Nutrition Public Expenditure Review:

Evidence from Gujarat




Amandeep Kaur

Lekha Chakraborty

Ruzel Shrestha

Komal Jain

Jannet Farida Jacob

Anindita Ghosh

January, 2020

National Institute of Public Finance & Policy

Nutrition Public Expenditure Review: Evidence from Gujarat

Published by National Institute of Public Finance and Policy, (NIPFP), New Delhi,

Authors
Amandeep Kaur
Lekha Chakraborty
Ruzel Shrestha
Komal Jain
Jannet Farida Jacob
Anindita Ghosh

January 2020

ISBN - 978-81-88035-23-6

Acknowledgements

This report is an outcome of the research project "Nutrition-PER" in Gujarat initiated by the Department of Finance, Government of Gujarat and UNICEF Gujarat, Special thanks are due to Ms Veena Bandhopadhyay of UNICEF who initiated this proposal. We sincerely acknowledge Pinaki Chakraborty for his valuable guidance and inputs for the study, as part of the Gates Public Policy Innovation project.

Thanks are due to the officials from sectoral ministries of Government of Gujarat and the officials from UNICEF Gujarat for their valuable comments and suggestions, especially the Finance Secretary, the Education Secretary and the Chief, UNICEF, during NIPFP presentation in the Secretariat of Gujarat, Ahmadabad, September 2018.

The authors take this opportunity to acknowledge the support and encouragement received from Dr. Rathin Roy, Director, NIPFP during the course of this study.

The study methodology involved both quantitative and qualitative analysis. The qualitative analysis required discussions with key stakeholders including State Governments. These discussions provided extremely useful guidance to our work.

A word of thanks to NIPFP database for providing the finance accounts data required for the study.NIPFP administration has always been helpful. Assistance received from Roby Thomas of NIPFP for the IT related supportis gratefully acknowledged. We also acknowledge the support received from Ms. Kavita Issar and Ms. Amita Minhas for able secretarial and editorial assistance.

The authors are solely responsible for any errors or omissions.

Amandeep Kaur

Lekha Chakraborty

Ruzel Shrestha

Komal Jain

Jannet Farida Jacob

Anindita Ghosh

Table of Contents

List of Tables and Figures

Tables

Figures

List of Abbreviation

DALY	Disability-Adjusted Life Year
FYP	Five Year Plan
IIPS	International Institute of Population Studies
USAID	United States Agency for International Development
CNNS	Comprehensive National Nutritional Survey
GDP	Gross Domestic Product
GSDP	Gross State Domestic Product
NITI	National Institution for Transforming India
POSHAN	Prime Minister's Overreaching Scheme for Holistic Nourishment
SDG	Sustainable Development Goals
N-PER	Nutrition Public Expenditure Review
C-PEM	Child-Focused Public Expenditure Measurement
MOSPI	Ministry of Statistics and Programme Implementation
NFHS	National Family Health Survey
IMR	Infant Mortality Rate
RMNCH + A	Reproductive, Maternal, Newborn, Child and Adolescent Health
SABLA	Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (RGSEAG)
DWCD	Department of Women and Child Development
PFM	Public Finance Management
PER	Public Expenditure Review
WCD	Women and Child Development
PEM	Protein Energy Malnutrition
HFW	Health and Family Welfare
BPL	Below Poverty Line
UNICEF	United Nations Children's Fund
WHO	World Health Organization
BMI	Body Mass Index
HAZ	Height z Score
GHI	Global Hunger Index
U5MR	Under-five Mortality rates
MDG	Millennium Development Goal
BIMARU	Bihar, Madhya Pradesh, Rajasthan, Uttar Pradesh
NCT	National Capital Territory
UNDP	United Nation Development Program
ICDS	Integrated Child Development Services
BIA	Benefit Incidence Analysis
SNP	Supplementary Nutrition Program
PLM	Pregnant and Lactating Mothers
RDA	Recommended Dietary Allowance
ADI	Average Daily Intake
NRHM	National Rural Health Mission
AWC	Anganwadi Centre

GOI	Government of India
MWCD	Ministry of Women and Child Development
CAG	Comptroller & Auditor General
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
ICPS	Integrated Child Protection Scheme
CIF	Childline India Foundation
IFA	Iron and Folic Acid
NSDM	National Skill Development Programme
THR	Take Home Ration
IMF	International Monetary Fund
HIPC	Heavily Indebted Poor Countries
MPCE	Monthly Per Capita Consumption Expenditure
NSSO	National Sample Survey Organisation
NSS	National Sample Survey

Executive Summary

1. High prevalence of malnutrition among children under five years of age, adolescent girls and reproductive age women has emerged as a silent emergency in the Indian states. Malnutrition was the predominant risk factor for death in children younger than 5 years of age in every state of India in 2017 and been considered as one of the leading factors restricting the growth potential of the country (GoI,2019). Global Hunger Index has ranked India at the 102nd position out of 117 countries. Though the country has pulled out large amount of people from poverty but there still remain enough challenges for the economy to deal with the problem of malnutrition.

2. Malnutrition implies both under nutrition in form of stunting, wasting and Micronutrient deficiencies as well as diet related non-communicable diseases such as obesity, diabetes or heart disease. The global burden of the problem is also unacceptably high and continues to dismantle the growth of the nation where it persists. Poverty is associated with the problems of malnutrition and further aggravates it. For India, not only children under the age of five are stunted and wasted, there is also seen emergence of non-communicable diseases and a nutrition transition is being witnessed in terms of being underweight to overweight population.

3. Curbing such a problem is essential in order to meet the sustainable development goals. Atleast12 out of 17 SDGs contain indicators that are relevant for nutrition emphasize on the importance of nutrition. India's efforts so far have led to just 1/3rd reduction in the chronic stunting from the period 1992-2016 leaving behind 38% children in the country who are stunted. In this context, Government of India launched National Nutrition Mission or the PoshanAbhiyaan in March 2018. This aims to tackle the issue through an integrated, inter-sectoral, holistic approach through proven high impact interventions that cut across different sectors and departments with a focus on ten critical interventions. Given the situation, it is crucial that there should be focussed and integrated solutions to help understand the root cause of the problem in a better manner thereby also guiding implementation and improved outcomes.

4. Given the economic impacts of low levels of nutrition among children, it is important to analyse the distributional impacts of the merit goods in order to strengthen the implementation further. In this context, this current study on '**Nutrition Public Expenditure Review: Evidence from Gujarat**' is aptly timed. Given the current economic growth

trajectory of the country, the study specifically studies the development of the state of Gujarat. Albeit, the state of Gujarat contributes around 7.6% share in the total GDP of the country and has 20% share in the exports of the country, but strong inequalities persist. Gujarat shares the same spot as the low performing states like Bihar, Jharkhand, Uttar Pradesh, Madhya Pradesh and Rajasthan on having highest percentage of childrenwho are stunted, children who are under-weight and tops the list after Jharkhand for having children wasted and severely wasted less than five years of age. The percentages of children who are wasted have increased from 19% in NFHS-3 to 26 % in NFHS-4 survey. Moreover, the percentage of children who are stunted have witnessed minuscule reduction in spite of various central and state flagship programmes have been at play. In Addition, there are also others factors at play. Socio-demographicfactors also play a pivotal role for the prevalence of malnutrition among women and children (Bentley,2003). Gender discrimination, poverty, caste-systems have further accentuated the problems of providing adequate nutrition. Hence, this requires a critical assessment of expenditures and a customized approach that reaches women both in the urban and rural areas much early before they enter into the reproduction years.

5. However, the National Nutrition Mission is a central flagship programme which the states have to also take along with the other existing state level programmes, it is imperative to synergise the programmes which are all designated for a single cause. Since the national mission aims to work on convergence strategies, the need for an expenditure review of existing schemes in the area of nutrition becomes necessary.

6. The key instrument for development in a state also depends upon the likelihood of the investments by the government. The state has to be financially stable in order to incur productive investments crucial for development. In Gujarat, the "fiscal rules framework" was enacted iteratively by the Finance Commission(s), initially in 2005 ex-post to the recommendations from the Twelfth Finance Commission. As per the amended Fiscal Responsibility Legislation, the State was required to phase out the revenue deficit from 2011-12 onwards, reduce the fiscal deficit-GSDP ratio to 3 per cent from 2011-12 onwards and to reduce the total outstanding debt to GSDP ratio of Gujarat from 28.8 per cent in 2011-12 to 27.1 per cent in 2014-15. The Medium-Term Fiscal Policy Statement 2017 by Gujarat has incorporated these amendments and aimed for the fiscal deficit and public debt GSDP ratio(s) respectively at 2.25 per cent and 18.55 per cent in 2016-17. The study has explored the state of public finance and its priority in the social and economic sector in order to analyse the capability of the state to spend on activities that promote inclusive development. The revenue

deficit of the state has been close to zero while the fiscal deficit also has been below 2% which is also witnessing the similar trend over the years in consideration (2011-12 to 2016-17). Other key components of public expenditure were also analysed. An exercise on forecasting errors was also conducted that showed large forecasting errors in the estimates of the budgets especially for non-developmental expenditure both on the revenue and capital account and also for the social services on the capital account. These errors are largely systematic indicating the scope for better methods of forecasting in the future. Thus, analysis of the state finances points out that improving the forecasting errors can help in planning the resources better so that effective implementation can be undertaken. This analysis also reveals the availability of enough room for the state government to spend on objectives that need immediate attention such as the SDGs.

7. Many governments do not exactly know how much they have spent so far on nutrition, such a crucial goal of SDG 2030 and then it remains an unfulfilled objective of the government although a lot has been already budgeted.The study following a differential approach conducted a public expenditure review in order to analyse the ineffective wasteful spending if it exists as well as to work on priority-based budgeting framework. Public Expenditure Measurement is a Public Finance Management (PFM) tool, which builds on and provides further leverage for strengthening PFM systems to address real problems concerning maternal, infant and young children. A Public expenditure review can be done through mapping of the existing programmes to the outcome areas and then identify the underlying expenditures that would focus on the outcome that is objectified. This could be identifying expenditure exclusively spent on children or women and then measuring spending of such child-related or women- related programmes and analysing them for further policy-making processes. This involves financial input analysis, fiscal marksmanship and also linking "resources to the results". Such a review is important from the perspective that only few governments spend effectively on children or nutrition related objectives.

8. The study analysis each portfolio of public expenditure incurred across different departments to assess the amount of expenditures that directly (exclusive) or indirectly affect children under the age of five, adolescent girls and reproductive age women (expanded). For the state of Gujarat, these expenditures make around 0.79% of their GDP for the year 2016-17. However, the exclusive expenditure for the same year was 0.27 %. The department which contributes its maximum allocation on nutrition is Women and Child Development (WCD) followed by Health and Family Welfare department. It was observed that since the spending directly affecting children is less than 1 % of GDP of the state, there is constant need to analyse whether public spending is progressive, that is, whether it improves the distribution of

welfare, proxied by household income or expenditure. A fiscal marksmanship analysis was also conducted that showed that score was 1.18 for exclusive expenditure highlighting an over estimation while the fiscal marksmanship for expanded expenditure was 0.89 indicating an under representation of the budget forecasts. Nonetheless, the analysis makes it clear that the expenditure on nutrition is not sufficient to control the prevailing epidemics of under nutrition, malnutrition, hypertension and diabetes.

9. Likewise, it is also important to analyse how the initial "pre-intervention" position of individuals is altered by public spending or how well public spending serves to redistribute resources to the poor. Benefit incidence analysis (hereafter BIA) brings together the elements of the supply of and demand for public services and can provide valuable information on the inefficiencies and inequities in government allocation of resources for social services and on the public utilization of these services. The study explored the structure and benefit incidence of the centrally sponsored scheme of Supplementary Nutrition Programme (SNP) under Integrated Child Development Services (ICDS), to understand the extent of utilization of the services by the eligible population for the year 2014 – the latest year for which the required data was available.The total amount expended on SNP in Gujarat was Rs.421.32 crores (actuals), in 2014-15. The total beneficiaries covered until 30th December 2014 was 4,031,990 numbers and the unit cost incurred on each beneficiary is estimated to be Rs.191.50.The incidence of benefits of public spending on SNP seems to be skewed towards children; and women seems to be using less of the services with utilisation of roughly around Rs.15 crores as against Rs.62 crores utilised for children. However, given that SNP is a targeted intervention programme where children of six months to three years are the most vulnerable eligible beneficiaries, the outcome of the programme in Gujarat is progressively targeted at children of six months to three years. The analysis reveals that the objective of targeting is efficient in the case of the neediest, where children between six months to three years are more targeted with 45 percent of the total unit utilization spent on them, whereas children between three to six years received only 35 percent of the total unit utilization of the fund.

10. An expenditure tracking and funds flow analysis of ICDS was conducted to understand the utilization ratios of the central fiscal transfers on nutrition in Gujarat. The study suggests that poor and delayed implementation urges for restructuring of institutional arrangement. Gujarat receives funds of ICDS 62% lower than the national average. The State suffers from a persistent gap between utilization and allocation of funds. There is problem of human resource as the vacancies are not been timely recruited. Presence of multi layers in

governance has delayed the funds to reach to the ultimate. Conscious mind sets can help the inter-departmental linkages in effectively implementing programs. No expense has been found towards programs on dietary needs of all the members in the family as to sustain a healthy life. Attempts towards demolishing the multilayers in the institutional structure can be recognized as another suggestion of this study.

11. Not only the anthropometric indicators that indicate the level of nutrition, but there are also several other indicators that affect nutrition. Determinants such as poverty, livelihoods, social protection safety nets, agriculture, public distribution systems, education and communication- especially female literacy and girls' education, women's empowerment and autonomy in decision making, control and use of resources (human, economic, natural), shaped by the macro socio- economic and political environments and the potential resource base all add to indicate the nutritional level of children and women in the country. Our analysis suggests that the higher growth in the state has not tickled inclusive development. The anthropometric and other indicators for the state of Gujarat vis-à-vis its performance with the other states were also analysed. It was found that Gujarat has a higher percentage of children who are stunted (31.7%) as compared to top performing states like Goa (18.3), Kerala (19.8) and Tripura (17.2) almost equal to national average of 31.7 % as reported in NFHS-4. The percentage of children who are wasted is much higher both in the rural and urban regions of Gujarat, former being more. Wasting among the children below five years of age also share the same story. Interestingly, Infant mortality rates for the state are lower but there is high prevalence of maternal mortality rates as there are around more than fifty percent women are anaemic and pregnant at the same time.To add to the story of severity of maternal health, only 37% of mothers in Gujarat were given the antenatal care during pregnancy of their last birth. Other characteristics like contraceptive and breast- feeding knowledge, post natal care remains low for women.The situation is even worse in the rural areas of the state.

12. A deeper analysis was conducted to understand the districts of Gujarat and the spread of the problem. The study found that among the thirty-three districts, the situation of the rural districts of Gujarat is grim. We analysed that low levels of immunisation coverage, poor health and education facilities have worsened the situation of children as well as women. The rural districts have more percentage of children who are stunted, underweight especially below five years of age. While the semi-urban and semi-rural districts namely Vadodra, Anand, Navsari are improving on these parameters. We recognise large inter-regional disparities in terms of availability of basic sanitation facilities, lack of medical help and other factors deepening the extent of the problem. Anaemia incidence among children, women and men is highest in Ahmedabad. Dang district has been the worst performer when it comes to

wasting and severe wasting not only in Gujarat but also among the 640 districts of India. The district Bhavnagar that falls in the southern west part of Gujarat has highest percentage of rural stunted, urban underweight and rural underweight children less than five years of age. While urban regions have more obese women, rural regions have more women with anaemia. This poses a serious threat to socio-economic status of the state and accentuates inter regional disparities further.

13. Although, Gujarat seems to be a fiscally prudent state but a deeper look is suggestive of its compromise on the capital expenditure and social services. Much is needed to be done in the rural districts of the state which has the highest number of undernourished children and women. Reducing the capital expenditure, which is largely developmental in nature, has led to the poor state of nutrition among children which lack the basic health facilities even though the GDP of the state is increasing. Such a move shall worsen the state of development and restrict the idea of inclusive growth for the state. Having analysed the nutritional status of the state of Gujarat, the study is suggestive of need of a continuous effective review of the existing expenditures of the government to build upon the structural loopholes of the existing policy schemes. Such an exercise can streamline of the shortcoming behind the policy framework being implemented at the first place and give direction to outcome-based policy approach. Such a comprehensive review shall also help the governments to addresses multi-sectoral and inter related determinants of under-nutrition across the life cycle and identify the total cost of their spending in order to achieve the nutritional objectives.

Chapter 1

Nutrition Status in India: The need for N-PER

1. Introduction

Malnutrition was the predominant risk factor for death in children younger than 5 years of age in every state of India in 2017, accounting for 68.2% (95% UI 65.8 –70.7) of the total under-5 deaths, and the leading risk factor for health loss for all ages, responsible for 17.3% (16.3–18.2) of the total disability-adjusted life years (DALYs) (Swaminathan et al, 2019). The status of nutrition of the most vulnerable age group of children is a sensitive proxy indicator of human development and of the effectiveness of national socio-economic development strategies. In addition,it is widely recognized that maternal and child under-nutrition is the underlying cause of nearly half (45%) of the mortality of children under five years (Black R. et al,2013;The Lancet, 2013) and that one fifth of maternal mortality can be averted by addressing maternal stunting and iron deficiency Anaemia (The Lancet, 2008). The United Nations has declared the decade of 2016-2025 as the decade of action on *Nutrition*. At least 12 of the 17 Sustainable Development Goals contain indicators that are relevant for nutrition, demonstrating that nutrition is the foundation for ensuring sustainable development**.**

India is home to more than one-third of the world's malnourished children - 40 million children are stunted (height-for-age), 17 million are wasted (weight-for- height), half of the children under the age of three are underweight and a third of wealthiest children are overweight. Of the stunted children in the world, Indian children are most prone to stunting, which has severe physical, health and mental consequences. They are more likely to become overweight and prone to non-communicable diseases during their adulthood. Societal inequities, poverty, and under-development are the key markers of stunting and other forms of under nutrition**.**

According to UNICEF, poor nutrition in the first 1,000 days of children's lives can have irreversible consequences. Poor nutrition has several dimensions, of which stunting

(the percentage of children, aged 0 to 59 months, whose height for age is below minus two standard deviations (moderate and severe stunting) and minus three standard deviations (severe stunting) from the median of the WHO Child Growth Standards);wasting (Percentage of children below five years whose weight for height z-score (HAZ) is more than 2 SDs below the median compared to the WHO child growth standards.); underweight (weight at birth of < 2500 grams (5.5 pounds); overweight/obese(A person with a BMI of 30 or more is generally considered obese. A person with a BMI equal to or more than 25 is considered overweight), and Anaemia (defined as a hemoglobin concentration below a specified cut-off point, which can change according to the age, gender, physiological status, smoking habits and altitude at which the population being assessed lives. WHO defines Anaemia in children less than 5 years of age and pregnant women as a hemoglobin concentration < 110 g/l at sea level.)

The Global Hunger Index (2018) report, published by International Food Policy Research Institute (IFPRI) and Germany based Welt Hunger Hilfereveals that India has slipped from 95th rank in 2010 to 102nd in 2019 with the prevalence of wasting (low weight for height) among children under five mainly due to the poor performance of the country in controlling measures during the time period. The improvement from 38.9 % in 2005 to 32 % in 2010 was followed by a change from 32 % to 30.3 % between 2010 and 2019. The report also reveals that wasting among children in India rose from 16.5% in 2008-2012 to 20.8 % in 2014-2018. It also claims that 9.6% of all Indian children between 6 to 23 months of age are fed a minimum acceptance diet. The child wasting rate in India is the highest at 20.8% among all 117 countries. The persistent inequality in access to quality food is accentuated by stark inter-state disparities in nutritional status coupled with poor health infrastructure in most of the states. Botched schemes and grandiloquence speeches have not improved the grievous condition of nutritional outcomes in the states, and nation as a whole. India,though one of the fastest growing countries in the world with an annual GDP growth rate of 7.1%, lags behind its poorer counterparts on social indicators, particularly nutrition. Its twin problem of under-nutrition and obesity is severely impacting the country's economic and social goals, in particular, Stunting, Anaemia in women of reproductive age, wasting, Anaemia in children**.**

In order to combat the problem, several measures have been taken up in the past and surveys have been conducted in a phased manner to learn about the grim realities at the ground level. The following section puts forward the historical perspective to the initiatives

taken so far.

2. Recent Surveys and Reports: Nutritional Status

The state of the independent India in 1947 was much different than it is now. More emphasis was on availability of the resources especially food for the larger poor; and eradicate poverty in the 70s. The agenda of the new government of the independent India had set targets as envisaged in the Five-Year Plans (FYP) to have a planned process of development and attainment of the basic resources and infrastructure needed in order to become self-sufficient. Although, nutrition was part of the goals set previously as well, but a stronger emphasis on nutrition came only in 10th FYP that talked about the relevance of nutrition crucial for development and targeted set of goals to be achieved by 2007. Earlier census was the only data repository for the government but explained fewer factors that impacted the parameters. Hence, as a collaborative project of the International Institute of Population Studies (IIPS)ORC Macro, Calverton, Maryland, USA and the East-West Centre, Honolulu, Hawaii, USA, the Ministry of Health and Family Welfare (MOHFW), Government of India, designated IIPS as the nodal agency, responsible for providing coordination and technical guidance for the NFHS. NFHS was funded by the United States Agency for International Development (USAID) with supplementary support from United Nations Children's Fund (UNICEF).[1]

The first National survey was conducted in 1992-93 that collected extensive information relating health, population, nutrition, particularly affecting women and children through a multi-round large survey at the national and the state levels. The survey also separated the areas as urban and rural for more clarity. Other particular information such as infant mortality rates, anaemia, and reproductive health and other family planning services could be sourced from this survey. There have been so far four surveys. With every survey, the extension of the parameters has been increased and also subsequently more states were included as part of the study.

The 2nd NFHS was conducted in 1998-99 followed by the 3rd NFHS in 2005-06. Apart from this survey, District level Household survey was also taken up and had 4 rounds. In order to strengthen the health services to the last mile, it became equally important to analyse the utilisation of government health services at the district level as well. Hence,

[1] About NFHS, http://rchiips.org/NFHS/about.shtml

rapid household surveys were conducted in all the districts in a phased manner[2]. This survey's main objective was to estimate to service coverage of the health facilities like contraceptive prevalence and usage, Ante-Natal care and Immunisation services, particularly related to reproductive and child health. The survey was parallel run with NFHS survey and took place in the year 1998-99, 2002-04, 2007-08 and 2012-13. Annual health surveys also came in between 2010-2011, 2011-12 &2012-13.

The recent NFHS-4 survey published in 2015-16 revealed21% of children under age five years are wasted (too thin for their height), which signify acute under-nutrition. The prevalence of wasting has remained the same since 2005-06 to 2015-16. Jharkhand has the highest levels of wasting (29%) among the States during the period 2015-16. NFHS-4 results reveal that, 36% of children under age five years are underweight. The north-eastern States on an average are on quite decent track in terms of lesser underweight prevalence than the other parts of India. The lowest prevalence of under-five stunting is seen in Manipur whereas the prevalence of stunting among children aged 5–9 years was lowest in Tamil Nadu (10%) and Kerala (11%) and highest in Meghalaya (34%).

In 2019, the Comprehensive National Nutritional Survey (CNNS) was published by Ministry of health and family welfare in partnership with UNICEF. The survey focused to analyse the nutritional status of the children from the age group of 0-19 years of age for the period 2016-18. The survey revealedthat India is facing challenge due to double burden of malnutrition that is coexistence of under nutrition along with obesity and overweight. The survey bringsforth the severity and nature of malnutrition across country. The problem starts with the new born. Stunting and underweight prevalence were both about 7% in new born children, with a steady increase in both indicators until two years of age. India struggles with the stunting problem for about 35 children out of every 100 lying within 0 to 4 years.*In*populous States like Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh, the percentage of stunted children are as high as 37 to 42. The problem is worse in the rural areas. A higher proportion of children under five years of age in the poorest wealth quintile were wasted (21%) compared to those in the highest wealth quintile at 13%. Forty-nine percent of the children from the poorest quintile and 19% from the richest quintile were reported to be stunted. The study of CNNS is supported by the evidences from the NFHS-4 report. It has found that Gujarat, Jharkhand, Karnataka, Madhya Pradesh and Maharashtra

[2] Background and objective of DLHS-1 http://rchiips.org/ARCH-1.html

are home to highest wasting percentage of children in the country in 2015-16.

The CNNS released in 2019 also found that 10.4 % of 10-19 years-old in India are pre-diabetic, which, expert opines, is largely due to consumption of processed foods and sedentary lifestyles. As for children, CNNS indicates that the prevalence of overweight in adolescents relating to socio-economic status, in the lowest and highest household wealth quintiles are 1% and 12%, respectively. Moreover,the highest prevalence of overweight in adolescents are seen in Delhi, Goa and Tamil Nadu. In addition, the study also reveals that adverse effects of anaemiaon cognitive development, stunting, and morbidity from infectious diseases, appears as either moderate or severe public health problem among 41 % of pre-schoolers, 24% of school age children and 28% of adolescents. Though NFHS-2015-16 study reported that between 2005-06 and 2015-16, the prevalence of anaemia among children age 6-59 months declined from 70% to 58%, it continues to be high among rural children. This again indicates an uneven progress of public health across regions of India.

These surveys portend an important issue in dealing with the problem of malnutrition and other nutritional deficiencies.The problem of unemployment, underemployment and poverty are severe in developing countries like India, and has an impact on nutritional status of the common people. In spite of economic growth, poverty remains, and an appreciable number of people remain undernourished due to lack of purchasing power and morbidity. Economists see poverty, dietary intake and less purchasing power as the principal cause of the large and widespread incidence of under nutrition(Masters, W. A, 2016).The government addressed the gaps by introducing the National Nutrition Strategy in 2017 which was published by NITI Aayog considering the seriousness of the problem. The strategy outlines broad objectives and presents nutrition specific interventions to reach the objective. Hence, the focus of this strategy over the next few years (till 2022) is on preventing and reducing child under-nutrition. National Nutrition Strategy is quite focused on the new born and growing children along with would-be and new mothers. The programme set is designed focusing on ‘convergence’ linkages. However, the ‘Convergence’ pillar of India’s nutrition strategy can only be deemed successful when all interventions reach all target households in the right time frames. Experience from other countries that have successfully reduced stunting through multisectoral, and therefore multi-ministerial efforts suggests that embedding convergence-related actions in a social equity framework is likely to be an

effective approach to address malnutrition.

Even the National Food Security Act (2013)mandates food and nutrition entitlements for children, pregnant and breastfeeding mothers with maternity support and the infant milk substitutes, feeding bottles and infant foods. This emphasizes on the convergence linkages between ministries, between sectors and across regions. In this context, nutrition serves as an important example of how early influences contribute to developmental patterns of health over time. Apart from this, other missions such as National Health Mission, the umbrella ICDS (Integrated Child Development Scheme) and the National Nutrition Mission and numerous other schemes have been launched to combat malnutrition. Quite recently, in line withthis view, India's National Nutrition Mission, or POSHAN Abhiyaan, was introduced in March, 2018 which explicitly recognised the multi sectoral nature of the challenge to combat malnutrition and declare India malnutrition-free by 2022. The articulated goal of this pillar is to ensure that all nutrition-related programmes converge on households with mothers and children in the first 1,000 days, the core target population for POSHAN Abhiyaan (GOI, 2018). This programme has identified stunting among children as the predominant form of malnutrition. The latest objective of this program is to improve the effectiveness and quality of the Anganwadi services – the focal point for all health and nutrition services (GOI, 2019). This is another example of importance of convergence of different departments to work closely in order to combat nutrition.POSHAN Abhiyaan's approach to achieving this stated convergence includes developing a framework of relevant interventions, indicators, and targets for programmes implemented by different departments. The convergence action plan committees, which are set up at each of the administrative levels (that is, national, state, district, block, and village levels) are expected to operationalise this framework. Together with the departments implementing programmes, the convergence action plan committees are expected to: (i) develop a convergent action plan incorporating the elements of the framework; (ii) conduct periodicreviews;(iii) monitor and track progress of the actions in the plan; and (iv) facilitate efforts to achieve the targets.

3. NPER: Concept and Need

Amidst several strategies and implemented schemes, it is quite vivid that the governments in the past and the present have been incurring major amounts of expenditures in reaching these goals. However, the question that is relevant and imperative in the present

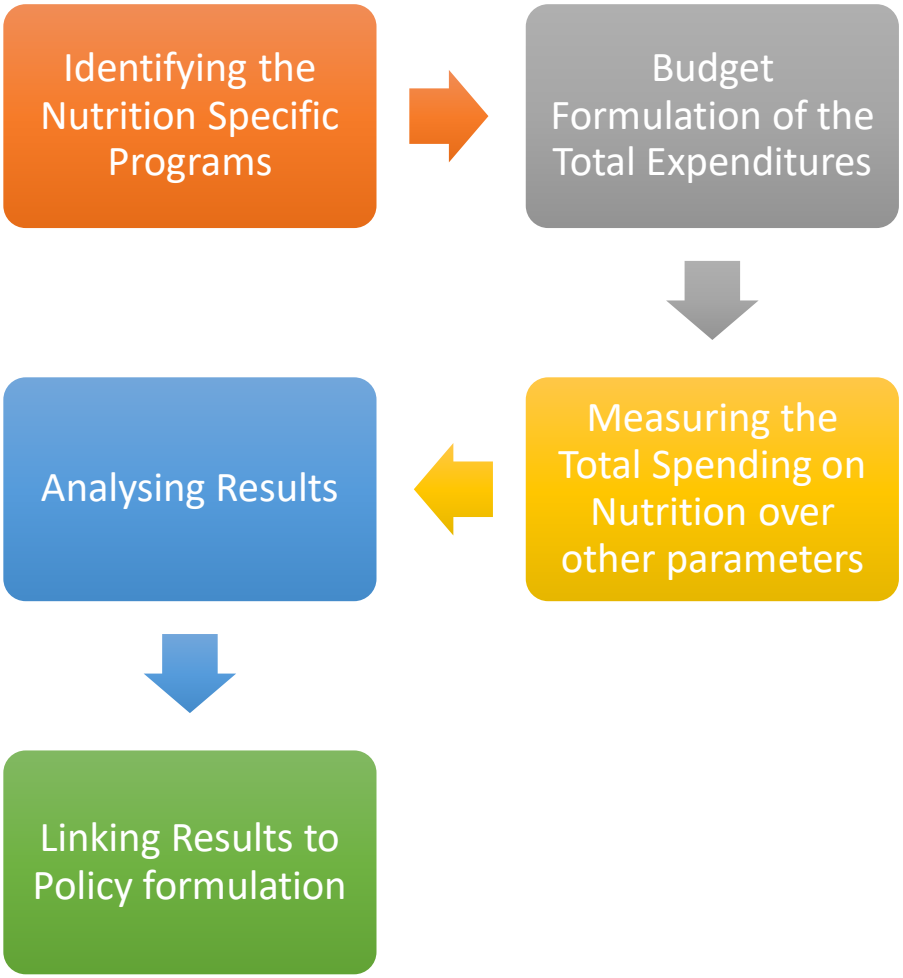
is how far we spend on nutrition, how much we are spending on the schemes, and which segment of the population is reaching and needs it the most.Global experiences suggest that improvements in nutrition have come from interventions in multiple areas which include both direct nutrition interventions and indirect interventions (see figure 2). Hence, it is required that a comprehensive review of multi-sectoral and inter related determinants of under-nutrition, across the life cycle, should be taken up so that governments can identify the total cost of their spending to achieve the nutritional objectives.

Nutrition-Public Expenditure Review is a Public Finance Management (PFM) tool. A Public Expenditure Review can be done through ex-post mapping of the existing programs from budgetary allocation to outlays to the outcomes (see figure 1). This involves financial input analysis, fiscal marksmanship and also linking "resources to the results". Such a review is important from the perspective that only few governments spend effectively on children or nutrition related objectives. Many governments do not exactly know how much they have spent so far on nutrition, such a crucial goal of SDG 2030 and then it remains an unfulfilled objective of the government, although a lot has been already budgeted.

4. What we intend to do?

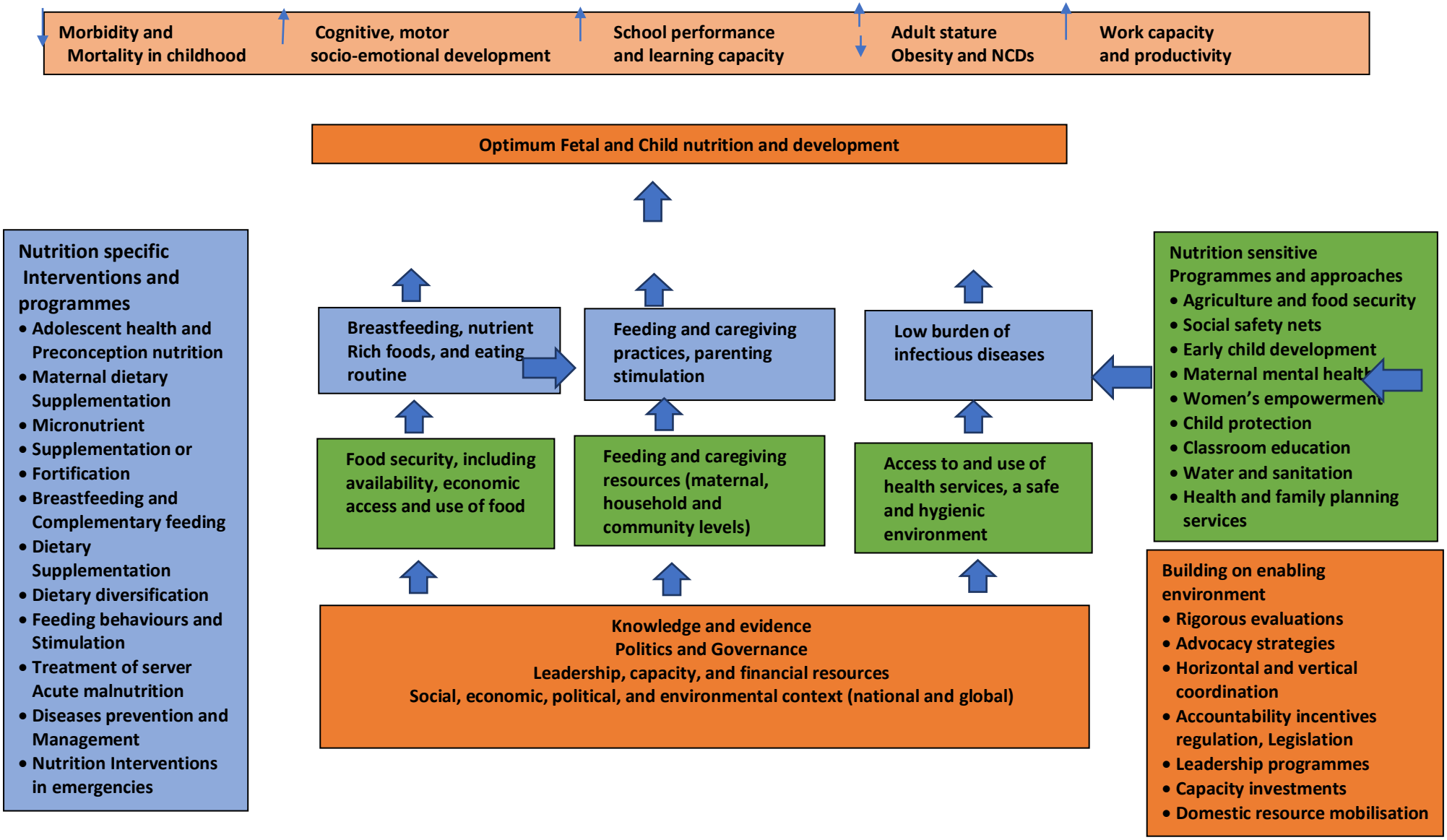
Government of India is committed to address the issue of under-nutrition and have taken significant policy measures. One of these policy measures is the establishment of National and State Nutrition Missions such as Poshan Abhiyan which aim to address the problem of under nutrition through an integrated, inter-sectoral, holistic approach involving proven, high impact interventions, cutting across different sectors and departments with a focus on ten critical interventions. These interventions can lower the prevalence of malnutrition, promote supplementary nutritive diet, and ensure timely delivery of health services necessary to combat under nutrition.

Figure 1: Nutrition - Public Expenditure Review Framework



Source: C-PEM review by UNICEF

Figure 2: Analytical Framework for Actions to Achieve Optimum Fetal and Child Nutrition and Development



In order to perform the Nutrition Public Expenditure Review, the study has chosen Gujarat as the subject because of its exclusive developmental structure but a poor nutritional status. Also, such an exercise was a thoughtful idea put forward by the government of Gujarat and UNICEF Gujarat[3]. High prevalence of malnutrition among children under 5 years of age, adolescent girls and reproductive age women has emerged as a silent emergency in Indian States, including Gujarat. The recent NFHS data revealed that in Gujarat 38 per cent of children below 5 years of age are stunted (low height for age) and 39 per cent are wasted (low weight for height). There are significant differentials in prevalence of under nutrition across income quintiles, geography, gender and social groups. This study intends to apply a "differential approach" to Nutrition - Public Expenditure Review (N-PER) in the State of Gujarat.The Nutrition PER shall examine various commitments of the State Nutrition Mission and analyse how budgetary resources are allocated to achieve this and identify, if there are any gaps and provide policy suggestions that state government may like to consider. Each of these components will be examined through a lens of nutritional commitments and how much investment has been put into the policies designed for nutrition (both through a direct and indirect approach) in the present context for Gujarat.

Following chapters shall also examine the financial position of the state of Gujarat which shall help in furnishing the availability of necessary financial resources at place to combat the issue of malnutrition in the state. Equally important then becomes to understand the benefit people get out of the schemes provided by the government when it involves large amount of spending. Hence, the study also takes up the benefit incidence analysis of one of the largest social sector schemes called Integrated Child Development Scheme (ICDS). Since Gujarat inhabits large tribal population, an exclusive examination of the states as well as the districts has also been studied for the variations in the nutritional status of the respective states and the districts based on the National Family Health Survey-4 data. Findings of the study shall offer useful policy choices and shall be an important source of channelizing resources for outcomes.

[3] *NIPFP then took forward the initiative to conduct such a review for the state of Gujarat*.

Chapter II

State Finances of Gujarat: Analyzing the Path to High Fiscal Prudence

In Gujarat, the "fiscal rules framework" was enacted iteratively by the Finance Commission(s), initially in 2005 ex-post to the recommendations from the Twelfth Finance Commission. Later the enacted 'Gujarat Fiscal Responsibility Act, 2005' was amended in the year 2011, to incorporate the fiscal consolidation roadmap prescribed by the Thirteenth Finance Commission.

As per the amended Fiscal Responsibility Legislation, the State was required to phase out the revenue deficit from 2011-12 onwards, reduce the fiscal deficit-GSDP ratio to 3 per cent from 2011-12 onwards and to reduce the total outstanding debt to GSDP ratio of Gujarat from 28.8 per cent in 2011-12 to 27.1 per cent in 2014-15. Subsequently, the Fourteenth Finance Commission recommended a revised roadmap of fiscal consolidation in December 2014 where the total outstanding liabilities to GSDP ratio was asked to reduce to 25.87 per cent from 2016-17 onwards.

The Medium-Term Fiscal Policy Statement 2017 by Gujarat has incorporated these amendments and aimed for the fiscal deficit and public debt GSDP ratio(s) respectively at 2.25 per cent and 18.55 per cent in 2016-17. The actual achievements in macro-fiscal indicators reflect the high fiscal prudence with fiscal deficit GSDP ratio at 1.46 per cent and the public debt to GSDP ratio was reduced to 17.71 per debt in 2016-17. This paper explores the State Finances of Gujarat to analyse the path in which the fiscal prudence is achieved and its fiscal marksmanship.

2.1 The Macro-Fiscal Scenario and the Economic Growth Path in Gujarat

From 2011-12 to 2016/17, the growth rate has been double digits (in all years at current prices), being as high as 17.7% in 2012/13 and the lowest growth rate was 11.6% in 2015-16(see table 1). While the growth rate has been impressive, the Gujarat model of growth has often been criticized for the growth has not "trickled down" and the social indicators have not performed as well as the growth in the state. In this context, we try to assess how the state has done in terms of the public finance and its priority in the social and economic sector.

Table 1: Growth Rate in Gujarat

Years	Growth Rate (in %)
2012-13	17.7
2013-14	11.47
2014-15	14.13
2015-16	11.63
2016-17	12.95

Source: (Basic data), MOSPI, Government of India (various years)

It is interesting to note that there is a decline in the total revenue receipts, revenue expenditure and capital expenditure as a percentage of GSDP. In case of total revenue receipts, it was 10.23% in 2011/12 and it was 9.45% in 2016/17. In case of revenue expenditure, it was 9.70% in 2011/12 and it declined to 8.94% in 2016/17. We observe a similar trend in capital expenditure; it was 2.24% in 2011/12 and 1.92% in 2016/17. Clearly, there is a decline in both the expenditure and revenue as a proportion of GSDP (see table 2).

Table 2: Revenue and Expenditure as a Percentage of GSDP

Years	**Total Revenue Receipts**	**Tax Revenue**	**States Own Tax Revenue**	**Share in Central Taxes**	**State Own Non-Tax Revenue**	**Grants from Center**	**Revenue Exp.**	**Capital Exp.**
2011-2012	10.23%	8.45%	7.19%	1.26%	0.86%	0.92%	9.70%	2.24%
2012-2013	10.38%	8.66%	7.44%	1.22%	0.83%	0.89%	9.61%	2.93%
2013-2014	9.90%	8.18%	6.98%	1.20%	0.87%	0.85%	9.32%	2.81%
2014-2015	9.98%	7.77%	6.65%	1.12%	1.04%	1.17%	9.40%	2.62%
2015-2016	9.47%	7.61%	6.09%	1.52%	0.99%	0.87%	9.31%	2.35%
2016-2017	9.45%	7.17%	5.54%	1.62%	1.15%	1.14%	8.94%	1.92%

Source: (Basic data), MOSPI, Government of India (various years)

What is interesting is that in case of fiscal deficit as a percentage of GSDP, it increases from 2011/12 to 2015/16 and dips in 2016/17. It was 1.79% in 2011/12 and increases to 2.24% in 2015/16. However, it dips to 1.42% in 2016/17. In case of revenue deficit, while it has its troughs and valleys in different years. It was 0.52% in 2011/12, increases to 0.77% in 2012/13 and dips to 0.17% in 2015/16. It was 0.51% in 2016/17 as shown in table 3.

