (MPCE) which impacts the human development indicators. With respect to the health component, the IMR ratio was falling at higher MPCE across districts in 2011-12. The IMR ratio was higher than the state average in the districts of Nizamabad, Adilabad, Mahbubnagar and Medak.

The gender gap in literacy had widened between 2004 and 2012 in Mahbubnagar and Medak, as the lower literacy rates in rural areas had caused lower female literacy rates. Gender differentials in literacy were high in the districts of Mahbubnagar, Medak, Nizamabad, Nalgonda and Adilabad. In the case of the other indicator of education, gender differentials in the mean years of schooling had come down between 2004 and 2012. However, they were more in favour of boys in the districts of Mahbubnagar and Adilabad. These districts have lagged behind in the education indicator in general and more so in the case of girls, and hence gender differentials continue to prevail. Khammam and Medak also have a high gender differential in mean years of schooling. Surprisingly the literacy rate did not show a positive response to either GDDP or MPCE in these districts, especially in Mahbubnagar. There has to be a specific policy intervention to improve the education indicators in hotspots with low levels of female literacy. Mean years of schooling has been more responsive to MPCE.

Mahbubnagar and Adilabad with a high gender gap in mean years of schooling are lacking in school infrastructure, especially toilets for girls. The percentage of schools with drinking water is low in Medak and Nalgonda while Ranga Reddy ranks low in the percentage of schools having girls' toilets. Lack of toilets for girls severely hampers the school attendance rates of girls, thereby affecting school outcomes. The drop-out rates of pupils in primary school are the highest in Mahbubnagar and higher than the state average in Ranga Reddy, Nalgonda and Warangal. Surprisingly Hyderabad also figures along with Khammam and Ranga Reddy in districts with a high drop-out rate at the upper primary level. Repetition rates are higher than the state average in Medak and Mahbubnagar. Retention of children especially girl children is low among specific nomadic communities and the shepherd community in these districts.

The restoration and protection of the existing land and other natural resource base of the tribals, arise in agricultural productivity and better governance in tribal areas are the three crucial steps those are needed to improve the livelihoods of tribals

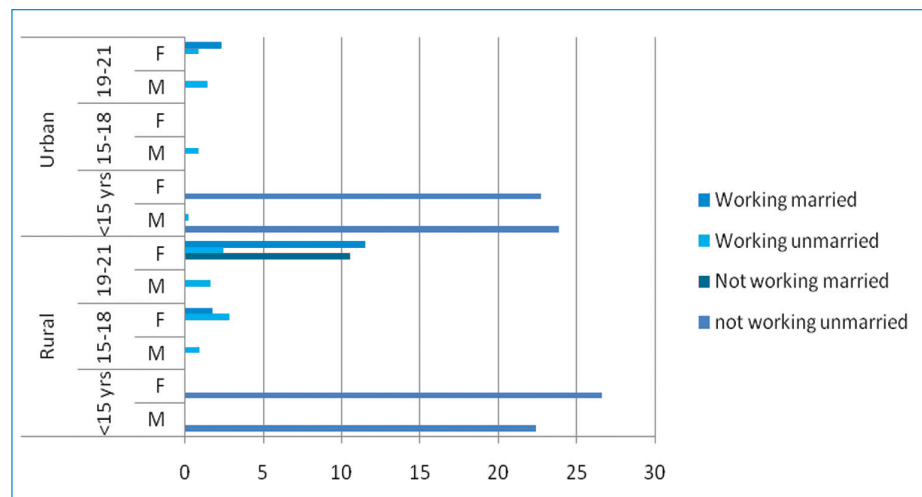
Geographically Ranga Reddy district surrounds the city of Hyderabad due to which the rural areas are at a disadvantage. For example poverty is high in the industrial area of Qutubullapur mandal where the drop-out rate is high. The drop-out rate is high in Hyderabad due to in-migration of labour and the growth of slums.

Child marriage also is a major cause for the lower enrolment of girls in secondary school. The age-wise distribution of girls and boys along with education and marital status shows the trajectory of adolescent youth. The Young Lives study in 2013 in the two districts of Mahbubnagar and Karimnagar showed that among the older cohort aged 19 years, 25 percent of girls were married and not studying. The NSSO data for Telangana state also reinforces the point that girls who never attended school in the age groups of less than 15 years were neither working nor married, but girls in the age groups of 15-19 and 19-21 were mostly in the category of not working and married and to some extent were

married. These are issues of concern which need to be addressed for better outcomes and gender parity in outcomes.

Gender inequalities in income had fallen in 2011-12 in all the districts with the exception of Ranga Reddy. The female casual wage rate in 2011 was the lowest in Ranga Reddy followed by Warangal and Medak, while Adilabad had the highest female wage rate after Hyderabad. The male female wage ratio had increased in favour of men in Ranga Reddy district despite a sharp rise in GDDP. In Mahbubnagar and Hyderabad, there had been a proportionately higher rise in casual wage rates for women thus reducing gender differentials in earning. The reasons for the very low wage increase in Ranga Reddy may be due to the rural-urban divide and men migrating to urban pockets while women continued to work in rural areas at the prevailing low wage rate. The female work participation rate was also low in Ranga Reddy at 27 percent in 2011.

Fig. 2.11: Work and Marital Status of Rural and Urban Youth 'Never Attended School'



Source: estimated based on the data from NSSO

working and married. This is more pronounced in rural areas than in the urban areas (Fig. 2.11).

The pattern is similar even among girls who were enrolled in schools but were currently not attending (Fig. 2.12). Girls in the age group of 15-18 were not working and not married (but might have been doing household chores or taking care of siblings). In the age group of 19-21 girls were mostly married and not working while boys currently not attending school were predominantly working and not

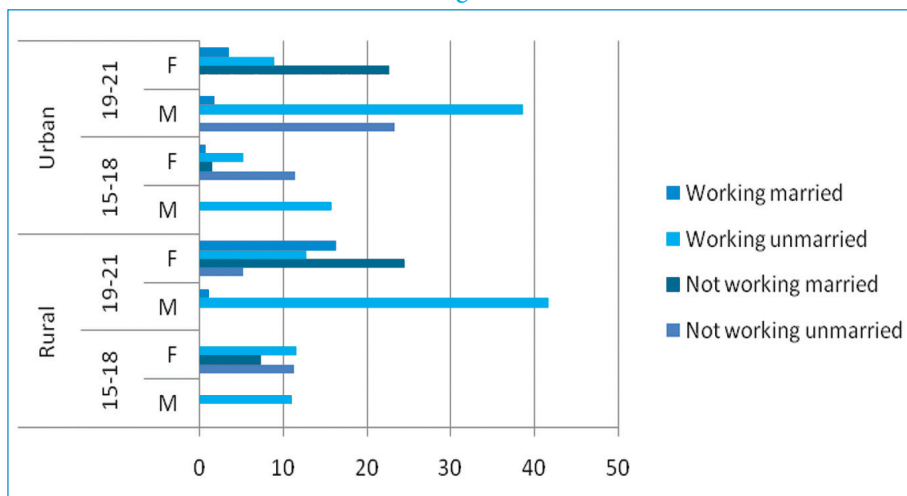
married. Employment opportunities and female wages were low in rural areas due to the dependence on rain-fed agriculture. Intervention in the labour market through MGNREGS in Ranga Reddy district has not had much impact on wages. Female participation in MGNREGS work was low though it had, to some extent, prevented day to day migration to urban locations for work (Galab *et al.*, 2008). Policy intervention is warranted in order to raise the wage levels of women in this district to increase their human development.

2.3.3 Occupational Groups

The main focus of this section is to examine the human development status of occupational groups of women respondents and the gap in development across occupations and between rural and urban areas. This assumes importance because structural changes in the labour market have led to the emergence of workers in the informal sector. The human development status with respect to the status of employment has not been examined in earlier reports on human development.

It was observed that the level of human development was higher among professional/senior executives and skilled workers. This could be attributed mainly to their level of education and asset ownership. It was also observed that the percentage of out of school children was less in these occupational groups. There was not much difference in health coverage across occupations. This is largely on account of interventions like RMNCH+A. A lower employment status resulted in lower asset ownership and hence a lower standard of living, indicating a low level of development. The status of the self-employed in agriculture and allied sectors was slightly better than of casual labour in agriculture and other unskilled labour. There were rural and urban differences in the levels of development for all the occupations indicating the location effect. Though skilled workers were next to professionals in urban areas, the gap between them in educational development was very high. Skilled workers in rural areas had a higher level of human development as compared to unskilled non-agricultural labour, casual labour in agriculture and

Fig. 2.12: Work and Marital Status of Rural and Urban Youth 'Currently Not Attending School'



Source: estimated based on the data from NSSO

self-employed in agriculture. They also owned land and practiced cultivation. Thus, employment in the organised sector and skill, education and work in both agriculture and non-agriculture would put the rural people on the path to a better human development position.

The HDI values computed for occupational groups suggest that the groups possessing skills and land gain in terms of HDI and that the growth and human development policies of the state have not impacted the different occupational groups such as the self-employed in agriculture, casual labour in services and agriculture and other labour. These groups operate in the unorganized sector without much protection and have limited access to the safety nets created by the state. The low level of education index observed for those who have shown a higher level of HDI such as skilled workers in urban areas needs to be probed in more detail. The gain in income has not been transformed into social development of these households.

Box 2.1

Handloom Weavers in Telangana

Handloom weaving had been an important segment of the non-agricultural rural economy of Telangana from times immemorial. A traditional activity involving a high level of manual skill, handloom weaving was next only to agriculture in its share of total employment. Weaving is a home-based activity, involving all members of the family and is the main source of income for the entire family.

Handloom weaving has been steadily sliding into a crisis since the 1980s in Telangana. The total number of active looms in Telangana by the most recent count (2013) was 28,643, which is a third of the number in 1995. At present, handloom weaving continues in some strength only in the districts of Mahabubnagar, Karimnagar, Medak, Nalgonda and Warangal.

This has resulted in three levels of stressors for the weaving community as well as for the rural economy of the state. The first, what has happened to the weavers who are no longer in the activity, and to their families? Second, what is the status of the weavers who have continued in the activity? Third, what is the situation of the younger generation who aspire to enter into mainstream occupations?

Most out-of-work weavers migrated to power loom centres like Bhiwandi and Surat for work, accepting the disruption of their traditional community life. But, around 2000-2001, there was also much distress and many weavers in Telangana finally committed suicide. Younger women members have shifted to beedi rolling, while a few also take up work under MGNREGA.

Competition from power looms has been the major factor in the crisis faced by handlooms. Weavers in Karimnagar and Medak are under severe stress. Most have shifted to frame looms which were promoted on the assumption that this would improve the productivity of the weaver. While it is true that a frame loom could produce 300 metres of cloth a day, this still could not compete with power looms on cost, irrespective of the quality of the product. Further, finer quality saris and materials in which the weaver has a quality advantage cannot be woven on frame looms. The net result is that weaving is now concentrated on low-priced commodities and there has been a steady process of de-skilling which pushes the weaver into the vicious circle of low cost products, diminishing skills and low wages.

On an average, a weaver has a total family income of Rs. 7450/- a month. This includes his earning as a weaver, his wife's wages from beedi rolling and his weaver's pension.

The younger generation does not want to take up the traditional occupation of weaving. Children of weavers had studied up to standard 12 (Intermediate degree) but lack any skills and generally work in the informal sector. The next generation (grandchildren of weavers) are going in for higher studies, but their employability in terms of skills is still very poor, and most are unemployed. While many of the younger educated persons aspire to get a government job, their chances of getting these jobs are very limited.

Strangely, neither the cooperatives nor the master weavers show any entrepreneurial initiative to promote the marketing of finer fabrics, even of Gollabhama saris for which the region is very famous.

Other than the general welfare schemes, there are schemes which are meant specifically for weavers which include monthly pension, health, life and group insurance. In spite of what looks on paper to be comprehensive coverage to ensure the welfare of weavers, the ground realities tell a different story. Our field work in Karimnagar and Medak shows that access to these programmes is very uneven mainly because information on these programmes often does not reach the weavers.

Source: An extract from a study by Kanakalatha Mukund and B. Syama Sundari on (unpublished) "Handloom Weaving in Telangana in dire straits", inputs from Field Survey conducted in 2013-14.

Economic Growth and Human Development

3.0 Introduction

The basic objective of this chapter is to identify the pattern of economic growth that would ensure further improvements in human development and also facilitate a reduction in the existing inequalities in human development in Telangana State.

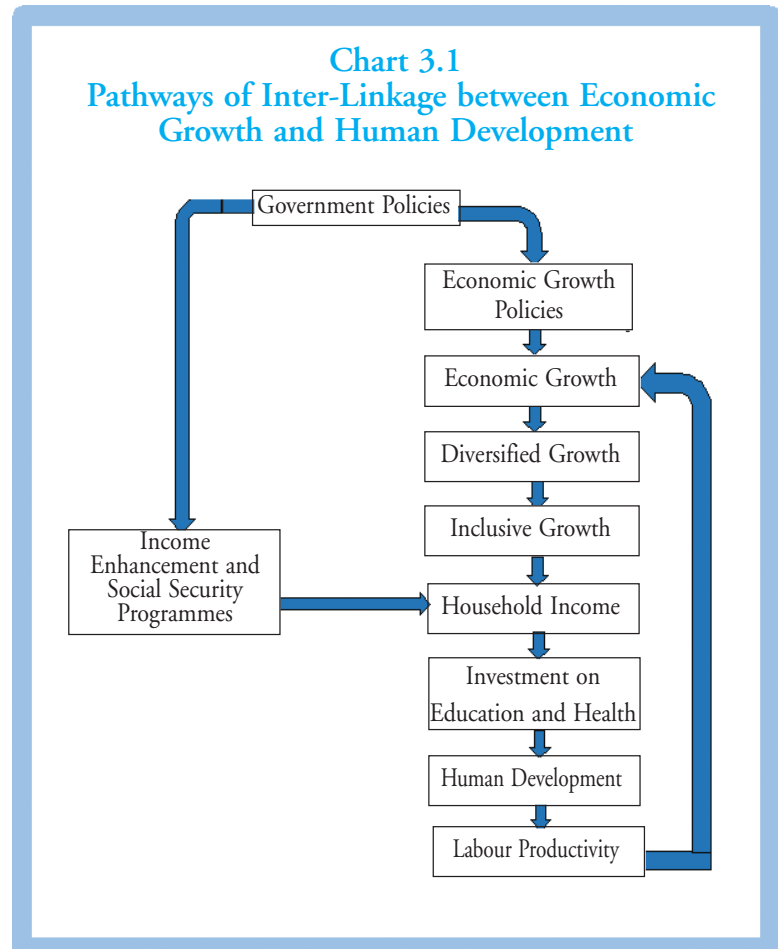
The relationship between economic growth and improvements in human development is two way causative. Economic growth and growth in human development should have a positive and strong relationship. Also, the nature of economic growth determines the growth in human development. The diversification of growth from agriculture to non-agriculture improves incomes in agriculture as well as in non-agricultural sectors (Industry and Service sectors) due to improvement in the productivity of both the sectors. The diversification should contribute to both employment and income of households. The economic growth should be inclusive. It means that the benefits of economic growth should be shared widely to enhance household incomes for investing on human development. Further, the growth in the income of households should have links with the growth in human development. Thus, the level of economic growth, the nature of economic growth, percolation of economic growth to household income and link between growth in household income and improvements in human development are the pathways that connect economic growth with improvements in human development.

Improvements in human development should lead to growth in labour productivity. This reflects the connect between improvements in human development and economic growth, since growth in labour productivity contributes to economic

growth. This is reverse causation in the relationship of economic growth and growth in human development (chart 3.1).

All these conditions should go hand in hand to provide an ideal environment that connects economic growth with growth in human development and vice versa. The examination of these relationships assume enormous importance in the context of discourse about weakening relationship between economic growth and improvement in human development especially in

Weakening the relationship between economic growth and improvement in human development assumes importance in high economic growth context



Inadequate economic growth has weak linkages with improvements in human development

the background of high economic growth (World Human Development Report, 2014; Rangarajan, 2014).

The question is whether the pattern of economic growth generated in Telangana, due to the public policies pursued in the combined state, had all these characteristics to address the twin objectives of improving human development and reducing its inequalities. This is the line of analysis to which this chapter addresses itself.

3.1 Economic Growth and Improvements in Human Development

Economic growth, during 2004-05 and 2011-12, was higher than the state average in the top two human development districts-Hyderabad and Ranga Reddy-and one of the bottom human development districts-Medak. All the other districts experienced lower economic growth than the state average. But, the improvements in human development were higher than the state average among some of the middle and all the bottom districts. This indicates that there was no strong relationship between economic growth and improvements in human development across the districts in Telangana State (Table A3.1). This is counterintuitive and this puzzle requires further analysis. In order to conduct analysis, the districts have been classified according to level/growth of Per Capita Gross District Domestic Product (PCGDDP) and level/growth in HDI w.r.t ten districts average. The categories are (i) High level/growth of PCGDDP-High level/growth of HDI (ii) Low level/growth of PCGDDP-High level/growth of HDI (iii) Low level/growth of PCGDDP-Low level/growth of HDI and (iv) High level/growth of PCGDDP-Low level/growth of HDI. The districts under categories (i) and (iii) are defined as districts with strong linkages between PCGDDP and HDI and the districts under the other two categories are defined as districts with weak linkages. Similar classification is adopted in case of health and educational status to examine their growth linkages with economic growth.

Of the top order districts, the relationship between economic growth and growth in human development is strong in Ranga Reddy district, while it is weak in Hyderabad. This is because of adequate economic growth in the case of former, whereas inadequate economic growth in the case of latter.

Inadequate economic growth during 2004-05 and 2011-12 has contributed to this weak relationship in Hyderabad district. But Ranga Reddy district had maintained the strong relationship because of adequate economic growth.

In the case of the bottom districts, this relationship is strong in Medak due to higher economic growth, despite the weak linkage between the level of PCGDDP in 2004-05 and the level of human development in 2011-12. Nizamabad and Mahbubnagar districts were not able to maintain the relationship because of inadequate economic growth.

Among the middle order districts, Adilabad, Khammam, and Nalgonda district were not able to maintain the relationship due to inadequate economic growth. However, Warangal and Karimnagar were able to overcome the initial weak linkage and established a strong linkage between the two due to adequate economic growth.

Apart from (in) adequacy of economic growth, the other important issue that needs to be examined is whether economic growth has been translated into growth in human development. If so, how? Economic growth is not related to the improvement in human development in the case of the top human development district, Hyderabad. Then, why higher economic growth has not contributed to growth in human development? The benefits of higher economic growth have not been shared widely. This is the dominant reason for the weak linkage between the two (Table A3.2). This clearly indicates that economic inequalities have constrained the flow of growth benefits to households. Higher economic growth fails to be inclusive in unequal economic structure. It is also evident that growth in household income has contributed to growth in human development, despite the absence of wider sharing of benefits of economic growth. It is obviously due to the incomes accrued to households through income enhancement and social security programmes of the government. Thus, public policies have come to the rescue of the households in Hyderabad district to achieve the present level of growth in human development.

Ranga Reddy has achieved higher growth in human development as well as in economic growth despite their higher initial base. This means that higher

The percolation of income benefits of growth (inclusive growth) has strong linkages with the improvements in human development

economic growth has enabled this district to achieve higher growth in human development (Table A3.3 and Table A3.4). This is mainly because of diversification to non-agricultural sectors with higher growth in household employment and income. The association between improvement in human development and economic growth is present in the district. There is also a wider sharing of growth benefits which in turn led to growth in investment on human development. Thus all the conditions required for connecting economic growth and growth in human development are in place in this district. The comparison between Hyderabad and Ranga Reddy districts supports the argument that inclusiveness is crucial in linking economic growth with growth in human development and vice-versa.

In spite of all the unfavourable conditions for linkage between economic growth and improvement in human development, Nizamabad, among the bottom human development districts, has registered the highest growth in human development. This is because of the income enhancement and social security programmes of the government. Though Medak has achieved economic growth and improvement in human development above the state averages, it has not achieved desirable growth in human development considering its higher economic growth. Moreover all the conditions of economic growth are favourable in this district. This may be due to the higher initial human development base and also due to the fact that the benefits of economic growth might not have benefited the local population of Medak district adequately. Mahbubnagar has obtained higher growth in human development despite its lower economic growth. This is due to inclusive economic growth.

Among the middle order human development districts, Warangal has correlation between economic growth and growth in human development because of its inclusive economic growth. On the contrary, in Karimnagar district, there is no correlation between economic growth and growth in human development due to the non-percolation of the benefits of higher agricultural growth to wider sections. Khammam and Adilabad have attained higher growth in human development compared to their economic growth because of income enhancement and social security programmes of government.

3.1.1 Economic Growth and Improvements in Health status

The relationship between economic growth and growth in health status during 2004-05 and 2011-12 has turned out to be weak in all the districts except Nizamabad (Table A3.5). This is due to lack of correlation between economic growth and improvements in health status during 2004-05 and 2011-12 (Table A3.6). Yet, there were improvements in health status in the districts of Ranga Reddy, Warangal, Karimnagar, Nalgonda, Mahbubnagar and Medak (column 9 of Table A3.7). This is obviously due to government expenditure on health. In the case of Hyderabad, Khammam and Adilabad districts, there was no evidence of wider sharing of benefits of economic growth. But there is growth in household income from the income enhancement and social security programmes of the government. Hence there is strong linkage between household income and growth in health status in these districts (Column 10 Table A3.7). In the case of Nizamabad, economic growth has not been widely shared but has contributed to better health status. This may be due to public investment on health.

3.1.2 Economic Growth and Improvements in Educational status

The strong linkage between economic growth and growth in educational status is in place only in Ranga Reddy, Warangal, Adilabad and Medak districts. This is due to adequate economic growth in these districts during 2004-05 and 2011-12 (Table A3.8). The absence of strong linkage in the rest of the districts is due to inadequate economic growth. The strong linkage between economic growth and growth in educational status (column 5 Table A3.9) in Ranga Reddy, Warangal and Medak districts is also due to the wider sharing of economic growth benefits (column 9 Table A3.9) and thereby investment on education (column 10 Table A3.9). But this scenario is not found in Karimnagar, Nalgonda and Mahbubnagar districts (columns 9 and 10 Table A.3.9) where the growth in household incomes due to better sharing of economic growth was not invested in education. Yet there is growth in educational status. This may be due to government's expenditure on education. On the other hand, Hyderabad, Khammam, Adilabad, and Nizamabad districts have not experienced the wider sharing of benefits of economic growth. Yet there

The public policies have come to the rescue of the households to achieve the present level of growth in human development

High and inclusive, diversified and productivity-led economic growth is imperative to improve human development and reduce its inequalities in Telangana State

is growth in educational status in these districts. The income enhancement and social security programmes of the government have come to the rescue of these districts (except Adilabad) to bring improvements in educational status. The government expenditure on school education has facilitated the improvement in educational status in Adilabad district.

3.2. Improvements in Human Development and Economic Growth

The improvements in human development should also contribute to economic growth. One of the pathways that connect human development with economic growth could be the labour productivity that emanates from human development. Here attempt is not made to estimate labour productivity and assess the relationship of human development-labour productivity-economic growth. But, an effort is made to unravel the circumstantial evidence from the existing data in this regard.

It is evident that there is a strong inter-linkage between improvements in human development and economic growth in Ranga Reddy, Warangal, Karimnagar and Medak. All these districts, except Karimnagar, have strong inter-linkage between growth in educational status and economic growth. It can be inferred from these two streams of evidence that the strong inter-linkage between economic growth and improvements in human development is partly due to strong linkage between economic growth and improvements in educational status. Thus, it is evident indirectly that improvements in educational status has contributed to economic growth. Moreover, this is one of the reasons for achieving higher economic growth in Ranga Reddy and Medak districts and for correlation between economic growth and growth in human development in Warangal district. At the same time, this is also one of the reasons for the absence of correlation between economic growth and improvements in human development in Karimnagar district.

3.3 Emerging Concerns

The pattern of economic growth identified above is the outcome of the economic growth policies

pursued in the combined state. Interfacing the pattern of economic growth with that of human development has brought to the fore many concerns that demand the calibration of growth policies to improve human development and to reduce its inequalities. The economic growth achieved in the districts is inadequate to lead to a marked growth in human development. The concerns emerged from the analysis are in order.

- ◆ Integration of growth and human development policies is absent.
- ◆ Targets to achieve economic growth should also be set for each district as at the state level. Similarly, targets for growth in human development should also be fixed for each district. These targets must be integrated with that of the state.
- ◆ The diversification of the economy from agriculture to non-agricultural activities has contributed to a higher growth and thereby to the growth in human development.
- ◆ Growth in agriculture and growth in human development are not moving together. The failure of agricultural marketing institutions in providing remunerative prices to farmers for their produce may be one of the dominant factors that has contributed to lower growth in the incomes of the farmers, despite high agricultural growth. This has led to lower growth in investment on human development.
- ◆ Similarly, growth in non-agriculture is weakly linked to growth in human development. Distress diversification that is diversification into non-agricultural activities without growth in non-agricultural incomes, is responsible for weak linkage between non-agricultural growth and growth in household incomes. There is a need for interventions to bring about a strong linkage between non-agricultural growth and household incomes.

Hence, high and inclusive, diversified and productivity-led economic growth is imperative to improve human development and reduce its inequalities in Telangana state.

Development Expenditure : Human Development and Economic Growth

4.0. Introduction

This chapter identifies the distributional pattern of public funds relating to social services and economic services that would ensure further improvement in human development and economic growth respectively and contribute to reduction in their existing inequalities across the districts of Telangana State.

Government expenditure, particularly expenditure on social and economic services, in short, development expenditure, is one of the dominant factors that determines human development and economic growth. The level, growth and pattern of development expenditure reflect the expenditure policies of the government. Expenditure on social services on the whole contributes to human development and particularly education and health expenditures directly influence the components of human development - education and health. One of the outcomes of human development can be related to labour productivity, one of the determinants of economic growth. Hence, conversion of human development for improving labour productivity contributes to further expansion of economic growth. Thus public expenditure on health and education influences the human development-labour productivity-economic growth linkages. Similarly, public expenditure on economic services (economic activities) contributes to economic growth.

The human development expenditure policies pursued during 2004-05 and 2011-12 have been captured through the levels and patterns of expenditure on social services and economic services during 2004-05 and 2011-12. The expenditure patterns are interfaced with the human development

and economic growth to identify the related concerns for the state of Telangana. Three-year averages of state government expenditures of 2004-07 and 2010-13 have been used to represent the expenditure of 2004-05 and 2011-12 respectively for the analysis. The present human development outcomes are the result of government expenditure on human development over the years as well as at present. Hence it is assumed in this study that the annual actual expenditure (accounts) for any year or recent years towards social and economic services are in line with that of earlier years and similarly for the period 2004-12. The terms **Allocation** and **Expenditure** are used interchangeably in this chapter.

The focus of the analysis in this chapter is below the state level, i.e., at the district level. This level of analysis enables us to identify policy concerns from the bottom-up approach. More specifically, this chapter addresses the policy questions such as: What are the concerns regarding the expenditure policies pursued in the combined state of Andhra Pradesh? What are the changes that need to be made in the government's expenditure policies to suit the human development and economic growth requirements of Telangana State?

In order to conduct the analysis, the study has categorised the districts according to the level and growth of public expenditure on social and economic services and level and growth of HDI. They are (i) High Public Expenditure and High HDI (ii) Low Public Expenditure and High HDI (iii) Low Public Expenditure and Low HDI and (iv) High Public Expenditure and Low HDI. The districts under category (i) are defined as the districts with funds adequately allocated and the districts under category (ii) are defined as the districts efficiently utilised funds allotted. The districts under category (iii)

The present status of human development is the result of government expenditure on human development over the years as well as at present

are defined as districts with inadequate funds and the districts under category (iv) are defined as inefficient in utilisation of funds. This enables to examine the relationship between public expenditure and HDI to assess (in) adequacy of public expenditure and (in) efficiency of utilisation of public funds. Similarly the districts under category (i) and (iii) are defined as districts with strong linkages between growth of public expenditure and growth in HDI and the districts under other categories are defined as districts with weak linkages.

4.1. Expenditure on Social and Economic Services

There is need to examine the public expenditure patterns in 2004-05 and their relationship to the human development outcomes in 2011-12 to assess the (in) adequacy of funds allotted and (in) efficiency in the utilisation of the allotted funds. The public expenditure decisions by 2011-12 should have been taken to overcome not only the deficits due to the inadequacy in the allocation of funds and inefficiency in their utilisation in 2004-05 but also to reduce inequalities in human development by 2011-12. The growth in fund allocation between these two periods should cover both these requirements. Thus, ultimately, more funds should flow to human development deficit areas, the absence of which fails the public expenditure policies to respond to inequality concerns in human development. Public expenditure has been analysed in two respects: social services and economic services. The allocation of funds and growth in funds allocated across the districts are presented in Tables A4.1 & A4.2.

4.1.1 Expenditure on Social Services and Human Development

The relationship between growth in per capita social services expenditure and improvements in human development is found to be insignificant. This indicates that the public funds were not allocated on the basis of the human development requirement of the districts. A disaggregated analysis at the district level shows that growth in social services expenditure had a strong linkage with growth in human development only in four districts-Warangal, Karimnagar, Khammam and Medak (Table A4. 3). However, there was a weak linkage between the two in all the other districts-Hyderabad, Ranga

Reddy, Adilabad, Nalgonda, Nizamabad, and Mahbubnagar (Table A4.3).

Warangal and Khammam have achieved higher growth in human development during 2004-05 and 2011-12 due to the allocation of adequate funds by 2011-12. Karimnagar has achieved higher level of human development in 2011-12 at a relatively lower level of public funds in 2004-05. This means that Karimnagar has utilised funds efficiently. Moreover, the allocation of adequate funds by 2011-12 has enabled Karimnagar to realize higher growth in human development. Further, Medak district has had higher growth in human development. This is due to allocation of adequate funds by 2011-12 to cover the deficit in the funds allocated in 2004-05.

Hyderabad has achieved lower growth in human development during 2004-05 and 2011-12 because of allocation of inadequate funds by 2011-12. Ranga Reddy had achieved a higher level of human development by 2012 due to efficient utilisation of public funds in 2004-05 (Tables A4.3 and A4.4). But the inadequate allocation of public funds by 2011-12 has stunted the growth in human development in this district.

Growth in expenditure has weak linkages with an increase in human development in the bottom two districts-Nizamabad and Mahbubnagar (Tables A4.3 and A4.4). These districts were allocated inadequate funds in 2004-05. Also these districts were not allotted adequate funds by 2011-12 to attain improvements in human development. Hence, inadequate growth in public expenditure has constrained the growth in human development in these districts.

The inadequate allocation of funds by 2011-12 has constrained growth in human development in Adilabad, while inefficient utilisation of funds has handicapped Nalgonda in achieving higher growth in human development.

Health Expenditure and Health Status

Growth in per capita health expenditure and improvements in health status are insignificantly correlated indicating that public funds were not allocated on the basis of health requirements in the districts. Growth in health expenditure had resulted in improvements in health status in the

Public expenditure policies should respond to inequality concerns in human development

five districts-Ranga Reddy, Warangal, Adilabad, Nalgonda and Nizamabad. This relationship was absent in the other five districts- Hyderabad, Karimnagar, Khammam, Mahbubnagar and Medak, (Table A4.3).

Ranga Reddy district had achieved higher health status by 2011-12 through utilising public expenditure on health efficiently in 2004-05 (Table A4.4). Adequate public expenditure allotted by 2011-12 has brought about improvements in health status in this district. Among the middle order human development districts, the allocation of adequate funds by 2011-12 enabled Warangal district to achieve higher growth in health status. Adilabad district has utilised inefficiently the funds allocated in 2004-05. But adequate funds were allocated in 2011-12 to accomplish higher growth in health status in this district. The public funds allotted for health in 2004-05 were inadequate for the Nizamabad district. But, the funds allocated by 2011-12 were adequate enough to cover the deficit in funds allocated in 2004-05 and hence the health status has improved in the district

The inadequate allocation of public funds by 2011-12 has denied Hyderabad district from achieving higher growth in health status. The public funds allotted for health in 2004 were inadequate for the bottom three districts, Nizamabad, Mahbubnagar and Medak (Table A4.4). The funds allotted by 2011-12 were also inadequate to cover the fund deficit in 2004-05 to achieve growth in human development in latter two districts, while the former district was allotted adequately to improve health status. Khammam district has utilised funds inefficiently in 2004-05. Moreover the funds allocated by 2011-12 were also inadequate to bring improvement in health status in this district. But Adilabad, in contrast to Khammam, was allocated adequate funds by 2011-12 to accomplish higher growth in health status. Nalgonda district had higher growth in health status due to the allocation of adequate funds by 2011-12 to cover the deficit in the allotment of funds in 2004-05.

Educational Expenditure and Educational Status

In the case of education, there is no correlation between per capita educational expenditure and educational status across the districts. This indicates

that funds have not been allocated to the districts in accordance with their educational status. But, there was a strong linkage between the growth in expenditure on education and improvements in educational status during 2004-5 and 2011-12 in five districts-Warangal, Khammam, Adilabad, Nizamabad and Medak. This relationship was absent in the other five districts- Hyderabad, Ranga Reddy, Karimnagar, Nalgonda and Mahbubnagar (Table A4.3).

Among the bottom human development districts, the allotment of funds by 2011-12 for Medak and Nizamabad districts was adequate enough to achieve higher growth in educational status. The inefficient utilisation of funds has failed Mahbubnagar district to achieve improvements in educational status. Among the middle order human development districts, Khammam and Adilabad have attained improvements in educational status. This is due to both the allocation of adequate funds in 2004-05 as well as by 2011-12. Interestingly, though the funds allotted in 2004-05 were not efficiently utilized, Warangal has reached higher educational status due to allocation of adequate funds by 2011-12.

Ranga Reddy district has not been allocated adequate funds by 2011-12 to achieve higher growth in educational status. Similar is the case with Hyderabad and Karimnagar districts. Funds allotted for Mahbubnagar by 2011-12 were not adequate for the district to reach higher growth in educational status, but this was primarily due to the inefficient utilisation of funds. The inefficient utilization of funds failed Nalgonda from achieving an enhancement in educational status.

4.1.2 Public Funds under Economic Services and Economic Growth

Public expenditure under economic services, through economic activities, would contribute to economic growth. The relationship between growth in per capita expenditure on economic services and economic growth is weak across the districts. This indicates that the expenditure has been made independent of the requirements for raising economic growth. This is evident from the rank correlation coefficient. This reflects the failure of the public policies in the allocation of public funds in line with the requirements for enhancing economic growth.

The funds allotted in health sector by 2011-2 were inadequate to cover the deficit in 2004-05 to achieve improvement in human development

Though, the funds allotted were not adequate, higher educational status is achieved due to household expenditure

A disaggregated analysis at the district level indicates that the funds allocated under economic service in 2004-05 were not adequate enough to enhance per capita gross district domestic product (PCGDDP) in the middle order human development districts (Warangal, Karimnagar and Nalgonda) and the two bottom human development districts (Nizamabad and Mahbubnagar). The inefficient utilisation of funds allocated has failed Adilabad district to achieve higher PCGDDP. Inadequate allocation of funds failed Karimnagar district to develop link between public funds and PCGDDP. The allocation of adequate funds enabled Hyderabad, Ranga Reddy and Khammam districts to establish link between allocation of funds and PCGDDP.

But allocation of funds by 2011-12, in the backdrop of the funds allocated in 2004-05, among these districts brought different pattern of linkages between growth in funds allocated under economic services and economic growth. The inadequate growth in allocation of funds by 2011-12 has failed Ranga Reddy, Warangal, Karimnagar, Khammam and Nizamabad to establish strong linkages between growth in funds under economic services and economic growth. Allocation of adequate funds by 2011-12 has enabled Hyderabad (top order human development district), Adilabad and Nalgonda (middle order districts), and Mahbubnagar and Medak (bottom human development districts) to achieve higher economic growth.

On the whole, the (in)adequate allocation of funds and (in)efficiency in their utilisation under both social and economic services have determined the inter-linkage between economic growth and improvement in human development.

The analysis brought out some puzzles like lower social and economic expenditure is associated with higher level of outcomes in terms of human development and vice versa. A further research is required to find out the reasons for these puzzles.

4.2 Summary and Policy Suggestions

Summary of the Analysis

Public funds have not been allocated on the basis of the requirements of growth in human development and its components on one hand and linkages between improvements in human development and economic growth on the other. Also it has not been made to reduce their inequalities in these among the districts. Above all, it is also evident that there exists inefficient utilisation of allocated funds.

Policy Suggestions

- ❖ A radical departure from the public expenditure policies, pursued in the combined State of Andhra Pradesh, is the need of the hour in Telangana State. This is more so in the context of initiatives of decentralisation in terms of reorganising of 10 districts into 31 districts.
- ❖ More public funds should be allocated on the basis of requirements of the top, the middle and the bottom human development districts to improve their status and simultaneously reducing inequalities among them.
- ❖ The funds allocated should be utilised efficiently. The administration of the departments implementing the related programmes should be improved. The following initiatives may facilitate to improve the governance of departments:
 - A Human Development Monitoring Unit (HDMU) should be established by the government of Telangana State to monitor human development from time to time.
 - Constituency-wise analysis of human development status needs to be conducted and should be communicated to the people's representatives.

Educational Institutions and Educational Development

5.0 Introduction

This chapter is an attempt to identify the concerns about the functioning of the educational institutions inherited from the combined state of Andhra Pradesh and to address them to improve the quantity and the quality of education and reduce educational inequalities across space (districts, rural and urban areas) and social groups (caste groups and gender groups) in Telangana. The functioning of these institutions is assessed on the basis of educational inputs, educational outcomes, the extent of private educational institutions and the response of communities. The educational inputs include human resources (teachers) and physical infrastructure (number of class rooms, toilet facility for girls, drinking water facility for children, computer facility for children and ramp facility for specially-abled children). The educational outcomes comprise attendance rates, enrolment rates and drop-out rates. The presence of private schools is measured in terms of the percentage of private schools in the number of total schools (government and private schools). The community response has been measured in terms of the choice of parents regarding enrolling their children between public and private schools.

The relationship between the educational inputs provided by the State and educational outcomes has been assessed to examine the (in)adequacy of the inputs provided and (in)efficiency in the utilisation of the educational inputs provided in relation to educational outcomes. The association between educational inputs and the presence of private educational institutions has been scanned to assess whether the (in)adequacy in educational inputs provided by the government has any bearing

on the expansion of private educational institutions. The link between the educational outcomes in terms of the drop-outs and the presence of private educational institutions has been evaluated. This is to examine whether the performance of public institutions providing quality education (dropouts as a proxy) has any association with the presence of private schools. This analysis ultimately enables us to identify the measures which need to be undertaken by the Government of Telangana to improve the functioning of government educational institutions so that the quantity and the quality of education can be improved and inequalities of the same across spaces and social groups can be reduced.

5.1 Functioning of Educational Institutions

Educational institutions, in order to function, require infrastructure facilities in the form of human resources and physical infrastructure. This section discusses the same related to the primary, upper primary and secondary school levels and all schools together (Tables A5.1 to A5.4)

5.1.1 Human Resources and Infrastructure Human Resources

On an average, by 2011-12, considerable improvements had taken place in terms of the number of teachers appointed per school. The top order human development districts-Hyderabad and Ranga Reddy- have, on an average, around seven teachers per school, while the bottom and the middle order districts- have around five teachers. Surprisingly, the incidence of single teacher schools had increased sharply in 2011-12 as compared to 2004-05. This implies that the single teacher schools

*(In)Adequacy
and
(in)efficiency in
the utilisation of
educational
inputs
reflected in
educational
status*

There would be 47 lakh children in the age groups of 7-14 years by 2026. The budgetary requirements for the establishment of schools and related infrastructure assume importance in this regard

were not given priority in allocating additional teachers. The top order districts with a low percentage of single teacher schools were in an advantageous position compared to the other districts. The two predominantly tribal districts among the middle order districts-Adilabad and Khammam, and Mahbubnagar from the bottom districts were in a disadvantageous situation. The appointment of teachers enables schools to have relatively fewer students per teacher. In other words, decreasing student-teacher ratios is a strategy for improving the academic performance of students. The Teacher-Pupil Ratio (TRS) declined in 2011-12 over 2004-05 across all the districts. However, the top order human development districts-Hyderabad and Ranga Reddy- have a higher number of students per teacher compared to the middle level and the bottom level districts. Surprisingly, these districts have a higher number of teachers per school compared to the other districts. The percentage of female teachers is also higher in these districts compared to the middle and the bottom level districts.

The number of teachers per school on an average is more in upper primary and secondary schools than at the primary level across all the districts. The number of teachers is higher in top-order districts (11 teachers) followed by bottom (10 teachers) and middle order districts (9 teachers). A lower percentage of single teacher schools and lower number of students per teacher in upper primary and secondary schools compared to primary schools are noticeable. But, the two top HDI districts and Karimnagar and Adilabad from the middle order HDI districts and Medak from the bottom level districts are in disadvantageous position in this regard. The percentage of female teachers is comparatively lower in upper primary and secondary schools than in primary schools (Tables A5.1 to A5.4)

Physical Infrastructure

Measures have been taken to strengthen school infrastructure at the primary level. The scenario with regard to drinking water facility was quite encouraging in Telangana. Hyderabad and Ranga Reddy (from the top order districts) and Karimnagar and Khammam (from the middle order districts) reported that drinking water was available in more than 90 percent of the schools in 2011-12. Medak

and Mahbubnagar among the bottom human development districts were still in a disadvantageous position. Drinking water facility was available in more than 90 percent of schools at upper primary and secondary levels in all the districts during 2011-12. It is to be noted that drinking water was available in all upper primary and secondary schools in the state capital. However, data were not available on the quality aspects of these amenities and their maintenance.

Ten percent of the primary schools did not have toilets for girls even in the state capital. 90 percent of the schools in Hyderabad had this facility. In Ranga Reddy, the other top human development district, there were separate toilets for girls only in 56 percent of the schools. Among the bottom districts, Mahbubnagar district has been in an unfavorable position. Adilabad, among the middle human development districts, has also been in a poor condition. The situation of upper primary and secondary schools in this regard is the same as that of primary schools.

The state has been installing computers in the schools as a part of modernization of the education system. Hyderabad and Ranga Reddy had taken the lead. Adilabad and Khammam, the two predominantly tribal districts, lagged behind in this regard. Similarly the bottom level HDI districts-Nizamabad and Mahbubnagar-have also trailed behind. Hyderabad, Ranga Reddy and Medak had taken the lead in modernisation at the upper primary and secondary levels too. However, Adilabad and Khammam districts reported that a higher number of secondary schools installed computers during 2011-12. Nizamabad and Mahbubnagar were lagging behind at the upper primary and secondary level schools also.

Ramp facility has been created in 15-20 percent of the schools to meet the basic need of the differently abled children. This reflects the sensitivity of the state / school managements towards social issues.

The population projections suggest that about 47.0 lakh children would be in the age group of 7-14 years by 2026 in the state of Telangana. The budgetary requirements for the establishment of schools, creation of infrastructure, especially toilets for girl students, teaching technologies etc. need

to be worked out through a decentralized plan process involving communities and local bodies. The recent decentralization initiatives may facilitate this process in Telangana State.

5.1.2 Literacy and Educational Outcomes

Literacy Outcomes

The literacy patterns have been analyzed across the districts of Telangana for 2001 and 2011 on the basis of Census Data. Literacy rates and inequalities have been analysed for each district across spaces-rural and urban; social groups-caste groups and gender groups; and age groups-younger groups of 15-24 years and adults. There has been an improvement in these dimensions of literacy across all the districts between 2001 and 2011. However, the relative positions of the districts on all these dimensions have remained more or less the same across the top, the middle and the bottom order districts. Hence, there has been no indication of convergence in regard to scores on literacy parameters as evident from the increased value of the coefficient of variation (Table A5.5)

Educational Outcomes of children

Quantity of Education

Enrolment, drop-out, and never attended school are considered as the quantitative dimensions for analysis. The data relating to these dimensions are presented in tables A5.6 and A5.7.

Schooling of children is measured normally in terms of their attendance rates in the age group of 6-14 years. Telangana made impressive strides in improving the school attendance rate from 69.7 percent in 1993-94 to 95.6 percent by 2011-12. The expansion of primary schools and the Mid-Day Meal scheme were the major contributory factors. The growth rate of schooling during this period was notable among girls, socially disadvantaged sections and also in rural areas. As a result, the disparities have declined. The attendance rate among SCs and STs students showed marked progress. All the districts of Telangana, including Mahbubnagar, made notable progress during this period and the school attendance rate was over 90 percent in 2011-12. The rate of improvement was higher in the districts with low initial rates and vice versa. This reflects the convergence of children's

attendance rates across the districts.

The enrolment ratios had improved substantially at the Secondary and Higher Secondary level in the state by 41 percentage points during the 18 year period (1993-94 to 2011-12). The incremental gain was more for girl students indicating that gender disparities had declined. The SCs and STs had shown remarkable progress in enrolling their children (14-17 years age) at the secondary and higher secondary level classes. Thus, there was greater convergence across social groups. Among the middle order human development districts, Nizamabad and Nalgonda exhibited a better performance while Warangal fared poorly. Medak, among the bottom human development districts, had performed inadequately.

The issue of "Never attended school" was a really challenging problem in the state during 1993-94. But, the incidence of children of 6-14 years who never attended school came down to 2.7 percent in 2011-12 from 28 percent in 1993-94. The efforts were more prominent with regard to the inclusion of tribal children. The districts which deserve more attention in resolving this problem are Mahbubnagar, Nalgonda, Khammam and Karimnagar.

The 'drop-out' ratio was a serious issue earlier in 1993-94 as per NSS data and the incidence was high in Telangana. In 1993-94, the drop-out rate was 30 percent and it was very high in Mahbubnagar (55%). The gender difference in drop-outs was a little more than 15 percent and girls were at a disadvantage.

By 2011-12, the state could reduce disparities across caste and location categories to about 1.7 percent at the aggregate level. While there was a decline in the drop-out rates for all categories and it was more significant in urban areas and among ST students. The drop-out rates were higher in Adilabad, Mahbubnagar and Warangal. However, DISE (2011) data reported that the drop-out rate at the primary level was 16 percent and this rate was as high as 35 percent in the case of ST students. Hence, the state has to put in more concerted efforts towards this group.

Quality Education

Access to education should not be an issue in the light of the 'Right to Education' Act, but the quality

Convergence exists across the districts and across the caste groups with regard to enrolments of students at secondary and higher secondary schooling

The incidence of 'never attended children' in the age group of 6-14 years declined drastically across the districts

There was a decline in the drop-out rates for all categories of the Social groups. Still the rates are higher

A sizeable proportion of students was not able to read, recognize numbers and perform basic arithmetic operations in government schools, reflecting the low levels of efficiency of the education system

The participation of children would have been lower but for Mid-Day Meal scheme

There is no relationship between the expansion of private schools and the quality of education across the districts

of teaching and learning outcomes still remain the major concerns in the state. The latter provides an explanation for the changes in the percentage of 'never attended school' and 'drop-outs'. The quality aspects of education in the state have been highlighted by most of the evaluations (ASER, 2013; Azim Premji Foundation, 2010). The plausible reason could be that the focus of the programmes during implementation was largely input oriented even when policies did emphasize improvements in the quality of education.

The learning outcomes as observed by ASER, 2013 substantiate the view that the state has to make more concerted efforts to ensure better outcomes contributing to developing the capability of the human resources. A sizeable proportion of students was not able to read, recognize numbers and perform basic arithmetic operations in government schools, reflecting the low levels of efficiency and effectiveness of the education system. For instance, the ASER, 2013 observed that only two-thirds of the children studying in classes III to V in rural (combined) Andhra Pradesh were able to do subtraction or more and a similar proportion of the students could read level 1 text book or more. Studies have shown that the accountability of teachers and the adoption of student friendly teaching methods besides the participation of the local community and parental education are some of the crucial factors determining the learning outcomes.

One of the major reasons for the preference for private schools even among the poor was the discouraging learning outcomes of public primary schools. But for the Mid-Day Meal scheme, the participation of children, especially in rural areas, would have been lower. Schemes like the Sarva Siksha Abhiyan have helped in strengthening school infrastructure (toilets, classrooms, teachers, etc.) but their impact on the quality of teaching / learning outcomes needs to be evaluated, particularly in the backward and remote Mandals. The mid-day meals scheme has promoted the enrolment of children and also made an impact on the nutritional level of school children (Singh *et. al.*, 2012). The impact of the efforts was found to be more at the primary stage and less at other levels. This view was substantiated by the declining attendance rates with an increase in the level of education. Teacher

absenteeism and the poor quality of teaching have been quoted as the factors responsible for poor learning outcomes in the state (Chaudhury *et al.*, 2006).

It is heartening to note that about 80 percent of the public primary school level teachers were either graduates or post-graduates in the combined state of Andhra Pradesh (DISE, 2011-12). About (55) 45 percent of the (women) teachers had received in-service training during 2010-11 from the DIETs (District Institutes of Education and Training), IASEs (Institutes of Advanced Studies in Education) and CTEs (Colleges for Teacher Education). Despite having highly qualified and trained teachers, the learning outcomes in public primary schools were disquieting (ASER, 2013 & Young Lives Study, 2009).

Though the State had formed Village Education Committees as per the revised guidelines of SSA, these were not found to be effective in monitoring school performance, preparation of annual development plans etc. in many places. There have been recent initiatives by local bodies and the community in several villages of Telangana to make public schools more vibrant centres of learning. Such efforts need to be scaled up. Monitoring by the community and supplementing teacher strength are expected to bring qualitative improvements and create competitive conditions between public and private institutions. These facts need to be examined critically and in this context the accountability of the teachers emerges as a critical issue.

5.2 Relation between School Infrastructure and Educational Status

The relationship between the level of educational infrastructure and educational status has been estimated to examine the (in)adequacy of the educational infrastructure available in 2004-05 to contribute to the educational status in 2011-12 and also to assess the (in)efficiency in the utilization of available infrastructure to improve educational status in 2011-12. The relationship is found to be positive but insignificant and indicates that the educational infrastructure has contributed to the educational status positively to a limited extent. The infrastructure was inadequate in Warangal, Adilabad, Nalgonda, Nizamabad, Mahbubnagar,

and Medak districts for adding to the educational status. The infrastructure was utilized inefficiently in Karimnagar district and hence failed to add to the educational status. Hyderabad, Ranga Reddy and Khammam have used the available infrastructure efficiently to improve the educational status. Thus the bottom and the middle order districts either inefficiently utilised the available infrastructure or had inadequate infrastructure (Tables A5.8-A5.10).

The relationship between the growth in educational infrastructure and the growth in educational status during 2004-12 has been assessed to examine whether the expansion in the infrastructure has been made to calibrate the requirements across the districts to bring about an improvement in the educational status. The estimated relationship indicates that the expansion in infrastructure status during 2004-12 has not contributed to improvements in educational status across the districts in the state. Disaggregated analysis at the district level has indicated that the growth in infrastructure was adequate to result in improvements in the educational status in Ranga Reddy, Karimnagar, Khammam, Nizamabad and Medak districts. In the other five districts-Hyderabad, Warangal, Adilabad, Nalgonda and Mahbubnagar-the growth in infrastructure was inadequate to bring about improvements in educational status. As a matter of fact, Warangal, Adilabad, Nalgonda and Mahbubnagar districts need more growth in infrastructure. It is very clear that these districts have been denied their due growth in infrastructure to add to the educational status (Tables A5.8-A5.10)

5.3 Response of the Combined State to Improve the Quality Education

The relationship between the drop-out rates, as a proxy for the quality of education, in 2004-05 at the primary education level and the level of infrastructure of primary education in 2011-12 has been examined to assess the response of the state in addressing the issues relating to the quality of education at primary level. This relationship is found to be negative but insignificant. Better infrastructure may have led to low dropout rates and vice versa. Disaggregated analysis at the district level has indicated that lower infrastructure in Warangal,

Mahbubnagar and Medak districts may have led to higher drop-out rates. On the contrary, higher infrastructure in Ranga Reddy, Karimnagar, and Khammam districts led to lower drop-out rates. Of course, the state has responded well in the case of the other four districts-Hyderabad, Adilabad, Nalgonda and Nizamabad (Table A5.11 and A5.12).

5.4 Response of the Private Sector in the Combined state

The expansion of the private sector in schooling is sizeable in Telangana State. Private schools constitute 38 percent of the total schools including primary, upper primary and secondary schools. The percentage is found to be the highest among secondary schools (49 percent), followed by Upper primary schools (46 percent) and Primary schools (27 percent). The top order human development districts-Hyderabad and Ranga Reddy-have the highest percentage of private sector schools, while the bottom districts-Nizamabad, Mahbubnagar and Medak-have the lowest. However, the middle order districts are in the middle position in this regard. But among the middle order districts, the tribal concentration districts-Adilabad and Khammam-have the lowest presence of private schools. Karimnagar stands apart from all the other middle order districts because of the considerable presence (above the state average) of private schools. It is evident that the performance of government schools is therefore very crucial in the districts that largely depend upon on them.

