Securing the Future
Strategizing Child Development in Karnataka in the Aftermath of COVID-19

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Abstract

COVID-19 has disrupted routine functioning of the economy and the delivery of welfare programs everywhere. Using the case of Karnataka, this paper document the size of the economic impact on both the state and its households, and the status of various child-specific schemes managed by the Government of Karnataka over 2020-21. With shrinking household consumption and rising deficits of the state, there is need for operational focus on child development to ensure a healthy future for children in India. Using district level data from NFHS 5, this paper proposes a simple and easy-to-implement prioritization framework, which can be used to identify geographic focus for child development schemes in Karnataka, in order to address deficits that matter for the Global Hunger Index in a time of tightening budget constraints for both the state and households.

Keywords: COVID-19, Child Development, Health and Nutrition

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Introduction

India's position on the Global Hunger Index (GHI) is 101st out of a total of 116 countries that were ranked in 2021.ii Coming after the COVID-19-affected financial year 2020-21, this is alarming. The fact that the pandemic compromised livelihoods, increased inequalities, and pushed households into poverty is expected; however, it is worrying to note that India has been slipping when compared to other countries. The reason this is alarming is because the constituents of GHI focus significantly on children *viz.* undernourishment, child stunting and wasting, and under-five mortality.

India's policy response to COVID-19 has been to protect lives by declaring a strict national lockdown starting from 23rd March 2020 which lasted well into the first quarter (Q1) of 2020-21. Initially, the policy response was framed within the Epidemic Diseases Act, 1857; with increasing spread of COVID-19, and related complexity of issues to respond to, the policy framework was centralized under the Disaster Management Act, 2005. The lockdown associated with the first wave of COVID-19 in India led to complete stoppage of economic activities, and to large scale migration from urban centres, inflicting enormous misery, particularly on the informal sector workers, the poor. The adverse impact was particularly severe on the children of the vulnerable sections of population, as Anganwadis could not continue with activities such as such as nutrition, routine health services, and early child-care.iii

Early reports document that services like immunization were truncated, with at least one lakh children missing their BCG vaccine in March alone (with a lockdown beginning on 23rd March) and a 69% drop in measles vaccines between March 2019 and March 2020.iv The intensity of a national lockdown gave way to local lockdowns, night curfews, and other state and district-level policies in the second wave; however, many child-centric services remain discontinued even as this wave has begun waning. This paper analyses the importance of different schemes that are critical to child development in Karnataka and examines how public policy and budgetary allocation may be strategized to ensure a stable and growing environment for children.

In Karnataka, services like Supplementary Nutrition and Immunization have been a major part of Health and Nutrition Programme covering both Women and Child Development. Broadly, Karnataka has four administrative divisions, the Belgaum Division (north-east Karnataka), the Gulbarga Division (north-west Karnataka), the Mysore Division (south-east Division) and the Bangalore Division (south-west Karnataka). The districts in the two northern divisions have very low human development indicators. These districts have higher proportion of SC/ST population, high incidence of child marriage and child labour, as also low child health and nutrition statuses. The recently released District Fact Sheets from the 5th round (2019-20) of the National Family Health Survey (NFHS-5) provides an appropriate baseline for analysing the impact of COVID-19. Within Karnataka, there is evidence of improvements in children's health status in the last 5 years; vaccination is up from 62.5% to 84.1%; and a modest reduction in children malnutrition is reported, with stunting reducing from 36.2% to 35.4%, wasting reducing from 26.1% to 19.5%, and the share

of underweight children down from 35.2% to 32.9%. With many child services disrupted over the last 18-20 months, many of these gains are likely to be reversed.

In this paper, I review the impact of COVID-19 on the economy of Karnataka and explore ways to prioritize regions where programmatic focus of child development schemes can significantly improve nutritional and health outcomes for children. In section 2, I examine the adverse impact of COVID-19 on household income and consumption in Karnataka. In Section 3, I analyse the changes in the health and nutrition status of children between 2015-16 and 2020-21, using the NFHS5 to identify a set of public expenditure allocations that relate to 11 of the 19 SDG indicators that are under the purview of the UNICEF (GoI 2019). In Section 4, I further analyse the trends in health and nutrition and to establish dimensions in which Karnataka has done poorly in the last five years. The district-wise analysis helps us to identify priority domains and priority hotspots that need to be kept in mind as the government's fiscal constraints harden. Section 5 concludes by presenting the trade-off faced by the Government of Karnataka: to secure allocations for improving child health when faced with shrinking fiscal footprint due to the pandemic.

## Karnataka's Economy around the pandemic

With COVID-19 disruptions peaking in March 2020, the government of India's path of lockdowns was among the strictest implemented anywhere in the world. The Oxford COVID-19 Government Response Tracker rated India's lockdown at a 100 out of a 100 in terms of intensity.v Karnataka's GSDP growth slipped from its expected rate of 6.3% to a negative growth of 1.2% of GSDP leading to a shrinkage of fiscal space for the State.vi Apart from the sharp contraction in economic activities, household data from CMIE shows significant job losses during the period September 2019 to September 2021. Figure 3 shows that Karnataka's routine unemployment level is below India's average. In the lockdown months, however, unemployment rates in Karnataka were higher than the national average. Interestingly, Karnataka's return to work and decline in unemployment levels have been sharper than that of India.