In this context, the social sector expenditure in Gujarat is assessed and is presented in table 4. When we consider the expenditure in social services as a percentage of total expenditure, it has experienced a slight increase, from 33.37% in 2011/12 to 35.58% in 2016/17. In case of economic services, there seems to be a slight decline. The expenditure on economic services in 2011/12 was 18.38% and it was 18.02% in 2016/17. A similar decline can be observed for the non-developmental expenditure. It was 29.2% in 2011/12 and it declined to 28.36$ in 2016/17.

Table 3: Deficit/Surplus as a Percentage of GSDP

Year	Revenue Deficit Surplus(+)/Deficit(-)	Fiscal Deficit Surplus(+)/Deficit(-)	Primary Deficit Surplus(+)/Deficit(-)
2011-2012	0.52%	-1.79%	-0.02%
2012-2013	0.77%	-2.28%	-0.60%
2013-2014	0.58%	-2.28%	-0.63%
2014-2015	0.58%	-1.99%	-0.37%
2015-2016	0.17%	-2.24%	-0.65%
2016-2017	0.51%	-1.42%	0.11%

Source: Author's Calculation using various years' budget documents

Table 4: Revenue Expenditure

Year	Social Services	Economic Services	Non-Developmental Expenditure
2011-2012	33.37%	18.38%	29.20%
2012-2013	32.49%	17.43%	26.55%
2013-2014	33.06%	16.06%	27.39%
2014-2015	33.13%	17.51%	27.08%
2015-2016	35.12%	16.86%	27.41%
2016-2017	35.58%	18.02%	28.36%

Source: Author's Calculation using various years' budget documents

We observe a similar declining trend for these categories, when we assess it as a percentage of the GSDP in Gujarat. The social services as a percentage of GSDP in 2011 was 3.99% and while it increased marginally to 4.09% in 2015/16, it has declined further to 3.87 in 2016/17(see table 5). Economic services have also seen a declining trend. It was 2.20% in 20011/12 and has declined to 1.96% in 2016/17. Furthermore, non-developmental expenditure has also seen a similar trend. It was 3.49% in 2011/12 and declined to 3.081% in 2016/17.

Table 5: Capital Expenditure

Years	Social Services	Economic Services	Non- developmental Expenditure
2011-2012	3.99%	2.20%	3.49%
2012-2013	4.09%	2.19%	3.33%
2013-2014	4.01%	1.95%	3.32%
2014-2015	3.98%	2.10%	3.26%
2015-2016	4.09%	1.97%	3.20%
2016-2017	3.88%	1.96%	3.08%

Source: Author's Calculation using various years' budget documents

2.2 Forecasting Error and the Credibility of the Budget of Gujarat

Up until now, we have considered the public expenditure in Gujarat, and we see a general decline in its key components while maintaining a very low fiscal deficit and a revenue surplus. Let us consider some of the key components.

Table 6: BE/Actuals and RE/Actuals for 2011/12 to 2016/17

	BE/Actuals	RE/Actuals
Total Revenue Receipts	1.01	0.97
Tax Revenue	0.98	0.93
States Own Tax Revenue	1.03	1.00
Share in Central Taxes	0.99	1.05
Non-tax Revenue	1.16	1.17
State own non tax revenue	0.97	1.05
Grants from Center	1.34	1.28
Revenue Expenditure	1.05	1.04
Non-Developmental Expenditure	1.13	1.02
Developmental Expenditure	1.01	1.05
Social Services	1.01	1.04
Economic Services	1.02	1.06
Assignments to local bodies & Panchayati Raj Institutions	0.79	1.03
Capital Expenditure	1.09	1.06
Non-Developmental	1.43	1.14
Developmental	1.08	1.06
Social Services	1.19	1.09
Economic Services	1.04	1.05

Loans and Advances Payments	1.38	1.15
Revenue Deficit Surplus(+)/Deficit(-)	1.02	1.09
Fiscal Deficit Surplus(+)/Deficit(-)	1.13	1.04
Primary Deficit Surplus(+)/Deficit(-)	1.70	1.20

Source: Author's Calculation using various year's budget documents

In case of the total revenue receipt, while the BE/Actuals were 1.01, it was 0.97 in the RE/Actuals. This means that while the BE was a slight overestimate the RE was a slight underestimate. In case of Tax revenue, BE/Actuals were 0.98 and the RE/Actuals is 0.93. Therefore, in case of the tax revenue, the estimations worsened marginally. The BE/Actuals and RE/Actuals is 1.16 and 1.17 respectively. This means that the non-tax revenue remained an overestimate. For BE/actuals and RE/actuals for revenue expenditure is 1.05 and 1.04 respectively. For capital expenditure, BE/Actuals and RE/actuals is 1.09 and 1.06 respectively (see table 6).

For the total revenue receipts, tax revenue and the non-tax revenue the random component is 0.970, 0.901 and 0.536 respectively. For the former two, the random component is pretty high, which means that there is little room for improvement in the forecasting error. In case of non-tax revenue, it was lower, however, it is still higher than 0.50. For the revenue expenditure and capital expenditure, the random component is pretty low at 0.132 and 0.321 respectively (table 9). This means that there is room for improvement.

What is important to note, is that the BE for the non-developmental expenditure, which constitute around 35% of the revenue expenditure, has a pretty large over-estimate. The BE is 13% higher than the actuals. There is an improvement from BE to RE, from 13% higher than the actuals to 2% higher than the actuals.

In case of capital expenditure, the non-developmental expenditure and social services which constitute around 3% and 28% of the capital expenditure (respectively) have been overestimated in both the BE and RE. The BE for non-developmental expenditure and social services were 43% and 19% overestimated. While the RE does seem to be an improvement, it is still quite an overestimate at 14% and 9% above the actuals.

2.3 Methodology

In order to assess the accuracy of the forecast we use the Theil's Index. We use three different indices.

$$\mathbf{U_1} = \frac{\sqrt{1/n\sum(P_t - A_t)^2}}{\sqrt{1/n\sum P_t^{\,2}} + \sqrt{1/n\sum A_t^{\,2}}} \qquad \textbf{(1)}$$

Here, Pt is the predicted value and At is the actual for the year t. The range of the value of U1 will be from 0 to 1. 0 indicates perfect forecast.

There is a revised version of the Theil's Index (Theil 1966). It is measured as follows:

$$\mathbf{U2} = \frac{\sqrt{1/n\sum(P_t - A_t)^2}}{\sqrt{1/n\sum A_t^{\,2}}}$$

A more rigorous index is the U3. This has been used in Bhattacharya and Kumari (1988). Here, Q_t and a_t are lags, that is Q_t equals $P_t - P_{(t-1)}$ and at = $A_t - A_{t-1}$

$$\mathbf{U3} = \frac{\sqrt{1/n\sum(Q_t - a_t)^2}}{\sqrt{1/n\sum Q_t^{\,2}} + \sqrt{1/n\sum a_t^{\,2}}}$$

2.4 Types of Errors

There are two types of errors - systematic and unsystematic errors. We attempt to derive it in this section (Thiel 1966). To begin with,

$$\tfrac{1}{n}\sum(Pi - Ai)^2 = (\bar{P} - \bar{A})^2 + (sp - sA)^2 + 2(1 - r)\, sp\, sA$$

If we divide both sides by $(\sqrt{1/n\sum P_t^{\,2}} + \sqrt{1/n\sum A_t^{\,2}})^2$ (we will call this term D) we will get equation (1),

$$\frac{\tfrac{1}{n}\sum(Pi - Ai)^2}{D^2} = \frac{(\bar{P} - \bar{A})^2}{D^2} + \frac{(sp - sA)^2}{D^2} + \frac{2(1 - r)\, sp\, sA}{D^2}$$

And,

$U_1^2 = \frac{(\bar{P}-\bar{A})2}{D^2} + \frac{(sp-sA)2}{D^2} + \frac{2(1-r)\, sp\, sA}{D^2}$

Dividing both sides by D^2 we have,

$$1 = \frac{(\bar{P}-\bar{A})^2}{\sqrt{1/n\sum(P_t - A_t)^2}^2} + \frac{(sp-sA)^2}{\sqrt{1/n\sum(P_t - A_t)^2}^2} + \frac{2(1-r)\ sp\ sA}{\sqrt{1/n\sum(P_t - A_t)^2}^2}$$

For the sake of simplicity, we will label the above equation as,

$1 = U_m + U_s + U_c$

The first two components (U_m and U_s) of the equation is termed as the systematic error whereas the term U_c is the random error (Davis, 1980). If the systematic component of error is high, one can improve the forecasting by improving the forecasting method. This can be done adding more variables into the forecasting model or also by incorporating the fluctuations in the variables in the model. In case the random error is high, one cannot improve the forecasting further and the model used to estimate the error is a good model (Theil, 1958). We will see which component is higher in the case of Kerala.

2.5 Analysing the Forecasting Error

When we consider the value of U1 in the table 7 below, we see that its value is very low for most of the categories. Let us consider some of the key categories. U1 for total revenue receipts, tax revenue and non-tax revenue is 0.060, 0.062 and 0.142 respectively. The very low value of U1 indicates that largely the forecasting errors in the revenue receipts are very low. U1 for revenue expenditure and capital expenditure are 0.043 and 0.088. This indicates that like the revenue receipts, the forecasting error of the budget estimates for the expenditure side is also very low.

Table 7: Theil's Index for Budget Estimates for 2011/12 to 2016/17

	U1	**U2**	**U3**
Total Revenue Receipts	0.060	0.086	0.500
Tax Revenue	0.062	0.086	0.567
States Own Tax Revenue	0.055	0.080	0.515
Share in Central Taxes	0.078	0.108	0.401
Non-tax Revenue	0.142	0.220	0.551
State own non tax revenue	0.096	0.132	0.534
Grants from Center	0.236	0.412	0.707
Revenue Expenditure	0.043	0.063	0.346
Non-Developmental Expenditure	0.084	0.129	0.542
Developmental Expenditure	0.032	0.046	0.266
Social Services	0.022	0.031	0.178

Economic Services	0.065	0.093	0.514
Assignments to local bodies & Panchayati Raj Institutions	0.310	0.391	1.020
Capital Expenditure	0.088	0.132	0.564
Non-Developmental	0.259	0.473	0.932
Developmental	0.083	0.125	0.543
Social Services	0.160	0.257	0.726
Economic Services	0.051	0.074	0.389
Loans and Advances Payments	0.277	0.498	0.762
Revenue Deficit Surplus(+)/Deficit(-)	0.434	0.655	0.945
Fiscal Deficit Surplus(+)/Deficit(-)	0.139	0.212	0.643
Primary Deficit Surplus(+)/Deficit(-)	0.539	0.930	0.734

Source: Author's Calculation using various year's budget documents

For the revised estimates, the errors are much lower. For instance, the total revenue receipts, tax revenue and non-tax revenue are 0.002, 0.008 and 0.019 respectively. This is an improvement from the budget estimates. Furthermore, the revenue expenditure and capital expenditure are at 0.002 and 0.004 respectively. Like the revenue receipt, this is also an improvement from the budget estimate (see table 8).

Table 8: Theils Index for Revised Estimates for 2011/12 to 2016/17

	U1	**U2**	**U3**
Total Revenue Receipt	0.002	0.003	0.606
Tax Revenue	0.008	0.015	0.929
States Own Tax Revenue	0.010	0.020	0.274
Share in Central Taxes	0.004	0.008	0.167
Non-tax Revenue	0.019	0.042	0.437
State own non tax revenue	0.010	0.020	0.302
Grants from Center	0.028	0.063	0.558
Revenue Expenditure	0.002	0.003	0.268
Non-Developmental Expenditure	0.002	0.004	0.281
Developmental Expenditure	0.001	0.003	0.302
Social Services	0.002	0.003	0.269
Economic Services	0.001	0.002	0.343
Assignments to local bodies &Panchyati Raj Institutions	0.005	0.009	0.125
Capital Expenditure	0.004	0.008	0.325
Non-Developmental	0.024	0.052	0.480
Developmental	0.003	0.006	0.319
Social Services	0.004	0.008	0.354
Economic Services	0.003	0.006	0.326
Loans and Advances Payments	0.038	0.080	0.273
Revenue Deficit Surplus(+)/Deficit(-)	0.053	0.113	0.760

Fiscal Deficit Surplus(+)/Deficit(-)	0.020	0.040	0.366
Primary Deficit Surplus(+)/Deficit(-)	0.087	0.171	0.372

Source: Author's Calculation using various years' budget documents

2.6 Components of Error

For the total revenue receipts, tax revenue and the non-tax revenue the random component is 0.970, 0.901 and 0.536 respectively (see table 9). For the former two, the random component is pretty high, which means that there is little room for improvement in the forecasting error. In case of non-tax revenue, it was lower, however, it is still higher than 0.50. For the revenue expenditure and capital expenditure, the random component is pretty low at 0.132 and 0.321 respectively. This means that there is room for improvement.

It is very important to note that the non-developmental has a very high systematic error and a very low random error. The random component of the error is merely 4.3% whereas the systematic component is 95.7%. This means that there is a very high room for improvement in this and that the estimation can be improved significantly by improving upon the estimation method.

Table 9: Components of Error (BE)

BE	$\frac{(\bar{P}-\bar{A})^2}{D^2}$	$\frac{(sp-sa)^2}{D^2}$	$\frac{2(1-r)\,sp\,sa}{D^2}$
Total Revenue Receipts	0.022	0.008	0.970
Tax Revenue	0.070	0.029	0.901
States Own Tax Revenue	0.120	0.796	0.084
Share in Central Taxes	0.006	0.124	0.871
Non-tax Revenue	0.461	0.003	0.536
State own non tax revenue	0.047	0.060	0.893
Grants from Center	0.627	0.037	0.336
Revenue Expenditure	0.612	0.255	0.132
Non-Developmental Expenditure	0.906	0.051	0.043
Developmental Expenditure	0.066	0.563	0.371
Social Services	0.102	0.738	0.161
Economic Services	0.027	0.306	0.667
Assignments to local bodies & Panchayati Raj Institutions	0.242	0.023	0.735
Capital Expenditure	0.481	0.199	0.321
Non-Developmental	0.789	0.002	0.209
Developmental	0.414	0.249	0.337
Social Services	0.509	0.149	0.342
Loans and Advances Payments	0.531	0.090	0.379
Revenue Deficit Surplus(+)/Deficit(-)	0.001	0.105	0.895
Fiscal Deficit Surplus(+)/Deficit(-)	0.341	0.003	0.656
Primary Deficit Surplus(+)/Deficit(-)	0.309	0.087	0.604

Source: Author's Calculation using various year's budget documents

The random component for total revenue receipts, tax revenue and non-tax revenue is 0.773, 0.661 and 0.218 respectively. Since the random component for the former two is greater than 0.5. However, for the non-tax revenue, the random component was 0.218 (see table 10). This means that there is room for improvement in this. For the revenue expenditure and capital expenditure the random component is 0.096 and 0.17. This indicates that the random component for this is very low, and that there is room for an improvement in the forecasting error.

What is worth noting in the revenue expenditure is that while the random component in non-developmental expenditure in the RE has improved compared to the BE, the nonrandom component in the social services has increased to 89.5%. Similarly, in capital expenditure, in the social services and non-developmental expenditure, the nonrandom component is very high at 84.6% and 96.3% respectively. This shows that these in these two categories, estimations can be significantly improved.

Table 10: Components of Error (RE)

	$\frac{(\overline{P}-\overline{A})^2}{D^2}$	$\frac{(sp-sa)^2}{D^2}$	$\frac{2(1-r)spsa}{D^2}$
Total Revenue Receipts	0.072	0.154	0.773
Tax Revenue	0.266	0.073	0.661
States Own Tax Revenue	0.003	0.412	0.585
Share in Central Taxes	0.714	0.089	0.197
Non-tax Revenue	0.669	0.113	0.218
State own non tax revenue	0.245	0.352	0.403
Grants from Center	0.648	0.113	0.239
Revenue Expenditure	0.671	0.233	0.096
Non-Developmental Expenditure	0.294	0.219	0.488
Developmental Expenditure	0.662	0.195	0.142
Social Services	0.664	0.231	0.105
Economic Services	0.634	0.147	0.218
Assignments to local bodies & Panchayati Raj Institutions	0.166	0.388	0.445
Capital Expenditure	0.686	0.144	0.170
Non Developmental	0.910	0.053	0.037
Developmental	0.659	0.153	0.188
Social Services	0.692	0.154	0.154
Loans and Advances Payments	0.763	0.020	0.217
Revenue Deficit Surplus(+)/Deficit(-)	0.024	0.145	0.831
Fiscal Deficit Surplus(+)/Deficit(-)	0.105	0.073	0.822
Primary Deficit Surplus(+)/Deficit(-)	0.086	0.321	0.593

Source: Author's Calculation using various year's budget documents

While Gujarat has excelled in terms of growth and fiscal sustainability, the social sector outcomes has not improved in tandem. The study by Baxi (2019) shows that the social sector hasn't improved in tandem. While Gujarat has improved in terms of per capita NSDP, i.e., from ranking 6th among the Indian states in 2004/05 to 3rd in 2013/14, the health and education indicators have not improved in tandem. Various health indicators such as government hospitals per lakh population, hospital beds per lakh population, institutional births, children aged 6-59 months who are anaemic, while have improved in 2015/16 relative to 2005/06 in terms of numbers, the ranking among overall states have declined (table 11).

Table 11: Health Indicators

Indicators	2005-06		2015-16	
	Value	**Rank**	**Value**	**Rank**
Government Hospitals per lakh population	0.99	5	0.64	11
Number of beds per lakh population	69.18	7	46.21	9
Number of Primary Health care per lakh rural population	3.37	7	3.59	8
Number of Community Health care per lakh rural population	0.86	2	0.92	6
Percentage of households using improved sanitation	44.2	3	79.2	3
Institutional birth	52.7	6	88.7	7
Life expectancy at birth	66.4	9	68.2	8
Infant Mortality Rate	50	9	34	8
Children aged 6-59 months who are anemic	69.7	10	62.6	12
Sex Ratio at Birth	906	9	907	11

Source:Baxi (2019)

In terms of educational indicators, while there are improvements in terms of the indicators, it is not on par with the extent of growth that Gujarat had experienced. For instance, the pupil teacher ratio while has declined from 35 to 19 (from 2005-06 to 2015-16). However, the all India ranking in a lot of the indicators have dropped, such as Primary school sections per thousand projected child population, Upper primary school per thousand projected child population(11 to 14 years), Upper primary school per thousand projected child population(11 to 14 years), Gross enrolment ratio primary and Women with 10 or more years of schooling (see table 12).

Table 12: Education Indicators

Indicators	2005-06		2015-16	
	Value	**Rank**	**Value**	**Rank**
Pupil teacher ratio all school	35	11	19	7
Primary school sections per thousand projected child population	7	9	7	12
Upper primary school per thousand projected child population(11 to 14 years)	7	5	9	7
Gross enrolment ratio primary	100.3	8	97.24	11
Gross enrolment ratio upper primary	49.91	11	95.73	6
Literacy Rate	69.14	6	78.03	5
Women with 10 or more years of schooling	23.5	8	33	10

Source:Baxi (2019)

2.6 Conclusion

While Gujarat has a very high growth rate the social sector does not seem to be improving along similar lines. There has been a decline in the expenditure as a percentage of GSDP and fiscal prudence seems to have taken place at the expense of social and economic expenditure. In the revenue expenditure, the non-developmental expenditure which constitute around 35% of the revenue expenditure was overestimated quite significantly. The Budget Estimate has a very high systematic error which entails that the forecast can be improved significantly by using better methods of forecasting. In the capital expenditure, the non-developmental expenditure and social services has a very high systematic component as well.

Chapter III

Gujarat- Public Expenditure Review of Nutrition

Gujarat is the sixth largest state by area and around 4.99 % of the total population of the country lives in the thirty-three districts of the state as per the Census, 2011. The state contributes around 7.6% share in the total GDP of the country and is a leader in exports with a share of more than 20% in the total exports of the country[4]. Gujarat's developmental model has become a benchmark for many states in India and the state is looked up as a manufacturing giant fetching one of the highest amounts of foreign direct investments in the country. The state, *vis-à-vis* other states of the country, has performed well in terms of its economic credentials.

Relooking from the social development perspective, India is lagging behind when it comes to the Human Development Indicators such as literacy, unbalanced sex ratio, malnutrition in terms of having large number of children who are stunted (low height for age), wasted (low height for weight), high mortality rate in the age group of 0-5 years and micronutrient deficiencies. A similar story exists for the economically well to do state of Gujarat. As per Gujarat's 4th National Family Health Survey report (2015-16), the literacy rate of the state is 79.01 % while only 21% of women and 27% of men in the age group of 15-49 years have completed 12 or more years of schooling. The sex ratio of the state is 919 per 1000 males (one of the states with a low-sex ratio) while the national average stands at 940 per 1000 males as per the Gujarat socio-economic review, 2017-18. Infant mortality rate stands at 27 deaths per 1000 live births for urban areas while this ratio is higher in the rural areas (39 deaths per 1000 live births).

3.1 Nutritional Status of the State

Focussing on the details of the nutritional aspect of Gujarat, the anthropometric indicators of nutritionsuch as stunting (children with low height for their age), Wasting (children with low weight for their height) and children who are underweight (lacking sufficient calorie intake) for Gujarat is not much appreciated. Although as per the latest NFHS-4 survey, the situation of stunting among children has reduced by 1 percentage point but the decadal growth of reduction remains poor. The situation of wasting among children is

[4] Socio-economic review, Gujarat 2017-18 , https://gujecostat.gujarat.gov.in/sites/default/files/socio-economic-review-2017-18-part-i-iii.pdf

worse and percentage of children who are severely wasted has increased in NFHS-4 vis-à-vis NFHS3. The prevalence of wasting has increased from 19 to 26% in the NFHS-4. Gujarat stands with states of Bihar, Jharkhand, Uttar Pradesh, Madhya Pradesh and Rajasthan on having highest percentage of children who are stunted, children who are under-weight and tops the list after Jharkhand for having children wasted and severely wasted less than five years of age. Also, the other indicators such as vaccination coverage among children (12-23 months) remain low. Micronutrient deficiency also has shown improvement in the NFHS-4 survey but still the figure is low for the children under the age of 9-59 months to have been given vitamin A supplements. 50 % of the women are anaemic. Only 37% of mothers in Gujarat were given the antenatal care during pregnancy of their last birth. Other characteristics like contraceptive and breast- feeding knowledge, post-natal care remains low for women[5]. The situation is even worse in the rural areas of the state.

3.2 National Level Policies to Improve Nutritional Status

The total number of women and children constitute 70% of the total population in India and approximately around 43 crore children are in the age group of 0-18 years. Hence, it becomes imperative to cautiously look over the policies designed for them as they are the resource base for future development. In order to provide adequate nutrition to children and women, based on WHO guidelines on nutritional targets, the government has launched National Nutrition Mission with a vision 2022: "*KuposhanMukt Bharat*" that means "*free from malnutrition, across the lifecycle*", as the National Nutritional Strategy and has also has mandated the governments to start similar nutrition mission across states within the country. National Nutrition Mission holds the charge to supervise the intended targets, monitor the progress and guide the ministries on Nutrition related policies and frameworks. The National Nutritional Strategy has the following monitor able targets in order to achieve more inclusive growth by reducing the maternal, infant and young child mortality through[6]:

- To prevent and reduce under nutrition (underweight prevalence) in children (0- 3 years) by percentage points per annum from NFHS 4 levels by 2022.

[5]Gujarat National Family Health Survey (NFHS-4) ,2015-16. Link: http://rchiips.org/NFHS/NFHS4Reports/Gujarat.pdf
[6]National Nutritional Strategy,http://pib.nic.in/newsite/printrelease.aspx?relid=174442

- To reduce the prevalence of anaemia among young children, adolescent girls and women in the reproductive age group (15- 49 years) by one third of NFHS 4 levels by 2022.

3.3 State Level Interventions

Referring to the National Mission on Nutrition, Gujarat started the State Nutrition Mission in 2012 with a multifaceted approach towards malnutrition. The aim of the mission was to intricately hold together the various key departments concerning nutrition and focus on developing strategies that counter malnutrition and other practices[7]. But the major concern has been the lack of any financial commitments or targets set that could have been achieved through the mission. The state mission on nutrition rightly identified the problems but does not put forward the systematic procedure of preventive and curative measures in order to deal with malnutrition in the state (The Hindu, 2016).

3.4 Where the Problem is?

Not only are the anthropometric indicators that indicate the level of nutrition, but there are also several other indicators that affect nutrition. Determinants such as poverty, livelihoods, social protection safety nets, agriculture, public distribution systems, education and communication- especially female literacy and girls' education, women's empowerment and autonomy in decision making, control and use of resources (human, economic, natural), shaped by the macro socio- economic and political environments and the potential resource base all add to indicate the nutritional level of children and women in the country. Since, there are many direct and indirect interventions that deal with the nutrition in the state, it is crucial to scrutinise each and every policy that work directly or indirectly for nutrition.

For Gujarat, specifically, the IMR is higher among the scheduled caste. IMR is also much higher among the mothers who have no schooling (40 IMR) as compared to children whose mothers have completed 10 or more years of schooling (18 IMR). Hence, these problems of adequate nutrition get further accentuated in the pretext of social exclusion, gender discrimination, poverty and caste-systems.

[7] https://nrhm.gujarat.gov.in/Portal/Document/1_11_1_gr_setting_up_of_gsnm.pdf

Gujarat has, in the past, implemented many schemes like, Chiranjeevi Yojana, Bal Bhog Yojana, Vitamin YuktaPoshanAhar Yojana (nutritious food with vitamins), KanyaKelavani Yatra for saving the precious lives of mothers and children, BalSakha scheme, BalAmrutam, Kasturba PoshanSahayYojana, Kishori Shakti Yojana, 'Baal Sukham' Yojana which is now 'KuposhanMukt Gujarat Abhiyan' and has recently introduced the State Nutrition Mission for maternal, infant and young children. A wide spectrum of national programmes also contributes in improving nutritional outcomes, addressing both the immediate and the underlying determinants of under nutrition. These include the Integrated Child Development Services, National Health Mission- including RMNCH + A, Janani Suraksha Yojana, Swachh Bharat including Sanitation and the National Rural Drinking Water Programme, MatritvaSahyog Yojana, SABLA for adolescent girls, Mid-Day Meals Scheme, Targeted Public Distribution System, National Food Security Mission, Mahatma Gandhi National Rural Employment Guarantee Scheme and the National Rural Livelihood Mission among others.

3.5 The Need of Nutrition PER

With so many programmes being run both by the central and state government of Gujarat across various departments such as Department of Women and Child Development (DWCD), Health, Education, Rural Development, Tribal Development, Urban Development, Water Supply Department etc., it becomes imperative that a comprehensive review of all the programs across the departments should be taken up in an integrated and holistic manner that addresses multi-sectoral and inter related determinants of under-nutrition across the life cycle.This shall help the government to identify the total cost of their spending on achieving the nutritional objectives.

This can be done with reviewing the public expenditures made directly/indirectly on nutrition which can be called as Nutrition PER. The links established following a differentiated approach is only possible after a detailed review of expenditures which can be then mapped to outcomes to help governments find the real expenditures taken up to reduce the malnutrition in the state. Such an exercise can help the government to spend effectively after analysing the linkages. This will also help them to identify the composition of expenditures intended for effective nutritional policy. Hence, the need for a public expenditure review for nutrition becomes crucial to synergize the link among various departments across the state so that the programs of the ministries can be aligned for better

outcomes on nutrition.According to the Global Nutrition Report of 2015, for investments in nutrition, the benefit cost ratio stands at 16:1 for 40 lowand middle-income countries. Against this backdrop, a detailed review of expenditure on nutrition becomes necessary.

Public Expenditure Measurement is a Public Finance Management (PFM) tool, which builds on and provides further leverage for strengthening PFM systems to address real problems concerning maternal, infant and young children. A Public expenditure review can be done through mapping of the existing programmes to the outcome areas and then identify the underlying expenditures that would focus on the outcome that is objectified (Cummins, 2016). This could be identifying expenditure exclusively spent on children or women and then measuring spending of such child-related or women- related programmes and analysing them for further policy-making processes.

Such a review is also important from the perspective that only few governments spend effectively and exclusively on children or women related objectives. It could be ascertained that many of the governments may not exactly know how much spending they had already done on such crucial goals while much of the expenditures have already been laid and utilized. This could mean that spending mustn't have been effective enough to reach the objectives previously.This could mean ineffective or wasteful spending. Also, a priority-based budgeting can help the governments to achieve the sustainable development goals with an overall view to approach the objective at place.

3.6 Nutrition PER for Gujarat

A PER on Nutrition can help the government to have knowledge about the impact of public spending on nutrition when compared to the nutritional outcomes. This paper analysis each of the policies or schemes of the identified departments that affect nutrition through a lens of nutritional commitments and how much investment has been put into the policies designed for nutrition in order to facilitate comparisons of child focussed spending vis-à-vis other countries and in the present context for Gujarat.

Similar PERs have been conducted by many countries focussing on child related expenditures and have identified those expenditures under various heads. Table 13 shows a cross-country review on how the countries have identified the related expenditures on children.

Table 13: Expenditures Defined for Children Spending

S No.	Country	Expenditure Category used
1.	**Argentina**	1. specific 2. indirect
2.	**Colombia**	1. Direct 2. Indirect
3.	**Dominican Republic**	1. direct 2. indirect 3. investment support
4.	**Ecuador**	1. specific
5.	**Egypt**	1. directly targeted 2. partially targeted 3. public goods
6.	**El Salvador**	1. direct 2. indirect 3. general
7.	**Honduras**	1. specific 2. indirect
8.	**Mexico**	1. Direct 2. Agent 3. Expanded 4. public goods
9.	**Peru**	1. specific 2. non-specific
10.	**Uganda**	1. direct 2. indirect
11.	**Wales**	1. Direct 2. Indirect 3. statistical
12.	**Yemen**	1. Specific

Source: Cummins, M. (2016)

Against such a background, we try to analyse the expenditures based on the criterion; whether expenditure directly affects the nutrition of children and women called as *Exclusive Expenditure* or indirectly affects the nutrition of children and women called as *Expanded Expenditure*. There are certain expenditures that affect the entire family's nutrition of which children and women are a sub-set, hence, such expenditure has been considered as an expanded expenditure in the review.

Following the above explained criteria, expenditure review has been conducted for all the departments (see detail list in Table A.5 of the Appendix).All the expenditure ofthese departments were analysed to identify if the expenditures were expanded or exclusively spent on nutrition of children and women or as a whole.

Table 14: Identified Ministries and their Spending for the year 2018-19
(in Rs. Lakhs)

S No.	Name of the Department	Expanded Expenditure Nutrition (A)	Exclusive Expenditure on Nutrition (B)	Total Expenditure on Nutrition (C) =(A)+(B)	Total Budget of the department (D)	% of totalExpenditure over the total budget
1	Women & child development	36971.97	175198.26	212170.23	234951.03	**90.3**
2	Health & Family Welfare	317346.84	9437.74	326784.58	817237.91	**40.0**
3	Food, Civil Supplies & Consumer Affairs	6824.61	65511.7	72336.31	93618.83	**77.3**
4	Education		73423.42	73423.42	2526969.3	**2.9**
5	Revenue	1070.18	0.01	1070.19	295804.32	**0.4**
6	Forests & Environment	1018		1018	94885.46	**1.1**
7	Urban Development and Urban Housing	28921.27		28921.27	1084877.88	**2.7**
8	Narmada, Water Resources, Water Supply and Kalpsar	131497.48		131497.48	1229961.33	**10.7**
9	Roads and Buildings	2750		2750	901243.16	**0.3**
10	Panchayat, Rural Housing and Rural Development	54389		54389	538720.25	**10.1**
11	Social Justice and Empowerment Department	11358.13	9009.5	20367.63	720426.94	**2.8**
12	Tribal Development Department	2885.36	83881.14	86766.5	1327786.59	**6.5**

Source: Author's Calculation using budget documents

Out of the twenty-six departments,we identified eleven departments that were spending indirectly on nutrition while seven departments spending exclusively on nutrition. Their expenditure as a percentage of their respective budget can be seen in the table 14.

We found that the departments spending the maximum amount of their budgets on nutrition are Women and Child Development (WCD), Food, Civil Supplies and Consumer Affairs department and Health and Family Welfare Department (HFW). The total budget in gross terms of WCD Department is Rs. 234951.03 lakhs out of which 90% is spent on nutrition (both directly and indirectly). Exclusive expenditure on nutrition made by the WCD department is around 75% while the rest 15% is spent indirectly that affects nutrition. The total budget for the health and family welfare department is Rs.817237.91 lakhs out of which 15% is the exclusive expenditure and the 38% is the expanded expenditure on nutrition.

The expanded expenditure in the Health and Family Welfare department includes the expenditure on the prevention and control of the diseases, spending on educating public health, training of the public health professionals as well as the larger part is on maintaining primary health centres, community health centres and on direction and administration cost of the family planning bureau. Similarly, the Education Departments runs the national level programme called the Mid-day Meal Scheme for children in public primary schools which accounts around 3% of the total budget for the department i.e. Rs 73423.42 Lakhs. This is an exclusive expenditure as it directly deals with providing nutrition to the children. The Food, Civil Supplies and Consumer Affair Department also contribute to nutrition directly by providing subsidies on food and other materials to the BPL and Antyodaya family. The subsidies on food and other materials account for 70 % of the total budget of the department i.e. Rs. 65511.7 Lakhs. The revenue department also spends on special nutrition programme on account of providing relief to the people affected by natural calamities which is however not a large amount but is related to nutrition directly. The other two departments are Social Justice and Empowerment Department and Tribal Development Department. Their expenditures as a % of their total budget is 2.8 & 6.5 % respectively. These expenditures are largely expenditures on the Mid-day Meal schemes for the children.The total exclusive expenditure on nutrition accounts for Rs. 416461.77lakhs for the year 2018-19 BEconstituting around2.27 % of the total budget of Gujarat for the year 2018-19. A detailed list of expenditure is presented in Table A.1 of the appendix.

There are also those expenditures that may not be directly affecting nutrition but indirectly impacting the level of nutrition among children and women or a family as a whole. Although the WCD and HFW departments are spending major part of their budget into nutrition, there also have certain expenditures that are indirectly affecting nutrition. One such example is the assistance to the anganwadi workers as well spending on their training and awarding them too. Anganwadi workers work closely with children and cook their meals and take care of them in school. Hence, it becomes imperative that a proper training is provided to them so that they work more efficiently and reduce malnutrition among children by providing them with healthy food.

It is equally important that a well-equipped infrastructure of public health services should be at place so that would be mothers get proper care, attention and also proper nutrition facilities in order to have a healthy child. This kind of expenditure is important from the perspective of the rural population which has larger number of children who are malnourished, anaemic and also are born with lower birth weight. This situation also increases the mortality rate especially for children below the age of five. Health and Family Welfare department's budget shows that around 38% of the expenditure i.e. Rs 317346.8 Lakhs is spent on strengthening family planning bureau, public health education, training centres, primary and community Health centres both in urban are rural areas etc. Also, it is imperative to have a pollution free environment (both air and water) so that children have good health and subsequently also maintain adequate level of nutrition. A cleaner environment helps in a healthy growth of children and indeed is one of the important determinants of nutrition. Much of the activities related to it account for 1 % of the total budget of Forest & Environment Department. Food, Civil Supplies and Consumer Affair department also contribute around 7 % of their total budget i.e. Rs.6824.61 lakhs indirectly to nutrition which is presented in Table A.2of the appendix. It is only when appropriate amount of food is available for the people especially for the poorer sections of the society to have an adequate level of nutrition. This department provides food to the poor and unprivileged through fair price shops and also spends on state food commission to maintain the quality of supply. Another important aspect to nutrition is education. It is crucial for the people especially the youth to know about human health, body health requirements in terms of appropriate micronutrient intake etc. because without proper education, awareness about adequate nutrition becomes a challenging task. Hence, the expenditure by Urban Development and Urban Housing Department on primary education is considered as expenditure indirectly impacting nutrition. It accounts for around 3 % of their total budget i.e. Rs. 28921.27 Lakhs. Narmada, Water Resources, Water Supply and Kalpsar Department spend around 10% of their total budget on activity like tap connectivity in rural areas and also supervise rural and urban water supply programmes. Adequatesupply of water is a necessity and an essential component of human healthnutrition indirectly. Similarly, adequate sanitation and sewerage services should be available for the people so that cleanliness is maintained and also the risk of getting ill reduces. It forms a crucial part of healthy lifestyle as it is inconsonance with the healthy environment.

In order to maintain such an environment, we consider the expenditure made by Panchayat, Rural Housing and Rural Development Department on rural sanitation as indirectly spent on nutrition. The department spends around Rs. 54389 Lakhs which accounts for around 10% of their total budget. Roads and buildings department as well as Revenue department also spend Rs. 2750 Lakhs and 1070.18 Lakhs respectively on effective water supply and sanitation programmes.Expenditures by Social Justice and Empowerment Department made on Maternal and Child Health have been considered here as an expanded expenditure. Although such expenditures might not directly affect the nutrition of the child, but it definitely affects the growth and development of the child if the mother is not provided with good care during her pregnancy. This has serious repercussions for the child in every aspect. Also, there are certain nutrition projects which may be for the entire family or targeting the specific group of the family. Such expenditure may have some component for the child nutrition as well. Hence, such expenditure has been considered the part of the expanded expenditure on nutrition. In the Tribal Development Department, similar expenditure on maternal and child health are included. Also, expenditure on children's foster care and rehabilitation program has been considered as part of the total expanded expenditure.Conclusively, the expanded expenditure on nutrition accounts for Rs. 595032.84 lakhs which accounts to approx. 3.24 % of the total budget of the state (see Table A.2 of the appendix).

Looking over the marksmanship of the expenditure targets, the paper also analysis *Fiscal marksmanship* for both expanded and exclusive expenditures. It is an indicator of how certain the government has been while forecasting its revenue and expenditures during a particular year. We analysed that for the total exclusive expenditures, the score of fiscal marksmanship is 1.18 and for the expanded expenditure, the score stands at 0.89. It seems that the government has been fairly close in setting their targets. A detailed score of all the schemes under the identified departments is presented in the table A.3 and A.4 of the appendix.

Table 15: Expenditure over the Total Budget

	Expanded Expenditure on Nutrition (A)	Exclusive Expenditure on Nutrition. (B)	Total expenditure on Nutrition (C) =(A)+ (B)	Total budget of Gujarat (D)	Expanded Expenditure as a percentage of Total budget of Gujarat (A/D)*100= (E)	Exclusive Expenditure as a percentage of Total budget of Gujarat (B/D)*100= (F)	Total Expenditure on Nutrition over the Total Budget (C/D)*100= (G)	GDP at constant prices (in crores of rupees) (H)	Total expenditure Budget of Gujarat as a percentage of GDP (C/H)*100= (I)	Total exclusive expenditure Budget of Gujarat as a percentage of GDP (B/H)*100= (J)
Actuals 2016-17	5147.05	2671.6	7818.65	85557.78	6.02	3.12	9.14	984598	0.79	0.27
Budget 2017-18	5335.61	3874.4	9210.01	172179.24	3.10	2.25	5.3		0.94	0.39
Revised 2017-18	5971.32	3281.96	9253.28	172179.24	3.47	1.91	5.4		0.94	0.33
Budget 2018-19	5950.32	4164.61	10114.93	183666.38	3.24	2.27	5.5		1.03	0.42
*(in crores ofrupees)										

Source: Author's Calculation using budget documents

3.7 Conclusion

We examined in this chapter that the total spending directly affecting nutrition is around 2.27 % and indirectly spent on nutrition account for 3.24% of total budget of the state (see table 15) for the Budget estimates 2018-2019. The total expenditure on nutrition accounts for Rs. 1, 83, 666.38 crores for the year 2018-19 which accounts for around 5.5 % of the total budget of Gujarat. For the same year, the percentage of exclusive expenditure on nutrition of GDP is 0.42%. The budget for nutrition spending has slightly increased over the years. However, as per the actuals of 2016-17, the state spent just 0.79% of their GDP on nutrition. This is not even close to 1 percentage point.

Having looked at the expenditure figures for nutrition, it becomes imperative to analyse whether the expenditure made on improving nutritional objective has created any outcomes or not. Also, the review indicates the lack of any major capital expenditure in improving nutrition. Major part of the programmes goes into the salaries, wages or transport which however is a necessary and unavoidable expenditure of the government. But other form of capital expenditures towards combating under-nutrition is required. Interventions both preventive and curative can only work if a synchronised plan involving all the departments is constructed. Inter-departmental meetings should be held regularly to discuss the issues, problems and also look for possible solutions for solving them through inputs received by the other departments. Such a mission requires not only providing food but more awareness and capacity- building both in rural and urban areas. Only such a plan can achieve a Nutrition Mission where all the departments together work for it.

This analysis provides an approximate picture of how much the government spends directly as well as indirectly on nutrition. Listing *exclusive* and *expanded* expenditure is totally a subjective exercise but infers a crucial point that maintaining the level of nutrition among children/women is not one department problem. However, the subject of nutrition is multi-faceted and requires a lot of coordination to achieve the intended objectives under the National Nutrition Mission. Mere providing mid-day meals or providing subsidised food will not solve the purpose. It is required that a proper health infrastructure should be at place with well-equipped health professionals, a cleaner environment without air and water pollution and also education which may improve the nutritional levels of the people especially the children and women.

Chapter IV

Integrated Child Development Services in Gujarat - A Benefit Incidence Analysis

India has seen magnificent growth rates over the past two decades, but it has failed to recognize its continuous divergence between growth rates and the development indicators, particularly in the case of children. According to 2011 Census, about 158 million children aged below six constitute the population of India, out of which majority of them suffer either from malnutrition, wasting or anaemia. About one third of the world's wasted children reside in India, 70 percent of the children aged between 6-59 months are anaemic, only 33 percent receive services from Anganwadi centres, and less than 25 percent receive supplementary foods through Integrated Child Development Services Scheme (ICDS). These poor nutritional problems clubbed with hapless educational status and worsening health of the children motivate a study on the functioning and organizational architecture of ICDS, the world's largest program for early childhood care and development. India currently spends a meager 3.7% of its GDP on public health[8], which also does not seem to comply with the targeted benefits because of delayed execution of the programs, which leads to inefficient use of budgeted resources. Hence, ICDS being a targeted public expenditure, it is also important to analyse the incidence of benefits on the targeted population.