The relationship between the drop-out rates in 2005-06 in primary schools and the presence of private schools at the primary level has been examined to assess the response of the private sector to the drop-out rate, the proxy for quality education across the districts in the state. The estimated relationship indicates that there is no relationship between the expansion of private schools and the quality education across the districts. As a matter of fact, there is a mild indication that the expansion of the private sector has taken place in the districts where the quality education had been higher. At the district level, the bottom human development districts-Nizamabad, Mahbubnagar and Medak-had experienced a low quality education at the primary level in 2005-06. But the presence of the private

The (in)adequate growth of infrastructure has determined the growth of educational status

The presence of the private sector was lower in the districts where the government infrastructure was also very low

sector was very low in these districts in 2011-12. The percentage of private schools was higher in Ranga Reddy despite the higher quality education in the district. The same is the case with Karimnagar district. On the other hand, in Nalgonda and Warangal districts which had higher drop-out rates, the presence of the private sector was lower (Tables A5.13 and A5.14)

In order to assess the response of the private sector to the deficits in the educational infrastructure of the state, the relationship between the level of government infrastructure and the level of private school infrastructure has been examined. The correlation between these two is found to be positive and significant across districts. This implies that more private infrastructure has flown to the districts with higher government infrastructure. At the district level, the response of the private sector was very high in Hyderabad, Ranga Reddy and Karimnagar in 2011-12. But these districts already had higher government infrastructure. Further, the presence of the private sector was lower in the districts where the government infrastructure was also very low. This is true in the case of all other districts except Nizamabad (Table A5.15). It is possible that the demand for education influences both the public and private investment. Demand for schooling could be determined by per capita income.

5.5 Community Response to Policies in Combined Andhra Pradesh and the Private Sector

The state has an obligation to provide quality elementary education to all children free of cost and the allocation of funds should be in tune with this target. It was found that state allocations to education in erstwhile AP were well below the required level. Salaries and allowances accounted for over 96 percent, leaving a meager amount for development purposes. As a consequence, households had to spend a substantial amount for the education of their children. The 68th round unit record data of NSS were analyzed for the state of Telangana on the expenditure incurred by the households towards the education of the children at the primary level. On an average, households spent Rs 702.64 per annum towards children's (6-14 years) education in 2011-12. In percentage terms,

the share of education in household consumption expenditure was 8.72 in the state. There were considerable inter-district variations in household expenditure. It was as high as Rs.1428 in Hyderabad and as low as Rs.367 in Medak. The quintile-wise data on the share of education in total household expenditure exhibited an increasing trend. The percentage of children enrolling in private schools increased with the level of household expenditure.

The on-going longitudinal panel study on childhood poverty in Telangana State has brought out very interesting insights for understanding the response of the community against the backdrop of the policies and programmes of the undivided state relating to education and the expansion of the private sector in schooling (Annexure tables 5.30A - 5.32A). A comparison has been made in this respect for two cohorts of children in Telangana-one older cohort of children when they were 12 years old in 2006 and another cohort of children who were 12 years old in 2012. The percentage of children attending school has increased from 88 percent to 96 percent between 2006 and 2012 for the same age group of children. Thus there was an increase of 8 percentage points in enrolment. Households belonging to all the caste groups have responded by improving the enrolment of children more or less on the same footing. Hence, caste inequalities in sending children to schools had declined during this period. Gender inequalities, urban-rural inequalities and inequalities between the poor and the non-poor (the top economic quintile and the bottom quintile) have also declined. The aspirations of parents, especially of mothers, have increased in sending the children to schools. The declining inequalities in enrolment between the children of illiterate mothers and the children of mothers with 6 or more years of schooling stand as evidence to this.

The choice of parents has expanded in enrolling children because of the increasing availability of private schools along with public schools. They can choose between the public and private schools. The choice patterns of parents are very insightful and interesting. The inequalities in sending children to private schools between other castes and scheduled castes have declined, though marginally. The same is the case between the non-poor and the poor.

The aspirations of parents, especially of mothers, have increased in sending the children to schools.

But the inequalities have widened between urban and rural areas. However, the gender inequalities have widened. It is reported by the mothers that they have sent girls to public schools and boys to private schools, given the resource constraint and the patriarchic value system. It is also reported that they prefer private schools to public schools with the expectations that the quality education is ensured

in the former. This pattern clearly indicates that the mother's choice between public and the private schools is critical in selecting the school for enrolling the children.

The serious concern is that the quality of education has declined over time. The declining percentage of children doing the maths test correctly attests to this.

Health Institutions and Health Status

6.0 Introduction

This chapter assesses the functioning of the institutions of health services in Telangana and their contribution to the health status and reducing inequalities in health status across the districts. The functioning of the institutions has been assessed in terms of health inputs provided and health outcomes realized. The inputs are measured in terms of human resources (doctors and other supporting staff), physical infrastructure, and the health services provided. The health outcomes are measured in terms of health status, reproductive health status and reproductive health outcomes-mortality and nutritional status.

Against this background, this chapter addresses itself to these issues: Whether (in)adequate and (in)efficient utilization of health infrastructure has contributed to (in)equalities in health status and (in)equalities in reproductive health status across the districts? Whether (in)adequate and (in)efficient

utilization of reproductive health services has contributed to (in)equalities in mortality (Infant and Maternal) and child nutrition across the districts? And what are the concerns that need to be addressed by the Government of Telangana State?

6.1 Health Infrastructure and Health Status

Health status is influenced by the availability of and access to health services. The state and individual households are the important stakeholders in the health service system. The public health infrastructure should be adequate enough to protect and promote health.

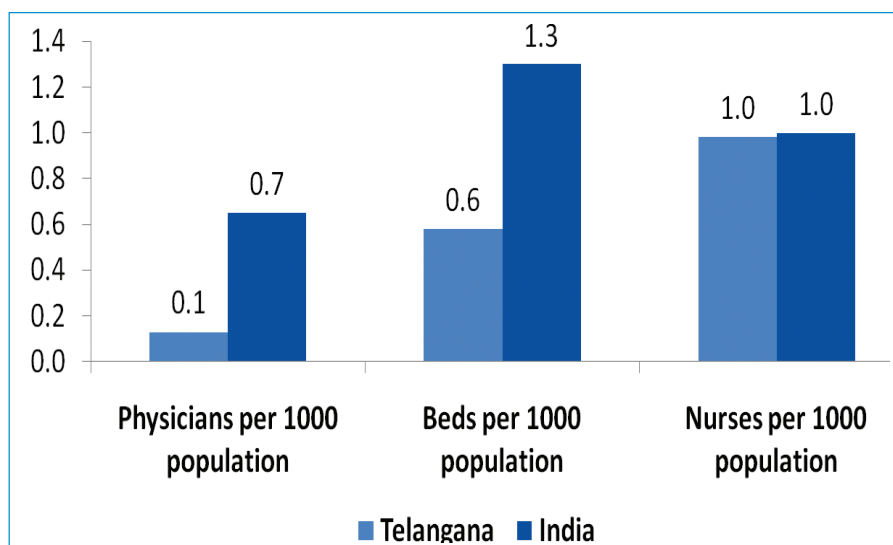
6.1.1 State Health Infrastructure

There are 108 general hospitals and 17 hospitals for special treatment (125 hospitals in total) at present in the state. There were 671 primary health centers and 70 dispensaries as on March 2015. One physician, on average, is available per 8000 population in Telangana against 1600 at the all-India level (Fig. 6.1). The rural population served by a Sub-Centre (SC), Primary Health Centre (PHC) and Community Health Centre (CHC), on an average, are 5290, 48795 and 96110 respectively in Telangana state (Statistical Abstract, Government of Telangana, 2016). There are deficits in human resources, physical infrastructure, and health services across CHCs, PHCs and SCs in Telangana (for details see DLHS 4, 2012-13).

It is evident that the dependence on private hospitals is higher both in rural as well as urban areas in Telangana as compared to the national level (Table A6.1).

The dependence on private hospitals is higher both in rural as well as urban areas in Telangana as compared to their respective national averages

Fig. 6.1: Health Infrastructure per 1000 Population 2014-15 - Telangana and India



Source: Statistical Abstract, 2016

There are wide variations in the household health facilities across the districts

The Primary Health Centres (PHCs) are underutilized mainly due to the non-availability of doctors and time schedules unsuitable for the public. On the other hand, both secondary and tertiary level hospitals are over-utilized. According to NSSO 71st round (2014), the utilization of Health Centres/PHCs for out-patient care remained at only 5.2% in Telangana.

It may be observed that the share of the public sector in hospitalization and deliveries was in proportion to its bed strength. Facility surveys conducted by the National Commission on Macroeconomics and Health (NCMH) and studies conducted by CESS (2003, 2009) indicated that the average turnover of in-patients per facility and the number of patients per doctor was 4 times higher in public hospitals. The bed occupancy was 62% in the public hospitals against 42% in private hospitals. Clearly, it was the lack of facilities in the public sector which had forced people to prefer private institutions (Narayana, 2009).

The health infrastructure index has been computed by taking the information on input indicators such as: physical infrastructure (average population covered by Sub-Centres, PHCs, CHCs, percentage of Sub-Centres and PHCs having regular power supply and beds per lakh population); health services (percentage of PHCs/CHCs having new-born care services); and human resources (percentage of Sub-Centres/PHCs having ANM¹, MHW, Medical Officer, Lady Medical Officer) (Table A6.2). The results show that the status of state health infrastructure is not directly related to the status of human development of the districts. This means that factors other than health infrastructure influenced human development.

6.1.2 Household Health Facilities

Access to safe drinking water and sanitation is important for health and the overall quality of life. According to the 2011 Census, only 72.4% of the total households in the state had access to tap water which is considered to be a relatively safe source of

drinking water. The NFHS-4 (2015-16) survey indicated some improvement that 78% of the households have access to an improved source of drinking water in the state.

Access to sanitation facilities, which is an important intermediate environmental health indicator, is distressingly low in Telangana. Data for 2011 (Census) as well as 2015-16 (NFHS-4) show that nearly half of the households in the state did not have latrines (Table A6.3). More households in urban areas (64%) have latrines as compared to rural areas (39%).

According to a recent survey (DLHS-4, 2012-13) 49% of households in Telangana lived in pucca houses. A higher proportion in urban areas had better conditions of housing (improved sanitation facility-84%; clean fuel use-85%; safe drinking water-98.2%). According to the study of CGG-COI, 2016, about 44% of households live in pucca houses, 81% have access to an improved source of drinking water and 36.4% have no toilet facility in Telangana state.

The household health facilities index has been estimated for all the districts of Telangana by taking the information on the structure of the house, availability of drinking water and sanitation facilities and the type of fuel used for cooking purposes. The household health facilities index is linked to the level of human development of districts.

There are wide variations in the household health facilities across the districts within the state. The top two human development districts-Hyderabad and Ranga Reddy-are better placed. Interestingly, the bottom two districts - Medak and Mahbubnagar-are better off than the middle order districts-Warangal and Adilabad. Among these, Nalgonda, the fluoride affected district, is in a very poor position.

The top human development districts are better placed in regard to housing facility, separate kitchen for cooking and clean fuel for cooking (Table A6.3). The practice of open defecation is high in Adilabad

¹The health status scores of the districts are arrived at in the following manner:

Scores are allotted to each of the indicators of health status based on their availability as compared to the state average. 2 points are allotted if the availability of the indicator is found to be better than the average and one point otherwise. The total score for each district is arrived at by summing up the scores of all the indicators considered. The index is computed based on the aggregate score obtained by each district following the UNDP methodology. These indices are linked to the level of human development of the districts.

(63.6%) followed by Warangal (52.6%) and Mahbubnagar (41.5%) (DLHS 4, 2012-13). The state health infrastructure index and household health facilities index and their aggregate index along with health status are presented in table A6.4.

6.1.3 Relation between Health Infrastructure and Health Status

The rank correlation between the health infrastructure index and health index is found to be positive but not statistically significant (Table A6.5). Both public and household health infrastructure are adequate and efficiently utilised in the top human development districts in relation to their health status. The bottom human development districts (Nizamabad, Mahbubnagar and Medak) are handicapped due to lack of adequate infrastructure of both types. The inefficient utilisation of infrastructure in Karimnagar and inadequate infrastructure in Adilabad and Nalgonda have constrained the health status in these middle order human development districts. However, the infrastructure was adequate and utilised efficiently in Khammam among the middle order districts. Infrastructure disaggregated in terms of household and public facilities shows that the inadequacy of household facilities has depressed the health status in Adilabad and Nalgonda (middle order districts) and in Nizamabad and Mahbubnagar (the bottom districts). Further, the inadequacy of public infrastructure in Adilabad, Nalgonda, Nizamabad Mahbubnagar and Medak districts and the inefficient utilisation of the same in Karimnagar district have lowered the health status of these districts (Table A6.6).

6.2. Reproductive Health Services

Maternal care services include ante-natal care, natal care and post-natal care. Ante-natal care (ANC) refers to pregnancy-related health care provided by a doctor or a health worker in a medical facility or at home. ANC includes monitoring of pregnancy for any signs of complications, detecting and treating pre-existing and concurrent complications and providing advice and counseling on preventive care. As part of the ANC, women receive two doses of tetanus toxoid vaccine, adequate amounts of iron and folic acid tablets or syrup for preventing/ treating anemia. ANC services provided by medical and paramedical professionals comprise regular physical checks with weight, height, and blood pressure

measurement, hemoglobin level test, consumption of IFA, Tetanus (TT) injection and judging the growth status and position of the foetus. Child care practices include breastfeeding and immunization among others. These services have an impact on the mortality of mothers and children and child nutrition.

6.2.1 Ante-natal Care

In the state about 83% pregnant women received antenatal care in the first trimester and 75% pregnant women reported at least four antenatal care visits during pregnancy (NFHS-4, 2015-16). Contrary to the previous survey results of DLHS-4 (2012-13), a higher proportion of pregnant women availed of ANC visit in their first trimester but failed to have four ANC visits during pregnancy. This highlights the urgent need to increase ANC coverage in the first trimester to cent percent. In Nizamabad (70.5%), and Adilabad (72.6%) with a higher population of tribals, a lower percentage of women than the state average availed of ANC visit in their first trimester during 2015-16 (Fig.6.2). The complete ANC package (3+ ANC visits, 1+ TT injection and 100 IFA tablets) for pregnant women increased marginally from 39% in 2007-08 to 40% in 2012-13 and reached 42% (2015-16) in Telangana State. In all the three bottom HDI districts and Karimnagar, Adilabad and Nalgonda from the middle HDI districts a lower percentage of women received full ANC coverage as compared to the state average. Nalgonda (29.3 %), Adilabad (30.6%) and Medak (31.0%) require urgent attention in this regard (Fig.6.2). A higher proportion of women with higher education and living in urban areas reported full ANC as compared to women who were not literate and lived in rural areas (DLHS-4, 2012-13).

6.2.2 Institutional Deliveries

Encouraging the mothers to deliver in a health facility is safer for the mother and new-born; and helps to reduce pregnancy related complications. Institutional deliveries increased from 65.8% in 2002-04 (DLHS-2) to 76.9% in 2007-08 (DLHS-3) and further reached 94.1% in 2012-13 (DLHS-4). Data from NFHS-4 (2015-16) indicate 91% were institutional deliveries (Box 6.1). Of these, 60.5% women preferred to have deliveries in a private hospital / Nursing home while 31% women delivered in a public institution such as government hospital or

The inefficient utilisation of infrastructure in some districts and inadequate infrastructure in some other districts have constrained the health status

There is an urgent need to increase ANC coverage in the first trimester to cent percent

A higher proportion of women with higher education and living in urban areas reported full ANC as compared to women who were not literate and lived in rural areas

Private hospitals in Telangana top the country in performing Caesarean section

There are still around 20 percent of women who need to be stayed in the health facility for 48 hours after delivery

BOX 6.1

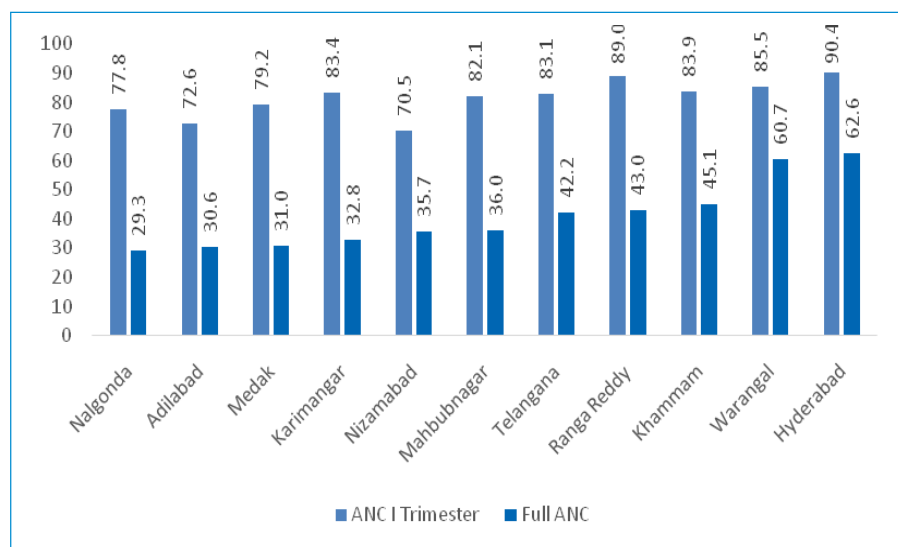
A Comparison of RMNCH+A (Reproductive, Maternal, Newborn, Child and Adolescent Health) across the four Southern States.

The percentage of women age 20-24 years married below 18 years in Telangana (27.6%) is higher than in Tamil Nadu (18.3%) and Karnataka (23.2%) but lower than in Andhra Pradesh (32.7%). Telangana had higher teenage child births (10.6%) than Tamil Nadu (6.3%) and Karnataka (8%). Nine in ten registered pregnant women (89% in Telangana and 96% in Tamil Nadu) reported availability of Mother and Child Protection (MCP) card. Universal ante-natal care (ANC) is reported in all states, but the first trimester ANC check-ups remained at 83% in Telangana. Marginal variations were reported across districts in the consumption of 100 or more Iron Folic Acid (IFA) tablets/syrup by pregnant women (45-56%) in Telangana, Andhra Pradesh and Karnataka states.

Institutional deliveries are almost universal in Telangana, Tamil Nadu and Kerala. However, 62% women availed of private institutional services in Telangana which was much higher than the other southern states and only 31% of pregnant women preferred government institutions. The utilization of public health institutions was reported to be 61% in Karnataka and 67% in Tamil Nadu. In Telangana the percentage of Caesarean sections was very high in both public and private institutions (58%) as compared to 40% in Andhra Pradesh, 34% in Tamil Nadu and 24% in Karnataka. Women who had deliveries at home were lower in Telangana (8.5%) against 12% in Tamil Nadu and 35% in Karnataka states. Eighty percent of women in Telangana and Andhra Pradesh states received post-natal care within 2 days after delivery. About one-third (37%) mothers initiated breast-feeding within an hour after delivery in Telangana state as compared to Andhra Pradesh (40%), Tamil Nadu (54%) and Karnataka

Source: National Family Health Survey (NFHS 2015-16) State Factsheets downloaded from NHRM website of MOHFW, GoI.

Fig. 6.2: Women Received ANC in I Trimester and Full ANC -2015-16 (%)



Source: Source: District Fact Sheets, NFHS-4,2015-16

PHC. About 8.5% of women delivered at home (Fig.6.3 to Fig.6.5). Deliveries conducted in public institutions remained around 31% in the 10 years reference period between 2007 and 2016. During 2015-16, Adilabad (70.8%) and Mahbubnagar (78.4%) had relatively lower percentage of institutional deliveries. This may be the reason for

the high maternal mortality rates in these districts.

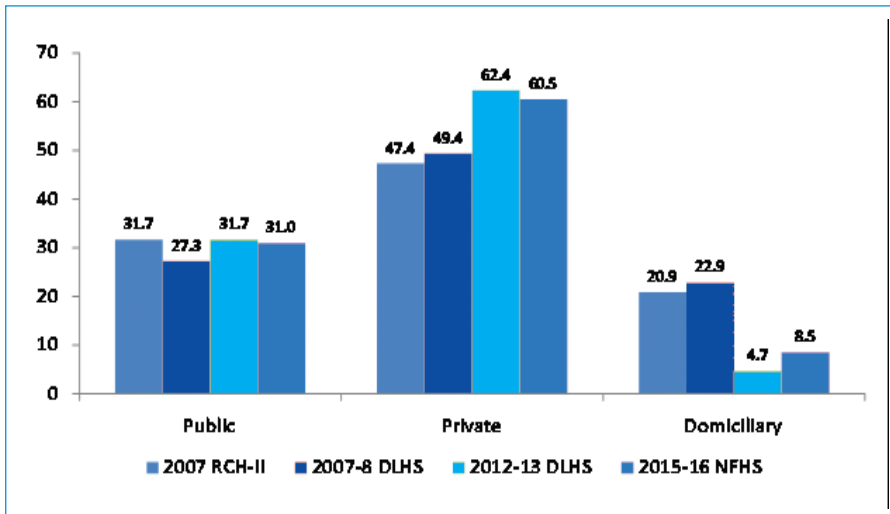
In all, Caesarian sections were carried out in 58% of deliveries and remaining 42% of deliveries were normal. Private hospitals in Telangana top the country in performing Caesarean section or surgical deliveries against the 10-15% benchmark of the World Health Organization (WHO) (Box 6.2). The lowest percentage of Caesarean sections was reported in all the three bottom HDI districts and Adilabad during 2015-16. The percentage of Caesarean sections is higher in the middle level and top level HDI districts. The percentage of deliveries in private institutions is also higher in these

districts. The percentage of Caesarean sections conducted in private and public institutions is highest in all the middle level HDI districts (Fig.6.6).

6.2.3 Post-natal Care

A large proportion of maternal and neo-natal deaths generally occur immediately after delivery. Safe

Fig. 6.3: Trends in Delivery Care in Telangana (Women who had live / still birth during 3 reference years) (%)



Source: RCH-II 2007, DLHS 3 & 4-2007 and 2012, NFHS, 2015-16

motherhood programs have increasingly emphasized the importance of post-natal care, recommending that all women need to receive a check-up within two days of delivery. The majority of the women (74%) in Telangana who gave birth in a public health facility stayed in for 48 hours or more; this was lower than Kerala (96%) and Karnataka (92%). The NRHM guidelines suggest a minimum 48 hours stay in the health facility after childbirth. 83% of women stayed in the health facility for 48 hours after delivery and it varied from 76.5% in Adilabad to 88% in Khammam district (DLHS 4-2012-13).

A positive finding is that the post-natal check-up of women within 2 days after delivery increased to 81.8% in 2015-16 as compared to 77% in 2012-13 (Fig. 6.7). Efforts should be made to lay equal emphasis both on the mother and child during this period. The health staff should highlight the importance of the 'five Bs' (Baby, Breast, Bowel, Bladder and Bleeding) during home-based newborn care visit. The lowest percentage of women receiving a post-natal check-up is reported in Adilabad. Among the bottom HDI districts, the percentage in Mahbubnagar was 70.6 percent which is lower than the state average. Hyderabad (79%) and Ranga Reddy (81%), the top HDI districts, also had a lower percentage than the average.

6.2.4 Breastfeeding Practices

Breastfeeding is one of the most important

determinants of child survival, birth spacing and prevention of childhood infections. Eighty-eight percent of children under 3 had been given colostrum, and there was not much variation across selected background characteristics. Data from DLHS-3 (2007-08) showed that the proportion of children breastfed by mothers within one hour of birth has increased from 37.8% in 2007-08 (DLHS III) to 54% by 2012-13 (DLHS IV) in the ten districts of Telangana (Fig.6.8). The duration of exclusive breastfeeding declines as the children grow older. About 7% of children of 6-9 months are given other fluids along with semi-solid (12%) and solid (6%) food. Women with a low education and low standard of living and those from scheduled caste and tribes were more likely to have breastfed their children within an hour of birth, highlighting the positive trend of the early breastfeeding practice among SC and ST groups (Murthy and Sekhar, 2012). However, across the districts, a lower percentage of children were breastfed in districts with high SC and ST population such as Khammam, Warangal and Nalgonda, and Karimangar and Medak (which have a high population of SCs) (Fig.6.8).

6.2.5 Immunisation of Children

The vaccination of children against six serious but preventable diseases (tuberculosis, diphtheria, pertussis, tetanus, poliomyelitis and measles) has received the maximum attention in child health

BOX 6.2

Rising Rates of Caesarean Section: A Cause for Concern

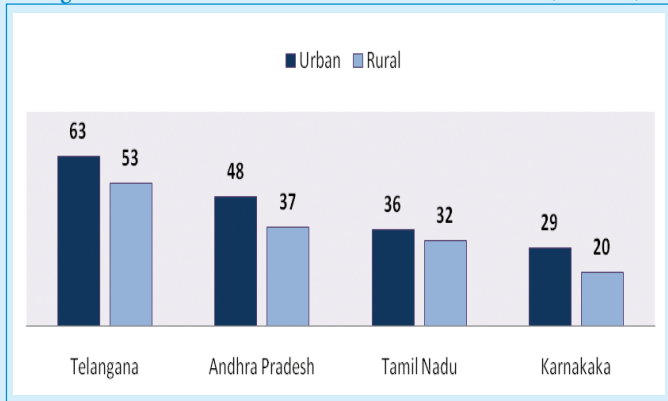
Over the past few years, the rates of Caesarean section (C-section), as a proportion of all deliveries, have been rising sharply both in India and across the globe. Such high rates, that are multiple times the 'optimal' level indicated by the World Health Organisation (WHO), are proving to be a cause of concern for policy makers, programmers, providers and the community at large.

In order to discuss this phenomenon as it is happening in India, Division for Child Studies in Centre for Economic and Social Studies, in collaboration with UNICEF and the Government of Telangana, organized the first ever national consultation on the issue, calling Obstetrics, Paediatric, Public Health, Nursing, Social Science and Research experts from across the country to discuss and share their research, opinions and recommendations on this issue.

The aims of the consultation were to: acknowledge and understand the magnitude of the problem of rising C-section rates (CSR); understand the causes for rising CSR; understand the impact; list down the gaps in information (magnitude, causes, impact) with regards to rising CSR and identify potential solutions based on experiences from within India and across the globe.

Among the countries for which data is available, Brazil is in the top on this parameter with a CSR of 56%. These escalating trends are being increasingly seen in some states of India as well. The latest NFHS-4 (2015-16) CSR data released for 17 states in early 2016, reveals that many states have rates several times higher than the population levels recommended by WHO. Out of the first 17 states, 11 have CSRs

Fig.1: Caesarean Section Rates in South Indian States (NFHS 4)



of over 20%, with Telangana having the highest total CSR, at 58%. If we look into the public and private sector institutional deliveries, in Telangana 75 % of the C-Sections are happening in private institutions and 41 % in public institutions.

As per NFHS-4 data the CSR is higher in urban areas than in the rural parts of the Southern States of India (Fig 1). However, the difference is not very stark, and in fact, in the states with high overall CSR, even the rates in the rural areas far surpass the standards set by WHO.

As per NFHS 4, C-Section deliveries are more in Karimnagar district compared to other districts in Telangana State. Mahabubnagar district has the lowest C-Section deliveries.

Being a surgical intervention, C-section is an expensive procedure compared to a normal delivery, not just in terms of the price paid by the woman/client, but also in terms of the cost to the provider and the health system overall.

To conclude, high CSR is not only of concern because of the additional load that it puts on an already burdened health system, but also because there is sufficient evidence to say that unnecessary/un-indicated C-sections may actually be harmful for the mother and child.

Source: CESS (2016) "Deciphering the Determinants and Impacts of Raising Rates of Caesarean Section and Offering Potential Solutions", Division for Child Studies, Centre for Economic and social Studies and UNICEF, Hyderabad.

care programmes in India. The percentage of children who were fully immunized against prescribed vaccines decreased from 72.2% in 2007-08 (by aggregating the information for the 10 districts of Telangana) to 47.5% in 2012-13 and reached 68.1% by 2015-16. The relatively low percentages of DPT3 and OPV3 were responsible for the low percentage of fully immunized children (Fig.6.9). However, Khammam (middle level HDI district) and Nizamabad and Mahbubnagar (bottom level HDI

districts) are lagging behind. Ranga Reddy (top level HDI district) and Adilabad (middle level HDI district) are just close to the state average in immunization of children (Fig. 6.10).

6.2.6 Relation between Health Infrastructure and Reproductive Health Status

The reproductive health index has been computed based on the indicators related to antenatal care,

nature of deliveries conducted, post-natal care, child feeding practices and immunization. The results show that the reproductive health status is the highest in Hyderabad district-the top level HDI district-while Karimnagar, Khammam and Adilabad (middle level HDI districts) and Mahbubnagar (bottom level HDI district) also had a higher score than the average (Table A6.7 and Table A6.8).

The relationship between health infrastructure and reproductive health status is found to be positive but not statistically significant (Table A6.9). Both the state and household health infrastructure is found to be adequate and efficiently utilized in all the middle level HDI districts (except Warangal and Nalgonda) and Mahbubnagar among bottom level districts, in relation to reproductive health status. The health infrastructure is inadequate in Nizamabad and Medak. Ranga Reddy, a top level HDI district, has not utilized infrastructure efficiently to achieve a better reproductive health status.

Infrastructure disaggregated in terms of state and household facilities shows that the state health infrastructure affected reproductive health in Ranga Reddy, Nizamabad and Medak districts. There is a need to strengthen both state health infrastructure and household health facilities in Nizamabad and Medak districts (Table A6.10).

6.3 Reproductive Health, Mortality and Nutrition

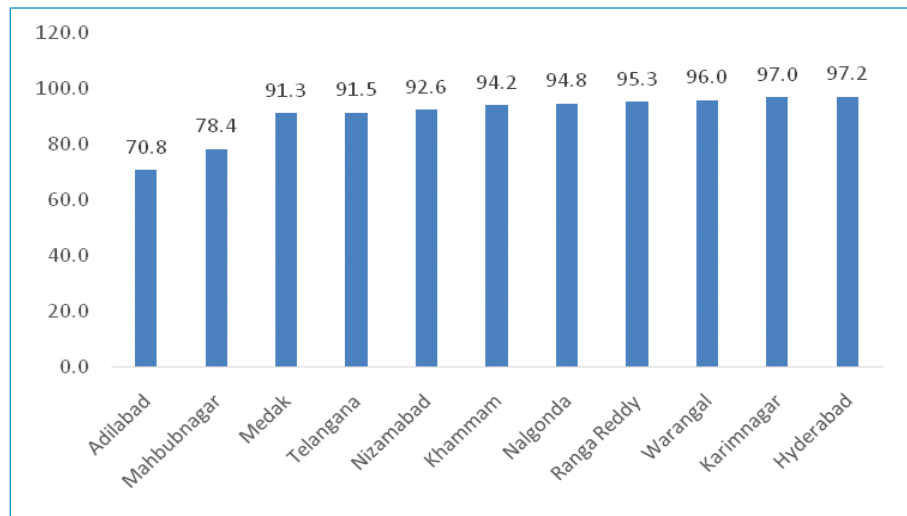
We now turn to an analysis of the relationship between reproductive health status and mortality-child mortality and maternal mortality.

6.3.1 Mortality

Child Mortality

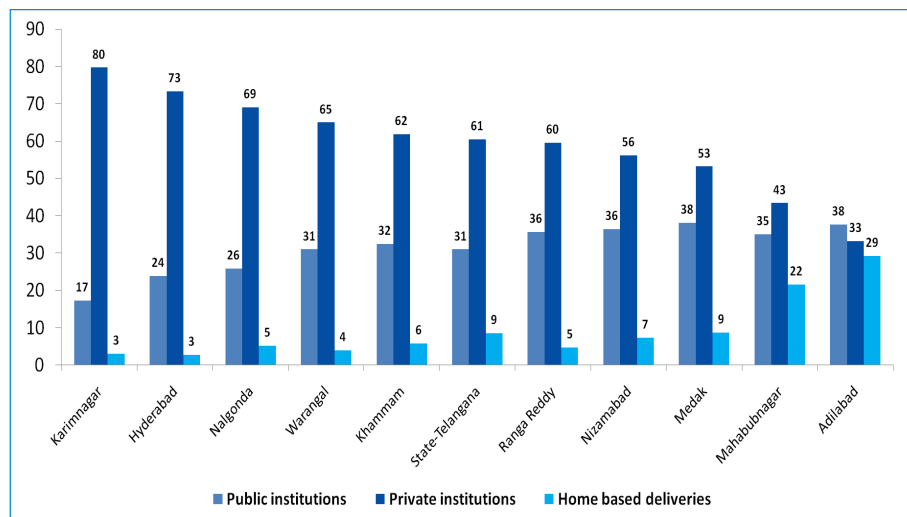
Infant and child mortality rates are important indicators that measure socio-economic conditions and the quality

Fig. 6.4: Institutional Deliveries in Telangana-2015-16 (%)



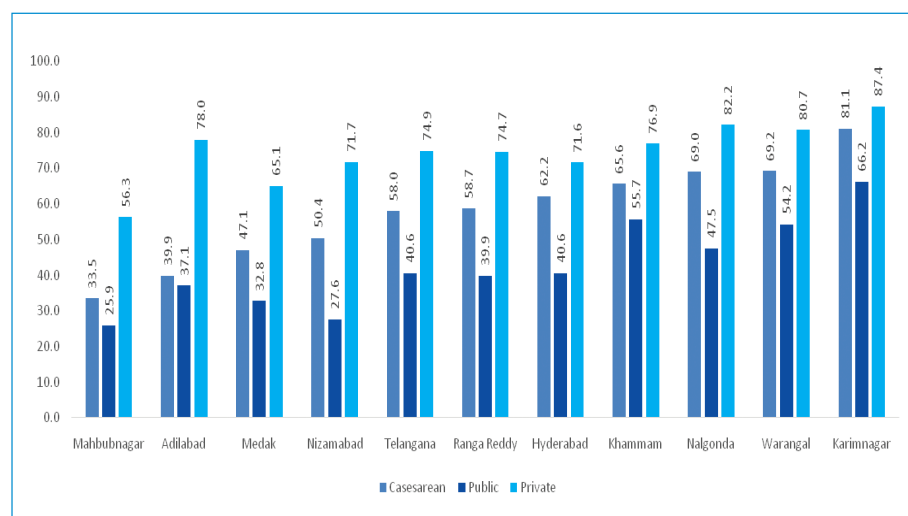
Source: District Fact Sheets, NFHS-4,2015-16

Fig. 6.5: Institutional and Home Deliveries in Telangana (NFHS -4, 2015-16)



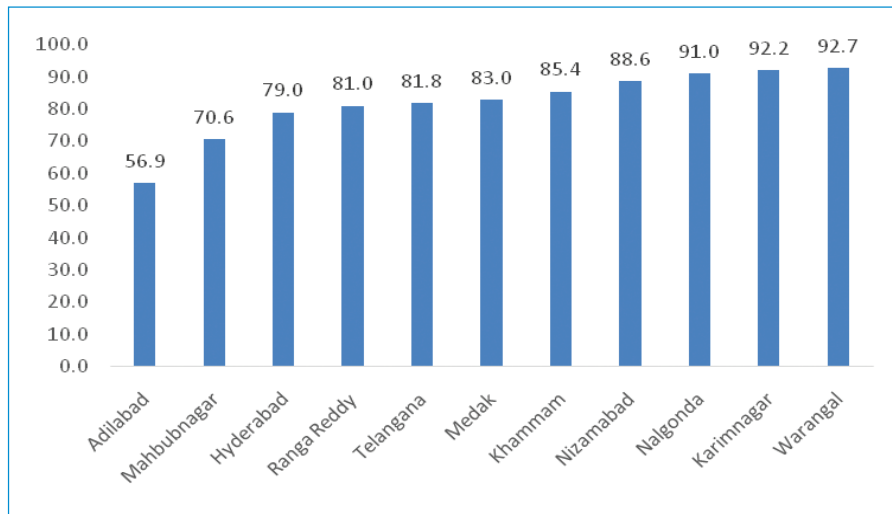
Source: District Fact Sheets, NFHS-4,2015-16

Fig. 6.6: Caesarean Sections in Telangana-2015-16 (%)



Source: District Fact Sheets, NFHS-4,2015-16

Fig. 6.7: Women Received Post-natal Care within 2 days of Delivery-2015-16 (%)



Source: District Fact Sheets, NFHS-4,2015-16

of life. Re-working the IMR estimates for Telangana state from the Reproductive and Child Health-Baseline Survey (IIHFW, 2007) indicated an IMR of 49 per 1000 live births in 2006. Considering this estimate as a base, IMR declined by 15 points (from 49 to 34 per 1000 births) in a 9-year period, indicating a decline of 1.7 points per annum.

Rural-urban differentials in IMR are considerable and IMR was almost 10 percentage points lower in urban areas than in rural areas (Rural- 37 and Urban -27). However the gender disparity was only two percentage point higher for in the urban women in Telangana (SRS, 2015). Further, children born to mothers: under age of 20 years; who had children less than 2 years apart; who had no education; and who belonged to SCs and STs were at greater risk of dying than children not belonging to these groups. IMR estimates were also worked out for slum (27.9) and non-slum (36.4) localities of Hyderabad Municipal Corporation. Neo-natal mortality as a percentage of IMR was 71% in non-slum areas as compared to 86% in the slums (NFHS-3, 2005-06). A cause of concern for the new state is how to achieve a further decline in the nearly stagnant neo-natal mortality rate.

Fig. 6.8: Children Breastfed within one hour of Birth

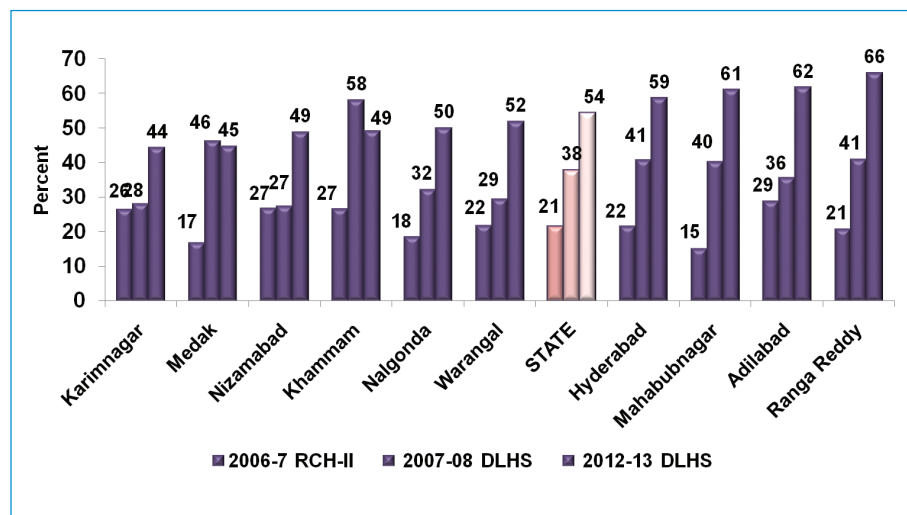
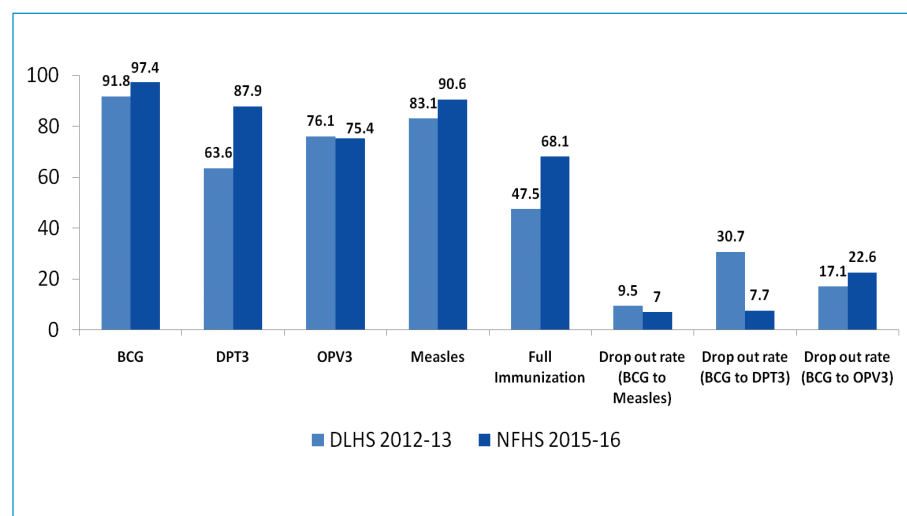
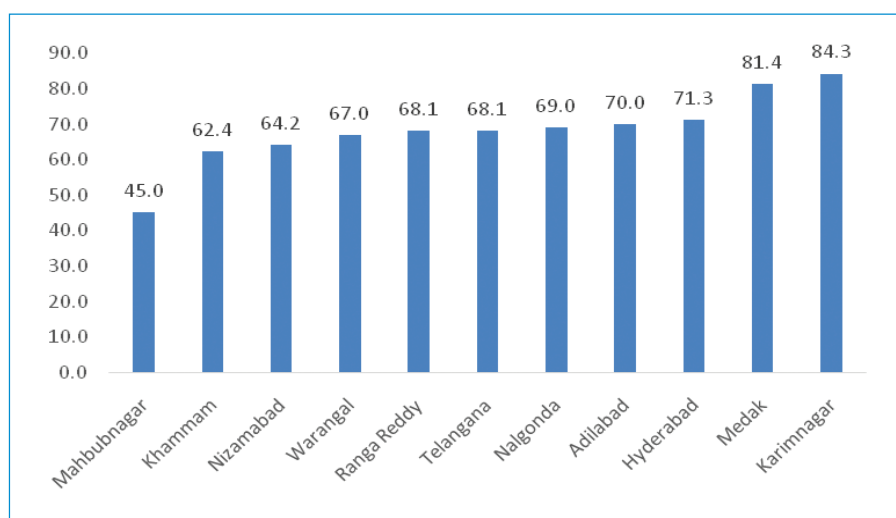


Fig. 6.9: Immunization Coverage (Children aged 12-23 Months who received recommended vaccines) (%)



Source: DLHS 4-2012-13 and NFHS 4-2015-16

Fig. 6.10 Percentage of Children (12-23 Months) Fully Immunised-2015-16



Fully Immunised: BCG, Measles, 3 doses of polio, 3 doses of DPT

Source: District Fact Sheets, NFHS-4,2015-16

Fifty-one percent of the infant deaths were reported between 24 hours and 1 week immediately after childbirth

The complete ANC package and universal post-natal care of the mother and newborn are priority areas to prevent neo-natal deaths

The NFHS survey 2015-16 reported that the IMR in the state is 28.

Inter-district variations in MMR need to addressed

Fifty-one percent of the infant deaths were reported between 24 hours and 1 week immediately after childbirth and 15% of deaths were due to low birth weight (LBW) of the newborn (HMIS 2013-14). The infant must be bathed after 24 hours after delivery to avoid a sudden drop in body temperature. Kangaroo mother care (keeping the naked baby firmly on the mother's bare chest in a breastfeeding position to prevent hypothermia) is a recommended practice. Hence the complete ANC package and universal post-natal care of the mother and newborn are priority areas to prevent neo-natal deaths.

IMR can be segregated into neonatal and post-neonatal mortality. It is estimated that two-thirds of infant deaths occur in the former phase. According to the latest SRS (2015), the proportion of Early Neonatal Mortality (deaths occurring within seven days after birth) to infant mortality in Telangana was 51.4% (59% in rural; 36% in urban). Further reduction of IMR requires better medical care at the neonatal stage which should be extended during pregnancy and delivery.

In order to improve neonatal care in secondary and tertiary hospitals, the National Health Mission (formally National Rural Health Mission) established 18 Special Newborn Care Units (SNCU) and 61 Newborn Stabilization Units (NSU) in collaboration with the UNICEF, Hyderabad.

According to the Sample Registration System (SRS) data, IMR in Telangana state declined to 34 in 2015

as compared to 35 in 2014 (Table A6.11). However, the latest NFHS survey 2015-16 reported that the IMR in the state is 28.

Maternal Mortality

The Maternal Mortality Ratio (MMR) is a sensitive indicator reflecting the availability of health care facilities and the prevailing socio-economic scenario. Maternal mortality captures not only the reproductive health status of women but also provides an understanding about the adequacy of maternal services provided to women. The Maternal Mortality Ratio (MMR) is defined as the number of maternal deaths during pregnancy or within 42 days after the termination of pregnancy per one lakh live births during a year.

The MMR declined by 34 points from 212 in 2007-09 to 178 in 2010-12 and to 167 in 2011-13 at the national level. Combined Andhra Pradesh had managed to reduce it by 24 points from 134 in 2007-09 to 110 in 2010-12 and further to 91 in 2011-13. Telangana/combined Andhra Pradesh becomes the fourth best state in the country with the lowest MMR after Kerala (66), Tamil Nadu (90) and Maharashtra (87). There are wide inter-state and intra-state variations in MMR ranging from 300 in Assam to 61 in Kerala (RGI, 2011-13). About 44% of reported maternal deaths occurred in the first pregnancy (primi-gravid) and the rest after two or more pregnancies. Thus, it is necessary to delay the first pregnancy after marriage

A higher percentage of children were stunted and underweight in the tribal concentrated districts and in the bottom level human development districts

A better reproductive health status has enhanced the nutritional status of children across the districts

The future growth of women in the reproductive age would create a severe pressure on addressing maternal, newborn and child health services in the coming years

and to popularize spacing methods between two births. The continuum of care and complete post-partum care to every mother and new born and the identification of high risk pregnant women in primi-gravid must be re-emphasised for reducing maternal deaths. A comparison of MMR has shown that Khammam and Adilabad and Mahbubnagar and Medak had higher maternal mortality rates than the state as a whole (Table A6.12).

Relation between Reproductive Health Index and Mortality

The rank correlation between the reproductive health index and mortality rates is found to be negative and statistically not significant (Table A6.13). Hyderabad and Ranga Reddy-the top level HDI districts and Karimnagar and Warangal-the middle level HDI districts utilized the reproductive health services adequately and efficiently in combating IMR. IMR could not be reduced in Nalgonda (middle level HDI district) and in Nizamabad and Medak (the bottom level districts) because of accessing inadequate reproductive services. Nalgonda, Khammam and Adilabad and Mahbubnagar, a bottom level HDI district, could not take advantage of the adequate reproductive health services to reduce IMR (Table A6.14).

Reproductive health services influence the incidence of MMR. It is evident that there was adequate and efficient utilization of reproductive health services in districts at all development levels which reduced

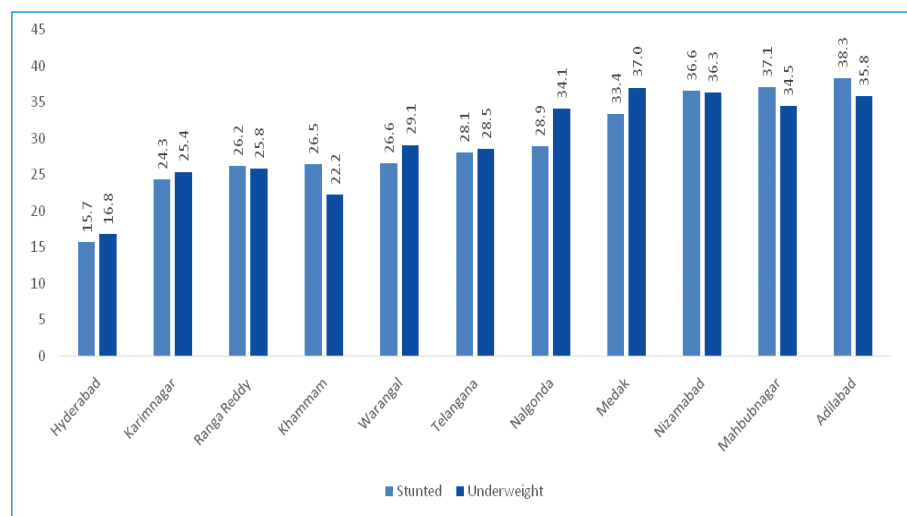
the MMR. However, Adilabad and Khammam middle level HDI districts, and Mahbubnagar, the bottom level HDI district could not take the advantage of the reproductive health services to reduce MMR (Table A6.14). The influence of institutional and cultural factors seems to be dominant in controlling the mortality rates across these districts.

6.3.2 Nutritional Status

Nutritional status is a major determinant of the health and well-being of children. The percentage of children under 5 years of age who are stunted (low height for age) which reflects the cumulative effect of chronic malnutrition decreased sharply from 47% in NFHS-2 (1998-99) for combined Andhra Pradesh to 24% in Telangana (DLHS-4, 2012-13). About 13.3% of children below five years were severely malnourished in Telangana (Box 6.3). According to DLHS-4 (2012-13), the prevalence of stunting by age groups showed that stunting was highest (36%) in children 19-24 months and lowest (14%) among children 36 months and older. Stunting was lowest in Warangal district (12%) followed by Nalgonda (18%). The highest incidence of stunting was in Mahbubnagar (34%), followed by Nizamabad (33%), and Hyderabad (29%).

According to the latest data based on NFHS 4, 2015-16, a higher percentage of children were stunted and underweight in Khammam, Adilabad, Nizamabad, Mahbubnagar and Medak (Fig. 6.11).

Fig. 6.11 Percentage of Children (under Five Years) Stunted and Underweight-2015-16



Source: District Fact Sheets, NFHS-4,20151-6

BOX 6.3

ICDS Concurrent Monitoring in Telangana State

SUMMARY MESSAGES

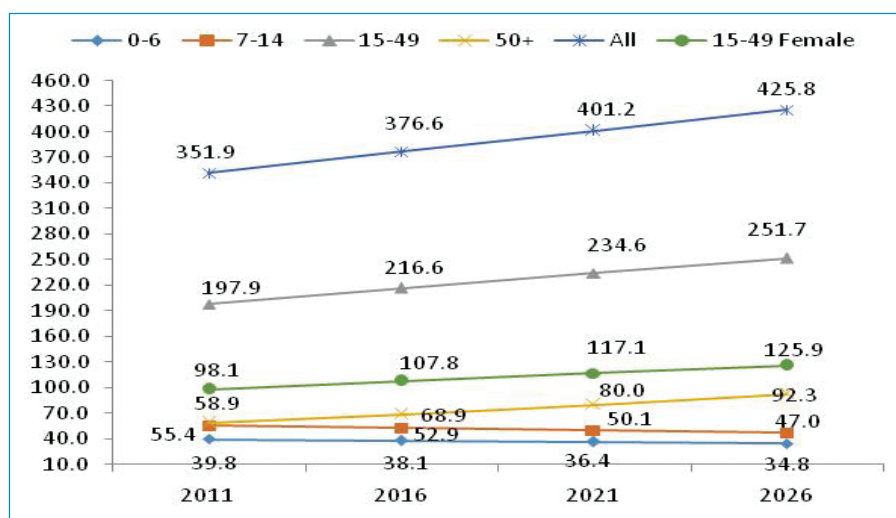
This study by Division for Child Studies, Centre for Economic and Social Studies collected data covering all aspects of the program at input and output levels, using a mixed methods approach in a panel study design. Circular systematic random sampling design was employed to represent geographical and social determinants to select four mandals in each of the ten districts. Simple random sampling without replacement was then used to select villages and AWCs in the next strata leading to a final sample size of 950 AWCs in the state, covered over a period of twelve months. Different levels of stakeholders at the AWC were interviewed including the beneficiary community, alongside observations made by the field team. An effort was made to verify and triangulate all responses in conjunction with formal bimonthly validation efforts.

Based on the data, the study offers following key summary messages-

- Message 1: Growth promotion, the provision of supplementary food and other key ICDS services are in some cases performed in adverse environments. This will impact the service delivery at expected levels. Inadequate space for cooking and running AWC activities, lack of functional toilets and drinking water provision, lack of electric connection and location of AWCs are the factors impacting the service delivery. Providing a safe and hygienic environment for ICDS service delivery is more important.*
- Message 2: Iron-deficiency is the most widespread nutritional deficiency and the most common cause of anemia during pregnancy. Roughly half of the pregnant women are not consuming IFA supplementation. The worst scenario is observed in AWCs serving tribal communities. Supply of IFA tablets are not matching the demand, which makes a larger impact on service delivery.*
- Message 3: Appropriate Infant and Young Child Feeding Practices (IYCF) are critical for improving nutrition, child survival and development. Though 100 percent exclusive breast feeding practices for first six months are reported, in a few districts girls are denied exclusive breastfeeding. Age old beliefs and social norms need to be properly addressed to improve the colostrum feeding to the new born child.*
- Message 4: Periodical growth monitoring is essential to encourage sound child-care and feeding practices. This is the regular practice in the majority of the AWCs, however in a few AWCs periodical growth monitoring is not taking place because the baby weight scales are in dilapidated conditions.*
- Message 5: Supplementary nutrition program is primarily designed to bridge the gap between the Recommended Dietary Allowance (RDA) and the Average Dietary Intake (ADI). Though SNP (Balamrutham) for children is available in all sample centres, the quality of food (quality of rice and egg) is the major concern.*
- Message 6: Children with SAM are nine times more likely to die than well-nourished children. The management of severe acute malnutrition (SAM) as well as moderately acute malnutrition (MAM) is critical for child survival. MAM cases are reported high among boys and the situation is the worst in AWCs providing services in tribal areas. Quite a few SAM cases are also reported in a few districts.*
- Message 7: Pre-school education plays a vital role in transferring child into formal schooling. Though higher enrolments are reported in pre-schools, the number of children attending (21 days per month) is very low. Often pre-school activities are kept aside due to other activities. PSE modules are not being used in many AWCs.*
- Message 8: Observation of two Nutrition and Health Days are non-negotiable service in AWCs. Substantial numbers of AWCs are observing NHDs once in a month, which may hamper needed services to the beneficiaries.*
- Message 9: Stakeholder participation (more specifically elected members of Panchayat Raj) is crucial factor ensuring success to ICDS services. Low participation by ICDS Supervisors as well as elected members of PRI is another policy concern to be addressed immediately.*

Source: CESS (2016) "Concurrent Monitoring of Selected ICDS Centres in Telangana State", (Monitoring Results for Equity System with Special Focus on Nutrition), Division for Child Studies, Centre for Economic and social Studies and UNICEF, Hyderabad.