Figure 1: COVID-19 Trends in Karnataka
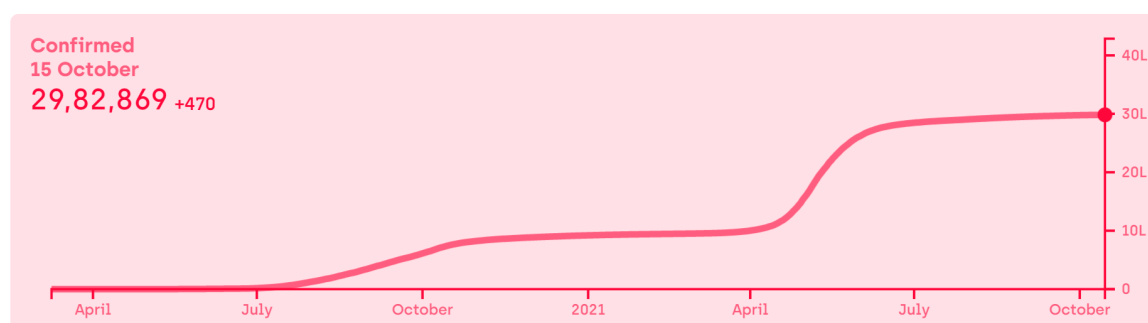
Note: Data is from https://www.covid19india.org/ (accessed 15th October 2021)

Figure 2: Cross-sectional district level heterogeneity in the economic size using GDDP.
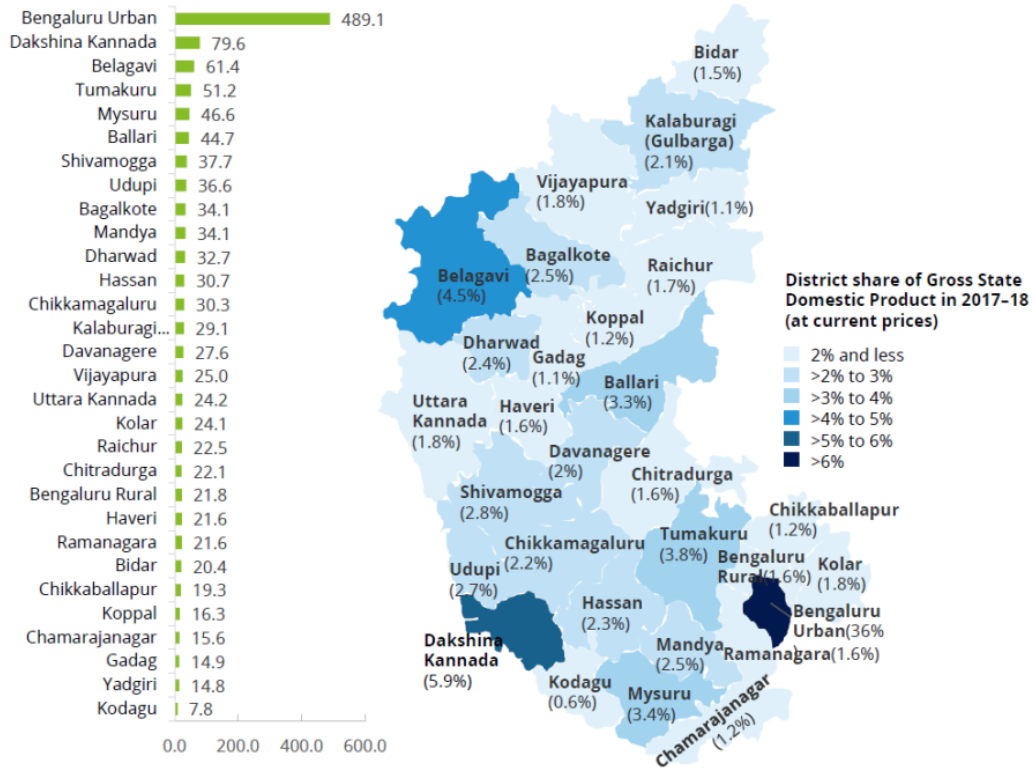
Note: The Graph above is taken from Deloitte (2020) that uses data from Economic Survey of Karnataka, 2019-20 to show how economic size of district varies in the left panel in the bar chart and the size of each district relative to the total economy in the map on the right panel. Gross District Domestic Product (at current prices) in 2017-18 or GDDP is measured in Rs '000 crore.

Figure 3 Unemployment Rates in Karnataka and India, September 2019 to September 2021
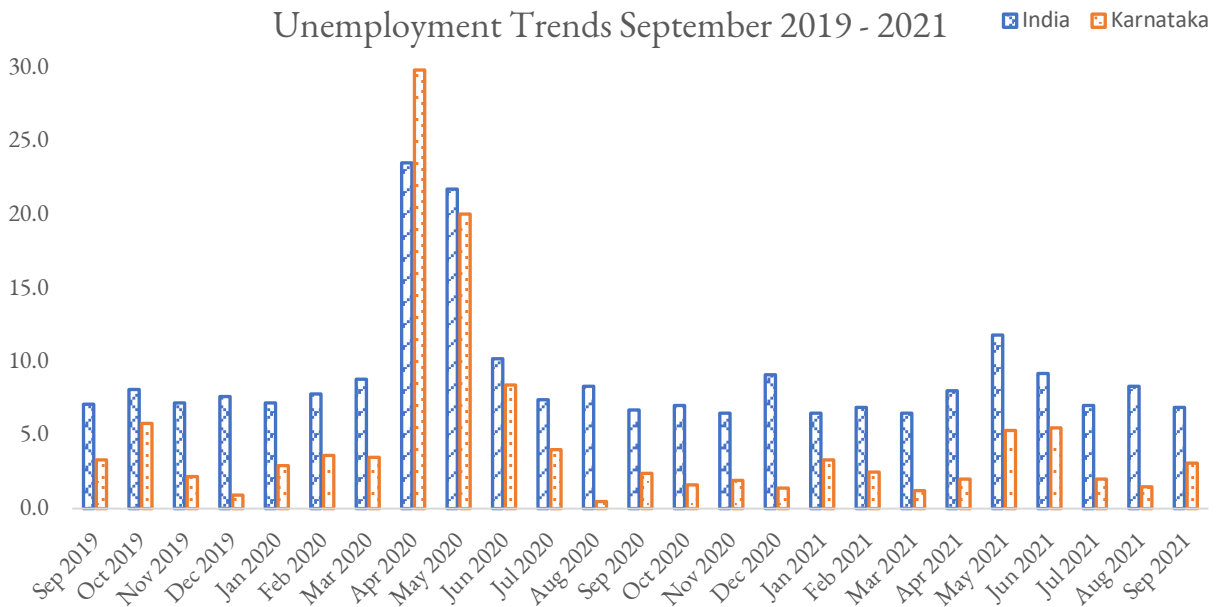
Note: The graph is constructed from data made available online by the Centre for Monitoring Indian Economy at https://unemploymentinindia.cmie.com (accessed 15th October 2021).