The need to assess the extent of the distributional impact of public expenditure on social sector has been widely acknowledged. Public spending on public/merit goods comes with the expectation of a redistributive impact, which is progressive towards the poor, and hence needs to be analyzed how well public spending serves to redistribute resources to the poor (van de Walle 1995). In this chapter, we try to assess the extent of the impact[9] of public expenditure on nutrition, meted out through ICDS program.

Against the backdrop of a prudent state finance of Gujarat, adhering to rule-based fiscal policy measures, though largely by compressing social sector expenditure, it is prudent to analyse the effectiveness of public spending on social sector. It is not enough that there should be public provisioning of social services but it is equally important that it reaches the poorest sections of the society. Demery (2000) makes it clear the importance of public provisioning of basic services in terms of both efficiency and equity. Hence, we attempt to analyse the effectiveness of public spending on nutrition by assessing the incidence of

[8] https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS

[9] Distributional impact is not attempted here due to paucity of required data.

benefits of these public spending on the beneficiaries. For this we rely on the analytical tool known as Benefit Incidence Analysis (hereafter BIA). It is a methodology that analyses how efficiently and equitably public resources are allocated for social services and assesses the utilization of these services (Davoodi et al 2003).

The importance of such an exercise lies in the fact that it informs the government about the extent of current incidence of its social sector spending; particularly, how it is distributed among its different stakeholders and the changes in incidence overtime. Thus the policymakers are informed about the lacunae/effectiveness in the implementation of such social sector programs and also can gauge the current demand among the stakeholders. The analysis also helps the policymakers to gauge the effectiveness of a past policy reforms, which may have resulted in increase/decrease in incidence of benefits and whether pro-poor spending is actually bringing better social outcome for the poor (Davoodi et al 2003). Accordingly, the policymakers can allocate resources effectively to extent its coverage to ensure it reaches all stakeholders.

Therefore, the main objective of this chapter is to analyse the benefit incidence of one of the centrally sponsored schemes on nutrition in Gujarat. For this purpose, the centrally sponsored scheme of Supplementary Nutrition Program (SNP) under Integrated Child Development Services (ICDS), is analyzed to understand the extent of utilization of the services by the eligible population. The program is intended to provide nutritional supplements to six months to six years old children and pregnant and lactating mothers (PLM) to bridge the gap between the Recommended Dietary Allowance (RDA) and the Average Daily Intake (ADI). The BIA of SNP is done for the year 2014 for reasons pertaining to availability of required data. Due to paucity of data we do not attempt for a quintile-wise analysis, instead we estimate the unit utilization of the services by different groups of eligible population.

Before getting into the analysis, a detailed understanding of the institutional architecture of flow of ICDS funds from the state to the ultimate designated beneficiaries via a pool of other administrative units would help us comprehend the loopholes in the existing policies and the bureaucratic structure of the release and utilization of the funds. Public funds must flow through a federal government with multiple tiers of administrative units before they can reach the designated beneficiaries. This multi-fold decentralisation at national as well as sub-national levels, in the form of state-level, district level, village level and even lower level local bodies has distressing impacts on utilization of the allocated resources. Coordination

between the lowest decentralised unit in states and the highest unit at the national level for planning and execution is often time consuming, and this causes delay in the process of budget approval and execution of the related schemes. Moreover, institutional gaps like the vacancies of staff at the lowest levels of implementation units and improper planning across different components of budgets have been argued to lower the effectiveness of the resources allocated to these schemes (Choudhary, 2018).

4.1 ICDSand its Schemes

Integrated Child Development Services (ICDS) was launched as a centrally sponsored scheme on 02 October, 1975. The aim of this scheme is to provide pre and post-natal adequate services to mothers and children, while taking care of their physical, mental and social development. Broadly, the scheme offers a package of six services for children in the age group of zero to six years, and lactating & pregnant women. The services offered under ICDS covers the following six activities for its beneficiaries:

1. Supplementary Nutrition Plan (SNP)
2. Pre-school non-formal education
3. Nutrition & Health education
4. Immunization
5. Health check-up and
6. Referral services

The last three services are related to health and hence, are looked after by Ministry of Health & Family Welfare through National Rural Health Mission (NRHM) & Health System.

The basic objective of ICDS schemes are as follows:

- To improve the nutritional and health status of the children in the age group of zero to six years
- To lay foundation for proper psychological, physical and social development of the children
- To reduce the incidence of mortality, morbidity, malnutrition and school dropout
- To achieve effective co-ordination of policy and implementation amongst the various departments to promote child development
- To enhance the capability of the mother to look after the normal health and nutritional needs of the child through proper nutrition and health education.

Anganwadi Centres (AWCs) are responsible for providing all the six services to the children aged below six, to ensure convergence of the targeted and actual benefits. ICDS is a centrally sponsored scheme, with state governments providing the funds for supplementary nutrition plan (SNP). Prior to 2005-06, states were fully responsible for SNP, while the centre was the single point of contact for providing all the funds for administrative assistance. However, resource constraints on states were impeding effective implementation of SNP, and hence, a revision of the expenditure sharing plan was proposed. Upto 50 percent of the financial norms, or 50% of the expenditure incurred on SNP was decided to be borne by the centre, whichever was lower. The sharing patterns were further modified in 2009-10, wherein new centre-state expenditure sharing ratios were proposed for north eastern states – 90:10, instead of 50:50.

An investigation of the long stream of flow of funds and its consequent impact on the provision of key services under ICDS is undertaken to assess the viability of decentralisation at sub-national levels, particularly in the state of Gujarat, along-with attempt to examine the factors leading to poor health budgets. It is noteworthy to observe that overtime (from 2007-2015-16), the budget allocations have increased multi-fold, with the utilization ratios being close to 100 percent, mostly at all time periods (Table 16). However, a sudden drop of utilization ratios (60%) is observed, which makes us question the effective utilization of resources being diverted towards ICDS. Utilization ratios are a good proxy to determine the efficiency of the government schemes, the effectiveness of the interventions held at sub-national level, and to look into the reasons as to why a particular scheme is not being effective in curbing the problems. For example: malnutrition rates have been severely high in Bihar, and despite increased allocation of funds, utilization of such funds has been low for flexi funding of AWCs. A broader problem than lack of increased allocation of funds lies at the root cause of high malnutrition rates in Bihar, which are related to poor governance in the state, and hence, ineffective utilization of released funds. In this analysis we focus only on the organizational structure of the ICDS funds in the state of Gujarat.

Table 16: Budget Allocation and Expenditure under ICDS Scheme during the Eleventh Plan and the first 2 years of the XII Plan

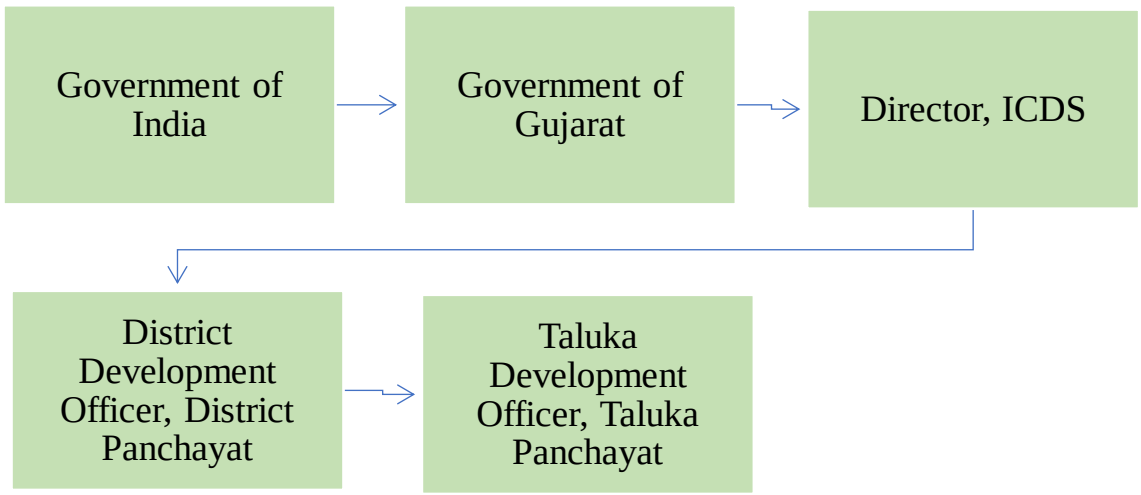
S.No.	Year	Budget Allocation (BE)	Budget Allocation (RE)	Expenditure	Percentage w.r.t RE
		(Rs. in Crores)			
1	2007-08	5293.00	5396.30	5257.09	97.42%
2	2008-09	6300.00	6300.00	6379.36	101.25%
3	2009-10	6705.00	8162.00	8157.76	99.94%
4	2010-11	8700.00	9280.00	9763.11	105.20%
5	2011-12	10,000.00	14048.40	14272.21	101.59%
6	2012-13	15,850.00	15.850.00	15701.50	99.06%
7	2013-14	17,700.00	16,312.00	16267.49	99.73%
8	2014-15	18,195.00	16561.00	*16581.82	100.12%
9	2015-16(as on 31.07.2015)	8335.77	--	5001.73	60%

Source: ICDS website

4.2 Institutional Mechanism of ICDS Funds in Gujarat

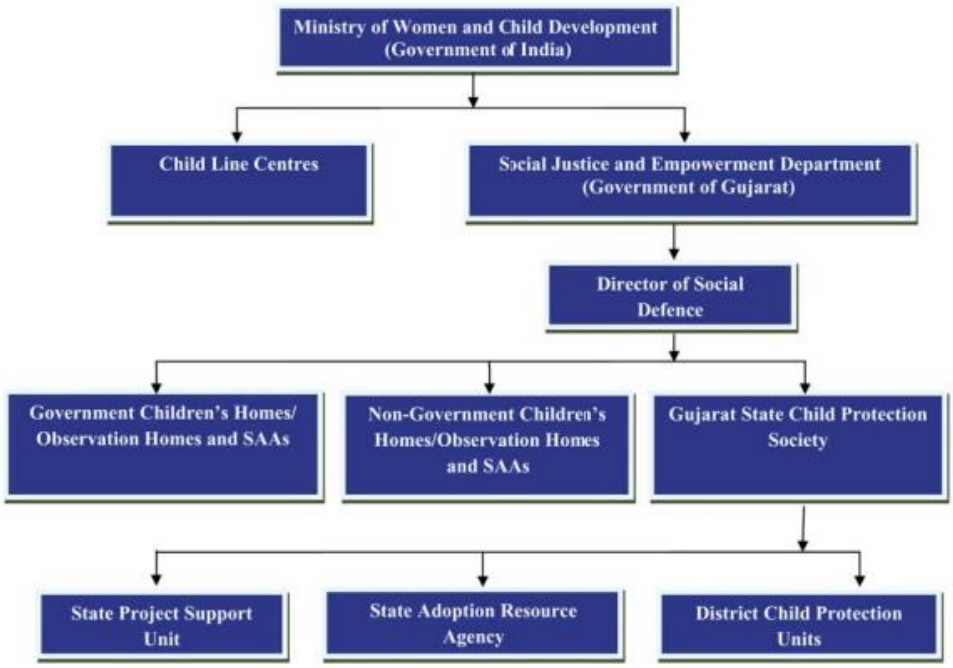
The procedure for fund release from Central government to the designated beneficiaries is duly lengthy. Figure 3 shows the five-staged procedure for transfer of funds from the Government of India (GOI) to the Taluka Development Officer, Taluka Panchayat. This complicates the process of transmitting the funds to the public, which leads to unduly implementation errors.

Figure 3: The flow of funds from GOI to the implementing officer



The flow of ICDS funds is even more complex. There is a minimum of 10 desks in Gujarat for flow of ICDS funds (figure 4). MWCD first transfers the funds to the child line centres and Social Justice & Empowerment Department of Gujarat for further validation and transfer to Director of Social Defence. These funds are then flowed to the required departments in Government Children's Homes, Non-Government Children's Homes and Gujarat State Child Protection Society. The final round of funds goes to the State Project Support Units, State Adoption Resource Agencies and District Child Protection Units. These 10 desks make the process unnecessarily cumbersome and hence, the delays, and lower utilization ratios.

Figure 4: Organizational Chart for implementation of ICDS



Source: ICDS website

4.3 Data and Methodology for Utilisation Ratio

To assess the institutional gaps and the extent of utilization of ICDS funds, utilization ratio, the ratio of actual expenditure to total allocation, is employed. Higher utilization ratios

validate effective governance, while lower utilization ratios imply that the state governments have not been able to utilise the allocated funds in a proper manner. This ratio is used as a proxy for good governance. The scheme-wise data on allocation of funds under ICDS is furnished from annual reports of Ministry of Women and Child Development (MWCD). State wise utilization of funds under each scheme is compiled from Lok Sabha Unstarred Questions[10]. Comptroller & Auditor General (CAG) report on State Finances is also used to examine the fiscal marksmanship of ICDS funds. It provides the data from year 2014-17 along with the reasons for the loss in utilization ratios at the national level. Institutional architecture has been discussed in an elaborated manner, only for the state of Gujarat. However, institutional gaps leading to lower utilization ratios have been identified for all the states, to draw a conclusion as to where Gujarat stands, in comparison to all other states.

4.4 The Utilization of Funds under the Integrated Child Development Services

Table 17 suggests that the funds released under ICDS have been diminishing over the years. A 6% decline in the allocation of funds in 2015-16, followed by a 9% decline in 2016-17 signifies the meagre seriousness on the part of government to promote a healthy early childhood and maternal care. Despite low allowance of funds, utilization ratio has been more than 99% in all the three years, at the national level. This points to the fact that the six schemes under the umbrella of ICDS is capable of providing quality care to the children and mother. ICDS has been quite conducive in the state of Gujarat, as Table 18 depicts the utilization ratios as high as 100% for some of the years. A major fallout to this trend is the declining utilization ratios in Gujarat from 2013 onwards (Table 18). This might be due to low coverage performance of AWCs and maternal and child health services delivered by them coupled with infrastructural gaps for the scheme. However, 86% of the ICDS funds are being utilised in Gujarat, a further improvement is called for achieving the goals of inclusive development.

[10]These are questions to which written answers are given by Ministers which are deemed to have been laid on the Table of the House at the end of the Question Hour.

Table 17: Total funds allocated/released and utilized under ICDS Scheme during the last three years (Rs. Crores)

Year	2014-15		2015-16		2016-17*	
Category	**Funds released**	**Expenditure Reported by States including state share**	**Funds released**	**Expenditure Reported by States including state share**	**Funds released**	**Expenditure Reported by States including state share**
Total	16561	16581.92*	15483.77	15438.93	14000	4198.68
*Includes the savings from other schemes too						

Source:Press Information Bureau, Ministry of Women and Child Development, Government of India

Table 18: Financial Allocations over the years for ICDS in Gujarat

Plan Year	Amount Released(Rs. Crores)	Amount Utilised(Rs. Crores)	Utilization Ratio (%)
2002-03	41.93	43.83	104.53*
2003-04	52	49.15	94.51
2004-05	59.29	59.59	100
2005-06	92.18	92.15	99.96
2006-07	85.16	85.16	100
2007-08	197.2	234.71	118.78*
2008-09	340	383.25	112.64*
2009-10	730	562.43	76.98
2010-11	896.22	881.93	98.32
2011-12	1322.13	1297.92	98.1
2012-13	1123.19	1117.96	99.53
2013-14	1093.77	914.32	83.59
2014-15	2191.92	1698.38	77.48
2015-16	2181.29	1896.52	86.94
2016-17	2308.77		
* Includes the savings from other schemes too			

Source: Women and Child Development Department, Government of Gujarat

Following we present a table describing the disbursal of the funds across various categories of ICDS schemes, state wide. The states have been categorised on the basis of their health outcomes - high focus states are the states with poor health outcomes. These states include BIMARU states as well; and non-high-focus states are those with relatively better health outcomes. Amongst the high focus states Himachal Pradesh has dispensed the least amount of funds for ICDS scheme. As can be witnessed from table 19, the maximum funds have been granted to Uttar Pradesh under all the ICDS schemes, while Himachal Pradesh has been granted the least funds, especially under MGNREGA, and SNP training. No state other

than Rajasthan has been granted the funds for construction of AWCs, which is critical to the development of ICDS scheme. Amongst the BIMARU states, least funds have been drawn for Bihar, and maximum for UP. It is important to note that allocations to Jammu & Kashmir and Uttrakhand for SNP training is abysmally below average. In particular, there is a 30 percent breach between the funds allocated to Himachal Pradesh and the average allocations for the ICDS (G) scheme, while Uttar Pradesh has been granted the maximum funds amongst all the high focus states. Amongst the non-high focus states (states with relatively better health outcomes) Gujarat seems to perform better than other non-high focus states with 37 percent higher allocation of ICDS funds. However, allocation of ICDS funds in Gujarat have been remarkably low as compared to national average, about 62% lower for ICDS (General) and 72% less funds for SNP. No funds for construction under MGNREGA in second phase have been allocated, which shows poor disbursal of ICDS funds in non-high focus states. Although, Gujarat seems to perform better than other non-high focus states and a number of high-focus states too, an increasing amount of disbursal of funds to the state is expected as to improve the current situation of severe mal-nutrition and wasting amongst children aged below five. Almost all of the states in this category have been allocated proper funds across all the ICDS categories, especially ICDS (G), and SNP training. Obviously, Goa and Punjab have been allocated less than average funds due to small size of respective states. Although the average funds allocated to high focus states is more than double the funds disbursed to non-high focus states; it is noteworthy that the state wise allocations remain low, with wide state-wise disparities in allocations. For all the UTs, no funds have been allocated for MNGREGA schemes, while minimal funds have been disbursed to the north-eastern states in the respective categories.

Table19: Funds Sanctioned under ICDS Scheme for the year 2016-17 upto 31.12.2016(Rs. Lakhs)

State	ICDS (General)	SNP	Training	Construction under MNREGA Firstphase	Construction under MNREGA Second phase	Construction of AWCs on the existing norms of ICDS	Total Sanctioned Including Construction
HIGH-FOCUS STATES							
Jharkhand	13325.75	21017.48	114.69	3000.00	3000.00	0.00	40457.92
Himachal Pradesh	8203.57	4662.06	51.76	144.00	18.00	0.00	13079.39
Bihar	22377.54	47685.95	353.95	7200.00	0.00	0.00	77617.44
Chhattisgarh	16921.47	22461.93	156.50	1200.00	1200.00	0.00	41939.90
Jammu & Kashmir	13150.22	4035.18	38.50	900.00	0.00	0.00	18123.90
Madhya Pradesh	31629.71	55779.33	202.34	4200.00	4200.00	0.00	96011.38
Orissa	38085.80	25519.58	168.11	5022.00	378.00	0.00	69173.49
Rajasthan	17726.76	33045.65	115.57	1200.00	1200.00	1350.00	54637.98
Uttar Pradesh	95627.23	156280.09	247.48	12361.20	549.60	0.00	265065.60
Uttarakhand	12043.25	4649.44	57.53	2700.00	0.00	0.00	19450.22
Average	**26909.13**	**37513.37**	**150.643**	**3792.72**	**1054.56**	**135**	**69555.72**
NON-HIGH FOCUS STATES							
Gujarat	24625.56	30669.31	116.23	300.00	0.00	832.87	56543.97
Karnataka	16235.33	25683.97	123.52	1800.00	1118.40	0.00	44961.22
Kerala	10254.53	6901.07	93.15	600.00	264.00	0.00	18112.75
Haryana	12893.84	5158.16	70.51	450.00	0.00	0.00	18572.51
Maharashtra	58533.84	22171.44	149.25	1200.00	0.00	0.00	82054.53
Punjab	7515.52	2975.12	61.41	600.00	600.00	1350.00	13102.05
Andhra Pradesh	14590.85	31467.53	189.15	2652.00	501.60	3849.53	53250.66
Goa	458.83	591.45	1.22	0.00	0.00	16.20	1067.70

Tamil Nadu	14000.14	19633.98	172.41	3000.00	0.00	0.00	36806.53
Telangana	9654.88	14726.89	122.73	1200.00	76.80	0.00	25781.30
West Bengal	27805.02	19242.85	157.42	4200.00	3254.40	0.00	54659.69
Average	**17869.85**	**16292.89**	**114.2727**	**1454.727**	**528.6545**	**549.8727**	**36810.26**
UNION TERRITORIES							
Delhi	6560.79	5866.02	56.12	0.00		0.00	12482.93
Pondicherry	590.87	1702.02	6.33	0.00		0.00	2299.22
Andaman & Nicobar	700.54	131.34	2.69	0.00		0.00	834.57
Chandigarh	269.92	190.49	2.51	0.00		0.00	462.92
Dadra & Nagar Haveli	274.35	101.90		0.00		0.00	376.25
Daman & Diu	100.38	130.59		0.00		0.00	230.97
Lakshadweep	59.19	34.16		0.00		0.00	93.35
Average	**1404.38**	**457.14**	**5.2**	**0**		**0**	**1998.06**

NORTH-EASTERN STATES							
Arunachal Pradesh	4295.76	2119.90	31.18	0.00	0.00	0.00	6446.84
Assam	29158.46	17921.03	250.98	900.00	900.00	0.00	49130.47
Manipur	4928.86	500.00	60.89	0.00	0.00	2025.00	7514.75
Meghalaya	4973.09	8283.14	22.53	711.00	711.00	1012.50	15713.26
Mizoram	1999.35	2156.92	8.26	183.60	126.00	0.00	4474.13
Nagaland	1925.38	9084.46	17.15	0.00	0.00	0.00	11026.99
Sikkim	768.68	644.34	6.65	185.40	0.00	0.00	1605.07
Tripura	4872.25	4010.56	28.56	0.00	0.00	0.00	8911.37
Average	**6615.229**	**6085.779**	**53.275**	**247.5**	**217.125**	**379.6875**	**13102.86**
National Avg.	64451.04	81229.47	409.2756	6432.133	2203.867	1497.067	147432.9

Source: Annual Report 2016-17, MWCD

Table 20: Year-wise details of grants sanctioned under Integrated Child protection Scheme (ICPS) (Rs.Lakhs)

State	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17 (As on 31.12.2016)
HIGH-FOCUS STATES								
Bihar	-	604.58	115.22	871.78	957.56	**204.75**	**2687.89**	**551.62**
Chhattisgarh	206.13	-	-	397.30	213.34	821.24	3955.55	527.77
Himachal Pradesh	-	-	314.47	-	84.96	835.71	604.04	**2345.48**
Jammu & Kashmir	-	-	-	-	-	0	113.35	43.12
Jharkhand	-	-	420.67	-	144.96	36.03	369.88	152.84
Madhya Pradesh	481.62	-	240.31	1223.10	546.03	1889.69	1116.03	2503.88
Odisha	146.42	545.38	546.98	671.33	1227.20	2544.82	3309.07	910.39
Uttar Pradesh	-	-	2142.25	1662.48	1109.39	1798.90	**2884.18**	**3207.19**
Uttarakhand	-	-	-	-	333.92	83.48	66.88	15.54
Rajasthan	225.07	332.47	566.55	2014.93	2347.56	3395.82	3258.92	0.00
Average	**264.81**	**494.14**	**620.92**	**1140.153**	**773.88**	**1161.044**	**1836.579**	**1025.783**
NON-HIGH FOCUS STATES								
Punjab	-	-	574.65	-	191.27	507.12	820.81	253.60
Andhra Pradesh	504.49	902.54	2038.24	1689.48	1206.50	301.62	238.58	110.74
Goa	-	-	-	-	-	100	235.25	36.83
Gujarat	269.42	490.54	626.37	1213.28	979.35	1925.75	2328.90	769.95
Haryana	25.89	371.86	147.29	748.85	1085.51	1526.72	496.44	0.00
Tamil Nadu	193.12	447.65	1276.56	4326.82	2131.05	3067.10	825.04	5638.82
Telangana						2087.59	354.88	195.64
West Bengal	500.86	186.83	1205.52	547.06	2373.04	2574.04	508.67	3017.11
Karnataka	203.11	381.67	1410.91	1856.50	2403.63	3689.87	1845.24	507.56
Kerala	149.16	320.21	333.33	-	718.17	1354.35	944.39	216.96
Maharashtra	-	3730.28	1174.79	976.71	557.56	762.32	3138.75	699.53
Average	**263.7214**	**853.94**	**976.40**	**1622.671**	**1294.009**	**1626.953**	**1066.953**	**1040.613**
NORTH-EASTERN STATES								
Manipur	105.42	202.29	216.16	311.28	658.15	138.48	3082.18	241.34
Meghalaya	-	102.13	211.25	474.30	762.45	2003.83	1469.55	2060.33

Mizoram	-	195.36	225.46	504.95	696.42	1919.02	2079.44	1949.55
Nagaland	190.12	-	942.51	838.32	911.41	957.41	2257.65	382.75
Assam	129.92	301.79	-	740.36	1080.00	1010.36	597.90	413.64
Arunachal Pradesh	-	-	-	147.05	54.74	130.68	571.68	52.29
Sikkim	-	-	88.94	-	15.97	390.24	562.00	117.50
Tripura	-	221.40	198.38	190.30	124.42	1227.34	710.63	676.04
Average	**141.82**	**204.592**	**313.7833**	**458.08**	**537.485**	**972.17**	**1416.379**	**736.68**
UNION TERRITORIES								
Andaman & Nicobar Island	-	-	-	-	-	145.9	36.03	36.88
Chandigarh	-	-	17.96	49.84	17.58	21.98	357.82	245.44
Dadra & Nagar Haveli	-	-	-	12.78	2.09	68.61	58.66	177.59
Daman & Diu	-	-	-	16.53	69.28	80.61	82.82	126.42
Delhi	-	237.29	341.93	1093.98	404.73	606.22	1363.40	978.64
Lakshadweep	-	-	-	-	-	0	0.00	0.00
Puducherry	-	107.22	-	150.00	64.66	1168.57	559.60	175.02
Average	**-**	**172.55**	**179.945**	**264.626**	**111.668**	**298.8414**	**351.19**	**248.57**
Other		43.12	61.04	97.36	101.09	105.57	164.77	86.81
Child line India Foundation (CIF)	932.98	1789.90	2316.37	3082.63	3004.10	5361.74	5673.08	4132.84
National Average	**284.2487**	**575.7255**	**682.8504**	**959.6037**	**805.3967**	**1180.092**	**1308.683**	**883.0961**

Source: Annual Report 2016-17, MWC

Table 20 represents the year-wise allocations under ICPS scheme across states. Surprisingly, the allocations have fallen by a large amount across all high-focus states, expect in Uttar Pradesh. Across all BIMARU states, particularly Bihar and Madhya Pradesh, the allocations were reduced post 2012-13, and a drastic fall thereafter, whereas for UP and Rajasthan, the disbursals kept on increasing, even though marginally. A six-fold increase in allocations in the year 2013-14 is seen in MP, followed by a steep fall to approximately one-fifth of the allocations in the last year Similar has been the scenario for Chhattisgarh, Jharkhand, and J&K. amongst non-high focus states, Andhra Pradesh had been the top performer till 2013-14, but received a setback post the period. Tamil Nadu received almost four times the average of the funds received by the high-focus states. This represents a dichotomy between rewarding the better performing states and reducing the funding of poor performing states, such as Bihar. Overtime, the funding for almost all the states under ICPS has increased, only for non-high-focus states, while it has reduced for the high focus states. Mizoram has received the maximum grants under ICPS, amongst all the North eastern states; and Delhi (amongst the UTs) has received almost 5 times the average grants received by all other UTs. However, Gujarat has been funded with double the funds in national average in the year 2015-16, the allocation seems to have fallen post that, maybe due to savings being carried forward to the next year. Childline India Foundation (CIF)'s funding too has been reduced by 27% in 2016-17, which is also a cause for concern.

4.5 Utilization Ratio of Specific Schemes under ICDS

As we have found that the utilization ratio of total funds for ICDS have declined at the national level since 2013, it is important to analyse the utilization ratio of funds allocated to specific schemes under ICDS. The ICDS, due to its wide spread coverage in all states,serves as a platform for many other schemes in all states. The following are the six schemes implemented through ICDS:

1. Anganwadi Services Scheme
2. Pradhan Mantri Matru Vandana Yojana (Maternity Benefits scheme)
3. National Creche Scheme
4. POSHAN Abhiyaan
5. Scheme for Adolescent Girls (SABLA)
6. Child Protection Scheme

Due to unavailability of the data on utilization ratios of four out of six schemes, we restrict our analysis for the following two schemes: SABLA and Maternity benefit scheme:

SABLA scheme aims to empower out-of-school girls aged 11 - <18 years in improving their nutritional and health status; upgradation of home, life & vocational skills. The scheme aims to equip girls with information on family and health welfare, hygiene, and public services (like post office, bank, police station etc.), formal and informal education. Here, AWCs are the focal point of providing the services, with 100% implementation support from the central government, except for the nutrition component. The key services provided to the adolescent girls under the scheme include nutritional services, IFA supplements, health checkup and referral services, counselling on family welfare, life education, and vocational training for girls aged 16 and above under National Skill Development Program (NSDM).

Maternity benefit scheme is a conditional cash transfer scheme for pregnant and lactating women of 19 years of age or above for the first live birth, providing a partial wage compensation to women for wage-loss during childbirth and childcare and to provide conditions for safe delivery and good nutrition and feeding practices. The scheme aims to promote appropriate practice, care and institutional service utilization during pregnancy, encouraging and enhancing use of exclusive breastfeeding for first six months, and providing cash incentives for improved health and nutrition to pregnant and lactating mothers.

The utilization ratios suggest how much of the appropriated funds have actually been realised and utilized for schemes. Table 21 demonstrates that a number of states have utilization ratio of more than 100 (percent). This advocates that these states have under-utilised the funds in the preceding years, and hence, the accumulated savings have been added in the forthcoming years and, thus has led to inflated utilization ratios. Jharkhand is the most prominent case of such a scenario with utilization ratio as high as 547% in the year 2015-16 for SABLA scheme. The value of 27% in the year 2014-15 (SABLA Scheme) elucidates on the point of low utilization and high fiscal marksmanship in that year. Similar is the case with Chattisgarh and Daman & Diu. Utilization ratios have been as low as 0.27% in Rajasthan for one scheme and as high as 147% in another. This can be accredited to poor governance, a result of complex organizational structure[11]. In the year 2016-17, Gujarat has failed to exploit the SABLA funds (utilization ratio of 27%) and Maternal Benefits Scheme

[11] This point is elaborated in the next section.

funds (utilization ratio of 59%). Untimely delivery of funds, multi-staged institutional architecture and other institutional weaknesses are the reasons behind poor utilization of funds. BIMARU states like Madhya Pradesh and Uttar Pradesh have performed better than Gujarat in terms of utilization of SABLA funds. Despite, low allocations to the Union Territories and North Eastern states, they have performed strikingly better than all other states. Arunachal Pradesh, Mizoram, Nagaland and Andaman &Nicobar have well capitalized on the funds allocated to them, with utilization ratios of 100 percent. These wise ranging inter-state disparities call for a well-established institutional mechanism with regular checks and feedbacks.

Table 21: Utilization Ratios (In percentage) for SABLA and Maternal Benefits Scheme- State Wise

	SABLA			**Maternity Benefits Scheme**		
States/UTs	**2014-15**	**2015-16**	**2016-17**	**2014-15**	**2015-16**	**2016-17**
HIGH-FOCUS STATES						
Bihar	97	124	62	56	0	-
Chhattisgarh	67	106	199	125	319	-
Himachal Pradesh	107	100	187	61	61	-
Jammu & Kashmir	47	145	94	-	145	-
Jharkhand	27	547	481	-	1324	-
Madhya Pradesh	94	94	159	80	49	-
Orissa	98	105	120	99	85	94
Rajasthan	128	0.27	-	59	147	-
Uttar Pradesh	108	68	70	-	0	-
Uttaranchal	36	278	8	90	29	-
Average	**81**	**157**	**153**	**81**	**215**	**94**
NON-HIGH FOCUS STATES						
Goa	106	100	197	156	175	33
Gujarat	254	271	27	107	94	59
Haryana	105	69	382	-	70	812
Andhra Pradesh	231	113	224	70	21	-
Tamil Nadu	97	94	115	107	77	97
Telangana	100	92	0	100	50	-
Karnataka	75	84	356	-	87	-
Kerala	204	98	84	60	97	-
Punjab		0	-	-	-	-
Maharashtra	627	343	66	93	115	-
West Bengal	-	--	841	68	87	3067
Average	**200**	**126**	**229**	**95**	**87**	**813**
NORTH-EASTERN STATES						
Arunachal Pradesh	79	195	79	100	100	0
Assam	72	174	11	-	-	-
Manipur	515	52	326	-	-	-
Meghalaya	114	100	100	-	-	-

Mizoram	105	114	112	100	100	-
Nagaland	102	92	100	100	100	-
Sikkim	100	67	41	102	39	5
Tripura	100	86	236	35	35	-
Average	**148**	**110**	**125**	**87**	**74**	**2.5**
UNION TERRITORIES						
A&N Islands	24	96	47	100	97	0.37
Chandigarh	82	66	64	-	7	-
Daman & Diu	-	-	112	29	149	-
Dadra & Nagar Haveli	-	88	100		-	-
Delhi	76	139	245	111	49	-
Lakshadweep		27	82		-	--
Pondicherry	100	93	105	185	-	-
Average	**70**	**84**	**108**	**106**	**75**	**0.37**
National Average	**131**	**124**	**159**	**91**	**127**	**463**

Source: Annual report 2016, MWCD; Lok Sabha Unstarred Question 4276

Tables 22a and 22b elaborate on the reasons for persistent gaps in provisional amount and the amount actually utilised. One of the key reasons is vacant posts in crèche components of districts. This adds to another side of the story wherein vacant seats for varying posts, which leads to mis-appropriation of funds is one of the reasons for low utilization ratios amongst states. Muddled condition of inflated utilization ratios can also be explained by delays in implementation of services and their reach to the designated beneficiaries.

Table 22a: Cases where persistent savings were noticed during 2014-17- ICDS Scheme

Grant No.	Year	Provision (Rs.Crore)	Expenditure (Rs. Crores)	Fiscal Marksmanship (Rs. Crores)	Reasons
96	2014-15	225.54	181.39	44.15	Due to delay in implementation of new items and discontinuance of Premix to beneficiaries for five months.
96	2015-16	265.13	237.99	27.14	Due to non-submission of final bills and tendering procedure could not be completed in time
96	2016-17	330.89	223.16	107.73	Due to (i) non-purchase of NutryCandy owing to non-completion of tender process,(ii) rate of various components fixed was lower than estimated under the DudhSanjivaniYojana and (iii) non-payment of Premix Bill owing to non- submission of finalbill

Source: CAG report on State Finances for the year end 31st March 2017

Table 22b: Cases where persistent savings were noticed during 2014-17 – ICDS Plan

Grant No.	Year	Provision (Rs. Crores)	Expenditure (Rs. Crores)	Fiscal Marksmanship (Rs. Crores)	Reasons
106	2014-15	568.35	487.88	80.47	Non-receipt of approval by Government of India for implementation of new scheme viz. Nutrition Counseling Volunteers and due to vacant posts.
106	2015-16	526.00	485.12	40.88	Due to vacant posts of CVN, NCV, Urban Program Officer under urban unit, ICDS mission, saving available under creche component at district.
106	2016-17	554.05	401.64	152.41	Due to (i) non-approval of Annual Programme Implementation Plan (APIP) Scheme by Government of India, (ii) non-filling up of the vacant posts (iii) non-organization of the training as persanction

Source: CAG report on State Finances for the year end 31st March 2017.

ICDS scheme is a combination of various schemes, with the aim to protect children and mothers of the society. Despite increased fund allocations for various schemes in different states, the performance of the related indicators do not seem to be well synced with the disbursals. One of the prime reasons for this is the complex organizational system for disbursal of funds, and hence, the poor implementation of schemes. Utilization ratios for most of the states under SABLA and maternity benefits scheme range above 100, which means that they have used their past accumulated savings to put the resources into the schemes. Fiscal marksmanship is around 45% under ICDS scheme, and 80% under ICDS plan. This shows the perennial problem of staff shortage, poor implementation of services, under-utilization of resources, and complex organizational structure to disburse the funds.

This understanding of the bureaucratic structure of the flow of funds and its utilization, informs us of the financial aspects of the scheme, that is, it informs us of the input flows of the ICDS. To complete the picture, an analysis of the incidence of the benefits of these funds among the stakeholders holds significance, that is, an analysis of the outcomes of the ICDS. The methodology used for this is Benefit Incidence Analysis (BIA) and it can be employed to analyse the incidence of the entire expenditure on ICDS and/or expenditure on a particular scheme under ICDS. For a focused analysis, it is important to analyse the incidence of a particular scheme under ICDS.

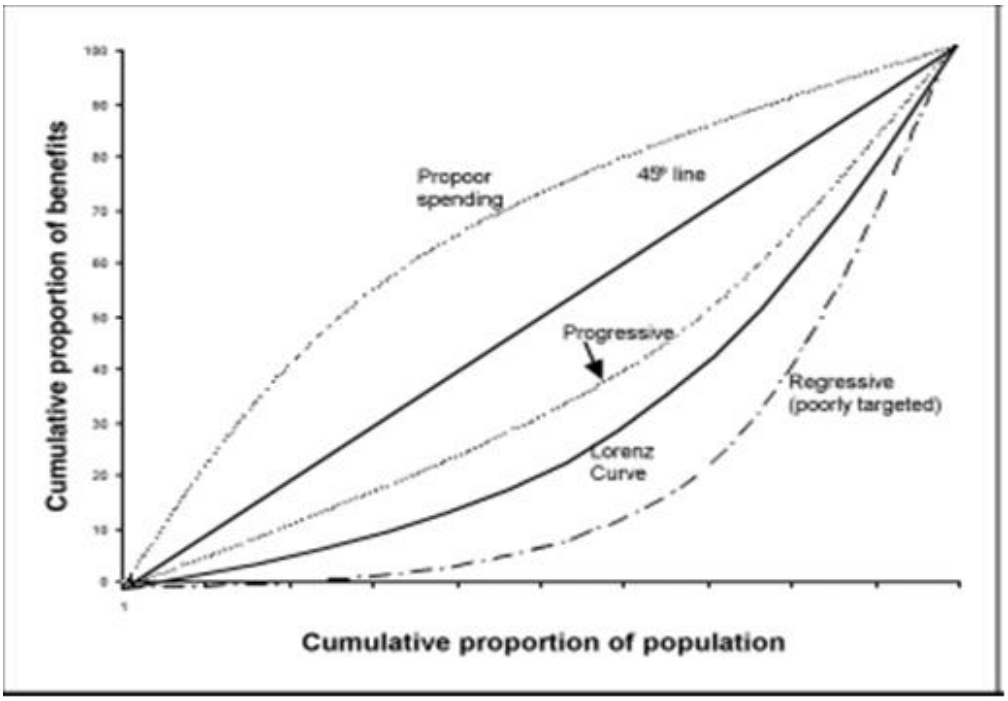
4.6 BIA of Public Expenditure on Supplementary Nutrition Programme under ICDS

One of the most important services provided under the ICDS is theSupplementary Nutrition Programme (SNP). SNP is the largest targeted and widely covered state-led food distribution initiative to alleviate malnutrition. It has a unique agri-food value chain-based approach towards ensuring nutritional diet for children below six years, adolescent girls and pregnant and lactating mothers (Parasar and Bhavani, 2018). Moreover, apart from the broad guidelines provided by the central government, the Gujarat Government has introduced many innovative initiatives through SNP, such as, micronutrients fortified take-home ration (THR) premixes – Balbhog for children and Sheera, Upma, and Sukhadi for pregnant women, lactating mothers, and adolescent girls,to improve the nutritional status of the beneficiaries(Chaturvedi et al, 2018). Given the importance and wide coverage of the SNP under ICDS, a BIA of the expenditure on SNP is appropriate.

4.6.1 Theoretical Framework of Benefit Incidence

The theoretical framework for this analysis is borrowed from Davoodi et al (2003), where they have done a cross country benefit incidence analysis and targeting of public expenditure on health and education using concentration curves. Public expenditure benefit incidence reveals who is benefiting from public services, and describes the welfare impact of government spending on different groups of people or individual households. It does this by combining information about the *unit costs* of providing those services (obtained usually from government or service-provider data) with information on the *use* of these services (usually obtained from the households themselves through a sample survey). In effect, the analysis imputes, to those households using a particular service, the cost of providing that service. This imputation is the amount by which household income would have to increase if it had to pay for the service used.

Figure 5: Public Expenditure Incidence and Targeting: Pictorial Representation of Concentration Curves



Source:Davoodi, et al (2003)

The BIA is better explained using three possible concentration curves plotted for cumulative proportion of eligible population on the x-axis and cumulative proportion of benefits on the y-axis (Figure 5). These possible concentration curves are compared to two benchmarks: the 45-degree line and the Lorenz curve of income or consumption, to assess its

degree of targeting and progressivity/regressivity. The 45-degree line represents the line of equity and if the concentration cure falls on the 45-degree line, it means that the benefits are distributed equally among all income groups. If the concentration curve is above the 45-degree line, then the public spending is pro-poor. If it is between the 45-degree line and the Lorenz curve, then the distribution of benefits is progressive towards poor and if the concentration curve falls below the Lorenz curve, then the public spending can be said to be pro-rich.

The BIA using concentration curves, though a very effective tool, is not feasible in all cases as the required data is not always available. For this analysis, quintile-wise data on the number of beneficiaries who have utilised the services of ICDS is not available, and therefore, we estimate, separately, the aggregate utilization of the services by different groups of beneficiaries.

Theoretically, the public expenditure benefit incidence analysis is not free from limitations. The lacunae of using the BIA is mainly fivefold. Firstly, it is a weak conceptual framework. BIA represents an "equilibrium" outcome of government and household decisions. It does not specify a model underlying the behaviour of either government or households. By contrast, studies of demand functions for public services (Younger, 1999) address this shortcoming, but these are rare. Secondly, BIA uses the cost of providing public services as a measure of the value attributed to such services. BIA thus makes a strong assumption that the costs of provision are a good approximation to the benefit that users attach to government services. As usually implemented, BIA also does not cover the entire cost of providing public services (e.g., cost of tax administration), including pecuniary and non-pecuniary costs. Thirdly, the analysis of benefit incidence is static than dynamic. It captures at best benefit incidence of government spending at a point in time. To get a dynamic picture of incidence over time, BIA has to be conducted for different years. However, again, behavioural models can better capture dynamic gains from government spending than BIA can. Fourthly, the estimates of benefit incidence often represent average incidence than marginal. This means that BIA does not typically provide information on who benefits from an expansion or contraction in government spending which are important issues to policymakers; however Younger (2003) provides evidence of marginal incidence. Fifthly, when a concentration curve for benefits, for example, is compared with a Lorenz curve, BIA of in-kind transfers such as social spending is often interpreted as altering the distribution of income (or consumption), but it is really altering the distribution of a more broadly defined

measure of welfare that includes in-kind benefits as well as cash income or consumption. In contrast, a cash-transfer program administered by the same government, when effective, alters the post-transfer distribution of income (or consumption) itself. In practice, these two types of redistribution are often equated, which perhaps justifies why some regard social spending or in-kind transfers in general as promoting the redistributive objective of fiscal policy (Davoodi et al 2003).