Fig. 6.12: Population Projections by broad Age Groups-2011-2026 (in Lakhs)



Note: We have aggregated 10 districts of Telangana information from Census 2001 and 2011 for arriving at the Telangana State total. We assumed a simple linear growth rate of the decade 2001-11 while estimating the population for future years. The population projections for broad age groups for the period 2012 to 2026 are arrived at by projecting the shares of each age group in total population. The share of population in each age group is projected by taking the rate of growth of the share of each age group between 2001 and 2011. We did this exercise separately for rural male, rural female, urban male and urban female. Finally, these shares are applied to the total population to obtain the absolute number of population for each age group for the years from 2012 to 2026.

Relation between Reproductive Health Index and Child Nutrition

The relationship between reproductive health status and nutritional status was examined based on 2012-13 data (Table A6.15). There is a negative correlation between the reproductive health index and nutritional status (statistically not significant) (Table A6.16). Hyderabad, the top level HDI district, reported high stunting despite being better placed in reproductive health status (Table A6.16a). The low reproductive health status depressed the nutritional status in Ranga Reddy and Nizamabad, the top and bottom level HDI districts respectively. All the middle order HDI districts and Medak, the bottom level district have benefited by their

better reproductive health situation. A better reproductive health index enhances the nutritional status of children.

Concerns need to be addressed

In view of the above analysis, the health system has to gear up to the future challenges. The population of Telangana is projected to increase from 352 lakhs in 2011 to 426 lakhs by 2026 (Fig.6.12). The population of women in the reproductive age (15-49 years) is expected to increase from 98 lakhs in 2011 to 126 lakhs in 2026, growing at the rate of 1.7 percent per annum. This future situation would create a severe pressure on addressing maternal, newborn and child health services in the coming years.

Source: NSSO 71st Round on Social Consumption Health, 2014.

Sustainability of Improvements in Human Development

7.0 Introduction

This chapter is an attempt to assess the natural resource base relating to agriculture in rural areas, and basic health facilities like safe drinking water and sanitation within the household premises in rural and urban areas, so as to strengthen their contribution to the sustainability of improvements in human development across the newly formed districts of Telangana State.

The sustainability of improvements in human development in rural areas depends basically on agriculture. Agriculture in rain-fed areas is subject to unfavourable weather cycles. The farming community is increasingly dependent on the extraction of groundwater for irrigation. The overexploitation of ground water results in unsustainable ground water resource use and agricultural distress. The flow of incomes of the rural communities from agriculture and allied activities goes down and, as a result, household investment on education and health slows down. This ultimately results in the deceleration in the improvement of human development. Agriculture in Telangana State today is more dependent on ground water because of the neglect of its traditional tank irrigation system in the combined state. The revival of the traditional tank system enables the storage of more water in the tanks and the recharge of ground water. The deviation between the actual and normal rainfall is reflected in unfavourable weather cycles. The moisture stress during crop growth also reduces the yield of the crops and thereby agricultural productivity during unfavourable weather cycles. The absence of adequate forest cover, which acts as a hedge against unfavourable weather cycles, further adds to the stress in the availability of moisture.

Three dimensions of natural resources, viz., moisture, ground water and forest cover are considered to capture the status of the natural resource base of agriculture. Moisture is measured through the moisture index (MI). The moisture index is the most frequently used tool to assess the magnitude of water deficiency in dryland areas. The higher (lower) value of MI indicates the more(less) water potential. MI shows the gap between the supply of water (precipitation) in an area relative to the demand for water under the prevailing climatic conditions (potential evapotranspiration). The state of ground water exploitation is measured as the percentage of annual ground water draft to net annual water availability. The higher the exploitation of groundwater resource the greater is the stress on the environment.

The availability of forest areas and resources is assessed in terms of the percentage of area under forest. Higher forest area means a greater stock of forest resources. The extent of forest area represents the stock of forest resources as well as rainfall. Adequate forest cover moderates the temperature which helps the retention of more moisture in hot weather and also the retention of more water in the soil. This ultimately facilitates the recharge of ground water. The other benefits of forest/tree cover are that soil erosion can be arrested. Moreover, forest cover also reduces the gap in the supply of water (precipitation) relative to the demand for water. Adequate forest cover is essential for increasing ground water recharge as well as increasing the moisture in the soil.

The status of these three resources determines the sustainability of agriculture and thereby the human development of rural communities in terms of income, education and health. Access to safe drinking water and sanitation facility within the

The sustainability of improvements in human development in rural areas depends basically on agriculture

The over exploitation of ground water results in unsustainable ground water resource use and agricultural distress which ultimately result in low household investment on education and health status

The moisture stress during crop growth also reduces the yield of the crops and thereby agricultural productivity during unfavourable weather cycles

38 percent of the mandals in the state are extremely and highly resource deprived

Around three-fourths of the mandals in some of the districts experienced natural resource deprivation

household premises ensure congenial hygiene conditions for good health. All these factors ultimately contribute to the sustainability in the improvements in human development in the districts.

In the above backdrop, this chapter more specifically examines the following issues: What is the status of natural resources and basic household health facilities in the districts of Telangana State? What are the concerns emanating from the status of these resources across the districts? And, do the existing policies of government of Telangana State have the potential for addressing these concerns?

7.1 The Status of Natural Resources and Basic Health Facilities in the Districts

The status of natural resource deprivation and basic health facilities for each of the mandals across the districts of Telangana state is based on the data from the India Meteorological Department (IMD), Central Ground Water Board (CGWB) and Census 2011. After the restructuring of districts and mandals, the study has reorganized the mandals across the 30 districts on the basis of the Government Orders and correspondingly data regarding natural resource deprivation, drinking water and sanitation (toilet facility) within the premises of the households (for methodology, see Chapter 7: Appendix, Natural Resources and Human Development). As the data is not discretely available for the portion of mandals that have been reorganised as well as the newly formed mandals, they may assume the features of the mandals of their origin. An effort is also made to plot all the three aspects in the mandals of each district map (Maps 7.1 to 7.31 in Appendix IV) and district averages in the state maps (Maps 7A, 7B and 7C in Appendix IV).

7.1.1 The Status of Natural Resources in the Districts

The natural resource deprivation index for 435 rural mandals spread across the 30 districts of Telangana State has been constructed for the year 2013-14 by using three indicators-moisture index, stage of groundwater development and percentage of area under forest. A Mandal having lower MI value is in a comparatively higher water scarcity condition than a Mandal having higher MI value. The MI value across all Telangana mandals ranges from -72.07 to -10.69 implying that mandals having a

higher MI value have more water potential than the mandals which have a low MI value. The stage of groundwater exploitation is measured as the percentage of annual ground water draft to net annual ground water availability. The availability of forest areas is assessed in terms of the percentage of area under forest. All the mandals of Telangana are ranked in ascending order on the basis of these three indicators (e.g. rank 1 means a Mandal having more water potential, lower exploitation of groundwater and more area under forest).

The composite index was constructed by combining these ranks by using the Borda Rule. The mandals are again ranked in ascending order on the basis of the composite index score to identify the natural resources deprived mandals (i.e. rank 1 means less natural resource deprived Mandal). The bottom 25 percent ranked mandals are considered as 'Extremely Natural Resource Deprived' mandals; 25%-50% of the lower rank mandals are considered as 'Highly Natural Resource Deprived' mandals, and the rest of the mandals are 'Non-Natural Resource Deprived' mandals.

Against this backdrop, the analysis of the data available on the state of natural resources has brought out many interesting insights. 38 percent of the mandals in the state are extremely and highly resource deprived (Tables A7.1 and A7.1 a). This percentage may go up further if more data is available for 26 percent of the mandals. The percentage of natural resource deprived mandals may come to around 50 percent, if the majority of these mandals fell under the category of the resource deprived mandals. The distribution of natural resource deprived mandals across the newly formed districts has brought out clearly that around three-fourths of the mandals in the districts Siddipet, Yadadri, Ranga Reddy, Mahbubnagar, Nagar Kurnool and Nalgonda had experienced natural resource deprivation. The other districts that demand attention are Jangaon, Jogulamba, Karimnagar, Mahabubabad, Medak, Medchal, Rajanna, Sanga Reddy, Suryapet, Vikarabad, Wanaparthy, Warangal rural and Warangal urban.

The unpacking of natural resource deprivations also has pointers for immediate policy attention. The extremely deprived mandals of the districts have suffered from deprivation in all the dimensions or at least two dimensions of the natural resources considered for the analysis across the districts.

However, the highly deprived mandals had suffered from at least one dimension of natural resources deprivation across the districts. Overdrawing of ground water is found to be the dominant source of natural resource deprivation across many of the extremely deprived and the highly deprived mandals across the districts. This is the fallout of high dependency on bore well irrigation neglecting the traditional tank irrigation system without adding significantly to the canal irrigation system in Telangana. Well irrigation based agriculture in dry land areas of Telangana, often subject to unfavourable weather cycles, has pushed the rural communities into a debt-trap and ultimately led to extreme forms of distress i.e., farmers' suicides. This has denied the rural communities the opportunity to invest adequately in children's education and the health of family members. In the absence of this process, the improvements in human development might have been much higher.

Of course the income enhancement and social security programmes of the government have come to the rescue of the rural communities in this context to compensate for the low income flows from inadequate agricultural growth, and especially in the years of unfavourable weather cycles. The lower forest resource base and moisture stress have resulted in extreme forms of deprivation of natural resources in the mandals across the districts. Hence it is clear that improvements, reduction in inequalities and sustainability of improvements in human development across the districts in Telangana State are possible through addressing natural resources deprivation in rural areas.

7.1.2 Basic Health Facilities in the Districts

The household health facilities in terms of access to adequate safe drinking water and access to toilets in the household premises are equally important along with public health infrastructure in determining the health status, one of the components of human development in rural as well as urban areas of Telangana, as elsewhere in the country. It is evident from the data that around half of the households in Telangana have no access to drinking water and access to toilets within the premises (Table A7.2). The deprivation with regard to these facilities is highly pronounced in these districts: Adilabad, Jogulamba, Kama Reddy, Komaram Bheem, Mahbubnagar, Medak, Nagarkurnool, Nalgonda,

Nirmal, Sanga Reddy, Vikarabad, and Wanaparthy. Further unpacking of the districts in this regard in terms of mandals in the districts with the percentage of households covered has revealed many interesting insights. Among the 31 districts, in 18 districts - Adilabad, Jangaon, Jayashankar, Jogulamba, Kama Reddy, Komaram Bheem, Mahabubabad, Mahbubnagar, Nagarkurnool, Nalgonda, Nirmal, Medak, Nizamabad, Sanga Reddy, Suryapet, Vikarabad, Wanaparthy and Yadadri - in around 50 percent of mandals, about 50 percent of the households do not have both drinking water and sanitation facilities in the household premises. This is the gravity of the situation of the basic health facilities at the household level (Tables A7.1 and A7.1a). The details of the mandals in each category of the extent of coverage of households for each district have been presented in the maps (Appendix IV).

7.2 Emerging Concerns

The incidence of natural resource deprivation is pronounced across the districts of Telangana due to overdrawing of ground water, lower forest base and higher moisture stress. The situation is equally bad in regard to household facilities like the availability of safe drinking water and toilet facility in the household premises. Further there are huge variations across the districts in these resources in Telangana. The reduction in the levels of natural resources deprivation and improving access to the basic two health amenities at the household level will bring about a further improvement in human development and lessen the inequalities in human development across the districts and contribute to the sustainability of the improvement in human development.

7.3 Government Policies and Emerging Concerns

There are five public policy interventions of the Government of Telangana which have the potential to address the concerns which have emerged from the analysis. They include Mission Kakatiya, major and medium irrigation projects and watershed development, Mission Bhagiratha and Harithaharam. Mission Kakatiya has the potential for renovating the entire tank irrigation system in Telangana. Removal of silt from the tanks enhances the water storage capacity of the tanks and facilitates the storage of rain water. This ultimately increases

The extremely deprived mandals of the districts have suffered from deprivation in all the three dimensions or at least two dimensions of the natural resources considered

Around half of the households in Telangana have no access to drinking water and access to toilets within the premises

Of the total 31 districts, in 18 districts, around 50 percent of mandals and about 50 percent of the households do not have access to both drinking water and sanitation facilities in the household premises

the ground water recharge also. The application of the silt taken out from the tanks has the potential for increasing soil health and thereby augmenting land productivity. The watershed projects have the potential for conserving rain water in situ and thereby reducing the moisture stress. The irrigation projects have the potential to change the irrigation profile and reduce the overexploitation of the available ground water. The integration of these three interventions reduces moisture stress and overuse of ground water. Thus, the natural resources deprivation due to moisture stress and ground water stress can be addressed through the interventions in the irrigation sector. Harithaharam Programme has the potential for enhancing the forest resource

base of the villages. Mission Bhagiratha project has the potential for providing safe drinking water to all the households in the household premises in Telangana State. This also reduces the use of ground water for drinking purposes in each village of Telangana state as the water for this project is being drawn from the two perennial rivers Krishna and Godavari.

To conclude, the contributions of the above mentioned five interventions will together arrest the inequalities in the availability of natural resources and basic health facilities of the households which will ultimately contribute to a reduction in inequalities, and sustain the improvements in human development.

Summary, Conclusions and Policy Implications

8.0 Context

The fledgling State of Telangana has to address many challenges. Improving human development along with reducing inequalities in human development is one of the challenges that the state needs to prioritise. This report is an attempt to benchmark the pattern of human development in terms of levels, improvements and inequalities across districts, rural-urban areas, caste groups, gender groups and occupational groups in Telangana before the formation of Telangana State. The association of the patterns of human development with economic growth, public development funds and institutions of health and education are examined to identify concerns that need to be addressed by the Government of Telangana State. Also the implications of the agriculture related natural resource deprivation and basic health facilities for human development are analysed. The major findings, emerging challenges and the potential impact of the policies of the government of Telangana State are discussed in the report.

8.1. Human Development Patterns

Chapter 2 assesses the status of human development in Telangana before the bifurcation of Andhra Pradesh State. The human development outcomes in 2004-05 and 2011-12 have been assessed to identify concerns arising out of the public policies pursued in the combined state. This was also a period of high economic growth in Telangana.

There has been a significant improvement in HDI across all the Indian States. The rank of Telangana improved from 13 in 2004-05 to 10 in 2011-12. The improvements in HDI at the state level are also reflected at the district level. There has been an improvement in HDI across all the districts of

Telangana during the period under consideration. Hyderabad and Ranga Reddy have retained their top two positions in the spectrum of human development of Telangana, in both the years (2004-05 and 2011-12). Nizamabad, Mahbubnagar and Medak have remained at the bottom. Warangal, Karimnagar, Khammam, Adilabad and Nalgonda have stayed in the middle. The districts with a low human development in 2004-05 had improved their human development faster by 2011-12 in comparison to the districts with higher human development in 2004-05. Thus, it is evident that the inequalities in human development had declined during the period under consideration due to the public policies pursued in the undivided state. The same is true in case of the components of human development-income levels or standard of living, health and education. Gender inequalities have declined across the districts as also the gaps in human development across the caste groups (SCs, STs, BCs and OCs). The pace of decline in inequalities was higher in the urban areas than in the rural areas. With regard to occupational groups, the inequalities declined in the rural as well as the urban areas. The status of HDI of Muslims Minorities has increased during 2002-13. Urban-rural HDI inequalities among them have also declined, though not consistently, during the corresponding period. All these have contributed to the decline in inequalities across the districts. However, it is evident that inequalities still persist across districts, rural-urban areas, caste groups, gender groups and occupational groups.

Will the **Business as Usual** approach in terms of the continuation of the public policies of the combined state by the Government of Telangana State accelerate the process of enhancing the levels of human development and reduction in its spatial,

social and occupational inequalities. The impact of the continuation of policies of the combined state in the future has been assessed through the estimated HDI for 2015, on the basis of the rates of improvement in the components of HDI between 2004 and 2012 across the districts. But the results indicate that the **Business as Usual** approach would not bring any remarkable shifts in the patterns of human development. Moreover, the rate of decline of inequalities across caste group in human development during the period 2007-08 and 2012-13 was considerably higher than during 2002-04 and 2007-08. Sustainance of this rate of reduction is required. This would also be true in the case of social groups and occupational groups to reduce persistence inequalities. Hence, continuing the same policies will not enable Telangana State to sustain this rate of decline in inequalities. Hence significant changes are required in public policies and programmes in relation to human development.

The share of the standard of living in the total change in HDI between 2004-05 and 2011-12 across the districts is higher for most of the districts whereas the shares of health and education have been lower. All these are in line with the developments that had taken place across the major states in India. The same is true across the social groups and occupational groups in Telangana. Continuing the same policies will not enable Telangana State to expand the contribution of the components of education and health to human development. Thus, the need to improve the levels of human development further, to accelerate the rate of reduction in the persistent inequalities and to enhance the contribution of education and health demand that Telangana State has to embark upon remarkable changes in public policies.

8.2 Economic Growth and Human Development

There are two broad issues in the recent debates about the relationship between economic and human development. They are: the relationship between economic growth and human development has weakened in recent times; and high economic growth may not necessarily result in high human development. In this backdrop, chapter 3 has examined the relationship between economic growth and human development across the districts between 2004-05 and 2011-12 which was also the period

of high growth in recent times for Telangana. The level of economic growth, the nature of economic growth (in terms of diversification of growth from agriculture to non-agriculture with improvements in household employment and income), the percolation of economic growth to household income, to link between growth in household income and growth in human development are the pathways that establish the linkage between economic growth and improvements in human development. At the same time, the link between growth in human development - growth in labour productivity - economic growth is also crucial. All these conditions should go hand in hand for connecting economic growth with growth in human development and vice versa.

The comparison of the estimated relationship between economic growth and human development in 2004-05 as well as in 2011-12 across the districts in Telangana has highlighted two important points. *They are:* the relationship between economic growth and improvement in human development has weakened in 2011-12 as compared to 2004-05; and, the economic growth in 2011-12 should have been three times that in 2004-05 to achieve the same level of improvement in human development as in 2004-05. This indicates that the weakening of the relationship between economic growth and improvements in human development is putting pressure on economic growth and requires higher economic growth targets for Telangana State. It is also interesting to note that the relationship has weakened during a period of higher economic growth. The linkages of economic growth with improvement in educational status and health status of households have also weakened across the districts. These are a cause of serious concern in Telangana as well as in India.

Turning to a disaggregated analysis of the relationship between economic growth and improvement in human development at the district level it is evident that higher growth is a necessary but not a sufficient condition for bringing about improvements in human development. It is apparent that inclusive economic growth has contributed to improvements in human development. The supplementation by state interventions to household income outside the growth process in terms of income enhancement and social security programmes had helped the districts with lower economic growth to realise higher

improvements in human development. Hence the weakened relationship of economic growth with the growth in educational and health status can be strengthened by allocating more funds on education and health. Moreover, this also demands the allocation of more funds to improve the education and health status from the revenues generated through higher economic growth. This ultimately expands the contribution of education and health to the changes in human development.

8.3 Development Expenditure and Human Development

It is evident from the analysis in chapter 3 that the improvements in human development are determined by the policies of economic growth. The income enhancement and social security policies supplementing the growth policies have resulted in improvements in human development. It is also evident that human development in turn has contributed to economic growth through linkage of labour productivity. Apart from the contribution of growth and the income enhancement and social security policies, the direct policies that largely influence human development should also be examined. This is the crux of chapter 4. The analysis in this chapter is based on three premises that are frequently debated: that the funds allocated to social sector (especially health and education sectors) are inadequate at the country as well state level; the funds allocated are not efficiently utilised; and there is a need to expand the contribution of education and health to the improvement in human development in the context of the weakening relationship of economic growth with educational and health status. These issues are analysed at the district level. In order to examine the issue of the contribution of funds under economic services to economic growth, the funds allocated under economic services are also included in the framework of analysis. The analysis is based upon the relationship between the funds allocated in 2004-05 and the human development outcomes in 2011-12.

The (in)adequacies in the allocation of funds and (in)efficiencies in the utilisation of funds allotted are assessed through linking funds to the human development status/health status/educational status across the districts. The districts of Hyderabad, Warangal, Khammam and Adilabad were allocated

adequate funds. Ranga Reddy, the top human development district, has utilised the funds allotted under social services efficiently. Similarly, the middle order district Karimnagar has utilized funds efficiently while Nalgonda district has not utilised funds efficiently. The bottom three districts-Nizamabad, Mahbubnagar and Medak-have suffered from inadequate funds. The funds allocated under economic services are inadequate in half of the districts.

Funds allocated under health services were inadequate for the bottom human development districts-Nizamabad, Mahbubnagar and Medak; and also for Nalgonda, the middle order district. They were inefficiently utilised in Khammam and Adilabad-the two tribal concentration districts, while Ranga Reddy and Karimnagar districts have utilised the funds efficiently. Funds allocated under educational services were inadequate for Medak, the bottom human development district. Nalgonda, Warangal and Mahbubnagar have inefficiently utilised funds under educational services.

The allocation of funds by 2011-12 in relation to the funds allotted in 2004-05 is analysed to assess whether the demand for funds arising out of the allocation of funds in 2004-05, across the districts of Telangana, has been taken into cognizance. This is examined through the assessment of the relationship between the growth in expenditure under social services and the growth in human development during 2004-05 and 2011-12. The available evidence shows that the allocation of funds by 2011-12 has not been made on the basis of the level of demand. Similarly, by 2011-12, the allocation of funds under economic services for some of the districts was not adequate to increase economic growth. The allocation of these funds is not properly prioritised across the districts.

8.4 Educational Institutions and Educational Status

The third domain in which the patterns of human development are located is the institutions of education and health. The functioning of these institutions is assessed in terms of outcomes in the development of educational and health status and the relationship of these outcomes with the existing infrastructure.

Noticeable achievements in the domain of education in Telangana are: the considerable decline in the

incidence of children who never attended school over time; near universal primary school enrolment; and, a decline in the inequalities across the districts, rural-urban areas, gender and caste groups in primary school enrolment.

However, enrolment has declined beyond upper primary schooling among all the social groups, and especially among the children belonging to SCs and STs.

The dropout rates have been declining over time. But, the children from SCs and STs constitute a larger share who dropped out from primary and upper primary schooling. The high drop-out rate at the primary and at the upper primary levels have an impact on the enrolment of children at the secondary and higher secondary level.

The quality of learning outcomes in terms of numeracy and literacy appropriate to the grades has declined over time. The private schools have not penetrated into the districts where the quality of learning outcomes of children is poor or into the districts where the government school infrastructure is inadequate. Parents have responded positively to the policies of the government to enroll the children in government schools. But the quality of learning outcomes of children in government schools is poor compared to private schools. The rising aspiration of parents, especially mothers to improve the educational trajectories of their children is clearly visible. This is reflected in the fact that even illiterate mothers are sending their children to private schools thus investing in their children's education. More boys than girls, relatively lower proportion of children from SCs and STs and also from the poor are enrolled into private schools with the hope that the private schools would provide quality education. Moreover, income inequalities across the social groups have widened the existing social divide across gender, caste and class w.r.t schooling.

The population projections suggest that in the state there would be about 47 lakh children in the age group of 7-14 years by 2026. This puts a lot of pressure on the state to increase the educational infrastructure (more schools, more infrastructure, especially toilets for girl students, more teaching staff and teaching aids). Hence the required finances need to be worked out through decentralised

planning involving communities and local bodies. These concerns demand a big push in terms of further reforms from the Government of Telangana State.

8.5 Health Institutions and Health Status

Public health infrastructure and household health facilities are related to general health and reproductive health. The reproductive health status is related to the incidence of mortality (child mortality and maternal mortality) and nutritional outcomes of children.

The inadequacy of public health infrastructure has constrained the health status in some of the districts of Telangana, while the inefficient utilisation of the public infrastructure has depressed the health status in some other districts. Similarly, the reproductive health status is affected due to the inadequate and inefficient utilisation of public infrastructure. There have been significant improvements in reproductive health practices in terms of antenatal care, institutional deliveries, post-natal care and child care practices-breastfeeding and immunisation-in Telangana. Services under RMNCH+A improved the reproductive health status in Telangana.

However, there are serious concerns that need to be addressed. A fairly high proportion of pregnant women availed of ANC facility in their first trimester but failed to avail at least four ANC during pregnancy. This highlights the urgent need to increase ANC coverage in the first trimester to cent percent. The complete ANC package (3+ ANC visits, 1+TT injection and 100 IFA tablets) for pregnant women remained at 42 percent at the state level. Over an eight year period, complete ANC increased only marginally. Though institutional deliveries increased over time, deliveries at home are still taking place in Adilabad and Mahbubnagar, due to lack of adequate health care facilities for delivery at public health institutions. The maternal mortality rate is high in these districts. Caesarean sections were carried out in 58 percent of pregnancies which is on the high side as per the norms of the World Health Organisation. The percentage of children breastfed by mothers within one hour of birth reached 54 percent by 2012-13.

In Telangana, 68 percent of the children were fully immunized (Rural 68.3% and Urban 67.8%) during

2015-16. The relatively low percentage of DPT3 and OPV3 were responsible for the low percentage of full immunization. The Infant mortality rate in Telangana state declined to 34 per 1000 live births in 2015, compared to 35 in 2014 (SRS, 2015). However, the latest NFHS Survey 2015-16 reported that IMR in the State is 28. A further reduction of IMR requires better medical care at the neonatal stage which should be extended during pregnancy and delivery. Telangana/combined Andhra Pradesh becomes the fourth best state in the country with the lowest MMR ((91) after Kerala (66), Tamil Nadu (90) and Maharashtra (87). However, there are wide inter-district variations in MMR ranging from 71 in Hyderabad to 152 in Adilabad.

A higher percentage of children are stunted in the tribal concentration districts Khammam and Adilabad and the bottom level HDI districts Nizamabad, Mahbubnagar and Medak. A better reproductive health status enhances the nutritional status of children.

The population of women in the reproductive age (15-49 years) is expected to increase from 98 lakhs in 2011 to 126 lakhs in 2026, growing at the rate of 1.7 percent per annum. This future situation would create a severe pressure on addressing maternal, new born and child health services in the coming years.

The incidence of natural resource deprivation is pronounced across the districts of Telangana due to overdrawing of ground water, lower forest base and higher moisture stress. The situation is equally bad in regard to household facilities like the availability of safe drinking water and toilet facility in the household premises.

8.6 Policies of Government of Telangana State and Emerging Challenges

The policy framework of the government of Telangana State should be related to the concerns emerging from the above analysis to have a greater impact for improving human development and reducing inequalities, strengthening the inter linkages between economic growth and human development; providing adequate public funds for social services and economic services; and strengthening the functioning of public institutions relating to education and health.

The state is planning to function on a decentralised-participatory model of development. The decentralisation measure in terms of reorganising the 10 districts into 31 districts stands as evidence to this and offers a greater potential for reducing inter-district inequalities in economic growth and human development. Further, all the institutions including education and health at the district level and below become accountable and transparent for the people as the administrative area becomes smaller and direct interaction between people and government also becomes feasible. Given the active civil society, the participation of people in monitoring local governance and other institutions becomes possible. It has also tremendous potential for addressing concerns specific to the districts. Integrating village plans and aggregating them at the mandal and in turn at the district level becomes easy. In these plans fixing the targets for human development, economic growth and linkages of economic growth-human development -economic growth at the district level becomes possible. Hence this initiative can address the concern about strengthening the functioning of the institutions, especially relating to health and education, and the preparation of practical district plans to fix the targets of economic growth and human development and their interrelation.

The recent budget of Telangana state has made budget allocations to the backward castes, the most backward castes, scheduled castes, and scheduled tribes and minorities. This would be a strong contribution to inclusive growth. This new social framework model for the development of Telangana has the potential for inclusive economic growth and social development (human development). This also enables the state to link human development to economic growth through utilising the existing stock of skills of the backward castes and the most backward castes. This policy initiative addresses the concern which has been spelt out in the analysis that economic growth should be inclusive and that human development should also contribute to economic growth through efficient utilisation of the existing skills and subsequently upgrading the skills of the people. It also addresses the concern that inequalities in human development among social and occupational groups should be reduced.

It is evident from the analysis that high economic growth is a necessary condition for improvements

in human development. There are variations across the districts in regard to economic growth and hence variations in human development. Mission Kakatiya for renovating tanks for revitalising traditional irrigation structures will bring vibrancy in agriculture and allied agriculture sectors of the rural economy. This also contributes to the small farm holder since a large proportion of these farmers have lands under tanks. Further, the fixed cost and running costs of irrigation systems like bore wells will come down and the cost of cultivation will decline to that extent. The initiatives in terms of the landmark industrial sector policies to augment the industrial base of the state and the expansion of Information Technology have the potential to boost the growth in the industrial and service sectors of the economy. Thus the vibrancy in these three sectors has the potential for increasing economic growth in the state.

The expansion of the industrial sector, especially agro-based industries, enables the labour force to shift from agriculture to non-agricultural activities. As a result, productivity goes up in both the sectors and the income disparities between the two sectors will decline. The government has also initiated measures to include households belonging to SCs, STs and women to be a part of the expansion of the industrial base as entrepreneurs to make industrial growth inclusive. These initiatives in agriculture and non-agriculture sectors will also make economic growth inclusive.

There are emerging concerns that some of the mandals in the newly formed districts are deprived in terms of the natural resource base (moisture status, groundwater and forest cover) and basic household health facilities like drinking water and sanitation

inside house premises. Harithaharam and Mission Bhageeratha have the potential to address these concerns. Harithaharam has expanded the tree cover throughout Telangana which would contribute to a reduction in temperatures resulting in less evaporation of water in rural and urban areas. Mission Bhageeratha has the mandate of providing adequate and safe drinking water to all the households in their premises across the villages and urban areas. The water for this mission is drawn from the two perennial rivers Godavari and Krishna. This would reduce the withdrawal of ground water for drinking purposes. Mission Kakatiya would also add to the ground water resources. These three initiatives together with the planned major and medium irrigation projects and watershed programmes have the potential for protecting the natural resource base and provide drinking water, the basic health facility.

The state has initiated measures to address the concerns in education and health sectors. This has the potential of improving the functioning of the education and health institutions in the state. Thus the DECENTRAL ISED-NEW SOCIAL FRAMEWORK - SUSTAINABLE DEVELOPMENT MODEL of the Government of Telangana State is radically different from the DEVELOPMENT MODEL pursued in the combined state. The innovative development model also has the potential to improve the negotiating capacity of Telangana State with the national government and international institutions for financing human development-economic growth-human development linkages. However, the state has to establish an official unit for monitoring human development.

Appendix I

Chapter-wise Data Sources and Research Methodology

Chapter 1 Appendix

A1: List of Indicators and Sources of Data		
Indicators	Data Sources	Details
Indicators used for Computation of HDI		
Monthly Per Capita Consumption Expenditure (Rs.) 2004-05 prices (MPCE)	NSSO Consumer Expenditure Survey	61st and 68th Rounds - 2004-05 and 2011-12 years respectively
Infant Mortality Rate (IMR)	Statistical Abstracts of Govt. AP (Undivided)	2004-05 and 2011-12
Adult Literacy (15 Years +) (%)	NSSO Employment and Unemployment Survey	61st and 68th Rounds - 2004-05 and 2011-12 years respectively
Average Years of Schooling (Number of Years)		
Life Expectancy at Birth (for major states of India)	SRS Bulletins	2004-05 and 2011-12
Indicators used for Computation of HDI across Social Groups and Occupations		
Comprehensive Coverage Index (%)	District Level Household Survey (DLHS)	Round II (2002-04) Round III(2007-08) Round IV (2012-13)
Standard of Living Index (%)		
Average Years of Schooling (Number of Years)		
Indicators used for Computation of Male and Female HDI		
Gross District Domestic Product (2004-05 prices)	Statistical Abstracts of Govt. AP (Undivided)	2004-05 and 2011-12
Infant Mortality Rate (IMR)		
Literacy (7 Years +) (%)	Primary Census Abstract/	2001 and 2011
Average Years of Schooling (Number of Years)	NSSO Employment and Unemployment Survey	61st and 68th Rounds - 2004-05 and 2011-12 years respectively
Population	Primary Census Abstract/	2001 and 2011
Workers		
District wise Public Expenditure Data		
Expenditure on Social Services Expenditure on Economic Services Expenditure on Education Expenditure on Health	https://treasury.ap.gov.in	2004-05 to 2012-13

A1: cont.....

Indicators		Data Sources	Details
Education Dimension of Human Development			
Literacy Male/Female Rural/Urban SC/ST Adults /Youth Levels	Primary Census Abstract/ District Census Hand Book	2001 and 2011	
Net Enrolment at Secondary and Higher Secondary level School Attendance Drop out rate Never attended	NSSO Employment and Unemployment Survey	50th and 68th Rounds - 1993-94 and 2011-12 years	
Physical and Human Resources Infrastructure	District Information System for Education (DISE)	2004-05 to 2011-12	
Health Dimension of Human Development			
Reproductive Health Care	District Level Household Survey (DLHS) National Family and Health Survey 2015-16	Round II (2002-04) Round III (2007-08) Round IV (2012-13) Round IV (2015-16)	
Mortality Child Nutrition Child Immunisation Health Infrastructure	District Level Household Survey (DLHS)	Round II (2002-04) Round III (2007-08) Round IV (2012-13)	
Natural Resource Deprivation-Health Support Facilities-HDI			
Rainfall and Temperature	India Meteorological Department (IMD)		
State of Groundwater Development	Central Groundwater Board (CGWB)		
Forest Area	2011 Census		
Drinking Water			
Sanitation	Primary Census Abstract/ District Census Hand Book		

A2.1 Human Development Index for Social and Occupational Groups

The human development indices for social and occupational groups are constructed adopting broadly the UNDP approach. However, the indicators considered for construction of component wise indices vary from those employed in the standard measurement of HDI. The HDIs are computed using the DLHS survey data for three rounds viz., DLHS II (2002-04), DLHS III (2007-08) and DLHS IV (2012-13) for social groups and the latter two rounds for occupational groups. The occupation of the female respondent is considered for constructing human development index across occupations. The description of broad occupational groups is presented in Table A2.1. However, HDIs are not presented for those occupational groups whose percentage shares are low. The components of HDI are Standard of living; health coverage and education represent decent living, longevity and knowledge, crucial inputs for enhancing human development. It may be noted that the social and occupation groups HDIs are not comparable with those of district-wise HDIs as the indicators and the sources are different.

Standard of Living Index (SLI):

The following scores are assigned to the indicators are used in standard of living index

House type: 4 for Pucca, 2 for semi-pucca, 0 for kachha

Toilet facility: 4 for own flush toilet, 2 for public or shared flush toilet or own pit toilet, 1 for shared or public pit toilet, 0 for no facility;

Source of lighting: 2 for electricity, 1 for Kerosene or gas or oil, 0 for other source of lighting;

Main fuel for cooking: 2 for electricity, liquid petroleum gas, or biogas, 1 for coal, charcoal, or kerosene, 0 for other fuel;

Source of drinking water: 2 for pipe, hand pump, or well in residence/yard/plot, 1 for public tap, hand pump, or well, 0 for other water source;

Separate room for cooking: 1 for yes, 0 for no;

Ownership of house: 2 for yes, 0 for no;

Ownership of livestock: 2 if owns livestock, 0 if does not own livestock;

Ownership of durable goods: 4 each for a car or tractor, 3 each for a moped/scooter/motorcycle, telephone, refrigerator, or colour television, 2 each for a bicycle, electric fan, radio/transistor, sewing machine, black and white television, water pump, bullock cart, or thresher, 1 each for a mattress, pressure cooker, chair, cot/bed, table, or clock/watch.

The average of the score is taken as SLI.

Health Index

In respect of Health component, an aggregate index relating to coverage of maternal and child health care services are considered. The variables included in calculation of Comprehensive Coverage Index (CCI) of health services to mother & child are:

- Percentage of pregnant women taken Full ANC (H1);
- Percentage of deliveries conducted by skilled health personnel (H2);
- Percentage of new-born breastfed within one hour after delivery (H3);
- Percentage of children taken Measles vaccine (H4), 3 doses of DPT (H5) and BCG vaccine (H6);
- Percentage of women taken post natal care within 2 weeks after delivery by a health personnel at an institution or at home (H7).

Due to non-availability of data on health indicators viz., life expectancy and infant mortality rate at disaggregated levels, we have used the composite coverage index (CCI) as a proxy to health index. The CCI is calculated as follows:

$$CCI = \left[\frac{(H1 + H2)}{2} + \frac{(H4 + 2 * H5 + H6)}{4} + (H3) + (H7) \right] / 4$$

In the above equation, Full ANC (H1) includes at least 3 antenatal care visits by a pregnant woman, at least one TT injection and consumption of 90 and above IFA tablets.

Table A2.1: Percentage Distribution of Women by Occupation

Occupation	Rural		Urban	
	2007-08	2012-13	2007-08	2012-13
Professionals / Senior Executives	2.1	1.4	16.2	15.4
Clerical / Supervisors	0.3	0.3	2.4	4.2
Self-employed- Trade	2.0	1.5	8.9	8.8
Skilled Labour	10.2	6.1	25.5	20.1
Casual Labour in Services	0.6	0.8	5.3	5.7
Unskilled Labour	21.6	10.1	27.2	20.3
Self-employed-agriculture & allied	9.3	18.2	1.6	5.9
Casual Labour-agriculture & allied	53.9	61.7	12.9	19.6
All Occupations	100.0	100.0	100.0	100.0

Education Index

Average completed years of schooling for all the members of the household aged 5 years and above is taken for constructing education index.

The goal posts considered for all the above indicators are listed below

Indicator	Maximum	Minimum
Comprehensive Coverage Index	95	8
Standard of Living Index	40	6
Average Years of Schooling	12	0

The HDI is constructed by following the approach indicated below:

$$\text{HDI} = [\text{HI} * \text{SLI} * \text{EI}]^{1/3}$$

Where, HI, SLI, and EI are indices for health, standard of living and education components respectively. The index for any component (I) is given by

$$I = (X - X_{\min}) / (X_{\max} - X_{\min})$$

A2.2 Human Development Index for Gender

The methodology for computing Human Development Index for male and female is same as the one adopted for constructing HDI for all. District level gender-wise human development indices are calculated for two time periods i.e. 2004-05 and 2011-12. The indicators for three dimensions of human development - standard of living, healthy life and education- are detailed below

Standard of Living Index

Per Capita Gross District Domestic Product is taken as a proxy of standard of living index. In order to obtain male and female incomes separately, wage ratio (female wage/male wage) and their respective shares in total population have been applied. The data from Statistical Abstracts of 2004 and 2011 have been used for this purpose.

Health Index

District-wise infant mortality rates for boys and girls for the period 2001 are available in a study by Irudayarajan et.al (2008). The girl/boy ratios of IMR for all the districts are computed using this data. By applying the rate of change in boys/girls ratio of IMR observed for the state between 2001 and 2012, the district-wise girls/boys IMR ratios of 2004 and 2011 ratios are derived. These ratios are used along with proportion of girls and boys to arrive at gender-wise IMRs. The estimates for both boys and girls at the State level (Telangana State) are arrived by taking the weighted average of IMR and population (0 years).

Education Index

The educational attainment index includes the variables such as literacy rate with one-third weight and mean years of education with two-thirds weight. Literacy rates (7years + population) are drawn from Primary Census Abstracts for the year 2001 and 2011. Mean years of education is adjusted for out of school children in the age group of 6-17 years. The data for these two indicators are drawn from 61st and 68th Rounds of NSSO on Employment and Unemployment Surveys pertaining to the periods 2004-05 and 2011-12 respectively.

Indicator	Maximum	Minimum
Standard of Living Index-Male and Female Per Capita GDDP	150000	7000
Health Index -Infant Survival Rate	990	900
Education Index-Literacy	100	0
Education Index-Mean Years of Schooling	10	0

The male and female indices are calculated for each dimension.

$$\text{Standard of Living Index} = \frac{\log(X_{ji}) - \log(\text{Min})}{\log(\text{Max}) - \log(\text{Min})}$$

The normalised dimension index, I_{ji} is given by

$$I_{ji} = (X_{ji} - \text{Mini}) / (\text{Maxi} - \text{Mini}) \text{ where}$$

X_{ji} = Attainment of the J^{th} district with respect to the i^{th} indicator

Min and Max are minimum and maximum goal posts for the i^{th} indicator.

$$\text{Male/Female Development Index} = (\text{Income Index} * \text{Health Index} * (\text{Literacy Index})^{1/3} * (\text{Mean Years of Schooling})^{2/3})^{1/3}$$

Chapter 3 Appendix

The relationship between HDI and PCGDDP / PCGSDP has been estimated for 2004-05 (period 1) and 2011-12 (period 2) and presented below.

At Telangana State level, cross section of districts for the time period 1 and 2

$$\text{Ln (HDI)} = -8.16 + 0.692 \text{ Ln(PCGDDP)}$$

$$\text{Ln (HDI)} = -3.194 + 0.237 \text{ Ln(PCGDDP)}$$

At all India level, cross section of States for the time period 1 and 2

$$\text{Ln (HDI)} = -6.02 + 0.50 \text{ Ln(PCGSDP)}$$

$$\text{Ln (HDI)} = -4.29 + 0.34 \text{ Ln(PCGSDP)}$$

Chapter 4 Appendix

A4. Development Expenditure Data Source and Compilation of Information

The functional classification of government expenditure of any state includes General Services, Social Services and Economic Services of which the latter two are considered in this study. The major heads of 'Social Services' consist of (i) Education, Sports, Art and Culture, (ii) Medical and Public Health, Family Welfare, (iii) Water Supply and Sanitation, Housing, Urban Development, (iv) Welfare of SCs, STs and OBCs, (v) Labour and Labour Welfare, (vi) Social Security and Welfare, (vii) Nutrition, (viii) Relief on Natural Calamities, (ix) Other Social Services. Similarly 'Economic Services' consists of (a) Agriculture and Allied Activities, (b) Rural Development, (c) Irrigation and Flood Control, (d) Energy, (e) Industry and Minerals (f) Transport, (g) Science, Technology and Environment, (h) General Economic Services.

In this report the focus is mainly on education and medical and public health. But then again, for the inter-district analysis, Social and Economic Services are taken separately.

Data Source and Compilation

The main source of district-wise government expenditure is <https://treasury.ap.gov.in> a website of Directorate of Treasuries and Accounts i.e., AP Cyber Treasury. This source provides every head of expenditure with detailed breakup (major, minor, sub-minor head, grant or sub-head wise) across revenue, capital and loan accounts for each and every district of the state for about a period of decade i.e., since 2002-03 till 2013-14. This data was downloaded before the bifurcation of Andhra Pradesh State.

Major Head wise expenditure under revenue and capital account for each district of Telangana is taken for this study. However, the limitation of the data is that the heads of expenditure given under social and economic services shown against PAO Hyderabad and Hyderabad Urban are not taken for the study. Similarly, the expenditure under loan account i.e., loans and advances made by the government are not taken for the study as most of it was shown under PAO Hyderabad only and the expenditure under this account for other districts was shown as nil or negligible. In other words, the flow of funds must be from Treasury to PAO Hyderabad (Public Accounts Office, Hyderabad) and then to the Head of the Departments which in turn must have distributed to the line departments existing in the districts. To this extent it is an underestimation of expenditure across all the districts.

The data on GSDP/DDP are drawn from Statistical Abstracts published by the Directorate of Economics and Statistics, Governments of Andhra Pradesh/Telangana.

Methodology

There are different ways of examining the trends in budget expenditure by relating it to - (a) GSDP/ or DDP (Gross State Domestic Product / or District Domestic Product), (b) its proportion in total government expenditure, and (c) the real per capita expenditures (at constant prices). In this study, for inter-district analysis, the real per capita expenditures (at 2004-05 prices) on social and economic services are used. For inter-district analysis we have taken the three year average of 2004-07 as the first point of time and 2010-13 as the latest point of time.

Chapter 5 Appendix

A5: Education Infrastructure Index

Education infrastructure index is constructed by taking physical as well as human resources data available for schools. The data for computing infrastructure index are taken from <http://udise.in/drc.htm>. The district-wise infrastructure index is computed for two time periods i.e. 2004-05 and 2011-12. This is in line with the time periods used for constructing district-wise human development index. Physical and human resources indicators considered for constructing education infrastructure index are given as under.

	Indicator
Sl.no.	Physical Infrastructure
1	Number of schools
2	Number of class rooms
3	Number of schools with single class room
4	Number of schools with drinking water facility
5	Number of schools with separate girls' toilets
	Human Resources
6	Number of students enrolled
7	Number of male and female teachers
8	Number of schools with single teacher
The above information is used to arrive at the following indicators	
Sl.no.	Indicator
	Physical Infrastructure
1	Density of schools per 10 sq.km
2	Density of schools per 1000 children
3	Number of schools with drinking water facility
4	Number of schools with separate girls' toilet
5	Student-class room ratio
6	Percentage of single class room schools
	Human Resources
7	Percentage of single teacher schools
8	Pupil-teacher ratio
9	Percentage of female teachers

All the districts are assigned scores for each indicator basing on their performance in comparison with the ten districts' average. If the performance of the district is above the average, 2 points will be given and 1

other wise. It may be noted that the nature of the indicator i.e. development or distress is taken into consideration while assigning the status of the district as better or worst. For example, the indicator- percentage of schools with drinking water or girls' toilets - is considered as development indicator and if the performance of the district is above the average, it is to be marked as better performance. Similarly, in the case of indicators such as the percentage of schools with single class room or single teacher are to be taken as distress related. If the performance of the district is above the average in this context, it is to be marked as worst performance. The sum of the scores for all the nine indicators is used to arrive at infrastructure index. The infrastructure index is constructed in the following way.

$$\text{Infrastructure index for District X} = \frac{(\text{Total Score of District X} - \text{Minimum Score})}{(\text{Maximum Score} - \text{Minimum Score})}$$

Since there are 9 indicators for all the districts and for all the levels (primary, upper primary and secondary), the maximum score will be 18 and minimum will be 9.

Chapter 6 Appendix

A6: Health Infrastructure Index

Health infrastructure index is constructed both at public and at household levels. The public health infrastructure index is developed by taking into account the number of Sub centres (SCs), Primary Health Centres (PHCs), number of CHCs, and number of beds. Further, the number of SCs, PHCs, CHC having regular power supply, auxiliary mid-wife (ANMs), male health worker (MHW), and lady medical officers are also considered. District-wise public health infrastructure index is constructed for the period 2012-13. The data for constructing public health infrastructure index are obtained from District Level Household Survey (DLHS IV) pertaining to the period 2012-13. The indicators used for the construction of infrastructure index and recommended norms are given as under.

Indicators for Public Health Infrastructure		
Sl.no	Indicator	Norm
1	Average population covered by Sub Centers	1 per 5000 population
2	Average population covered by PHCs	1 per 30000 population
3	Average population covered by CHCs	1 per lakh population
4	Beds per lakh population in public institutions (% of Kerala achievement)	330 beds per lakh population (achievement of Kerala)
5	Beds per lakh population in all institutions	
6	Percentage of Sub-centers having regular power supply	
7	Percentage of PHCs having regular power supply	
8	Percentage of PHCs having new-born care services	
9	Percentage of CHCs having new-born care services	
10	Percentage of Sub centers having Auxiliary Nurse Midwife (ANM)	1 per SHC
11	Percentage of Sub centers having Male Health Worker (MHW)	1 per SHC
12	Percentage of Sub centers having additional Auxiliary Nurse Midwife (ANM)	
13	Percentage of PHCs having Medical Officer	1 per PHC
14	Percentage of PHCs have Lady Medical Officer	1 per PHC

The Sub-centre is the most peripheral and first contact point between the primary health care system and the community. PHC is the first contact point between the village community and the Medical officer. The PHCs are envisaged to provide integrated curative and preventive health care to the rural population. The norms for these two indicators are given in the guidelines provided by the Ministry of Health and Family Welfare. The number of beds in the secondary and tertiary level hospitals reveals the performance

of the district in providing health infrastructure. This indicator is compared with Kerala - one of the best states in health infrastructure in India.

The health facilities index at household level is computed by taking into account the type of dwelling and availability of drinking and sanitation facilities. The data for constructing household health facilities index are obtained from 2011 Census. The indicators used for the construction of household health infrastructure index are given as under.

Sl.no	Indicator
1	Percentage of Households having Roof with concrete material
2	Percentage of Households having Walls with burnt bricks
3	Percentage of Households having Safe drinking (Tap water) water
4	Percentage of Households do not have toilet facility
5	Percentage of Households having separate kitchen for cooking
6	Percentage of Households having clean fuel for cooking
7	Percentage of Households having water with-in premises

The procedure adopted for constructing health infrastructure is the same for both public and household health facilities indices. All the districts are assigned scores for each indicator based on their performance in comparison with the 10 districts' average. If the performance of the district is above the average, 2 points will be given and 1 otherwise. The sum of the scores for all the indicators is used to arrive at infrastructure index. The infrastructure index is constructed in the following way. Further, the direction of the indicator is taken into consideration while assigning the status as 'better' or 'worse'.

$$\text{Infrastructure index for District X} = \frac{(\text{Total Score of District X} - \text{Minimum Score})}{(\text{Maximum Score} - \text{Minimum Score})}$$

Since there are 14 indicators for public health infrastructure, the maximum score is 28 and the minimum is 14.

Finally by combining all the 21 indicators of public and household health infrastructure, the aggregate health infrastructure index is derived following the same approach.

A7: Natural Resources and Human Development

Drinking Water / Toilet Facility within the premises of Household

The Newly formed Telangana state had 10 districts. Recently, the Government of Telangana while forming 21 new districts (taking the total number of districts in the state to 31) reorganized the mandals as well. In this process, a few mandals are newly formed while in some cases certain mandals are segregated across the surrounding districts.

Initially considering the 10 districts of Telangana State the study has taken Mandal-wise data for 'Drinking Water Facility within the premises of Household' and Toilet Facility within the premises of Household' from Census 2011. After the restructuring of districts and mandals, the study has rearranged the mandals under 30 districts (except Hyderabad) on the basis of the government orders and similarly the mandal-wise data on drinking water and sanitation. Hence the data is not discretely available for the portion of mandals that are from their origin as well as newly formed mandals. However these mandals may assume the features of the mandals of their origin.

After this process, taking each indicator (drinking water and toilet facility within the premises of the household) the mandals in each district are classified into four categories - (i) 25 percentage or below (ii) 25.1- 50 percentage (iii) 50.1-75 percentage and (iv) 75.1-100 percentage. The mandal falling in the lower range indicates higher level of its deprivation of this facility and vice versa. Thus, this will give the status of each one of the mandals where there is availability (non-availability) of drinking water or toilet facility within the premises of the household and where more attention is required to improve these two facilities which will contribute to human development.

The image of the each district map, showing the demarcation of the mandals, is taken (<http://www.manapsc.com/wp-content/uploads/2016/08/Telangana-New-Districts-Map-2016.jpg>) designed by Telangana State Remote Sensing Applications Centre (TRAC)) to depict the status of these two facilities in the mandals of each of the districts. An effort is also made to construct natural resource deprivation index and portray the same in the above mentioned maps.

Natural Resource Deprivation Index

The natural resource deprivation index for 435 rural mandals of Telangana state has been constructed for the year 2013-14 by using three indicators-moisture index, stage of groundwater development and percentage of area under forest:

1. Moisture Index (MI)-It is most frequently used tool to assess the magnitude of water deficiency in dry regions of India. It shows the gap in supply of water (precipitation) in an area relative to the

demand for water under prevailing climatic conditions (potential evapotranspiration). The MI is defined as (Thornthwaite and Mather, 1955):

$$MI = \frac{P - PET}{PET} \times 100$$

Where, P = Precipitation (in millimeters)

PET = Potential evapotranspiration (in millimetres)

PET is the amount of water transfer to the atmosphere in an ideal condition of soil moisture and vegetation (Thornthwaite, 1948). Month-wise PET has been estimated by using Thornthwaite and Mather formula (Roy & Ophori, 2012):

$$PET = 1.6 \times C \times \left(10 \times \frac{T}{I}\right)^a$$

Where, T = mean monthly temperature (°C)

I = annual heat index for the 12 months in a year (Σi):

Where i is the monthly heat index:

$$i = \left(\frac{T}{5}\right)^{1.514}$$

$$a = 6.75 \times 10^{-7} \times I^3 - 7.71 \times 10^{-5} \times I^2 + 1.792 \times 10^{-2} \times I + 0.49239$$

C = correction method for each month:

$$C = \left[\frac{m}{30}\right] \times \left[\frac{d}{12}\right]$$

Where, m = number of days in the month

d = monthly mean daily duration (i.e. number of hours between sunrise and sunset, expressed as the average for the month).