Public Expenditures in Karnataka

Karnataka's commitment to fiscal prudence stems from its Fiscal Responsibility Act of 2002 and is older than the Union FRBM Act of 2003; since then, Karnataka has been within the macroeconomic fiscal targets implied by this commitment. Jacob and Chakraborty (2020) argue that this has been possible in part due to compression of capital expenditure and expenditures on education, healthcare, and nutrition. Thus, there have been constraints on expenditures on social policies as seen wherever public expenditure drives policies and programs.

A comparative picture of revenue collections in the State from April to December in 2020-21 with that of 2019-20 presented in Table 1 shows a sharp decline in the revenues. In 2019-20, by December, the revenue collections amounted to 79% of the budget estimate. In 2020-21, receipts were lower than the previous year, and the collection until December amounted to just 59% of the budget estimate. Both own revenues and transfers from the centre showed contraction. The sharpest shortfall so far has been in terms of devolution from the Government of India, and this stands at 47% of the estimates.

On the expenditure side, there is some evidence that expenditure compression has taken place. By December 2020, only 58% of the total expenditures projected for 2020-21 were implemented, as opposed to 63% in the previous year. However, a large amount of this was committed expenditures such as interest payments, pensions, wages, and salaries which could not be compressed.

In absolute terms, Fiscal Deficit in December was almost twice as large as a year ago. Fiscal Deficit as a %age of GSDP was 0.63% in 2019-20 until December 2020, and this has already risen to 2.55% of GSDP. While the Centre has allowed the States to borrow an additional 2% of GSDP under the Atmanirbhar package and manage the FRBM requirements, this will increase the debt liabilities.

Household Narratives

The macroeconomic consequences clearly suggest a large and abrupt shock to incomes and employment for households in Karnataka. The Consumer Pyramids Household Survey (CPHS), conducted by the Centre for Monitoring Indian Economy (CMIE), is a year-long longitudinal survey that tracks consumption expenditure of households. We use this to understand how incomes and expenditure have changed at the household level.

Table 1 Receipts & Expenditure Glance 2019-20 and April-December-2020

#	Categories	2019-20			2020-21		
		B. E.	Apr-Dec	% B. E.	B. E.	Apr-Dec	% B. E.
1	Revenue Receipts	1,81,863	1,29,657	71%	1,79,920	1,06,249	59%
1a	Own Tax Revenue	1,01,744	74,587	73%	1,11,991	66,439	59%
1b	Own Non-Tax Revenue	8,055	4,708	58%	7,767	4,666	60%
1c	Devolution for GOI	39,806	22,536	57%	28,591	13,550	47%
1d	GIA and Contribution	32,257	27,825	86%	31,570	21,594	68%
2	Capital Receipts (Non- debt)	275	74	27%	297	126	42%
2a	Recovery of loans and Advances	195	48	25%	257	104	40%
2b	Other Non-Debt Capital Receipts	80	26	33%	40	22	55%
3	Total Receipts	1,82,138	1,29,731	71%	1,80,216	1,06,375	59%
3a	Public Debt (Receipt)	48,601	30,342	62%	52,918	63,725	120%
3b	Total Receipts including Public Debt	2,30,738	1,60,073	69%	2,33,134	1,70,100	73%
4	Revenue Expenditure	1,81,605	1,19,501	66%	1,79,776	1,10,081	61%
4a	Interest Payments out of 4	19,060	11,998	63%	22,216	14,301	64%
5	Capital Expenditure	42,584	20,967	49%	46,512	21,337	46%
5a	Loans and Advances disbursed out of 5	3,503	2,000	57%	3,452	1,731	50%
6	Total Expenditure (4+5)	2,24,189	1,40,468	63%	2,26,288	1,31,418	58%
6a	Public Debt	9,964	7,303	73%	11,605	9,440	81%
6b	Total Expenditure including Public Debt	2,34,153	1,47,771	63%	2,37,893	1,40,858	59%
7	Fiscal Deficit (6-3)	42,051	10,737		46,072	25,043	
8	Revenue Deficit (4-1)	-258	-10,156		-143	3,832	
9	Primary Deficit (7-4(a))	22,991	-1,261		23,855	10,742	
	GSDP at Current Prices	16,98,685	16,98,685		18,03,609	18,03,609	
	Fiscal Deficit as % to GSDP	2.48%	0.63%		2.55%	1.39%	
	Revenue Deficit as % to GSDP	-0.02%	-0.60%		-0.01%	0.21%	
	Primary Deficit as % to GSDP	1.35%	-0.07%		1.32%	0.60%	

Source: https://finance.karnataka.gov.in/storage/pdf-files/AGglance_dec20.pdf

The CPHS is a nationally representative survey with a stratified, multi-stage sampling design based on identifying geographically independent units that it terms as - homogenous regions (HRs). Table 2 presents a mapping of the districts of Karnataka into 5 homogenous regions that form the highest geographic unit across which the CMIE is stratified. The other important features of the data are a) its longitudinal structure, and b) continuous data collection, with each household interviewed 3 times a year, making it possible to generate quarterly longitudinal estimates. Even during the pandemic, the interviews were conducted using telephonic method to continue capturing the income and expenditure at state level. Our study uses data from Karnataka from wave 16-21 (i.e., from Jan 2019 to Dec 2020) of the CPHS.

Table 2 CMIE Homogenous Regions within Karnataka

Homogeneous Region	Districts of Karnataka
Bangalore – Kolar	Bangalore, Bangalore Rural, Chikkaballapura, Kolar, Ramanagara
Belgaum - Shimoga	Belgaum, Davanagere, Dharwad, Gadag, Haveri, Shimoga
Bidar - Bellary	Bagalkot, Bellary, Bidar, Bijapur, Gulbarga, Koppal, Raichur, Yadgiri
Chitradurga - Mysore	Chamarajanagar, Chikmagalur, Chitradurga, Hassan, Kodagu, Mandya, Mysore, Tumkur
Uttara Kannada - Dakshin Kannada	Dakshina Kannada, Udupi, Uttara Kannada

Note:The broadest level of stratification is based on a set of districts where agroclimatic conditions, urbanisation levels, female literacy, and household size is factored in to identify a homogenous region.