4.6.2 Empirical Review of Literature on Benefit Incidence

The distributional impacts of public expenditure in social sector can be analysed using benefit incidence tool and behavioural approach. According to behavioural approach, the impact of the public spending has to be evaluated at the individual level based on their own valuation of the good. This varies from individual to individual. This approach proved to be cumbersome due to the methodological issues in calculating revealed preference and the paucity of relevant unit record data. Alternatively, BIA is a much more simple and practical method to assess the distributional impact of public spending.

Before taking its present form, BIA had first been used by Gillespie (1964) in Canada and Gillespie (1965) in the United States. The BIA methodology was also applied in developing countries to study the impact of public spending Selowsky (1979) on Colombia, and Meerman (1979) on Malaysia. BIA involves allocating unit cost according to individual utilization rates of public services. BIA can identify how well public services are targeted to certain groups in the population, across gender, income quintiles and geographical units. The studies on BIA revealed that a disproportionate share of the health budget benefits the elite in urban areas, or that the major part of education budget benefits schooling of boys rather than girls, which has important policy implications.

Though the theoretical framework for BIA using the concentration curves appeared from IMF, the major contribution to the empirical literature on BIA is by the World Bank, mainly for the social sectors like education, health, water and sanitation [(Demery Lionel (2000); CastrFlorencia o-Leal (2000); Lanjouw Peter and Martin Ravallion (1999)]. Demery (2000) analyses the benefit incidence on education sector in Colombia, Côte d'Ivoire and Indonesia. The study found that the differentials in benefit incidence pattern especially in the lower income quintiles were due to the differences in household behavior.

Lanjouw and Ravallion (1999) in their study on time capture had estimated odds ratio and they argued that the marginal benefit incidence of a service differs from average incidence. They estimated the 'odds ratio of enrolment', defined as the ratio of the quintile specific enrolment rate to that of the population as a whole. Further, the time capture is estimated by regressing the odds ratio of enrolment against the instrumented mean enrolment ratio. They defined the instrumented mean enrolment as the average enrolment rate, irrespective of the quintile in question. The estimated regression coefficient indicates the extent to which there is early capture of primary schools by the rich. Lanjouw and Ravallion (1999) further argued that in such scenarios, any increase in the average enrolment rate is likely to come from proportionately greater increases in enrolments among the poorer quintiles. That would lead to higher marginal gains to the poor from additional primary school spending than the gains indicated by the existing enrolments across the quintiles.

Davoodi et al (2003) analysed the benefit incidence of health and education sector of 56 countries for the period in between 1960 and 2000. Controlling for the unevenness in the stages of economic development across countries, the authors found among other things, that overall education and health spending are poorly targeted; particularly in sub-Saharan Africa, HIPCs and transition economies. The inter-temporal analysis showed that the targeting has improved in the 1990s. However, the study revealed that the mid-quintiles captured the benefits of public spending on secondary and tertiary education. The study also tried a few analysis of correlation between the variables and found that the countries with a more pro-poor incidence of education and health expenditure tend to have better education and health outcomes, high per capita income, good governance and greater accessibility to information.

In the context of African countries, Castro-Leal et al (2000) had estimated the benefit incidence in education and health sectors. The results showed that the incidence is broadly progressive but are poorly targeted to the poor and favour the rich income quintiles. The study highlighted that unless the rich income quintile groups 'exit' the public sector to the private sector, especially at the secondary and tertiary levels of education, it is a difficult task to target the public spending on education to the poor.

In the context of the Philippines, Manasan, (2008) analysed the benefit incidence of education sector. The results found that the incidence of education spending is progressive at the elementary and secondary level, using national averages. However, it is regressive for the intermediate and college- level. The study also analysed the subnational incidence of public

spending on education and found that the urban areas gained higher incidence than the rural areas.

In the context on India, Sankar (2000) analysed the benefit incidence of public expenditure on elementary and secondary education in terms of class and gender. The analysis revealed that the in Bihar, the poorest quintiles receive disproportionately lower share of education spending. Further, the gender disaggregated analysis showed that the girls in poor mpce quintiles are especially worse off, reinforcing that the distribution of public subsidies on education in the state is highly regressive. On the contrary, in Kerala, public expenditure in education is pro-poor with mpce quintiles receiving a disproportionate share of public spending, both in rural and urban areas. The study also found that there is not much gender differentials in terms of benefit incidence in education sector of Kerala.

4.6.3 Data

The data required for the calculation of the incidence of government spending on nutrition through the SNP under ICDS are of threefold:

1. Public spending on a service (net of any cost recovery fees, out of pocket expenses by users of the service, or user fees);
2. Public utilization of the service; and
3. Total population eligible to avail the services.

The data on Government spending are obtained from budget execution data as reported by the ministry of finance, the relevant line ministry, or the central statistical agency. The data used in benefit incidence analyses are typically reported on an aggregate basis.

The major source of data in this study is NSSO data, the State Expenditure Budget, Finance Accounts and Budget Documents. The data for eligible population for SNP is sought from NSS 71st round on Social Consumption - Health and data for unit utilizationof the programme is garnered from Annual Report of Ministry of Women and Child Development(MWCD) and the total public expenditure on SNP is sourced from Ruia, et al, (2018). The Annual Report provides data on the coverage of SNP in terms of number of beneficiaries covered among the eligible population and the funds released for SNP, as of 30 December 2014. The eligible population for the SNP are children aged 6 months to 6years old and pregnant and lactating mothers (PLM) aged 15 years to 44 years. The exact number of eligible population for SNP for a given year is hard to come by. Therefore, we take the

entire population of children from zero to six years and women aged between 15 and 44 years as the eligible population. This is obtained from NSS 71st round on Social Consumption – Health, which is the latest dataset on health.

Table 23: Information on Data used

Required Data	Source of Data
Total Expenditure on SNP	Ruia, et al, (2018)
Eligible Population	NSSO 71st round on Health 2014
Beneficiaries Covered	Annual report MWCD 2014-15

For this analysis the beneficiary groups are categorised as (i) children aged 6 months to 3years; (ii) children aged 3 years to 6 years; (iii) total children aged 6 months to 6 years; (iv) pregnant and lactating mothers (PLM); and (v) total beneficiaries (6months – 6 years old children and PLM).

4.6.4 The Benefit Incidence Methodology

Demery, (2000) has provided the methodology to calculate the benefit incidence of public expenditure on social sector. There are four basic steps towards calculating benefit incidence (Demery, 2000). We borrow these steps as provided in Chakraborty, (2013).

Estimating Unit Cost

The unit cost of providing a public good is estimated by dividing the total expenditure on that particular public good by the total number of users of that good. In this analysis, the unit cost of providing SNP in Gujarat is the total spending on SNP in Gujarat per eligible population for the scheme.

Identifying the Users

The national household surveys usually provide information on the users of publicly-provided goods, the data being broadly categorised into poor and non-poor, male and female headed households, rural and urban, and so on. Chakraborty (2008) attempted an illustrative

calculation of gender disaggregated benefit incidence for water supply from unit utilized data using time-use survey, applying the time budget ratio of persons involved in fetching of water across gender to the rural and urban population separately.

Aggregating Users into Groups

To assess the distribution of benefits of public expenditure across the beneficiary population, aggregate individuals or households has to be grouped into income quintiles on the basis of their income or monthly per capita expenditure (mpce). The aggregation of users based on income or mpce quintiles could reveal whether the distribution of public expenditure is progressive or regressive (Chakraborty, 2013). In this analysis we do not perform a quintile-wise analysis due to data restrictions.

Calculating the Benefit Incidence

Finally, the benefit incidence of social sector expenditure by the government is obtained by imputing the unit cost of providing the public good on the users of these goods.

The equation for benefit incidence can be represented as:

$$X_j \equiv \sum_i U_{ij}(S_i/U_i) \equiv \sum_i (U_{ij}/U_i)\, S_i \equiv \sum_i e_{ij} S_i$$

Where Xj = sector specific subsidy enjoyed by group j;

U_{ij}= utilization of service i by group j;
U_i = utilization of service i by all groups combined;
S_i = government net expenditure on service i; and
e_{ij}= group j's share of utilization of service i.

Source: Chakraborty, (2013)

4.6.5 Empirical Results and Discussion

Benefit Incidence Analysis is a methodology used to assess the distributional benefits of targeted public expenditure on social services. It is best used to assess whether the public spending on social sector is targeted and pro-poor – whether it is reaching its targeted the beneficiaries and whether it is progressive or regressive towards the poor. To assess the

progressivity or regressivity of public spending, a quintile-wise BIA is required, which is not attempted here due to paucity in data. Instead, only an assessment of targeting is possible here.

The incidence of benefits has been calculated for three categories of beneficiaries: children between six months to three years; children between three years and six years; and pregnant and lactating mothers. The estimated total eligible beneficiary population in 2014 for the SNP was 22001040 individuals (Table 24). The total amount expended on SNP in Gujarat was Rs.421.32 crores (actuals),in 2014-15. The total beneficiaries covered until 30th December 2014 was 4,031,990 individuals and the unit cost incurred on each beneficiary is estimated to be Rs.191.50.

Table 24: Eligible Population and Beneficiaries Covered among each Beneficiary group

Beneficiary Groups	Eligible population	Beneficiaries Covered	Coverage Percentage
Children aged 0-3 years	4320892	1834107	42.45
Children aged 3-6 years	4580132	1420460	31.01
Total Children aged0-6 years	7777262	3254567	41.85
Females aged 5-44 years	14223778	777423	5.47
Total	22001040	4031990	18.33

Source: NSS 71st round, 2014 and Annual Report 2014-15, MWCD

Accordingly, the BIA of public spending on SNP reveals that the total unit utilization of the services until 30th December 2014 is estimated to be Rs.77.21 crores (Table 25). Of this 81 percent of the amount is utilised by children between six months to six years old and only 19 percent of the total utilization is availed by women. The incidence of benefits of public spending on SNP seems to be skewed towards children, and women seems to be using less of the services with utilization of roughly around Rs.15 crores as against Rs.62 crores utilised for children (Table 25).

Table 25: Results of BIA of SNP

Beneficiary Groups of SNP	Unit Utilised (Rs. crores)	Proportion to Total Unit Utilization
Children (6 months - 3 years)	35.12	0.45
Children (3-6 years)	27.20	0.35
Total Children (6monthe -6 years)	62.32	0.81
Pregnant and Lactating Mothers (PLM)	14.89	0.19
Total Beneficiaries (6 months-6 years & PLM)	77.21	1

Notes: * as of Dec 2014; ***Source***: Calculated by the author

This result has to be seen in the light of the definition of coverage and targeting. While coverage refers to the percentage of eligible population participating in the programme (in this case SNP), targeting here refers to the degree to which the coverage of the scheme is directed towards the neediest among the eligible population who have responded (Allen and Gillespie, 2001). Here the neediest and most vulnerable eligible beneficiaries are children between six months to three years of age, whose coverage was 42.5 percent of the total eligible population between 0-3 years of age. The analysis reveals that the objective of targeting is efficient in the case of the neediest, where children between six months to three years are more targeted with 45 percent of the total unit utilization spent on them, whereas children between three to six years received only 35 percent of the total unit utilization of the fund. This means 56 percent of the 62.32 crores spent on total children (6months to 6years) as of 31 December 2014, went to the 42.5 percent (table 24) of the neediest and most vulnerable eligible beneficiaries between six months to three years. In this sense, Gujarat Government seems to be going in the right direction, in terms of targeting, with greater degree of coverage among the neediest of the targeted beneficiaries.

On the other hand, in the case of PLM, the coverage is only 5.5 percent of women population between 15-44 years. The BIA shows that 19 percent of the total unit utilization was spent on 5.5 percent of the PLM covered as of 31 December 2014. Hence, it can be inferred that targeting in the case of PLM is also efficient. The cumbersome bureaucratic structure of fund flow of ICDS in Gujarat, seem to have not affected its efficient utilization when it comes to incidence of targeting. Even with lower utilization ratio of ICDS funds in 2014-15 (77.48 percent), the benefit incidence of SNP, in terms of targeting, seems to be much high in the state.

4.7 Conclusion

In this chapter we have tried to analyse the functioning of the centrally sponsored scheme, ICDS, in the context of Gujarat, from the input side – institutional architecture of flow of ICDS funds from the centre to the local bodies; and from the output side – BIA of the distributional benefits to the ultimate beneficiaries. The analysis reveals that the lengthy and cumbersome procedure for release of funds from the Central Government to the rightful beneficiaries, has led to unduly implementation errors, delays and the consequent lower

utilisation ratio. In Gujarat, the ICDS organizational structure is such that the fund would have passed at least a minimum of ten desks, before it finally reached the beneficiaries.

Despite these procedural hazels, Gujarat seems to have higher allocation of ICDS funds relative to similar non-high focus states (states with relatively better health outcomes) but remarkably lower than national average. However, the state has shown higher utililisation ratio for ICDS funds from 2002-03 to 2015-16, except for a few years. The BIA of public spending on SNP reveals that the funds are better targeted at its rightful beneficiaries.

Despite these high utilisation ratio and targeting achievements, the funds sanctioned for ICDS has declined in 2016-17 as compared to 2015-16, probably due to saving being carried over to next year. This decrease in sanctioned funds have also affected the allocation for specific schemes, particularly, SNP where its allocation was 72 percent lower than national average (table 18). Given the severe mal-nutrition and wasting amongst children aged below five in Gujarat, the centre needs to augment its allocation of funds to the state through ICDS.

Chapter V

Nutritional Outcome: A Relative State-level Analysis of Gujarat

In the previous chapters, we noted the importance of finances and need of a public expenditure review to prioritize state's objective that could be effectively met. In this chapter and ahead, we shall examine Gujarat on the anthropometric measures and its relative ranking among other states of the country. This chapter shallanalyse the inter-state disparities of nutritional outcome, based on graphical representations on anthropometric measures of children aged under five, mortality rates of children below the age offive, Anaemia of men, women and children for different age groups and Body Mass Index (BMI) of women aged between 15-49years.

According to UNICEF, poor nutrition in the first 1,000 days of children's lives can have irreversible consequences. Poor nutrition has several dimensions, of which stunting (the percentage of children, aged 0 to 59 months, whose height for age is below minus two standard deviations (moderate and severe stunting) and minus three standard deviations (severe stunting) from the median of the WHO Child Growth Standards) ; wasting (Percentage of children below five years whose weight for height z-score (HAZ) is more than 2 SDs below the median compared to the WHO child growth standards.); underweight (weight at birth of < 2500 grams (5.5 pounds) ; overweight/obese(A person with a BMI of 30 or more is generally considered obese. A person with a BMI equal to or more than 25 is considered overweight), and Anaemia (defined as a hemoglobin concentration below a specified cut-off point, which can change according to the age, gender, physiological status, smoking habits and altitude at which the population being assessed lives. WHO defines Anaemia in children under 5 years of age and pregnant women as a hemoglobin

concentration < 110 g/l at sea level.)

India is home to more than one-third of the world's malnourished children - 40 million children are stunted (height-for-age), 17 million are wasted (weight-for- height), half of the children under the age of three are underweight and a third of wealthiest children are overweight. Of the stunted children in the world, Indian children are most prone to stunting, which has severe physical, health and mental consequences. They are more likely to become overweight, and prone to non-communicable diseases during their adulthood. Societal inequities, poverty, and under-development are the key markers of stunting and other forms of undernutrition.India currently ranks 103 out of 119 countries on Global Hunger Index (GHI), which points towards the severity of the matter that India needs to look into[12]. The persistent inequality in access to quality food is accentuated by stark inter-state disparities in nutritional status coupled with poor health infrastructure in most of the states. These poor nutritional outcomes motivate the following study on the reasons underlying the inter-state variations in nutritional status of the nation, with a focus on state of Gujarat.A district wise analytical study is equally important to arrive at the roots of the appalling situation of Gujarat which seems to have suppressed the state's growthstory.

India possesses the highest number of one of the fastest growing countries in the world with an annual GDP growth rate of 7.1% lags behind its poorer counterparts on social indicators, particularly nutrition. Its twin problem of under-nutrition and obesity is severely impacting the country's economic and social goals, in particular, Stunting, Anaemia in women of reproductive age, wasting, Anaemia in children.

Looking towardsGujarat, the state is often recognized as India's growth engine and is home to 60 million population of the nation. However, growth is not the only parameter which can explain the performance of a state, and hence, we require other parameters on the socio-economic front to comment upon a state's progress. It is noteworthy that the report '*Rapid Survey on Children*' observed that Gujarat is the only developed state with malnutrition rates worse than the national average.Socio-economic malaises have been festering the state and the rising inequality and jobless growth needs to be examined with a sustainable solution. Growth without development on all fronts is not a stable one and thus requires immediate intervention of the government. This widening effect of lop-sided economic growth is what we analyze in the following sections, with a focus on nutritional

[12]Anamika Singh, Niti Ayog, "India's performance in Global Hunger Index and the initiatives to address malnutrition"

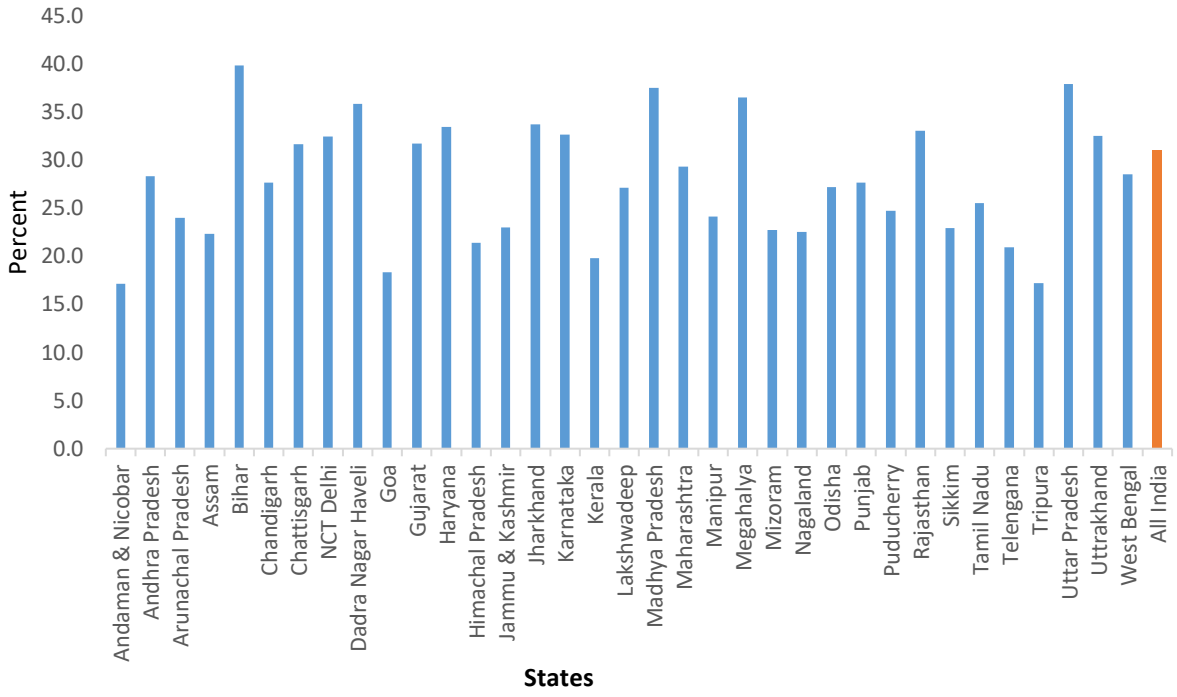
status of the Gujarat. Section 5.1 shall examine the anthropometric measures as listed in NFHS-4 Survey. Section 5.2 shall explore the Mortality rate among children. Section 5.3 will examine presence of Anaemia among women, children and men in the state of Gujarat and conduct a state-level comparison. Section 5.4 will examine the BMI indices of the children, men and women for the state as well. Section 5.5 summarizes the analysis.

5.1.1 Children under the age of five who are stunted(height-for-age)

According to NFHS – 4, almost 40% children in Bihar, Madhya Pradesh, and Uttar Pradesh are physically weak i.e. are stunted, as against a national average of 31%. Meghalaya (36.5%), Uttarakhand (32.5%), Gujarat (31.7%), Haryana (33.4%), Jharkhand (33.7%), and Rajasthan (33%) are no better performers (see Figure 6). South Indian states, and North Indian states are the only states which have percentage of such children lower than the national average. One of the reasons behind this could be the poor implementation of National Health Mission in the state. High prevalence of under-nutrition and nutritional deficiencies in women and children, especially among children (< 3 years of age), is a matter of concern for the states. Poor feeding practices leading to Protein Energy Malnutrition (PEM) and faulty caring practices as reflected by the health and nutrition indicators, appears to be the underlying cause of malnourished children. The major group suffering from malnutrition are women of childbearing age (15 – 44 years) especially those who are pregnant or nursing; and young children (up to 59 months ofage).[13]

Figure 6: Percentage of stunted children (aged below 5 years) in the urban regions: state-wise

[13] http://nrhm.gujarat.gov.in/nutrition.html

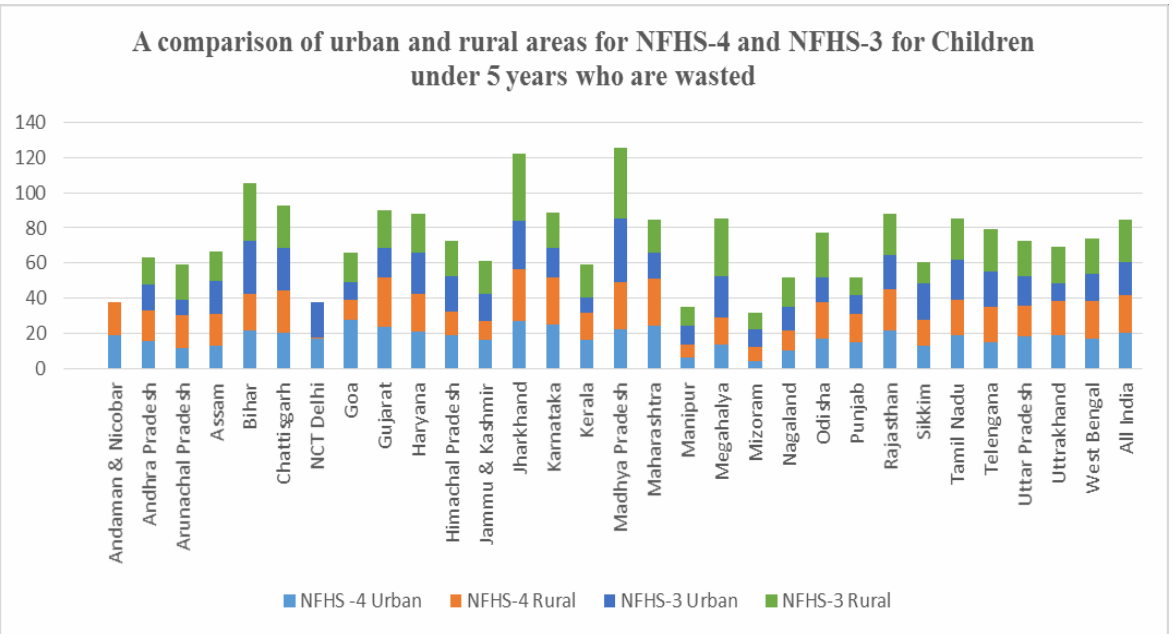


Source: National Family and Health Surveys-4: State level Fact sheet

5.1.2 Children under the age of five who are wasted(weight-for-height)

Mizoram and Arunachal Pradesh performed the best in all the four categories, namely urban regions for NFHS-4 and NFHS-3 & rural regions for NFHS-4 and NFHS-3 as shown in in Fig.7. MP continues to be the worst performer in the category of anthropometric measures, both in rural and urban regions across both the surveys. Jharkhand performed better than MP in the NFHS-3 survey of rural regions, in particular. Gujarat (26.4%) stands not far from performing poorly in this category, in both the regions during NFHS-4. The state is only better than Jharkhand (29%) and shares the worst slot withMadhya Pradesh (25.8%), Maharashtra (25.6%) and Daman and Diu (TOI,2018) Moreover, the percentage has increased from 16.7% to 23.4% for urban regions and from 21.3 to 28.5 for the rural regions, which is higher than all-India average figures (20%: NFHS-4 urban regions, 21.5%: NFHS-4 rural regions) The reason for such a poor performance can be attributed to the increasing incidences of Tuberculosis in the state with low immunization coverage over the years.[14] Low energy intake and TB are the most prominent reasons for increasing number of wasted children. Immediate action is required in terms of both increased expenditure on immunization and better policies and regulatory system for the nutritionalpolicies.

Figure 7: A comparison of urban and rural areas for children under the age of five who are wasted: Region wise



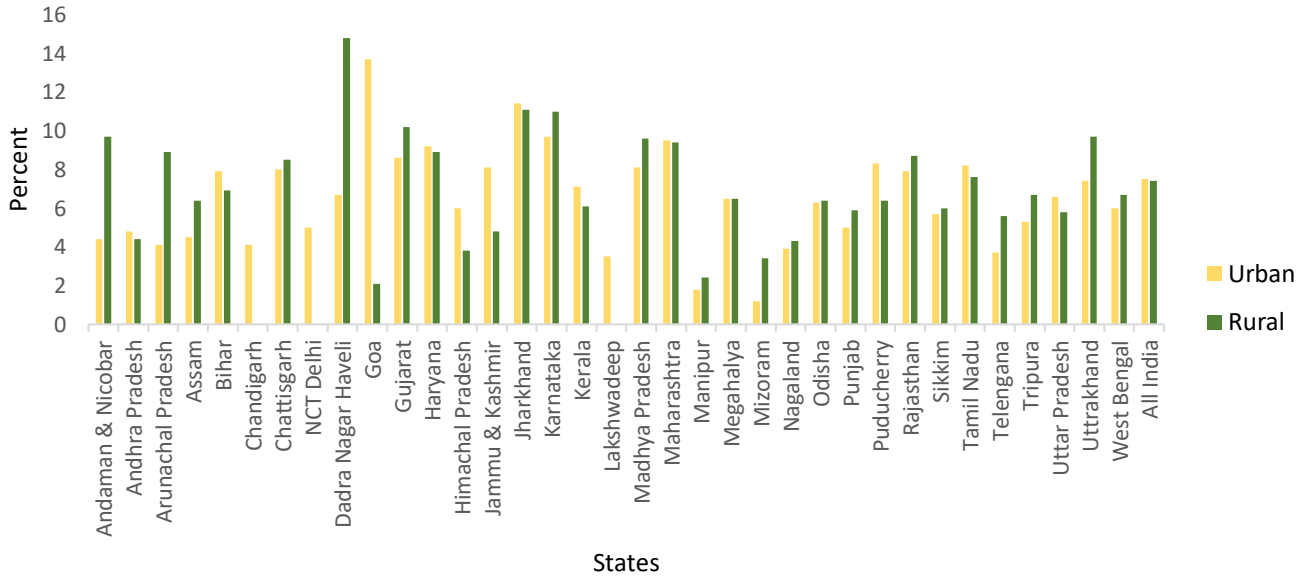
Source: National Family and Health Surveys: State level Fact sheet

5.1.3 Children under the age of five who are severely wasted(weight-for-height)

[14]*https://www.orfonline.org/expert-speak/gujarat-economically-upfront-far-behind-health/*

Dadra Nagar Haveli (14.8%) performs the worst in rural regions amongst all other states but has accomplished much better stance in the urban region with 6.7% children who are severely wasted as can be seen from Fig.8. While Madhya Pradesh (9.6%) and Jharkhand (11.1%) are relatively better than Dadra Nagar Haveli in the rural regions, they are worse off in their urban counterparts (8.1% for MP and 11.4% for Jharkhand). Gujarat has higher percentage of children who are severely wasted than all India figures, and particularly, in comparison to BIMARU states. reasons might be the same as discussed for the children who are wasted. The best outcome is portrayed by Mizoram (1.2%-urban & 3.4%-rural) and Manipur (1.8%-urban & 2.4%-rural) with the lowest number of children who are severelywasted.

Figure 8: Percentage of children aged below five who are severely wasted: region wise



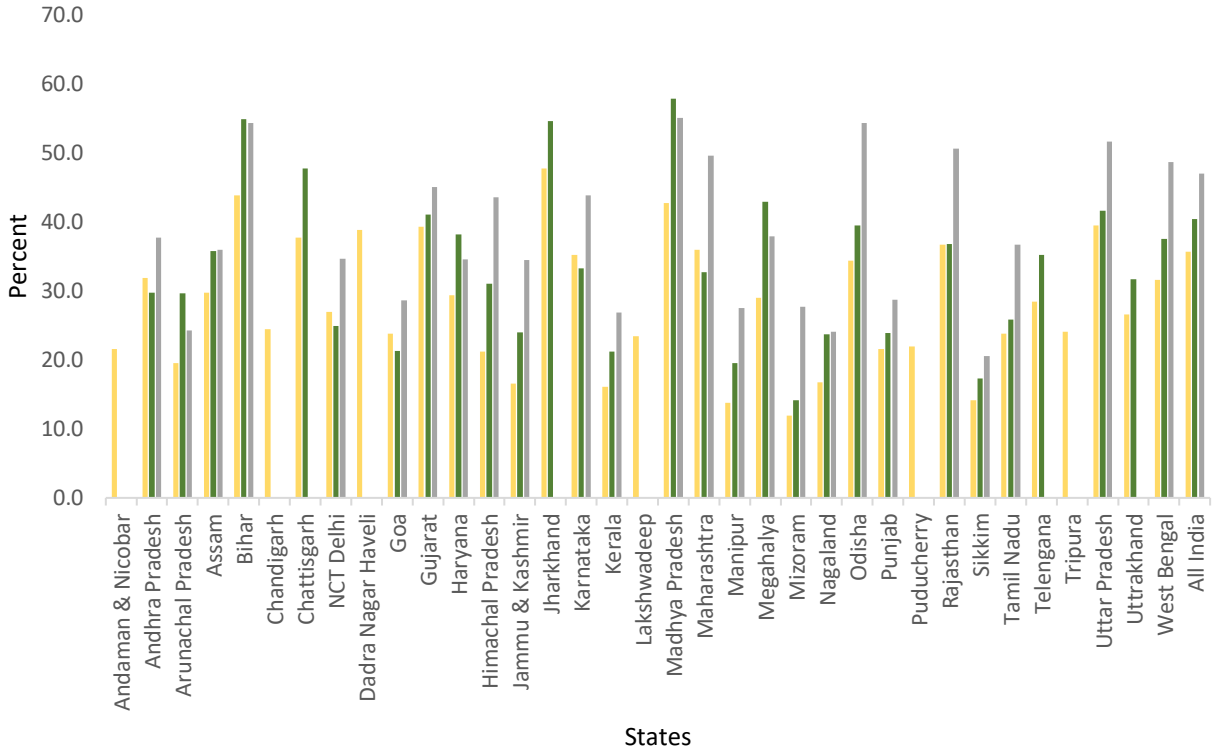
Source: National Family and Health Surveys: State level Fact sheet

5.1.4 Children under the age of five who are underweight(weight-for-age)

Fig.9 shows that Mizoram and Sikkim have a relatively lower percentage of children who are underweight shows that while Madhya Pradesh and Uttar Pradesh have performed the worst with the percentages as high as of 42.8% and 39.5% respectively. The percentage has gone down for UP (41.6 in NFHS-3 to 39.5 in NFHS-4 from a value of 51.7% in NFHS-2) but MP remains the worst performer (55.1% to 57.9% to 42.8% across surveys in ascending

order). For the recent survey, when compared with MP, Gujarat matched at relatively similar deplorable conditions, even though the performance was better in the previous two surveys. The reason that could back this is the increasing number of anaemic pregnant mothers, which feeds onto the poor physical health of the children. On a national level, Gujarat's problem of underweight children seems prominent when it can be seen elevating All India Levels of percentage (35.7% in NFHS-4) of underweight children by a thick margin.

Figure 9: Percentage of children aged below five who are underweight: survey wise



Source: National Family and Health Surveys: State level Fact sheet

5.2 Mortality Rates

This part of the analysis consists of a comparison study of Gujarat vis-à-vis all other states on the basis of: Infant Mortality Rates (IMR) and Under-Five Mortality Rates (U5MR).

5.2.1 Infant Mortality Rates (IMR)

A region wise analysis in fig. 10 for infant mortality rates (IMR) shows that Uttar Pradesh (67 IMR per 1000) has performed the worst in the rural region followed by Assam (58), Chhattisgarh (56) and Madhya Pradesh (54). Gujarat has fairly low IMR (27 in urban and 39

in rural) as compared to the all-India figures (29 urban and 46 rural) and the worst performing states. Kerala with IMR of only 6 in urban and 5 in rural has performed the best in the year 2015-16. The following table 26 and fig.10 shows that even though Gujarat's IMR is falling and is below all-India levels, but it is higher than affluent states like Maharashtra (24) and Punjab (22) in the urban region. Though, rural IMR is higher than the urban counterpart, it points towards the urban-rural gap as shown in fig. 10, which is the highest for Assam (18), while for Gujarat it is (12). This gap might widen if the rural health infrastructure does not improve. The widening gap of rural IMR can be attributed to non-availability of specialist or low institutional deliveries in the rural regions, inparticular.

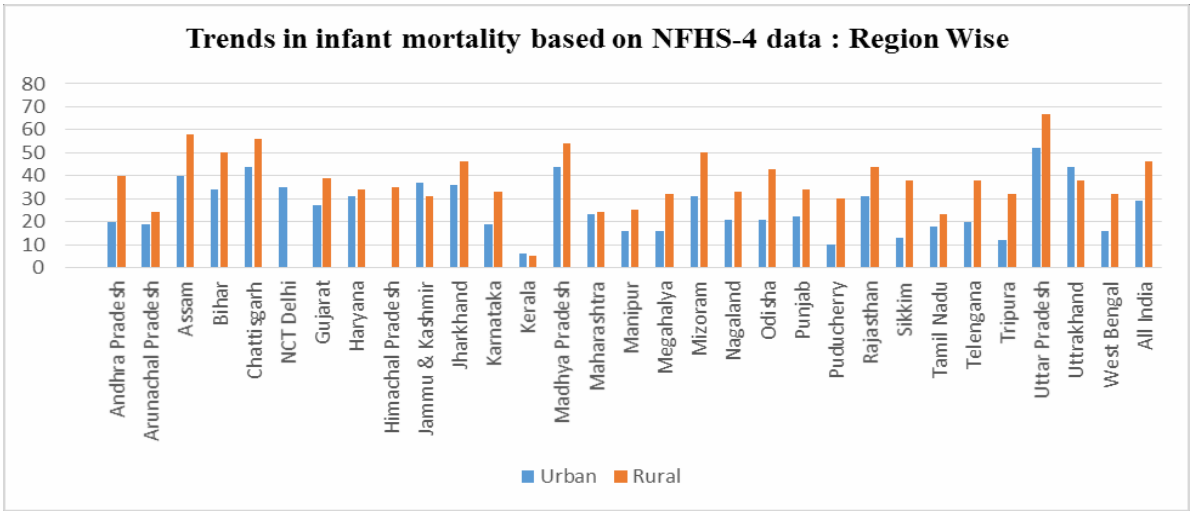


Figure 10: Infant mortality rates based on NFHS-4 data: region wise

Source: National Family and Health Survey -4: State level Fact sheet

Table 26: Gap between Gujarat's IMR and All India IMR

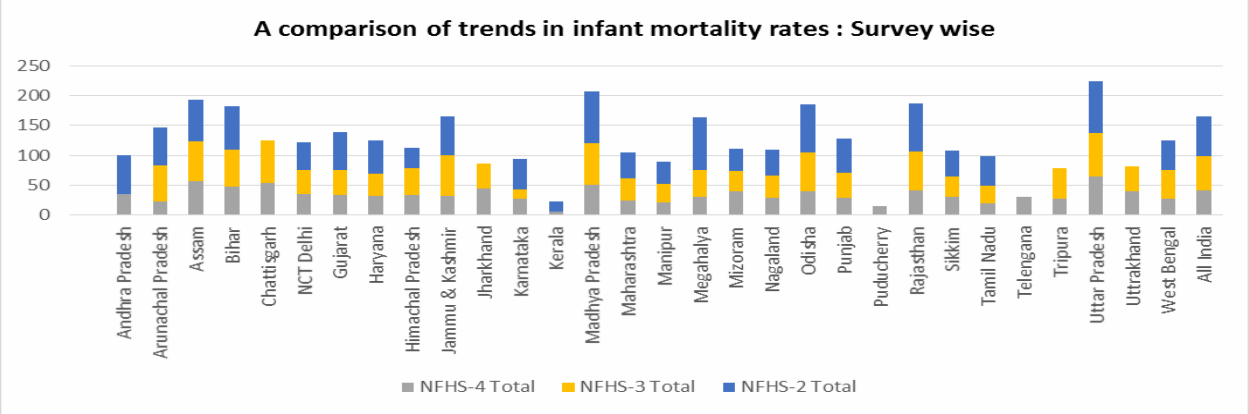
Year	Gujarat IMR	All-India IMR
2006	53	57
2007	52	55
2008	50	53
2009	48	50
2010	44	47
2011	41	44
2012	38	42

2013	36	40
2014	35	39
2015	33	37

Source: RBI handbook on Statistics of Indian states

Madhya Pradesh, Uttar Pradesh and Assam have continued to perform badly as seen in fig.11 when compared with previous surveys for all states. Gujarat (a slash from 62.6 to 42 to 34) has shown significant improvements from NFHS-2 and with respect to all India figures (67.6 to 57 to 41). Still, there is a long way to go for Gujarat to match the Millennium Development Goal (MDG) of 28 infant deaths per 1000 (two- third of the rate between 1990 and 2015). It has been observed that the states like Tamil Nadu and Mizoram have access to better health infrastructure and education facilities, due to their early and proper implementation of health and education policies. Early marriage and early pregnancy coupled with poor medical facilities[15]and poor implementation of awareness programs contribute to increasing and high IMR in rest of the states, includingGujarat.

Figure 11: Trends in Infant Mortality rates across all states: survey wise



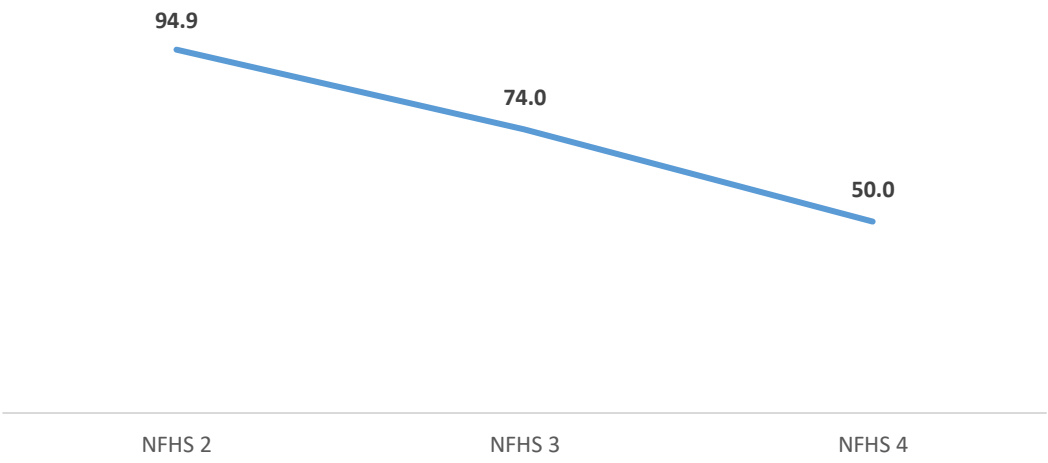
Source: National Family and Health Surveys: State level Fact sheet

5.2.2 Under-five Mortality Rates(U5MR)

[15]https://timesofindia.indiatimes.com/city/ahmedabad/In-rural-health-Gujarat-among-BIMARU-states/articleshow/51593362.cms
http://indianexpress.com/article/india/in-gujarat-out-of-4341-doctors-only-530-served-in-rural-areas/

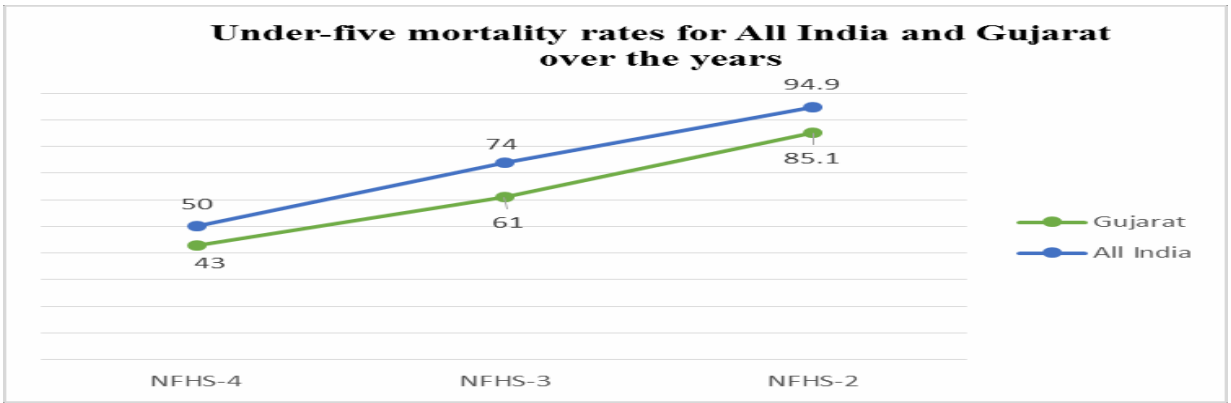
Analysisshows that in the country, the most populous state, Uttar Pradesh (78) has slid past through Madhya Pradesh (65) to record country's worst U5MR rate even in NFHS-4 (see table A.16 of the Appendix). It does not come as a surprise as these BIMARU states continue to perform fiery bad in every aspect of health, irrespective of the increased spending in their health. UP has not been able to capitalize on its health spending, which is already at meagre level of 4.46% of the money allocated for the health sector. On the other hand, Kerala with U5MR as only 7 outpaces all other states to win the rank one in performing the best in U5MR.Gujarat has shown improvement over rank and performance over the years. The positive thing is that its achievement in U5MR has been better than the National Average in the given period. But this gets neutralized when we observe Gujarat's IMR being below U5MR for NFHS4(see fig.13). Misallocation of the budget, perennial problem of staff shortage and poor nutritional stature of the state adds to the problem and makes it a serious issue to be worked upon.