The negative value of the MI implies higher potential evapotranspiration than precipitation or dry/arid climate. The positive value of MI implies humid or water abundant areas. Based on MI, the areas are classified as:

Value of MI	Climatic Zone
< -66.7	Arid
-66.6 to -33.3	Semi -arid
-33.3 to 0	Dry sub-humid
0 to + 20	Moist sub-humid
+20.1 to + 99.9	Humid
100 or more	Per-humid

Thus, a mandal having lower MI value is in a comparatively high water scarce condition than a mandal having higher MI value. The range of MI value across all Telangana mandals is -72.07 to -10.69 implying that mandals having higher MI value have more water potential than the mandals have low MI value.

2. Stage of Groundwater Exploitation-Mandal wise data on stage of groundwater development is available from Central Ground Water Board (CGWB). The method adopted by it is as the percentage of annual ground water draft to net annual ground water availability:

$$\text{Stage of groundwater development} = \frac{\text{Existing gross groundwater draft for all uses}}{\text{Net annual groundwater availability}} \times 100$$

Net annual groundwater availability: The total annual groundwater potential refers to the available annual recharge after allowing for natural discharge in terms of base flow and sub-surface inflow/outflow during the monsoon season. Thus, the annual groundwater potential includes the existing water withdrawal for various purposes, natural discharge due to base flow and sub-surface inflow/outflow in the non-monsoon season and availability for future development. The net annual groundwater availability is the difference between the total annual groundwater potential and natural discharge due to base flow and subsurface inflow/outflow in the non-monsoon season and is being calculated for command and non-command areas separately. Thus the computation of net annual groundwater availability is based on the following three step procedure:

- a) Obtaining the total annual groundwater recharge during the monsoon and non-monsoon seasons.
- b) Estimating the value of annual natural discharge.
- c) Obtaining the net annual groundwater availability by subtracting 'b' from 'a'.

Gross groundwater draft for all uses: The gross groundwater draft for all uses is mainly the sum of annual gross groundwater draft for irrigation, domestic needs and industries during both monsoon and non-monsoon seasons. This data has been calculated for command areas, non-command areas and poor groundwater quality areas separately. By understanding the geographical diversity and other features across all the Indian states, all states are individually estimating groundwater draft for different uses in their own geographical boundary by setting certain assumptions and norms. However, the general criterion for estimating total groundwater draft for all uses is based on three basic steps:

- a) Different types of wells which are commonly used in the ground water assessment unit are identified and unit ground water draft per well during monsoon and non-monsoon seasons for each type are estimated with certain norms.
- b) The number of wells belonging to different types as identified in 'a' above, and which are currently in actual use are then estimated.
- c) The gross ground water draft is finally estimated using the results from 'a' and 'b' above.

The stage of groundwater development as estimated for all states as on 2011 varies between 0% in Chandigarh to 172% in Punjab. Such a phenomenon is interpreted as higher the stage of development, more is the exploitation of groundwater resource.

3. Availability of forest areas: The availability of forest resources of the state is assessed in terms of percentage of area under forest. The proportion of area under forest, as per Census 2011, varies from 0-93%. Higher forest area in a mandal means more forest resource stock than a mandal having less forest area.

The moisture index has been computed from the rainfall and temperature data provided by IMD. Data on stage of groundwater development was collected from Central Ground Water Board and data for forest area was collected from Census of India, 2011.

All mandals of the Telangana, on the basis of these three indicators i.e. moisture index, stage of groundwater development and proportion of forest area, are ranked in ascending order (e.g. rank 1 means mandal having more water potential, stage of groundwater development is less and more area under forest). The composite index was constructed by combining these ranks by using the Borda Rule. The mandals are again ranked in ascending order on the basis of composite index score to identify the natural resources deprived mandals (i.e. rank 1 means less natural resource deprived mandal). The bottom 25 percent ranked mandals are considered as 'Extremely Natural Resource Deprived' mandals and 25%-50% lowest rank mandals are considered as 'Highly Natural Resource Deprived' mandals and rest of the mandals are '*Non-Natural Resource Deprived*' mandals.

Appendix II

Chapter-wise Tables

Chapter	Table No
Chapter 2	A2.1 to A2.25
Chapter 3	A3.1 to A3.10
Chapter 4	A4.1 to A4.4
Chapter 5	A5.1 to A5.15
Chapter 6	A6.1 to A6.16a
Chapter 7	A7.1 to A7.2

Table A2.1: HDI and its Rankings across Major States of India

States	HDI		Rank	
	2004-05	2011-12	2004-05	2011-12
Bihar	0.241	0.376	20	21
Chhattisgarh	0.273	0.379	18	20
Madhya Pradesh	0.268	0.388	19	19
Odisha	0.221	0.393	21	18
Uttar Pradesh	0.299	0.401	16	17
Jharkhand	0.296	0.403	17	16
Assam	0.341	0.407	14	15
Rajasthan	0.317	0.452	15	14
West Bengal	0.388	0.485	9	13
Gujarat	0.386	0.497	11	12
Karnataka	0.388	0.507	10	11
Telangana	0.343	0.513	13	10
Andhra Pradesh	0.378	0.513	12	9
J & K	0.432	0.522	5	8
Uttarakhand	0.406	0.536	8	7
Haryana	0.426	0.556	6	6
Maharashtra	0.419	0.559	7	5
Punjab	0.474	0.578	2	4
Himachal Pradesh	0.463	0.580	3	3
Tamil Nadu	0.450	0.591	4	2
Kerala	0.579	0.662	1	1
India	0.361	0.480		

Source: Computed based on the data from NSSO and SRS Bulletins

Table A2.1a: HDI and its Components across Major States of India

States	MPCE (Adjusted)		Health		Education		HDI	
	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12
Andhra Pradesh	0.262	0.413	0.598	0.700	0.344	0.467	0.378	0.513
Assam	0.199	0.216	0.494	0.586	0.403	0.533	0.341	0.407
Bihar	0.103	0.200	0.580	0.704	0.233	0.377	0.241	0.376
Chhattisgarh	0.119	0.189	0.505	0.597	0.338	0.482	0.273	0.379
Gujarat	0.221	0.335	0.596	0.686	0.436	0.535	0.386	0.497
Haryana	0.292	0.422	0.601	0.692	0.440	0.589	0.426	0.556
Himachal Pradesh	0.293	0.412	0.632	0.715	0.537	0.661	0.463	0.580
J & K	0.322	0.385	0.606	0.704	0.413	0.526	0.432	0.522
Jharkhand	0.144	0.206	0.630	0.724	0.285	0.439	0.296	0.403
Karnataka	0.221	0.323	0.621	0.707	0.425	0.571	0.388	0.507
Kerala	0.341	0.447	0.853	0.861	0.669	0.752	0.579	0.662
Madhya Pradesh	0.135	0.224	0.437	0.561	0.325	0.465	0.268	0.388
Maharashtra	0.198	0.349	0.718	0.783	0.518	0.639	0.419	0.559
Orissa	0.073	0.219	0.454	0.590	0.328	0.467	0.221	0.393
Punjab	0.319	0.430	0.714	0.787	0.468	0.571	0.474	0.578
Rajasthan	0.203	0.338	0.518	0.642	0.301	0.426	0.317	0.452
Tamil Nadu	0.251	0.414	0.715	0.800	0.507	0.622	0.450	0.591
Telangana	0.212	0.410	0.536	0.658	0.357	0.502	0.343	0.513
Uttar Pradesh	0.174	0.240	0.501	0.644	0.307	0.417	0.299	0.401
Uttarakhand	0.226	0.362	0.631	0.700	0.468	0.606	0.406	0.536
West Bengal	0.212	0.308	0.704	0.755	0.392	0.491	0.388	0.485
India	0.204	0.314	0.596	0.690	0.388	0.510	0.361	0.480

Source: As per Table 2.1

Table A2.2: HDI and its Rankings across Districts of Telangana

Districts	HDI		Rank	
	2004-05	2011-12	2004-05	2011-12
Hyderabad	0.631	0.764	1	1
Ranga Reddy	0.364	0.605	2	2
Warangal	0.356	0.534	3	3
Karimnagar	0.350	0.521	4	4
Khammam	0.286	0.519	7	5
Adilabad	0.289	0.508	6	6
Nalgonda	0.320	0.500	5	7
Nizamabad	0.251	0.466	10	8
Mahbubnagar	0.270	0.464	8	9
Medak	0.261	0.446	9	10
Telangana	0.322	0.510	--	--

Source: Computed based on the data from NSSO and Statistical Abstracts, Government of Andhra Pradesh

Table A2.3: Components of HDI across the Districts

District	MPCE (Adj)		Health		Education	
	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12
Top Level HDI Districts						
Hyderabad	0.481	0.650	0.747	0.888	0.700	0.774
Ranga Reddy	0.268	0.553	0.505	0.733	0.357	0.546
Middle Level HDI Districts						
Warangal	0.284	0.470	0.408	0.665	0.390	0.487
Karimnagar	0.315	0.415	0.396	0.684	0.345	0.499
Khammam	0.198	0.435	0.347	0.597	0.341	0.537
Adilabad	0.206	0.453	0.323	0.568	0.364	0.509
Nalgonda	0.229	0.448	0.396	0.578	0.363	0.484
Bottom Level HDI Districts						
Nizamabad	0.131	0.357	0.372	0.568	0.324	0.500
Mahbubnagar	0.242	0.457	0.275	0.500	0.296	0.437
Medak	0.173	0.361	0.372	0.558	0.277	0.441
Telangana	0.226	0.417	0.414	0.633	0.357	0.502

Note: MPCE (Adj): Monthly Per Capita Expenditure adjusted for inequality, Infant Mortality Rate and literacy and mean years of schooling are taken as indicators for standard of living, health and education respectively

Source: As per table 2.2

Table A2.4: Projected HDI and its Components across Districts of Telangana State

District	MPCE (Adjusted)		HI		EI		HDI	
	Growth 2004-2011	Projected 2015-16	Growth 2004-2011	Projected 2015-16	Growth 2004-2011	Projected 2015-16	Growth 2004-2011	Projected 2015-16
Top Level HDI Districts								
Hyderabad	4.4	0.722	2.5	0.949	1.4	0.809	2.8	0.821
Ranga Reddy	10.9	0.675	5.5	0.832	6.3	0.656	7.5	0.717
Middle Level HDI Districts								
Warangal	7.4	0.550	7.2	0.777	3.2	0.536	6.0	0.612
Karimnagar	4.0	0.457	8.1	0.810	5.4	0.584	5.8	0.600
Khammam	11.9	0.537	8.1	0.706	6.7	0.652	8.9	0.627
Adilabad	11.9	0.559	8.4	0.675	4.9	0.588	8.4	0.605
Nalgonda	10.1	0.542	5.6	0.657	4.2	0.548	6.6	0.580
Bottom Level HDI Districts								
Nizamabad	15.4	0.454	6.2	0.653	6.4	0.603	9.3	0.563
Mahbubnagar	9.5	0.550	8.9	0.598	5.7	0.516	8.0	0.554
Medak	11.1	0.442	6.0	0.639	6.9	0.538	7.9	0.534
Telangana	9.1	0.500	6.3	0.728	5.0	0.580	6.8	0.595

Source: As per table 2.2

Table A2.5: Ranks of HDI and its Components

District	MPCE (Adjusted)			HI			EI			HDI(AdjMPCE)		
	2004-05	2011-12	2015-16	2004-05	2011-12	2015-16	2004-05	2011-12	2015-16	2004-05	2011-12	2015-16
Top Level HDI Districts												
Hyderabad	1	1	1	1	1	1	1	1	1	1	1	1
Ranga Reddy	4	2	2	2	2	2	5	2	2	2	2	2
Middle Level HDI Districts												
Warangal	3	3	5	3	4	4	2	7	9	3	3	4
Karimnagar	2	8	8	4	3	3	6	6	6	4	4	6
Khammam	8	7	7	8	5	5	7	3	3	7	5	3
Adilabad	7	5	3	9	7	6	3	4	5	6	6	5
Nalgonda	6	6	6	4	6	7	4	8	7	5	7	7
Bottom Level HDI Districts												
Nizamabad	10	10	9	6	7	8	8	5	4	10	8	8
Mahbubnagar	5	4	4	10	10	10	9	10	10	8	9	9
Medak	9	9	10	6	9	9	10	9	8	9	10	10

Source: As per table 2.2

Table A2.6: HDI and Its Components across Social Groups in Telangana

All Areas													Growth of HDI (percent per annum)	
Category	2002-04				2007-08				2012-13					
	HI	SLI	EI	HDI	HI	SLI	EI	HDI	HI	SLI	EI	HDI	2002-4 2007-8	2007-8 2012-13
All Areas														
All	0.478	0.260	0.313	0.339	0.623	0.276	0.328	0.383	0.750	0.500	0.486	0.567	3.15	8.13
SC	0.499	0.170	0.247	0.276	0.610	0.250	0.277	0.348	0.752	0.450	0.452	0.535	6.02	8.95
ST	0.423	0.099	0.177	0.195	0.547	0.151	0.205	0.257	0.796	0.389	0.398	0.498	7.10	14.16
BC	0.481	0.253	0.291	0.328	0.629	0.282	0.327	0.387	0.744	0.521	0.499	0.578	4.20	8.36
OC	0.477	0.379	0.431	0.427	0.695	0.390	0.489	0.510	0.742	0.631	0.600	0.655	4.54	5.14
Rural														
All	0.483	0.161	0.221	0.258	0.606	0.209	0.261	0.321	0.747	0.396	0.378	0.482	5.55	8.48
SC	0.514	0.102	0.191	0.215	0.592	0.214	0.245	0.314	0.725	0.378	0.373	0.467	9.91	8.26
ST	0.419	0.057	0.147	0.152	0.541	0.132	0.190	0.239	0.789	0.311	0.321	0.428	11.88	12.41
BC	0.478	0.174	0.219	0.263	0.621	0.214	0.263	0.327	0.746	0.415	0.389	0.494	5.58	8.60
OC	0.513	0.262	0.321	0.351	0.680	0.279	0.383	0.417	0.805	0.510	0.436	0.564	4.45	6.19
Urban														
All	0.468	0.412	0.449	0.442	0.672	0.445	0.495	0.529	0.753	0.599	0.586	0.642	4.57	3.94
SC	0.459	0.362	0.419	0.411	0.700	0.399	0.431	0.494	0.801	0.538	0.549	0.618	4.69	4.60
ST	0.444	0.284	0.309	0.339	0.487	0.383	0.373	0.411	0.808	0.548	0.545	0.623	4.96	8.65
BC	0.487	0.399	0.426	0.436	0.648	0.443	0.475	0.515	0.742	0.611	0.588	0.644	4.25	4.57
OC	0.454	0.451	0.491	0.465	0.701	0.483	0.575	0.580	0.725	0.685	0.669	0.693	5.69	3.62

Note: SLI= Standard of Living Index; SC= Scheduled Castes; ST= Scheduled Tribes; OBC= Other Backward Castes; OC= Other Castes

Source: Computed based on the data from the DLHS II (2002-04), III (2007-08) and IV (2012-13)

Table A2.7: Gender differentials in HDI across districts

Districts	HDI-Male		HDI-Female		Gender Differential (M/F)		Rate of change in differential (CAGR %)
	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12	
Top Level HDI Districts							
Hyderabad	0.715	0.863	0.583	0.760	1.23	1.14	-1.09
Ranga Reddy	0.485	0.718	0.394	0.598	1.23	1.20	-0.36
Middle Level HDI Districts							
Warangal	0.420	0.576	0.315	0.495	1.33	1.16	-1.93
Karimnagar	0.440	0.631	0.305	0.530	1.44	1.19	-2.71
Khammam	0.411	0.638	0.320	0.523	1.28	1.22	-0.73
Adilabad	0.368	0.574	0.320	0.476	1.15	1.21	0.68
Nalgonda	0.418	0.580	0.309	0.493	1.35	1.18	-1.97
Bottom Level HDI Districts							
Nizamabad	0.358	0.542	0.298	0.497	1.20	1.09	-1.37
Mahbubnagar	0.324	0.515	0.234	0.428	1.38	1.20	-1.99
Medak	0.386	0.608	0.317	0.515	1.22	1.18	-0.44
Telangana	0.443	0.655	0.349	0.563	1.27	1.16	-1.24

Source: Computed by the authors based on the data from NSSO 61st and 68 rounds on Employment and Unemployment Surveys and Statistical Abstract of Government of Andhra Pradesh

Table A2.7a: Gender Differentials in Components of HDI across Districts-2011-12

Districts	Income Index		Education Index		Health Index		Gender Differentials		
	Male	Female	Male	Female	Male	Female	Income	Education	Health
Top Level HDI Districts									
Hyderabad	0.882	0.747	0.813	0.667	0.895	0.881	1.18	1.22	1.02
Ranga Reddy	0.833	0.675	0.622	0.421	0.715	0.752	1.23	1.48	0.95
Middle Level HDI Districts									
Warangal	0.565	0.429	0.528	0.410	0.641	0.691	1.32	1.29	0.93
Karimnagar	0.658	0.533	0.557	0.408	0.685	0.684	1.23	1.37	1.00
Khammam	0.668	0.553	0.659	0.426	0.588	0.606	1.21	1.55	0.97
Adilabad	0.576	0.489	0.626	0.359	0.524	0.615	1.18	1.74	0.85
Nalgonda	0.635	0.533	0.547	0.376	0.560	0.596	1.19	1.45	0.94
Bottom Level HDI Districts									
Nizamabad	0.537	0.499	0.576	0.396	0.517	0.621	1.08	1.45	0.83
Mahbubnagar	0.541	0.452	0.539	0.326	0.470	0.533	1.20	1.65	0.88
Medak	0.850	0.707	0.514	0.319	0.514	0.605	1.20	1.61	0.85
Telangana	0.710	0.590	0.636	0.453	0.624	0.667	1.20	1.40	0.94

Source: As per table 2.7

Table A2.7b: HDI and its Components among Muslim Minorities in Telangana

Category	2002-04				2007-08				2012-13				Growth of HDI (CAGR %)	
	HI	SLI	EI	HDI	HI	SLI	EI	HDI	HI	SLI	EI	HDI	2002-2008	2007-2013
All Areas														
State Average	0.478	0.260	0.313	0.339	0.623	0.276	0.328	0.383	0.750	0.500	0.486	0.567	3.10	8.16
Muslim	0.449	0.350	0.382	0.391	0.671	0.373	0.392	0.461	0.723	0.583	0.511	0.600	4.20	5.41
Rural														
State Average	0.483	0.161	0.222	0.258	0.606	0.209	0.261	0.321	0.747	0.396	0.378	0.482	5.61	8.47
Muslim	0.494	0.253	0.297	0.334	0.651	0.254	0.288	0.362	0.724	0.463	0.417	0.519	2.03	7.47
Urban														
State Average	0.468	0.412	0.450	0.443	0.672	0.445	0.495	0.529	0.753	0.599	0.586	0.642	4.54	3.95
Muslim	0.431	0.385	0.410	0.408	0.686	0.445	0.453	0.517	0.722	0.616	0.537	0.620	6.10	3.70

Source: Computed based on the data from the DLHS II (2002-04), III (2007-08) and IV (2012-13)

Table A2.7c: Growth of HDI and its Components among Muslim Minorities in Telangana (CAGR %)

HDI -Components	2002-04-2007-08			2007-08-2012-13		
	Total	Rural	Urban	Total	Rural	Urban
Health Index	10.57	7.14	12.32	1.50	2.15	1.03
Standard of Living Index	1.60	0.10	3.69	9.34	12.76	6.72
Education Index	0.65	-0.77	2.52	5.45	7.68	3.46
Human Development Index	4.20	2.03	6.10	5.41	7.47	3.70

Source: As per table 2.7B

Table A2.8: HDI by Status of Employment in Rural Telangana

Status of Employment	2007-08				2012-13				Growth of HDI (CAGR % per annum)
	HI	SLI	EI	HDI	HI	SLI	EI	HDI	
Skilled Non-agricultural Labour	0.599	0.234	0.300	0.348	0.686	0.447	0.411	0.501	7.57
Self-employed-agriculture & allied	0.532	0.173	0.253	0.286	0.751	0.370	0.393	0.478	10.82
Casual Labour-agriculture & allied	0.606	0.180	0.217	0.287	0.736	0.337	0.339	0.438	8.82
Unskilled Non-agricultural Labour	0.539	0.192	0.199	0.274	0.722	0.372	0.513	0.516	13.51
All Occupations	0.588	0.192	0.234	0.298	0.747	0.396	0.378	0.482	10.10

Source: Computed based on the data from the DLHS II (2002-04) III (2007-08) and IV (2012-13)

Table A2.9: HDI by Status of Employment in Urban Telangana

Status of Employment	2007-08				2012-13				Growth of HDI (CAGR %)
	HI	SLI	EI	HDI	HI	SLI	EI	HDI	
Professionals / Senior Executives	0.679	0.506	0.679	0.615	0.536	0.748	0.726	0.663	1.50
Self-employed- Trade	0.714	0.435	0.444	0.517	0.503	0.595	0.614	0.568	1.92
Skilled Workers	0.568	0.433	0.405	0.463	0.756	0.533	0.545	0.603	5.41
Unskilled Labour	0.598	0.332	0.308	0.394	0.593	0.430	0.632	0.545	6.68
Casual Labour-agriculture & allied	0.716	0.319	0.268	0.394	0.545	0.386	0.474	0.464	3.32
Casual Labour-Services	0.483	0.295	0.291	0.346	0.483	0.487	0.586	0.516	8.34
All Occupations	0.634	0.396	0.411	0.469	0.753	0.599	0.586	0.642	6.48

Source: Computed by the authors based on the data from the DLHS II (2002-04) III (2007-08) and IV (2012-13)

Table A2.10 : Estimated HDI for Social Groups-2015-16

Social Group Category	Rural				Urban				Total			
	HI	SLI	EI	HDI	HI	SLI	EI	HDI	HI	SLI	EI	HDI
All	0.811	0.494	0.438	0.560	0.788	0.671	0.627	0.692	0.808	0.618	0.569	0.657
SC	0.785	0.461	0.441	0.542	0.844	0.602	0.604	0.675	0.816	0.554	0.550	0.629
ST	0.913	0.408	0.395	0.528	0.981	0.628	0.635	0.731	0.921	0.527	0.520	0.632
OBC	0.801	0.521	0.455	0.575	0.783	0.691	0.640	0.702	0.795	0.648	0.591	0.673
OC	0.860	0.632	0.460	0.630	0.735	0.783	0.710	0.742	0.762	0.754	0.651	0.721

Source: Computed based on the data from DLHS 3 and DLHS 4.

Table A2.10a: HDI Inequalities by Social Groups and their Rate of Decline (CAGR %)

	2002-04	2007-08	2012-13	2015-16
Comprehensive Coverage Index (Health)				
Others/SC	0.96	1.14 (4.49)#	0.99 (2.84)	0.93 (2.74)
Others/ST	1.13	1.27 (3.03)#	0.93 (6.01)	0.83 (5.78)
Others/BC	0.99	1.10 (2.74)#	1.00 (2.03)	0.96 (1.96)
Standard of Living Index				
Others/SC	2.23	1.56 (8.54)	1.40 (2.11)	1.36 (1.44)
Others/ST	3.83	2.58 (9.37)	1.62 (8.88)	1.43 (6.06)
Others/BC	1.50	1.38 (1.98)	1.21 (2.62)	1.16 (1.95)
Education Index				
Others/SC	1.74	1.77 (0.29)#	1.33 (5.54)	1.18 (5.53)
Others/ST	2.44	2.39 (0.51)	1.51 (8.77))	1.25 (8.87)
Others/BC	1.48	1.50 (0.24)#	1.20 (4.27)	1.10 (4.31)
Human Development Index				
Others/SC	1.55	1.47 (1.35)	1.22 (3.53)	1.15 (3.24)
Others/ST	2.19	1.98 (2.43)	1.32 (7.90)	1.14 (6.88)
Others/BC	1.30	1.32 (0.31)#	1.13 (2.97)	1.07 (2.78)

Note: Data from the Older Cohort aged 12 in Round 2 of the Young Lives survey (2006) and the Younger Cohort aged 12 in Round 4 (2013).

Table A2.10b: Rural HDI Inequalities by Social Groups and Rate of Decline (CAGR %)

Social Group	2002-04	2007-08	2012-13	2015-16
Comprehensive Coverage Index				
Others/SC	1.00	1.15(3.58)#	1.11 (0.68)	1.10 (0.66)
Others/ST	1.22	1.26# (0.66)	1.02 (4.09)	0.94 (3.95)
Others/BC	1.07	1.10# (0.50)	1.08 (0.29)	1.07 (0.28)
Standard of Living Index				
Others/SC	2.57	1.30 (15.59)	1.35 (0.69)#	1.37 (0.78)#
Others/ST	4.60	2.11 (17.65)	1.64 (4.95)	1.55 (2.84)
Others/BC	1.51	1.30 (3.54)	1.23 (1.18)	1.21 (0.65)
Education Index				
Others/SC	1.68	1.56 (1.79)	1.17 (5.65)	1.04 (5.56)
Others/ST	2.18	2.02 (1.98)	1.36 (7.59)	1.16 (7.45)
Others/BC	1.47	1.46 (0.16)	1.12 (5.10)	1.01 (5.08)
Human Development Index				
Others/SC	1.63	1.33 (5.03)	1.21 (1.88)	1.16 (1.95)
Others/ST	2.31	1.74 (6.77)	1.32 (5.46)	1.19 (4.88)
Others/BC	1.33	1.28 (1.13)	1.14 (2.19)	1.10 (2.05)

Figures in the parentheses are rates of decline in inequalities; # Increase in inequalities

Table A2.10c: Urban HDI Inequalities by Social Groups and Rate of Decline (CAGR %)

Social Group	2002-04	2007-08	2012-13	2015-16
Comprehensive Coverage Index				
Others/SC	0.99	1.00 (0.31)#	0.91 (2.00)	0.87 (1.95)
Others/ST	1.02	1.44 (8.93)#	0.90 (9.02)	0.75 (8.67)
Others/BC	0.93	1.08 (3.79)#	0.98 (92.02)	0.94 (1.98)
Standard of Living Index				
Others/SC	1.25	1.21 (0.72)	1.27 (1.02)#	1.30 (1.05)#
Others/ST	1.59	1.26 (5.60)	1.25 (0.18)	1.25 (0.12)
Others/BC	1.13	1.09 (0.90)	1.12 (0.56)#	1.13 (0.54)
Education Index				
Others/SC	1.17	1.33 (3.30)#	1.22 (1.80)	1.17 (1.81)
Others/ST	1.59	1.54 (0.75)	1.23 (4.45)	1.12 (4.53)
Others/BC	1.15	1.21 (1.23)#	1.14 (1.23)	1.11 (1.23)
Human Development Index				
Others/SC	1.13	1.17 (0.93)#	1.12 (0.91)	1.10 (0.98)
Others/ST	1.37	1.41 (0.71)#	1.11 (4.65)	1.01 (4.50)
Others/BC	1.07	1.13 (1.37)#	(0.10)# (0.91)	1.06 (0.90)

Figures in the parentheses are rates of decline in inequalities; # Increase in inequalities

Table A2.11: Estimated Gender-wise HDI -2015-16

District	Income 2015-16		Health 2015-16		Education 2015-16		HDI Index 2014-15	
	Male	Female	Male	Female	Male	Female	Male	Female
Top Level HDI Districts								
Hyderabad	0.965	0.875	0.955	0.941	0.864	0.698	0.927	0.831
Ranga Reddy	0.951	0.769	0.822	0.843	0.722	0.524	0.826	0.698
Middle Level HDI Districts								
Warangal	0.617	0.497	0.763	0.793	0.557	0.498	0.640	0.581
Karimnagar	0.727	0.633	0.814	0.807	0.615	0.511	0.714	0.639
Khammam	0.716	0.632	0.703	0.709	0.830	0.540	0.747	0.623
Adilabad	0.623	0.550	0.644	0.709	0.734	0.423	0.665	0.549
Nalgonda	0.717	0.632	0.645	0.669	0.593	0.462	0.650	0.580
Bottom Level HDI Districts								
Nizamabad	0.596	0.598	0.614	0.694	0.674	0.505	0.627	0.594
Mahbubnagar	0.592	0.557	0.577	0.621	0.635	0.405	0.601	0.520
Medak	0.970	0.844	0.605	0.676	0.616	0.396	0.713	0.609
Telangana	0.789	0.697	0.735	0.762	0.734	0.557	0.752	0.666

Source: Computed based on the data from NSSO and Statistical Abstract, Government of Andhra Pradesh

Table A2.11a: Gender Inequalities in HDI across the Districts and Rate of Decline (CAGR %)

Districts	HDI			Income			Health*			Education		
	2004-05	2011-12	2015-16 Estimated	2004-05	2011-12	2015-16 Estimated	2004-05	2011-12	2015-16 Estimated	2004-05	2011-12	2015-16 Estimated
Top Level HDI Districts												
Hyderabad	1.23	1.14 (1.09)	1.12 (0.59)	1.54	1.18 (3.71)	1.10 (2.25)	1.02	1.02 (0.06)	1.01 (0.03)	1.18	1.22 (0.47)#	1.24 (0.52)
Ranga Reddy	1.23	1.20 (0.36)	1.18 (0.48)	1.23	1.23 (0.06)#	1.24 (0.07)#	0.87	0.95 (1.35)	0.98 (0.84)	1.75	1.48 (2.37)	1.38 (2.30)
Middle Level HDI Districts												
Warangal	1.33	1.16 (1.93)	1.10 (1.81)	1.65	1.32 (3.16)	1.24 (1.95)	0.79	0.93 (2.25)	0.96 (1.23)	1.82	1.29 (4.84)	1.12 (4.59)
Karimnagar	1.44	1.19 (2.71)	1.12 (2.09)	1.67	1.23 (4.19)	1.15 (2.38)	0.96	1.00 (0.60)	1.01 (0.24)	1.87	1.37 (4.38)	1.20 (4.11)
Khammam	1.28	1.22 (0.73)	1.20 (0.57)	1.52	1.21 (3.20)	1.13 (2.12)	0.88	0.97 (1.39)	0.99 (0.72)	1.58	1.55 (0.31)	1.54 (0.21)
Adilabad	1.15	1.21 (0.68)#	1.21 (0.15)	1.35	1.18 (1.95)	1.13 (1.30)	0.63	0.85 (4.49)	0.91 (2.16)	1.79	1.74 (0.41)	1.74 (0.16)
Nalgonda	1.35	1.18 (1.97)	1.12 (1.61)	1.47	1.19 (2.96)	1.13 (1.62)	0.85	0.94 (1.43)	0.96 (0.86)	1.97	1.45 (4.23)	1.28 (4.09)
Bottom Level HDI Districts												
Nizamabad	1.20 (-)	1.09 (1.37)	1.06 (1.08)	1.48 (-)	1.08 (4.46)	1.00 (2.53)	0.65	0.83 (3.62)	0.88 (2.05)	1.80	1.45 (3.03)	1.33 (2.83)
Mahbubnagar	1.38 (-)	1.20 (1.99)	1.16 (1.33)	2.04 (-)	1.20 (7.36)	1.06 (3.88)	0.68	0.88 (3.72)	0.93 (1.76)	1.91	1.65 (2.04)	1.57 (1.75)
Medak	1.22 (-)	1.18 (0.44)	1.17 (0.28)	1.47 (-)	1.20 (2.85)	1.15 (1.49)	0.69	0.85 (3.11)	0.89 (1.75)	1.78	1.61 (1.42)	1.56 (1.17)
Telangana	1.27 (-)	1.17 (1.15)	1.14 (0.93)	1.51 (-)	1.20 (3.20)	1.13 (1.87)	0.82	0.93 (1.80)	0.96 (1.04)	1.66	1.46 (1.89)	1.38 (1.81)

Figures in parentheses are rates of decline in inequalities; # rate of increase in inequalities; * except in Hyderabad there is an increase in the rate of inequalities in the rest of the districts in both the periods i.e.2004-2012 and 2012-2015

Table A2.12 : Estimated HDI across Rural Occupational Groups -2015-16

Status of Employment	2015-16			
	HI	SLI	EI	HDI
Skilled Non-agricultural Labour	0.723	0.560	0.465	0.573
Self-employed-agriculture & allied	0.859	0.477	0.468	0.577
Casual Labour-agriculture & allied	0.795	0.418	0.405	0.513
Unskilled Non-agricultural Labour	0.809	0.466	0.750	0.657
All Occupations	0.821	0.506	0.458	0.575

Source: Computed based on the data from DLHS 3 and DLHS 4.

Table A2.12a: HDI Inequalities by Rural Occupational Groups and their Rate of Decline (CAGR %)			
Occupations	2007-08	2012-13	2015-16
Comprehensive Coverage Index			
Skilled Non Agri/Sel-employed Agri	1.13	0.91 (4.10)	0.84 (4.01)
Skilled Non Agri/Casual Lab Agri	0.99	0.93 (1.17)	0.91 (1.22)
Skilled Non-Agri/Unskilled Non-Agri	1.11	0.95 (3.09)	0.89 (3.02)
Standard of Living Index			
Skilled Non Agri/Sel-employed Agri	1.35	1.21 (2.23)	1.17 (1.42)
Skilled Non Agri/Casual Lab Agri	1.30	1.33 (0.40)#	1.34 (0.50)#
Skilled Non-Agri/Unskilled Non-Agri	1.22	1.20 (0.27)	1.20 (0.00)
Education Index			
Skilled Non Agri/Sel-employed Agri	1.19	1.05 (2.48)	0.99 (2.53)
Skilled Non Agri/Casual Lab Agri	1.38	1.21 (2.59)	1.15 (2.69)
Skilled Non-Agri/Unskilled Non-Agri	1.51	0.80 (11.88)	0.62 (12.03)
Human Development Index			
Skilled Non Agri/Sel-employed Agri	1.22	1.05 (2.94)	0.99 (2.66)
Skilled Non Agri/Casual Lab Agri	1.21	1.14 (1.16)	1.12 (1.18)
Skilled Non-Agri/Unskilled Non-Agri	1.27	0.97 (5.23)	0.87 (5.22)

Figures in the parentheses are rates of decline in inequalities; # Increase in inequalities

Table A2.13 : Estimated HDI across Urban Occupational Groups -2015-16				
Status of Employment	2015-16			
	HI	SLI	EI	HDI
Professionals / Senior Executives	0.487	0.868	0.745	0.680
Self-employed- Trade	0.435	0.670	0.698	0.588
Skilled Workers	0.845	0.578	0.614	0.669
Unskilled Labour	0.592	0.474	0.843	0.619
Casual Labour-agriculture & allied	0.488	0.416	0.595	0.494
Casual Labour- Services	0.483	0.584	0.775	0.602
All Occupations	0.806	0.700	0.675	0.725

Source: Computed based on the data from DLHS 3 and DLHS 4.

Table A2.13a: HDI Inequalities by Urban Occupational Groups and their Rate of Decline (CAGR %)

Occupations	2007-08	2012-13	2015-16
Comprehensive Coverage Index			
Professionals/Self-employed-Trade	0.95	1.07 (2.30)#	1.12 (0.99)#
Professionals/Skilled	1.20	0.71 (9.92)	0.58 (4.06)
Professionals/Unskilled	1.14	0.90 (4.46)	0.82 (1.87)
Professionals/Casual lab Agriculture	0.95	0.98 (0.73)#	1.00 (0.29)#
Professionals/Casual lab Services	1.41	1.11 (4.62)	1.01 (1.90)#
Standard of Living Index			
Professionals/Self-employed-Trade	1.16	1.26 (1.57)#	1.30 (0.60)#
Professionals/Skilled	1.17	1.40 (3.73)#	1.50 (1.36)#
Professionals/Unskilled	1.52	1.74 (2.68)#	1.83 (1.03)#
Professionals/Casual lab Agriculture	1.59	1.94 (4.09)#	2.09 (1.49)#
Professionals/Casual lab Services	1.72	1.54 (2.18)	1.49 (0.65)
Education Index			
Professionals/Self-employed-Trade	1.53	1.18 (5.01)	1.07 (2.03)
Professionals/Skilled	1.68	1.33 (4.50)	1.21 (1.85)
Professionals/Unskilled	2.20	1.15 (12.22)	0.88 (5.11)
Professionals/Casual lab Agriculture	2.53	1.53 (9.58)	1.25 (3.95)
Professionals/Casual lab Services	2.33	1.24 (11.89)	0.96 (4.95)
Human Development Index			
Professionals/Self-employed-Trade	1.19	1.17 (0.38)	1.16 (0.19)
Professionals/Skilled	1.33	1.10 (3.71)	1.02 (1.56)
Professionals/Unskilled	1.56	1.22 (4.86)	1.10 (2.02)
Professionals/Casual lab Agriculture	1.56	1.43 (1.75)	1.38 (0.74)
Professionals/Casual lab Services	1.78	1.28 (6.28)	1.13 (2.54)

Figures in the parentheses are rates of decline in inequalities; # Increase in inequalities

Table A2.14: Educational Status of Children across Social Groups

Child's ethnic group or caste	Years	SC	ST	BC	OC
Children enrolled in schools (%)	2006	89.9	76	86.8	95.4
	2013	96.4	98.9	94.5	98.3
Children's attending Private Schools (%)	2006	27.5	36.8	39.1	66.1
	2013	29.6	33.7	45.8	83.5
Children's receiving extra-tuition (%)	2006	3.8	21.1	12.3	11.3
	2013	2.3	3.5	8.4	13
Average score on 3 Maths questions	2006	56.3	62.3	61.1	62.4
	2013	44.4	44.4	43.5	55.6
Average raw score in Maths test (%)	2013	33	36.5	34	46.5
Average raw score in Telugu test (%)	2013	47.7	50.6	48.2	55.9
Average annual tuition fee(Rs)	2013	2,475	3,038	5,271	7,881
Number of children (Old Cohort)	2006	89	25	159	65
	2013	137	87	326	117

Note: Data from the Older Cohort aged 12 in Round 2 of the Young Lives survey (2006) and the Younger Cohort aged 12 in Round 4 (2013).

Source: Data from the Older Cohort aged 12 in Round 2 (2006) and the Younger Cohort aged 12 in Round 4 (2012), Young Lives Study, CESS, Hyderabad.

Table A2.15: Drop-outs in Telangana by Social Groups - Primary and Upper Primary level of Education (%)

Category	Social Group	Primary		Upper Primary	
		2004-05	2009-10	2004-05	2009-10
		All	Scheduled Caste	40.5	24.5
Scheduled Tribe	66.5		41.8	73.1	58.4
All	41.9		22.2	55.3	30.9
Boys	Scheduled Caste	38.3	25.3	59.7	35.5
	Scheduled Tribe	62.2	38.7	70.3	55.3
	All	40.7	22.9	54.9	31.2
Girls	Scheduled Caste	42.6	23.6	62.3	34.6
	Scheduled Tribe	71.1	45.0	76.7	61.7
	All	43.2	21.4	55.7	30.6

Source: Computed from DISE data

Table A2.16: Children (Age Group of 5-14) across the Social Groups who Never Attended School during 2011-12 (%)

Social Group	Rural			Urban			All		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Telangana									
ST	0.0	5.7	2.3	2.0	24.9	13.9	0.3	9.2	4.1
SC	4.1	4.7	4.4	1.0	10.0	8.0	3.7	6.5	5.3
BCs	0.8	1.9	1.2	0.7	0.5	0.6	0.8	1.4	1.0
Others	2.1	0.0	1.2	1.8	0.2	1.0	1.9	0.2	1.1
All	1.5	2.8	2.1	1.2	2.6	1.9	1.4	2.7	2.0
India									
ST	8.7	8.2	8.5	6.9	6.4	6.7	8.5	8.0	8.3
SC	8.1	9.1	8.6	5.1	6.7	5.9	7.6	8.7	8.1
BCs	7.9	8.7	8.2	4.0	5.3	4.6	6.9	7.9	7.4
Others	4.6	5.9	5.2	3.4	2.7	3.1	4.2	4.7	4.4
All	7.3	8.1	7.7	4.1	4.6	4.3	6.5	7.3	6.9

Source: NSSO 68th Round on Employment and Unemployment Survey (2011-12)

Table A2.17: Percentage of Literates in India and Telangana across Social Groups in 2001 and 2011

Area	Caste	India						Telangana					
		Persons		Male		Female		Persons		Male		Female	
		2001	2011	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
Total	Others	68.8	76.1	78.7	83.5	58.2	68.2	62.8	70.1	73.3	78.2	51.9	61.8
	SC	54.7	66.1	66.6	75.2	41.9	56.5	47.5	58.9	58.9	68.0	35.9	49.9
	ST	47.1	59.0	59.2	68.5	34.8	49.4	35.1	49.5	46.9	59.5	22.8	39.4
Rural	Others	62.5	70.7	74.3	79.9	50.1	61.1	53.2	60.2	66.0	70.6	40.4	49.9
	SC	51.2	62.8	63.7	72.6	37.8	52.6	42.4	53.9	54.4	63.6	30.3	44.4
	ST	45.0	56.9	57.4	66.8	32.4	46.9	33.4	47.1	45.2	57.2	21.1	36.9
Urban	Others	81.8	85.5	87.6	89.7	75.3	81.0	78.5	82.6	85.0	87.8	71.6	77.2
	SC	68.1	76.2	77.9	83.3	57.5	68.6	67.1	74.2	76.2	81.7	57.9	66.8
	ST	69.1	76.8	77.8	83.2	59.9	70.3	59.8	69.6	70.5	78.1	48.1	60.8

Source: Census 2001 and 2011

Table A2.18: Formal Workers in Regular Employment in Bottom and Top 20 Expenditure Classes by Social Groups in 2011-12 (%)		
Social Group	Bottom 20	Top 20
Rural		
ST	8.8	57.7
SC	11.1	48.3
BC	6.1	25.9
Others	0.0	42.4
All	6.8	34.2
Urban		
ST	77.8	0.0
SC	38.1	74.4
BC	36.9	55.8
Others	37.0	64.6
All	40.3	62.2
Total		
ST	54.5	53.2
SC	37.1	60.6
BC	30.7	41.5
Others	35.8	61.3
All	35.5	51.9

*Regular employed with social security

Source: : NSSO 68th Round on Employment and Unemployment Survey (2011-12)

Table A2.19: Share of Bottom 20 percent of Population among Social Groups in 2011-12 (%)		
Social Group	India	Telangana
Rural		
ST	35.3	36.3
SC	25.5	25.0
BC	17.4	17.5
Others	13.0	8.9
Urban		
ST	31.3	25.3
SC	31.0	39.2
BC	22.1	19.2
Others	13.0	13.7
Total		
ST	34.8	34.8
SC	26.7	29.5
BC	18.7	18.1
Others	13.0	12.2

Source: NSSO 68th Round on Employment and Unemployment Survey (2011-12)

Table A2.20: Work Participation Rate across Social Groups according to Usual Status (PS + SS)

Area	Social Group	Telangana			All-India		
		1999-2000	2004-05	2011-12	1999-2000	2004-05	2011-12
Rural	ST	58.9	52.5	60.5	50.2	51.4	46.3
	SC	57.9	55.6	48.7	43.3	44.1	40.4
	BC	54.7	55.6	52.1	42.2	43.6	39.1
	Others	50.1	51.7	43.8	37.7	41.2	38.1
	All	55.2	54.7	51.5	41.9	43.9	39.9
Urban	ST	38.5	26.2	45.5	34.6	38.4	36.6
	SC	32.8	38.2	41.0	35.4	37.7	36.4
	BC	36.2	40.5	35.7	35.2	37.8	35.6
	Others	27.9	34.2	30.6	32.3	35.1	34.8
	All	32.1	38.4	34.8	33.7	36.5	35.4
Total	ST	57.8	48.2	58.4	48.5	50.2	45.2
	SC	50.7	52.5	46.2	41.8	42.8	39.5
	BC	49.7	52.6	46.0	40.6	42.3	38.1
	Others	37.3	42.7	34.6	35.8	38.9	36.8
	All	47.6	50.0	44.6	39.8	42.0	38.6

Source: NSSO 55th, 61st and 68th Rounds on Employment and Unemployment Survey

Table A2.21: Characteristics of Employment across Social Groups - 2011

Social Groups	Main Workers (%)			Marginal Workers Seeking additional Employment (%)			Child Labour (%)			Unemployment (%)		
	P	M	F	P	M	F	P	M	F	P	M	F
ST	81.6	86.1	72.9	53.4	58.3	50.4	7.5	6.5	8.5	4.2	4.2	4.2
SC	81.8	85.7	73.6	53.2	57.6	49.9	4.1	4.0	4.3	6.7	5.7	7.8
All	83.9	88.0	77.9	45.8	49.6	42.9	4.8	4.7	5.0	9.5	5.8	9.9

Source: Census 2011

Table A2.22: Percentage of Poor by Social Groups in India and Telangana

Social Group	India			Telangana		
	2004-05	2011-12	Decline in Percentage Points	2004-05	2011-12	Decline in Percentage Points
Rural						
ST	59.4	42.4	17.0	55.1	15.0	40.1
SC	52.3	30.4	21.9	39.5	15.5	24.0
BC	40.0	24.2	15.8	27.2	9.0	18.2
Others	27.5	14.7	12.8	16.5	2.1	14.4
	41.4	25.3	16.1	31.3	10.1	21.2
Urban						
ST	31.7	21.8	9.9	13.4	10.1	3.3
SC	39.6	20.8	18.8	36.9	11.5	25.4
BC	30.4	15.6	14.8	22.2	3.0	19.2
Others	16.1	7.2	8.9	19.5	5.1	14.4
	25.3	13.1	12.2	22.2	5.0	17.2
Total						
ST	56.8	40.1	16.7	48.3	14.3	34.0
SC	49.8	28.3	21.5	39.0	14.2	24.8
BC	37.8	21.9	15.9	26.2	6.8	19.4
Others	23.2	11.6	11.6	18.0	4.2	13.8
	37.3	21.8	15.5	29.0	8.0	21.0

Source: NSSO 61st and 68th Rounds on Employment and Unemployment Survey

Table A2.23: Rural Households by Type of Occupation across Social Groups -2011-12 (%)

Type of Occupation	ST	SC	OBC	Others	All
Self-employed in Agriculture	35.9	24.8	34.1	34.4	32.6
Self-employed in Non-agriculture	8.6	8.3	16.6	15.8	13.9
Regular salaried	7.2	7.2	9.5	16.0	9.5
Casual Labour in Agriculture	44.1	41.1	28.1	10.8	30.5
Casual Labour in Non-agriculture	3.2	10.3	7.2	3.0	6.8
Others	1.0	8.4	4.5	20.0	6.6
All	100.0	100.0	100.0	100.0	100.0

Source: NSSO 68th Rounds on Employment and Unemployment Survey

Table A2.24: Sectoral Distribution of Workers in Bottom and Top 20 Expenditure Classes by Social Groups - 2011-12 (%)

Social Group	Bottom 20 Percent Expenditure Class			Top 20 Percent Expenditure Class		
	Agriculture	Non-agriculture	All	Agriculture	Non-agriculture	All
Rural						
ST	96.0	4.0	100.0	82.2	17.8	100.0
SC	80.7	19.3	100.0	46.3	53.7	100.0
BC	63.6	36.4	100.0	64.5	35.5	100.0
Others	43.8	56.2	100.0	55.8	44.2	100.0
All	74.9	25.1	100.0	62.3	37.7	100.0
Urban						
ST	0.2	99.8	100.0	0.0	100.0	100.0
SC	8.0	92.0	100.0	0.0	100.0	100.0
BC	2.2	97.8	100.0	0.0	100.0	100.0
Others	0.3	99.7	100.0	0.1	99.9	100.0
All	3.2	96.8	100.0	0.0	100.0	100.0
Total						
ST	86.7	13.3	100.0	81.5	18.5	100.0
SC	52.7	47.3	100.0	35.7	64.3	100.0
BC	42.9	57.1	100.0	49.2	50.8	100.0
Others	7.2	92.8	100.0	23.0	77.0	100.0
All	49.8	50.2	100.0	42.8	57.2	100.0

Source: NSSO 68th Rounds on Employment and Unemployment Survey

Table A2.25: Status of Employment in Bottom and Top 20 Expenditure Classes by Social Groups - 2011-12 (%)

Social Group	Bottom 20 Percent Expenditure Class				Top 20 Percent Expenditure Class			
	Self-employed	Regular Salaried	Wage Employed	All	Self-employed	Regular Salaried	Wage Employed	All
Rural								
ST	31.5	4.6	63.9	100.0	32.4	8.9	58.7	100.0
SC	37.6	1.4	61.0	100.0	42.6	31.3	26.1	100.0
BC	50.3	6.5	43.3	100.0	58.9	16.7	24.4	100.0
Others	72.9	10.5	16.6	100.0	56.9	18.2	24.9	100.0
All	31.5	4.6	63.9	100.0	32.4	8.9	58.7	100.0
Urban								
ST	15.3	84.4	0.3	100.0	0.0	100.0	0.0	100.0
SC	6.5	57.4	36.1	100.0	5.4	94.6	0.0	100.0
BC	30.2	50.1	19.7	100.0	41.3	58.4	0.3	100.0
Others	42.8	54.0	3.2	100.0	27.9	72.1	0.0	100.0
All	15.3	84.4	0.3	100.0	0.0	100.0	0.0	100.0
Total								
ST	29.9	12.3	57.8	100.0	32.2	9.5	58.3	100.0
SC	25.6	23.0	51.4	100.0	34.1	45.8	20.1	100.0
BC	43.5	21.1	35.4	100.0	54.7	26.7	18.7	100.0
Others	47.6	47.2	5.3	100.0	39.8	49.9	10.2	100.0
All	29.9	12.3	57.8	100.0	32.2	9.5	58.3	100.0

Source: NSSO 68th Rounds on Employment and Unemployment Survey

Table A3.1: Sector-wise Growth of Per Capita GDDP and Improvements in HDI and its Components (2004-05 to 2011-12)

District	Sector-wise Growth of Per Capita GDDP Average Annual Growth Rate (%)				Growth of HDI and its Components			
	Per Capita GDDP	Per Capita GDDP- Agriculture	Per Capita GDDP- Industry	Per Capita GDDP- Services	HDI	MPCE*	Health	Education
1	2	3	4	5	6	7	8	9
Top Level HDI Districts								
Hyderabad	11.64	-2.69	10.48	12.22	2.8	4.4	2.5	1.4
Ranga Reddy	10.57	0.77	11.88	11.49	7.5	10.9	5.5	6.3
Middle Level HDI Districts								
Warangal	6.41	2.29	6.07	8.39	6.0	7.5	7.2	3.2
Karimnagar	8.85	10.96	6.55	9.72	5.8	4.0	8.1	5.4
Khammam	6.60	2.34	6.91	8.60	8.9	11.9	8.1	6.7
Adilabad	6.09	1.82	6.20	7.72	8.4	11.9	8.4	4.9
Nalgonda	9.75	5.05	11.60	11.19	6.6	10.1	5.6	4.2
Bottom Level HDI Districts								
Nizamabad	8.45	11.09	3.88	9.12	9.2	15.4	6.2	6.4
Mahbubnagar	7.21	7.77	4.77	8.19	8.0	9.5	8.9	5.7
Medak	13.82	10.51	17.18	12.04	8.0	11.1	6.0	6.9
Telangana	9.80	6.33	10.41	10.61	6.8	9.1	6.3	5.0

* MPCE is adjusted for inequality; *Source:* Computed based on the data from Statistical Abstracts and table 2.3

Table A3.2: Different Pathways of Linkage between Economic Growth and Improvement in Human Development across the Districts of Telangana State during 2004-2011

Sl. No.	Districts	Economic Growth	Growth of HD	Relationship of Improvements in Human Development with				Percolation Benefits of Economic Growth	Conversion of Economic Growth into Human Development
				Economic Growth	Nature of Economic Growth				
					Growth of Agriculture	Growth of Non-agri EMP	Growth of Non-agri GDDP	Economic Growth - Growth of MPCE	Growth of MPCE- Growth of HDI
1	2	3	4	5	6	7	8	9	10
Top Level HDI Districts									
1	Hyderabad	11.6	2.8	✗	✓	✓	✓	✗	✓
2	Ranga Reddy	10.6	7.5	✓	✗	✓	✓	✓	✓
Middle Level HDI Districts									
3	Warangal	6.4	6.0	✓	✓	✓	✗	✓	✓
4	Karimnagar	8.9	5.8	✓	✗	✓	✓	✓	✓
5	Khammam	6.6	8.9	✗	✗	✗	✓	✗	✓
6	Adilabad	6.1	8.4	✗	✗	✗	✓	✗	✓
7	Nalgonda	9.6	6.6	✗	✗	✓	✗	✓	✗
Bottom Level HDI Districts									
8	Nizamabad	8.5	9.2	✗	✓	✗	✗	✗	✓
9	Mahbubnagar	7.2	8.0	✗	✓	✓	✗	✓	✗
10	Medak	13.8	8.0	✓	✓	✓	✓	✓	✓