Table 3 presents quarterly estimates for income and expenditure for the last two quarters of the financial years 2017-18, 2018-19, and 2019-20, and for the first month of 2020-21 for Karnataka. The CPHS data reports both household income (Y) and household expenditure (E); using this, we can calculate the residual category (R = Y – E) to measure the excess of income over expenditure. Mukherji and Shatrunjay (2021) discuss nation-wide trends in income and consumption due to the COVID-19 shock. In this paper, I explore the consequence for Karnataka in detail.

Table 3 The Mean and Dispersion of Income and Expenditure in Karnataka

Cohort	Income		Expenditure		Residual
	(Rs.)	Gini	(Rs.)	Gini	(Rs.)
Dec 2017	18,118	0.428	10,612	0.283	7,506
Mar 2018	19,161	0.421	10,961	0.277	8,200
Dec 2018	18,630	0.429	9,947	0.282	8,684
Mar 2019	17,256	0.423	10,125	0.269	7,131
Dec 2019	20,228	0.409	11,296	0.268	8,932
Mar 2020	25,570	0.438	11,016	0.282	14,554

Source:

1. Author calculations from CMIE's CPHS data.

2. The month of April includes April – June quarter households who were interviewed in April 2020. All other row includes households in all three months of the quarter.

3. COV = [(standard deviation/mean) *100] is the coefficient of variation.

4. CPHS data reports household income and consumption expenditure. We construct R = Y – E as the excess of income over current consumption expenditure.

5. All ₹s are in nominal terms and are not inflation adjusted.

Table 3 shows that household budgets have been deeply affected by COVID-19 – incomes declined by 14% in the January-March 2020 cohort, and further reduced by 38% in April 2020. This is in line with the 23.9% decline in GDP reported by MoSPI for the April – June quarter.vii Further, the increase in Coefficient of Variation (CoV) suggests that this loss of income has accentuated the

dispersion of income; some households must have been impacted more than other households. While monthly consumption expenditure also shows a 40% decline from its average levels in April 2020, this decline does not see too much change in dispersion. Thus, while mean consumption (and hence welfare) has gone down, the entire sample has been affected more or less uniformly. Finally, the Residual income absorbs all the variation in income and is crucial in ensuring that households maintain their monthly consumption; mean levels of R decline, and the CoV increases – it almost doubles! Thus, with variance of consumption expenditure being smaller than the variance of household incomes, households appear to be relying on residual incomes to try and maintain their consumption expenditure. However, this dependence is not sufficient to insure against income losses faced by households.

Clearly, the impact of COVID-19 on the distribution of income and expenditure is quite significant. Another way to see this is to bifurcate these aggregate numbers based on education (see Table 4). CMIE classifies households based on the educational status of all adults in a household. Households where all adults are illiterate see the Gini Coefficient rise by almost 0.05 points between March 2019 and March 2020. This is a very large increase in inequality and suggests sharp and rapid economic polarization for illiterate parents and their children. A similar but smaller increase in inequality is seen for households with some literates, as well as for households where all adults are literate. Interestingly these are consistent with a decline in reported average incomes for all illiterates, but an increase in reported average incomes for households made up of all literates and some literates. Other household categories show no change in inequality but a rise in incomes; for example, the category of households where all adults in the household hold a graduate degree. Thus, there is clear evidence that in Karnataka, the households with poorer educational endowments were significantly and negatively affected and they experienced large fluctuations in incomes, as well as in expenditures. This would have negatively affected private expenditure on children, particularly among those with lower levels of education as well.

Table 4 Incomes Distribution across the Education gradient

Education Level	Cohort	Averages			Gini Coefficient
		R	E	Y	(Income)
All Graduates household	Dec 2018	15,961	12,214	8,175	0.360
All Graduates household	Mar 2019	12,443	13,677	6,120	0.356
All Graduates household	Dec 2019	15,639	19,446	5,085	0.352
All Graduates household	Mar 2020	29,215	21,227	0,442	0.343
All Matriculates household	Dec 2018	7,834	9,905	7,739	0.388
All Matriculates household	Mar 2019	6,444	9,732	6,176	0.378
All Matriculates household	Dec 2019	7,576	10,766	8,342	0.365
All Matriculates household	Mar 2020	9,607	9,413	9,020	0.379
Graduate majority household	Dec 2018	13,007	12,068	5,075	0.372
Graduate majority household	Mar 2019	10,813	12,574	3,387	0.362
Graduate majority household	Dec 2019	14,257	14,941	9,198	0.351
Graduate majority household	Mar 2020	20,863	14,911	5,774	0.335

Graduate minority household	Dec 2018	13,057	11,733	4,790	0.372
Graduate minority household	Mar 2019	10,703	12,412	3,115	0.375
Graduate minority household	Dec 2019	13,077	13,878	6,955	0.353
Graduate minority household	Mar 2020	25,026	15,187	0,212	0.358
Households of all illiterates	Dec 2018	4,072	7,319	1,391	0.338
Households of all illiterates	Mar 2019	4,596	7,658	2,254	0.368
Households of all illiterates	Dec 2019	6,172	8,054	4,227	0.364
Households of all illiterates	Mar 2020	5,952	6,055	2,006	0.414
Households of all literates	Dec 2018	6,007	8,672	4,678	0.364
Households of all literates	Mar 2019	5,165	8,752	3,917	0.365
Households of all literates	Dec 2019	6,809	9,715	6,524	0.358
Households of all literates	Mar 2020	9,508	8,797	18,305	0.395
Households of some literates	Dec 2018	5,138	8,523	13,661	0.352
Households of some literates	Mar 2019	4,975	9,386	14,362	0.373
Households of some literates	Dec 2019	6,260	8,601	14,861	0.354
Households of some literates	Mar 2020	14,357	8,993	23,350	0.417
Matriculates majority household	Dec 2018	7,544	9,605	17,148	0.387
Matriculates majority household	Mar 2019	6,199	9,638	15,836	0.380
Matriculates majority household	Dec 2019	7,546	10,153	17,699	0.365
Matriculates majority household	Mar 2020	12,151	9,331	21,481	0.389
Matriculates minority household	Dec 2018	10,184	9,748	19,932	0.381
Matriculates minority household	Mar 2019	8,035	10,172	18,207	0.378
Matriculates minority household	Dec 2019	10,513	10,757	21,270	0.373
Matriculates minority household	Mar 2020	13,025	10,007	23,032	0.394

Child Rights and Budgetary Allocation for Children's Health and Nutrition

Child rights in India were first formalized in the Constitution of India where all children are guaranteed each of the fundamental rights (United Nations, 1960; HAQ 2015). Subsequently, in 1974, with the adoption of the First National Policy for Children, children were declared to be the "supremely important assets". These articulations run in parallel to the international commitments in world under the aegis of the UN General Assembly of 1959 where in the UN Declaration of the Rights of Child 1959 placed importance on children's nutrition, free education, access to health care, and freedom from exploitation and discrimination (United Nations, 1960). Emphasis on children and child rights are today formalized internationally within almost 19 different indicators of the Sustainable Development Goals (see Table 5). Placed under the aegis of the UNICEF, the SDGs provides a common framework for tracking the status of children globally.