Figure 12: Trends in Under five Mortality (U5MR) rates across all India: survey wise



Source: National Family and Health Surveys: State level Fact sheet

Figure 13: Trends in Under five Mortality (U5MR) rates for Gujarat and all-India national



average

Source: National Family and Health Surveys: State level Fact sheet

5.3 Anaemia

This part of the analysis consists of a comparison study of Gujarat vis-à-vis other statesfor a)Children aged between 6-59 months who areanaemicb)Pregnant women aged between 15-49 years who areanaemic; c) Non-Pregnant women aged between 15-49 years who areanaemic; d)Men aged between 15-49 who are anaemic.

The percentage of children aged between 6-59 months who are anaemic is the highest in the states of Dadra & Nagar Haveli, Jharkhand,Madhya Pradesh and Uttar Pradesh in both urban and rural regions, as seen in Table 27. Little consumption of food having micro-nutrients, like fruits and vegetables makes for the Anaemia amongst the children. Moreover, Haryana, Rajasthan, Assam and Madhya Pradesh had the record high percentage of anaemic children during NFHS-2 and they continue with poor statistics during NFHS-4 too, but the situation is less severe than that in Dadra Nagar Haveli(see table 28).

Table 27: Percentage of anaemic children aged between 6-59 months: NFHS-4 region wise

State	Urban	Rural	Total
Andaman & Nicobar	47.7	50.0	49.0
Andhra Pradesh	52.4	60.8	58.6
Arunachal Pradesh	49.7	51.0	50.7
Assam	27.6	36.5	35.7
Bihar	58.8	64.0	63.5
Chandigarh	71.6		73.1
Chhattisgarh	42.9	41.2	41.6
NCT Delhi	62.3		62.6
Dadra Nagar Haveli	80.1	87.7	84.6
Goa	52.2	41.2	48.3
Gujarat	59.5	64.6	62.6

Haryana	69.6	72.9	71.7
Himachal Pradesh	58.7	53.3	53.7
Jammu & Kashmir	40.6	44.1	43.3
Jharkhand	63.2	71.5	69.9
Karnataka	57.1	63.3	60.9
Kerala	35.5	35.7	35.6
Lakshadweep	51.0	67.4	51.9
Madhya Pradesh	66.3	69.9	68.9
Maharashtra	53.6	54.0	53.8
Manipur	24.5	22.0	22.8
Meghalaya	33.6	41.8	40.7
Mizoram	14.1	24.5	19.1
Nagaland	17.6	23.1	21.6
Odisha	38.1	45.7	44.6
Punjab	55.7	57.2	56.6
Puducherry	43.4	48.5	44.9
Rajasthan	55.7	61.6	60.3
Sikkim	59.7	52.7	55.1
Tamil Nadu	48.2	52.3	50.4
Telangana	51.6	67.5	60.7
Tripura	45.7	49.2	48.3
Uttar Pradesh	65.0	62.7	63.2
Uttarakhand	59.4	52.8	54.9
West Bengal	55.5	53.7	54.2
All India	55.9	59.4	58.5

Source: *National Family and Health Surveys: State level Fact sheet*

Table 28: Percentage of anaemic children aged between 6-59 months: survey wise

State	NFHS 4	NFHS 3	NFHS 2
Andaman & Nicobar	49.0		
Andhra Pradesh	58.6		72.3
Arunachal Pradesh	50.7	56.9	54.5
Assam	35.7	69.4	63.2
Bihar	63.5	78	81.3
Chandigarh	73.1		
Chhattisgarh	41.6	71.2	
NCT Delhi	62.6	57	69
Dadra Nagar Haveli	84.6		
Goa	48.3	38.2	53.4
Gujarat	62.6	69.7	74.5
Haryana	71.7	72.3	83.9
Himachal Pradesh	53.7	54.4	69.9
Jammu & Kashmir	43.3	58.5	71.1
Jharkhand	69.9	70.3	
Karnataka	60.9	70.3	70.6
Kerala	35.6	44.5	43.9
Lakshadweep	51.9		
Madhya Pradesh	68.9	74	75
Maharashtra	53.8	63.4	76
Manipur	22.8	41.1	45.2

Meghalaya	40.7	63.8	67.6
Mizoram	19.1	43.8	57.2
Nagaland	21.6		43.7
Odisha	44.6	65	72.3
Punjab	56.6	66.4	80
Puducherry	44.9		
Rajasthan	60.3	69.6	82.3
Sikkim	55.1	58.1	76.5
Tamil Nadu	50.4	64.2	69
Telangana	60.7		
Tripura	48.3	62.9	
Uttar Pradesh	63.2	73.9	73.9
Uttarakhand	54.9	60.7	
West Bengal	54.2	61	78.3
All India	58.5	69.4	74.3

Source: *National Family and Health Surveys: State level Fact sheet*

Chandigarh (75.9), along with Dadra (80.1) and Jharkhand (65.1) adds to the greatest number of non-pregnant anaemic women for NFHS-4 (see Appendix table A18). Dadra Nagar Haveli (67.9) and Jharkhand (62.6) top the list of maximum pregnant anaemic women (see Appendix table A19). Gujarat (51.3) also has a pretty high number of anaemic pregnant women, which is the main cause of high and increasing maternal mortality in the state. Frequent child births, non-institutional delivery with no proper medication and care (in rural areas) is another reason for Anaemia in pregnant women. In addition, Gujarat touches the all-India average of 50.3 and thus makes and entry into the category of the states with high prevalence (40- 60%) of anaemic pregnant women. Anaemia has serious consequences for the state of Gujarat and this severe condition will be explored deeply in the next section where all the districts are analyzed.

Further, even though Gujarat's figures for prevalence of anaemia among pregnant women has been decreasing more than in comparison to MP (54.6) and UP (51), it is as high as 50%, which is still an alarming figure. Anaemia among men in the age group between 15-49 years is low in all the states, with north-eastern states bagging the first position(see Figure 15). Anaemia is the leading cause of all anthropometric deficiencies amongst children. It can be seen that there is a direct correlation between number of anaemic pregnant women and anaemic children(see Figure 16);high maternal deaths and high IMR and U5MR. Thus, Anaemia is the root cause of all the health problems prevailing in thenation. Children and pregnant women are most vulnerable to Anaemia, and hence, focusing on their diet is of primary concern. Mostly all the states suffer from the problem of anaemic women, while most importantly Dadra and Nagar Haveli, West Bengal, and Chhattisgarh have the highest proportion of non-pregnant and pregnant anaemic women. North eastern states perform relatively better than the northern states (like Bihar, Chhattisgarh, Chandigarh, Maharashtra, Uttar Pradesh) and other southern states as well. Anaemia is equally common between all women – whether pregnant or non-pregnant (see Figure 14).

Figure 14: Comparison in percentage of anaemic pregnant women and anaemic non-pregnant women: NFHS-4

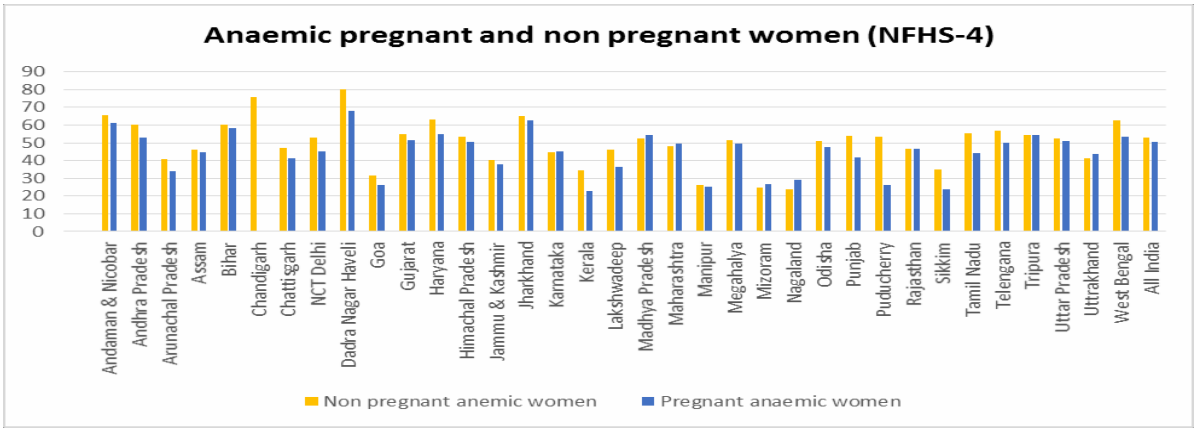
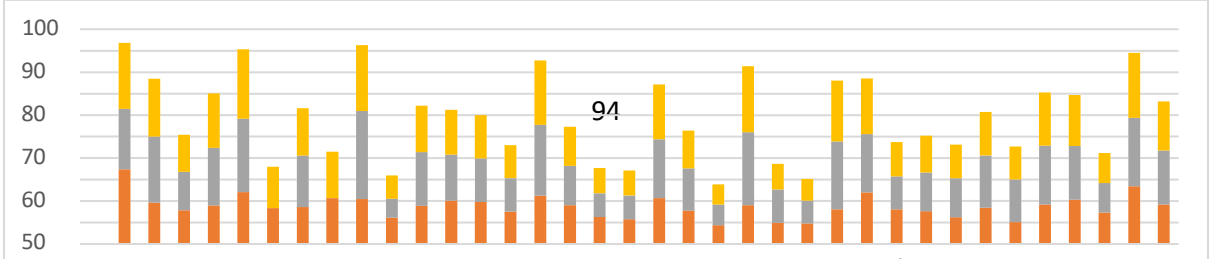
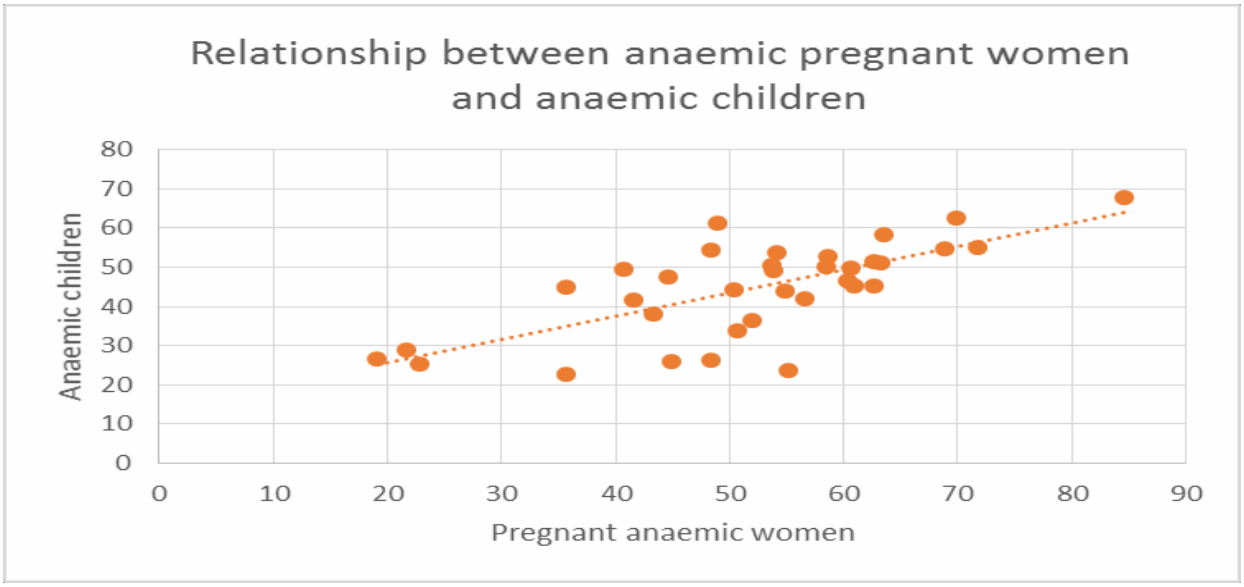


Figure 15: Percentage of Anaemic men aged between 15-49 years: NFHS-4 regionwise



Source: *National Family and Health Surveys: State level Fact sheet*

Figure 16: Scatterplot of percentage of Anaemic pregnant women aged between 15-49 years and Anaemic children: NFHS-4



Source: *National Family and Health Survey-4: State level Fact sheet*

As the scatterplot shows in Figure 16, there exists a positive correlation between pregnant anaemic women and anaemic children, indicating that in order to combat Anaemia among children, maternal nutrition needs to be well taken care of, else a serious health disorder would occur in the state of Gujarat.The figure also confirms the fact that poor nutrition intake is one of the leading causes of Anaemia in children.

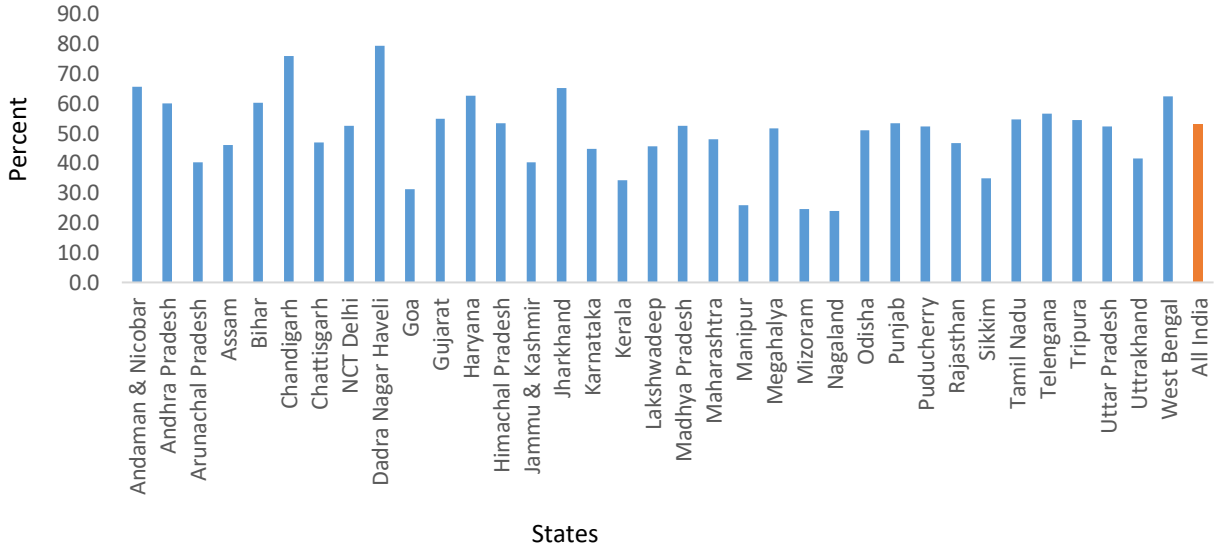
5.4 Body Mass Index(BMI)

The following study analyses the trends in Gujarat vis-à-vis all other states forWomen with low BMI (thannormal) and Women with BMI higher than normal(obese). We also compare the relationship and trends between anaemic women and women with low BMI. This will help us analyses the extent of the problem arising from Anaemia and improper nutritional intake.

Analyzing the data from the NFHS-4 data for all women whose BMI is less than normal (18.5 kg/m2), we see that Bihar (30.4) and Dadra Nagar Haveli (28.7) perform the worst (see Appendix Table A.22). For the state of Gujarat, the reduction has been minuscule i.e. from 36.2 to 27.2 in ten years. The all India figure hovers around 22.9 for women with low BMI and about 58% women suffer from Anaemia (see figure 17). Such figures are staggering and portray a dismal representation of the performance of Indian states on social

frontiers.

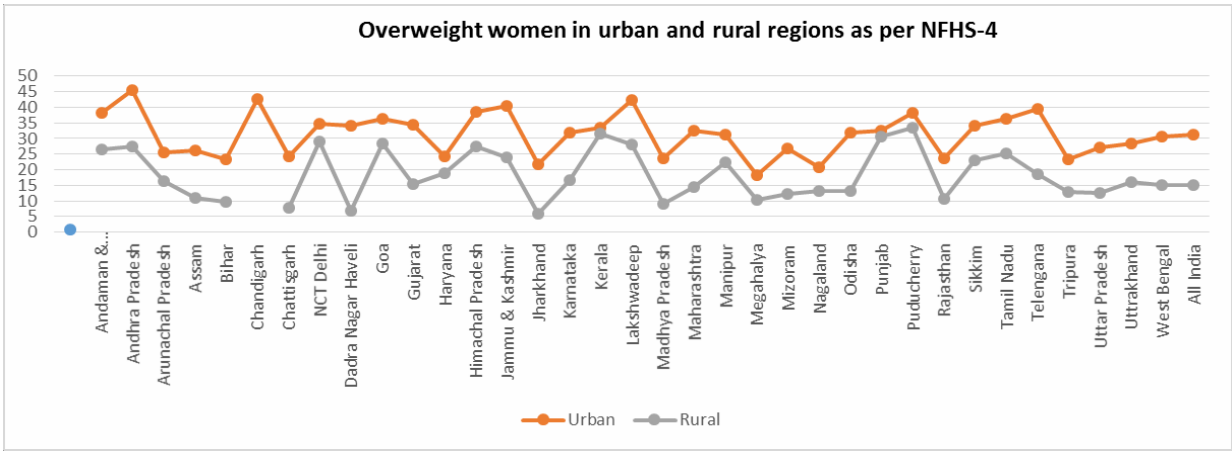
Figure 17: Percentage of women aged between 15-49 years with low BMI



Source: National Family and Health Survey-4: State level Fact sheet

Figure 18shows us the percentage of overweight women is much higher in urban areas than in rural areas for all the states, highest being in Lakshadweep (42.4) Delhi (34.1). This is due to the increased inclination towards junk food, packaged food and unhygienic street food. Such dependencies and obsession lead to poor nutrient intake and problems of obesity. Gujarat has as many as 34% obese people in the urban regions, as compared to 14% in the rural regions (see Appendix table A.24). Food habits is not the only genesis for this unhealthy scenario, but hypertension, diabetes are the major concerns to be addressed. Thus, physical health along with mental health contributes equally to the well-being of the people.

Figure 18: Percentage of women aged between 15-49 years with high BMI (obese): region wise



Source: *National Family and Health Survey-4: State level Fact sheet*

5.5 Summary and Conclusions

This chapter has examined the status of women, children and men under different age groups of Gujarat for the anthropometric measures, BMI, Anaemia and Mortality rate. Such an analysis brings to the forefront the critical issue with which the state deals with. We see that Gujarat has a higher percentage of women who are underweight (27.2) i.e. (BMI< 18.5kg/m2), and thus this is well connected to the fact that the number of anaemic women are increasing (54.9%). Such figures have a much deeper concern as women in the near future will bear children who then again shall be anaemic or may have at least one or the other deficiency. Hence, the cycle shall keep on repeating until taken up for action. Among the other states in comparison, Lakshadweep has the highest number of obese women and it has the least proportion of anaemic women as compared to Gujarat. Similarly, BIMARU states have relatively less obese women but lag behind in curing Anaemia. Being obese or being underweight, both have equally adverse effects on health of men and women. This affects the health of children as parents' eating habits have a significant impact on that of children. It is therefore of paramount importance to keep a check on dietary needs of all the members in the family as to sustain a healthy life. Other socio-demographic factors also play a pivotal role for the prevalence of Anaemia among women and children (Bentley,2003). Hence, this requires a critical assessment of expenditures and a customized approach that reaches women both in the urban and rural areas much early before they enter into the reproduction years. If not, it may turn as a big hurdle to country development.

Chapter 6

Nutrition Outcome: An analysis of the districts ofGujarat

In the previous chapter, we analysed the relative position of the state of Gujarat with respect to the other states. We take the analysis further by analyzing the districts of Gujarat for a comparative analysis of the anthropometric measures and the district level performances as well. Presently, the state of Gujarat has thirty-three districts which are divided into five regions namely, Kutch, Northern Gujarat, Central Gujarat, South Gujarat and Saurashtra Region. The Northern Gujarat consists of six districts Aravalli, Banaskantha, Gandhinagar, Mehsana, Patan and Sabarkantha. The districts of Ahmedabad, Anand, Bharuch, Chhota Udaipur, Dahod, Kheda, Mahisagar, Narmada, Panchmahal and Vadodara form the central Gujarat. The Southern Gujarat consists of districts namely Dang, Navsari, Surat, Tapi and Valsad(see Figure 19). As per the Census 2011, Gujarat consisted of 26 districts. In order to speed up the development process, the then government of Gujarat in 2013 announced the formation of seven new districts named as Aravalli, Botad, Chota Udaipur, Morbi, Mahisagar, Gir-Somnath and Dwarka (India Today, 2013)[16]. The districts have diverse climatic conditions with mild and pleasant winters and hot and dry summers. Gandhinagar is the capital of Gujarat while Ahmedabad is known as the commercial capital of the state. The southern part of Gujarat has a large forested area and also the tribal population lives here[17]. The central region of Gujarat is densely populated with less regions under forests. While on the other hand, Kutch region is largely salt wastelands and totally arid receiving very less rainfall and has a very low economic activity[18]. As per the census 2011, regions in the central Gujarat are more urbanized than the other parts of the state.[19]

The chapter is structured as follows: Section 6.1 discusses the performance on anthropometric measures of rural and urban districts in central Gujarat. Section 6.2 interprets the anthropometric performance of the districts in Southern Gujarat based on NFHS-4 data. Further, Section 6.3 discusses the performance of the districts in the northern Gujarat. Section 6.4 then analyses the remaining districts of Gujarat based on the NFHS data factsheets. Section 6.5 discusses the health characteristics namely Anaemia and BMI for the four largest

[16]Gujarat announces seven new districts, keeps poll promisehttps://www.indiatoday.in/india/west/story/modi-gujarat-announces-seven-new-districts-keeps-poll-promise-173747-2013-08-14

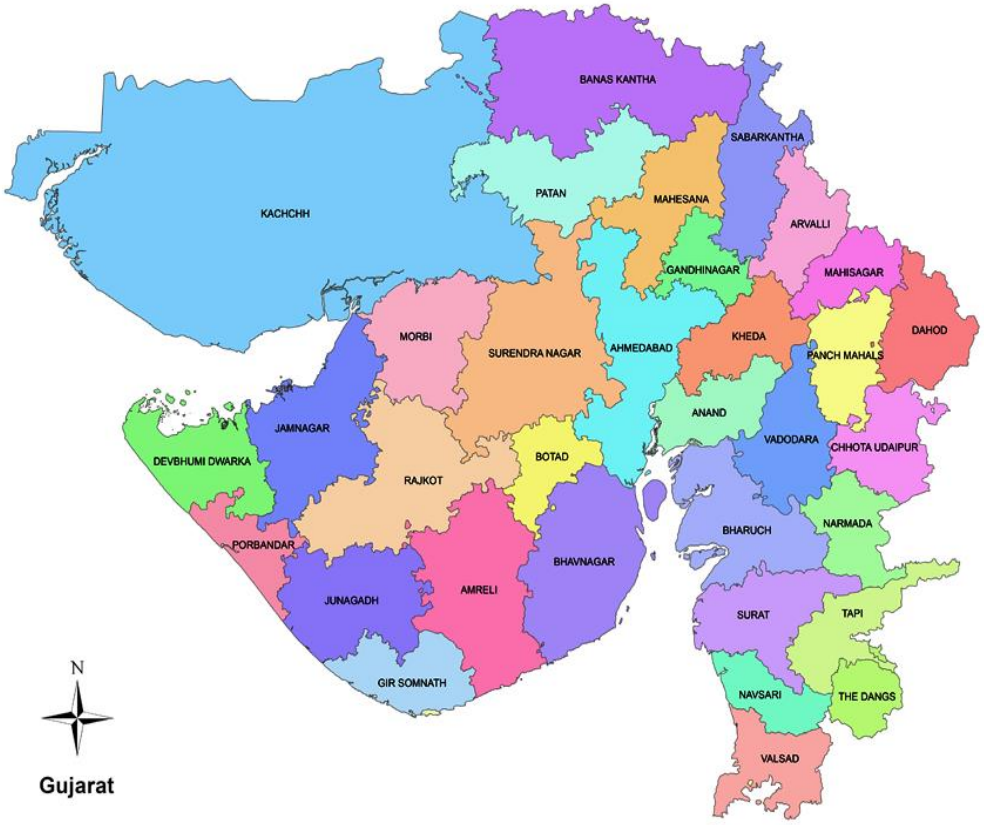
[17]http://www.gujenvis.nic.in/PDF/demo.pdf

[18]http://www.gujenvis.nic.in/PDF/demo.pdf

[19] Status of District-Wise Urbanisation: Gujarat -1981-2011 http://www.gujenvis.nic.in/PDF/demo.pdf

districts of Gujarat. In addition, section 6.6 interprets the relative ranking of the districts of Gujarat based on these anthropometric measures especially segregating the performance of such indicators for men, women and children. Section 6.7 summarises the analysis.

Figure 19: Districts of Gujarat



Source:https://revenuedepartment.gujarat.gov.in/gujarat-jantari

6.1.1: Anthropometric performance of Urban districts of Central Gujarat

We begin our analysis by observing the anthropometric measures in Central Gujarat with semi-urban and semi-rural districts, i.e. Ahmedabad, Vadodara andAnand. The study reveals that as per the NFHS-4, Anand has the highest percentage (45.8% urban; 49% rural) of stunted children in Central Gujarat, followed by Vadodara (38.5% urban; 49.1% rural). More than a fifth of the children in Ahmedabad are wasted, and about 30% of the children are underweight. Anand and Vadodara have almost 40% of underweight children, which is significantly higher than those in Ahmedabad (see Table 29). This suggests the dismal scenario in Gujarat, and a need for proper nutritional diet

for the children.

Table 29: Percentage of children aged under five who are stunted, wasted, severely wasted and underweight: Central Gujarat

	Stunted		Wasted		Severely Wasted		Underweight	
District	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Ahmedabad	26.2	-	26.8	-	11.1	-	27.3	-
Anand	45.8	49.0	20.5	22.1	8.6	7.0	37.5	42.6
Vadodara	38.5	49.1	15.2	17.5	7.2	4.5	34.2	44.1

Source: National Family and Health Survey-4: District level Fact sheet

6.1.2 Anthropometric measures of the rural districts in Central Gujarat

The rural districts of Gujarat include Panchmahal, Kheda and Dohad. Table 30 shows that the more than 40% of the children in rural districts of Central Gujarat are stunted, and almost half of the children are underweight. The scenario is similar across all three districts, with only a minute difference (see Table 30).

Table 30: Percentage of children aged under five who are stunted, wasted, severely wasted and underweight: rural districts in Central Gujarat

District	Stunted	Wasted	Severely wasted	Underweight
Dohad	44.9	25.1	8.3	51.7
Kheda	44.1	29.0	7.1	49.4
Panchamahal	43.1	39.8	15.0	46.6

Source: National Family and Health Survey-4: District level Fact sheet

6.2.1 Anthropometric measures of the semi-urban and semi- rural districts in South Gujarat

The semi-urban and semi-rural districts of Southern Gujarat include Navsari, Baruch, Valsad and Surat. Table 31 illustrates that for the districts in South Gujarat, Navsari has performed the best on all the anthropometric fronts, when compared to its counterparts in both the regions. This is because of the success of the Vatsalyadham Project[20]under which the screening of acute malnutrition children is taken care of.

[20]http://www.in.undp.org/content/dam/india/docs/humandevelopment/District%20HDRs/12.%20Navsari_D

Surat, despite being the eight largest cities in the state has not been able to perform well on the social indicators, because of about 11% gap in urban and rural figures. Anaemia cases have increased in the district from 16 to 43, as per the UNDP report. Even though schemes like Janani Suraksha Yojana have been implemented, not much progress has been reported since 2007. For the districts of Valsad and Baruch, they appear to have performed at equivalent levels, as not much difference is reported. The above observations are same for the urban and rural counterparts on all fronts.

Table 31: Percentage of children aged under five who are stunted, wasted, severely wasted and underweight: South Gujarat

	Stunted	**Wasted**	**Severely wasted**	**Underweight**
Baruch	41.5	29.4	7.6	44.2
Navsari	38.9	26.8	5.7	37.4
Surat	30.0	26.2	8.1	36.1
Valsad	43.3	30.3	11.9	41.9

Source: National Family and Health Survey-4: District level Fact sheet

6.2.2 Anthropometric measures in the rural districts in South Gujarat

Among the rural districts of Gujarat, The Dangs, Tapi and Narmada are the three districts in southern Gujarat which have a large tribal population. In Table 32,.it is clear that The Dangs is the worst performer and Tapi the best performer with least percentage of children aged under five with poor anthropometric features. The Dangs, being a tribal district has very poor sanitation facilities, low availability of specialist doctors, despite high vaccination coverage. Narmada and Tapi show improving rates of sanitation and hospital facilities coupled with higher rates of educational attainment, as compared to the Dangs. The Dangs is one of the worst performing of the 640 districts in India when it comes to wasting and severe wasting, as per the NFHS report. The situation is highly disheartening and demands proper

implementation and regulation of the health facilities in the district, with a focus on educational attainment of mothers and children.

Table 32: Percentage of children aged under five who are stunted, wasted, severely wasted and underweight: rural districts in South Gujarat

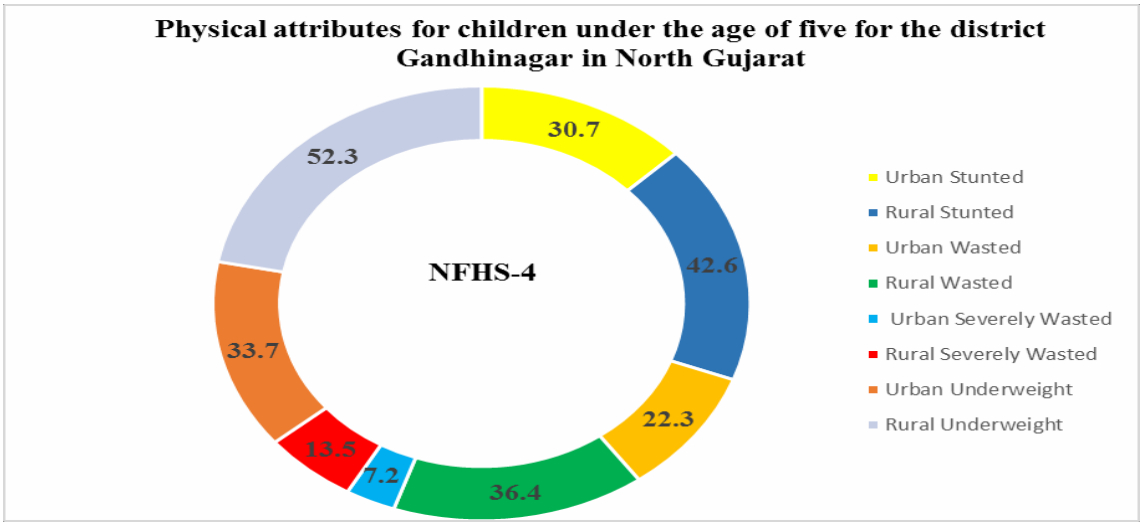
	Stunted	Wasted	Severely wasted	Underweight
Baruch	45.3	31.0	7.4	50.5
Navsari	42.2	34.3	6.6	44.8
Valsad	51.9	29.0	9.4	48.0

Source: National Family and Health Survey-4: District level Fact sheet

6.3.1 Anthropometric measures in North Gujarat: Gandhinagar district

Figure 20 shows that maximum children in Gandhinagar suffer from the problem of underweight and stunted anthropometric features in the rural region particularly. Urban region is slightly better off in all indicators, but on a whole, Gandhinagar stands on a 'moderate' level, with almost all the values below 50. There are less children in the category of 'severely wasted', but higher number (rural-36.4%, urban-22.3%) of 'wasted'children.

Figure 20: Percentage of children aged under five who are stunted, wasted, severely wasted and underweight: Gandhinagar in North Gujarat



Source: National Family and Health Survey-4: District level Fact sheet

6.3.2 Anthropometric measures in rural districts of North Gujarat

The rural districts that lie in the northern Gujarat are Patan, Sabarkantha, Mehsana, Banas kantha. Table 33 suggests that the children in North Gujarat have the worst nutritional status across the state. More than half of the children in Sabarkantha are stunted, and 47.4% children are underweight. Banaskantha, Mehsana, and Patan too have very high percentages of stunted and underweight children. Wasting is relatively less prominent in North Gujarat, but still, demands a lot more improvement on this front.

Table 33: Percentage of children aged under five who are stunted, wasted, severely wasted and underweight rural districts in North Gujarat

	Stunted	**Wasted**	**Severely wasted**	**Underweight**
Banaskantha	39.9	23.6	8.9	44.4
Mehsana	40.9	26.5	13.4	43.2
Patan	41.8	24.8	9.4	42.3
Sabarkantha	53.4	25.7	8.1	47.4

Source: National Family and Health Survey-4: District level Fact sheet

6.4 Anthropometric measures in the remaining districts: Porbandar, Bhavnagar, Kachchh, Rajkot, Jamnagar andJunagadh

Among these districts, the district Bhavnagar has the highest percentage of rural stunted (48.3), urban underweight (43.7) and rural underweight (44.9) as compared to the minimum values of 19 in Jamnagar, 21.6 in Porbandar and 28.8 in Junagadh for the respective indicators (see Table 34). Kachchh shows an outlier value of 40.6 as a percentage of children under five who are wasted and Jamnagar with a value of 46.8 overrules other districts in children under five who are wasted in the rural regions. Similar trends are portrayed by both the former districts in the category of severely wastedchildren.

Table 34: Percentage of children aged under five who are stunted, wasted, severely wasted and underweight: remaining districts

	Stunted			Wasted			Severely Wasted			Underweight		
Districts	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**
Amreli		38.4	37.8		22.8	24.6		7.3	6.4		30.4	31.7
Bhavnagar	48.5	48.3	48.4	23.9	27.5	26	9.7	6.6	7.9	43.7	44.9	44.4
Jamnagar	35	19	27.9	19.2	46.8	31.3	6.7	29.6	16.8	26.2	33.2	29.3
Junagadh	30.2	26.7	27.9	20.1	35.6	30.4	12.9	19.9	17.5	24.1	28.8	27.2
Kachchh	37.5	42	40.8	40.6	27.9	31.4	19.6	13.9	15.5	37.6	39.5	39
Porbandar	19.7	24.2	22.6	16	30.6	25.4	4.9	13.8	10.6	21.6	31.1	27.7
Rajkot	28.7	34.6	30.9	23.4	23.5	23.4	3.3	4.2	3.7	31.3	31.4	31.4
Surendranagar		49.6	45.5		23.9	27.7		6.6	9.5		46.4	45.9

Source: National Family and Health Survey-4: District level Fact sheet

6.5 Analysis of Health characteristics i.e. Anaemia and BMI in four largest districts: Vadodara, Ahmedabad, Surat and Rajkot

The comparison study in Table 35 of the four largest districts of Gujarat as mentioned above is undertaken. It is observed that Ahmedabad still performs the worst in all the indicators, namely normal BMI and anaemia. Surat, Rajkot and Vadodara outperform Ahmedabad. Surat and Rajkot have the lowest percentage of women with low BMI, and Rajkot has the least number of men with low BMI in comparison to Vadodara also. While Vadodara shows the best performance in percentage of overweight men and women, Rajkot and Ahmedabad continue to perform poorly. Anemia incidence among children, women and men is lowest in Surat and highest inAhmedabad

Table 35: Health characteristics for women with low BMI, women with high BMI (overweight), men with low BMI, men with high BMI (overweight), anaemic children, anaemic women and anaemic men: Four largest districts

District	Women, Low BMI	Men, Low BMI	Women, Overweight	Men, Overweight	Children Anaemic	All women anaemic	All men anaemic
Ahmedabad	21.5	25.9	30.7	26.4	76.0	62.0	26.9
Rajkot	17.4	16.3	36.1	22.3	57.6	52.6	18.5
Surat	18.4	22.7	34.5	23.2	42.3	39.0	11.1
Vadodara	29.1	25.6	22.0	20.7	54.3	49.2	18.5

Source: National Family and Health Survey-4: District level Fact sheet

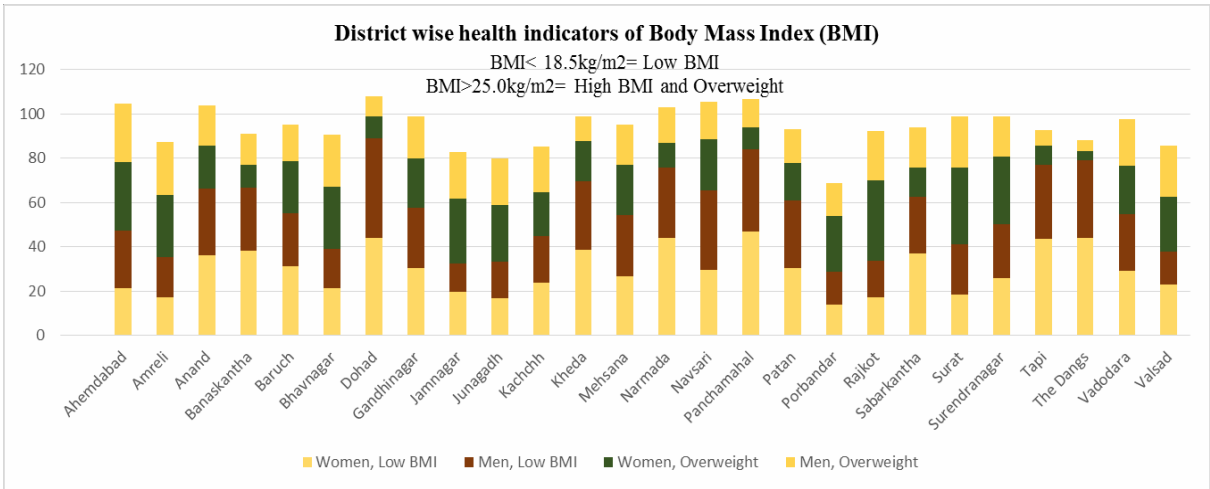
.

6.6.1 District wise segregation for women with low BMI, women with high BMI, men with low BMI and men with high BMI

In Figure 21, Dohad, Tapi, Panchmahal and Narmada have the highest percentage of women with low BMI, with the figures as 44.1, 43.4, 51.7 and 44.1 respectively and Dohad grabs the rank one for highest percentage of men with low BMI followed by Panchmahal. Amreli (17.1) and Porbandar (14) have the least percentage of women with low BMI, whereas for men, the best performing districts are Jamnagar, Porbandar and Rajkot with an average value of 15.

The Dangs and Dohad has the least percent of overweight women and men, as expected, while all other districts perform similarly with an average of 17%. Surat and Ahmedabad have the maximum percentage of overweight women. The above analysis is not surprising as we have seen the similar nature of the results with children's anthropometric features. This implies that if parents have poor physical structure and health, it feeds onto the children's health and nutrition, making them undernourished.

Figure 21: Health characteristics for women with low BMI, women with high BMI



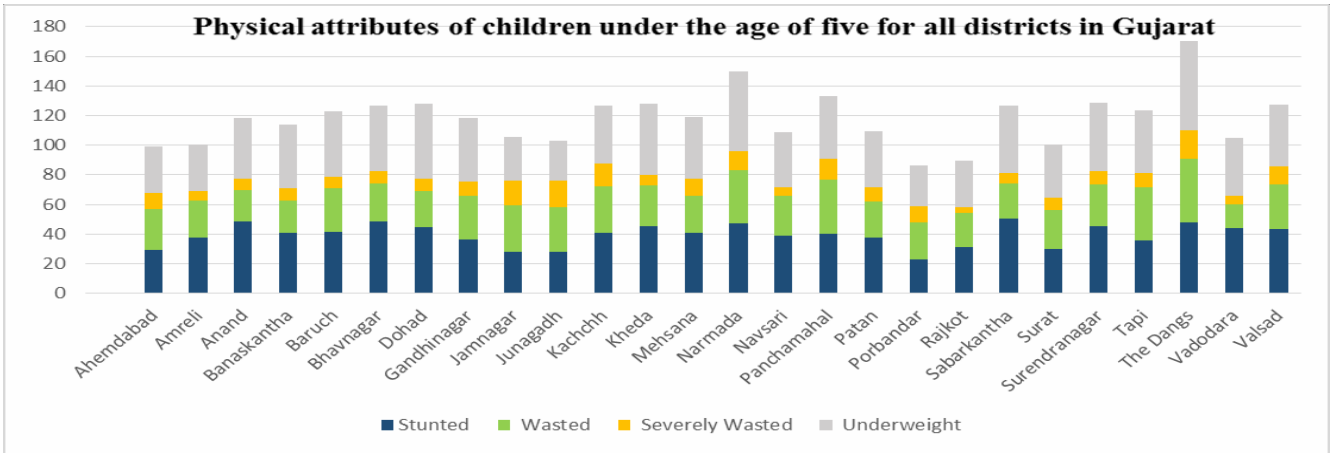
(overweight), men with low BMI, men with high BMI (overweight): all districts

Source: National Family and Health Survey-4: District level Fact sheet

6.6.2 District wise segregation for anthropometric measures i.e. stunted, wasted, severely wasted and underweight

The Dangs continues to be the worst performer amongst all the districts of Gujarat in all the four anthropometric features (see figure 22). Porbandar has the least percentage of children under five who are stunted, Vadodara and Anand maintain the first rank on the indicator "wasted" and Navsari and Rajkot have the least percentage of children under five who are severely wasted (Kachchh and The Dangs are the worst) and Junagadh and Jamnagar grab the first position in performing best with maintain percentage of underweight children aged under five, outperforming all other districts. This dismal variation is seen because of different health schemes and probably, because of their different demographic and geographical location.