Note: HDI: Human Development Index; Non-agri-Emp Growth: Change in the share of non-agricultural employment in total employment (Percentage points); Non-agri-GDDP: Change in the share of non-agricultural (Industry and Services) GDDP in total GDDP (Percentage points); and MPCE: Monthly Per Capita Consumption Expenditure

✗ Weak linkages; ✓: Strong Linkages; *Source:* As per table 3.1

Table A3.3: Linkages between Economic Status in 2004-05 and Human Development in 2011-12	
Districts	Per Capita GDDP in 2004-05 and Human Development in 2011-12
Top Level HDI Districts	
Hyderabad	
Ranga Reddy	
Middle Level HDI Districts	
Warangal	
Karimnagar	
Khammam	
Adilabad	
Nalgonda	
Bottom Level HDI Districts	
Nizamabad	
Mahbubnagar	
Medak	

Note: Higher or lower is with reference to the 10 districts' average

Source: As per table 3.1

Category	Description
Higher Growth	Higher/Lower level of Per Capita GDDP and Higher/Lower level of Human Development than the average
Weak Relationship	No Relationship between the variables considered

Table A3.4: Linkages between Economic Growth and Improvements in Human Development in Telangana

Districts	PCGDDP HDI	PCGDDPAg- HDI	NAG Emp- HDI	NAG GDDP- HDI	PCGDDP- MPCE	MPCE-HDI
Top Level HDI Districts						
Hyderabad						
Ranga Reddy						
Middle Level HDI Districts						
Warangal						
Karimnagar						
Khammam						
Adilabad						
Nalgonda						
Bottom Level HDI Districts						
Nizamabad						
Mahbubnagar						
Medak						

Note: HDI: Human Development Index; PCGDDP: Per Capita Gross District Domestic Product; PCGDDP-Ag: Per Capita Gross District Domestic Product from Agriculture; NAG Emp Growth: Change in the share of non-agricultural employment in total employment (Percentage points); NAGGDDP: Change in the share of per capita non-agricultural (Industry and Services); GDDP in total GDDP (Percentage points); and MPCE: Monthly Per Capita Consumption Expenditure

Category	Description
Strong Linkage	Higher/Lower Growth of the Economy/Sector-Higher/Lower Growth in Human Development Index/MPCE than the 10 districts average
Weak Linkage	No Relationship between the variables considered

Higher or lower is with reference to the 10 districts' average

Table A3.5: Linkages between Economic Growth and Improvement in Health Status in Telangana

Districts	PCGDDP-HI	PCGDDP-Ag-HI	NAG Emp-HI	NAG GDDP-HI	PCGDDP-MPCE	MPCE-HI
Top Level HDI Districts						
Hyderabad						
Ranga Reddy						
Middle Level HDI Districts						
Warangal						
Karimnagar						
Khammam						
Adilabad						
Nalgonda						
Bottom Level HDI Districts						
Nizamabad						
Mahbubnagar						
Medak						

Note: HI: Health Index; PCGDDP: Per Capita Gross District Domestic Product; PCGDDP-Ag: Per Capita Gross District Domestic Product from Agriculture; NAGEmp Growth: Change in the share of non-agricultural employment in total employment (Percentage points); NAGGDDP: Change in the share of per capita non-agricultural (Industry and Services) GDDP in total GDDP (Percentage points); and MPCE: Monthly Per Capita Consumption Expenditure;

Category	Description
Strong Linkage	Higher/Lower Growth of the Economy/Sector-Higher/Lower Growth in Health Index Development Index/MPCE than the 10 districts average
Weak Linkage	No Relationship between the variables considered

Note: Higher or lower is with reference to the 10 districts average

Table A3.6: Linkages between Economic Status in 2004-05 and Health Status in 2011-12

Districts	Per Capita GDDP in 2004-05 and Health Status in 2011-12
Top Level HDI Districts	
Hyderabad	
Ranga Reddy	
Middle Level HDI Districts	
Warangal	
Karimnagar	
Khammam	
Adilabad	
Nalgonda	
Bottom Level HDI Districts	
Nizamabad	
Mahbubnagar	
Medak	

Note: HI: Health Index; Per Capita GDDP: Per Capita Gross District Domestic Product;

Higher or lower is with reference to the 10 districts average

Category	Description
Strong Linkage	Higher/Lower level of Per Capita GDDP in 2004-05 and Higher/Lower level of Health Status in 2011-12 than the average
Weak Linkage	No Relationship between the variables considered

Table A3.7: Different Pathways of Linkage between Economic Growth and Improvement in Health Status across the Districts of Telangana State during 2004-2011

Sl. No.	Districts	Economic Growth	Growth of HI	Relationship of Improvements in Health Status with				Percolation Benefits of Economic Growth	Conversion of Economic Growth into improvement in Health Status
				Economic Growth	Nature of Economic Growth				
					Growth of Agriculture	Growth of Non-agri. Employment	Growth of Non-agriculture GDDP	Economic Growth - Growth of MPCE	Growth of MPCE - Growth of HI
1	2	3	4	5	6	7	8	9	10
Top Level HDI Districts									
1	Hyderabad	11.6	2.5	✗	✓	✓	✓	✗	✓
2	Ranga Reddy	10.6	5.5	✗	✓	✗	✗	✓	✗
Middle Level HDI Districts									
3	Warangal	6.4	7.2	✗	✗	✗	✓	✓	✗
4	Karimnagar	8.9	8.1	✗	✓	✗	✗	✓	✗
5	Khammam	6.6	8.1	✗	✗	✗	✓	✗	✓
6	Adilabad	6.1	8.4	✗	✗	✗	✓	✗	✓
7	Nalgonda	9.6	5.6	✗	✗	✓	✗	✓	✗
Bottom Level HDI Districts									
8	Nizamabad	8.5	6.2	✓	✗	✓	✓	✗	✗
9	Mahbubnagar	7.2	8.9	✗	✓	✓	✗	✓	✗
10	Medak	13.8	6.0	✗	✗	✗	✗	✓	✗

Note: HI: Health Index; PCGDDP-Ag: Per Capita Gross District Domestic Product from Agriculture; Non-agri-Emp Growth: Change in the share of non-agricultural employment in total employment (Percentage points); Non-agri-GDDP: Change in the share of per capita non-agricultural (Industry and Services) GDDP in total GDDP (Percentage points); and MPCE: Monthly Per Capita Consumption Expenditure;

✗: Weak linkages;; ✓: Strong Linkages

Table A3.8: Linkages between Economic Growth and Improvement in Education Status in Telangana

Districts	PCGDDP EI	PCGDDP Ag-EI	NAG Emp- EI	NAG GDDP- EI	PCGDDP- MPCE	MPCE- EI
Top Level HDI Districts						
Hyderabad						
Ranga Reddy						
Middle Level HDI Districts						
Warangal						
Karimnagar						
Khammam						
Adilabad						
Nalgonda						
Bottom Level HDI Districts						
Nizamabad						
Mahabubnagar						
Medak						

Note: EI: Education Index; PCGDDP: Per Capita Gross District Domestic Product; PCGDDP-Ag: Per Capita Gross District Domestic Product from Agriculture; NAGiEmp Growth: Change in the share of non-agricultural employment in total employment (Percentage points); NAG-GDDP: Change in the share of per capita non-agricultural (Industry and Services) GDDP in total GDDP (Percentage points); MPCE: Monthly Per Capita Consumption Expenditure; LP: Labour Productivity

Category	Description
Strong Linkage	Higher/Lower Growth of the Economy/Sector-Higher/Lower Growth in Education Index Development Index/MPCE than the 10 districts average
Weak Linkages	No Relationship between the variables considered

Higher or lower is with reference to the 10 districts average

Table A3.9: Different Pathways of Linkage between Economic Growth and Improvement in Education Status across the Districts of Telangana State during 2004-2011

Sl. No.	Districts	Economic Growth	Growth of EI	Relationship of Improvements in Education Status with				Percolation Benefits of Economic Growth	Conversion of Economic Growth into Improvement in Education Status
				Economic Growth	Nature of Economic Growth				
					Growth of Agriculture	Growth of Non-agri Employment	Growth of Non-agri GDDP	Economic Growth - Growth of MPCE	Growth of MPCE- Growth of EI
1	2	3	4	5	6	7	8	9	10
Top Level HDI Districts									
1	Hyderabad	11.6	1.4	✗	✓	✓	✓	✗	✓
2	Ranga Reddy	10.6	6.3	✓	✗	✓	✓	✓	✓
Middle Level HDI Districts									
3	Warangal	6.4	3.2	✓	✓	✓	✗	✓	✓
4	Karimnagar	8.9	5.4	✗	✓	✗	✗	✓	✗
5	Khammam	6.6	6.7	✗	✗	✗	✓	✗	✓
6	Adilabad	6.1	4.9	✓	✓	✓	✗	✗	✗
7	Nalgonda	9.6	4.2	✗	✗	✓	✗	✓	✗
Bottom Level HDI Districts									
8	Nizamabad	8.5	6.4	✗	✓	✗	✗	✗	✓
9	Mahbubnagar	7.2	5.7	✗	✓	✓	✗	✓	✗
10	Medak	13.8	6.9	✓	✓	✓	✓	✓	✓

Note: EI: Education Index; Per Capita Gross District Domestic Product; PCGDDP-Ag: Per Capita Gross District Domestic Product from Agriculture; NAG-Emp Growth: Change in the share of non-agricultural employment in total employment (Percentage points); NAG-GDDP: Change in the share of per capita non-agricultural (Industry and Services) GDDP in total GDDP (Percentage points); and MPCE: Monthly Per Capita Consumption Expenditure; LP: Labour Productivity

✗: Weak linkages; ✓: Strong Linkages

Source: As per table 3.1

Table A4.1: Real Per Capita (2004-05 Prices) Public Expenditure on Social Services, Economic Services, Health and Education sectors (Rs.)

Districts	Per Capita Real Social Services Expenditure (Rs.)		Per Capita Real Economic Services (Rs.)		Per Capita Real Health Expenditure (Rs.)		Per Capita Real Education Expenditure (Rs.)	
	2004-07 avg	2010-13 avg	2004-07 avg	2010-13 avg	2004-07 avg	2010-13 avg	2004-07 avg	2010-13 avg
	Top level HDI Districts							
Hyderabad	11870.4	24165	9027.9	15189.5	1647.97	3661.48	2238.79	4745.41
Ranga Reddy	565.93	1272.65	429.75	186.03	40.62	55.33	286.73	425.19
Middle Level HDI Districts								
Warangal	1226.38	2082.14	299.7	296.56	148.92	216.93	649.31	994.75
Karimnagar	860.92	1516.02	289.92	310.52	55.7	70.84	512.72	823.56
Khammam	1156.04	2089.63	337.37	409.37	69.01	95.04	588.2	960.5
Adilabad	1053.39	1774.81	350.35	342.52	69.06	137.61	589.6	907.65
Nalgonda	947.8	1766.17	273.87	349.92	56.45	73.03	566.19	929.49
Bottom Level HDI Districts								
Nizamabad	881.49	1455.01	304.46	307.66	54.31	69.86	539.9	868.24
Mahbubnagar	880.81	1422.12	285.66	272.76	58.11	72.2	543.38	795.69
Medak	859.05	1725.18	297.79	374.72	67.68	104.22	515.96	925.68
Telangana	2212.37	4016.37	1350.44	1857.57	254.85	469.24	724.43	1242.57
Total of 9 Districts (Excluding Hyderabad)	922.18	1837.4	322.94	340.49	68.45	108.28	523.88	914.98

Source: Calculated based on the treasury data <http://treasury.ap.gov.in> and Census 2001 and 2011.

Table A4.2: Growth of Expenditure and Human Development Parameters-2004-2011 (CAGR %)

Districts	Social Services	Health	Education	Economic Services	Human Development Index	Health Index	Education Index
Top Level HDI Districts							
Hyderabad	14.46	14.23	13.34	9.06	2.77	2.50	1.45
Ranga Reddy	9.22	5.28	6.79	-13.03	7.53	5.47	6.26
Middle Level HDI Districts							
Warangal	9.89	6.47	7.37	-0.18	5.96	7.23	3.22
Karimnagar	10.37	4.09	8.22	1.15	5.85	8.12	5.41
Khammam	9.08	5.48	8.52	3.28	8.89	8.06	6.70
Adilabad	10.93	12.18	7.45	-0.38	8.39	8.40	4.91
Nalgonda	8.71	4.39	8.61	4.17	6.58	5.55	4.20
Bottom Level HDI Districts							
Nizamabad	8.31	4.29	8.24	0.17	9.24	6.23	6.39
Mahbubnagar	12.32	3.69	6.56	-0.77	8.04	8.92	5.72
Medak	10.45	7.46	10.23	3.90	7.95	5.96	6.87
Telangana	12.18	10.71	9.41	5.46	6.79	6.25	4.99
Total of 9 Districts (Excluding Hyderabad)	12.18	7.95	9.74	0.89	7.52	7.00	5.48

Source: Calculated based on the data from the table 4.1 and 2.3.

Table A4.3: Linkages between Growth in Public Expenditure, Human Development and Per Capita GDDP During 2004-05 and 2011-12

Districts	Social Services Exp. -HDI	Health Exp.-HI	Education Exp-EI	Economic Services and Per Capita GDDP
Hyderabad				
Ranga Reddy				
Warangal				
Karimnagar				
Khammam				
Adilabad				
Nalgonda				
Nizamabad				
Mahbubnagar				
Medak				

Note: Higher/Lower is with reference to the average of 10 districts in case of Hyderabad and average of 9 districts for others

Source: As per table 4.2.

Category	Description
Strong Linkage	Higher /Lower Growth in Public Expenditure and Higher/Lower Growth in HDI/HI/EI/PCGDDP than the state average
Weak Relationship	No Relationship between variables considered

Table A4.4: District-wise Utilisation of Public Funds in 2004-07 and Level of Achievement in HDI, Health, Education and Economic Growth in 2011-12				
Districts	Social Services Exp. -HDI	Health Exp. Health Status	Education Exp. Education Status	Economic Services Exp. Per Capita GDDP
Top Level HDI Districts				
Hyderabad				
Ranga Reddy				
Middle Level HDI Districts				
Warangal				
Karimnagar				
Khammam				
Adilabad				
Nalgonda				
Bottom Level HDI Districts				
Nizamabad				
Mahbubnagar				
Medak				

Note: Higher/Lower is with reference to the average of 10 districts in case of Hyderabad and average of 9 districts for others

Colour	Description			
Efficient	HDI Lower Social Services Expenditure- Higher HDI	Health Lower Health Expenditure- Higher Health Index	Education Lower Education Expenditure- Higher Education Index	Per Capita GDDP Lower Economic Services Expenditure -Higher Per Capita GDDP
Adequate	Higher Social Services Expenditure- Higher HDI	Higher Health Expenditure- Higher Health Index	Higher Education Expenditure-Higher Education Index	Higher Economic Services Expenditure -Higher Per Capita GDDP
Inefficient	Higher Social Services Expenditure- Lower HDI	Higher Health Expenditure- Lower Health Index	Higher Education Expenditure-Lower Education Index	Higher Economic Services Expenditure -Lower Per Capita GDDP
Inadequate	Lower Social Services Expenditure- Lower HDI	Lower Health Expenditure-Lower Health Index	Lower Education Expenditure-Lower Education Index	Lower Economic Services Expenditure -Lower Per Capita GDDP

Table A5.1 Education Infrastructure at Primary Level

District	Period	1	2	3	4	5	6	7	8	9	Score
Top Level HDI Districts											
Hyderabad	2011-12	88.62	5.33	23.60	100.00	90.01	29.98	6.08	84.55	5.46	15
	2004-05	30.23	1.59	28.31	83.05	71.66	33.20	2.33	83.00	5.47	16
Ranga Reddy	2011-12	4.67	7.32	22.14	92.32	56.26	26.49	5.60	68.62	10.88	14
	2004-05	2.84	4.68	27.27	78.89	44.55	30.80	3.43	65.38	13.41	15
Middle Level HDI Districts											
Warangal	2011-12	3.08	12.86	20.89	82.55	68.05	19.98	8.80	41.98	23.21	12
	2004-05	2.26	7.72	30.71	62.23	27.78	25.05	5.33	34.39	25.55	12
Karimnagar	2011-12	3.06	11.97	19.71	93.69	85.43	21.13	6.83	47.03	13.61	16
	2004-05	2.23	7.08	30.76	75.22	40.36	25.47	4.07	37.18	10.63	15
Khammam	2011-12	2.67	14.44	21.22	91.35	80.59	20.18	9.90	45.72	32.15	14
	2004-05	1.79	9.62	34.21	75.30	18.98	24.87	6.19	39.42	33.31	12
Adilabad	2011-12	2.63	15.98	24.33	82.87	54.92	20.81	10.09	39.48	32.59	11
	2004-05	2.41	11.87	35.06	59.65	27.48	23.91	15.71	30.19	34.79	11
Nalgonda	2011-12	2.53	11.54	21.58	77.40	80.53	25.17	6.42	40.98	18.63	14
	2004-05	2.02	7.55	35.36	66.05	31.35	28.00	1.90	35.85	19.10	12
Bottom Level HDI Districts											
Nizamabad	2011-12	3.09	10.33	22.54	89.62	86.12	21.93	4.40	50.09	19.17	14
	2004-05	2.44	6.93	33.01	68.79	38.55	26.10	6.57	37.93	13.57	13
Mahbubnagar	2011-12	2.23	9.39	25.70	83.52	63.14	23.26	10.36	46.15	24.79	9
	2004-05	1.79	6.76	40.18	55.81	30.21	28.57	2.24	37.28	22.19	10
Medak	2011-12	3.05	10.04	23.42	81.96	70.77	23.09	6.76	49.43	18.07	12
	2004-05	2.51	7.15	37.64	64.93	43.26	30.56	4.80	35.39	19.91	12
Districts' Average	2011-12	11.56	10.92	22.51	87.73	73.58	23.20	7.52	51.40	19.86	
	2004-05	5.05	7.09	33.25	68.99	37.42	27.65	5.26	43.60	19.79	

Note: ■ indicates better performance and ■ indicates worst performance than the district's average;

■ =2 points; ■ =1 point

Source: Computed based on DISE data 2004-05 and 2011-12

List of variables for table A5.1

Sl.no.	Indicator
1	Density of Schools per 10 Sq.Km
2	Density of Schools per 1000 Children (6-10 years)
3	Student Class Room Ratio
4	Percentage of Schools with Drinking Water
5	Percentage of Schools with Girls' Toilet
6	Pupil Teacher Ratio
7	Percentage of Single Teacher Schools
8	Percentage of Female Teachers
9	Percentage of Single Class Room Schools

Table A5.2 Education Infrastructure at Upper Primary Level

District	Period	1	2	3	4	5	6	7	8	9	Score
Top Level HDI Districts											
Hyderabad	2011-12	68.20	9.85	16.44	100.00	94.82	18.42	0.81	75.12	0.54	15
	2004-05	12.44	1.61	19.63	88.29	82.06	19.20	0.19	74.61	0.06	16
Ranga Reddy	2011-12	2.89	11.04	17.80	99.54	68.67	18.65	0.18	58.72	0.55	14
	2004-05	1.03	4.37	20.07	87.49	69.96	19.61	0.11	60.15	0.51	16
Middle Level HDI Districts											
Warangal	2011-12	1.48	12.82	18.02	95.48	86.68	14.75	0.05	33.17	1.74	14
	2004-05	0.80	6.95	23.77	85.38	66.56	19.15	0.10	30.19	2.91	15
Karimnagar	2011-12	1.80	14.64	18.99	98.12	91.23	15.21	1.64	34.10	2.06	14
	2004-05	0.93	7.24	24.84	90.74	67.82	19.69	0.00	29.84	1.04	16
Khammam	2011-12	0.99	12.01	19.76	99.70	87.18	15.17	0.15	40.18	1.21	14
	2004-05	0.65	8.93	32.55	88.82	45.70	22.29	0.00	37.91	3.71	12
Adilabad	2011-12	0.93	12.89	22.80	95.75	79.93	16.37	0.27	32.60	1.86	12
	2004-05	0.82	10.68	30.59	87.66	57.86	20.15	0.00	26.16	2.81	13
Nalgonda	2011-12	1.20	12.33	19.37	94.11	92.02	17.15	0.06	32.15	0.70	14
	2004-05	0.65	6.11	31.62	85.31	60.22	21.09	0.00	29.31	1.38	12
Bottom Level HDI Districts											
Nizamabad	2011-12	1.65	12.44	20.36	95.36	92.14	15.34	0.08	38.52	0.99	14
	2004-05	1.01	7.40	26.63	84.42	55.68	19.80	0.15	30.87	1.29	13
Mahbubnagar	2011-12	1.03	10.63	23.29	92.16	74.81	16.79	0.21	37.41	0.89	11
	2004-05	0.64	6.63	33.03	75.86	52.17	22.32	0.04	33.13	0.63	11
Medak	2011-12	1.52	11.48	21.11	93.84	82.30	16.50	0.27	39.40	1.29	10
	2004-05	1.05	7.88	31.23	78.92	60.70	23.66	0.57	31.78	1.46	11
Districts' Average	2011-12	8.17	12.01	19.79	96.66	84.98	16.43	0.37	42.14	1.18	
	2004-05	2.00	6.78	27.40	85.29	61.87	20.70	0.12	38.40	1.58	

Note: ■ indicates better performance and ■ indicates worst performance than the district's average;

■ =2 points; ■ =1 point

Source: As per table 5.1

List of variables for table A5.2	
Sl.no.	Indicator
1	Density of Schools per 10 Sq.Km
2	Density of Schools per 1000 Children (11-12 years)
3	Student Class Room Ratio
4	Percentage of Schools with Drinking Water
5	Percentage of Schools with Girls' Toilet
6	Pupil Teacher Ratio
7	Percentage of Single Teacher Schools
8	Percentage of Female Teachers
9	Percentage of Single Class Room Schools

Table A5.3 Education Infrastructure at Secondary Level

District	Period	1	2	3	4	5	6	7	8	9	Score
Top Level HDI Districts											
Hyderabad	2011-12	52.58	5.27	15.90	100.00	96.09	17.24	0.44	73.93	0.44	16
	2004-05	8.43	0.77	17.88	91.65	86.48	19.92	0.10	73.05	0.00	16
Ranga Reddy	2011-12	1.95	5.15	17.08	97.39	67.30	17.32	0.27	56.94	0.48	15
	2004-05	0.55	1.72	17.51	87.87	75.34	18.67	0.20	60.69	0.30	14
Middle Level HDI Districts											
Warangal	2011-12	0.93	5.33	18.10	95.48	86.31	13.71	0.00	31.36	1.84	14
	2004-05	0.39	2.37	18.65	87.11	73.22	16.00	0.10	29.43	0.90	15
Karimnagar	2011-12	1.11	5.81	19.39	97.49	89.77	13.70	1.44	30.80	2.66	14
	2004-05	0.49	2.66	22.10	89.69	73.82	17.37	0.00	27.12	0.70	16
Khammam	2011-12	0.53	4.27	19.77	99.57	87.85	13.91	0.14	38.71	1.00	15
	2004-05	0.24	2.30	28.97	88.22	56.39	21.29	0.00	38.50	0.80	12
Adilabad	2011-12	0.50	4.75	23.77	96.06	79.99	14.68	0.49	27.86	2.34	10
	2004-05	0.35	3.42	26.14	88.14	60.47	17.78	0.00	23.88	1.10	13
Nalgonda	2011-12	0.81	5.33	19.67	93.62	91.50	15.19	0.00	29.51	0.78	14
	2004-05	0.38	2.51	29.16	84.80	65.64	18.19	0.00	26.18	1.80	12
Bottom Level HDI Districts											
Nizamabad	2011-12	0.95	4.86	21.90	95.90	91.22	14.20	0.13	34.58	0.92	13
	2004-05	0.51	2.77	23.75	82.96	52.28	17.21	0.00	30.67	1.50	12
Mahbubnagar	2011-12	0.55	3.97	22.06	92.87	74.84	13.91	0.10	34.30	1.29	11
	2004-05	0.26	2.10	25.77	78.18	60.26	16.86	0.10	29.01	0.40	12
Medak	2011-12	0.84	4.36	21.64	94.99	83.72	14.71	0.00	36.79	0.73	12
	2004-05	0.44	2.47	24.75	79.81	60.89	20.00	0.80	30.83	0.20	11
Districts' Average	2011-12	6.08	4.91	19.93	96.44	84.86	14.86	0.30	39.48	1.25	
	2004-05	1.20	2.31	23.47	85.84	66.48	18.33	0.13	36.94	0.77	

Note: ■ indicates better performance and ■ indicates worst performance than the district's average;

■ =2 points; ■ =1 point

Source: As per table 5.1

List of variables for table A5.3

Sl.no.	Indicator
1	Density of Schools per 10 Sq.Km
2	Density of Schools per 1000 Children (13-15 years)
3	Student Class Room Ratio
4	Percentage of Schools with Drinking Water
5	Percentage of Schools with Girls' Toilet
6	Pupil Teacher Ratio
7	Percentage of Single Teacher Schools
8	Percentage of Female Teachers
9	Percentage of Single Class Room Schools

Table A5.4 Education Infrastructure at All Schools Level

District	Period	1	2	3	4	5	6	7	8	9	Score
Top Level HDI Districts											
Hyderabad	2011-12	209.40	6.24	18.88	100.0	93.1	21.89	2.95	77.90	2.60	16
	2004-05	51.11	1.35	22.37	86.73	78.48	24.16	1.09	77.16	2.42	16
Ranga Reddy	2011-12	9.51	7.44	19.34	95.6	62.3	21.12	2.86	61.66	5.61	14
	2004-05	4.42	3.80	22.31	82.99	57.38	23.52	1.85	62.23	7.32	15
Middle Level HDI Districts											
Warangal	2011-12	5.49	10.37	19.25	88.2	76.2	16.46	4.95	35.95	13.80	12
	2004-05	3.44	6.04	25.39	72.24	45.10	20.85	3.11	31.66	15.71	13
Karimnagar	2011-12	5.97	10.48	19.38	95.7	88.0	16.84	4.26	37.64	8.09	16
	2004-05	3.66	5.81	26.68	82.12	53.78	21.48	2.22	32.13	6.21	16
Khammam	2011-12	4.19	10.70	20.42	94.4	83.1	16.81	6.35	41.86	20.87	14
	2004-05	2.68	7.40	32.62	80.09	29.65	23.24	3.97	38.67	22.39	11
Adilabad	2011-12	4.07	11.85	23.71	87.5	63.8	17.87	6.64	34.16	21.77	11
	2004-05	3.58	9.36	31.82	68.87	37.68	21.42	10.57	27.54	24.15	11
Nalgonda	2011-12	4.54	9.68	20.41	84.7	85.5	19.52	3.58	34.55	10.68	14
	2004-05	3.05	5.81	32.80	73.66	43.67	23.21	1.14	31.20	12.09	12
Bottom Level HDI Districts											
Nizamabad	2011-12	5.69	9.07	21.64	92.3	88.7	17.50	2.43	41.68	10.84	14
	2004-05	3.96	5.88	28.86	75.31	45.45	21.92	3.79	33.67	8.31	13
Mahbubnagar	2011-12	3.80	8.06	24.19	87.2	68.0	18.72	6.13	39.86	14.93	9
	2004-05	2.70	5.54	35.11	63.65	39.41	24.15	1.41	34.17	14.01	10
Medak	2011-12	5.42	8.60	22.25	87.3	76.0	18.58	3.88	42.23	10.65	11
	2004-05	4.01	6.03	32.84	70.62	50.25	25.95	3.04	33.04	12.39	13
Districts' Average	2011-12	25.81	9.25	20.95	91.49	78.47	18.53	4.40	44.75	11.98	
	2004-05	8.26	5.70	29.08	75.63	48.08	22.99	3.22	40.15	12.50	

Note: ■ indicates better performance and ■ indicates worst performance than the district's average;

■ =2 points; ■ =1 point

Source: As per table 5.1

List of variables for table A5.4	
Sl.no.	Indicator
1	Density of Schools per 10 Sq.Km
2	Density of Schools per 1000 Children (6-15 years)
3	Student Class Room Ratio
4	Percentage of Schools with Drinking Water
5	Percentage of Schools with Girls' Toilet
6	Pupil Teacher Ratio
7	Percentage of Single Teacher Schools
8	Percentage of Female Teachers
9	Percentage of Single Class Room Schools

Table A5.5: Performance of Literacy Parameters- Telangana Districts (2001 & 2011)

District	Year	Literacy Parameters*																				Score
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Top Level HDI Districts																						
Hyderabad	2011	3	4	3											3	4	3	4	3	4	3	46
	2001	3	4	3											3	4	3	4	3	4	3	45
Ranga Reddy	2011																				4	39
	2001						6				11					15						37
Middle Level HDI Districts																						
Warangal	2011	1		1		1	1	1	1	1	1						1	1	1	1	1	31
	2001	1		1		1	1	1	1	1	1						1	1	1	1	1	31
Karimnagar	2011	1		1	1	1	1	1	1	1							1	1	1	1	1	32
	2001	1		1	1	1	1	1	1	1		11					1	1	1	1	1	30
Khammam	2011	1														1	1	1	1	1	1	37
	2001	1													1	1	1	1	1	1	1	36
Adilabad	2011	1	1	1		1	1	1	1	1	1				1	1	1	1	1	1	1	26
	2001	1	1	1		1	1	1	1	1	1				1	1	1	1	1	1	1	24
Nalgonda	2011	1					1	1	1	1	1						1	1	1	1	1	31
	2001	1			1		1	1	1	1	1						1	1	1	1	1	32
Bottom Level HDI Districts																						
Nizamabad	2011	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	23
	2001	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	23
Mahbubnagar	2011	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20
	2001	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
Medak	2011	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20
	2001	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	22

Note: *Parameters descriptions are given below. ■ (far better off district) = 3 points; ■ (better off districts) = 2 points; ■ (worst districts) = 1 point, Better-off or worst districts are in comparison to 10 districts average; Maximum score =46; Minimum score =20. #Hyderabad district is completely urban. Thus 3 points are given to indicators related to rural areas (i.e. Sl. no 2, 4, 14, 16, 18 & 20). Coefficient of Variation of literacy parameters for 2001 was 25.85 and 2011 was 27.96.

Source: Computed based on data from Census 2001 and 2011

List of Literacy Parameters

Sl.no.	Parameter		
		11	Female Literacy-ST (%)
1	% of Literates-All	12	Female-Male Gap in Literacy-ST (Percentage Points)
2	Rural Literacy (%)	13	Literacy among Younger Population (15-24 Years) (%)
3	Urban Literacy (%)	14	Literacy among Younger Population (15-24 Years)-Rural (%)
4	Rural-Urban Gap in Literacy (Percentage Points)	15	Literacy among Younger Population (15-24 Years)-Urban (%)
5	Literacy-SC (%)	16	Rural-Urban Gap in Literacy among Younger Population (15-24 Years) (Percentage Points)
6	Literacy-ST (%)	17	Adult literacy rate-All (%)
7	Female Literacy-All (%)	18	Adult literacy rate-Rural (%)
8	Female-Male Gap in Literacy-All (Percentage Points)	19	Adult literacy rate-Urban (%)
9	Female Literacy-SC (%)	20	Rural-Urban gap in Adult literacy rate (%)
10	Female-Male Gap in Literacy-SC (Percentage Points)		

Table A5.6: Status of Education Performance Parameters

Districts	1993-94									2011-12											
	School Attendance Rate			Net Enrolment Ratio			Drop-out Rate			School Attendance Rate			Net Enrolment Ratio			Drop-out Rate			Never Attended		
	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	10	11	12
Hyderabad*	91.4	3.5		47.1	7.8		8.6	-3.5		97.4	1.4		68.8	-3.4		0.9	-0.8		1.62	-0.60	
Ranga Reddy	75.8	16.2	24.1	24.8	10.8	15.0	24.2	-16.2	-24.1	99.1	1.2	-1.1	69.7	1.8	8.0	0.5	-0.9	0.2	0.34	-0.32	0.83
Warangal	72.1	20.0	14.2	32.7	30.6	23.7	27.9	-20.0	-14.2	95.8	2.7	3.7	63.6	-14.1	0.4	3.2	-4.3	-3.6	3.06	-3.58	-3.08
Karimnagar	77.5	20.3	7.5	28.2	8.2	23.1	22.5	-20.3	-7.5	96.4	2.8	3.2	67.6	10.7	-7.1	0.6	0.8	-0.1	3.43	-5.23	0.65
Khammam	70.9	11.1	24.4	28.9	4.4	9.7	29.1	-11.1	-24.4	95.0	8.3	1.2	67.4	7.5	10.5	1.6	-3.1	-1.9	1.27	-1.77	3.75
Adilabad	66.7	10.2	17.4	21.8	16.0	19.8	33.3	-10.2	-17.4	95.4	1.0	0.7	68.3	0.1	17.1	3.3	0.9	-4.5	3.98	0.70	-1.67
Nalgonda	67.7	21.6	32.6	21.2	15.0	21.8	32.3	-21.6	-32.6	95.0	-1.7	-3.6	72.6	15.2	-10.0	1.0	1.1	5.3	0.98	-0.93	1.24
Nizamabad	67.9	16.4	20.7	17.0	12.4	34.0	32.1	-16.4	-20.7	97.7	1.1	-0.3	76.1	-9.1	2.4	1.3	-0.3	-0.9	7.34	4.11	-5.53
Mahbubnagar	44.9	20.6	37.1	15.1	-5.3	27.5	55.1	-20.6	-37.1	89.4	-0.7	8.9	59.7	-14.2	23.3	3.2	-3.4	-3.4	2.74	-0.04	4.36
Medak	72.1	3.1	17.9	31.8	6.9	-1.2	27.9	-3.1	-17.9	95.4	-3.1	-3.4	61.8	2.1	0.6	1.9	3.1	-1.0	1.03	1.61	-0.15
Average	70.7	14.3	22.3	26.9	10.7	20.0	29.3	-14.3	-22.3	95.7	1.3	1.1	67.6	-0.3	4.8	1.8	-0.7	-1.1	2.58	-0.61	-0.06

*Hyderabad has no rural component

■ and ■ indicates better or worse performance respectively compared to the districts' average

List of variables and their description is given below

Source: NSSO 50th and 68th Rounds on Employment and Unemployment

List of variables for table A5.6	
Sl.No.	Description
1	School attendance rate- Percentage of Children in the age group (6-14 years) currently attending school
2	Gender gap in school attendance rate (Male-Female)
3	Rural-Urban gap in school attendance rate (Urban-Rural)
4	Net enrolment rate at secondary and higher secondary level-Percentage of children in the age group (14-17 years) attending 9th,10th,11th and 12th classes
5	Gender gap in net enrolment rate (Male-Female)
6	Rural-Urban gap in net enrolment rate (Urban-Rural)
7	Drop-out rate-Percentage of children in the age group (6-14 years) currently not attending school
8	Gender gap in drop-out rate (Male-Female)
9	Rural-Urban gap in drop-out rate (Urban-Rural)
10	Never attended - Percentage of Children in the age group (6-14 years) never attended school
11	Gender gap in Never attended (Male-Female)
12	Rural-Urban gap in Never attended (Urban-Rural)

Table A5.7: Status of Education Performance Indicators across Social Groups in Telangana State

Indicator	Caste Group	1993-94			2011-12		
		Overall	Gender Gap	Rural-Urban Gap	Overall	Gender Gap	Rural-Urban Gap
Attendance Rate	ST	41.3	22.6	36.1	90.9	4.7	-1.0
	SC	59.4	19.3	32.1	94.4	3.4	5.7
	Others	75.6	13.5	18.2	96.5	0.1	1.3
	All	70.7	14.3	2.3	95.7	1.3	1.1
Net Enrolment Rate	ST	9.8	3.5	-4.2	61.3	-8.4	11.6
	SC	18.9	18.6	36.7	71.3	4.9	0.6
	Others	29.7	9.4	19.0	67.4	-1.1	4.0
	All	26.9	10.7	20	67.6	-0.3	4.8
Drop-out Rate	ST	58.7	-22.6	-36.1	4.0	-2.0	-4.1
	SC	40.6	-19.3	-32.1	2.1	-2.9	-2.6
	Others	24.4	-13.5	-18.2	1.3	0.0	0.0
	All	29.3	-14.3	-22.3	1.8	-0.7	-1.1
Never Attended*	ST				5.15	-2.65	5.07
	SC				3.48	-0.50	-3.11
	Others				1.98	-0.16	0.67
	All				2.58	-0.61	-0.06

*not available for 1993-94

■ and ■ indicates better or worse performance of each caste group as compared to the all social groups' average respectively.

Source: As per table 5.6

Table A5.8 Rank Correlation Coefficients

Parameters	Coefficients
Education Infrastructure Index (all levels) in 2004-05 and Education Index in 2011-12	0.426
Growth of Education Infrastructure Index (all levels) and Education Index during 2004-2011	-0.018

Table A5.9 Distribution of Districts as per Education Infrastructure (all levels) in 2004-05 and Education Status in 2011-12

Districts	Infrastructure in 2004-05 and EI in 2011-12
Top Level HDI Districts	
Hyderabad	
RangaReddy	
Middle Level HDI Districts	
Warangal	
Karimnagar	
Khammam	
Adilabad	
Nalgonda	
Bottom Level HDI Districts	
Nizamabad	
Mahbubnagar	
Medak	

Colour	Description
Most Efficient	Lower Infrastructure Index in 2004-05 and higher Education Index in 2011-12 than the districts' average
Efficient	Higher Infrastructure Index in 2004-05 and higher Education Index in 2011-12 than the districts' average
Inadequate	Lower Infrastructure Index in 2004-05 and Lower Education Index in 2011-12 than the districts' average
Inefficient	Higher Infrastructure Index in 2004-05 and lower Education Index in 2011-12 than the districts' average

Table A5.10 Distribution of Districts as per Growth of Education Infrastructure (all levels) Education Status: 2004-2011

Districts	Growth of Infrastructure and EI during 2004-2011
	Top Level HDI Districts
HYD	
RR	
	Middle Level HDI Districts
WRL	
KRN	
KHM	
ADB	
NLG	
	Bottom Level HDI Districts
NZB	
MHBN	
MDK	

Colour	Description
High Growth	Higher Growth of Infrastructure Index and higher growth of Education Index during 2004-2011 than the districts' average
Weak Relationship	No relationship between the variables considered

Table A5.11 Rank Correlation Coefficient

Variables	Coefficient
Drop-out Rate (I-V) in 2005-06 and Education Infrastructure at Primary level in 2011-12	-0.478

Table A5.12 Distribution of Districts as per Drop-out Rate (I-V) in 2005-06 and Education Infrastructure at Primary Level in 2011-12

District	Drop-outs and Education Infrastructure
	Top Level HDI Districts
Hyderabad	
Ranga Reddy	
	Middle Level HDI Districts
Warangal	
Karimnagar	
Khammam	
Adilabad	
Nalgonda	
	Bottom Level HDI Districts
Nizamabad	
Mahbubnagar	
Medak	

Higher or lower is with reference to the districts' average	
	Higher Drop-out rate and Higher Infrastructure
	Lower Drop-out rate and Higher Infrastructure
	Lower Drop-out rate and Lower Infrastructure
	Higher Drop-out rate and Lower Infrastructure

Table A5.13 Rank Correlation Coefficients

Indicator	Co-efficient
Drop-out rate (I-V) in 2005-06 and Percentage of Private Schools at Primary Level in 2011-12	-.079
Education Infrastructure Index at Primary level in 2004-05 and Percentage of Private Schools at Primary Level in 2011-12	0.803**
Education Infrastructure Index in 2004-05 at Primary level and Education Status in 2011-12	0.627
Growth of Education Infrastructure Index at Primary level and Education Index-2004-2011	0.283

** Significant at 1 percent level;

Table A5.14: Distribution of Districts as Per Drop-out Rate (I-V) in 2005-06 and Percentage of Private Schools at Primary Level in 2011-12

Districts	Drop-out rate in 2005-06 and % of Private Schools in 2011-12
Top Level HDI Districts	
Hyderabad	
Ranga Reddy	
Middle Level HDI Districts	
Warangal	
Karimnagar	
Khammam	
Adilabad	
Nalgonda	
Bottom Level HDI Districts	
Nizamabad	
Mahbubnagar	
Medak	

Colour	Description
	Higher Drop-out Rate and Higher Percentage of Private Schools
	Lower Drop-out Rate and Higher Percentage of Private Schools
	Lower Drop-out Rate and Lower Percentage of Private Schools
	Higher Drop-out Rate and Lower Percentage of Private Schools

Table A5.15: Distributions of Districts as per Education Infrastructure at Primary Level in 2004-05 and Percentage of Private Schools in 2011-12

Districts	Education Infrastructure Index at Primary Level in 2004-05 and % of Private Schools in 2011-12
Top Level HDI Districts	
Hyderabad	Higher Education Infrastructure and Higher Percentage of Private Schools
Ranga Reddy	Higher Education Infrastructure and Higher Percentage of Private Schools
Middle Level HDI Districts	
Warangal	Lower Education Infrastructure and Lower Percentage of Private Schools
Karimnagar	Higher Education Infrastructure and Higher Percentage of Private Schools
Khammam	Lower Education Infrastructure and Lower Percentage of Private Schools
Adilabad	Lower Education Infrastructure and Lower Percentage of Private Schools
Nalgonda	Lower Education Infrastructure and Lower Percentage of Private Schools
Bottom Level HDI Districts	
Nizamabad	Higher Education Infrastructure and Lower Percentage of Private Schools
Mahbubnagar	Lower Education Infrastructure and Lower Percentage of Private Schools
Medak	Lower Education Infrastructure and Lower Percentage of Private Schools

Colour	Description
	Higher Education Infrastructure and Higher Percentage of Private Schools
	Lower Education Infrastructure and Lower Percentage of Private Schools
	Higher Education Infrastructure and Lower Percentage of Private Schools

Source: As per table 5.1

Table A6.1 Distribution of hospitalized cases by type of hospital (Public and Private), 2014 (Percentage)

Type of hospital	Percentage hospitalized cases in			
	Telangana		All-India	
	Rural	Urban	Rural	Urban
Public	28.6	21.2	41.9	32.0
Private	71.4	78.8	58.1	68.0
All	100	100	100	100

Table A6.2. Status of Public Health Infrastructure: 2012-13

Districts	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Scores	Index
Top Level HDI Districts																
Hyderabad*																
Ranga Reddy	6662	73266	153272	5.0	15.8	0.0	33.3	100.0	75.0	100.0	20.0	32.0	88.9	68.8	20	0.429
Middle Level HDI Districts																
Warangal	4795	44543	52695	21.1	40.2	0.0	27.6	90.0	75.0	90.9	43.2	87.5	96.7	27.6	18	0.286
Karimnagar	5141	42688	114634	11.3	46.5	36.4	86.4	100.0	62.5	100.0	44.0	80.0	95.5	47.6	24	0.714
Khammam	4506	50110	99822	12.1	49.7	11.1	73.7	100.0	91.7	100.0	20.0	92.0	100.0	36.8	23	0.643
Adilabad	5072	38327	94657	15.3	25.8	40.0	75.0	73.3	100.0	100.0	28.6	69.1	92.9	42.3	20	0.429
Nalgonda	5355	35075	83625	12.4	41.5	12.5	40.0	70.0	50.0	95.8	16.0	65.2	90.0	50.0	16	0.143
Bottom Level HDI Districts																
Nizamabad	5868	47818	104061	19.7	55.2	16.7	64.3	90.0	64.3	100.0	8.3	66.7	85.7	33.3	20	0.429
Mahbubnagar	5703	55099	71282	10.4	25.3	0.0	30.4	100.0	83.3	96.0	20.0	79.2	100.0	39.1	20	0.429
Medak	5062	58726	95908	14.9	31.6	22.2	87.0	83.3	75.0	96.0	12.0	87.5	91.3	38.1	18	0.286
Telangana	5290	48795	96110	17.1	44.4	17.9	57.1	90.2	76.1	97.3	25.4	73.8	93.9	40.5		
Norm	1 per 5000 population	1 per 30000 population	1 per lakh population	330 beds per lakh population (achievement of Kerala)						1 per SHC	1 per SHC		1 per PHC	1 per PHC		

*Hyderabad has no rural segment; ■ and ■ indicates better and worse performance respectively compared to the districts' average. List of variables is given below

Sl.no	Indicator	Sl.no	Indicator
1	Average population covered by Sub Centers	8	Percentage of PHCs having new-born care services
2	Average population covered by PHCs	9	Percentage of CHCs having new-born care services
3	Average population covered by CHCs	10	Percentage of Sub-centers having Auxiliary Nurse Midwife (ANM)
4	Beds per lakh population in public institutions (% of Kerala achievement)	11	Percentage of Sub-centers having Male Health Worker (MHW)
5	Beds per lakh population in all institutions	12	Percentage of Sub-centers having additional Auxiliary Nurse Midwife (ANM)
6	Percentage of Sub-centers having regular power supply	13	Percentage of PHCs having Medical Officer
7	Percentage of PHCs having regular power supply	14	Percentage of PHCs having Lady Medical Officer

Table A6.3 Status of Household Facilities: 2011

Districts	1	2	3	4	5	6	7	8	Scores	Index
Top Level HDI Districts										
Hyderabad	67.2	59.2	97.8	1.5	88.9	67.3	92.4	96.3	16	1.000
Ranga Reddy	59.6	48.8	87.0	18.6	75.9	62.4	71.8	72.5	16	1.000
Middle Level HDI Districts										
Warangal	36.4	52.9	67.3	56.3	37.9	27.1	52.0	28.5	9	0.125
Karimnagar	31.9	51.8	69.5	53.8	38.8	35.7	64.6	30.1	11	0.375
Khammam	50.4	54.4	62.6	51.8	39.6	31.6	47.4	42.9	11	0.375
Adilabad	19.8	51.1	41.6	70.7	43.9	30.4	35.2	25.2	9	0.125
Nalgonda	48.2	54.6	68.4	59.4	32.1	27.1	41.1	33.1	10	0.250
Bottom Level HDI Districts										
Nizamabad	34.4	38.3	76.2	58.4	47.8	32.0	33.2	33.3	9	0.125
Mahbubnagar	46.9	43.7	78.0	73.6	47.5	16.2	41.7	20.9	10	0.250
Medak	29.9	29.1	74.1	55.9	56.6	25.1	53.3	34.2	11	0.375
Telangana	42.5	48.4	72.3	50.0	50.9	35.5	53.3	41.7		

■ and ■ indicate better and worse performance respectively compared to the ten districts' average. The list of variables is given below
 Source: Tables on Household Amenities, Census 2011

Sl.no	Indicator
1	Percentage of Households having Roof with concrete material
2	Percentage of Households having Walls with burnt bricks
3	Percentage of Households having Safe drinking (Tap water) water
4	Percentage of Households which do not have toilet facility
5	Percentage of Households having separate kitchen for cooking
6	Percentage of Households having clean fuel for cooking
7	Percentage of Households having water within premises
8	Percentage of Households having flush toiletises

Table A6.4 District-wise Indices of Health Infrastructure and Health Status

Districts	Indices			
	Public Health Infrastructure	Household Health Facilities	Public and Household Health Facilities	Health Status 2011-12
Top Level HDI Districts				
Hyderabad				
Ranga Reddy	0.429	1.000	0.636	0.733
Middle Level HDI Districts				
Warangal	0.286	0.125	0.227	0.665
Karimnagar	0.714	0.375	0.591	0.597
Khammam	0.643	0.375	0.545	0.684
Adilabad	0.429	0.125	0.318	0.568
Nalgonda	0.143	0.250	0.182	0.578
Bottom Level HDI Districts				
Nizamabad	0.429	0.125	0.318	0.568
Mahbubnagar	0.429	0.250	0.364	0.500
Medak	0.429	0.375	0.409	0.558

Source: Source: Computed based on data from DLHS 4-2012-13 and Census-2011 and as per Table 2.4

Table A6.5 Rank Correlation Coefficients

Indicators	Correlation Coefficient
Public Health Infrastructure Index (2012-13) and Health Status (2011-12)#	0.128
Household Health Infrastructure Index (2011) and Health Status (2011-12)#	0.400
Health Infrastructure Index (2012-13) and Health Status (2011-12) #	0.345

Hyderabad is not included;

Table A6.6 Distribution of Districts as per Health Infrastructure and Health Status

Districts	Public Health Infrastructure (2012-13) and HI (2011-12)	Household Health Infrastructure (2011) and HI (2011-12)	Health Infrastructure (2012-13) and HI (2011-12)
Top Level HDI Districts			
Hyderabad#			
Ranga Reddy			
Middle Level HDI Districts			
Warangal			
Karimnagar			
Khammam			
Adilabad			
Nalgonda			
Bottom Level HDI Districts			
Nizamabad			
Mahbubnagar			
Medak			

#Hyderabad has no rural segment

Source: as per Table 6.4

Colour	Description
	Higher Infrastructure Index and Higher Health Index than the districts' average
	Lower Health Infrastructure Index and Higher Health Index than the districts' average
	Lower Health Infrastructure Index and Lower Health Index than the districts' average
	Higher Health Infrastructure Index and Lower Health Index than the districts' average

Table A6.7 Reproductive Health Services across the Districts

Districts	1	2	3	4	5	6	7	Scores	Index
Top Level HDI Districts									
Hyderabad	78.2	39.6	6.9	44.4	98.6	59.1	84.6	12	0.714
Ranga Reddy	57.9	28.0	9.1	40.8	96.9	65.3	69.2	10	0.429
Middle Level HDI Districts									
Warangal	69.2	42.7	10.5	40.9	99.1	52.6	71.4	10	0.429
Karimnagar	84.5	48.2	14.3	52.0	99.6	46.6	82.4	11	0.571
Khammam	81.4	52.2	8.7	44.8	96.6	46.3	87.5	11	0.571
Adilabad	72.9	45.0	9.8	40.4	91.6	62.2	58.6	11	0.571
Nalgonda	86.7	34.7	12.2	45.6	97.8	49.1	91.7	10	0.429
Bottom Level HDI Districts									
Nizamabad	61.0	40.5	7.1	46.5	96.4	48.2	83.3	9	0.286
Mahbubnagar	62.0	51.5	8.2	37.7	96.8	61.5	78.6	11	0.571
Medak	69.4	24.8	10.6	44.3	99.1	43.3	92.3	9	0.286
Telangana	72.3	40.7	9.7	43.7	97.3	53.4	80.0		0.486

■ and ■ indicate better and worse performance respectively compared to the ten districts' average. The list of variables is given below

Sl.no	Indicator
1	Percentage of women who reported registered First ANC
2	Percentage of women who reported Full ANC
3	Percentage of Caesarean Section Deliveries conducted in public institutions
4	Percentage of Caesarean Section Deliveries conducted in private institutions
5	Percentage of deliveries attended by Skilled Personnel
6	Percentage of Mothers initiating breast-feeding within 1 hour of delivery
7	Percentage of women who received post-natal care within 2 weeks after delivery

Table A6.8 District-wise Indices of Health Infrastructure and Reproductive Health

Districts	Indices			
	Public Health Infrastructure	Household Health Facilities	Public and Household Health Facilities	Reproductive Health Index
Top Level HDI Districts				
Hyderabad #				
Ranga Reddy	0.429	1.000	0.636	0.429
Middle Level HDI Districts				
Warangal	0.286	0.125	0.227	0.429
Karimnagar	0.714	0.375	0.591	0.571
Khammam	0.643	0.375	0.545	0.571
Adilabad	0.429	0.125	0.318	0.571
Nalgonda	0.143	0.250	0.182	0.429
Bottom Level HDI Districts				
Nizamabad	0.429	0.125	0.318	0.286
Mahbubnagar	0.429	0.250	0.364	0.571
Medak	0.286	0.375	0.318	0.286

#Hyderabad has no rural segment; Source: as per Table 6.4 and Table 6.7

Table A6.9 Rank Correlation Coefficients

Indicators	Correlation Coefficient
Public/State Health Infrastructure Index and Reproductive Health Index	0.617
Household Health Infrastructure Index and Reproductive Health Index	0.079
Health Infrastructure Index and Reproductive Health Index	0.408

Table A6.10 Distribution of Districts as per Health Infrastructure and Reproductive Health Status-2012-13

Districts	Public Health Infrastructure and Reproductive Health Status	Household Health Facilities and Reproductive Health Status	Health Infrastructure and Reproductive Health Status
Top Level HDI Districts			
Hyderabad#			
Ranga Reddy			
Middle Level HDI Districts			
Warangal			
Karimnagar			
Khammam			
Adilabad			
Nalgonda			
Bottom Level HDI Districts			
Nizamabad			
Mahbubnagar			
Medak			