Table 5 Sustainable Development Goals owned by UNICEF

Sl. No.	Custodian Indicators	Co-Custodian Indicators
1	*Under 5 mortality*	*Skilled Attendant at Birth*
2	*Neo-Natal Mortality*	*Fully Immunized children*
3	*Early Child Development*	Sexual Violence against women and girls, by intimate partner
4	*Child Marriage*	Sexual Violence against women and girls, by others (not IP)
5	*Female Genital Mutilation*	Safely Managed Water
6	*Child Discipline*	Safely Managed Sanitation and Handwashing
7	*Sexual Violence Against Children*	*Child Labour*
8	Pro-Poor Public Social Spending	*Birth Registration*
9		*Stunting*
10		*Wasting/Overweight*
11		Anaemia in Women

Source: https://data.unicef.org/children-sustainable-development-goals/

Note: The italicized ones are directly related to children, while the remaining create a supportive ecosystem for children.

Within India, the legal basis for defining a child is driven by the context in which the child or a minor is being viewed. I summarize these differences in Table 6. This heterogeneity is important in the context of this paper, since programs designed for children target different age groups, and are often run by different departments. Thus, public expenditure on children is not uniform, whether in terms of the level at all ages, or in terms of symmetry of spending across government departments for individuals in the entire 0-18 age group.

Table 6 Definition of a Child in India

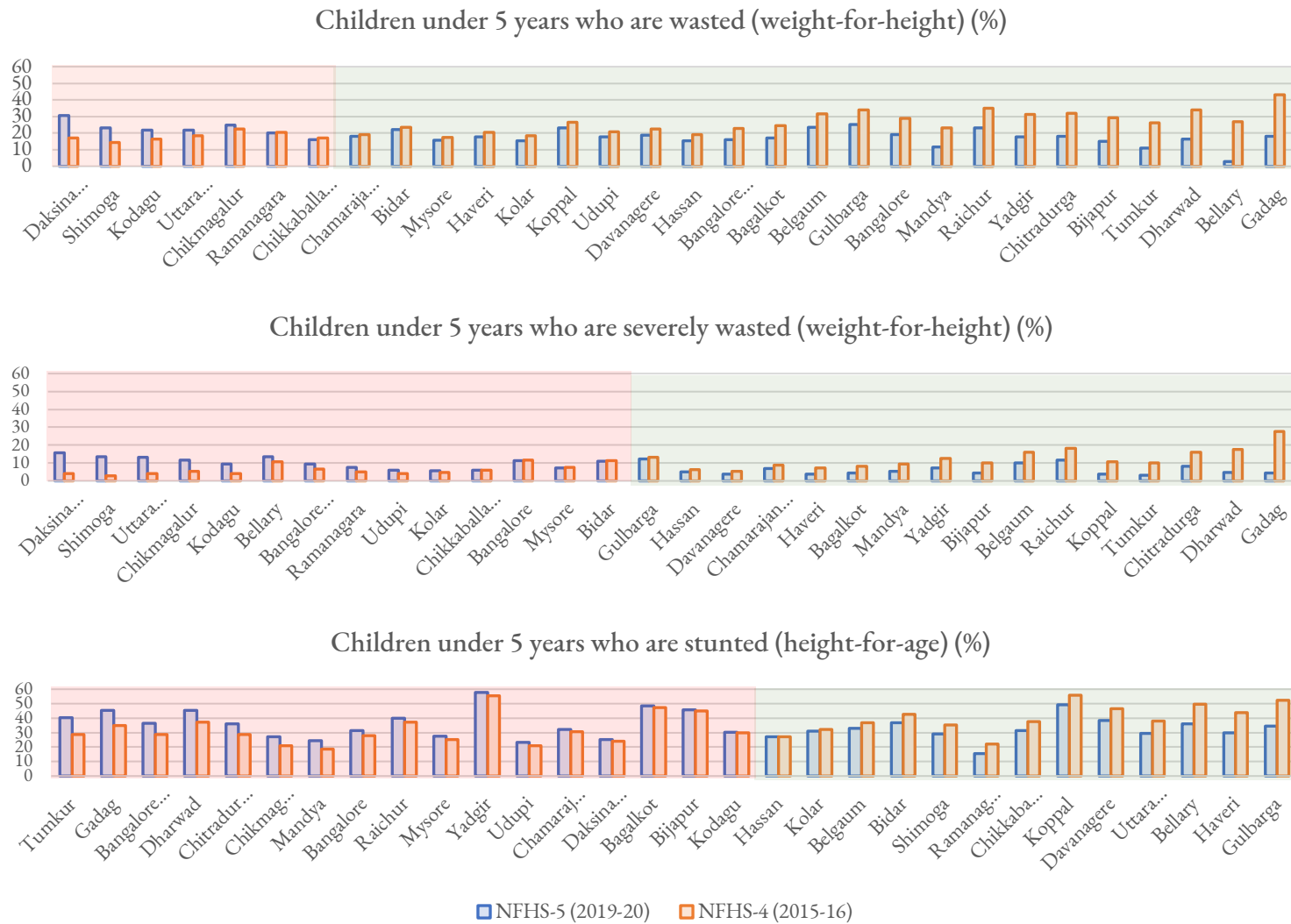| Some Regulations Pertaining to Children in India	Age (in years)			
	0-14	<15	15-16	16-18
The Child Labour (Protection and Regulation) Act, 1986				
The Beedi and Cigar Workers (Conditions of Employment) Act, 1966				
The Plantations Labour Act, 1951				
The Motor Transport Workers Act, 1961				
The Protection of Children from sexual offences Act, 2012				
The Juvenile Justice (Care and Protection of Children) Act, 2015				
UN Convention on the Rights of the Child 1989				