Figure 22: Percentage of children aged under five who are stunted, wasted, severely wasted



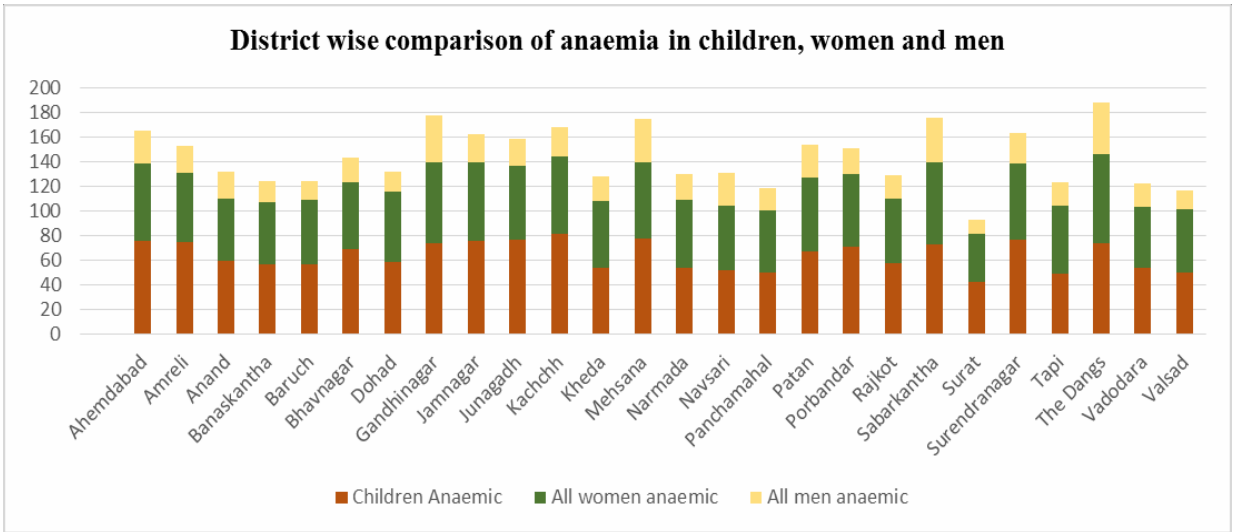
and underweight: all districts in Gujarat

Source: National Family and Health Survey-4: District level Fact sheet

6.6.3 District wise segregation for anaemic population: children, men and women

Mehsana, Kachchh and Sabarkantha have the highest percentage of anaemic children. Even though Surat has the least (42.3) percentage of anaemic children, the number does not seem to be low, in absolute terms. The average percentage holds as high as 63.9 for the same category amongst all the districts of Gujarat, which is threatening. Anaemia amongst women does not seem to be any lower with an average value of 56.4% for all the districts, while for men it is 23% (see figure 23). This statistical analysis clearly justifies the displeasing condition, and the main cause is poor nutrition in both rural and urban regions. While urban regions have more of obese women, rural have women with anaemia. This poses a serious threat to the socio-economic status of the state and requires immediate action against the same. It is to be noted here that data on District wise data on IMR and U5MR is not available.

Figure 23: Health characteristics for anaemic children, anaemic women and anaemic men:



all districts in Gujarat

Source: National Family and Health Survey-4: District level Fact sheet

6.7 Summary & Conclusions

We examined in this chapter the district level performance of Gujarat. These were measured for parameters essentially anthropometric and then segregation analysis of the same measures for men, women and children. We found that there is a large diversification in the development activities in the region. Some districts outperform the others on all the anthropometric measures. The rural districts essentially have not shown much improvement. Since largely both men and women have low BMI and are least overweight in the rural districts. Children on the other hand even in the urbanized districts are stunted, wasted or overweight. These measures are of a concern as the status of the districts doesn't coincide with overall economic progress in the state. Severe measures need to be exercised for a holistic progress of the children as well as women. This requires an effective framework that keeps the check of the measures through a streamlined approach. This could mean allowing effective PDS measures for free rations and other facilities that reach the poor. Since the government in the state has largely put interest in the corporate sector, much less has been left for other sectors like education and health that form the prime drivers of the holistic development of the region (The Wire, 2017[21]). Hence, the need of the hour is that the government needs to spend effectively to deal with this problem with the available resources.

[21] https://thewire.in/economy/the-truth-behind-the-gujarat-growth-model

Chapter 7

Summary &Conclusions

In this report, we have undertaken an overall assessment of the state of Gujarat with respect to its finances, social sector spending and a detailed discussion on nutritional outcomes as per the latest NFHS-4 survey. The first chapter introduces the theme of the report highlighting the context and motivation to conduct public expenditure review of nutrition.Chapter 1 acquaints us to the present nutritional status of the country, by offering a historical perspective to the existing schemes and programs taken up by the governments so far to deal with the problem of malnutrition, thereby illustrating the need and the processes of conducting a public expenditure review. Further, in order to realise the policy commitments made by the Government, it becomes necessary to look for the availability of resources that not only isconsiderable for the economy to grow but which also catalysis development at the same time. Gujarat's growth model has been looked upon as a benchmark by other states as the state has been growing in double digit since the period under consideration (2011-12 to 2016-17). The other key fiscal parameters important for the sustainability of its fiscal position are discussed in detail in chapter-2. The analysis of state finances indicates that the state has followed the FRBM guidelines and is committed to bring down the revenue deficit to nil, fiscal deficit under 3 %. In addition,the government of the state also aims to perform well on other crucial parameters such as bringing down the debt/GSDP ratio to less than 25%, and IP/TRR ratio less than 15% as per the 14FC recommendations. The assessment shows that the revenue deficit of the state has been close to zero while the fiscal deficitis below 2%, witnessing a similar trend in the years under consideration. However, the expenditure side shows us, that though as a percentage of total expenditure, the expenditure has increased since 2011 for social services vis-a-vis the year 2016; it has,as well, reduced in terms of GSDP. The expenditure on economic services also has seen a decline as a percentage of GSDP especially the capital expenditure on economic services. Moreover, the analysis discloses that the total revenue receipts of the state have also declined since 2011. Such a framework is indicative of the fact that the fiscal deficit target has been met by reducing the capital expenditure of the state that is largely developmental in nature. Hence, the state should focus on measures that increase tax buoyancy so that larger revenue gains can be realized leaving more room for capital expenditure, enhancing development of the state. Another interesting analysis in the chapter highlights the inaccuracy of the Budget estimates

to revised estimates and to the Actuals. The study assesses the accuracy of the forecasts using Theil's Index which determines the errors in the forecasting analysis; either being systematic or unsystematic (random) errors. Analysis indicates that there exist large forecasting errors in the estimates of the budgets especially for non-developmental expenditure both on the revenue and capital account and also for the social services on the capital account for the period 2011-12 to 2016-17. These errors are largely systematic indicating the scope for better methods of forecasting in the future. Thus, analysis of the state finances points out that improving the forecasting errors can help in planning the resources better so that effective implementation can be undertaken. Although, Gujarat seems to be a fiscally prudent state but a deeper look is suggestive of its compromise on the capital expenditure and social services. Such a move shall worsen the state of development and restrict the idea of inclusive growth for the state.

Gujarat development story is quite contrasting where the double-digit growth rate is not an inclusive one as reflected from reduced spending on social sector for the budget of 2016-17. The anthropometric indicators of nutrition have shown a dismal picture where around 26 % of the children in Gujarat are wasted as per NFHS-4 survey. The IMR is also high in Gujarat especially for mothers who have no schooling indicating that inadequate nutrition problem gets further accentuated with social exclusion, gender discrimination, poverty and caste systems. Although the state has historically been implementing a lot of schemes along with National Mission on Nutrition called POSHAN, still the decadal reduction in children who are wasted, severely wasted or stunted remains poor as per NFHS-4 survey. Hence, this calls for an effective public expenditure review of spending on nutrition which is addressed in chapter 3. Such a review is a powerful public financial management tool that provides a comprehensive review of expenditure by the departments and also the line departments as nutrition is multi-faceted and has many interrelated determinants. Such an exercise is crucial to synergize link among the various related departments so that the programmes are well aligned supporting effective implementation, better outcomes and reduction in delay of allocation of funds. Since there can be expenditures directly or indirectly affecting children, we analysed such expenditure as *exclusive* and *expanded* (spent indirectly on nutrition). There are seven departments that spend exclusively or directly on nutrition constituting around Rs. 416461.77 lakh crores i.e. around 2.27 % of total budget of the state for the year 2018-19 BE. Women and Child Development Department (WCD) spends around 90% of their total budget followed by Food, Civil supplies and consumer Affairs department

spending around 77% out of their total spending, Health and Family Welfare spending around 40 %, Rural Development department spending around 10% and education department spending around 3% on nutrition through Mid-day Meal scheme out of their total budget spending. Social Justice and Empowerment Department and the Tribal Development department spend around 2.8% and 6.5% respectively of their total budgets. The expanded expenditure accounts for Rs.595032.84 lakh crores approximately around 3.24% of the total budget which is spent by eleven departments of the state. However, as per the actuals of 2016-17, the spending on nutrition was just 0.79% of GDP of the state. Only 0.27 % of GDP of the expenditure was exclusively spent on nutrition in 2016-17. A fiscal marksmanship analysis was also conducted that showed that score was 1.18 for exclusive expenditure highlighting an over estimation while the fiscal marksmanship for expanded expenditure was 0.89 indicating an under representation of the budget forecasts. It was observed that since the spending directly affecting children is less than 1 % of GDP of the state, there is constant need of evaluation of existing public spending on nutrition in order to assess the effectiveness of the public expenditure. Not only this, there also arises the need to increase spending on improving these parameters and then effectively map them for better outcomes. Since there is still a larger rural population facing the threat and suffering through poverty and malnutrition, more awareness is required for the missions undertaken among them. Moreover, this should be supplemented by higher capacity-building measures as well as higher capital spending, so that there is better coverage and essential infrastructure especially in the rural areas which has lot of tribal population as well.

Subsequently, discussing the public expenditure review of nutrition, there aroused curiosity to understand the institutional structure and functioning of the largest social policy scheme of the country called ICDS (Integrated Child Development Scheme) which is discussed in chapter 4. The scheme is analysed from both input perspective – organizational and institutional structure of flow of funds; and outcome perspective – distributional benefits of ICDS accruing to the end beneficiaries. ICDS is a centrally sponsored scheme which aims to address the health and development needs of the children particularly reducing malnutrition among children in the age group of zero to six years. The scheme is anchored at Ministry of Women and Child Development although it converges with many other ministries as well. The Centre shares the expenditure on nutrition with the States in the ratio of 60:40 for the programme components while the supplementary nutrition programme is shared 50:50 with the states (general). However, the NE (north-eastern) & Himalayan states share less in

comparison with the centre bearing more of the costs in the ratio of 90:10 (for all components) while UTs are entirely taken up by the Centre (100:0)[22]. Such a framework demands proper allocation as well as a strong and efficient institutional mechanism that ensures timely execution and implementation of the desired policy objectives. Hence, the institutional architecture of the scheme is discussed with a focus on the state of Gujarat as well. The chapter covers the extent of utilisation of funds allocated and institutional gaps for the period 2014-17. It was observed that at the national level, there has been 5 % decline in the fund allocation for the year 2015-16 followed by a 9 % decline in the allocation of funds in 2016-17 for the scheme. An interesting point here is that the utilisation ratios i.e. ratio of actual expenditure over the total allocation has not declined but has been more than 99% for many states. For Gujarat, despite there has been a decline in the utilisation ratios since 2013-14, still 86% of ICDS funds have been utilised reflecting the efforts to materialise the objective of the scheme. On the allocation front, the funds are 62% lower than the national average. Although Gujarat is above par as compared to the other non-high focus states, still the delays in funds are worsening the position of the malnourished children. Gujarat has also not been able to utilise the funds allocated under the SABLA scheme and Maternal Benefits Scheme funds. The study has identified the reasons for persistent gap in the utilisation and allocations of funds wherein the key reason have been the vacant posts in Crèche components of the district. This is also the reason for the inflated utilisation ratio in one year as compared to the previous year. The institutional mechanism through which the allocation of funds flow from the Centre to the State and then eventually to the local bodies for further implementation are delayed hinting poor governance accompanied with untimely delivery of funds, further aggravating the problem for which it is setup. As the procedure is unduly lengthy, it further complicates the process of allocation of funds and lowers the utilisation ratios in one year while inflating them in the other.

The bureaucratic structure of the flow of funds and its utilization, informs us of the input flows of the ICDS. In order to assess the outcome of ICDS programmes, the study also analyses the incidence of the benefits of these funds among the stakeholders. For this the study conducts a Benefit Incidence Analysis (BIA) ofSupplementary Nutrition Programme (SNP), one of the largest targeted and widely covered state-led food distribution initiative to alleviate malnutrition,under ICDS for the year 2014.Public expenditure benefit incidence

[22] ICDS Manual for District Level Functionaries https://darpg.gov.in/sites/default/files/ICDS.pdf

reveals who is benefiting from public services, and describes the welfare impact of government spending on different groups of people or individual households. It does this by combining information about the *unit costs* of providing those services (obtained usually from government or service-provider data) with information on the *use* of these services (usually obtained from the households themselves through a sample survey). In effect, the analysis imputes to households, the cost of providing a particular service,used by thesehouseholds. This imputation is the amount by which household income would have to increase if it had to pay for the service used.

The incidence of benefits has been calculated for three categories of beneficiaries of SNP: (i) children between six months to three years; (ii) children between three years and six years; and (iii) pregnant and lactating mothers. The results show that as of 30th December 2014, the total unit utilisation of services is estimated to be Rs.77.21 crores, of which, 81 percent of the amount is utilized by children between six months to six years old and only 19 percent of the total utilization is availed by women – seemingly skewed towards children. However, given the targeted nature of the programme where its primary beneficiaries are children between six months to three years of age and children between three years and six years, the SNP in Gujarat seems to be well targeted and progressive with 45 percent of the total unit utilization spent on 6months-3years old, and 35 percent of the total unit utilization of the fund spent on 3-6 years old children.

Finally, after the detailed study of institutional structure of the largest scheme addressing nutrition, it paved the way to understand the status of children and women in the country with particular reference to Gujarat. Around 4 crore children who are stunted (low height for age) and around 17 crore children who are wasted (low weight for height) reside in India making it a home to highest number of undernourished children in the world. India has poorly performed on its social indicators particularly nutrition in spite of being one of the fastest growing countries. A similar case exists for the state of Gujarat where the higher growth has not tickled inclusive development. The anthropometric and other indicators for the state of Gujarat vis-à-vis its performance with the other states have been discussed in chapter 5. Four indicators that trigger inter-state disparities in nutritional status are mortality rates among children below the age of five, Anaemia among men, women and children for different age groups, Body Mass Index (BMI) of women in age between 15-49 years and the anthropometric indicators such as wasting, stunting, severely wasted and children who are underweight under the age of five are addressed in detail in the chapter. Gujarat has a higher

percentage of children who are stunted (31.7%) as compared to top performing states like Goa (18.3), Kerala (19.8) and Tripura (17.2) almost equal to national average of 31.7 % as reported in NFHS-4. Percentage of children who are wasted in rural (28.5) and urban regions (23.4) of Gujarat is much higher than the national average for rural(21.5) and urban (20) regions. The percentage of children who are severely wasted under the age of five as per NFHS-4 in the rural (10.2) and urban (8.6) regions of Gujarat is worse than national average (7.4 in rural and 7.5 in urban regions). Children who are underweight below the age of five account for around 39% for Gujarat as compared to national average of 35.7 in NFHS-4. It ranks among the other poor performing states like Madhya Pradesh (39.5) and Uttar Pradesh (42.8). Interesting aspect is that the infant mortality rates (deaths per 1000) in Gujarat are lower (27 in urban and 39 in rural) than the national average (29 in urban and 46 in rural). Under-five mortality rates for Gujarat have reduced as well, from being 85.1 to 43 over the years. Clearly, in the interstate comparison, Kerala tops among all the states where IMR (6 in urban & 5 in rural) and U5IMR (7) is the lowest. Anaemia forms the major cause of early deaths among children as well as high maternal deaths becoming a leading cause to major health problems. Gujarat has around 51 % women who are anaemic and pregnant at the same time giving way to a higher chance of increasing maternal mortality in the state which is again higher than the national average (50.3). While for men, prevalence of Anaemia is much less for all states. The percentage of anaemic children in the age group of 6-59 months is highest in Dadra & Nagar Haveli, Jharkhand, M.P. and U.P, for both urban and rural regions. These alarming figures point towards the implementation failures of the policies designed. Moreover, higher percentage of such indicators recorded in the rural areas, implies the lack of coverage, poor medical health facilities and inadequate implementation of the awareness programmes, further aggravating the problem. High percentage of anaemic population among women leads to more probability of women with low BMI. 27.2% of women in Gujarat are underweight (low BMI) and anaemic. On the other hand, Lakshadweep has around 42 % women with high BMI than normal (obese) residing in urban areas followed by Delhi. For Gujarat, 34% obese people are living in urban areas as compared to 14% living in the rural regions. Such analysis reveals dismal performance of health indicators for Gujarat and need for attention on the dietary needs especially among women and children.

This study has also analysed the districts of Gujarat based on the National family Health Survey-4. A detailed reporting of the anthropometric indicators of nutrition is discussed for the districts of Gujarat in chapter 6. We separate the districts as one under North Gujarat,

Central Gujarat, South Gujarat and other districts to have a broader picture of the areas. It was observed that among the districts covering the central Gujarat, namely, Ahmedabad, Vadodara and Anand, Vadodara tops the list for performing the best in reducing the share of children who are wasted, severely wasted, stunted and underweight followed by Anand district. Ahmedabad appears as the worst performers in reducing the percentage of children under the mentioned anthropometric indicators list. Also, anaemia incidence and low BMI among women is highest for Ahmedabad. On the other hand, the rural districts of central Gujarat; Panchmahal, Kheda and Dohad have a more dismal picture where only Panchmahal has been able to improve its indicators because of relatively better health and educational facilities in the district accompanied by higher level of income. Whereas the district of Dohad is one of the tribal districts of Gujarat where there is less than 40% immunization coverage resulting in higher proportion of children being underweight and stunted below the age of five. The reason behind children being stunted or underweight pertains to the mothers who also have low BMI (44.1%) as well as highest percentage of men with low BMI reside in this district. Kheda on the other hand, is a mediocre performer in almost all indicators among the three. Among the semi-urban and semi-rural districts of Navsari, Baruch, Valsad and Surat, Navsari performs the best on all the indicators. This came possible because of the success of Vatsalyadham Project designated to improve the conditions of the acute malnourished children. Valsad and Baruch also show dismal improvements while Surat, being one of the largest districts of Gujarat has a gap of 11% in its rural and urban regions for these indicators. However, anaemic incidence for both men and women is lowest in Surat as compared to other major districts of the state. Particularly, the rural districts of Gujarat have the largest percentage of children who are wasted, severely wasted as well as underweight. Among the Dangs, Tapi and Narmada districts, dang is the worst tribal district which possesses poor sanitation facilities, lack of health infrastructure as well as skilled doctors which has made the situation of the children even worse. However, Narmada and Tapi have still shown improvements over the past surveys. Gandhinagar, the capital of the state of Gujarat also suffer from the problem of underweight children particularly more in its rural regions as compared to the urban regions in the district. Its rural-urban divide in terms of the indicators performances is large. The districts in the north of Gujarat as well as the other districts, namely, Porbandar, Bhavnagar, Rajkot, Jamnagar, Junagadh, have more children who are wasted and severely wasted in the bracket of (40-50%). Among them, Junagadh and Jamnagar have the least number of children who are underweight while Kachchh and the Dangs are the worse districts of all to have maximum children who are underweight below

the age of five. Mehsana, Kachchh and Sabarkantha have the highest percentage of children who are anaemic. The dismal variation among the districts in terms of their performance could have many reasons. One of the reasons could be because of their different demographic and geographical location as well as the lack of coverage of the rural and tribal areas in policy implementation. The analysis clearly shows that urban and rural divide is large and a greater number of children and women are malnourished in the rural regions while the urban regions face the problem of obesity and other non-communicable diseases.

To conclude, as per the Constitution, India being the union of states, is more federal in spirit. The accomplishment of national priorities demands co-ordination and assistance from the states as well as the Centre. Nutrition being an SDG goal and also a national priority, it becomes the responsibility of every state government to find out ways and means to list issues and look forward for an effective policy design to solve the former. For the states with a stronger fiscal position like Gujarat, it is important for the state to combat malnutrition in an unequivocal manner to reduce the rural-urban divide and design a customized policy design that caters to socio-economic conditions of the state. Reduced expenditure on developmental needs further aggravates the existing issue of malnutrition. Hence, an effective review of expenditures from the available pool of resources can be a useful mechanism for the governments to encounter these obstacles to development.

Appendix

Table A.1: Exclusive Expenditure on Nutrition 2018-19(in Rs. Lakhs)

S.no.	Code	Name of the Department	Actuals 2016-17	Budget 2017-18	Revised 2017-18	Budget 2018-19
1		**WOMEN & CHILD DEVELOPMENT**				
	2235	social security and welfare				
	102	child welfare	2	4.6	225.79	**950.05**
	1	salaries and others	2	4.6	2.75	5
	2	Rajiv Gandhi National Creche Scheme				945.05
		office expenses				259
		grants-in-aid to panchayats				486.03
		grants-in-aid to local bodies				200.02
	2236	**Nutrition**				
	2	Distribution of Nutritious food and beverages				
	800	other expenditure				
		90:10 Partially Centrally Sponsored Scheme:				
	1	NTR-18 Integrated child Development Scheme	40164.03	44556.32	44924.22	**51592.51**
		50:50 Partially Centrally Sponsored Scheme:				
	14	NTR-13 Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (SABLA)	5641.6	11853.58	7980.16	**13030.42**
	2	NTR-2 Integrated child Development Scheme	37620.86	54172.31	42834.68	**60019.28**
		100% Centrally Sponsored Scheme :				
	11	Kishori Shakti Yojana	767.6	767.6	767.6	**18505.6**
	19	Mission BalamSukham-ICDS Mission	7876.07	7310.41	4781.49	**7439.99**
	13	NTR-12 Strengthing of ICDS Services	1164.28	1466.4	1436.43	**1660.41**
	15	NTR 15 Pradhan Mantri Matru Vandana Yojana (PMMVY)	3821.69	39639.95	8535.84	**22000**
	20	strengthening of Nutrition programme in Urban areas(Finance Commission)	0	0.34	0	**0**
	21	Special incentives for improvement in child development indicators such as nutirtion (Finance Commission)	0	0.33	0	**0**
	22	phased expansion of the SABLA scheme as per the revised norms for nutrition(Finance Commission)	0	0.33	0	**0**
		Gross total of WCD department				234951.03
2		**HEALTH & FAMILY WELFARE**				
	2210	Medical and Public health				
	101	Prevention and control of Diseases				
	10	Immunisation (1) Medical aid to children in the age of 14 years (2) Immunisation	2154.32	1995.47	2095.47	**2127.74**
	2211	Family Welfare				

	103	Maternity and Child Health				
	5	HLT-131 Nutrition Project	6000	7250	7250	**7310**
		Gross total of Budget for HFW				817237.91
3		**FOOD, CIVIL SUPPLIES & CONSUMER AFFAIRS**				
	3456	Civil supplies				
	190	Assistance to Public Sector and other undertakings				
	11	Food Security				
	3355	Subsidies	25044.61	25546	35853.7	**40675.82**
	12	PDS-43 Food Security Allowance				
	3355	Subsidies	0	10	0.1	**5**
	13	Distribution of Sugar to Below Poverty Line (BPL) and Antyodaya (AAY) family	5305	18033	17208.9	**17036.88**
	14	Subsidy Scheme on Domestic Subsidized LPG Cylinders	10485	9500	3854	**7794**
		Gross total of Budget for FCSand CA				93618.83
4		**EDUCATION DEPARTMENT**				
	2236	Nutrition				
	2	Distribution of Nutritious Food and Beverages				
	102	**Mid-day Meals**				
	1	MDM-1 Mid-Day Meal Scheme for Children in Public Primary schools.	56367.96	44875.23	46219.08	**47737.52**
	2	MDM-1 Mid-Day Meal Scheme for Children in Public Primary schools.	0	21992.34	15588.24	**21993.37**
	3	MDM Scheme for Children in Public Primary Schools (100% CSS)	0	3622.78	3225.51	**3692.53**
		Gross total of Budget for education				2526969.3
5		**REVENUE DEPARTMENT**				
	2245	Relief on account of Natural Calamities				
	1	Draught				
	103	Special Nutrition				
	2	Supplementary Nutrition				
	5000	Other charges	0	0.01	0.01	**0.01**
		Gross total of Budget of the department				**295804.32**
6		**Social Justice and Empowerment Department**				
	`2236	Nutrition				
	2	Distribution of Nutritious food and beverages				
	102	Mid-day Meals				
		(60:40 Centrally Sponsored Schemes)				
	1	MDM-1 Mid-day Meal scheme for Children and Public Primary School	4224.39	5679.13	6792.05	**5848.64**
	2	MDM Scheme for Children in Public Primary Schools	0	2808.1	1689.52	**2648.01**
		(100% Centrally Sponsored Schemes)				
	3	MDM Scheme for Children in Public Primary Schools	0	503.17	584.49	**512.85**
		Gross total of Budget of the department				**720426.94**
7		**Tribal Development Department**				
	2236	Nutrition				
	2	Distribution of Nutritious food and beverages				
	796	Tribal Area Sub-plan				

	1	NTR-16 Introduction of Integrated Child Development Service Scheme (90:10 Partially Centrally sponsored scheme)	12232.57	15440.74	14338.68	**17226.38**
	2	NTR-2-introduction of Integrated Child Development Service Scheme (50:50 Partially Centrally sponsored scheme)	22315.67	37669.2	36930.98	**34425.37**
		(60:40 Centrally sponsored scheme)				
	3	MDM-1- Mid day meal scheme for children in public Schools	14146.02	11699.14	7625.92	**12208.14**
	5	MDM-2 Special Provision for Nutrition under Area sub-plan	1481.04	1810.16	1629.14	**1645.6**
	6	MDM-3- Special Provision for Nutrition under Tribal Area sub plan	1317.69	1464.1	1317.69	**1464.1**
	8	MDM-2 Foodgrain to parents of tribal daughters Studying in public Primary School under Anna Triveni Yojana	6099.99	7600	6100	**6800**
		(50:50 Partially Centrally sponsored scheme)				
	9	NTR-13 Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (SABLA)	2928.3	3637.17	3637.17	**3482.97**
	10	MDM Scheme for Children in Public Primary Schools	0	5626.86	4111.71	**5705.44**
		(100% CSS)				
	11	MDM Scheme for Children in Public Primary Schools	0	905.69	657.48	**923.14**
		Gross total Budget of the Department				**1327786.59**
		Total Exclusive Expenditure on Nutrition (in Rs. lakhs)	**267160.69**	**387440.46**	**328196.05**	**416461.77**
		Total Exclusive Expenditure on Nutrition (in Rs. crores)				4164.61
		Total Expenditure Budget of Gujarat (in Rs. crores)				**183666.38**
		% spent on nutrition out of total budget				**2.27**

Table A.2: Expanded Expenditure on Nutrition 2018-19

S.no.	Code	Name of the Department	Actuals 2016-17 (in Rs. lakhs)	Budget 2017-18 (in Rs. lakhs)	Revised 2017-18 (in Rs. lakhs)	Budget 2018-19 (in Rs. lakhs)
1		**WOMEN & CHILD DEVELOPMENT**				
	2236	**Nutrition**				
	2	Distribution of Nutritious food and beverages				
	101	Special Nutrition Programme-				
	1	NTR-10 Additional Facility to Anganwadi Worker and Anganwadi Helper (60:40)	17286.11	17855.37	22135.83	**22422.67**
	800	other expenditure				
	3	Integrated Child Development Scheme Training Programme (UDISHA PROJECT) (WB Assisted)	0	0	0	**67.2**
	7	NTR-7 Balika SamrudhiYojna	0	0.11	0	**0.11**
	12	NTR-11 Mata Yashoda Award Plan	152.5	154.78	154.78	**154.78**
	18	NTR-21 Biometric Infrastructure	0	238.5	133.37	**2992.21**
	17	NTR-20 Mission manglam	0	1	0	**1**
	16	NTR-19 Poshan Survey and Servelance System	0	70	20	**1**
	4236	**capital outlay on nutrition**				
	800	other expenditure				
		75:25 Partially Centrally Sponserd Scheme				
	1	NTR-5 Construction of Anganwadi				
	6000	other capital expenditure	(-)11718.93	2405	900	**8012**
	3	NTR-9 Repairing of Anganwadies				
	6000	Other Capital Expenditure	0	2640	1667.3	**2920**
	4	NTR-22 Construction-Repairing & Upgradation of Block Office				
	6000	other capital expenditure	480	400	400	**401**
		Gross total of WCD department				234951.03
2		**HEALTH & FAMILY WELFARE**				
	2210	Medical and Public health				
	1	Urban Health Services-Allopathy				
	200	Other health schemes				
	1	school health services	8.52	12.2	12.2	**13.72**
	3	Rural Health Services-Allopathy				
	103	**Primary Health Centres**				
	1	HLT-34 Primary Health Centres	28713.71	25675.26	32828.15	**32687.65**
	4	HLT-49 Mobile Comprehensive Health care unit under poverty alleviation	794.18	910.25	910.25	**930.6**
	5	HLT-50 Comprehensive health care unit under Border area Development programme	60	90	90	**100**

	104	**Community Health Centres**				
	1	HLT-31 Community Health Centres	25324.18	32583.1	32583.1	**33541**
	2	Maintenance and Repairs of Community Health Centres	24.79	30	30	**30**
	6	Public Health				
	1	**Direction and Administration**				
	1	HLT-1 Direc. of Health (Health)	5718.64	4278.67	4905.13	**4830.13**
	2	District Health Officers/Organization	980	1039	1139	**1070.95**
	3	Planning performance and Monitoring Unit in thew Directorate	68.03	100.93	100.93	**104.24**
	3	**Training**				
	1	Training of Personnel in Public (Health)	44.76	50.86	63.48	**57.46**
	2	Rural Health Training Centres	328.39	360.94	361.87	**399.75**
	101	**Prevention and control of Diseases**				
	1	HLT-24 T.B Control Programme	2761.54	3331.64	3331.64	**3045.02**
	2	HLT-24 National T.B. Control Programme	30	30	30	**838**
	3	HLT-29 Epidemic diseases	1859.42	1840.82	2453.51	**2071**
	4	HLT-25 Filaria Control programme	276.22	388.64	413.31	**409**
	5	HLT-25 National Filaria Control programme	50.05	34.55	34.55	**34**
	6	National Iodine Deficiency Disorders Control Programme	8.87	81.67	81.67	**81.67**
	7	HLT-26 National Malaria Eradication Programme	6419.18	6619.3	7083.42	**6927.53**
	9	HLT-28 Leprosy Control Programme	2104.08	2519.9	2612.98	**2731.12**
	11	Water Related diseases	34.1	37.5	37.5	**40**
	12	National Malaria eradication Programme	3574.76	3534.2	3856.89	**3797.02**
	17	HLT-58 National Eradication Malaria Programme under Poverty Alleviation Programme	3.6	1	0.1	**1**
	18	HLT-26 National Malaria Eradication Programme under Bourder Development Programme	192	175.2	175.2	**155**
	19	HLT-79 National Programme for prevention of Visual Impairment and control of blindness Scheme	47.29	0	0	**0**
	24	National Health Mission	77940.07	72921.67	72921.67	**72921.67**
	112	**Public Health Education**				
	1	HLT-38 Health Education Bureau	873.5	973.27	973.95	**2061.42**
	2	HLT-40 School Health	3390.38	2699.2	2755.81	**3019.79**
	80	General				
	4	Health Statistics and Evaluation	310.05	404.71	424.71	**441.9**
	2	Planning and Research Cell	15.54	26.76	26.76	**24.61**
	2211	Family Welfare				
	1	**Direction and Administration**				
	1	HLT-114 State Family planning Bureao	291.54	715.32	503.7	**556.67**
	2	HLT-115 City Family Planning Bureao	100	118	118	**192.35**
	3	HLT-43 District Family Planning Bureao	3663	4220	4220	**3404.13**
	3	**Training**				
	1	HLT-44 Regional Family Planing Training Centre	125.74	386.58	250	**309.75**
	2	HLT-116 Training of Auxiliary Nurses,Mid-wife,Dian	717.49	1666.67	1283.33	**1396.47**
	101	**Rural Family Welfare Services**				
	1	HLT-117 Rural Family Planing Welfare Sub-Centres	18306.2	26502.58	27109.83	**29615**
	102	**Urban Family Welfare Services**				

	1	HLT-118 Uraban Family Planning welfare centres	1547.53	2154.28	2681.45	**4017.38**
	3	HLT-110 Urban Health Project	3259.06	1609.63	1609.63	**1650.46**
	4	HLT-138 National Urban Health Mission	3879	5000	14454	**11256.4**
	103	**Maternity and Child Health**				
	1	HLT-67 Child Survival & Safe Mother-hood Programme	3013	1265	1265	**1463.8**
	2	HLT-68 Pulse Polio Immunisation Programme.	0	0	0	**3889**
	3	HLT-69 Reproductive	6661.59	11887.03	11886.34	**15242.35**
	6	HLT-129 Arogya Suraksha Yojana	29122.14	35132	35522.17	**45655**
	4210	**Capital outlay on Medical and Public Health**				
	1	Urban Health Services				
	110	Hospital and Dispensaries				
	2	Providing Various Equipment and Vehicles for Hospitals	15641.92	2550	2550	**2975**
	2	Rural Health Services				
	103	Primary Health Centre				
	1	HLT-34 Primary Health Centers	0	0	0	**22.5**
	42	HLT-35 Buildings	5204.11	10681.44	9081.44	**11937.45**
	104	Community Health Centre				
	1	HLT-31 Community Health Centers Finance Commission-NABH	110.4	893.72	893.72	**1129**
	42	HLT-75 Buildings	6700	8568.15	8768	**10238.88**
	4	Public Health				
	200	Other Programmes				
	1	HLT-45 Food and Drugs Control Administration	41.78	73.08	73.08	**30**
		Gross total of Budget for HFW				817237.91
3		**FORESTS & ENVIRONMENT DEPARTMENT**				
	2215	Water Supply and Sanitation				
	2	Sewerage and Sanitation				
	106	Prevention of Air and Water Pollution				
	1	EPC-10 Strengthening of Gujarat Pollution Control Board	76	10	10	**10**
	2	EPC-7 Activities of Gujarat Environment Management institute "GEMI"	970	1474	1474	**970**
	3	EPC-17 Exchange of Waste, minimisation and cleaner Production Technology	18	75	75	**38**
		Gross total of Budget of the department				**94885.46**
4		**FOOD, CIVIL SUPPLIES & CONSUMER AFFAIRS**				
	2408	Food, Storage and Warehousing				
	1	Food				
	1	Direction and Administration				
	1	Fair Price shops Scheme Directorate of Food	73.48	110	83.16	**75.55**
	2	PDS-21 Fair Price shops Scheme District offices.	3405.5	4727.67	4067.04	**5089.69**
	4	Research and Evaluation				
	5	PDS-15 Publicity Campaign for Food fortification and FPS Model Centre.	131.81	45	200	**60**
	7	Assessment & Evaluation of Schemes of the Department	0	1	1	**0.01**
	8	Reimbursement of Loss To GSCSC in Procurement Operation	45.83	30	50	**100**
	101	Procurement and Supply	0	584	584	**582.16**

	5	Interest Subvention for Modernization of Fair Price Shops	0	50	0	**0.01**
	3456	Civil supplies				
	1	Direction and Administration				
	8	State Food Commission				
		Salaries	0	0	0	**230**
		Motor Vehicles	0	0	0	**15**
	190	Assistance to Public Sector and other undertakings				
	8	Food Help Line	20	17.19	13.31	**17.19**
	9	Distribution of Iodised salt to BPL & AAY Family	497.4	503.82	503.82	**655**
		Gross total of Budget for FCSand CA				93618.83
5		**URBAN DEVELOPMENT AND URBAN HOUSING DEPARTMENT**				
	2202	General Education (Charged)				
	1	**Elementary Education**				
		Transfer to Education Cess Fund				
	6300	Inter-Account Transfer	0	3000	3000	**3000**
	800	Other Expenditure				
		Assistance to Local Bodies for Primary Education for Education Cess				
	3133	Grants-in-Aid General to Local Bodies	15000	15000	35000	**15000**
	2215	Water Supply and Sanitation				
	2	Sewerage and Sanitation				
	105	Sanitation Services	12191.65	10910.63	10910.63	**10921.27**
		Gross total of Budget of the department				**1084877.88**
6		**NARMADA,WATER RESOURCES,WATER SUPPLY AND KALPSAR DEPARTMENT**				
	2215	Water Supply and Sanitation				
	1	Water Supply				
	102	Rural Water Supply				
	24	National Rural Drinking Water Programme- Coverage				
	6000	Other Capital Expenditure	77912.13	22778.76	26414.78	**35677.1**
	25	Rural Water Supply Programme				
	6000	Other Capital Expenditure	0	70319.38	74756.32	**70319.38**
	26	Augmentation in tap connectivity in Rural Areas	0	11000	11000	**11000**
	27	Purchase of Desalinated Water from Gujarat Water Infrastructure Limited	0	1000	500	**1**
	101	Urban water supply				
	1	WSS-48 Urban Water Supply Scheme				
	6000	Other Capital Expenditure	14500	14500	14500	**14500**
		Gross total of Budget of the department				**1229961.33**
7		**ROADS AND BUILDINGS DEPARTMENT**				
	2215	Water Supply and Sanitation				
	1	Water Supply				
	101	Urban Water Supply Programmes				
		Gandhinagar Water Supply Scheme	1980.1	1900	2020	**2000**
	2	Sewerage and Sanitation				

	107	Sewerage Service				
		Gandhinagar Sewerage Scheme	670.45	750	790	**750**
		Gross total of Budget of the department				**901243.16**
8		**REVENUE DEPARTMENT**				
	2245	Relief on account of Natural Calamities				
	282	Public Health				
	1	Supply of Medicines				
	5000	other charges	0	0.01	0.01	**0.01**
	2	Public Health Measures Anti-Malaria, Cholera, General Health Measures				
	5000	other charges	0	0.01	0.01	**0.01**
	102	Drinking Water Supply				
	1	Water Supply Arrangements				
	5000	other charges	0	1000	17405	**1050**
	2	Emergency Supply of Drinking Water				
	5000	other charges	0	0.01	0.01	**0.01**
	2575	Other Special Area Programme				
	1	Dangs District				
	291	Water supply and sanitation sewerage and sanitation				
	1	Village sanitation and conservancy	18.91	21.48	21.48	**20.15**
		Gross total of Budget of the department				**295804.32**
9		**PANCHAYAT, RURAL HOUSING AND RURAL DEVELOPMENT DEPARTMENT**				
	2215	Water supply and Sanitation				
	2	Sewerage & Sanitation				
	105	Sanitation Service				
	1	WSS-33 Rural Sanitation Programme	99502.38	62173	62173	**54389**
		Gross total of Budget of the department				**538720.25**
10		**Social Justice and Empowerment Department**				
	2211	Family welfare				
	103	Maternity and Child Health				
	1	Maternity and Child Health Chiranjivi Yojana Matruvandana	1094.4	600	600	**400**
	2	Nutrition Project	630.9	600	600	**581.38**
	102	Child Welfare				
	2	SSW-02-Child Welfare(Foster Care, After care and rehabilitation Programme & Child Marriage Prevention)	8.38	11	11	**10.53**
	2235	Social Security and Welfare				
	2	Social Welfare				
	800	Other Expenditure				
	1	NTR-3 Special Nutrition Programme (50:50 partially CSS)	3210.48	5131.63	5053.06	**4808.4**

	102	Child Welfare				
	1	SSW- 02 - Child Welfare (Foster Care, After care and rehabilitation programme & child Marriage Prevention)	10.51	1246	1544.21	**1865.03**
	2	SSW-04 Integrated Child Protection Scheme (60:40 CSS)	2183.84	2944.32	2947.92	**3104.79**
	7	SSW-03 Gujarat State Commission for Protection of Child Rights	154.49	583	500.04	**588**
		Gross total Budget of the Department				**720426.94**
11		**Tribal Development Department**				
	2211	Family Welfare				
	796	Tribal Area Sub-plan				
	1	Maternity and Child Health	1453.34	1590	1470	**1363.92**
	2215	Water Supply and Sanitation				
	2	Sewerage and Sanitation				
	796	Tribal Area Sub-plan				
	3	WSS-45 -Special Provision for Water Supply and sanitation under Trible subPlan	0	0	0	**439**
	2235	Social Security and Welfare				
	13	SSW-02-Child Welfare (Foster Care, After care and rehabilitation Programme &ChiledMerragePreventation)	17.76	31.44	31.44	**28.5**
	16	SSW-04 Integrated Child Protection Scheme (60:40 CSS)	669.27	904	904	**1053.94**
		Gross total Budget of the Department				**1327786.59**
		Total Expanded Expenditure on Nutrition(In Lakhs)	**514705.97**	**533561.83**	**597132.99**	**595032.84**
		Total Expanded Expenditure on Nutrition(In Rs. crores)				5950.32
		Total Expenditure Budget of Gujarat(in Rs. crores)				183666.38
		% spent on nutrition out of total budget				**3.24**

Table A.3: Fiscal Marksmanship for the Exclusive Expenditure on Nutrition for 2017-18 (in Rs. Lakhs)

S.no.	Code	Name of the Department	Budget 2017-18 (in Rs. lakhs)	Revised 2017-18 (in Rs. lakhs)	BE/RE for 2017-18
1		**WOMEN & CHILD DEVELOPMENT**			
	2235	social security and welfare	4.6	225.79	0.02
	1	NTR-18 Integreted child Development Scheme	44556.32	44924.22	0.99
	14	NTR-13 Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (SABLA)	11853.58	7980.16	1.49
	2	NTR-2 Integreted child Development Scheme	54172.31	42834.68	1.26
	11	Kishori Shakti Yojana	767.6	767.6	1.00
	19	Mission BalamSukham-ICDS Mission	7310.41	4781.49	1.53
	13	NTR-12 Strengthing of ICDS Services	1466.4	1436.43	1.02
	15	NTR 15 Pradhan Mantri Matru Vandana Yojana (PMMVY)	39639.95	8535.84	4.64
	20	strengthening of Nutrition programme in Urban areas(Finance Commission)	0.34	0	..
	21	Special incentives for improvement in child development indicators such as nutirtion (Finance Commission)	0.33	0	..
	22	phased expansion of the SABLA scheme as per the revised norms for nutrition(Finance Commission)	0.33	0	..
		Gross total of WCD department	**205695.32**	**154810.74**	
2		**HEALTH & FAMILY WELFARE**			
	10	Immunisation (1) Medical aid to children in the age of 14 years (2) Immunisation	1995.47	2095.47	0.95
	5	HLT-131 Nutrition Project	7250	7250	1
		Gross total of Budget for HFW	**736817.24**	**731119.94**	
3		**FOOD, CIVIL SUPPLIES & CONSUMER AFFAIRS**			
	3355	Subsidies (Food Security)	25546	35853.7	0.71
	3355	Subsidies	10	0.1	100
	13	Distribution of Sugar to Below Poverty Line (BPL) and Antyodaya (AAY) family	18033	17208.9	1.05
	14	Subsidy Scheme on Domestic Subsidized LPG Cylinders	9500	3854	2.46
		Gross total of Budget for FCSand CA	**82155.57**	**78381.81**	
4		**EDUCATION DEPARTMENT**			
	102	Mid-day Meals	70490.35	65032.83	1.08
		Gross total of Budget for education	**2280421.7**	**2570622.1**	
5		**REVENUE DEPARTMENT**			
	2245	Relief on account of Natural Calamities (nutrition)	0.01	0.01	1
		Gross total of Budget for Revenue department	**288507.94**	**439874.58**	