#Hyderabad has no rural segment

Source: as per Table 6.4

Colour	Description
	Higher Infrastructure Index and Higher Reproductive Health Index than the districts' average
	Lower Health Infrastructure Index and Higher Reproductive Health Index than the districts' average
	Lower Health Infrastructure Index and Lower Reproductive Health Index than the districts' average
	Higher Health Infrastructure Index and Lower Reproductive Health Index than the districts' average

Table-A6.11 Components of Infant Mortality, 2014

Mortality Rate							
Region	Under five	Infant	Early neo-natal	Late neo-natal	Post neo-natal	Peri-natal	Still birth rate
Telangana							
Rural	41	39	23	6	10	27	5
Urban	29	28	10	7	10	14	4
Overall	37	35	18	6	10	22	4
Andhra Pradesh							
Rural	44	43	26	5	12	31	6
Urban	29	28	9	4	15	12	3
Overall	40	39	21	5	13	26	5
India							
Rural	51	43	23	7	13	27	4
Urban	28	26	11	4	11	15	4
Overall	45	39	20	6	13	24	4

Source: Sample Registration System, Statistical Report, 2014; Report No. 1 of 2016

Table A6.12 Estimates of MMR, IMR and Reproductive Health Index in Telangana districts

Districts	Reproductive Health Index 2012-13	IMR-2013 (Per 1000 live births)	MMR-2011-13 (Per 1,00,000 live births)
Top Level HDI Districts			
Hyderabad	0.714	20	71
Ranga Reddy	0.429	33	78
Middle Level HDI Districts			
Warangal	0.429	39	78
Karimnagar	0.571	37	74
Khammam	0.571	45	99
Adilabad	0.571	48	152
Nalgonda	0.429	47	90
Bottom Level HDI Districts			
Nizamabad	0.286	48	79
Mahbubnagar	0.571	53	98
Medak	0.286	49	90
District's Average	0.486	42	91

Source: Commissionerate of Health and Family Welfare, 2015

Table A6.13 Rank Correlation Coefficients

Indicators	Correlation Coefficient
Reproductive Health Index (2012-13) and Infant Mortality Rate 2013	-0.363
Reproductive Health Index (2012-13) and Maternal Mortality Rate 2010-13	-0.048

Table A6.14. Distribution of Districts as per Reproductive Health Status, IMR and MMR

Districts	Reproductive Health Index (2012-13) and Infant Mortality Rate (2013)	Reproductive Health Index (2012-13) and Maternal Mortality Rate (2010-13)
Top Level HDI Districts		
Hyderabad		
Ranga Reddy		
Middle Level HDI Districts		
Warangal		
Karimnagar		
Khammam		
Adilabad		
Nalgonda		
Bottom Level HDI Districts		
Nizamabad		
Mahbubnagar		
Medak		

Colour	Description
	Higher Reproductive Health Index and Lower Mortality Rates than the districts' average
	Lower Reproductive Health Index and Lower Mortality Rates than the districts' average
	Lower Reproductive Health Index and Higher Mortality Rates than the districts' average
	Higher Reproductive Health Index and Higher Mortality Rates than the districts' average

Table A6.15: Relationship between Reproductive Health Index and Child Nutrition

Districts	Reproductive Health Index (2012-13)	% of Children (under 5 years) Stunted (2012-13)
Top Level HDI Districts		
Hyderabad	0.714	29.4
Rangareddy	0.429	26.6
Middle Level HDI Districts		
Warangal	0.429	11.7
Karimnager	0.571	23.0
Khammam	0.571	21.7
Adilabad	0.571	20.6
Nalgonda	0.429	18.0
Bottom Level HDI Districts		
Nizamabad	0.286	33.2
Mahbubnagar	0.571	33.6
Medak	0.286	20.5
District's Average	0.486	23.8

Table A6.16 Rank Correlation Coefficient

Indicators	Correlation Coefficient
Reproductive Health Index and Percentage of Children below 5 years Stunted-2012-13	0.292

Table A6.16a Distribution of Districts as per Reproductive Health Index and Percentage of Children below 5 years Stunted-2012-13

Districts	Reproductive Health Index (2012-13) and Percentage of Children Stunted (2012-13)
Top Level HDI Districts	
Hyderabad	
Rangareddy	
Middle Level HDI Districts	
Warangal	
Karimnager	
Khammam	
Adilabad	
Nalgonda	
Bottom Level HDI Districts	
Nizamabad	
Mahbubnagar	
Medak	

Colour	Description
	Higher Reproductive Health Index and Lower Percentage of Children below 5 years Stunted than the districts' average
	Lower Reproductive Health Index and Lower Percentage of Children below 5 years Stunted than the districts' average
	Lower Reproductive Health Index and Higher Percentage of Children below 5 years Stunted than the districts' average
	Higher Reproductive Health Index and Higher Percentage of Children below 5 years Stunted than the districts' average

Table A7.1: Distribution of Mandals by percentage of Households having Drinking Water and Sanitation Facilities and by Levels of Natural Resource Deprivation

Sl. No.	New Districts	Drinking Water Within the premises					Toilet Within the premises					Natural Resource Deprivation				Total (col 3-7) / (col 8-12 / col 13-16)
		Less than 25 %	25.1-50.0%	50.1-75.0%	75.1-100%	No data	Less than 25 %	25.1-50.0%	50.1-75.0%	75.1-100%	No data	No Deprivation	Highly Deprivation	Extremely Deprivation	No data	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Adilabad	8	4	1	0	5	12	0	1	0	5	10	0	0	8	18
2	Bhadradi	3	8	6	0	6	6	4	3	4	6	17	0	0	6	23
3	Jagityal	0	0	12	4	2	5	7	4	0	2	7	2	0	9	18
4	Jangaon	0	4	7	0	2	2	8	1	0	2	0	3	4	6	13
5	Jayashankar	4	9	3	0	4	9	5	2	0	4	16	0	1	3	20
6	Jogulamba	8	1	0	0	3	8	1	0	0	3	1	4	4	3	12
7	Kamareddy	4	13	0	0	5	11	4	2	0	5	13	2	2	5	22
8	Karimnagar	0	0	11	1	4	0	10	1	1	4	4	4	4	4	16
9	Khammam	0	7	13	0	1	0	8	10	1	2	19	1	0	1	21
10	Komaram Bheem	9	3	0	0	3	11	1	0	0	3	11	0	0	4	15
11	Mahbubabad	0	8	4	0	4	6	6	0	0	4	7	4	1	4	16
12	Mahbubnagar	10	9	2	0	4	19	1	1	0	4	3	5	13	4	25
13	Mancherial	4	5	5	0	4	7	4	3	0	4	14	0	0	4	18
14	Medak	3	12	0	0	5	9	6	0	0	5	10	4	1	5	20
15	Medchal/ Malkajgiri	0	2	2	4	6	0	0	1	7	6	1	2	2	9	14
16	Nagarkurnool	2	9	5	0	4	10	6	0	0	4	2	5	9	4	20
17	Nalgonda	9	15	2	0	5	9	13	4	0	5	2	9	15	5	31
18	Nirmal	5	6	2	0	5	10	3	0	0	5	10	2	0	6	18
19	Nizamabad	0	14	5	0	8	1	14	3	1	8	13	5	0	9	27
20	Peddapalli	0	0	11	0	3	2	8	0	1	3	10	0	0	4	14
21	Rajanna	3	2	7	0	0	0	6	3	0	3	2	3	4	3	12
22	Ranga Reddy	1	7	10	3	6	2	7	5	7	6	0	8	12	7	27
23	Sangareddy	7	8	2	2	7	9	4	4	2	7	6	10	3	7	26
24	Siddipet	0	10	6	1	5	0	10	6	1	5	0	5	11	6	22
25	Suryapet	1	12	5	0	5	3	12	3	0	5	3	2	12	6	23
26	Vikarabad	7	9	1	0	1	10	7	0	0	1	11	6	0	1	18
27	Wanaparthy	3	6	1	0	5	8	1	1	0	5	2	6	2	5	15
28	Warangal-Rural	0	5	9	0	1	0	3	9	2	1	9	3	1	2	15
29	Warangal-Urban	0	0	7	0	4	0	0	4	3	4	0	4	2	5	11
30	Yadadri	4	5	6	0	2	2	8	5	0	2	1	5	8	3	17
	Total mandals	95	193	145	15	119	171	167	76	30	123	204	104	111	148	567

*No data**: For drinking water and toilet facility, the data is related to the 10 districts of Telangana State based on the Census 2011. This data are distributed across newly formed 30 districts. Within the districts, there are newly formed mandals as well. The newly formed mandals have to assume the features of the mandals of their origin.

Table A7.1a: Distribution of Mandals by percentage of Households having Drinking Water and Sanitation Facilities and by Levels of Natural Resource Deprivation (%)

Sl. No.	New Districts	Mandals having Drinking Water Facility Within the premises of the Households (%)					Mandals having Toilet Facility Within the premises of the Households (%)					Natural Resource Deprivation				Total (col 3-7) / (col 8-12) / col 13-16
		Less than 25 %	25.1-50.0%	50.1-75.0%	75.1-100%	No data	Less than 25 %	25.1-50.0%	50.1-75.0%	75.1-100%	No data	Natural Resource			No data	
												No Deprivation	Highly Deprivation	Extremely Deprivation		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Adilabad	44.4	22.2	5.6	0.0	27.8	66.7	0.0	5.6	0.0	27.8	55.6	0.0	0.0	44.4	100.0
2	Bhadradri	13.0	34.8	26.1	0.0	26.1	26.1	17.4	13.0	17.4	26.1	73.9	0.0	0.0	26.1	100.0
3	Jagityal	0.0	0.0	66.7	22.2	11.1	27.8	38.9	22.2	0.0	11.1	38.9	11.1	0.0	50.0	100.0
4	Jangaon	0.0	30.8	53.8	0.0	15.4	15.4	61.5	7.7	0.0	15.4	0.0	23.1	30.8	46.2	100.0
5	Jayashankar	20.0	45.0	15.0	0.0	20.0	45.0	25.0	10.0	0.0	20.0	80.0	0.0	5.0	15.0	100.0
6	Jogulamba	66.7	8.3	0.0	0.0	25.0	66.7	8.3	0.0	0.0	25.0	8.3	33.3	33.3	25.0	100.0
7	Kamareddy	18.2	59.1	0.0	0.0	22.7	50.0	18.2	9.1	0.0	22.7	59.1	9.1	9.1	22.7	100.0
8	Karimnagar	0.0	0.0	68.8	6.3	25.0	0.0	62.5	6.3	6.3	25.0	25.0	25.0	25.0	25.0	100.0
9	Khammam	0.0	33.3	61.9	0.0	4.8	0.0	38.1	47.6	4.8	9.5	90.5	4.8	0.0	4.8	100.0
10	Komaram Bheem	60.0	20.0	0.0	0.0	20.0	73.3	6.7	0.0	0.0	20.0	73.3	0.0	0.0	26.7	100.0
11	Mahbubabad	0.0	50.0	25.0	0.0	25.0	37.5	37.5	0.0	0.0	25.0	43.8	25.0	6.3	25.0	100.0
12	Mahbubnagar	40.0	36.0	8.0	0.0	16.0	76.0	4.0	4.0	0.0	16.0	12.0	20.0	52.0	16.0	100.0
13	Mancherial	22.2	27.8	27.8	0.0	22.2	38.9	22.2	16.7	0.0	22.2	77.8	0.0	0.0	22.2	100.0
14	Medak	15.0	60.0	0.0	0.0	25.0	45.0	30.0	0.0	0.0	25.0	50.0	20.0	5.0	25.0	100.0
15	Medchal/ Malkajgiri	0.0	14.3	14.3	28.6	42.9	0.0	0.0	7.1	50.0	42.9	7.1	14.3	14.3	64.3	100.0
16	Nagarkurnool	10.0	45.0	25.0	0.0	20.0	50.0	30.0	0.0	0.0	20.0	10.0	25.0	45.0	20.0	100.0
17	Nalgonda	29.0	48.4	6.5	0.0	16.1	29.0	41.9	12.9	0.0	16.1	6.5	29.0	48.4	16.1	100.0
18	Nirmal	27.8	33.3	11.1	0.0	27.8	55.6	16.7	0.0	0.0	27.8	55.6	11.1	0.0	33.3	100.0
19	Nizamabad	0.0	51.9	18.5	0.0	29.6	3.7	51.9	11.1	3.7	29.6	48.1	18.5	0.0	33.3	100.0
20	Peddapalli	0.0	0.0	78.6	0.0	21.4	14.3	57.1	0.0	7.1	21.4	71.4	0.0	0.0	28.6	100.0
21	Rajanna	25.0	16.7	58.3	0.0	0.0	0.0	50.0	25.0	0.0	25.0	16.7	25.0	33.3	25.0	100.0
22	Ranga Reddy	3.7	25.9	37.0	11.1	22.2	7.4	25.9	18.5	25.9	22.2	0.0	29.6	44.4	25.9	100.0
23	Sangareddy	26.9	30.8	7.7	7.7	26.9	34.6	15.4	15.4	7.7	26.9	23.1	38.5	11.5	26.9	100.0
24	Siddipet	0.0	45.5	27.3	4.5	22.7	0.0	45.5	27.3	4.5	22.7	0.0	22.7	50.0	27.3	100.0
25	Suryapet	4.3	52.2	21.7	0.0	21.7	13.0	52.2	13.0	0.0	21.7	13.0	8.7	52.2	26.1	100.0
26	Vikarabad	38.9	50.0	5.6	0.0	5.6	55.6	38.9	0.0	0.0	5.6	61.1	33.3	0.0	5.6	100.0
27	Wanaparthy	20.0	40.0	6.7	0.0	33.3	53.3	6.7	6.7	0.0	33.3	13.3	40.0	13.3	33.3	100.0
28	Warangal-Rural	0.0	33.3	60.0	0.0	6.7	0.0	20.0	60.0	13.3	6.7	60.0	20.0	6.7	13.3	100.0
29	Warangal-Urban	0.0	0.0	63.6	0.0	36.4	0.0	0.0	36.4	27.3	36.4	0.0	36.4	18.2	45.5	100.0
30	Yadadri	23.5	29.4	35.3	0.0	11.8	11.8	47.1	29.4	0.0	11.8	5.9	29.4	47.1	17.6	100.0
	Total mandals	16.8	34.0	25.6	2.6	21.0	30.2	29.5	13.4	5.3	21.7	36.0	18.3	19.6	26.1	100.0

Note: No data*: For drinking water and toilet facility, the data is related to the 10 districts of Telangana State based on the Census 2011. This data are distributed across newly formed 30 districts. Within the districts, there are newly formed mandals as well. The newly formed mandals have to assume the features of the mandals of their origin.

Table A7.2: District-Wise percentage of Households having Drinking Water and Sanitation Facilities

S.No.	District s	Water Within		Toilet Having		
		Total	the premises	%	%	
1	Adilabad	156627	45888	29.3	37181	23.7
2	Bhadradri	277387	117321	42.3	126633	45.7
3	Jagityal	293942	197801	67.3	124733	42.4
4	Jangaon	150327	70292	46.8	55587	37.0
5	Jayashankar	182714	73275	40.1	53426	29.2
6	Jogulamba	132124	19186	14.5	25967	19.7
7	Kamareddy	222380	66090	29.7	73291	33.0
8	Karimnagar	253703	182254	71.8	138850	54.7
9	Khammam	378365	217802	57.6	218894	57.9
10	Komaram Bheem	121957	25747	21.1	23383	19.2
11	Mahabubabad	193760	84189	43.5	50538	26.1
12	Mahbubnagar	304615	102308	33.6	76856	25.2
13	Mancherial	208308	100227	48.1	77635	37.3
14	Medak	175460	56978	32.5	48583	27.7
15	Medchal/Malkajgiri	604477	503241	83.3	574605	95.1
16	Nagarkurnool	192420	79593	41.4	53673	27.9
17	Nalgonda	401529	145354	36.2	160672	40.0
18	Nirmal	164878	57824	35.1	42850	26.0
19	Nizamabad	368353	176672	48.0	192132	52.2
20	Peddapalli	212397	129749	61.1	94892	44.7
21	Rajanna	138211	86219	62.4	69973	50.6
22	Rangareddy	578144	389762	67.4	448704	77.6
23	Sangareddy	313615	136801	43.6	150404	48.0
24	Siddipet	249758	127153	50.9	123377	49.4
25	Suryapet	285568	128726	45.1	109995	38.5
26	Vikarabad	202376	62206	30.7	49409	24.4
27	Wanaparthy	134915	42608	31.6	31354	23.2
28	Warangal-Rural	198339	102472	51.7	76430	38.5
29	Warangal-Urban	254692	174269	68.4	179350	70.4
30	Yadadri	186490	71131	38.1	151297	81.1
Total 30 Districts Except Hyderabad		7537831	3773138	50.1	3640674	48.3

Appendix III

Statistical Tables

Chapter	Table No
Chapter 2	A1 to A7
Chapter 3	A8 to A11
Chapter 4	A12 to A15
Chapter 5	A16 to A32

Table A1: State-wise Indicators of Human Development Index

States	Infant Mortality Rate		Life Expectancy at Birth		Adult Literacy (Age 15 Years +) (%)		Average No. of Years of Schooling		% of Out of School Children (6-17 Years)		MPCE (2004-05 prices) (Rs.)		PCGSDP(2004-05 prices)		Gini Co-efficient		MPCE (Adj) (Rs.)	
	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12
Andhra Pradesh	54	38	63.7	67.4	62.0	67.4	3.5	4.4	26.3	11.1	918.1	1197	28769	45127	0.30	0.29	646	853
Assam	68	55	59.9	63.1	63.3	72.2	3.9	5.1	16.8	9.6	734.6	787	18,993	25608	0.22	0.25	576	594
Bihar	61	43	65.2	69.5	47.0	61.8	2.5	3.6	34.2	18.9	613.5	737	8,773	14482	0.21	0.22	483	577
Chhattisgarh	63	47	58.6	61.1	64.7	70.3	3.2	4.4	23.2	8.2	712.8	816	21,463	31405	0.30	0.31	497	565
Gujarat	54	38	63.6	66.1	69.1	78.0	4.5	5.0	22.4	11.8	852.6	1032	37,803	66527	0.30	0.28	600	739
Haryana	60	42	67.0	68.0	67.9	75.6	4.3	5.7	18.3	9.3	1017.3	1267	42,188	68725	0.33	0.32	683	867
Himachal Pradesh	49	36	65.0	68.0	76.5	82.8	4.8	6.1	6.2	3.7	970.0	1205	37,893	60727	0.29	0.29	684	851
J & K	50	39	63.0	68.0	55.5	67.2	4.1	5.1	13.9	9.1	937.3	1112	25,479	34425	0.23	0.27	722	810
Jharkhand	50	38	65.2	69.5	53.6	66.4	3.0	4.1	31.3	13.1	705.5	797	20,848	30855	0.26	0.27	521	584
Karnataka	50	32	64.4	66.0	66.6	75.4	4.2	5.5	19.3	10.2	865.4	1129	30,139	47124	0.31	0.36	600	723
Kerala	14	12	73.3	73.5	90.9	94.0	6.1	6.9	6.2	3.2	1164.5	1456	36,278	59052	0.36	0.38	747	908
Madhya Pradesh	76	56	58.6	61.1	63.7	69.3	3.1	4.3	25.2	11.7	727.9	876	17,449	26813	0.30	0.31	513	603
Maharashtra	36	25	68.3	70.5	76.9	82.3	5.1	6.1	16.5	7.8	878.7	1160	40,509	69335	0.35	0.35	575	758
Orissa	75	53	59.9	62.7	63.1	72.9	3.3	4.4	29.4	14.3	642.8	826	20,179	30755	0.29	0.28	457	598
Punjab	44	28	70.9	71.9	69.7	75.8	4.7	5.6	18.9	11.2	1032.4	1246	37,228	53078	0.31	0.29	717	879
Rajasthan	68	49	62.5	66.0	60.4	66.1	2.9	4.0	26.1	14.9	777.4	1008	21,055	32730	0.25	0.26	581	743
Tamil Nadu	37	21	68.4	70.8	73.5	80.1	4.8	5.8	11.7	6.0	949.0	1270	33,999	64012	0.33	0.33	633	855
Telangana	63	43	61.6	65.2	58.0	66.5	3.5	4.8	19.0	9.5	852.3	1201	27543	52238	0.31	0.29	590	848
Uttar Pradesh	73	53	63.8	67.9	56.3	67.7	3.1	4.0	26.5	18.1	764.4	891	14,621	20799	0.28	0.30	551	621
Uttarakhand	42	34	62.5	66.0	71.6	78.8	4.5	5.6	15.6	5.3	822.7	1094	27,497	60706	0.26	0.29	605	777
West Bengal	38	32	67.7	70.3	68.6	76.3	3.9	4.7	24.2	15.5	851.8	1026	24,869	36424	0.31	0.31	590	703
India	58	42	65.4	67.9	67.3	74.0	3.8	4.9	23.1	12.9	826.0	1023	27,056	43219	0.30	0.31	581	711

Source: NSS 61st and 68th Rounds on Consumer Expenditure Survey and Employment and Unemployment Survey; SRS Bulletins 2004 and 2011; National Accounts Statistics, CSO

Table A2: District-wise Indicators of Human Development Index

States	Infant Mortality Rate IMR		Monthly Per Capita Expenditure in Rs. (MPCE) (2004-05 prices)		Gini Coefficient		MPCE (Adj) (Rs.)		Adult Literacy (15 Years +) %		Average No. of Years of Schooling		% of Out of School Children (6-17)	
	2004	2012	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12
Hyderabad	33	20	1451	1846	0.33	0.29	966	1316	78.8	83.3	7.4	7.9	11.4	6.0
Ranga Reddy	55	34	1007	1405	0.35	0.22	654	1103	66.2	75.9	3.5	4.8	24.7	3.0
Warangal	63	40	902	1378	0.25	0.31	674	947	57.1	65.1	3.7	4.4	12.5	4.3
Karimnagar	64	38	1103	1095	0.35	0.22	713	855	54.9	64.2	3.7	4.8	25.6	8.0
Khammam	69	46	805	1252	0.29	0.29	575	888	56.9	64.8	3.1	5.2	15.8	5.9
Adilabad	71	49	806	1293	0.28	0.29	583	918	52.7	61.0	3.6	4.8	16.9	3.3
Nalgonda	64	48	829	1301	0.27	0.30	609	909	57.2	64.2	3.5	4.9	17.2	13.6
Nizamabad	67	49	945	1039	0.46	0.26	509	769	52.0	61.3	2.9	4.6	12.9	2.2
Mahbubnagar	75	55	866	1349	0.28	0.31	623	925	44.4	55.0	3.4	4.2	28.0	6.4
Medak	67	50	787	1038	0.30	0.25	549	776	51.6	61.4	2.7	3.9	26.2	4.8
Telangana	63	43	852	1201	0.29	0.28	605	860	58.0	66.5	3.5	4.8	19.0	9.5

Source: NSS) 61st and 68th Rounds on Consumer Expenditure Survey and Employment and Unemployment Survey; Statistical Abstracts of Govt. of AP (undivided)

Table A3: District-wise Human Development Index and its Components for Male and Female

Districts	2004-05										2011-12									
	Income Index		Education Index		Health Index		HDI		Income Index		Education Index		Health Index		HDI					
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female				
Hyderabad	0.689	0.448	0.704	0.597	0.755	0.740	0.715	0.583	0.882	0.747	0.813	0.667	0.895	0.881	0.863	0.760				
Ranga Reddy	0.558	0.454	0.435	0.249	0.469	0.542	0.485	0.394	0.833	0.675	0.622	0.421	0.715	0.752	0.718	0.598				
Warangal	0.442	0.268	0.463	0.254	0.362	0.456	0.420	0.315	0.565	0.429	0.528	0.410	0.641	0.691	0.576	0.495				
Karimnagar	0.498	0.299	0.439	0.235	0.388	0.404	0.440	0.305	0.658	0.533	0.557	0.408	0.685	0.684	0.631	0.530				
Khammam	0.558	0.368	0.381	0.241	0.326	0.370	0.411	0.320	0.668	0.553	0.659	0.426	0.588	0.606	0.638	0.523				
Adilabad	0.465	0.344	0.429	0.239	0.250	0.399	0.368	0.320	0.576	0.489	0.626	0.359	0.524	0.615	0.574	0.476				
Nalgonda	0.444	0.302	0.449	0.228	0.365	0.429	0.418	0.309	0.635	0.533	0.547	0.376	0.560	0.596	0.580	0.493				
Nizamabad	0.397	0.268	0.395	0.219	0.294	0.453	0.358	0.298	0.537	0.499	0.576	0.396	0.517	0.621	0.542	0.497				
Mahbubnagar	0.419	0.205	0.363	0.190	0.224	0.328	0.324	0.234	0.541	0.452	0.539	0.326	0.470	0.533	0.515	0.428				
Medak	0.568	0.386	0.333	0.187	0.303	0.442	0.386	0.317	0.850	0.707	0.514	0.319	0.514	0.605	0.608	0.515				
Telangana	0.524	0.343	0.451	0.275	0.369	0.449	0.443	0.349	0.710	0.590	0.636	0.453	0.624	0.667	0.655	0.563				

Source: Computed based on the data from NSSO 61st and 68th Rounds on Consumer Expenditure Survey and Employment and Unemployment Survey; Statistical Abstracts of Govt. of AP (undivided)

Table A4: District-wise Indicators for Human Development Index for Male and Female

Districts	2004-05						2011-12									
	Income		Education - Literacy (2001)		Education- Years of Schooling		Health (IMR)		Income		Education Literacy (2011)		Education- Years of Schooling		Health (IMR)	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Hyderabad	57853	27670	83.74	73.50	6.45	5.38	32	33	104587	69081	87.0	79.3	7.86	6.12	19	21
Ranga Reddy	38677	28142	75.26	56.49	3.31	1.65	58	51	89973	55317	82.1	69.4	5.41	3.28	36	32
Warangal	27160	15936	68.88	45.09	3.80	1.91	67	59	39489	26039	74.6	55.7	4.44	3.51	42	38
Karimnagar	32211	17509	67.09	42.75	3.55	1.74	65	64	52637	35824	73.6	54.8	4.85	3.52	38	38
Khammam	38654	21624	66.11	47.44	2.90	1.71	71	67	54304	38099	72.3	57.4	6.29	3.67	47	45
Adilabad	29148	20104	64.98	40.30	3.48	1.84	78	64	40866	31287	70.8	51.3	5.89	3.00	53	45
Nalgonda	27332	17636	69.23	44.68	3.62	1.63	67	61	49052	35869	74.1	54.2	4.70	3.13	50	46
Nizamabad	23637	15897	64.91	39.48	3.08	1.63	74	59	36245	32263	71.5	51.5	5.17	3.47	54	44
Mahbubnagar	25315	13130	56.63	31.89	2.91	1.47	80	70	36689	27945	65.2	44.7	4.90	2.78	58	52
Medak	39923	22882	64.33	38.66	2.40	1.30	73	60	94593	61050	71.4	51.4	4.36	2.51	54	46
Telangana	34854	20015	68.79	46.92	3.65	2.11	67	60	61602	42760	75.0	57.9	5.86	4.01	44	40

Source: NSS) 61st and 68th Rounds on Employment and Unemployment Survey; Census 2001 and 2011, Statistical Abstracts of Govt. of AP (undivided)

Table A5: Indicators for Human Development Index across Social Groups in Telangana

Social Group	2002-04			2007-08			2012-13		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Comprehensive Coverage Index (CCI) (%)									
SC	52.69	47.89	51.40	59.50	68.90	61.10	71.05	77.65	73.41
ST	44.47	46.62	44.78	55.10	50.40	55.60	76.65	78.30	77.24
OBC	49.59	50.40	49.86	62.00	64.40	62.70	72.86	72.54	72.71
Others	52.62	47.48	49.47	67.20	69.00	68.50	78.01	71.07	72.58
All	50.06	48.75	49.58	60.70	66.50	62.20	72.97	73.52	73.29
Standard of Living Index (SLI) (%)									
SC	9.45	18.30	11.78	13.28	19.57	14.50	18.85	24.28	21.29
ST	7.95	15.67	9.37	10.49	19.01	11.14	16.56	24.65	19.23
OBC	11.92	19.56	14.61	13.28	21.07	15.60	20.10	26.79	23.71
Others	14.92	21.32	18.88	15.48	22.43	19.25	23.33	29.31	27.46
All	11.47	20.00	14.83	13.10	21.14	15.38	19.46	26.38	22.99
Average No. of Years of Schooling (EI)									
SC	2.87	6.28	3.70	3.67	6.46	4.15	5.59	8.23	6.78
ST	2.21	4.63	2.66	2.85	5.60	3.07	4.81	8.18	5.98
OBC	3.28	6.39	4.36	3.94	7.12	4.90	5.84	8.81	7.49
Others	4.81	7.36	6.46	5.75	8.63	7.33	6.55	10.03	9.00
All	3.32	6.74	4.70	3.91	7.42	4.92	5.67	8.79	7.29

Source: DLHS II (2002-04), DLHS III (2007-08) and DLHS IV (2012-13)

Table A5.1: Indicators for Human Development Index for Muslim Minorities in Telangana

Year	Comprehensive Coverage Index			Standard of Living Index			Mean Years of Schooling		
2002-04	51.00	45.49	47.05	14.60	19.08	17.89	4.46	6.15	5.73
2007-08	64.60	67.66	66.34	14.65	21.13	18.68	4.31	6.80	5.88
2012-13	70.98	70.82	70.92	21.76	26.95	25.82	6.26	8.05	7.67

Source: DLHS II (2002-04), DLHS III (2007-08) and DLHS IV (2012-13)

Table A6: Indicators for Human Development Index across Occupational Groups in Rural Telangana

Occupations	Comprehensive Coverage Index (CCI) (%)		Standard of Living Index (SLI) (%)		Average No. of Years of Schooling (EI)	
	2007-08	2012-13	2007-08	2012-13	2007-08	2012-13
Self-employed-agriculture & allied	54.33	73.38	11.9	18.58	3.8	5.89
Casual Labour-agriculture & allied	60.71	72.03	12.1	17.47	3.26	5.09
Skilled Workers	60.13	67.65	14.0	21.20	4.5	6.16
Unskilled Workers	54.93	70.81	12.5	18.65	2.98	7.70
All Occupations	59.12	72.97	12.5	19.46	3.51	5.67

Source: DLHS III (2007-08) and DLHS IV (2012-13)

Table A7: Indicators for Human Development Index across Occupational Groups in Urban Telangana

Occupations	Comprehensive Coverage Index (CCI) (%)		Standard of Living Index (SLI) (%)		Average No. of Years of Schooling (EI)	
	2007-08	2012-13	2007-08	2012-13	2007-08	2012-13
Professionals/Executives	67.04	54.65	23.19	31.44	10.19	10.89
Self-employed-trade	70.14	51.73	20.79	26.23	6.66	9.20
Skilled Workers	57.39	73.75	20.74	24.13	6.07	8.17
Unskilled Labour	60.01	59.62	17.30	20.63	4.62	9.49
Casual Labour-agriculture & allied	70.31	55.44	16.83	19.13	4.02	7.10
Casual Labour-Services	50.00	50.00	16.03	22.54	4.36	8.78
All Occupations	63.16	73.52	19.45	26.38	6.17	8.79

Source: DLHS III (2007-08) and DLHS IV (2012-13)

Table A8: Sector-wise Per Capita Gross District Domestic Product (Rs.) (2004-05 prices)

Districts	Agriculture		Industry		Services		Non-agriculture		GDDP	
	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12
Hyderabad	1277	1055	7414	14898	35138	78755	42551	93653	43828	94708
Ranga Reddy	4279	4515	11875	26064	16935	36266	28810	62330	33090	66845
Warangal	6067	7109	4607	6961	11437	20097	16045	27058	22112	34167
Karimnagar	4109	8511	9241	14411	12079	23126	21320	37537	25429	46049
Khammam	8306	9768	9243	14752	13460	23980	22703	38732	31009	48500
Adilabad	5586	6340	7963	12130	11935	20080	19898	32210	25484	38550
Nalgonda	6613	9339	6068	13082	10398	21844	16466	34925	23079	44264
Nizamabad	4528	9454	4983	6504	10730	19767	15714	26271	20241	35725
Mahbubnagar	4358	7359	5370	7439	9650	16739	15020	24179	19378	31538
Medak	6865	13820	11869	36009	13370	29627	25240	65636	32105	79456
Telangana	5005	7340	7900	15679	15034	30319	22934	45998	27939	53338

Source: Computed based on the data from Directorate of Economics and Statistics, Telangana State, Hyderabad, and Census 2001 and 2011

Table A9: District-wise Workers by broad Sectors

Occupations	Comprehensive Coverage Index (CCI) (%)			Standard of Living Index (SLI) (%)		
	Total Workers	Agriculture Workers	Non-agriculture Workers	Total Workers	Agriculture Workers	Non-agriculture Workers
Hyderabad	1,119,842	18,634	1,101,208	14,13,297	51,337	13,61,960
Ranga Reddy	1,437,606	581,919	855,687	21,96,078	6,19,957	15,76,121
Warangal	1,566,237	1,066,126	500,111	17,05,655	11,59,738	5,45,917
Karimnagar	1,711,559	1,004,012	707,547	18,76,768	1,11,7249	7,59,519
Khammam	1,244,376	897,191	347,185	14,10,062	1,02,9509	3,80,553
Adilabad	1,123,248	684,752	438,496	13,23,667	8,48,649	4,75,018
Nalgonda	1,594,666	1,077,743	516,923	17,41,693	1,18,8355	5,53,338
Nizamabad	1,159,606	660,630	498,976	12,61,076	7,26,383	5,34,693
Mahbubnagar	1,823,329	1,334,251	489,078	20,82,501	15,00,226	5,82,275
Medak	1,293,657	875,826	417,831	14,42,203	9,24,350	5,17,853
Telangana	14,074,126	8,201,084	5,873,042	164,53,000	91,65,753	72,87,247

Source: Census 2001 and 2011

Table A10 : Labour Productivity across Districts - (at 2004-05) Prices

Districts	Labour Productivity (Rs.)	
	2004-05	2011-12
Top Level HDI Districts		
Hyderabad	162316	263287
Ranga Reddy	96134	159244
Middle Level HDI Districts		
Warangal	49666	70561
Karimnagar	59845	90824
Khammam	66943	96978
Adilabad	58329	79672
Nalgonda	51819	88093
Bottom Level HDI Districts		
Nizamabad	46316	72502
Mahbubnagar	41971	62511
Medak	78109	159545
Telangana	69085	113058

Source: Computed based on output data from data from Directorate of Economics and Statistics, Telangana

Table A11: District-wise Shares of Non-agriculture Sector in Employment and Output and Growth of Labour Productivity

Districts	Employment %		Output (%)		Growth of Labour Productivity (%)
	2001	2011	2001	2011	2004-2011
Hyderabad	98.3	96.4	97.1	98.9	9.4
Ranga Reddy	59.5	71.8	87.1	93.2	10.2
Warangal	31.9	32.0	72.6	79.2	6.3
Karimnagar	41.3	40.5	83.8	81.5	8.7
Khammam	27.9	27.0	73.2	79.9	6.1
Adilabad	39.0	35.9	78.1	83.6	5.4
Nalgonda	32.4	31.8	71.3	78.9	9.6
Nizamabad	43.0	42.4	77.6	73.5	8.5
Mahbubnagar	26.8	28.0	77.5	76.7	7.3
Medak	32.3	35.9	78.6	82.6	14.0
Telangana	41.7	44.3	82.1	86.2	8.6

Table A12: District-wise Public Expenditure on Social Services (Rs. in crores)

Districts	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Hyderabad	3353.15	4034.25	3866.50	5248.46	5389.86	7047.30	11162.36	10978.23	11815.47	14217.66	17081.77	16578.61
Ranga Reddy	178.50	195.70	208.55	241.33	323.63	344.03	526.20	558.12	901.89	1066.28	1316.64	1414.82
Warangal	331.14	356.53	372.77	421.12	500.35	587.90	744.47	820.27	1099.65	1280.60	1460.28	1433.20
Karimnagar	232.68	268.27	271.70	310.02	396.18	441.64	573.87	633.92	871.87	958.77	1087.23	1141.20
Khammam	242.61	265.67	272.10	307.91	390.94	418.52	530.26	586.35	836.15	937.82	1052.02	1055.36
Adilabad	221.23	239.94	246.08	267.54	344.46	357.39	485.91	528.42	714.27	763.01	1007.43	958.37
Nalgonda	160.40	179.36	180.78	214.60	277.13	309.69	385.99	448.40	592.29	650.66	671.02	764.76
Nizamabad	225.30	279.79	293.64	323.47	389.76	454.95	560.04	668.14	863.87	984.08	1181.30	1306.85
Mahbubnagar	241.94	265.95	296.31	342.09	407.09	482.72	550.46	684.50	958.31	921.98	1192.46	1179.81
Medak	187.38	210.58	219.63	238.86	310.64	357.38	468.40	505.39	744.44	781.74	936.21	946.38
Telangana	5374.33	6296.04	6228.06	7915.40	8730.04	10801.52	15987.97	16411.74	19398.22	22562.60	26986.36	26779.36

Source: <https://treasury.ap.gov.in>

Table A13: District-wise Public Expenditure on Health (Rs. in crores)

Districts	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Hyderabad	585.38	609.86	532.14	735.44	746.12	1180.88	1483.94	1711.60	2022.49	2173.83	2336.44	585.38
Ranga Reddy	15.62	16.31	16.54	18.19	20.79	23.03	26.93	33.04	42.98	46.19	53.64	15.62
Warangal	42.23	45.45	46.89	52.59	57.68	66.45	74.58	83.86	106.84	143.28	150.02	42.23
Karimnagar	17.08	19.11	19.01	21.38	22.87	26.16	28.71	33.79	40.17	44.52	51.65	17.08
Khammam	16.24	17.57	17.75	19.39	20.82	23.49	24.31	29.40	37.12	41.94	49.46	16.24
Adilabad	15.89	16.63	16.89	18.50	20.86	23.06	30.23	40.23	51.19	67.38	74.08	15.89
Nalgonda	17.35	18.89	19.63	19.45	20.88	22.18	25.17	29.78	36.10	42.15	47.02	17.35
Nizamabad	11.67	12.90	12.82	14.01	14.61	16.59	18.29	20.98	25.44	31.38	35.07	11.67
Mahbubnagar	18.42	19.63	22.07	22.52	24.38	26.90	29.52	35.64	44.30	52.65	59.05	18.42
Medak	16.94	17.98	18.90	19.83	21.87	24.23	28.01	34.47	42.86	48.32	57.58	16.94
Telangana	756.82	794.33	722.64	941.31	970.88	1432.96	1769.70	2052.78	2449.50	2691.64	2914.02	756.82

Source: <https://treasury.ap.gov.in>

Table A14: District-wise Public Expenditure on Education (Rs. in crores)

Districts	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Hyderabad	653.33	809.14	692.79	1146.75	896.10	1003.61	1067.57	1212.19	2157.39	3123.26	3186.06	3091.75
Ranga Reddy	97.56	109.72	114.57	130.17	147.16	151.28	178.38	210.91	319.45	353.69	424.30	497.66
Warangal	180.50	200.12	191.63	228.62	264.99	282.15	317.43	365.71	540.16	596.11	698.56	757.09
Karimnagar	145.66	164.34	164.06	195.40	222.93	239.44	271.40	317.94	469.20	525.38	590.53	670.55
Khammam	122.82	138.12	146.13	160.16	187.74	205.90	224.60	267.62	376.02	429.83	493.12	550.28
Adilabad	117.23	143.69	136.70	158.31	185.27	187.87	230.19	272.24	362.62	427.53	480.54	545.66
Nalgonda	129.33	165.71	177.90	196.28	227.30	250.95	272.77	329.13	467.43	528.06	598.72	680.58
Nizamabad	100.34	117.42	114.28	137.59	160.03	182.35	200.43	231.22	327.71	387.34	427.06	494.58
Mahbubnagar	148.10	171.72	187.31	214.14	243.52	272.99	291.99	342.93	507.41	565.99	645.83	766.91
Medak	110.78	130.29	134.41	151.14	176.40	191.74	217.14	253.92	381.36	432.94	506.95	581.84
Telangana	1805.64	2150.28	2059.79	2718.55	2711.45	2968.28	3271.88	3803.79	5908.74	7370.13	8051.67	8636.88

Source: <https://treasury.ap.gov.in>

Table A15: District-wise Public Expenditure on Economic Services (Rs. in crores)

Districts	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Hyderabad	2083.05	3252.63	2896.10	4894.36	3241.01	5213.01	7593.74	5784.06	6906.95	8496.28	11697.68	2083.05
Ranga Reddy	86.85	92.68	179.63	133.73	274.02	148.07	184.98	134.97	145.81	152.49	181.84	86.85
Warangal	69.68	90.82	88.55	100.32	127.41	178.18	141.64	169.28	157.16	186.39	203.46	69.68
Karimnagar	74.52	88.95	96.43	100.54	132.35	174.90	141.61	166.69	168.30	225.34	204.01	74.52
Khammam	66.61	81.43	80.20	90.38	112.78	150.07	138.30	170.81	149.70	195.55	208.37	66.61
Adilabad	65.11	77.93	82.76	86.94	115.69	144.72	131.77	137.23	147.49	150.43	181.59	65.11
Nalgonda	71.29	86.18	80.13	94.11	116.70	157.06	153.05	182.30	155.90	210.55	233.70	71.29
Nizamabad	53.42	64.45	60.16	74.01	98.11	122.59	134.32	114.15	117.59	136.15	150.97	53.42
Mahbubnagar	77.88	100.99	96.26	104.81	138.00	176.03	227.28	188.40	194.69	192.52	202.15	77.88
Medak	54.75	74.68	72.36	81.28	112.98	147.05	131.13	130.57	143.83	189.69	201.32	54.75
Telangana	2703.14	4010.75	3732.57	5760.49	4469.04	6611.69	8977.83	7178.47	8287.43	10135.39	13465.11	2703.14

Source: <https://treasury.ap.gov.in>

Table A16: School Attendance Rates among boys and girls in Telangana State (Percentages)

Districts	1993-94			2011		
	Persons	Male	Female	Persons	Male	Female
Adilabad	66.7	71.8	61.6	95.4	95.9	94.9
Hyderabad	91.4	92.9	89.4	97.4	98.1	96.7
Karimnagar	77.5	88.0	67.7	96.4	97.6	94.8
Khammam	70.9	76.7	65.6	95.0	98.9	90.6
Mahbubnagar	44.9	54.7	34.1	89.4	89.1	89.8
Medak	72.1	73.4	70.3	95.4	93.9	97.0
Nalgonda	67.7	78.2	56.6	95.0	94.1	95.8
Nizamabad	67.9	75.2	58.8	97.7	98.2	97.1
Ranga Reddy	75.8	83.6	67.4	99.1	99.7	98.5
Warangal	72.1	81.3	61.3	95.8	96.8	94.1
Telangana	69.7	77.0	61.7	95.6	96.2	95.1

Note: Children in the age group of 6-14 years currently attending school; Source: NSSO 50th and 68th Employment and Unemployment Rounds

Table A17: School Attendance across Social Groups in Telangana State (Percentages)

Location	Category	1993-94				2011-12			
		ST	SC	Others	All	ST	SC	Others	All
Rural	Persons	39.1	55.3	70.1	63.6	91.0	93.0	95.9	94.7
	Male	50.0	66.5	78.1	72.5	92.8	95.0	95.5	95.1
	Female	26.6	43.7	61.6	54.1	89.0	91.0	96.5	94.3
Urban	Persons	75.2	87.4	88.3	87.9	90.0	98.7	97.2	97.1
	Male	78.9	86.2	90.4	89.8	95.7	99.6	97.9	98.0
	Female	70.5	88.6	85.7	85.7	83.4	97.9	96.4	96.2
Total	Persons	41.3	59.4	75.6	69.7	90.9	94.4	96.5	95.6
	Male	51.8	68.9	82.0	77.0	93.1	96.1	96.5	96.2
	Female	29.2	49.6	68.5	61.7	88.4	92.7	96.4	95.1

Note: Children in the age group of 6-14 years currently attending school; Source: NSSO 50th and 68th Employment and Unemployment Rounds

Table A18: School Attendance among Boys and Girls in Telangana State (percentage)

Districts	Rural						Urban					
	Persons		Male		Female		Persons		Male		Female	
	1993	2011	1993	2011	1993	2011	1993	2011	1993	2011	1993	2011
Adilabad	61.9	95.2	71.1	94.8	52.9	95.6	79.3	95.9	73.6	98.6	85.4	93.7
Hyderabad							91.4	97.4	92.9	98.1	89.4	96.7
Karimnagar	75.5	95.6	86.6	97.0	65.8	93.7	83.0	98.8	91.2	99.3	73.6	98.1
Khammam	66.3	94.8	72.9	98.8	59.9	90.6	90.7	96.0	94.9	99.4	87.5	90.6
Mahbubnagar	41.2	88.2	52.1	87.9	29.3	88.5	78.3	97.1	78.4	96.7	78.2	97.6
Medak	69.9	95.8	71.0	93.6	68.4	98.0	87.8	92.4	89.9	95.8	84.6	88.5
Nalgonda	63.1	95.4	74.0	94.8	52.6	96.0	95.7	91.8	97.4	89.6	92.5	94.4
Nizamabad	65.2	97.8	72.7	97.6	55.7	98.0	85.9	97.5	91.5	99.9	78.9	94.7
Ranga Reddy	68.8	99.3	79.1	99.9	57.6	98.6	92.9	98.2	95.0	98.4	90.7	97.9
Warangal	69.2	95.0	80.9	96.6	55.5	92.1	83.4	98.7	82.6	97.8	84.4	99.9
Telangana	63.6	94.7	72.5	95.1	54.1	94.3	87.9	97.1	89.8	98.0	85.7	96.2

Note: Children in the age group of 6-14 years currently attending school; Source: NSSO 50th and 68th Employment and Unemployment Rounds

Table A19: Net Enrolment Ratio at Secondary and Higher Secondary Level among Boys and Girls in Telangana State (Percentages)

Districts	1993-94			2011		
	Persons	Male	Female	Persons	Male	Female
Adilabad	21.8	29.9	13.9	68.3	68.4	68.3
Hyderabad	47.1	50.5	42.7	68.8	67.2	70.6
Karimnagar	28.2	32.2	24.0	67.6	72.6	61.9
Khammam	28.9	31.1	26.7	67.4	71.0	63.5
Mahbubnagar	15.1	12.8	18.1	59.7	53.3	67.5
Medak	31.8	34.6	27.7	61.8	62.6	60.5
Nalgonda	21.2	29.6	14.6	72.6	80.2	65.0
Nizamabad	17.0	21.4	9.0	76.1	71.0	80.1
Ranga Reddy	24.8	29.6	18.8	69.7	70.5	68.7
Warangal	32.7	46.6	16.0	63.6	56.7	70.8
Telangana	26.5	31.3	21.0	67.5	67.1	67.9

Note: Children in the age group of 14-17 years attending 9th, 10th, 11th and 12th classes are considered; *Source:* NSSO 50th and 68th Employment and Unemployment Rounds

Table A20: Net Enrolment Ratio at Secondary and Higher Secondary Levels across Social Groups in Telangana State (Percentages)

Location	Category	1993-94				2011-12			
		ST	SC	Others	All	ST	SC	Others	All
Rural	Persons	10.1	12.6	23.3	20.0	59.8	71.1	65.7	65.9
	Male	11.4	20.2	28.9	25.6	53.5	75.0	64.4	65.1
	Female	8.9	1.5	16.8	13.4	65.8	66.1	67.1	66.8
Urban	Persons	5.9	49.3	42.3	42.3	71.4	71.7	69.7	70.0
	Male	15.7	56.0	44.2	45.1	79.5	69.8	70.1	70.3
	Female	0.0	39.1	40.1	39.0	62.0	73.5	69.3	69.6
Total	Persons	9.8	18.9	29.7	26.5	61.3	71.3	67.4	67.5
	Male	11.6	26.4	34.1	31.3	57.0	73.6	66.9	67.1
	Female	8.1	7.8	24.7	21.0	65.4	68.7	68.0	67.9

Note: Children in the age group of 14-17 years attending 9th, 10th, 11th and 12th classes are considered

Source: NSSO 50th and 68th Employment and Unemployment Rounds

Table A21: Net Enrolment Ratio at Secondary and Higher Secondary Level in Rural and Urban Areas of Telangana State(Percentages)

Districts	Rural						Urban					
	Persons		Male		Female		Persons		Male		Female	
	1993	2011	1993	2011	1993	2011	1993	2011	1993	2011	1993	2011
Adilabad	15.8	62.6	20.8	64.5	11.4	60.1	35.6	79.7	47.8	77.1	20.8	82.3
Hyderabad							47.1	68.8	50.5	67.2	42.7	70.6
Karimnagar	22.1	68.7	29.2	74.3	15.4	62.7	45.2	61.6	39.4	64.8	52.6	55.5
Khammam	26.5	64.3	28.3	68.5	24.8	59.1	36.2	74.8	39.7	77.4	32.8	72.4
Mahbubnagar	11.6	56.7	10.0	48.9	13.8	66.0	39.1	80.0	37.7	81.0	40.3	78.6
Medak	31.9	61.8	33.4	63.1	29.6	59.5	30.7	62.4	43.4	59.3	19.2	74.5
Nalgonda	18.2	74.2	27.4	79.0	10.9	68.9	40.0	64.2	43.4	90.2	37.4	50.6
Nizamabad	10.8	75.4	16.8	65.8	0.7	81.6	44.8	77.8	39.5	80.3	58.3	74.7
Ranga Reddy	19.3	68.9	26.0	68.7	7.2	69.1	34.3	76.9	39.8	83.2	30.7	63.7
Warangal	26.7	63.5	45.8	50.5	5.1	76.0	50.4	63.9	48.4	70.3	53.4	55.6
Telangana	20.0	65.9	25.6	65.1	13.4	66.8	42.3	70.0	45.1	70.3	39.0	69.6

Note: Children in the age group of 14-17 years attending 9th, 10th, 11th and 12th classes are considered

Source: NSSO 50th and 68th Employment and Unemployment Rounds

Table A22: Proportion of students (6-14 years) never attended school in Telangana State by Sex, Location and Caste, 2011-12 (Percentages)

Districts	All	Rural	Urban	Male	Female	SC	ST
1993-94	28.06	34.06	10.59	20.11	36.41	38.23	52.65
2011-12	2.67	3.10	1.97	2.48	2.88	3.73	6.53
CAGR	(12.24)	(12.45)	(8.92)	(10.97)	(13.13)	(12.12)	(10.94)
All India, 2011-12	4.40	4.85	3.07	3.99	4.88	5.25	5.19
Rank of Telangana	18	20	16	19	20	19	25
Min. value (State)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max. value (State)	10.19	10.62	7.68	9.37	11.15	12.62	13.16

Source: As per table 5.23A

Table A23: School Drop-out Rate among Boys and Girls in Telangana State (Percentages)

Districts	1993-94			2011		
	Persons	Male	Female	Persons	Male	Female
Adilabad	33.3	28.2	38.4	3.3	3.8	2.9
Hyderabad	8.6	7.1	10.6	0.9	0.5	1.3
Karimnagar	22.5	12.0	32.3	0.6	0.9	0.1
Khammam	29.1	23.3	34.4	1.6	0.1	3.2
Mahbubnagar	55.1	45.3	65.9	3.2	1.7	5.1
Medak	27.9	26.6	29.7	1.9	3.4	0.3
Nalgonda	32.3	21.8	43.4	1.0	1.6	0.5
Nizamabad	32.1	24.8	41.2	1.3	1.2	1.5
Ranga Reddy	24.2	16.4	32.6	0.5	0.1	1.0
Warangal	27.9	18.7	38.7	3.2	1.6	5.9
Telangana	30.3	23.0	38.3	1.7	1.4	2.1

Note: Children in the age group of 6-14 years currently not attending school

Source: NSSO 50th and 68th Employment and Unemployment Rounds

Table A24: School Drop-out Rate across Social Groups in Telangana State (percentages)

Location	Category	ST	SC	Others	All	ST	SC	Others	All
Rural	Persons	60.9	44.7	29.9	36.4	4.4	2.8	1.6	2.2
	Male	50.0	33.5	21.9	27.5	3.4	0.9	1.7	1.8
	Female	73.4	56.3	38.4	45.9	5.5	4.6	1.4	2.6
Urban	Persons	24.8	12.6	11.7	12.1	0.3	0.2	1.6	0.9
	Male	21.1	13.8	9.6	10.2	0.0	0.0	0.7	0.6
	Female	29.5	11.4	14.3	14.3	0.6	0.3	2.0	1.2
Total	Persons	58.7	40.6	24.4	30.3	4.0	2.1	1.3	1.7
	Male	48.2	31.1	18.0	23.0	3.0	0.7	1.3	1.4
	Female	70.8	50.4	31.5	38.3	5.0	3.6	1.3	2.1

Note: Children in the age group of 6-14 years currently not attending school; Source: NSSO 50th and 68th Employment and Unemployment Rounds