Source: Sharma (2019)

The most recent round of data released by the National Family and Health Survey, Wave 5 (NFHS-5) provides some interesting assessment of child health for the year 2019-20. Health status of children in the age group of 0-5 years are easily tracked for nutrition, vaccination, and a range of other measures pertaining to early childhood. However, nationally or state-level representative data on children in the age group of 5-18 years is scarce, as there are no surveys that track the health status of individuals in this group. For example, NFHS-5 collects data on women in the 15-45 years age group, covering 3 of these 13 years. Unit level data of NFHS-5 remains unavailable till date. However, district level factsheets have been shared, and we study this to generate insights on children in different age-groups.

Figure 4 Vaccination trends of children aged 12-23 months in the last five years.
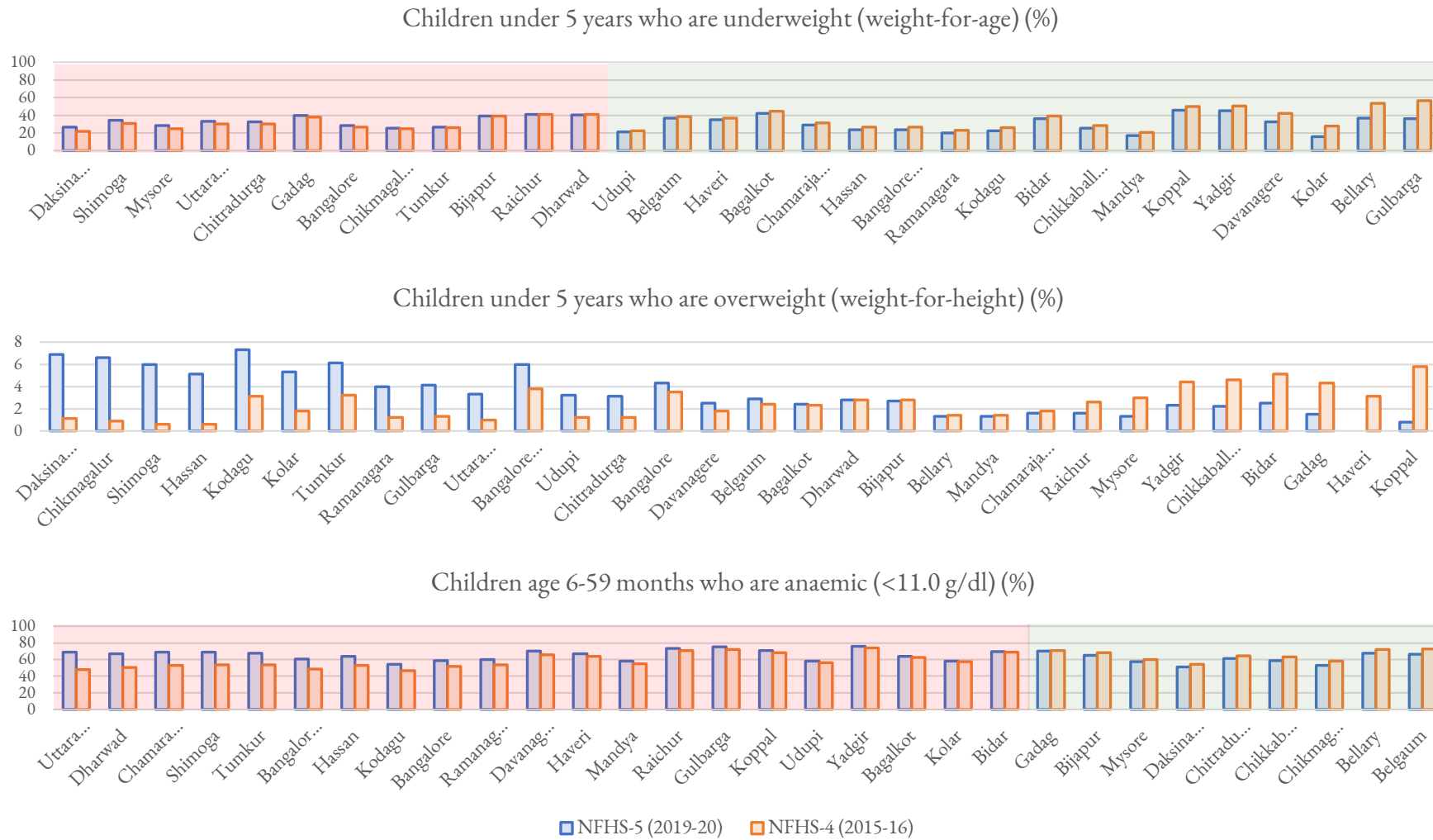