6		**Social Justice and Empowerment Department**			
	2236	Nutrition			
	2	Distribution of Nutritious food and beverages			
	102	Mid-day Meals			
		(60:40 Centrally Sponsored Schemes)			
	1	MDM-1 Mid-day Meal scheme for Children and Public Primary School	5679.13	6792.05	0.84
	2	MDM Scheme for Children in Public Primary Schools	2808.1	1689.52	1.66
		(100% Centrally Sponsored Schemes)			
	3	MDM Scheme for Children in Public Primary Schools	503.17	584.49	0.86
		Gross total of Budget of the department	**619317.05**	**602619.48**	
7		**Tribal Development Department**			
	2236	Nutrition			
	2	Distribution of Nutritious food and beverages			
	796	Tribal Area Sub-plan			
	1	NTR-16 Introduction of Integrated Child Development Service Scheme (90:10 Partially Centrally sponsored scheme)	15440.74	14338.68	1.08
	2	NTR-2-introduction of Integrated Child Devlopment Service Scheme (50:50 Partially Centrally sponsored scheme)	37669.2	36930.98	1.02
		(60:40 Centrally sponsored scheme)			
	3	MDM-1- Mid day meal scheme for children in public Schools	11699.14	7625.92	1.53
	5	MDM-2 Special Provision for Nutrition under Area sub-plan	1810.16	1629.14	1.11
	6	MDM-3- Special Provision for Nutrition under Tribal Area sub plan	1464.1	1317.69	1.11
	8	MDM-2 Foodgrain to parents of tribal daughters Studying in public Primary School under Anna Triveni Yojana	7600	6100	1.25
		(50:50 Partially Centrally sponsored scheme)			
	9	NTR-13 Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (SABLA)	3637.17	3637.17	1
	10	MDM Scheme for Children in Public Primary Schools	5626.86	4111.71	1.37
		(100% CSS)			
	11	MDM Scheme for Children in Public Primary Schools	905.69	657.48	1.38
		Gross total Budget of the Department	**1255934**	**1227183.8**	
		Total Exclusive Expenditure on Nutrition (in Rs.Lakhs)	**387440.46**	**328196.05**	1.18
		value (in Rs. crores)	3874.4	3281.96	

		Total Expenditure Budget of Gujarat (in Rs.crores)	**172179.24**	**172179.24**	
		% spent on nutrition out of total budget	**2.25**	**1.91**	

Table A.4: Fiscal Marksmanship for the Expanded Expenditure on Nutrition for 2017-18

S.no.	Code	Name of the Department	Budget 2017-18 (in Rs. lakhs)	Revised 2017-18 (in Rs. lakhs)	BE/RE for 2017-18
1		**WOMEN & CHILD DEVELOPMENT**			
	1	NTR-10 Additional Facility to Anganwadi Worker and Anganwadi Helper (60:40)	17855.37	22135.83	0.81
	3	Integrated Child Development Scheme Training Programme (UDISHA PROJECT) (WB Assisted)	0	0	..
	7	NTR-7 Balika SamrudhiYojna	0.11	0	..
	12	NTR-11 Mata Yashoda Award Plan	154.78	154.78	1.00
	18	NTR-21 Biometric Infrastructure	238.5	133.37	1.79
	17	NTR-20 Mission manglam	1	0	..
	16	NTR-19 Poshan Survey and Servelance System	70	20	3.50
	4236	capital outlay on nutrition			
	1	NTR-5 Construction of Anganwadi			
	6000	other capital expenditure	2405	900	2.67
	3	NTR-9 Repairing of Anganwadies			
	6000	Other Capital Expenditure	2640	1667.3	1.58
	4	NTR-22 Construction-Repairing & Upgradation of Block Office			
	6000	other capital expenditure	400	400	1.00
		Gross total of WCD department	**205695.32**	**154810.74**	
2		**HEALTH & FAMILY WELFARE**			
	2210	Medical and Public health			
	1	Urban Health Services-Allopathy	12.2	12.2	1.00
	3	Rural Health Services-Allopathy			
	103	Primary Heath Centres	26675.51	33828.4	0.79
	1	HLT-31 Community Health Centres	32583.1	32583.1	1.00
	2	Maintenance and Repairs of Community Health Centres	30	30	1.00
	6	Public Health			
	1	Direction and Administration			
	1	HLT-1 Direc of Hlth (Health)	4278.67	4905.13	0.87
	2	District Health Officers/Organization	1039	1139	0.91
	3	Planning performance and Monitoring Unit in thew Directorate	100.93	100.93	1.00
	3	Training			
	1	Training of Personnel in Public (Health)	50.86	63.48	0.80
	2	Rural Health Training Centres	360.94	361.87	1.00

	101	Prevention and control of Diseases			
	1	HLT-24 T.B Control Programme	3331.64	3331.64	1.00
	2	HLT-24 National T.B. Control Programme	30	30	1.00
	3	HLT-29 Epidemic diseases	1840.82	2453.51	0.75
	4	HLT-25 Filaria Control programme	388.64	413.31	0.94
	5	HLT-25 National Filaria Control programme	34.55	34.55	1.00
	6	National Iodine Deficiency Disorders Control Programme	81.67	81.67	1.00
	7	HLT-26 National Malaria Eradication Programme	6619.3	7083.42	0.93
	9	HLT-28 Leprosy Control Programme	2519.9	2612.98	0.96
	11	Water Related diseases	37.5	37.5	1.00
	12	National Malaria eradication Programme	3534.2	3856.89	0.92
	17	HLT-58 National Eradication Malaria Programme under Poverty Alleviation Programme	1	0.1	10.00
	18	HLT-26 National Malaria Eradication Programme under Bourder Development Programme	175.2	175.2	1.00
	19	HLT-79 National Programme for prevention of Visual Impairment and control of blindness Scheme	0	0	..
	24	National Health Mission	72921.67	72921.67	1.00
	112	Public Health Education			
	1	HLT-38 Health Education Bureau	973.27	973.95	1.00
	2	HLT-40 School Health	2699.2	2755.81	0.98
	80	General			
	4	Health Statistics and Evaluation	404.71	424.71	0.95
	2	Planning and Research Cell	26.76	26.76	1.00
	2211	Family Welfare			
	1	Direction and Administration			
	1	HLT-114 State Family planning Bureao	715.32	503.7	1.42
	2	HLT-115 City Family Planning Bureao	118	118	1.00
	3	HLT-43 District Family Planning Bureao	4220	4220	1.00
	3	Training			
	1	HLT-44 Regional Family Planing Training Centre	386.58	250	1.55
	2	HLT-116 Training of Auxiliary Nurses,Mid-wife,Dian	1666.67	1283.33	1.30
	101	Rural Family Welfare Services			
	1	HLT-117 Rural Family Planing Welfare Sub-Centres	26502.58	27109.83	0.98
	102	Urban Family Welfare Services			
	1	HLT-118 Uraban Family Planning welfare centres	2154.28	2681.45	0.80
	3	HLT-110 Urban Health Project	1609.63	1609.63	1.00
	4	HLT-138 National Urban Health Mission	5000	14454	0.35
	103	Maternity and Child Health			
	1	HLT-67 Child Survival & Safe Mother-hood Programme	1265	1265	1.00
	2	HLT-68 Pulse Polio Immunisation Programme.	0	0	..

	3	HLT-69 Reproductive	11887.03	11886.34	1.00
	6	HLT-129 Arogya Suraksha Yojana	35132	35522.17	0.99
	4210	Capital outlay on Medical and Public Health			
	1	Urban Health Services			
	110	Hospital and Dispensaries			
	2	Providing Various Equipment and Vehicles for Hospitals	2550	2550	1.00
	2	Rural Health Services			
	103	Primary Health Centre			
	1	HLT-34 Primary Health Centers	0	0	..
	42	HLT-35 Buildings	10681.44	9081.44	1.18
	104	Community Health Centre			
	1	HLT-31 Community Health Centers Finance Commission-NABH	893.72	893.72	1.00
	42	HLT-75 Buildings	8568.15	8768	0.98
	4	Public Health			
	200	Other Programmes			
	1	HLT-45 Food and Drugs Control Administration	73.08	73.08	1.00
		Gross total of Budget for HFW	**736817.24**	**731119.94**	
3		**FORESTS & ENVIRONMENT DEPARTMENT**			
	1	EPC-10 Strenthening of Gujarat Pollution Control Board	10	10	1.00
	2	EPC-7 Activities of Gujarat Environment Management institute “GEMI”	1474	1474	1.00
	3	EPC-17 Exchange of Waste, minimisation and cleaner Production Technology	75	75	1.00
		Gross total of Budget for F&E	**88709.72**	**88650.21**	
4		**FOOD, CIVIL SUPPLIES & CONSUMER AFFAIRS**			
	1	Fair Price shops Scheme Directorate of Food	110	83.16	1.32
	2	PDS-21 Fair Price shops Scheme District offices.	4727.67	4067.04	1.16
	5	PDS-15 Publicity Campaingn for Food forrtification and FPS Model Centre.	45	200	0.23
	7	Assessment & Evaluation of Schemes of the Department	1	1	1.00
	8	Reimbursement of Loss To GSCSC in Procurement Operation	30	50	0.60
	101	Procurement and Supply	584	584	1.00
	5	Interest Subvention for Modernization of Fair Price Shops	50	0	..
		Salaries (State Food Commission)	0	0	..
		Motor Vehicles (State Food Commission)	0	0	..
	8	Food Help Line	17.19	13.31	1.29
	9	Distribution of Iodised salt to BPL & AAY Family	503.82	503.82	1.00

		Gross total of Budget for FCSand CA	**82155.57**	**78381.81**	
5		**URBAN DEVELOPMENT AND URBAN HOUSING DEPARTMENT**			
	6300	Inter-Account Transfer (primary education)	3000	3000	1.00
	3133	Grants-in-Aid General to Local Bodies (for primary education for education cess)	15000	35000	0.43
	105	Sanitation Services	10910.63	10910.63	1.00
		Gross total of Budget for UDUH	**1016010.78**	**983684.04**	
6		**NARMADA,WATER RESOURCES,WATER SUPPLY AND KALPSAR DEPARTMENT**			
	24	National Rural Drinking Water Programme- Coverage			
	6000	Other Capital Expenditure	22778.76	26414.78	0.86
	25	Rural Water Supply Programme			
	6000	Other Capital Expenditure	70319.38	74756.32	0.94
	26	Augmentation in tap connectivity in Rural Areas	11000	11000	1.00
	27	Purshase of Desalinated Water from Gujarat Water Infrastructure Limited	1000	500	2.00
	1	WSS-48 Urban Water Supply Scheme			
	6000	Other Capital Expenditure	14500	14500	1.00
		Gross total of Budget for NWWK	**1161974.58**	**1152763.86**	
7		**ROADS AND BUILDINGS DEPARTMENT**			
		Gandhinagar Water Supply Scheme	1900	2020	0.94
		Gandhinagar Sewerage Scheme	750	790	0.95
		Gross total of Budget for RBD	**858605.29**	**839000.65**	
8		**REVENUE DEPARTMENT**			
	5000	other charges (under supply of medicines) for Relief on account of Natural Calamities	0.01	0.01	1.00
	2	Other charges under (Public Health Measures Anti-Malaria, Cholera, General Health Measures)	0.01	0.01	1.00
	5000	other charges (under water supply arrangements)	1000	17405	0.06
	5000	other charges (under Emergency Supply of Drinking Water)	0.01	0.01	1.00
	1	Village sanitation and conservency (Dangs District)	21.48	21.48	1.00
		Gross total budget of revenue department	**288507.94**	**439874.58**	
9		**PANCHAYAT, RURAL HOUSING AND RURAL DEVELOPMENT DEPARTMENT**			
	1	WSS-33 Rural Sanitation Programme	62173	62173	1.00
		gross total budget of PRHRD department	**495462**	**545984.31**	

10		**Social Justice and Empowerment Department**			
	2211	Family welfare			
	103	Maternity and Child Health			
	1	Maternity and Child Health Chiranjivi Yojana Matruvandana	600	600	1.00
	2	Nutrition Project	600	600	1.00
	102	Child Welfare			
	2	SSW-02-Child Welfare(Foster Care, After care and rehabilitation Programme &ChiledMerragePreventation)	11	11	1.00
	2235	Social Security and Welfare			
	2	Social Welfare			
	800	Other Expenditure			
	1	NTR-3 Special Nutriation Programme (50:50 partially CSS)	5131.63	5053.06	1.02
	102	Child Welfare			
	1	SSW- 02 - Child Welfare (Foster Care, After care and rehabilitation programe& child Marriage Prevention)	1246	1544.21	0.81
	2	SSW-04 Integrated Child Protection Scheme (60:40 CSS)	2944.32	2947.92	1.00
	7	SSW-03 Gujarat State Commission for Protection of Child Rights	583	500.04	1.17
		Gross Total Budget of the Department	**619317.05**	**602619.48**	
11		**Tribal Development Department**			
	2211	Family Welfare			
	796	Tribal Area Sub-plan			
	1	Maternity and Child Health	1590	1470	1.08
	2215	Water Supply and Sanitation			
	2	Sewerage and Sanitation			
	796	Tribal Area Sub-plan			
	3	WSS-45 -Special Provision for Water Supply and sanitation under Tribal sub Plan	0	0	..
	2235	Social Security and Welfare			
	13	SSW-02-Child Welfare (Foster Care, After care and rehabilitation Programme & Child Marriage Prevention)	31.44	31.44	1.00
	16	SSW-04 Integrated Child Protection Scheme (60:40 CSS)	904	904	1.00
		Gross Total Budget of the Department	**1255933.97**	**1227183.83**	
		Total Expanded Expenditure on Nutrition	**533561.83**	**597132.99**	
		value in crores	5335.61	5971.32	
		Total Expenditure Budget of Gujarat (in crores)	**172179.24**	**172179.24**	

		% spent on nutrition out of total budget	**3.10**	**3.47**	

Table A.5: List of Departments of Gujarat

No.	**Departments**
1	Agriculture and Cooperation Department
2	Climate Change Department
3	Education Department
4	Energy and Petro Chemicals Department
5	Finance Department
6	Food, Civil Supplies & Consumer Affairs Department
7	Forests and Environment Department
8	General Administration Department
9	Gujarat Legislature Secretariat
10	Health and Family Welfare Department
11	Home Department
12	Industries and Mines Department
13	Information and Broadcasting Department
14	Labour and Employment Department
15	Legal Department
16	Narmada and Water Resources, Water Supply and Kalpsar Department
17	Panchayats, Rural Housing & Rural Development Department
18	Ports and Transport
19	Revenue Department
20	Roads and Buildings Department
21	Science and Technology Department
22	Social Justice and Empowerment Department
23	Sports, Youth and Cultural Activities Department
24	Tribal Development Department
25	Urban Development & Urban Housing Department
26	Women and Child Development Department

APPENDIX A.6: Analytical Framework for Nutrition Financing																	
Matrix: Public Expenditure directly spent on Nutrition																	
FORMAT FOR BASIC DATA - Ministry/Department of ----------Demand for Grant No:_____																	
		2018-19				**2017-18**				**2016-17**				**2015-16**			
Name of the Programme	Budget Head/ Account Head/ Component no.	B.E 2018-19	R.E 2017-18	B.E 2017-18	Accounts 2016-17	B.E 2017-18	R.E 2016-17	B.E 2016-17	Accounts 2015-16	B.E 2016-17	R.E 2015-16	B.E 2015-16	Accounts 2014-15	B.E 2015-16	R.E 2014-15	B.E 2014-15	Accounts 2013-14

		APPENDIX A.7 :Analytical Framework for Nutrition Financing								
		Matrix: Public Expenditure indirectly spent on Nutrition								
FORMAT FOR BASIC DATA - Ministry/Department of ----------Demand for Grant No:_____										
Name of the programme	Budget Head/Account Head	2017-18 BE (I)	denote the % (proportion spent on climate) (II)	Climate Expenditure (in Rs crores) (I*II/100)	2016-17 (RE) (I)	denote the % (proportion spent on climate) (II)	Climate Expenditure (in Rs crores) (I*II/100)	2016-17 BE	denote the % (proportion spent on climate) (II)	Climate Expenditure (in Rs crores) (I*II/100)
1. ----------										
2. ----------										
3.----------										

4.----------										
5.----------										
Total										

APPENDIX A.8: Analytical Framework for Nutrition Financing

Matrix: Public Expenditure indirectly spent on Nutrition

FORMAT FOR BASIC DATA - Ministry/Department of ----------Demand for Grant No:_____

			2018-19				2017-18				2016-17				2015-16			
Name of the Programme	Budget Head/ Account Head/ Component no.	Specify the nature of the expenditure exclusive/expanded	B.E 2018-19	R.E 2017-18	B.E 2017-18	Accounts 2016-17	B.E 2017-18	R.E 2016-17	B.E 2016-17	Accounts 2015-16	B.E 2016-17	R.E 2015-16	B.E 2015-16	Accounts 2014-15	B.E 2015-16	R.E 2014-15	B.E 2014-15	Accounts 2013-14
Programme name																		
Expenses by economic type																		
Compensation of employees																		
Wages and salaries	…… ……																	

	…..																	
employer's social contribution	…… …… …..																	
Use of goods and services																		
Consumption of fixed capital	…… …… …..																	
Interest	…… …… …..																	
subsidies	…… …… …..																	
Grants																		
to foreign governments	…… …… …..																	
to international	…… ……																	

organisations	…..																	
to other general government units	…… …… …..																	
Current	…… …… …..																	
Capital	…… …… …..																	
Social benefits																		
social security benefits	…… …… …..																	
social assistance benefits	…… …… …..																	
employment related social benefits	…… …… …..																	

other expenses																		
Property expense other than interest	…… …… …..																	
transfers not elsewhere classified	…… …… …..																	
current	…… …… …..																	
capital	…… …… …..																	
Total expenditure by programme	…… …… …..																	

Table A.9: Consolidated statement indicating state-wise position of funds released under ICDS scheme (ICDS General, Construction of AWC Buildings, SNP and Training) during three years and current year (Rs. Lakhs)

	2014-15		2015-16		2016-17		2017-18
	Funds Released	Expenditure Reported by States including state's share	**Funds Released**	**Expenditure Reported by States including state's share**	**Funds Released**	**Expenditure Reported by States including state's share****	**Funds released (upto 14.07.2017)**
State							
ANDHRA PRADESH	99446.78	135715.2	68818.48	98148.45	56387.46	60837.44**	29988.94
BIHAR	116266.8	174287.2	102372.6	144090	98099.36	95433.75**	51420.18
CHHATTISGARH	51703.52	76484.69	51151.54	64376.96	41939.9	55354.42	21168.2
GOA	2617.25	2569.6	1228.04	2715.22	1067.7	2130.53	707.96
GUJARAT	48886.15	83162.09	64185.05	98608.32	69417.36	95360.17	25312.34
HARYANA	31158.68	35837.16	16081.19	26580.94	20871.79	12598.52**	13894.02
HIMACHAL PRADESH	17184.09	12233.27	19507.32	21044.3	23696.07	22901	10965.34
JAMMU & KASHMIR	26031.19	22464.07	27362.65	35271.02	26732.11	17953.58	17185.27
JHARKHAND	46904.3	68793.23	46217.72	57446.15	48163.54	50645.74**	21853.04
KARNATAKA	82856.77	148331.3	96394.53	154998.7	53686.59	137883.8	35752.76
KERALA	24726.35	45494.41	28554.27	58765.87	34357.05	39785.59	13064.3
MADHYA	122544.6	166253.2	108673.5	196464.4	110506.5	120915.88**	47693.25

PRADESH							
MAHARASHTRA	90781.88	147621.4	104166.7	107135	105660.2	24165.65**	45483.32
ODISHA	87511.73	116532.6	65643.69	106505.1	72497.49	104780.3	44100.57
PUNJAB	25893.06	32922.38	13689.39	14497.21	16982.5	11755.82**	10490.64
RAJASTHAN	73992.88	88413.35	49851.78	103243.3	62397.7	59343.5**	27287.34
TAMIL NADU	67902.29	102925	63744.93	78363.14	47085.82	97141.01	26767.98
UTTARAKHAND	20165.67	28295.85	35710.06	28416.41	21399.62	26701.09	12567.2
UTTAR PRADESH	272553.1	474139.5	281398.9	373571.9	278089.8	332966.18**	128771.7
WEST BENGAL	97578.85	128536.2	79465.8	151836.5	66563.3	Not reported	47047.9
TELANGANA	46057.1	52841.4	37918.23	57138.46	29877.27	58066.58	19716.4
DELHI	17855.94	20875.21	13775.25	18120.31	14168	Not reported	9930.67
PUDUCHERRY	1275.34	2607.7	1673.27	1708.59	2299.22	2777.63	1441.9
ANDAMAN & NICOBAR	891.78	1547.22	1421.03	991.04	1207.51	1058.93	598.38
CHANDIGARH	996.18	1115.55	1420.25	649.78	762.19	1114.37	460.44
D. & NAGAR HAVELI	281.31	123.48	210.97	148.58	569.61	Not reported	284.8
DAMAN & DIU	195.77	266.25	133.55	92.37	307.96	224.35	153.98
LAKSHADWEEP	138.16	96.12	155.91	122.64	146.95	Not reported	73.62
ARUNACHAL PRADESH	15557.38	12426.38	12923.23	12474.16	11346.05	Not reported	6415.64

ASSAM	103517.5	110234.1	92972.2	50864.92	64397.66	32590.62**	42530.48
MANIPUR	14929.58	10208.81	10267.27	13185.16	9998.54	8953.07	5458.8
MEGHALAYA	14357.78	15239.27	12418.6	1751.5	19135.66	10525.93**	7116.38
MIZORAM	5695.57	5556.16	5371.93	7017.65	4666.49	6075.24	2660.84
NAGALAND	12202.63	11809.67	8796	13692.96	15149.57	Not reported	6169.1
SIKKIM	2998.6	1775.36	2022.73	2560.52	1625.01	Not reported	677.09
TRIPURA	14074.26	16471.05	18194.62	9267.31	11710.57	16204.54	7263.1
Total	1658182	2354205	1543893	2111865	1443032	1506245	742473.8

Source: MCWD, Lok Sabha, Unstarred Question

Table A.10: Release and Utilisation of ICDS funds in SABLA and Maternal Benefits Scheme over the years (Rs. Lakhs)

			SABLA						**Maternal Benefits Scheme**			

States/UTs	2014-15	2014-15	2015-16	2015-16	2016-17	2016-17	2014-15	2014-15	2015-16	2015-16	2016-17	2016-17
	Funds Released	Funds Utilised	Funds Released	Funds Utilised	Funds Released	Funds Utilised	Funds Released	Funds Utilised	Funds Released	Funds Utilised	Funds Released	Funds Utilised
Andhra Pradesh	805.48	1864.15	675.68	762.79	762.99	1710.1	3,004.65	2100.9	1502.32	318.01	-	NR
Arunachal Pradesh	120.94	95.29	78.41	152.86	126.25	99.68	41.49	41.49	20.74	20.74	17.44	0
Assam	1042.63	749.91	817.44	1429.75	1356.94	149.18	1,744.74	NR	872.38	NR	-	NR
Bihar	6458.23	6261.54	875.28	1090.17	2696.83	1666.12	4,862.81	2747.6	2431.4	0	-	347.11
Chhattisgarh	4232.15	2833.08	2072.23	2203.1	1389.69	2772.5	859.86	1081.75	429.94	1371.41	-	NR
Goa	236.44	250.62	337.905	337.91	131.5	259.21	164.3	257.6	82.16	144.09	75.37	25.37
Gujarat	2270.3	5765.97	2234.25	6050.78	8443.18	2321.84	1,504.88	1611.16	1090.9	1021.49	1056.2	627.14
Haryana	792.09	836	812.47	564.41	104.74	400.7		216.42	171.82	119.68	19.96	162.23
Himachal Pradesh	583.71	626.76	956.78	958.74	720.45	1349.14	295.19	180.56	537.11	330.03	-	339.5
Jammu & Kashmir	292.12	136.31	156.27	227.13	194.63	184.69	522.38	NR	261.2	379.51	28.59	NR
Jharkhand	944.5	254.87	193.31	1056.64	145.57	701.35	-	331.26	17.32	229.32	50	NR
Karnataka	4345.49	3244.55	3164.54	2672.5	740.73	2642.58	-	1203.03	894.95	781.75	1306.96	NR
Kerala	802.45	1639.27	1201.84	1165.99	1057.73	893.89	934.59	567.47	515.6	499.91	-	374.08
Madhya Pradesh	7395.74	6972.94	8746.45	8199.59	5302.02	8466.04	3,627.44	2909.29	2358.21	1164.83	-	2987.5
Maharashtra	386.74	2424.37	1531.25	5252.78	5334.42	3541.02	2,838.51	2663.22	1419.26	1641.43	2090.99	NR
Manipur	21.15	109.04	95.82	49.65	49.65	161.87		NR	0	NR	-	NR
Meghalaya	296.92	338.72	232.04	232.04	919.65	919.65	-	0	26.96	NR	-	NR
Mizoram	96.37	101.25	90.65	103.49	91.78	103.49	19.39	19.39	9.7	9.7	-	NR
Nagaland	185.31	188.51	188.39	173.95	206.31	206.31	56.9	56.9	28.46	28.46	-	NR
Orissa	3528.36	3477.67	3477.67	3657	2867.25	3443.78	1,796.57	1788.41	1606.61	1370.77	1120.64	1061.36
Punjab	0	934.7	814.7	0	0	448.77		418.59	33.1	NR	-	NR
Rajasthan	4301.48	5504.85	3275.09	8.85	0	22.49	3,640.40	2156.69	1820.2	2678.15	-	232.81

Sikkim	55.99	55.86	48.2	32.54	32.54	13.43	24.12	24.8	12.06	4.69	11.64	0.6
Tamil Nadu	4322.41	4205.15	4131.91	3896.38	2655.26	3076.85	2,241.40	2405.76	1837.75	1419.05	1393.09	1354.09
Telangana	1226.48	1226.48	1242.82	1144.78	572.39	0	1,877.78	1877.78	938.9	469.45	169.66	NR
Tripura	622.77	622.45	417.25	358.74	334.81	792.16	209.7	73.16	479.83	172.11	-	115.24
Uttar Pradesh	14642.59	15803.12	8823.48	6031.13	10932.99	7631	-	99.11	47.64	0	-	NR
Uttaranchal	243.19	87.27	14.12	39.25	43.02	3.77	570.58	516.34	1182.74	343.96	-	NR
West Bengal	0	261.61	0	1221.44	40.41	340.08	3,016.90	2072.68	1508.46	1317.95	40.86	1253.53
A&N Islands	93.11	22.25	44.14	42.49	107.05	50.65	44.35	44.3	72.67	70.71	119.43	0.45
Chandigarh	7.78	6.42	14.01	9.33	12.11	7.84	-	32.8	162.37	12.35	-	NR
Daman & Diu	0	0	0	0	14.14	15.94	18.7	5.56	9.34	13.97	-	NR
D & N Haveli	0	0	16.44	14.41	16.44	16.44	-	0	5.62	NR	42.12	NR
Delhi	655.2	496.75	228.43	317.17	276.66	676.9	371.42	412.75	929.7	461.67	-	NR
Lakshadweep	0	2.89	12.03	3.3	2.2	1.8	-	NR	0	NR	148.45	NR
Pondicherry	24.02	24.01	19.27	17.97	17.72	18.67	24.58	45.63	29.5	NR	-	NR
Total	61032.12	67424.63	47040.57	49479.05	47700.06	45109.93	34,313.63	27962.4	23346.92	16395.19	7691.4	8881.01
NR: Not Recorded												

Source: Lok Sabha Unstarred Question No. 4296

Table A.11: Percentage of children under the age of five who are stunted (height-for-age)

State	NFHS-4	NFHS-4	NFHS-4	NFHS-3	NFHS-3	NFHS-3	NFHS-2
	Urban	Rural	Total	Urban	Rural	Total	Total
Andaman & Nicobar							
Andhra Pradesh	17.1	27.7	23.3	-	-	-	-
Arunachal Pradesh	28.3	32.5	31.4	33.2	44.1	38.4	38.6
Assam							
Bihar	24	30.7	29.4	33.3	37.9	37	26.5
Chandigarh	22.3	38	36.4	35.3	42.1	41.1	50.2
Chhattisgarh	39.8	49.3	48.3	40.3	51.3	50.1	53.7
NCT Delhi							
Dadra Nagar Haveli	27.6	-	28.7	-	-	-	-
Goa	31.6	39.2	37.6	39.6	55.1	52.6	
Gujarat							
Haryana	32.4	-25.1	32.3	54.2		43.2	36.8
Himachal Pradesh	35.8	46.1	41.7	-	-	-	-
Jammu & Kashmir	18.3	23.2	20.1	22.8	29.3	25.9	18.1
Jharkhand	31.7	42.9	38.5	42.4	52.7	49.2	43.6
Karnataka							
Kerala	33.4	34.3	34	36.1	45.7	43.3	50
Lakshadweep							
Madhya Pradesh	21.4	26.7	26.3	29.8	34.7	34.3	41.3
Maharashtra							
Manipur	23	28.8	27.4	29.8	33.9	33.1	38.8
Meghalaya	33.7	48	45.3	37.2	49.6	47.2	
Mizoram							
Nagaland	32.6	38.5	36.2	33.9	47	42.4	36.6
Odisha	19.8	19.5	19.7	27.3	26	26.5	21.9
Punjab							
Pondicherry	27.1	-25.5	27	-	-	-	-
Rajasthan	37.5	43.6	42	42.2	47.8	46.5	51
Sikkim							
Tamil Nadu	29.3	38.4	34.4	40	46.9	44	39.9
Telangana	24.1	31.4	28.9	26.1	30	29	31.3
Tripura	36.5	45	43.8	47.3	47.7	47.7	44.9
Uttar Pradesh	22.7	33.8	28	28.1	42.2	35.1	34.6
Uttarakhand							
West Bengal	22.5	30.9	28.6	24.2	36.5	34.1	33
All India	27.2	35.3	34.1	36	45.1	43.9	44
	27.6	24.5	25.7	32.9	35.4	34.7	39.2
	24.7	21.1	23.7	-	-	-	-
	33	40.8	39.1	29.4	42.8	40.1	52
	22.9	32.9	29.6	27.8	32.4	31.8	31.7
	25.5	28.6	27.1	30.1	31.9	31.1	29.4
	20.9	33.3	28.1	31.7	34.5	34.1	-
	17.2	26.8	24.3	-	-	-	-
	37.9	48.5	46.3	46.6	53.6	52.4	55.5
	32.5	34	33.5	22.1	44.9	39.6	-
	28.5	34	32.5	29.6	44.6	41.8	41.5
	31	41.2	38.4	37.4	47.2	44.9	45.5

Source: National Family and Health Surveys: State level Fact sheet

Table A.12: Percentage of children under the age of five who are wasted (weight-for-height)

	NFHS-4	NFHS-4	NFHS- 4	NFHS- 3	NFHS- 3	NFHS- 3	NFHS-2
State	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**	**Total**
Andaman & Nicobar	19.1	18.8	18.9	-	-	-	-
Andhra Pradesh	15.5	17.8	17.2	14.6	15.1	14.9	9.1
Arunachal Pradesh	11.4	18.8	17.3	8.7	20.1	17	7.9
Assam	13.2	17.5	17	19.1	16.6	16.7	13.3
Bihar	21.3	20.8	20.8	30.4	32.9	32.6	21
Chandigarh	11.4	-	10.9	-	-	-	-
Chhattisgarh	20.6	23.7	23.1	24.3	24.1	24.1	-
NCT Delhi	17.2	0.6	21.2	19.6	-	17.2	12.5
Dadra Nagar Haveli	21.4	32.2	27.6	-	-	-	-
Goa	27.7	11.5	21.9	9.6	17.2	12.8	13.1
Gujarat	23.4	28.5	26.4	16.7	21.3	19.7	16.2
Haryana	21	21.3	21.2	23.8	22	22.4	5.3
Himachal Pradesh	19.1	13.3	13.7	20.2	19.8	19.9	16.9
Jammu & Kashmir	16.1	11	12.1	15.3	18.8	18.1	11.8
Jharkhand	26.8	29.5	29	27.9	37.9	35.8	-
Karnataka	24.8	26.9	26.1	17	19.9	18.9	20
Kerala	16	15.5	15.7	9.1	18.8	15.6	11.1
Lakshadweep	13.2	22.5	13.8	-	-	-	-
Madhya Pradesh	22	27.1	25.8	36.4	40.4	39.5	19.8
Maharashtra	24.1	26.9	25.6	14.9	18.8	17.2	21.2
Manipur	6.4	7.1	6.8	10.5	10.8	10.8	8.2
Meghalaya	13.7	15.5	15.3	23.1	32.9	31.8	13.3
Mizoram	4.5	7.8	6.1	9.7	9.8	9.7	10.2
Nagaland	10.1	11.7	11.2	13.3	16.4	15.8	10.4
Odisha	17	20.9	20.4	13.8	25.3	25.7	24.3
Punjab	15	16.1	15.6	10.7	10	10.2	7.1
Pondicherry	26.1	17.4	23.6	-	-	-	11.7

Rajasthan	21.6	23.4	23	19.6	23.3	22.5	-
Sikkim	13.2	14.7	14.2	20.8	11.6	12.8	4.8
Tamil Nadu	19	20.3	19.7	22.3	23.5	22.9	19.9
Telangana	14.6	20.4	18	20	24.6	24	-
Tripura	13.4	18	16.8	-	-	-	-
Uttar Pradesh	18	17.9	17.9	16.5	20.3	19.5	11.1
Uttarakhand	18.6	19.9	19.5	9.8	21	18.2	-
West Bengal	16.7	21.6	20.3	15.5	20	19.2	13.6
All India	20	21.5	21	19	24.1	22.9	15.5

Source: National Family and Health Surveys: State level Fact sheet

Table A.13: Percentage of children under the age of five who are severely wasted (weight-for- height)

	NFHS-4	**NFHS-4**	**NFHS-4**
State	**Urban**	**Rural**	**Total**
Andaman & Nicobar	4.4	9.7	7.5
Andhra Pradesh	4.8	4.4	4.5
Arunachal Pradesh	4.1	8.9	8
Assam	4.5	6.4	6.2
Bihar	7.9	6.9	7
Chandigarh	4.1	-	3.9
Chhattisgarh	8	8.5	8.4
NCT Delhi	5	0	5
Dadra Nagar Haveli	6.7	14.8	11.4
Goa	13.7	2.1	23.8
Gujarat	8.6	10.2	9.5
Haryana	9.2	8.9	9
Himachal Pradesh	6	3.8	3.9
Jammu & Kashmir	8.1	4.8	5.6
Jharkhand	11.4	11.1	11.1

Karnataka	9.7	11	10.5
Kerala	7.1	6.1	6.5
Lakshadweep	3.5	0	3.3
Madhya Pradesh	8.1	9.6	9.2
Maharashtra	9.5	9.4	9.4
Manipur	1.8	2.4	2.2
Meghalaya	6.5	6.5	6.5
Mizoram	1.2	3.4	2.3
Nagaland	3.9	4.3	4.2
Odisha	6.3	6.4	6.4
Punjab	5	5.9	5.6
Pondicherry	8.3	6.4	7.8
Rajasthan	7.9	8.7	8.6
Sikkim	5.7	6	5.9
Tamil Nadu	8.2	7.6	7.9
Telangana	3.7	5.6	4.8
Tripura	5.3	6.7	6.3
Uttar Pradesh	6.6	5.8	6
Uttarakhand	7.4	9.7	9
West Bengal	6	6.7	6.5
All India	7.5	7.4	7.5

Source: National Family and Health Surveys: State level Fact sheet

Table A.14: Percentage of children under the age of five who are underweight (weight-for-age)

	NFHS-4	NFHS-4	NFHS-4	NFHS-3	NFHS-3	NFHS-3	NFHS-2
State	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**	**Total**
Andaman & Nicobar	15.9	25.6	21.6				
Andhra Pradesh	28.4	33.1	31.9	23.9	33	29.8	37.7
Arunachal Pradesh	13.8	20.9	19.5	15.9	34.9	29.7	24.3
Assam	21.4	30.8	29.8	27.9	36.7	35.8	36
Bihar	37.5	44.6	43.9	45.1	56.3	54.9	54.4
Chandigarh	25.1		24.5				
Chhattisgarh	30.2	39.6	37.7	36.1	50.1	47.8	
NCT Delhi	27.3	-1.3	27	34.8		24.9	34.7
Dadra Nagar Haveli	27.4	47.4	38.9				
Goa	25.3	21.2	23.8	15.1	28.9	21.3	28.6
Gujarat	32	44.2	39.3	35.7	44.4	41.1	45.1
Haryana	28.5	29.9	29.4	36.7	38.7	38.2	34.6
Himachal Pradesh	17.1	21.6	21.2	28.2	31.3	31.1	43.6
Jammu & Kashmir	17	16.5	16.6	14.5	26.4	24	34.5
Jharkhand	39.3	49.8	47.8	40.7	58	54.6	
Karnataka	31.5	37.7	35.2	26.4	37	33.3	43.9
Kerala	15.5	16.7	16.1	15.3	24	21.2	26.9
Lakshadweep	22.6	-32.5	23.4				
Madhya Pradesh	36.5	45	42.8	50.1	60.2	57.9	55.1
Maharashtra	30.7	40	36	27.1	36.8	32.7	49.6
Manipur	13.1	14.2	13.8	17.1	20.3	19.5	27.5
Meghalaya	22.9	29.9	29	31.9	44.6	42.9	37.9
Mizoram	8.5	15.7	11.9	10.2	18.2	14.2	27.7
Nagaland	13.6	18	16.8	18.1	25	23.7	24.1
Odisha	26.2	35.8	34.4	28.4	41.2	39.5	54.4

Punjab	22.4	21.1	21.6	19.6	25.9	23.9	28.7
Pondicherry	23.3	18.7	22				
Rajasthan	30.7	38.4	36.7	26.1	39.5	36.8	50.6
Sikkim	12	15.4	14.2	16.7	17.4	17.3	20.6
Tamil Nadu	21.5	25.7	23.8	22.6	28.7	25.9	36.7
Telangana	22.2	33.1	28.5	25	36.7	35.2	
Tripura	21.7	25	24.1				
Uttar Pradesh	33.7	41	39.5	31.8	43.7	41.6	51.7
Uttarakhand	25.6	27.1	26.6	20.9	35.2	31.7	
West Bengal	26.2	33.6	31.6	24.5	40.7	37.6	48.7
All India	29.1	38.3	35.7	30.1	43.7	40.4	47

Source: National Family and Health Surveys: State level Fact sheet

Table A.15: Number of Infant Mortality deaths per 1000 of population (IMR)

	NFHS-4	**NFHS-4**	**NFHS-4**	**NFHS-3**	**NFHS-2**
State	**Urban**	**Rural**	**Total**	**Total**	**Total**
Andaman & Nicobar	-	16	10	-	-
Andhra Pradesh	20	40	35		65.8
Arunachal Pradesh	19	24	23	61	63.1
Assam	40	58	57	66	69.5
Bihar	34	50	48	62	72.9
Chandigarh	-	-	-	-	-
Chhattisgarh	44	56	54	71	
NCT Delhi	35		35	40	46.8
Dadra Nagar Haveli	-	-	33	15	-
Goa	-	-	13	50	36.7
Gujarat	27	39	34	42	62.6
Haryana	31	34	33	36	56.8
Himachal Pradesh	-	35	34	45	34.4

Jammu & Kashmir	37	31	32	69	65
Jharkhand	36	46	44	43	-
Karnataka	19	33	28	15	51.5
Kerala	6	5	6	-	16.3
Lakshadweep	19	-	19	-	-
Madhya Pradesh	44	54	51	70	86.1
Maharashtra	23	24	24	38	43.7
Manipur	16	25	22	30	37
Meghalaya	16	32	30	45	89
Mizoram	31	50	40	34	37
Nagaland	21	33	29	38	42.1
Odisha	21	43	40	65	81
Punjab	22	34	29	42	57.1
Pondicherry	10	30	16	-	-
Rajasthan	31	44	41	65	80.4
Sikkim	13	38	30	34	43.9
Tamil Nadu	18	23	20	30	48.2
Telangana	20	38	30	-	-
Tripura	12	32	27	51	
Uttar Pradesh	52	67	64	73	86.7
Uttarakhand	44	38	40	42	-
West Bengal	16	32	28	48	48.7
All India	29	46	41	57	67.6

Source: National Family and Health Surveys: State level Fact sheet

Table A.16: Number of Under-five Mortality deaths per 1000 of population (U5MR)

	NFHS-4	NFHS-4	NFHS-4	NFHS-3	NFHS-2
State	**Urban**	**Rural**	**Total**	**Total**	**Total**
Andaman & Nicobar	-	22	13	-	-
Andhra Pradesh	29	45	41		85.5
Arunachal Pradesh	25	35	33	88	98.1
Assam	40	58	57	85	89.5
Bihar	40	60	58	85	105.1
Chandigarh	-	-	-	-	-
Chhattisgarh	51	68	64	90	-
NCT Delhi	47	-	47	47	55.4
Dadra Nagar Haveli	-	-	-	42	-
Goa	-	-	13	20	46.8
Gujarat	32	51	43	61	85.1
Haryana	36	44	41	52	76.8
Himachal Pradesh	-	39	38	42	42.4
Jammu & Kashmir	41	36	38	51	80.1
Jharkhand	38	58	54	93	-
Karnataka	24	38	32	55	69.8
Kerala	8	6	7	16	18.8
Lakshadweep	-	-	-	-	-
Madhya Pradesh	52	69	65	94	137.6
Maharashtra	27	30	29	47	58.1
Manipur	18	30	26	42	56.1
Meghalaya	20	43	40	70	122
Mizoram	35	58	46	53	54.7
Nagaland	25	42	37	65	63.8
Odisha	25	53	49	91	104.4
Punjab	25	39	33	52	72.1