Table A25: School Drop-out Rates in Rural and Urban Areas of Telangana State (percentages)

Districts	Rural						Urban					
	Persons		Male		Female		Persons		Male		Female	
	1993	2011	1993	2011	1993	2011	1993	2011	1993	2011	1993	2011
Adilabad	38.1	4.7	28.9	5.2	47.1	4.2	20.7	0.2	26.4	0.0	14.6	0.4
Hyderabad							8.6	0.9	7.1	0.5	10.6	1.3
Karimnagar	24.5	0.6	13.4	1.1	34.2	0.0	17.0	0.5	8.8	0.4	26.4	0.6
Khammam	33.7	1.9	27.1	0.1	40.1	3.8	9.3	0.0	5.1	0.0	12.5	0.0
Mahbubnagar	58.8	3.7	47.9	1.8	70.7	6.0	21.7	0.3	21.6	0.5	21.8	0.0
Medak	30.1	2.0	29.0	3.8	31.6	0.0	12.2	1.0	10.1	0.0	15.4	2.2
Nalgonda	36.9	0.4	26.0	0.8	47.4	0.0	4.3	5.7	2.6	6.4	7.5	4.9
Nizamabad	34.8	1.6	27.3	1.7	44.3	1.5	14.1	0.7	8.5	0.0	21.1	1.4
Ranga Reddy	31.2	0.5	20.9	0.0	42.4	1.0	7.1	0.7	5.0	0.9	9.3	0.6
Warangal	30.8	4.0	19.1	1.8	44.5	7.9	16.6	0.4	17.4	0.7	15.6	0.1
Telangana	36.4	2.2	27.5	1.8	45.9	2.6	12.1	0.9	10.2	0.6	14.3	1.2

Note: Children in the age group of 6-14 years currently attending school; Source: NSSO 50th and 68th Employment and Unemployment Rounds

Table A26: District-wise Primary Schools in Private Sector (%)										
Districts	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Top Level HDI Districts										
Hyderabad	64.2	64.5	61.8	66.5	66.5	66.4	66.1	66.8	67.2	71.6
Ranga Reddy	32.9	35.1	37.0	38.0	38.3	41.8	42.4	42.7	44.0	47.0
Middle Level HDI Districts										
Warangal	20.5	21.1	21.4	21.6	22.1	21.8	23.3	24.1	24.7	26.0
Karimnagar	25.2	26.3	27.4	28.1	28.4	29.8	29.0	30.2	29.9	30.5
Khammam	8.3	9.3	9.5	10.2	10.5	11.7	11.9	12.4	13.2	14.0
Adilabad	10.6	11.4	11.2	11.8	12.0	12.5	12.9	13.1	14.0	14.6
Nalgonda	15.1	15.8	16.1	17.2	17.4	19.0	20.1	22.4	23.2	24.6
Bottom Level HDI Districts										
Nizamabad	18.3	19.2	19.6	21.7	21.4	23.3	24.2	24.1	23.8	25.3
Mahbubnagar	12.7	13.2	13.3	14.1	14.4	17.0	17.7	18.4	18.7	20.9
Medak	8.2	9.7	11.9	13.0	13.4	14.4	15.1	16.6	17.6	19.2
Telangana	19.7	20.7	21.2	22.1	22.3	23.7	24.2	25.0	25.6	27.4

Source: District Report Cards, DISE

Table A27: District-wise Upper Primary Schools in Private Sector (%)										
Districts	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Top Level HDI Districts										
Hyderabad	81.1	81.5	76.5	81.6	86.1	86.3	86.2	86.3	86.7	87.4
Ranga Reddy	57.5	59.2	61.7	61.9	63.1	65.7	65.4	65.0	66.4	68.7
Middle Level HDI Districts										
Warangal	41.3	41.7	43.0	43.1	46.9	46.7	48.8	48.4	48.6	48.3
Karimnagar	43.5	45.2	46.6	47.0	49.1	50.7	48.6	49.0	49.4	49.5
Khammam	17.6	19.8	21.7	22.9	25.0	28.7	29.1	29.2	30.1	31.8
Adilabad	29.9	29.4	29.4	30.7	34.1	34.2	34.9	35.7	37.3	37.5
Nalgonda	35.4	36.0	36.7	38.6	40.2	41.7	44.0	45.7	46.2	46.9
Bottom Level HDI Districts										
Nizamabad	33.5	34.4	35.3	37.4	39.6	41.0	42.9	42.5	42.7	42.1
Mahbubnagar	27.5	27.8	28.2	29.4	31.2	33.2	34.5	35.6	36.3	39.0
Medak	17.8	20.3	23.8	26.3	28.3	29.3	30.2	32.2	33.8	34.7
Telangana	39.7	40.8	41.8	43.0	45.5	46.9	47.4	47.7	48.7	49.6

Source: District Report Cards, DISE

Table A28: District-wise Secondary Schools in Private Sector (%)										
Districts	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Top Level HDI Districts										
Hyderabad	80.2	82.0	82.5	82.4	82.6	82.6	82.8	83.1	84.1	83.9
Ranga Reddy	58.7	61.6	63.9	64.1	64.0	65.9	65.7	66.0	67.6	68.8
Middle Level HDI Districts										
Warangal	45.4	46.4	47.2	46.0	47.4	47.5	48.6	48.3	49.0	48.9
Karimnagar	41.1	43.1	43.6	43.3	44.6	45.8	45.5	44.2	44.7	43.2
Khammam	22.8	26.9	28.2	29.0	29.7	34.6	34.8	35.1	36.1	36.0
Adilabad	37.1	36.2	34.7	35.0	36.3	36.5	35.9	34.9	35.3	34.3
Nalgonda	34.6	35.6	37.1	38.5	39.4	40.8	43.7	44.5	44.9	44.5
Bottom Level HDI Districts										
Nizamabad	30.5	30.7	30.4	32.5	33.2	34.1	35.4	34.9	36.3	36.1
Mahbubnagar	28.4	29.3	31.3	32.7	33.9	35.8	35.7	36.2	36.7	38.8
Medak	18.2	21.2	24.3	26.5	26.5	27.8	28.6	29.8	31.5	31.8
Telangana	43.0	44.8	45.9	46.1	46.7	47.9	48.2	48.1	49.3	49.3

Source: District Report Cards, DISE

Table A29: District-wise All Schools in Private Sector (%)										
Districts	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Top Level HDI Districts										
Hyderabad	73.5	74.4	71.5	75.4	76.9	76.8	76.8	77.2	78.1	80.1
Ranga Reddy	44.7	47.2	49.4	50.3	50.7	53.6	53.9	54.3	55.9	58.3
Middle Level HDI Districts										
Warangal	29.9	30.7	31.3	31.3	32.7	32.4	34.3	34.8	35.5	36.6
Karimnagar	33.1	34.8	36.0	36.6	37.5	38.8	37.7	38.5	38.7	39.0
Khammam	12.2	13.9	14.5	15.5	16.2	18.5	18.7	19.3	20.3	21.3
Adilabad	17.6	18.3	18.0	18.8	19.7	20.1	20.7	21.0	22.2	22.7
Nalgonda	23.1	24.0	24.7	26.2	26.8	28.4	30.4	32.5	33.4	34.6
Bottom Level HDI Districts										
Nizamabad	24.4	25.3	25.8	28.0	28.5	30.0	31.4	31.3	31.4	32.2
Mahbubnagar	18.4	19.0	19.5	20.7	21.4	23.8	24.8	25.6	26.2	28.7
Medak	12.1	14.2	16.9	18.7	19.3	20.4	21.2	23.0	24.4	25.7
Telangana	28.5	29.9	30.6	31.7	32.5	33.8	34.5	35.2	36.2	37.7

Source: District Report Cards, DISE

Table A30: Schooling of Children 12 years Old (Younger and Older Cohort)

	Older Cohort - Round 2					Younger Cohort - Round 4					Sample Size (No. of YC children)	
	Percentage of Children attending school (%)	Grade attending in 2007	Percentage of Children attending private schools (%)	Percentage of Children receiving extra-tuition (%)	Sample Size (No. of OC children)	Percentage of Children attending school (%)	Grade attending in 2013-2014	Percentage of Children attending private schools (%)	Percentage of Children receiving extra-tuition (%)	Average spent on fees per year (Rupees)		Average spent on extra-tuition per year (Rupees)
	A Sex of YL Child											
Male	92.81	6.34	36.13	13.55	167	96.1	5.94	46.22	6.76	5,614	337	385
Female	84.21	6.29	28.47	6.94	171	96.1	6.33	33.58	8.12	3,839	171	282
	Child's Ethnic Group or Caste											
Scheduled Castes	88.89	6.17	15	3.75	90	96.35	6.07	23.48	2.27	2,475	145	137
Scheduled Tribes	76	6.26	21.05	21.05	25	98.85	5.63	27.91	3.49	3,038	127	87
Backward Classes	86.67	6.36	30.77	11.89	165	94.48	6.23	42.21	8.44	5,271	328	326
Other Castes	95.59	6.33	58.46	10.77	68	98.29	6.17	66.96	13.04	7,881	350	117
	Maternal education											
No Education	84.74	6.24	17.54	8.53	249	94.27	5.91	26.84	3.29	2,943	91	419
Up to 5 years	96.88	6.27	38.71	12.9	32	100	6.34	43.84	9.59	4,506	181	73
6 or more years	96.97	6.52	75	14.06	66	98.86	6.45	71.68	15.61	9,400	705	175
	Terciles of Wealth Index											
Bottom Tercile	82.91	6.16	8.25	2.06	117	95.11	5.99	16.36	1.87	2,178	35	225
Middle Tercile	86.09	6.37	16.16	0	115	94.55	5.99	30.77	2.88	3,835	65	220
Top Tercile	95.69	6.35	66.67	26.13	116	98.65	6.32	74.43	16.89	8,465	686	222
	Urban or rural site											
Urban	95.15	6.28	72.45	30.61	103	98.62	6.3	73.95	18.14	8,712	738	218
Rural	85.31	6.31	12.92	0.48	245	94.88	6	24.18	1.88	2,922	29	449
Total	88.22	6.3	31.92	10.1		96.1	6.1	40.87	7.33	4,864	267	
Sample Size (No. of Children)	348	306	307	307	348	667	641	641	641	641	641	667

Source: Computed from unit level young lives project.

Table A31: Learning Outcomes of Children 12 years Old (Younger and Older Cohort)

	Older Cohort - Round 2					Younger Cohort - Round 4					
	Percentage of correct answers in Maths Test (Average Raw Score)	Percentage of children who can solve correctly: "Which of these is equal to 342?" (%)	Percentage of children who can solve correctly: "Which of these 9740?" (%)	Percentage of children who can solve correctly: "A piece of rope 204 cm. long is cut into 4 equal pieces. Which of these gives the length of each piece in centimeters?" (%)	Sample Size (No. of OC Children)	Percentage of correct answers in Maths Test (Average Raw Score)	Percentage of children who can solve correctly: "Which of these is equal to 342?" (%)	Percentage of children who can solve correctly: "Which of these 9740?" (%)	Percentage of children who can solve correctly: "A piece of rope 204 cm. long is cut into 4 equal pieces. Which of these gives the length of each piece in centimeters?" (%)	Percentage of correct answers in Telugu Test (Average Raw Score)	Sample Size (No. of YC Children)
A Sex of YL Child											
Male	67.38	70	83.13	35.63	167	37.02	50.39	69.45	21.67	48.98	385
Female	63.44	68.75	78.13	25.63	171	35.38	44.13	69.4	19.22	50.61	282
Child's Ethnic Group or Caste											
Scheduled Castes	59.17	60.71	77.38	30.95	90	33.03	47.41	65.19	20.74	47.74	137
Scheduled Tribes	67.39	78.26	82.61	26.09	25	36.54	45.98	70.11	17.24	50.59	87
Backward Classes	66.26	72.26	81.29	28.39	165	33.98	44.31	67.08	19.08	48.23	326
Other Castes	69.09	71.21	80.3	34.85	68	46.48	58.97	80.34	27.35	55.92	117
Child's Type of School											
Public school	66.48	72.07	83.8	31.28	181	31.2	44.31	64.07	16.47	48.09	336
Private school	72.24	73.47	83.67	34.69	98	42.77	52.29	77.86	20.99	50.74	262
Other*	58.93	64.29	71.43	25	28	54.77	69.77	90.7	60.47	64.29	43
Maternal education											
No Education	61.73	66.67	79.22	27.71	249	29.32	38.22	58.89	16.35	46.07	419
Up to 5 years	65.81	74.19	83.87	29.03	32	39.25	49.32	79.45	17.81	52.6	73
6 or more years	76.77	78.46	81.54	40	66	51.76	69.71	90.29	32	57.04	175
Terciles of Wealth Index											
Bottom Tercile	59.45	65.14	78.9	28.44	117	28.87	38.12	58.3	14.35	45.7	225
Middle Tercile	63.71	63.81	78.1	28.57	115	36.17	47.95	72.15	21.92	51.34	220
Top Tercile	71.75	78.95	83.33	33.33	116	43.97	57.21	77.93	25.68	52.25	222
Urban or rural site											
Urban	70.1	73.27	83.17	29.7	103	44.94	60.37	80.18	28.57	53.46	218
Rural	62.86	67.84	78.85	30.4	245	32.15	41.61	64.21	16.78	47.93	449
Total	65.09	69.51	80.18	30.18		36.33	47.74	69.43	20.63	49.68	
Sample size (No. of Children)	328	328	328	328	348	664	664	664	664	636	667

* The category "Other" includes NGO/Charity/Religious (not-for-profit), Informal or non-formal Community (e.g. mothers' cooperative), Charitable trust, Bridge school, and Mix of public and private (private aided), which altogether only represent 6.7% of children currently attending school in Round 4 and 9.1% in Round 2.

Source: Computed from unit level young lives project.

Table A32: GAPS: NEW TELANGANA

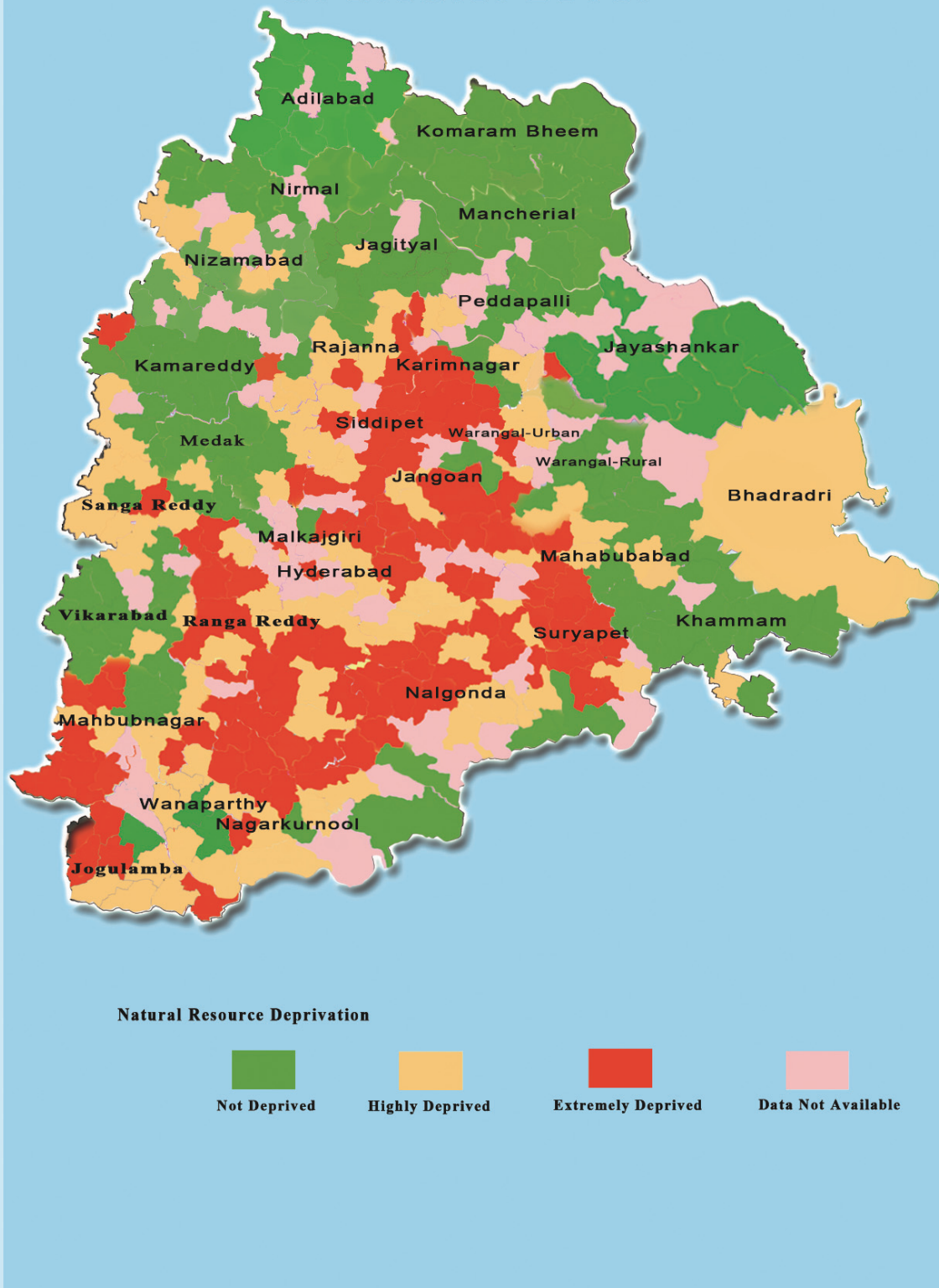
	Older Cohort - Round 2		Younger Cohort - Round 4	
	Difference of children attending school (Percentage points)	Difference of children attending private schools (Percentage points)	Difference of children attending school (Percentage points)	Difference of children attending private schools (Percentage points)
Sex of YL Child				
Male - Female	5.65	7.61	0.00	12.64
Urban or rural site				
Urban - Rural	9.84	59.53	3.75	49.78
Maternal education				
6 or more years - No Education	15.26	82.46	5.73	63.79
Child's Ethnic Group or Caste				
Other Castes - Scheduled Castes	6.70	43.46	1.94	43.47
Terciles of Wealth Index				
Top Tercile - Bottom Tercile	12.78	58.42	3.54	58.07

Source: As per table 5.32A

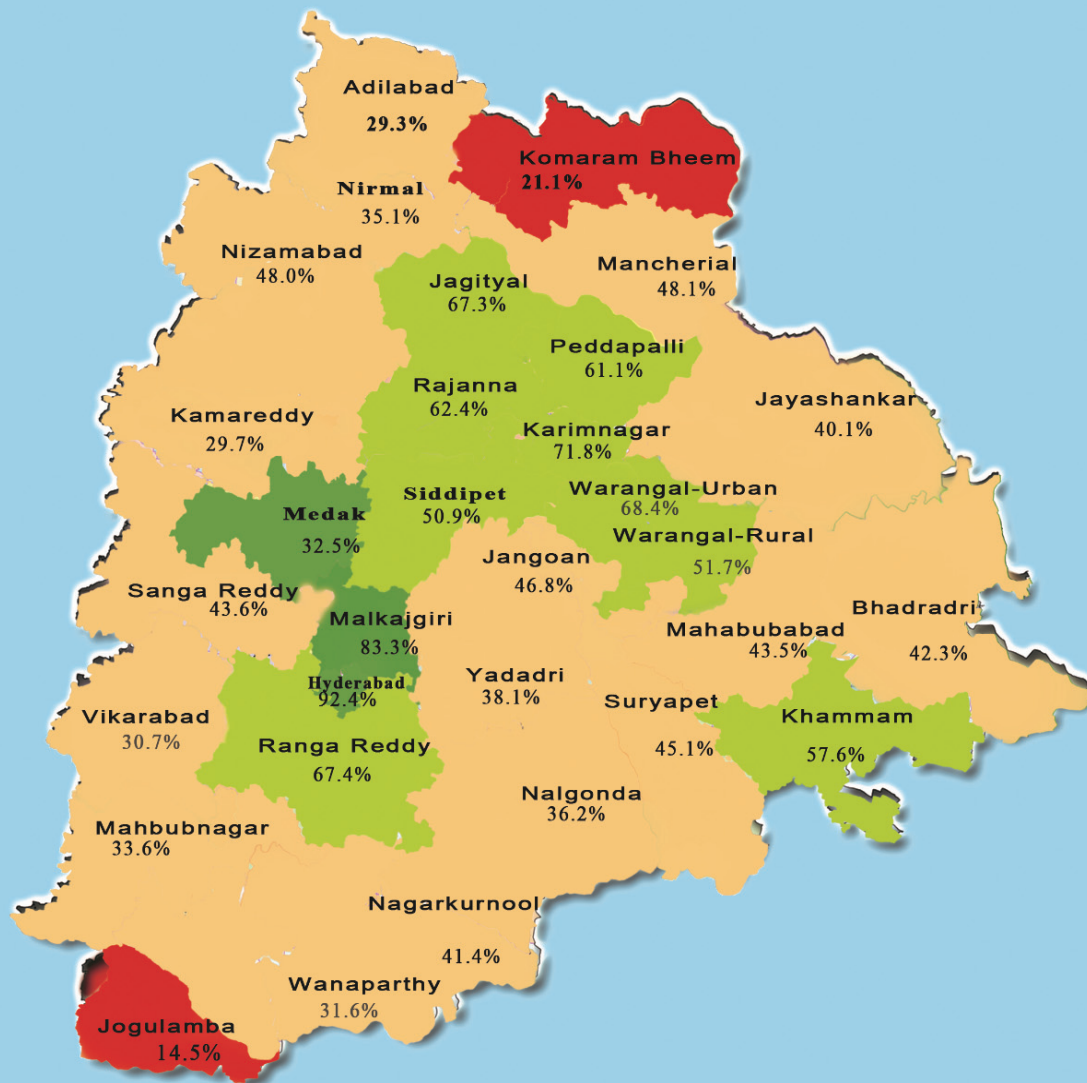
Appendix IV

Maps of Chapter-7

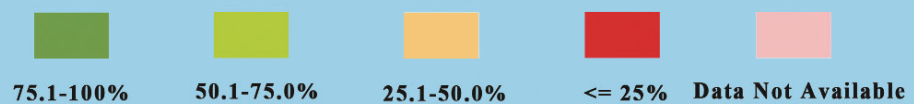
Map 7.A: Natural Resource Deprivation at District Level



Map 7.B: District-wise % of Households having Drinking Water Facility within the Premises



Drinking Water Facility within the Premises of the Households



Map 7.C: District-wise % of Households having Toilet Facility within the Premises

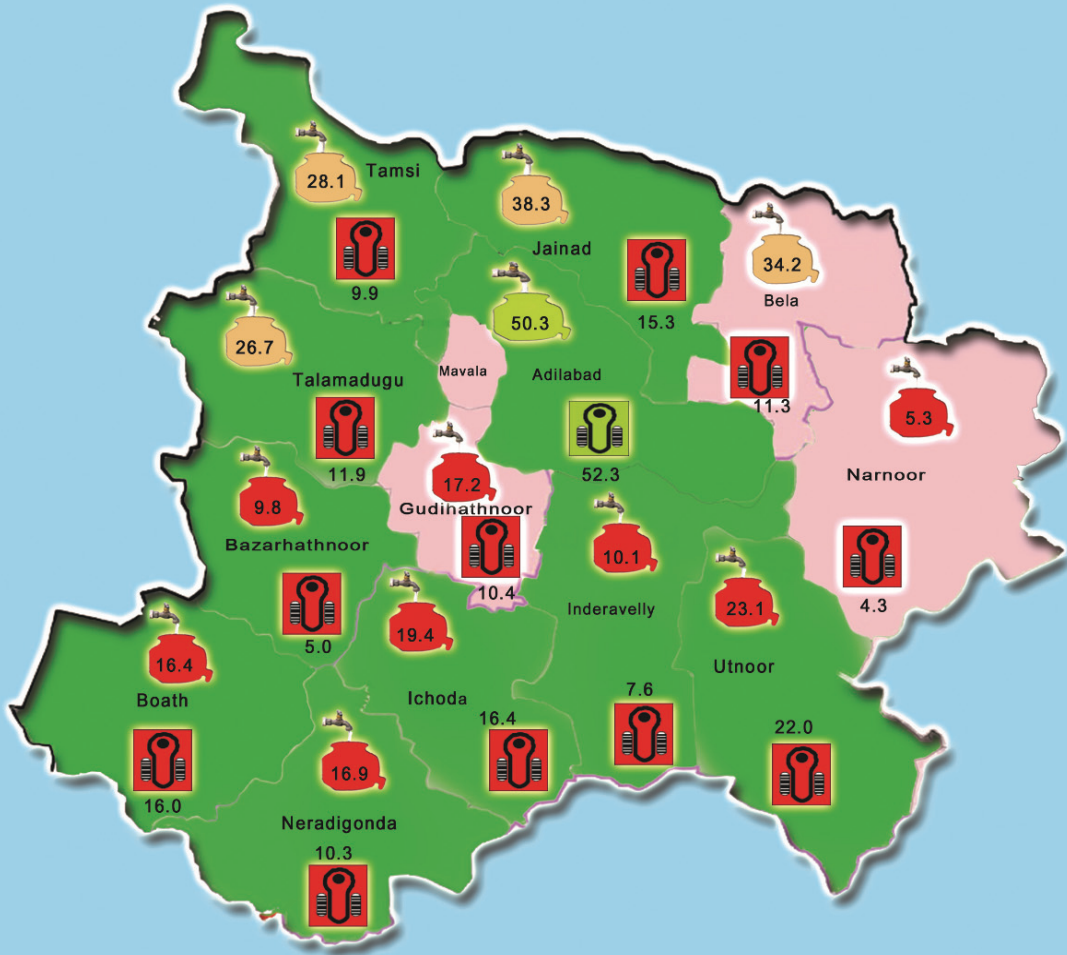


Toilet Facility within the Premises of the Households



Map 7.1: Adilabad District

Mandal - wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation



Not Deprived



Highly Deprived



Extremely Deprived



Data Not Available for all Categories

Drinking Water Facility and Toilet Facility within the Premises of the Households



75.1-100%



50.1-75.0%



25.1-50.0%



<=25%



75.1-100%



50.1-75.0%



25.1-50.0%



<=25%

Map 7.2: Bhadradri District

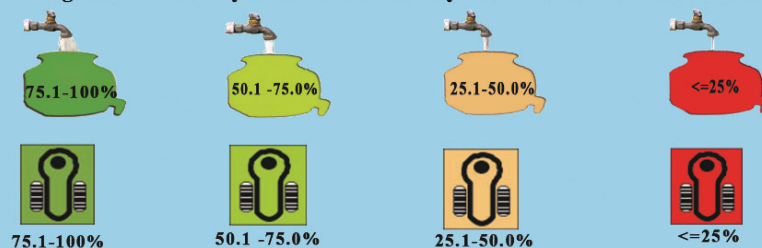
Mandal-wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation



Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.3: Jagitiyal District

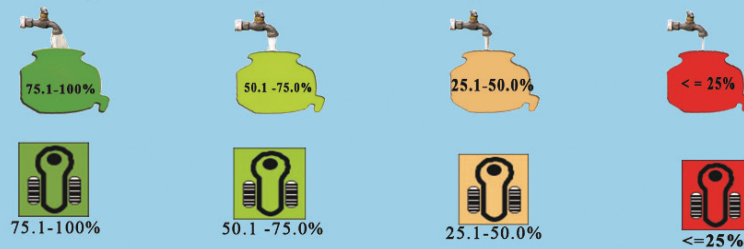
Mandal-wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation



Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.4: Jangoan District

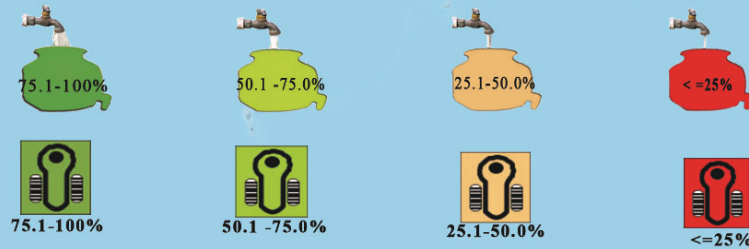
Mandal - wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation

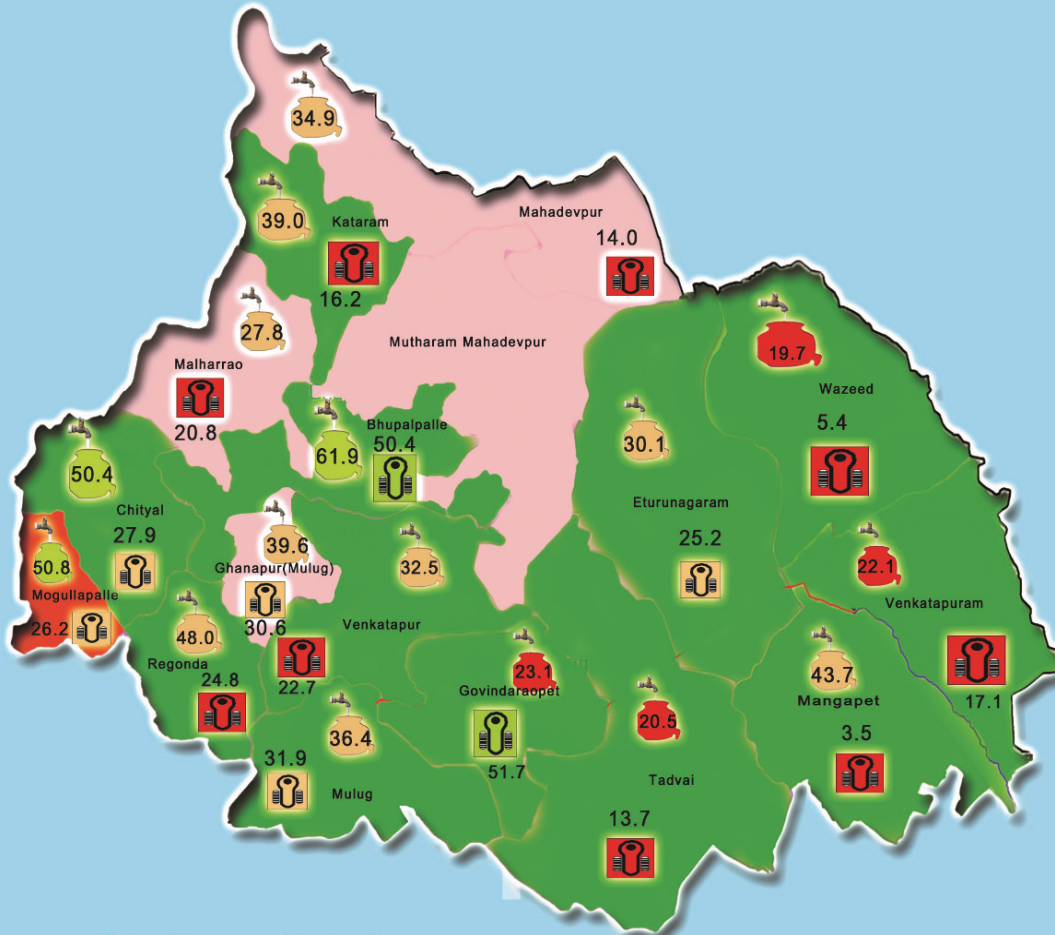


Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.5: Jayashankar District

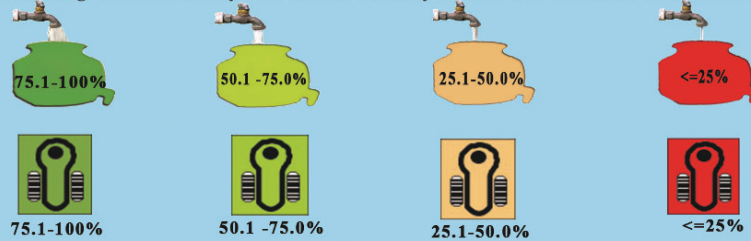
Mandal - wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation

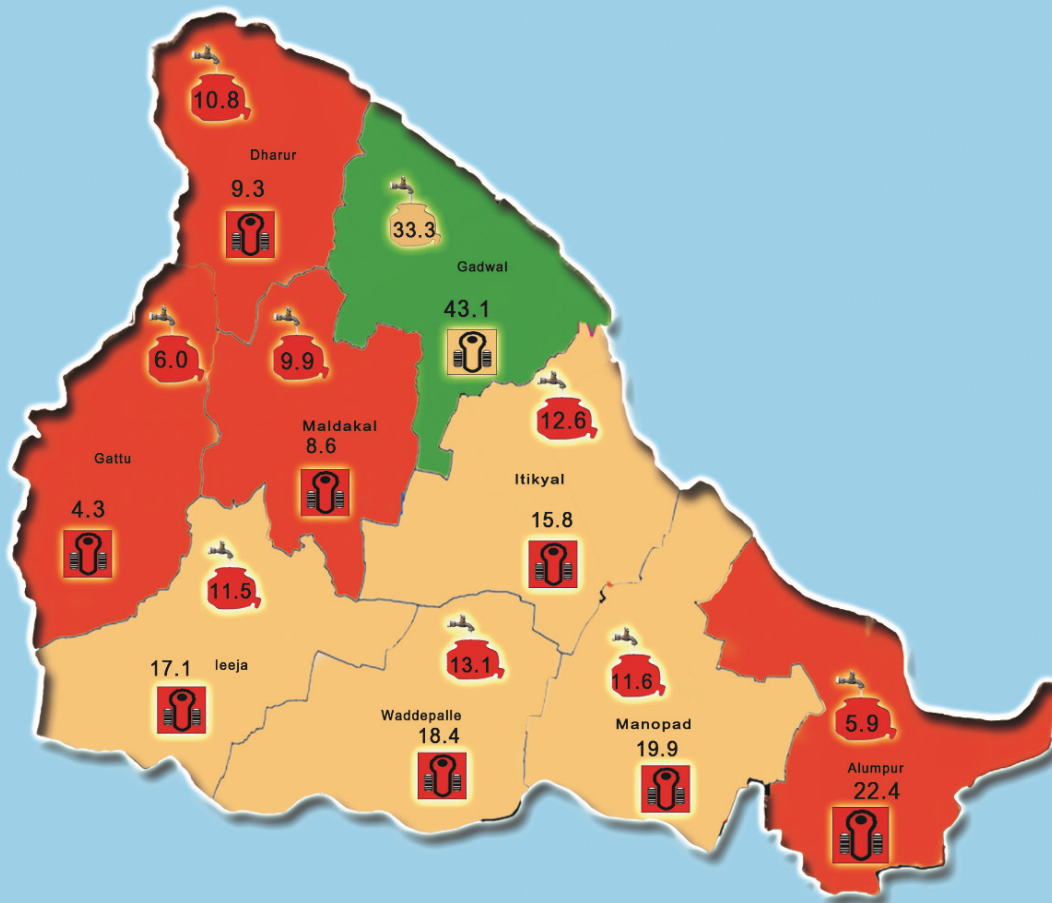


Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.6: Jogulamba District

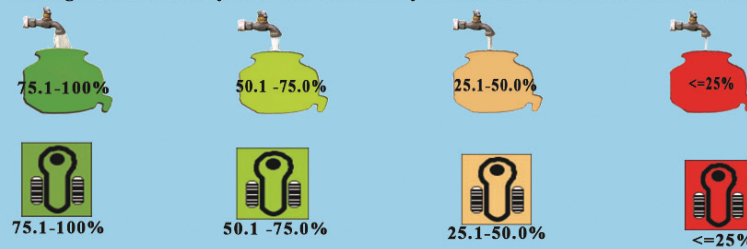
Mandal -wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation

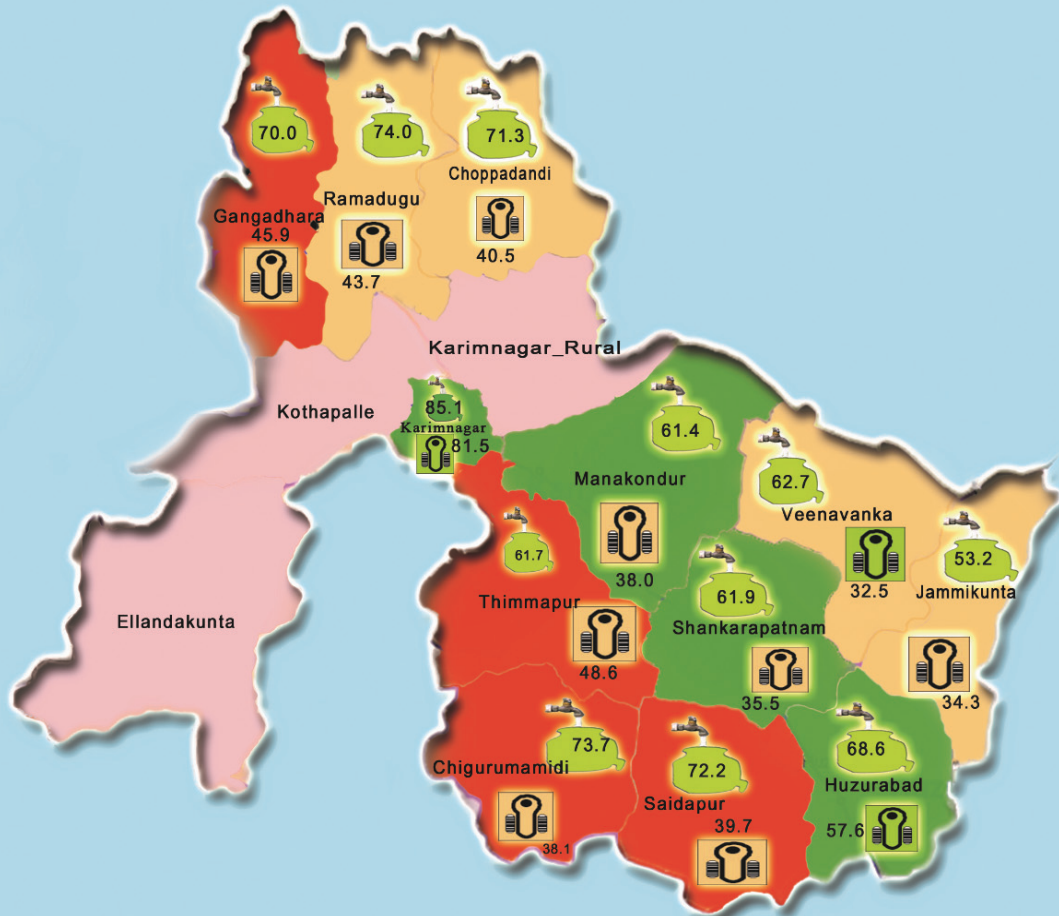


Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.8: Karimnagar District

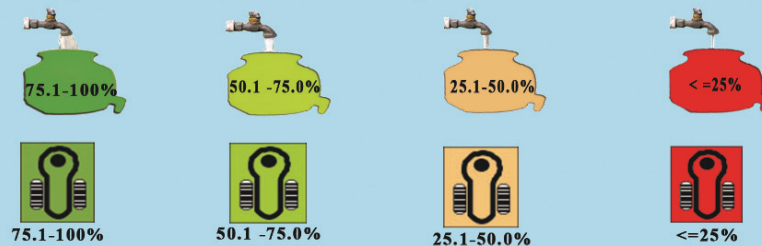
Mandal -wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation



Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.10: Komaram Bheem District

Mandal - wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation



Not Deprived



Highly Deprived



Extremely Deprived



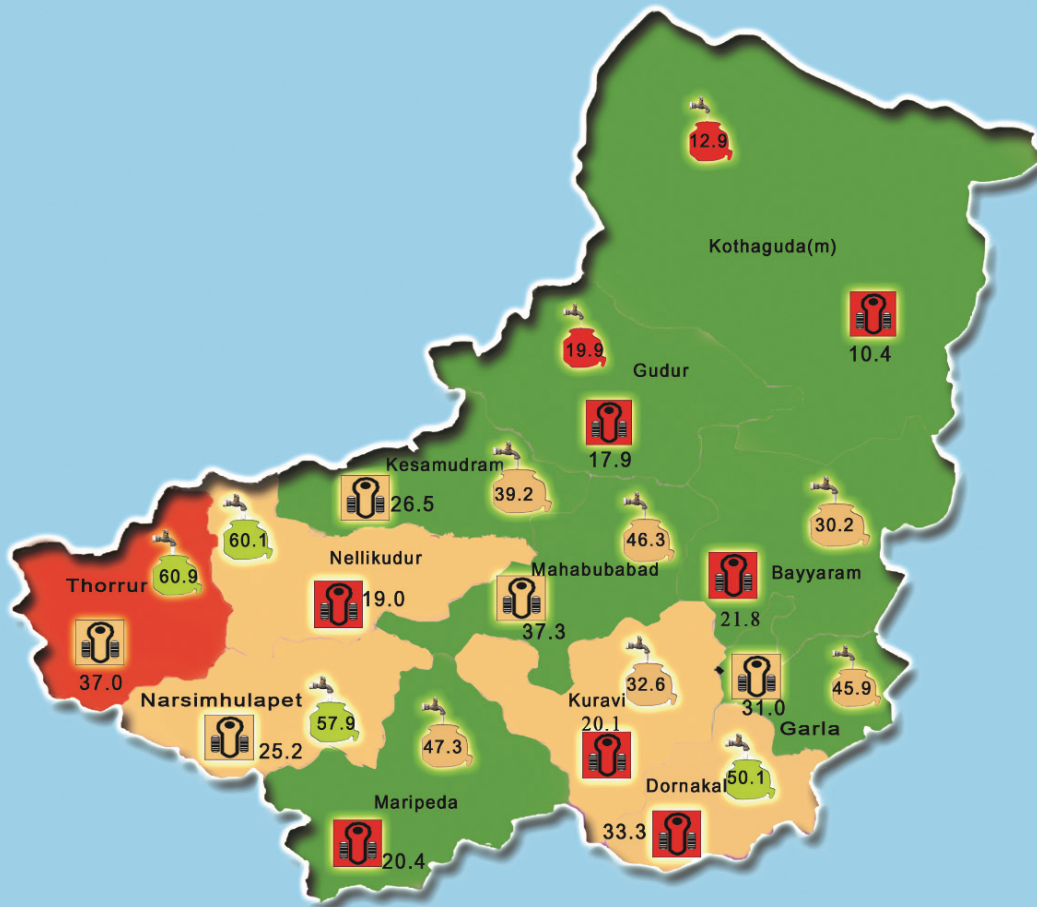
Data Not Available for all Categories

Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.11:Mahabubabad District

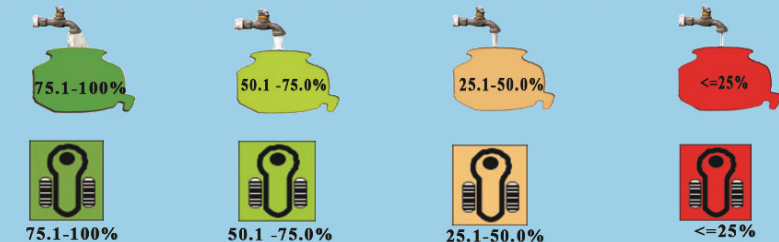
Mandal- wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation

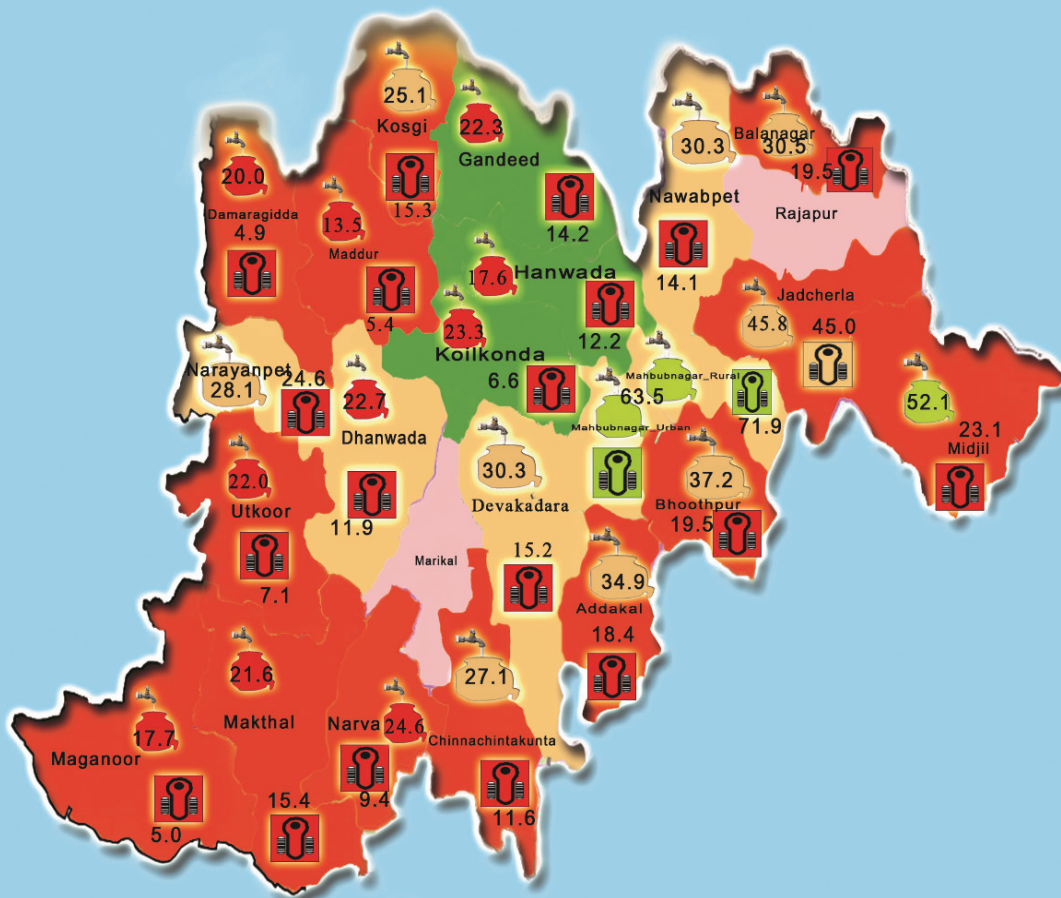


Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.12: Mahbubnagar District

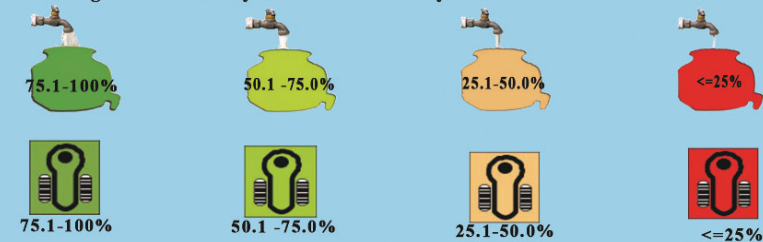
Mandal-wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation



Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.13:Mancherial District

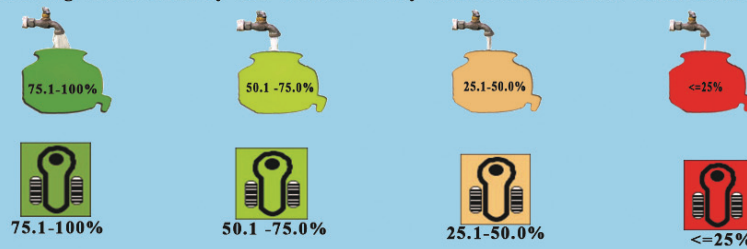
Mandal - wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation

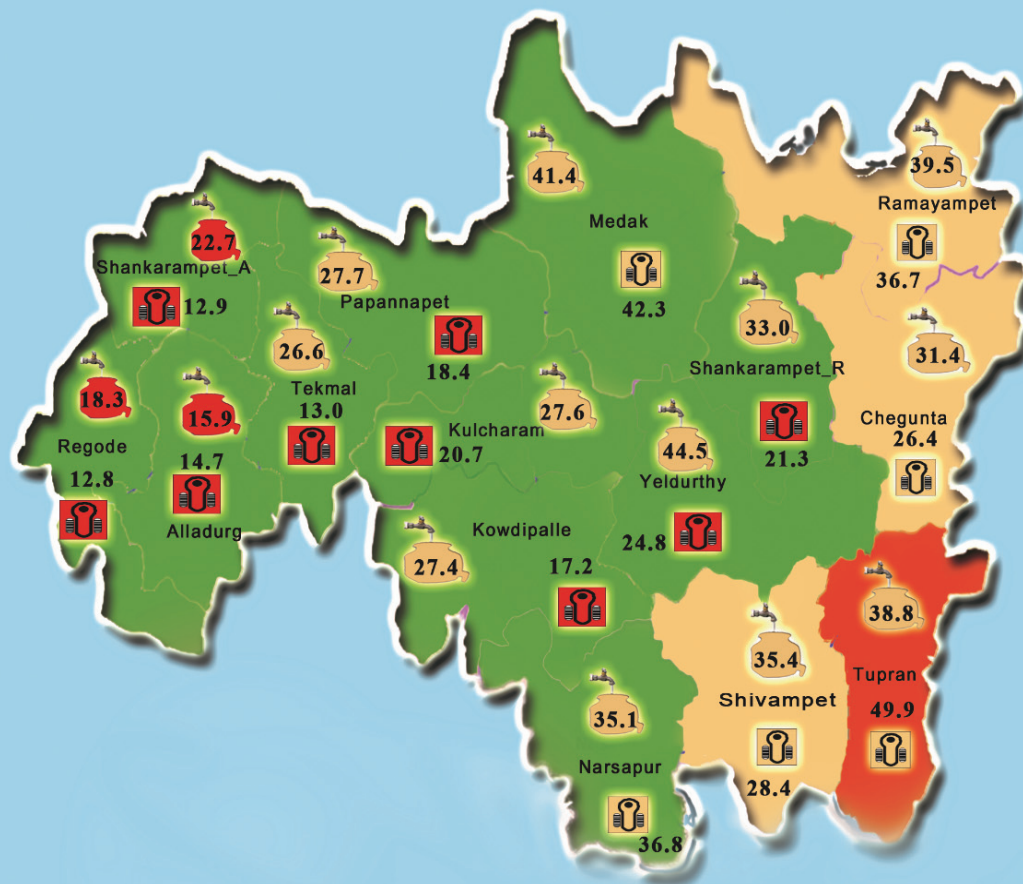


Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.14: Medak District

Mandal- wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation



Not Deprived



Highly Deprived



Extremely Deprived



Data Not Available for all Categories

Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.15: Medchal/Malkajgiri District

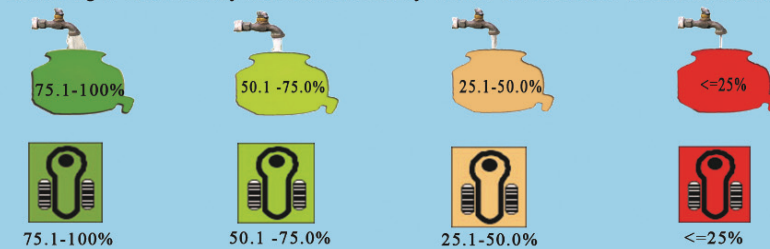
Mandal - wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation

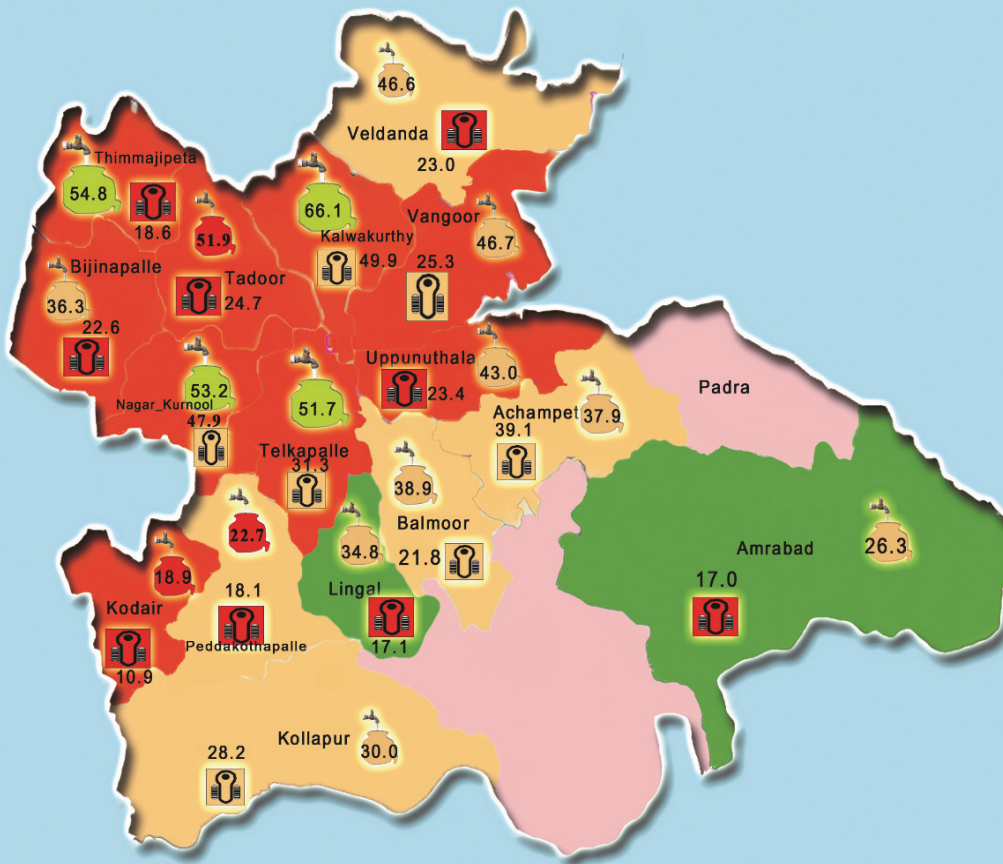


Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.16: Nagarkurnool District

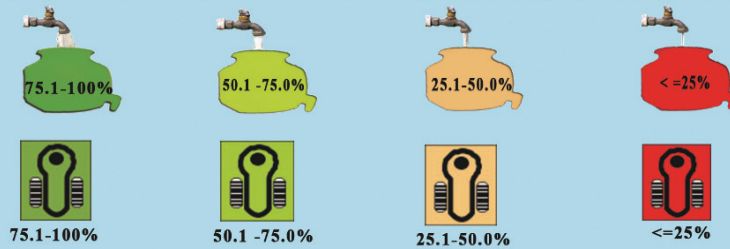
Mandal- wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation

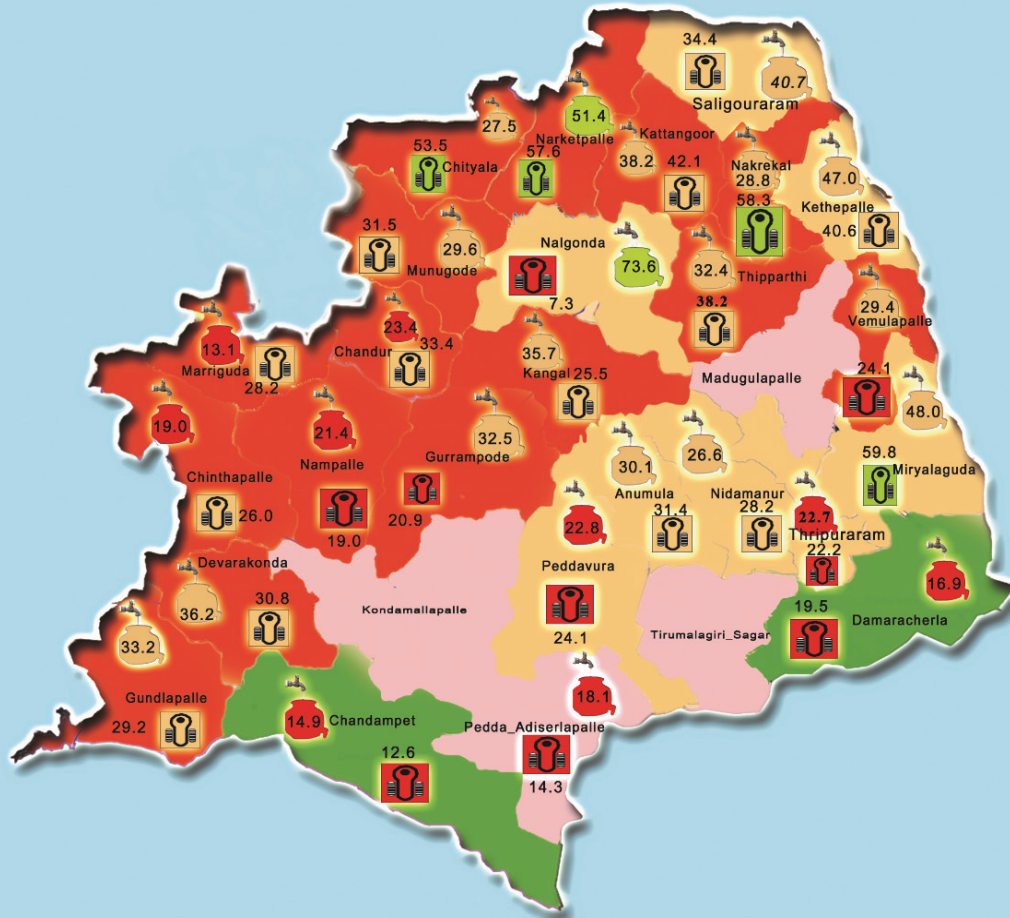


Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.17: Nalgonda District

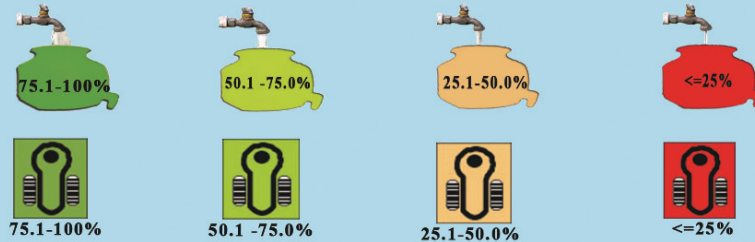
Mandal- wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation

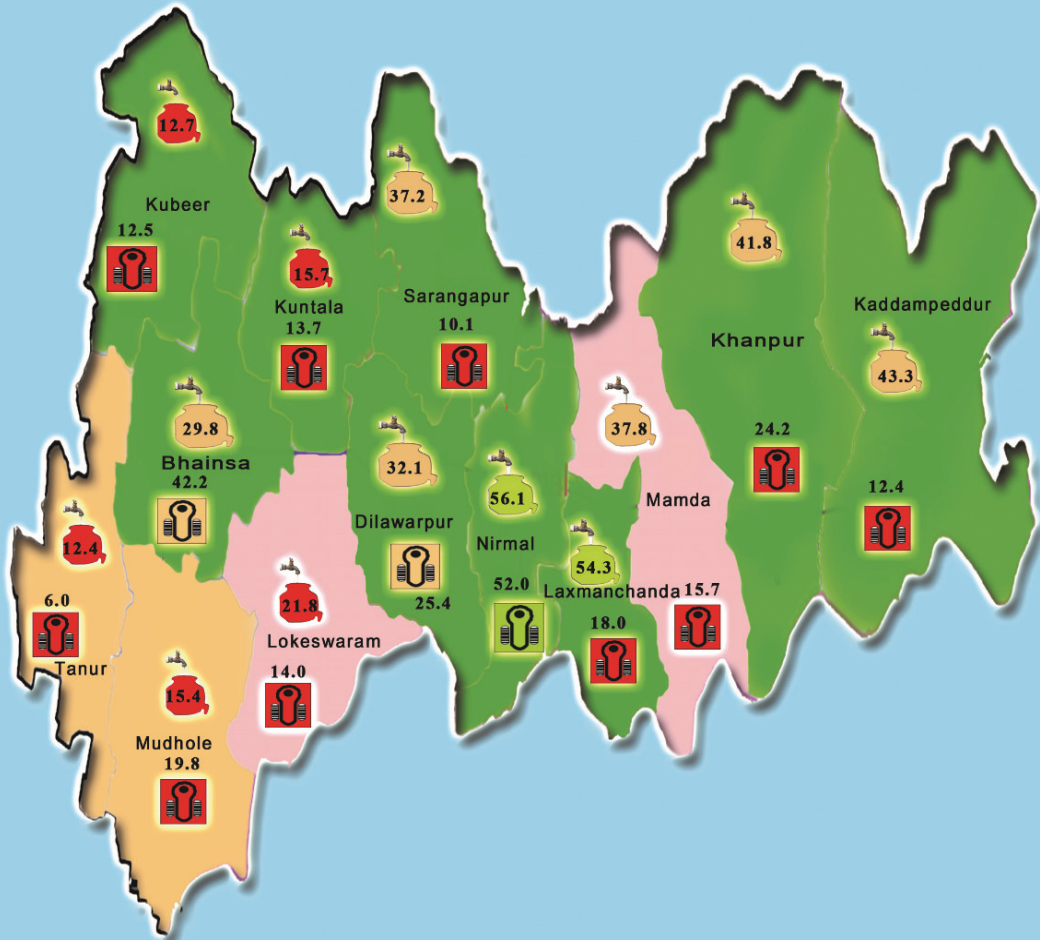


Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.18: Nirmal District

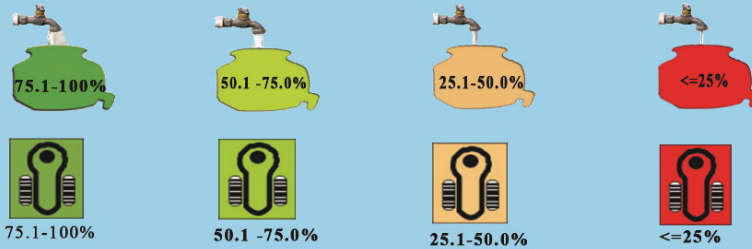
Mandal- wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation

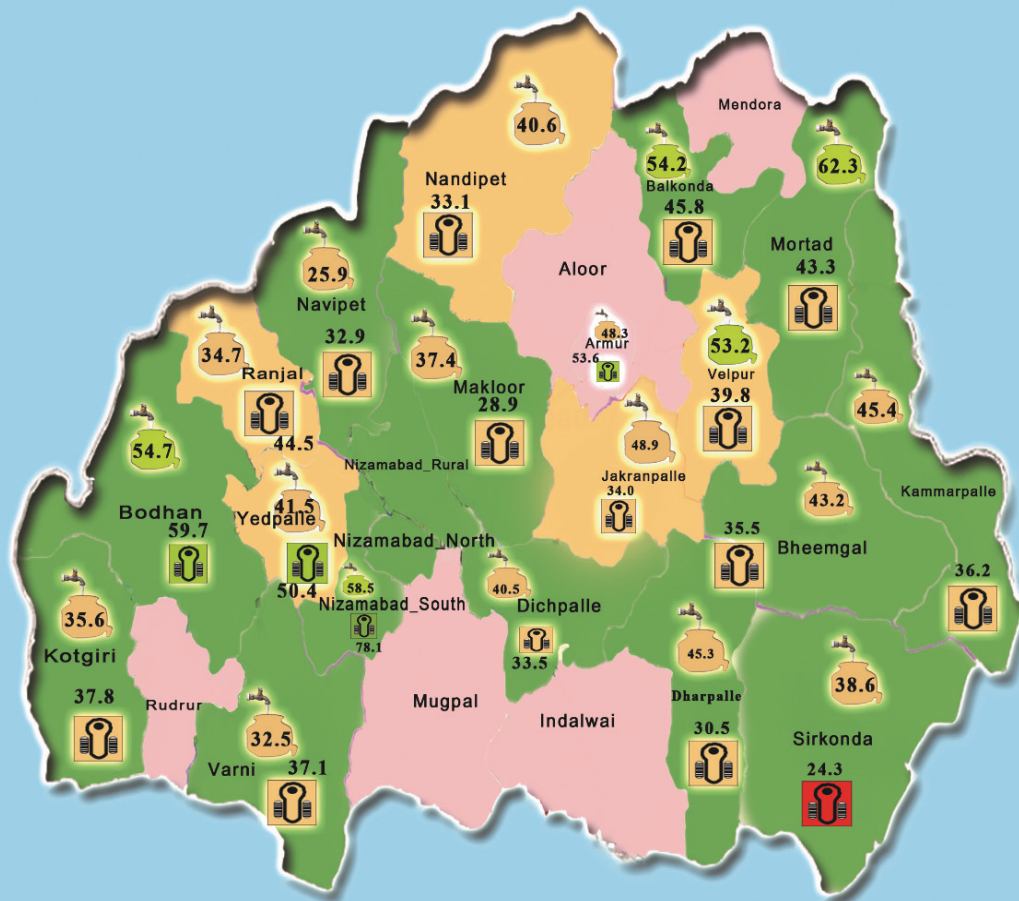


Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.19: Nizamabad District

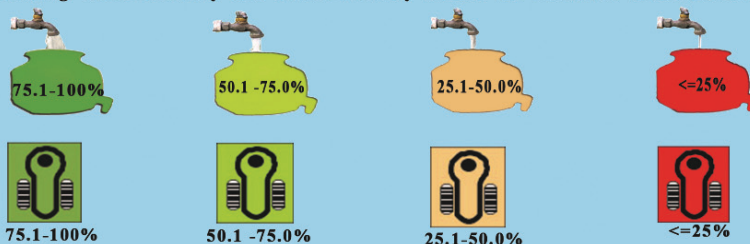
Mandal- wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation

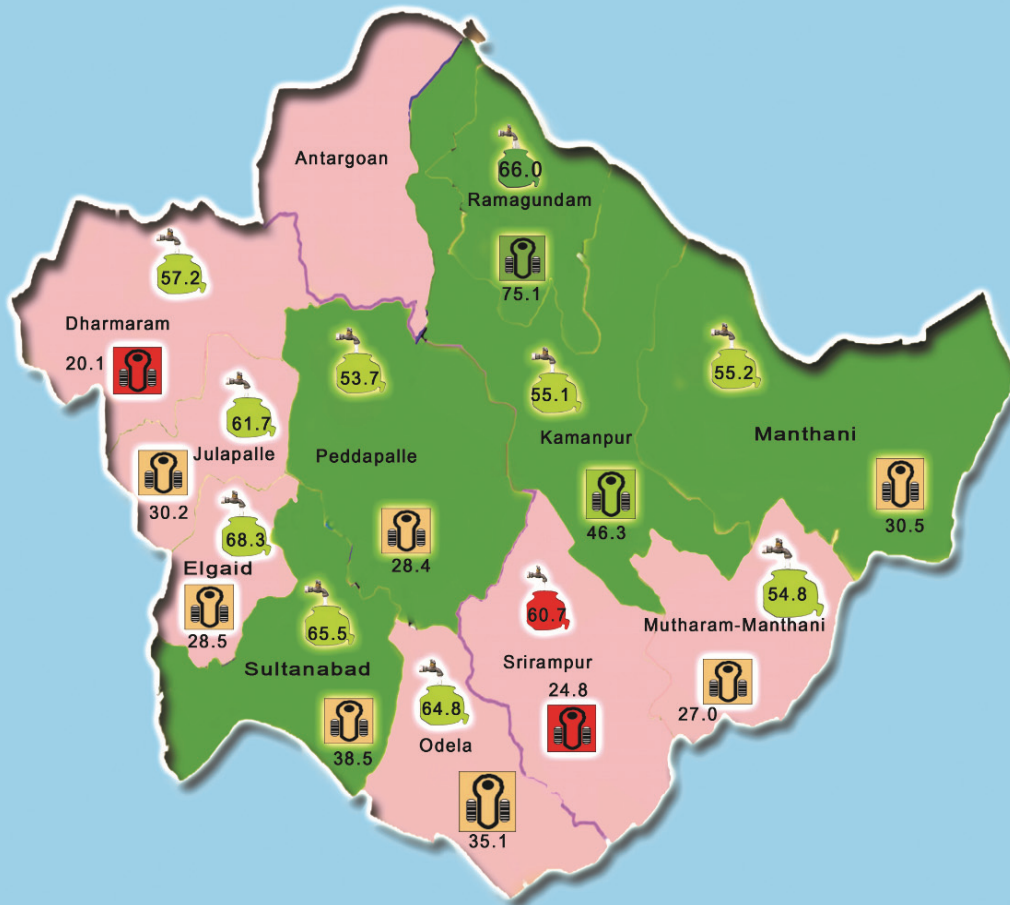


Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.20: Peddapalli District

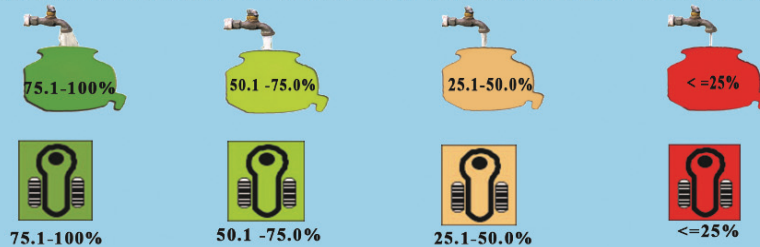
Mandal- wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation

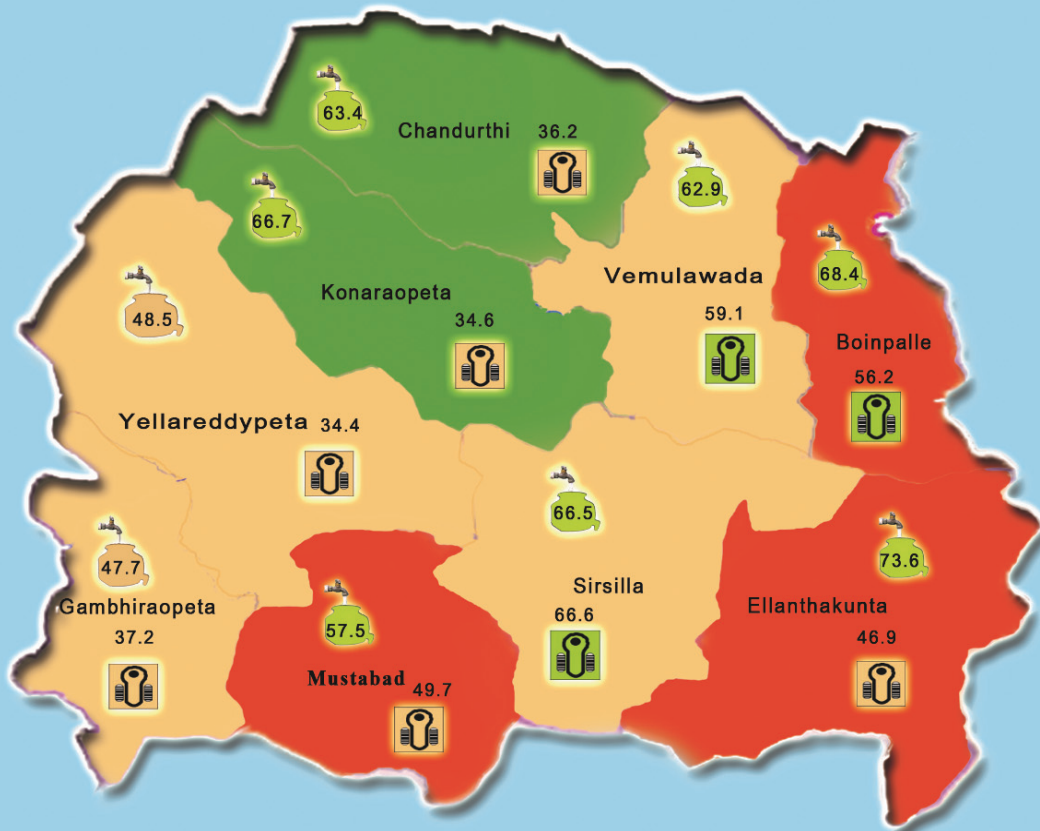


Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.21: Rajanna District

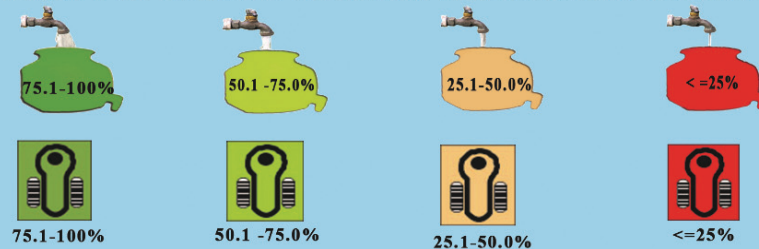
Mandal- wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation

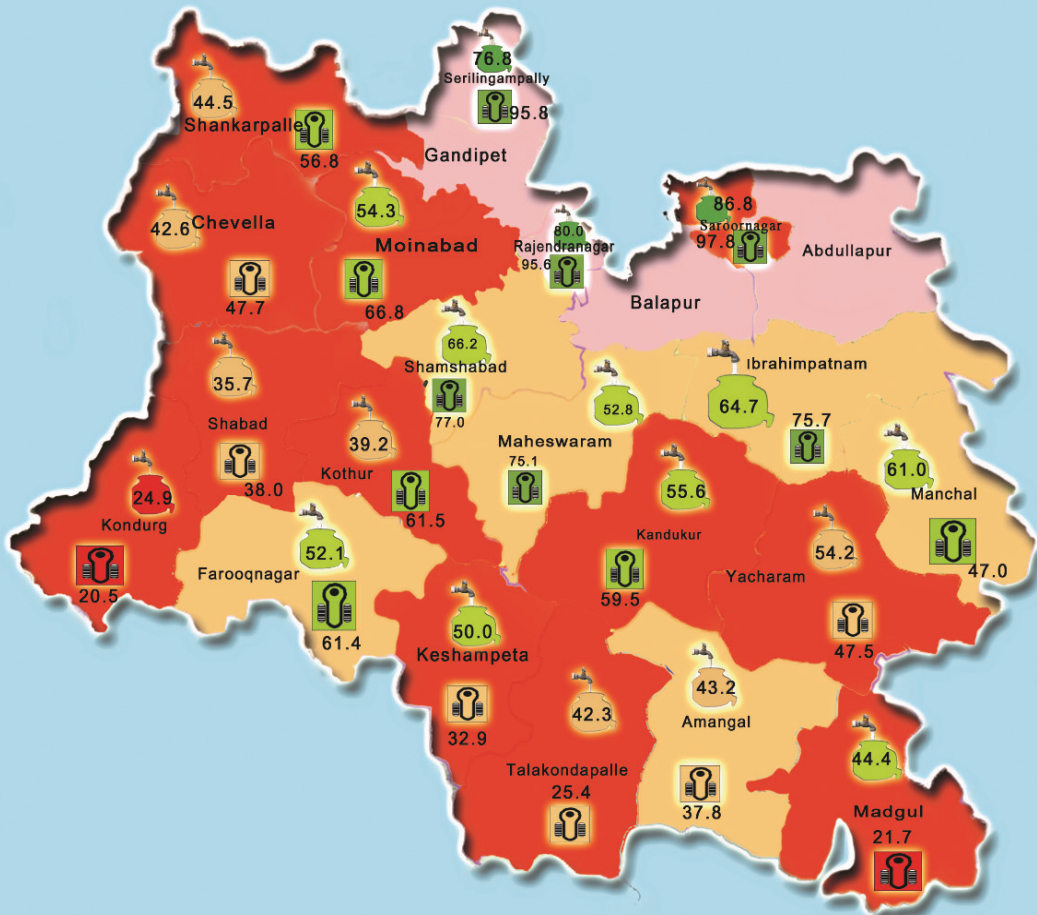


Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.22:Ranga Reddy District

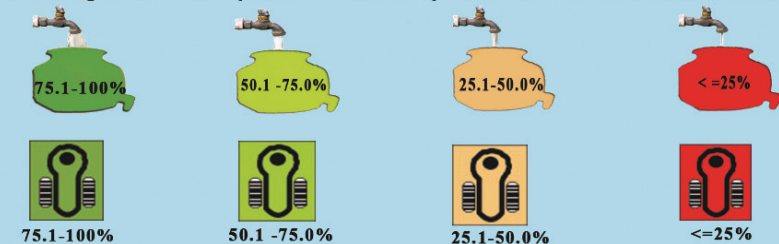
Mandal - wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation



Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.23: Sanga Reddy District

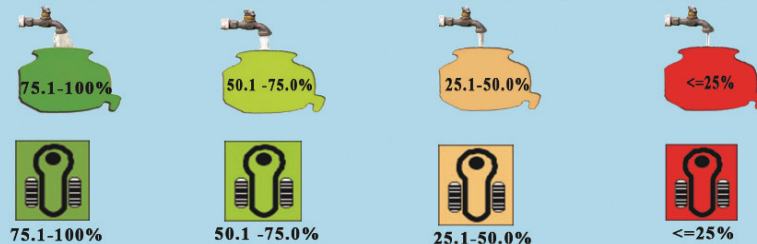
Mandal- wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation

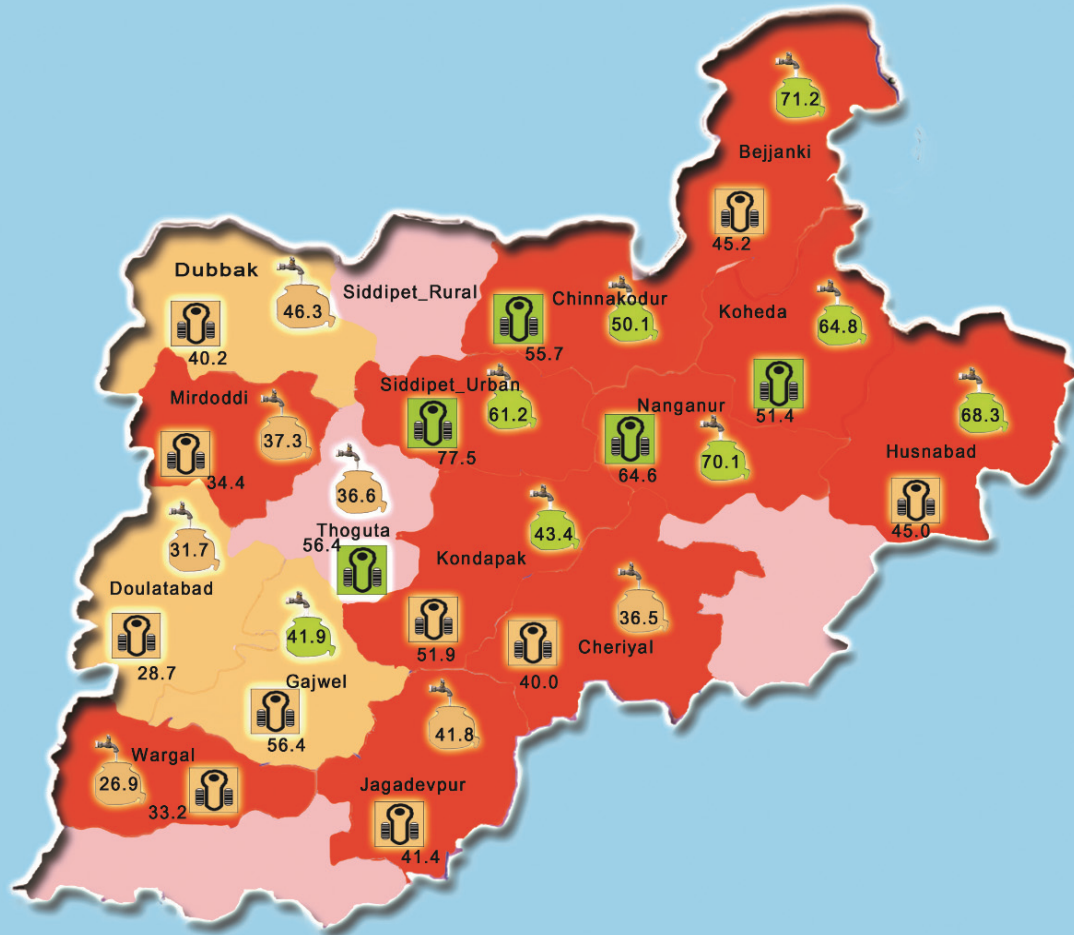


Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.24: Siddipet District

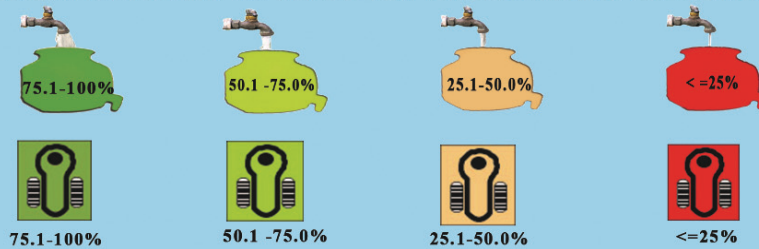
Mandal- wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation

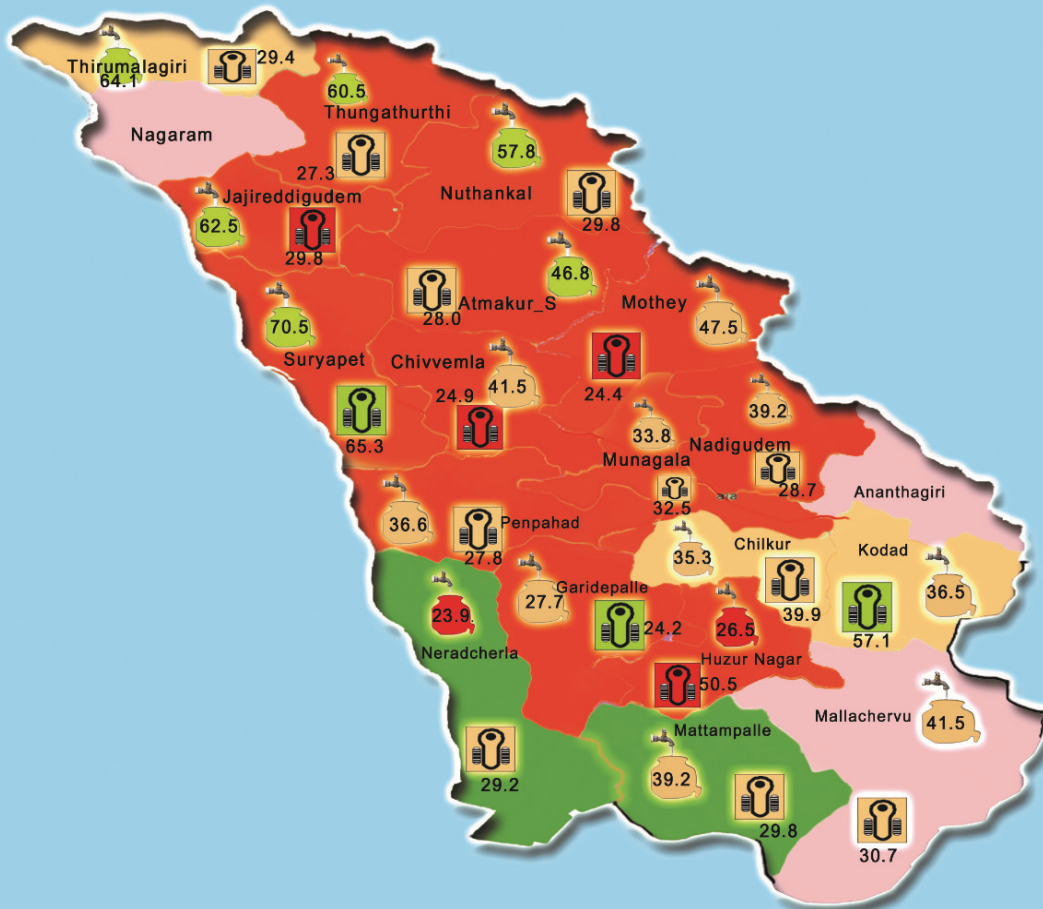


Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.25: Suryapet District

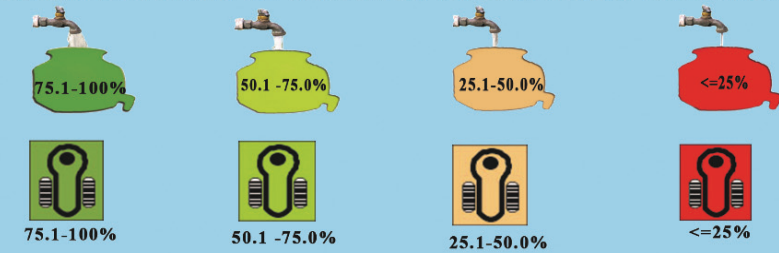
Mandal- wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation

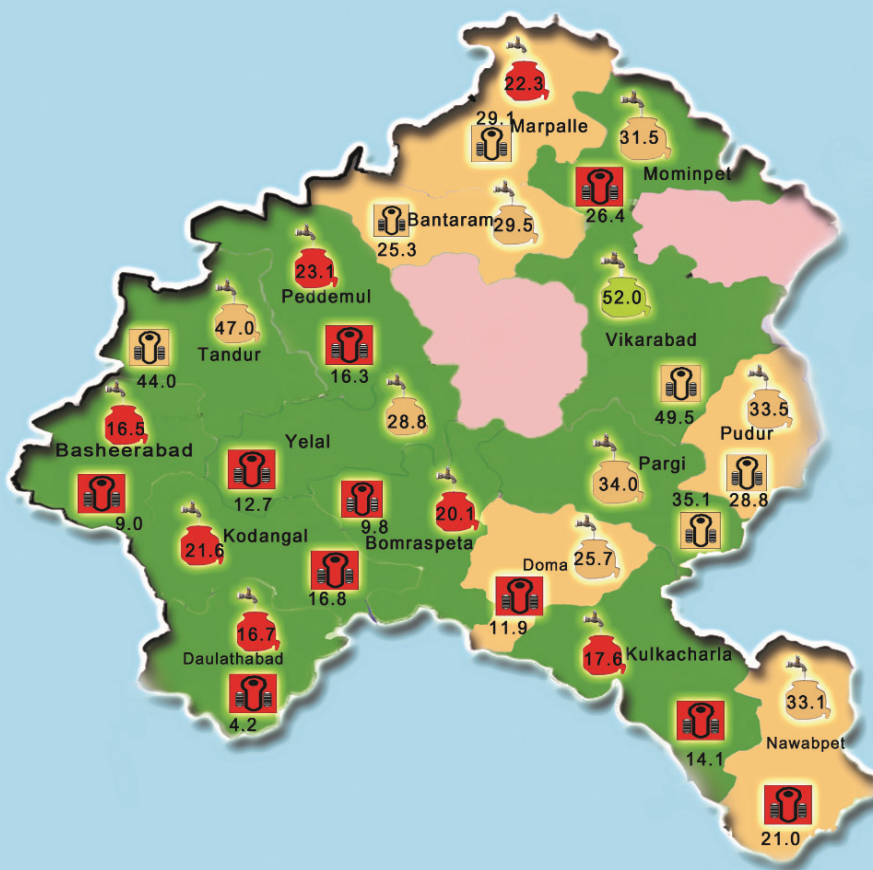


Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.26: Vikarabad District

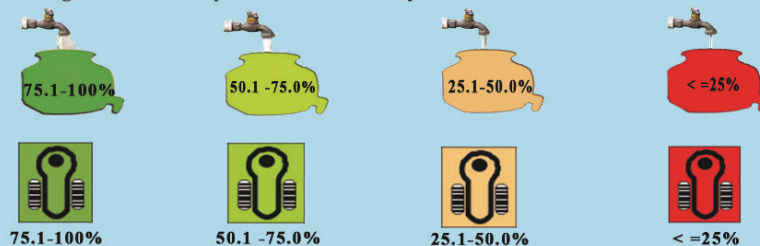
Mandal- wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation



Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.27:Wanaparthy District

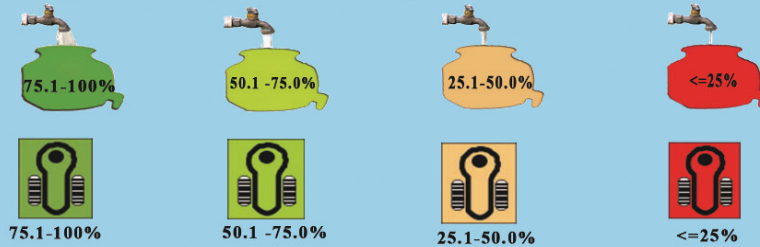
Mandal-wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation

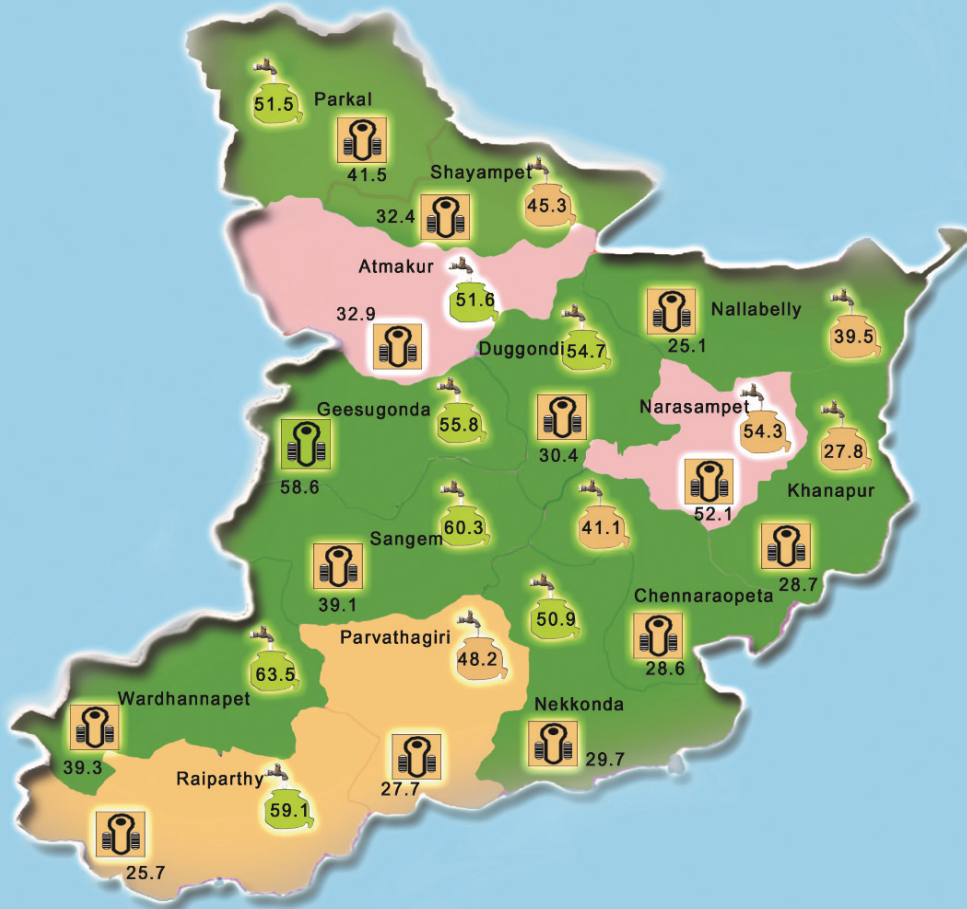


Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.28: Warangal-Rural District

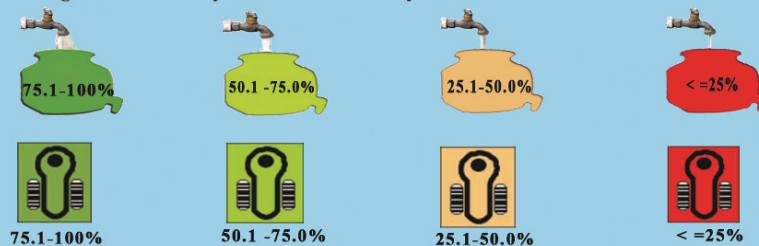
Mandal- wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation

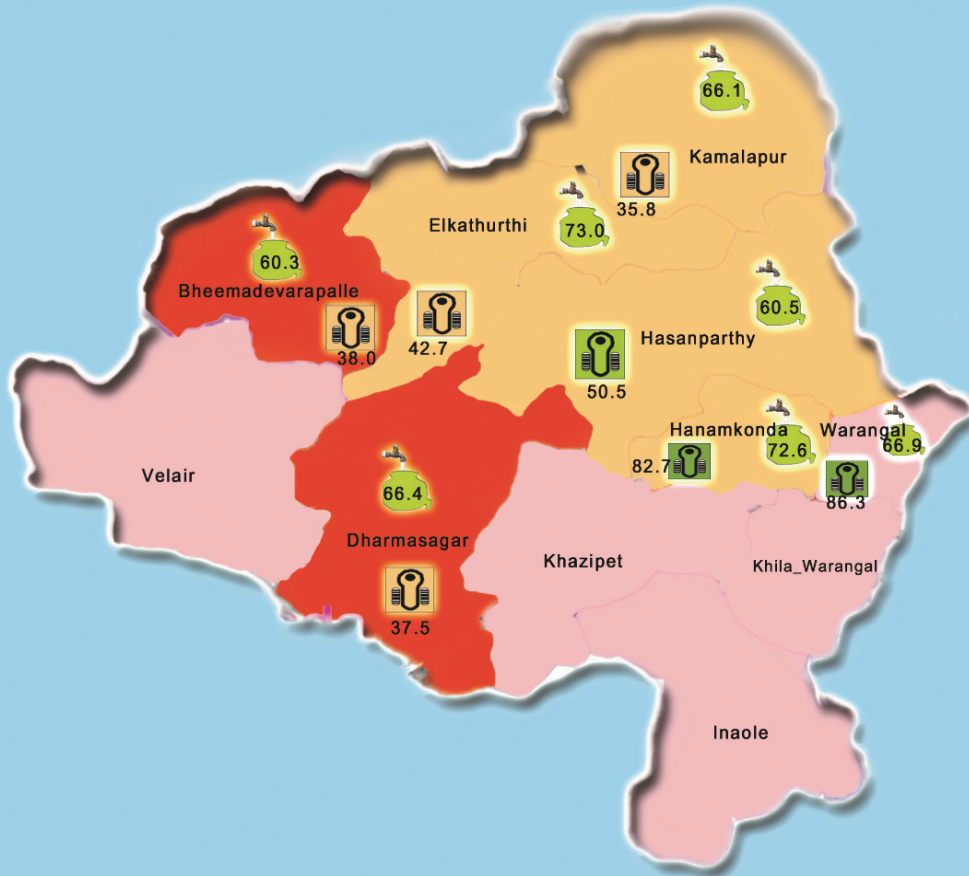


Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.29: Warangal-Urban District

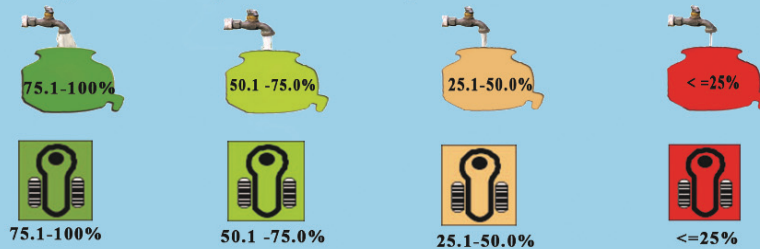
Mandal- wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation

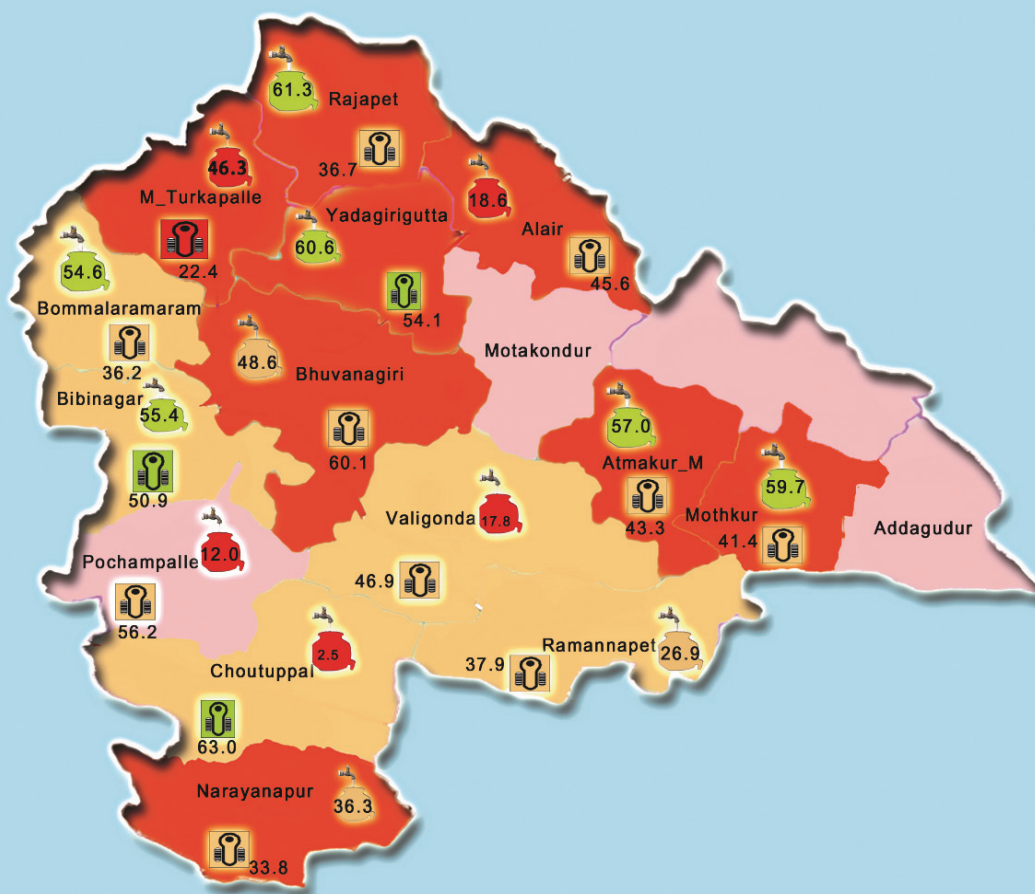


Drinking Water Facility and Toilet Facility within the Premises of the Households



Map 7.30: Yadadri District

Mandal- wise Natural Resource Deprivation and % of Households having Drinking Water and Toilet Facilities within the Premises



Natural Resource Deprivation



Not Deprived



Highly Deprived



Extremely Deprived

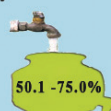


Data Not Available for all Categories

Drinking Water Facility and Toilet Facility within the Premises of the Households



75.1-100%



50.1-75.0%



25.1-50.0%



<= 25%



75.1-100%



50.1-75.0%



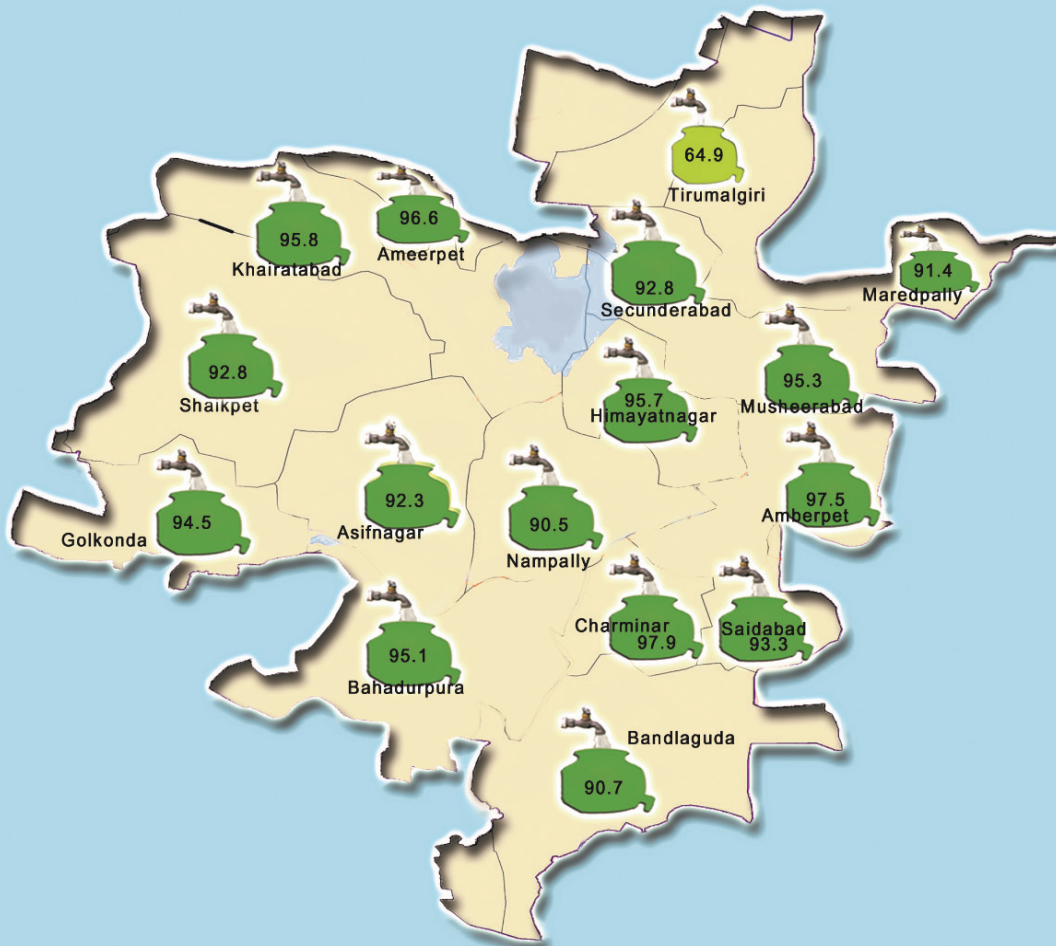
25.1-50.0%



<= 25%

Map 7.31-A: Hyderabad District

Mandal-wise % of Households
having Drinking Water Facility within the Premises

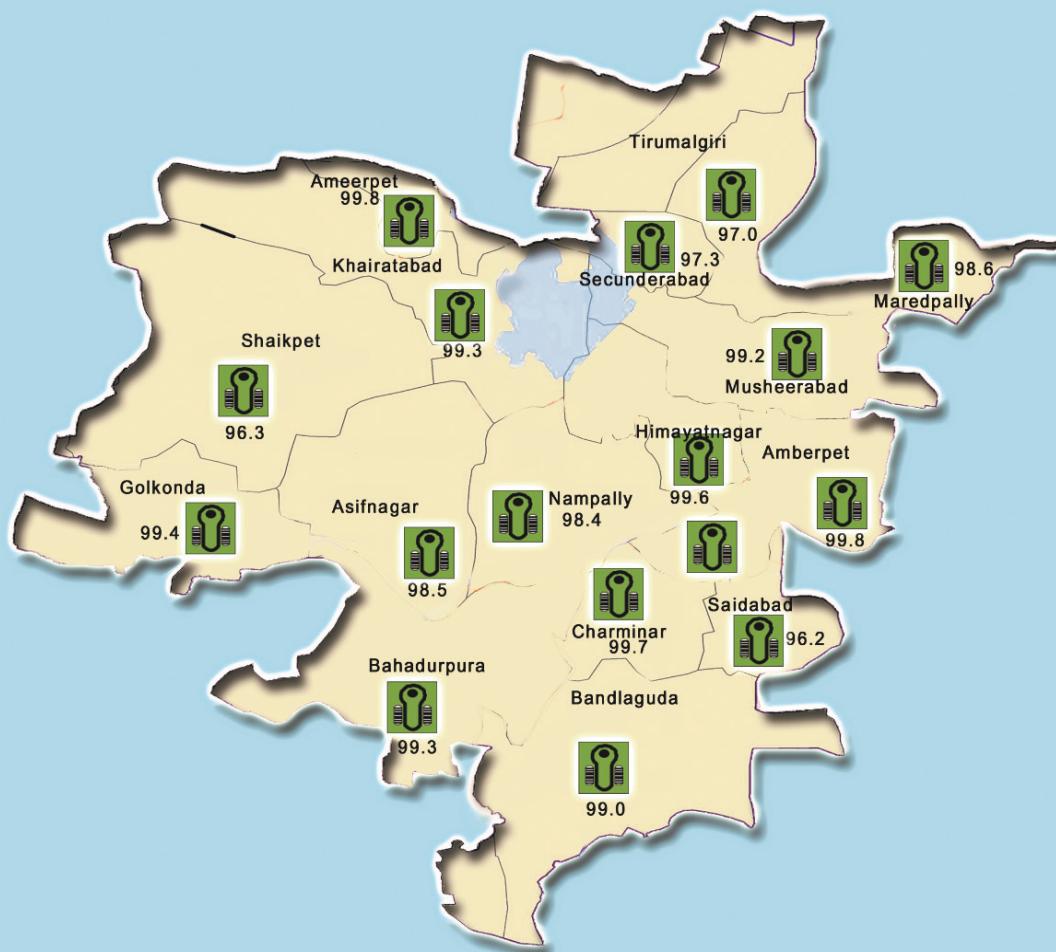


Drinking Water Facility within the Premises of the Households

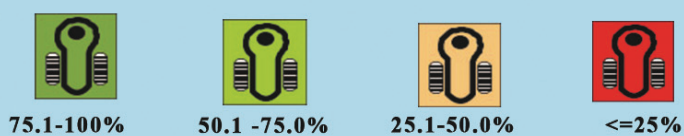


Map 7.31-B: Hyderabad District

Mandal-wise % of Households having Toilet Facility within the Premises



Toilet Facility within the Premises of the Households



References

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In 2012, the Centre prepared the second report titled *Human Development Report-2: Andhra Pradesh* to assess the human development scenario after 2004-05. This was prepared under the guidance of Prof. K.L.Krishna and Prof. Manoj Panda, the then Chairman and Director respectively.

The present *Human Development Report 2017: Telangana State* is the first report for the state of Telangana. This report benchmarks the patterns of Human Development across the districts, rural and urban areas, caste groups, gender groups and occupational groups in Telangana. This enables the State Government to monitor the progress of human development in the State. It has also brought out clearly the ways and means to bring improvements in human development and reduction in its inequalities. This is prepared under the guidance of Prof. CH.Hanumatha Rao, Founder-Member and Honorary Professor, CESS and Prof. R.Radhakrishna, Chairman, CESS.



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