Fully vaccinated based on vaccination card/mother's recall (%)
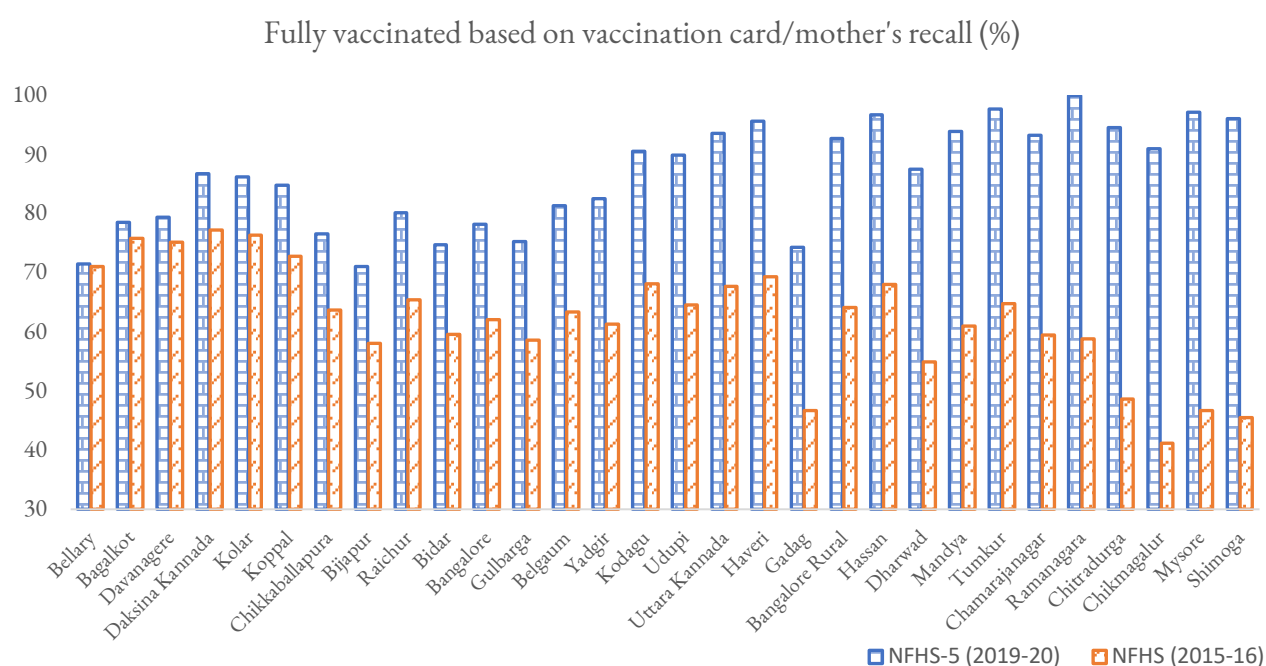
Note: Districts sorted by smallest vaccination gains between waves on the left, to the largest gains on the right

Figure 5 Wasting and Stunting trends of children less than 5 years old in Karnataka, in past five years.

Children under 5 years who are wasted (weight-for-height) (%)

Children under 5 years who are severely wasted (weight-for-height) (%)

Children under 5 years who are stunted (height-for-age) (%)

■ NFHS-5 (2019-20)   ■ NFHS-4 (2015-16)

Note: Districts sorted by largest reversals in child health status on the left (shaded red) to the largest gains on the right (shaded green).

Figure 6 Trends in Nutritional Status of Children in Districts of Karnataka

Children under 5 years who are underweight (weight-for-age) (%)

Children under 5 years who are overweight (weight-for-height) (%)

Children age 6-59 months who are anaemic (<11.0 g/dl) (%)

■ NFHS-5 (2019-20)   ■ NFHS-4 (2015-16)

Note: Districts sorted by largest reversals in child nutritional status on the left (shaded red) to the largest gains on the right (shaded green).

Schemes for Children in Karnataka

The Government of Karnataka issued its first child budget for the year 2020-21 on March 2020, by funding 279 programmes with an allocation of Rs. INR 36340 Crore for children below 18 years. Karnataka joins a select group of states (Kerala, Assam, Bihar, and Orissa) that have a separate budgetary allocation for child development. Following practice in classification of child-centric grants in the State Budget of Karnataka, a scheme may be classified as either a 100% Child-Centric Allocation (100CCA) or a less than 100% Child-Centric Allocation (L100CCA). The 100CCA allocations are for programs or activities that directly benefit children or pregnant and lactating mothers, such as the many nutritional schemes (ICDS, *Poshan Abhiyan*) that apply to only these groups. The L100CCA allocations are those that indirectly benefit children, such as provisions for aid to the disabled, or the National Health Mission that focuses on the general population. For the current financial year (2020-21) child budget's major focus for programme are in the areas of education (67%), health (16%), nutrition (13%), protection (1%) and others (3%). Jha et al. (2019) present a comprehensive summary of trends and patterns of public expenditure for children in Karnataka.

Focusing on general health (excluding mental health) and nutrition-related allocations, I focus on 15 programs and activities listed in Table 7. Broadly, these are split into 4 categories: a) Health, b) Health, Nutrition and Welfare, c) Nutrition, and d) Social Welfare. Collectively, these 15 programs have a fiscal footprint of Rs. 5,410.543 Crore and Figure 7 shows that categories a) and b), both pertaining to health, each contribute about 28% and 29% respectively of the total expenditure. Further, Nutrition accounts for 39% of the total expenditure made under this set of 15 programs and activities. These programs collectively target the age group of 0-18 years and capture many aspects of the SDG goals that are relevant to children (UNICEF 2017). Figure 8 classifies the 15 schemes based on the Sustainable Development Goals (SDGs) indicators that they influence. It is relatively easy to map these schemes as per the set of SDG indicators that relate to children and are the responsibility of the UNICEFviii. The length of the bar indicates the intensity of focus of the respective SDG indicator. The longest of the bars pertain to pro-poor public spending and early childhood development indicating that these are the focus of these 15 government schemes.

Table 1 Child Centric Programs Being Studied

Category	Programmes	Beneficiaries	Type	Budget 2020-21 (in Rs. Lakhs)
Health	National Health Mission (NHM)	Children (0-18 years)	L100CCA	1,39,000.0
	Aids and Appliances for the Disabled	Children (0-18 years)	L100CCA	2,220.0
	Suchi Programme	Adolescent girls (10-18 years)	100CCA	4,700.0
	Indira Gandhi Institute of Child Health	Children (0-18 years)	100CCA	5,171.0
	Construction of 450-Bed Hospital at Indira Gandhi Institute of Child Health	Children (0-18 years)	100CCA	2,000.0
Health, Nutrition, and Welfare	Creches for Working Mothers	Children 0-6 years	100CCA	500.0
	Block Grants	Children 0-6 years	100CCA	30.0
	Integrated Child Development Service (ICDS)	children (0-6 years) + Adolescent girls (10-18 years)	100CCA	1,57,091.8
Nutrition	Block Grants (ICDS-National Nutrition Mission (NNM))	Children 0-6 years	100CCA	1,97,174.5
	Meeting Medical Expenses of Malnourished Children (Balasanjivini)	Severely malnourished children (0-6 years).	100CCA	200.0
	Poshan Abhiyaan (National Nutrition Mission)	Children (0-6 years) + Adolescent girls (10-18 years)	100CCA	12,500.0
	Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (SABALA)	Girls in the age group of (11-18) years	100CCA	712.0
Social Welfare	Scholarship to the Physically Handicapped	School-going Children (5 - 18 years)	100CCA	625.0
Social welfare	Integrated Child Protection Scheme	Children (0-18 years)	100CCA	9,130.0
Social welfare	Bhagya Lakshmi	Girl children (0-18) in BPL families	100CCA	10,000.0
			Total	5,41,054.3

Note: This set of 15 activities (programs and non-programs) are from Demand No. 11 (WCD) and 22 (HFW). *Source*: GoK Link document.