Pondicherry	10	-	16	-	-
Rajasthan	37	54	51	85	114.9
Sikkim	18	39	32	40	71
Tamil Nadu	23	30	27	36	63.3
Telangana	25	41	34	-	-
Tripura	21	36	33	59	-
Uttar Pradesh	62	82	78	96	122.5
Uttarakhand	49	46	47	57	-
West Bengal	16	38	32	60	67.6
All India	34	56	50	74	94.9

Source: National Family and Health Surveys: State level Fact sheet

Table A.17: Percentage of children aged between 6-59 months who are anemic

	NFHS-4	**NFHS-4**	**NFHS-4**	**NFHS-3**	**NFHS-2**
State	**Urban**	**Rural**	**Total**	**Total**	**Total**
Andaman & Nicobar	47.7	50	49	-	-
Andhra Pradesh	52.4	60.8	58.6	-	72.3
Arunachal Pradesh	49.7	51	50.7	56.9	54.5
Assam	27.6	36.5	35.7	69.4	63.2
Bihar	58.8	64	63.5	78	81.3
Chandigarh	71.6	-	73.1	-	-
Chhattisgarh	42.9	41.2	41.6	71.2	
NCT Delhi	62.3	-	62.6	57	69
Dadra Nagar Haveli	80.1	87.7	84.6	-	-
Goa	52.2	41.2	48.3	38.2	53.4
Gujarat	59.5	64.6	62.6	69.7	74.5
Haryana	69.6	72.9	71.7	72.3	83.9
Himachal Pradesh	58.7	53.3	53.7	54.4	69.9
Jammu & Kashmir	40.6	44.1	43.3	58.5	71.1

Jharkhand	63.2	71.5	69.9	70.3	
Karnataka	57.1	63.3	60.9	70.3	70.6
Kerala	35.5	35.7	35.6	44.5	43.9
Lakshadweep	51	-67.4	51.9	-	-
Madhya Pradesh	66.3	69.9	68.9	74	75
Maharashtra	53.6	54	53.8	63.4	76
Manipur	24.5	22	22.8	41.1	45.2
Meghalaya	33.6	41.8	40.7	63.8	67.6
Mizoram	14.1	24.5	19.1	43.8	57.2
Nagaland	17.6	23.1	21.6	-	43.7
Odisha	38.1	45.7	44.6	65	72.3
Punjab	55.7	57.2	56.6	66.4	80
Pondicherry	43.4	48.5	44.9	-	-
Rajasthan	55.7	61.6	60.3	69.6	82.3
Sikkim	59.7	52.7	55.1	58.1	76.5
Tamil Nadu	48.2	52.3	50.4	64.2	69
Telangana	51.6	67.5	60.7	-	-
Tripura	45.7	49.2	48.3	62.9	-
Uttar Pradesh	65	62.7	63.2	73.9	73.9
Uttarakhand	59.4	52.8	54.9	60.7	-
West Bengal	55.5	53.7	54.2	61	78.3
All India	55.9	59.4	58.5	69.4	74.3

Source: National Family and Health Surveys: State level Fact sheet

Table A.18: Percentage of non-pregnant women aged between 15-49 years who are anemic

	NFHS-4	NFHS-4	NFHS-4	NFHS-3
State	Urban	Rural	Total	Total
Andaman & Nicobar	65.2	66.2	65.8	-
Andhra Pradesh	57.2	61.5	60.2	-
Arunachal Pradesh	40.6	40.7	40.6	50.6
Assam	44.4	46.3	46.1	69.1
Bihar	58.5	60.7	60.4	68.2
Chandigarh	75.3	-	75.9	-
Chhattisgarh	43.6	48.5	47.3	57.1
NCT Delhi	52.6	78	52.8	45
Dadra Nagar Haveli	72.1	86.4	80.1	-
Goa	30.9	32.1	31.4	37.9
Gujarat	51.8	57.6	55.1	72.3
Haryana	61.4	64.2	63.1	55.2
Himachal Pradesh	54.4	53.5	53.6	43.2
Jammu & Kashmir	43.4	39	40.4	51.9
Jharkhand	59.7	67.5	65.3	69.4
Karnataka	43	46.1	44.8	50.8
Kerala	36.7	32.7	34.6	32.8
Lakshadweep	44.9	63.5	46.1	-
Madhya Pradesh	49.7	53.6	52.4	55.8
Maharashtra	48.2	47.7	47.9	48
Manipur	26	25.9	26	35.7
Meghalaya	37.7	56.1	51.7	45.4
Mizoram	21.2	30	24.6	37.6
Nagaland	21.2	25.4	23.7	-
Odisha	47.7	51.9	51.2	60.9
Punjab	52.9	54.7	54	37.9

Pondicherry	52.3	55.7	53.4	
Rajasthan	40.7	49	46.8	52.6
Sikkim	34.3	35.6	35.2	59.4
Tamil Nadu	53.7	56.8	55.2	53.1
Telangana	55.4	58.2	56.9	-
Tripura	55.7	54	54.5	65.6
Uttar Pradesh	52.8	52.4	52.5	49.7
Uttarakhand	42	41.1	41.4	54.8
West Bengal	58.4	64.8	62.8	63.2
All India	51	54.3	53.1	55.2

Source: National Family and Health Surveys: State level Fact sheet

Table A.19: Percentage of pregnant women aged between 15-49 years who are anemic

	NFHS-4	**NFHS-4**	**NFHS-4**	**NFHS-3**
State	**Urban**	**Rural**	**Total**	**Total**
Andaman & Nicobar	-	55.8	61.4	-
Andhra Pradesh	57.1	51.6	52.9	-
Arunachal Pradesh	35.7	33.4	33.8	51.8
Assam	37.9	45.7	44.8	72
Bihar	61.7	58	58.3	60.2
Chandigarh	-	-	-	-
Chhattisgarh	33.8	43.6	41.5	63.1
NCT Delhi	45.1		45.1	29.9
Dadra Nagar Haveli	-	-	67.9	-
Goa	-	-	26.4	36.9
Gujarat	47.2	54.7	51.3	60.8
Haryana	50.2	58.1	55	69.7
Himachal Pradesh		50.5	50.4	38.1
Jammu & Kashmir	34.9	39.4	38.1	55.7
Jharkhand	57.3	63.7	62.6	68.5

Karnataka	39.6	48.7	45.4	60.4
Kerala	22.7	22.5	22.6	33.8
Lakshadweep	33.5	-	36.5	-
Madhya Pradesh	49.2	56.4	54.6	57.9
Maharashtra	48.5	49.9	49.3	57.8
Manipur	28.5	23.7	25.2	36.3
Meghalaya	38.6	51.3	49.5	58.1
Mizoram	24.1	29.9	26.6	48.3
Nagaland	29.1	28.8	28.9	-
Odisha	46.2	47.8	47.6	68.1
Punjab	34.7	46.5	42	41.6
Pondicherry	23.6	31.2	26	-
Rajasthan	41.4	48	46.6	61.7
Sikkim	33.6	19.6	23.6	62.1
Tamil Nadu	37	52.1	44.3	54.7
Telangana	44.3	55.1	49.8	-
Tripura	49.8	55.8	54.4	57.6
Uttar Pradesh	49.2	51.4	51	51.5
Uttarakhand	44.5	43.6	43.9	50.8
West Bengal	54.3	53.3	53.6	62.6
All India	45.7	52.1	50.3	57.9

Source: National Family and Health Surveys: State level Fact sheet

Table A.20: Percentage of all women aged between 15-49 years who are anemic

	NFHS-4	NFHS-4	NFHS-4	NFHS-3	NFHS-2
State	**Urban**	**Rural**	**Total**	**Total**	**Total**
Andaman & Nicobar	65.4	65.9	65.7	-	-
Andhra Pradesh	57.2	61.1	60	-	49.8
Arunachal Pradesh	40.4	40.3	40.3	50.5	62.5
Assam	44.2	46.3	46	69.3	69.7
Bihar	58.7	60.5	60.3	67.4	63.4
Chandigarh	75.3	-	75.9	-	-
Chhattisgarh	43.3	48.2	47	57.5	
NCT Delhi	52.3	78	52.5	44.3	40.5
Dadra Nagar Haveli	70.6	86.6	79.5	-	-
Goa	30.8	32	31.3	38	36.4
Gujarat	51.6	57.5	54.9	55.3	46.3
Haryana	60.8	63.9	62.7	56.1	47
Himachal Pradesh	54.2	53.4	53.5	43	40.5
Jammu & Kashmir	43.1	39.1	40.3	52	58.7
Jharkhand	59.6	67.3	65.2	69.5	
Karnataka	42.9	46.2	44.8	51.2	42.4
Kerala	36.3	32.4	34.2	32.8	22.7
Lakshadweep	44.5	62.1	45.7	-	-
Madhya Pradesh	49.7	53.8	52.5	55.9	54.3
Maharashtra	48.2	47.8	48	48.4	48.5
Manipur	26.1	25.8	25.9	35.7	28.9
Meghalaya	37.7	55.8	51.6	46.2	63.3
Mizoram	21.3	30	24.7	38.1	48
Nagaland	21.4	25.5	23.9	-	38.4
Odisha	47.6	51.8	51	61.1	63
Punjab	52.3	54.4	53.5	38	41.4

Pondicherry	51.4	54.8	52.4		
Rajasthan	40.7	49	46.8	53.1	48.5
Sikkim	34.3	35.1	34.9	59.5	61.1
Tamil Nadu	53.3	56.6	54.8	53.2	56.5
Telangana	55	58.1	56.7	-	-
Tripura	55.6	54.1	54.5	65.1	-
Uttar Pradesh	52.7	52.4	52.4	49.9	48.7
Uttarakhand	42.1	41.2	41.5	54.7	-
West Bengal	58.2	64.3	62.4	63.2	62.7
All India	50.8	54.2	53	55.3	51.8

Source: National Family and Health Surveys: State level Fact sheet

Table A.21: Percentage of all men aged between 15-49 years who are anemic

	NFHS-4	**NFHS-4**	**NFHS-4**	**NFHS-3**
State	**Urban**	**Rural**	**Total**	**Total**
Andaman & Nicobar	34.7	28.2	30.8	-
Andhra Pradesh	19.2	30.8	26.9	-
Arunachal Pradesh	15.7	17.9	17.3	27.7
Assam	17.9	26.8	25.4	39.4
Bihar	24.2	34.1	32.3	34.3
Chandigarh	16.7	-	19.3	-
Chhattisgarh	17.2	23.9	22.2	27
NCT Delhi	21.4	-	21.6	17.8
Dadra Nagar Haveli	20.9	41	30.7	-
Goa	12.3	8.7	11	10.4
Gujarat	17.8	25	21.7	22.2
Haryana	20.1	21.5	20.9	19.2
Himachal Pradesh	19.6	20.2	20.1	18.5
Jammu & Kashmir	15.1	15.5	15.4	19.4

Jharkhand	22.5	33	29.9	36.5
Karnataka	18.1	18.3	18.2	19
Kerala	12.6	11	11.7	8
Lakshadweep	11.5	11.1	11.5	-
Madhya Pradesh	21.4	27.4	25.5	25.4
Maharashtra	15.5	19.7	17.6	16.8
Manipur	8.7	9.7	9.3	11.4
Meghalaya	18.1	34	30.6	36.5
Mizoram	9.8	15.5	12	19.4
Nagaland	9.6	10.5	10.2	-
Odisha	16.2	31.5	28.4	33.9
Punjab	24.1	27.1	25.9	13.6
Pondicherry	16.2	15.3	15.9	-
Rajasthan	15.2	18	17.2	23.6
Sikkim	12.4	18.2	15.7	24.7
Tamil Nadu	16.8	24.3	20.3	16.6
Telangana	10.2	19.8	15.4	-
Tripura	18.3	27.5	24.7	35.5
Uttar Pradesh	20.6	25	23.7	24.3
Uttarakhand	14.7	13.6	14.1	28.7
West Bengal	26.9	31.9	30.3	32.3
All India	18.4	25.2	22.7	24.2

Source: National Family and Health Surveys: State level Fact sheet

Table A.22: Percentage of all women whose Body Mass Index (BMI) is below normal (BMI<18.5kg/m2)

	NFHS-4	NFHS-4	NFHS-4	NFHS-3
State	**Urban**	**Rural**	**Total**	**Total**
Andaman & Nicobar	10.1	15.5	13.1	-
Andhra Pradesh	11.5	20.3	17.6	-
Arunachal Pradesh	8.8	8.5	8.5	16.4
Assam	17.9	27	25.7	36.5
Bihar	22.2	31.8	30.4	-
Chandigarh	12.3	-	13.3	-
Chhattisgarh	17.6	29.6	26.7	43.4
NCT Delhi	12.8	14.4	12.8	14.8
Dadra Nagar Haveli	15.8	39.1	28.7	-
Goa	10.3	22.2	14.7	27.9
Gujarat	18.1	34.3	27.2	36.3
Haryana	12.2	18.2	15.8	31.4
Himachal Pradesh	11.7	16.7	16.2	29.9
Jammu & Kashmir	7.7	14.1	12.1	24.6
Jharkhand	21.6	35.4	31.5	42.9
Karnataka	16.2	24.3	20.7	35.4
Kerala	9.1	10.2	9.7	18
Lakshadweep	12.1	17.4	12.5	-
Madhya Pradesh	20.6	31.8	28.4	41.7
Maharashtra	16.8	30	23.5	36.2
Manipur	8.5	9	8.8	14.8
Meghalaya	11.4	12.3	12.1	14.6
Mizoram	7.5	9.6	8.3	14.4
Nagaland	12.9	11.8	12.2	17.4
Odisha	15.8	28.7	26.4	41.4

Punjab	9	13.5	11.7	18.9
Pondicherry	10.5	13.2	11.3	-
Rajasthan	18.6	29.9	27	36.7
Sikkim	7.5	5.8	6.4	11.2
Tamil Nadu	10.9	18.5	14.6	28.4
Telangana	16.1	29	23.1	-
Tripura	16.2	20.1	18.9	36.9
Uttar Pradesh	17.6	28.1	25.3	36
Uttarakhand	15.5	20	18.4	30
West Bengal	14.1	24.6	21.3	39.1
All India	15.5	26.7	22.9	9.3

Source: National Family and Health Surveys: State level Fact sheet

Table A.23: Percentage of all men whose Body Mass Index (BMI) is below normal (BMI<18.5kg/m2)

	NFHS-4	**NFHS-4**	**NFHS-4**	**NFHS-3**
State	**Urban**	**Rural**	**Total**	**Total**
Andaman & Nicobar	9	8.5	8.7	-
Andhra Pradesh	11.5	16.5	14.8	-
Arunachal Pradesh	8.8	8.1	8.3	15.2
Assam	15.4	21.7	20.7	35.6
Bihar	18.9	26.9	25.4	35.3
Chandigarh	18.2	-	21.7	-
Chhattisgarh	21.1	25.2	24.1	38.5
NCT Delhi	17.9	-	17.7	15.7
Dadra Nagar Haveli	16.2	23.4	19.7	-
Goa	8.4	14.7	10.8	24.7
Gujarat	19	29.6	24.7	36.1
Haryana	9	12.9	11.3	30.9
Himachal Pradesh	18.5	17.9	18	29.7

Jammu & Kashmir	7.5	13.6	11.5	28
Jharkhand	19.4	25.6	23.8	38.6
Karnataka	14.2	18.4	16.5	33.9
Kerala	8.4	8.6	8.5	21.5
Lakshadweep	7.3	11.1	7.4	-
Madhya Pradesh	22.5	31.1	28.4	41.6
Maharashtra	14.5	23.7	19.1	33.7
Manipur	11.5	10.9	11.1	16.3
Meghalaya	13.6	11.1	11.6	14.1
Mizoram	6	9.2	7.2	9.2
Nagaland	12.8	10.6	11.5	14.2
Odisha	12.6	21.4	19.5	35.7
Punjab	8.9	12.3	10.9	20.6
Pondicherry	9.3	11.8	10.2	-
Rajasthan	16.7	25.1	22.7	40.5
Sikkim	1.2	3.3	2.4	12.2
Tamil Nadu	10.7	14.3	12.4	27.1
Telangana	17.6	24.6	21.4	-
Tripura	13	17	15.7	41.7
Uttar Pradesh	18.6	29.1	25.9	38.3
Uttarakhand	12.5	18.5	16.1	28.4
West Bengal	19	20.3	19.9	35.2
All India	15.4	23	20.2	34.2

Source: National Family and Health Surveys: State level Fact sheet

Table A.24: Percentage of all women whose Body Mass Index (BMI) is above normal and are overweight (BMI>25kg/m2)

	NFHS-4	NFHS-4	NFHS-4	NFHS-3
State	**Urban**	**Rural**	**Total**	**Total**
Andaman & Nicobar	38.3	26.6	31.8	-
Andhra Pradesh	45.6	27.6	33.2	-
Arunachal Pradesh	25.7	16.3	18.8	8.8
Assam	26.1	10.9	13.2	7.9
Bihar	23.5	9.7	11.7	4.6
Chandigarh	42.6	-	41	-
Chhattisgarh	24.4	7.8	11.9	5.6
NCT Delhi	34.9	29.2	34.9	26.4
Dadra Nagar Haveli	34.2	6.9	19.1	-
Goa	36.3	28.5	33.5	20.2
Gujarat	34.5	15.4	23.7	16.7
Haryana	24.3	18.8	21	17.4
Himachal Pradesh	38.4	27.6	28.6	13.5
Jammu & Kashmir	40.6	24.1	29.1	16.7
Jharkhand	21.7	5.9	10.3	5.4
Karnataka	31.8	16.6	23.3	15.3
Kerala	33.5	31.5	32.4	28.1
Lakshadweep	42.4	28.2	42.4	-
Madhya Pradesh	23.8	9.1	13.6	7.6
Maharashtra	32.4	14.6	23.4	14.5
Manipur	31.2	22.4	26	13.3
Meghalaya	18.4	10.2	12.2	5.3
Mizoram	26.8	12.2	21.1	10.6
Nagaland	20.7	13.2	16.2	6.4
Odisha	32	13.2	16.5	6.6

Punjab	32.4	30.6	31.3	29.9
Pondicherry	38.1	33.6	36.7	-
Rajasthan	23.7	10.7	14.1	8.9
Sikkim	34.1	23.1	26.7	15.4
Tamil Nadu	36.2	25.4	30.9	20.9
Telangana	39.5	18.5	28.1	-
Tripura	23.5	12.8	16	7.1
Uttar Pradesh	27.1	12.6	16.5	9.2
Uttarakhand	28.4	16	20.4	12.8
West Bengal	30.6	15	19.9	11.4
All India	31.3	15	20.7	12.6

Source: National Family and Health Surveys: State level Fact sheet

Table A.25: Percentage of all men whose Body Mass Index (BMI) is above normal and are overweight (BMI>25kg/m2)

	NFHS-4	**NFHS-4**	**NFHS-4**	**NFHS-3**
State	**Urban**	**Rural**	**Total**	**Total**
Andaman & Nicobar	38	38.3	38.2	-
Andhra Pradesh	44.4	28	33.5	-
Arunachal Pradesh	26	18.4	20.6	7.4
Assam	24.8	10.5	12.9	5
Bihar	20.1	10.9	12.6	6.3
Chandigarh	34.1	-	32	-
Chhattisgarh	20	6.8	10.2	4.9
NCT Delhi	24.1	-	26.1	16.8
Dadra Nagar Haveli	33.8	11.5	22.9	-
Goa	35.3	28.2	32.6	15.5
Gujarat	25.9	14.4	19.7	11.3
Haryana	21	19.3	20	10.8
Himachal Pradesh	26.9	21	22	10.6
Jammu & Kashmir	30.1	15.8	20.5	6.7

Jharkhand	19.8	7.5	11.1	4.9
Karnataka	28.6	17.1	22.1	10.9
Kerala	31.1	26.3	28.5	17.9
Lakshadweep	24.7	22.2	24.6	-
Madhya Pradesh	17.6	7.8	10.9	4.3
Maharashtra	31.2	16.4	23.8	11.9
Manipur	21.8	18.5	19.8	9.2
Meghalaya	17.1	8.1	10.1	5.9
Mizoram	28.1	9.9	21	11.4
Nagaland	16.6	12.3	14	5.7
Odisha	32.4	13.3	17.2	6
Punjab	32.1	25	27.8	22.2
Pondicherry	40.5	30.8	37.1	-
Rajasthan	19.7	10.6	13.2	6.2
Sikkim	41.5	29.7	34.8	11.9
Tamil Nadu	30.6	25.6	28.2	14.5
Telangana	31.9	17.9	24.2	-
Tripura	18.2	14.9	15.9	4.8
Uttar Pradesh	20.6	9	12.5	7.3
Uttarakhand	23	14.1	17.7	7.9
West Bengal	20.6	11.2	14.2	5.5
All India	26.6	14.3	18.9	9.3

Source: National Family and Health Surveys: State level Fact sheet

Table A.26: Percentage figures of all districts in Gujarat for anthropometric measures

	Stunted			Wasted			Severely Wasted			Underweight		
District	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**
Ahmedabad	26.2	-	29.4	26.8	-	27.1	11.1	-	11.5	27.3	-	31
Amreli		38.4	37.8	-	22.8	24.6	-	7.3	6.4		30.4	31.7
Anand	45.8	49	48.2	20.5	22.1	21.7	8.6	7	7.4	37.5	42.6	41.3
Banas kantha	-	39.9	40.7	-	23.6	21.6	-	8.9	8.5	-	44.4	43.1
Baruch	35	45.3	41.5	26.7	31	29.4	8.1	7.4	7.6	33.8	50.5	44.2
Bhavnagar	48.5	48.3	48.4	23.9	27.5	26	9.7	6.6	7.9	43.7	44.9	44.4
Dohad	-	44.9	44.4	-	25.1	24.9	-	8.3	7.8	-	51.7	50.8
Gandhinagar	30.7	42.6	36.5	22.3	36.4	29	7.2	13.5	10.2	33.7	52.3	42.7
Jamnagar	35	19	27.9	19.2	46.8	31.3	6.7	29.6	16.8	26.2	33.2	29.3
Junagadh	30.2	26.7	27.9	20.1	35.6	30.4	12.9	19.9	17.5	24.1	28.8	27.2
Kachchh	37.5	42	40.8	40.6	27.9	31.4	19.6	13.9	15.5	37.6	39.5	39
Kheda	-	44.1	45.5	-	29	27.2	-	7.1	7.1	-	49.4	48.1
Mehsana	-	40.9	40.5	-	26.5	25.3	-	13.4	11.6	-	43.2	41.9
Narmada	-	47.9	47.4	-	37.2	35.8	-	13.5	12.7	-	55.3	53.6
Navsari	32.1	42.2	38.9	11.8	34.3	26.8	4	6.6	5.7	22.4	44.8	37.4
Pachamama	-	43.1	40.4	-	39.8	36.3	-	15	14.2	-	46.6	42.3
Patan	-	41.8	37.6	-	24.8	24.5	-	9.4	9.2	-	42.3	38.4
Porbandar	19.7	24.2	22.6	16	30.6	25.4	4.9	13.8	10.6	21.6	31.1	27.7
Rajkot	28.7	34.6	30.9	23.4	23.5	23.4	3.3	4.2	3.7	31.3	31.4	31.4
Sabarkantha	-	53.4	50.6		25.7	23.5		8.1	7		47.4	45.5
Surat	24.8		30	25		26.2	8.1		8.1	32.5		36.1
Surendranagar	-	49.6	45.5	-	23.9	27.7	-	6.6	9.5	-	46.4	45.9
Tapi	-	36.4	35.9	-	37.5	35.8	-	10.5	9.6	-	44.7	42.4
The Dangs	-	48.5	48.1	-	43.2	43	-	19.6	18.9	-	60.9	60
Vadodara	38.5	49.1	43.8	15.2	17.5	16.3	7.2	4.5	5.8	34.2	44.1	39.1
Valsad	28.9	51.9	43.3	32.6	29	30.3	16.1	9.4	11.9	31.5	48	41.9

Source: National Family and Health Survey-4: District level Fact sheet

Table A.27: Percentage figures of all districts in Gujarat for measures of BMI

	Women with Low BMI			Men with Low BMI			Overweight Women			Overweight Men		
District	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**
Ahmedabad	19.1	-	21.5	22.9	-	25.9	34	-	30.7	29.4	-	26.4
Amreli	-	16.7	17.1	-	12.9	18.1	-	25.7	28.2	-	22.5	23.9
Anand	21.3	42.5	36	14.6	36.4	30.3	35.2	12.5	19.4	38.7	9.6	17.9
Banas kantha	-	36.6	38.4	-	30.9	28.1	-	9	10.6	-	13.2	14
Baruch	18.6	39.2	31.3	20	25.9	23.7	35.6	16.3	23.7	23.2	12.6	16.5
Bhavnagar	18.2	23.6	21.5	14.6	19.8	17.4	34.1	23.9	28	26.1	21.6	23.7
Dohad	-	47.2	44.1	-	48.1	44.9	-	4.4	9.8	-	7.4	8.9
Gandhinagar	27.5	33.2	30.5	31.4	22.6	27.1	30	15.1	22.1	20.9	17.4	19.2
Jamnagar	17	21.8	19.5	12.5	13.2	12.8	37.9	21.3	29.4	14.1	29.6	21.1
Junagadh	11.9	19.3	16.9	12.7	18.1	16.3	34.5	21.4	25.5	23.4	20.2	21.3
Kachchh	20.8	25.1	23.7	14.1	25.2	21.1	20.3	19.8	19.9	19.7	20.1	20.4
Kheda	-	43.6	38.5	-	35.8	31	-	15	18	-	9.3	11.5
Mehsana	-	30	26.8	-	28.1	27.6	-	18.4	22.7	-	13.7	17.9
Narmada	-	47	44.1	-	36.2	31.5	-	8	11.4	-	10.3	16
Navsari	14.9	35.7	29.5	21.4	41.8	35.9	35.7	17.7	23.1	27.7	12.7	17
Panchamahal	-	51.7	46.7	-	46.6	37.2	-	7	10.1	-	10.4	12.8
Patan	-	33.8	30.2	-	32.6	30.6	-	11.2	17	-	10.5	15.3
Porbandar	9.7	18	14	11.5	17.7	14.9	30.5	19.5	24.8	17.1	13.4	15.1
Rajkot	15.8	20	17.4	14.7	18.3	16.3	39.6	30.3	36.1	21.6	23.6	22.3
Sabarkantha	-	38.3	37.1	-	27.9	25.6	-	11	12.9	-	13.7	18.1
Surat	14.9	-	18.4	20	-	22.7	39.8	-	34.5	26.8	-	23.2
Surendranagar	-	31	25.7	-	34	24.3	-	16.3	30.6	-	11	18.2
Tapi	-	45	43.4	-	36.3	33.5	-	7.5	8.8	-	5.2	7
The Dangs	-	45.9	44	-	35.3	35	-	2.3	4	-	3.4	5
Vadodara	19.4	39.7	29.1	20.5	31.7	25.6	29.3	14.1	22	27.3	12.9	20.7
Valsad	17	26.5	22.9	18.2	12.9	15	32.3	20.1	24.8	31.4	17.4	23

Source: National Family and Health Survey-4: District level Fact she

Table A.28: Percentage figures of all districts in Gujarat for anemia in men, women and children

	Anemic Children (6-59 months)			Anemic women (15-49 years)			Anemic Men(15-49 years)		
District	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**	**Rural**	**Total**	
Ahmedabad	74.1		76	61.3		62		26.9	
Amreli		76.2	74.5		58.4	56	25.4	21.9	
Anand	55.2	61.1	59.7	44.7	52.8	50.4	24.3	21.5	
Banas kantha		55.1	57.2		51.3	50	16.7	16.7	
Baruch	49.8	61.1	56.8	51.5	52.3	52	18.4	15.1	
Bhavnagar	66.4	71.2	69.2	53.8	54.2	54	22.3	20.4	
Dohad		59.6	58.9		57.8	56.3	20.3	16.9	
Gandhinagar	78.3	68.8	73.7	67.6	64.3	65.8	41	37.9	
Jamnagar	71.1	81.2	75.7	68	60	63.8	25.3	23	
Junagadh	76	77.6	77.1	53.1	62.8	59.7	21.7	21.3	
Kachchh	83.4	80.5	81.4	58.2	64.5	62.5	26.1	24	
Kheda		56.3	53.7		56.2	54.5	19.5	20.1	
Mehsana		79.6	77.8		62.9	61.9	37.3	34.6	
Narmada		53.3	53.6		57.6	55.6	22	20.8	
Navsari	61.1	47.2	51.9	49.9	53	52.1	31.1	26.8	
Panchamahal		51.2	50.2		51.3	50.4	20.6	18.1	
Patan		67.1	67.2		57.7	59.6	23.1	27.2	
Porbandar	69.8	71.5	70.8	60	58.4	59.2	21.8	20.8	
Rajkot	52.5	65.4	57.6	56	47	52.6	20.9	18.5	
Sabarkantha		75.3	72.5		68.6	67.2	39	35.5	
Surat	40.3		42.3	34		39		11.1	

Surendranagar		76.8	76.8		62.9	61.5	27.3	25	
Tapi		49.7	49.5		55.1	54.4	22	19.7	
The Dangs		74.7	74.1		72.5	72.2	43.7	41.7	
Vadodara	55.6	52.9	54.3	47.9	50.6	49.2	17.7	18.5	
Valsad	43.1	54.3	50.4	45.5	54.2	50.9	15.5	15.5	

Source: National Family and Health Survey-4: District level Fact sheet

References

1. ` 1 Allen, L.H. and Gillespie, S.R., 2001. *What Works? A Review of the Efficacy and Effectiveness of Nutrition Interventions*. Asian Development Bank.

2. Avula, R., Kadiyala, S., Singh, K., & Menon, P. (2013). *The operational evidence base for delivering direct nutrition interventions in India: a desk review* (Vol. 1299). Intl Food Policy Res Inst.

3. Bali, V. (2016, July 23). *We need a Nutrition Mission*. The Hindu. Link: https://www.thehindu.com/opinion/lead/We-need-a-Nutrition-Mission/article14503108.ece

4. Baxi, Himani (2019), *Social Expenditure and Human Development in Gujarat*, Economic and Political Weekly, Vol. 54, Issue No. 14, 06 Apr, 2019.

5. Bentley, M., Griffiths, P. *The burden of anemia among women in India*. Eur J Clin Nutr 57, 52–60 (2003). https://doi.org/10.1038/sj.ejcn.1601504

6. Bhattacharya, BB and Kumari A, 1988."*Budget Forecasts of Central Government Revenue and Expenditure: A Test of Rational Expectation*", Economic and Political Weekly.

7. Bhutta Z.A., Das J.K., Rizvi A., Gaffey M.F., Walker N. and Horton S. Webb P, Lartey A, Black RE (2013) Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost? Lancet. 2013;382(9890):452-477.

8. Bhutta, Z.A., Ahmed, T., Black, R.E., Cousens, S., Dewey, K., Giugliani, E., Haider B.A.,Kirkwood, B., Morris, S., Sachdev, H.P.S., and Shekar, M. (2008), *What works? Interventions for maternal and child undernutrition and survival*, The lancet, 371(9610), 417-440.

9. Black RE, Victora CG, Walker SP, Bhutta ZA, Christian P, de Onis M, et al., Maternal and Child Undernutrition Study Group. (2013). *Maternal and child undernutrition and overweight in low-income and middle-income countries.* Lancet. 2013;382(9890):427–51.

10. Black, R. E., Allen, L. H., Bhutta, Z. A., Caulfield, L. E., De Onis, M., Ezzati, M., ... & Maternal and Child Undernutrition Study Group. (2008). *Maternal and child undernutrition: global and regional exposures and health consequences*. The lancet, 371(9608), 243-260.

11. Castro-Leal, F.J, Dayton, J, Demery, L and Mehra, K (2000), *"Public Spending on health care in Africa: Do the poor benefit?"* Bulletin of the World Health Organization.

12. Centre on the Developing Child at Harvard University, 2010, Foundation of Lifelong Health are built in Childhood, Harvard University. Retrieved from www.developingchild.harvard.edu.

13. Chakraborty, Lekha S, 2008, "*Deficient Public Infrastructure and Private Costs: Evidence for Water Sector*", Economic and Political Weekly, July 2008 and also appeared as The Levy Economics Institute Working Paper, 2008

14. Chakraborty, Lekha, Yadawendra Singh and Jannet Farida Jacob 2013, "*Analyzing Public Expenditure Benefit Incidence in Health Care: Evidence from India*", The Levy Economics Institute Working Paper No. 748, New York at www.levy.org

15. Chaturvedi, A., Nakkeeran, N., Doshi, M., Patel, R., & Bhagwat, S. (2018). *Determinants of micronutrient fortified blended food (balbhog) consumption among children 6–35 months of age provided through the integrated child development services program in Gujarat, India*. Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine, *43*(2), 97.

16. Cummins, M. (2016). *Child-Focused Public Expenditure Measurement: A Compendium of Country Initiatives*

17. Davoodi, H. R., Tiongson, E. R., &Asawanuchit, S. (2003). *How useful are benefit incidence analyses of public education and health spending?* IMF Working Paper, WP/03/227.

18. Deaton, A., &Drèze, J. (2009). *Food and nutrition in India: facts and interpretations*. Economic and political weekly, 42-65.

19. Demery, Lionel. 2000. *Benefit Incidence: A Practitioner's Guide*. The World Bank. Washington, D.C.

20. Economist. 2015. "*India's Malnourished Infants*." July 2. Accessed July 8, 2015, http://www.economist.com/blogs/ graphicdetail/2015/07/daily-chart-

21. EPW Research Foundation. (1994). Special Statistics-8: *Social Indicators of Development for India-II: Inter-State Disparities*. Economic and political Weekly, 1300-1308.

22. Fanzo, J., Hawkes, C., Udomkesmalee, E., Afshin, A., Allemandi, L., Assery, O., ... &Corvalan, C. (2018). 2018 *Global Nutrition Report*: Shining a light to spur action on nutrition.

23. Ferroni, M. (1998). *World development report1998-knowledge for development*. The World Bank.

24. Foundation for Research in Health Systems (official publication) (1998): Health Monitor, Print Point Communications, 22, Umiya Vijay Society, Satellite Road, Ahmedabad380015, India. Government of India (1999): Economic Survey 1998-99, Ministry of Finance, Economic Division.

25. Gillespie, W. I. 1964. "*The Incidence of Taxes and Public Expenditures in the Canadian Economy*." Studies of the Royal Commission on Taxation, no. 2. (Ottawa: Queen's Printer)

26. Gillespie, W.I. 1965. "*Public expenditures and income distribution*." Essays in Fiscal Federalism.

27. GOG (2012), Health and Welfare Department, Resolution No; FPW/10/2012/305/B1, Setting up of Gujarat State Nutrition Mission (GSNM) - Integrated and holistic approach to combat malnutrition in the State, Sachivalaya, Gandhinagar, Date: 30.08.2012. Link https://nrhm.gujarat.gov.in/Portal/Document/1_11_1_gr_setting_up_of_gsnm.pdf

28. GOG(2018),*Socio-economic review, Gujarat State 2017-18* , Directorate of Economics and Statistics, Government of Gujarat, Gandhinagar, Gujarat. https://gujecostat.gujarat.gov.in/sites/default/files/socio-economic-review-2017-18-part-i-iii.pdf

29. GOI, (2015). *Annual Report 2014-15,* Ministry of Women and Child Development, New Delhi.

30. GOI, (2016). Social Consumption – Health, *NSS 71st Round* (January – June 2014). Ministry of Statistics and Programme Implementation, National Sample Survey Office. New Delhi.

31. GOI, (2019), *Comprehensive National Nutrition Survey (2016-18) report*, National Health Mission, Ministry of Health and Family Welfare, New Delhi.

32. Hirway, I, (2017, December 08).*The Truth Behind the Gujarat Growth Model*, The Wire. link: https://thewire.in/economy/the-truth-behind-the-gujarat-growth-model

33. International Institute for Population Sciences (IIPS). (2014). *District Level Household and Facility Survey (DLHS-4), 2012-13: Andhra Pradesh*, India [Internet]. https://nrhm-mis.nic.in/DLHS4/State Reports/Andhra Pradesh.pdf

34. Jose, S., & Hari, K. S. (2015). *Progress in Reducing Child Under-Nutrition: Evidence from Maharashtra.* in Economic and Political Weekly, 50(3), 23-26.

35. Kaushik, H. (2018, February 24). *Gujarat's weight-height ratio of kids 2nd worst in India*, Times of India.[https://timesofindia.indiatimes.com/city/ahmedabad/states-weight-height-ratio-of-kids-2nd-worst-in- India/articleshow/63049922.cms]

36. Kumar, A. S. (1996). *UNDP's gender-related development index: A computation for Indian states*. Economic and Political Weekly, 887-895.

37. Kurian, O. S. (2017, December 6). *Gujarat: Economically upfront, but far behind in health*. expert speak, observer research foundation. [Link: https://www.orfonline.org/expert-speak/gujarat-economically-upfront-far-behind-health/]

38. Lanlouw, P. and Ravallion, M. (1999). "*Benefit incidence and the timing of program capture*." World Bank Economic Review, *13*(2).

39. Manasan, Rosario G. (2008) "*Benefit Incidence of Public Spending on Education in the Philippines*", Discussion Paper Series No. 2008-08, Philippines Institute of Development Studies.

40. Marcelo Selowsky (1979) *Who Benefits from Government Expenditure?* New York: Oxford University Press.

41. Masters, W. A. (2016). *The economic causes of malnutrition. Good nutrition: Perspectives for the 21st century*, 92-104.

42. Meerman, Jacob (1979). *Public Expenditure in Malaysia: Who Benefits and Why?* New York: Oxford University Press.

43. Menon P., Avula R., Pandey S., Scott S. , Kumar A. , 2019,*Rethinking Effective Nutrition Convergence*, Economic and Political Weekly, Vol. 54, Issue No. 24, 15 Jun, 2019

44. Ministry of Health and Family Welfare Government of India. National UrbanHealth Mission [Internet]. [https://nhm.gov.in/index1.php?lang=1&level=1&sublinkid=970&lid=137]

45. NFHS-4 (National Family Health Survey) 2015-16. International Institute for Population Sciences (IIPS).Ministry of Health and Family Welfare, Government of India. Mumbai:IIPS. Link: http://rchiips.org/NFHS/NFHS4Reports/Gujarat.pdf

46. Nisbett, N., Wach, E., Haddad, L., & El Arifeen, S. (2015). *What drives and constrains effective leadership in tackling child undernutrition? Findings from Bangladesh, Ethiopia, India and Kenya*. Food Policy, 53, 33-45.

47. Parasar, R., & Bhavani, R. V. (2018). *Supplementary Nutrition Programme under ICDS: Case study of Telangana and Tamil Nadu*. Lanset Working Paper Series, Vol. 2018 No 30.

48. PIB, GOI (2017, December 18).National Nutritional Strategy. Ministry of Health and Family Welfare, New Delhi. [http://pib.nic.in/newsite/printrelease.aspx?relid=174442]

49. PTI (2013, August 14). *Gujarat announces seven new districts, keeps poll promise*, India Today. Link: https://www.indiatoday.in/india/west/story/modi-gujarat-announces-seven-new-districts-keeps-poll-promise-173747-2013-08-14

50. Raghunathan, K., Chakrabarti, S., Alderman, H., & Menon, P. (2017). *Deploying the power of social protection to improve nutrition in India: What will it take*. Econ Polit Wkly, 52(46), 90-8.

51. Ruia, A., Gupta, R. K., Bandyopadhyay, G., & Gupta, R. R. (2018). *An analysis of integrated child development scheme performance in contributing to alleviation of malnutrition in two economically resurgent states.* Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine, *43*(1), 44.

52. Sankar (2000), *Analysis of Benefit Incidence of Public Spending / Subsidies on Secondary Education*, unpublished, mimeo, The World Bank, New Delhi.

53. Sethi, V., Bhattacharjee, S., Sinha, S., Daniel, A., Lumba, A., Sharma, D., &Bhanot, A. (2019). *Delivering Essential Nutrition*. Economic & Political Weekly, 54(4), 43.

54. Shrivastava, S., Acharya, N., Singh, C., Sethi, V., Pandey, R. S., Parhi, R., ... & Mishra, P. , (2019), *Fiscal Challenges in Scaling Up Nutrition Interventions*, Economic and Political Weekly, , Vol. 54, Issue No. 26-27, 29 Jun, 2019

55. Singh A., NitiAyog, "*India's performance in Global Hunger Index and the initiatives to address malnutrition*" Link: https://niti.gov.in/writereaddata/files/document_publication/Indias%20performance%20in%20Global%20Hunger%20Index.pdf

56. Singh, C., Shrivastava, S., Singh, G., & Acharya, N. (2019). *Delivering Nutrition to Pregnant Women*. Economic & Political Weekly, 54(20), 31.

57. Smith, L. C., & Haddad, L. (2015). *Reducing child undernutrition: past drivers and priorities for the post-MDG era*. World Development, 68, 180-204.

58. Swaminathan, S., Hemalatha, R., Pandey, A., Kassebaum, N. J., Laxmaiah, A., Longvah, T., ... & Gupta, S. S. (2019). *The burden of child and maternal malnutrition and trends in its indicators in the states of India: The Global Burden of Disease Study 1990–2017*. The Lancet Child & Adolescent Health, 3(12), 855-870.

59. Theil, H, 1966. "*Applied Economic Forecasting*", Amsterdam, North Holland

60. Theil, H. 1958. "*Economic Forecasts and Policy*." Amsterdam: North Holland

61. UNICEF. (2013). *Rapid Survey on Children* (RSOC) 2013-14 National Report. Ministry of Women and Child Development, Government of India.

62. Van de Walle, D., &Nead, K. (Eds.). (1995). *Public spending and the poor: Theory and evidence*. World Bank Publications.

63. Wagmare, A. (2019, October 16). *India scores a measly 102 in Global Hunger Index*.Rediff.com [https://www.rediff.com/news/report/at-102-india-ranks-below-pak-in-global-hunger-index/20191016.htm]

64. World Health Organization. (1998). *The World health report: 1998: Life in the 21st century: a vision for all.* Geneva: World Health Organization.

65. Younger, Stephen D. 1999. "*The Relative Progressivity Of Social Services in Ecuador*." *Public Finance Review, 27*(3), pp.310-352.

66. Younger, Stephen D. 2003. "*Benefits on the margin: Observations on marginal benefit incidence*." *The World Bank Economic Review, 17*(1), pp.89-106.

National Institute of Public Finance & Policy