Figure 7 Sectoral Share of Expenditures across Programs
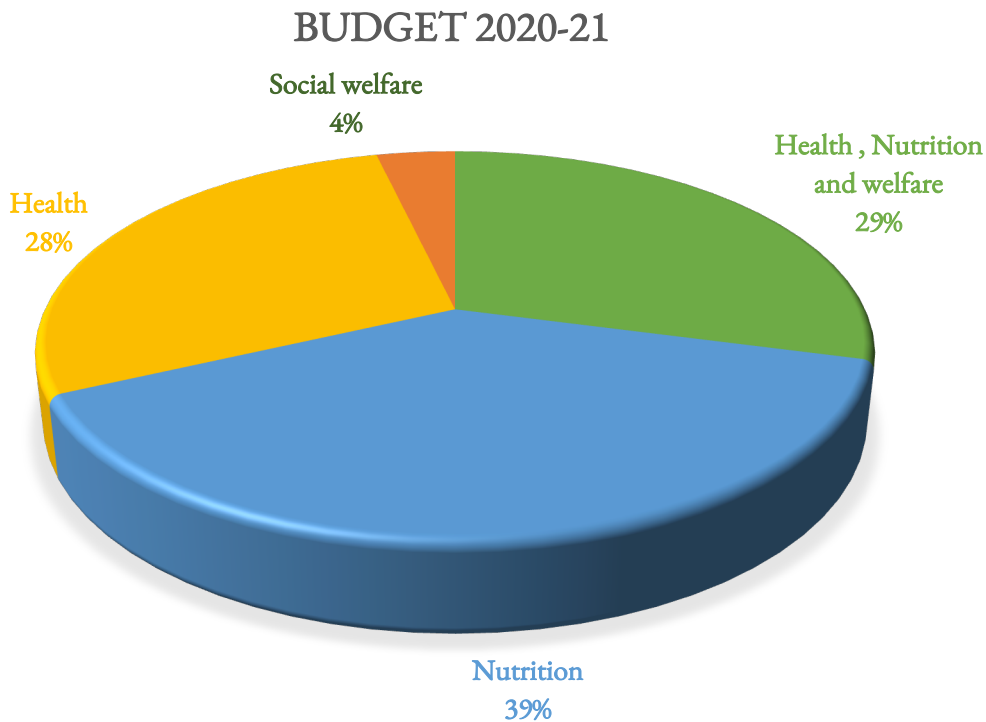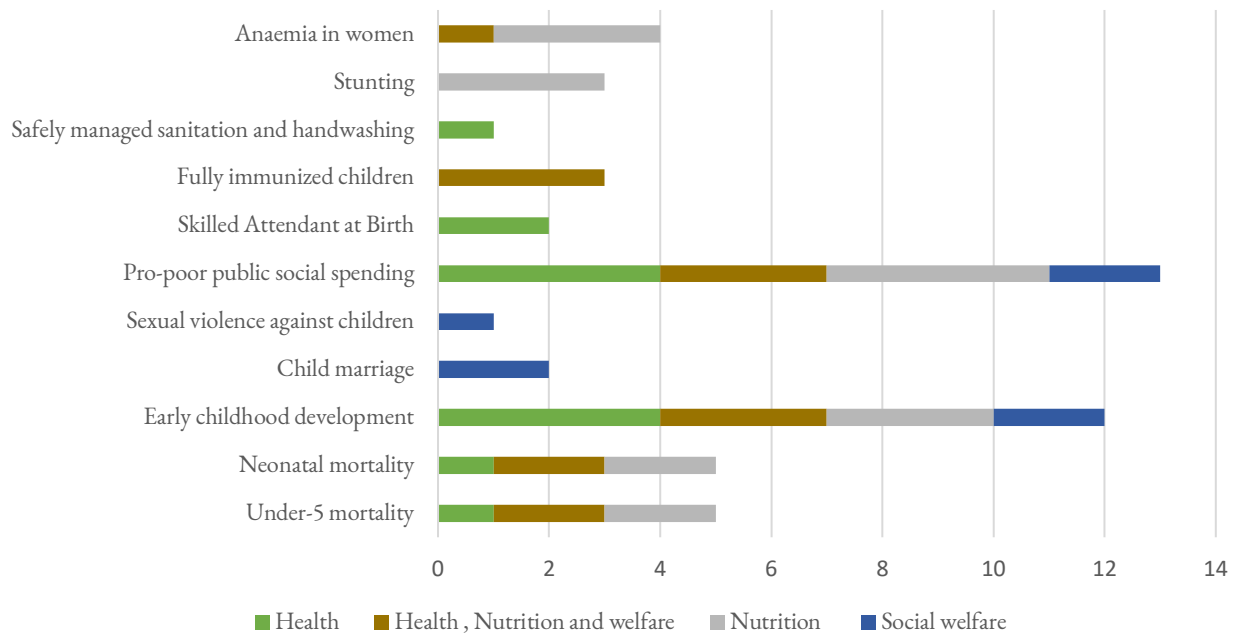
BUDGET 2020-21

Figure 8 Classification of Child Centric Programs from different sectors by SDG Indicators

Thus, the diversity of the schemes represents a useful mix as they are currently structured. Of the indicators that are not mapped onto these, for example, female genital mutilation, or safely managed water, some are perhaps culturally not relevant, while others would be captured outside the set of schemes that we are studying. Table 7 also documents the allocations that have been made in 2020-21 and three programs and activities account for about 91% of the total allocation.

The largest of all the allocations is for the Block Grants pertaining to National Nutrition Mission activities under ICDS, with an allocation of Rs. 1971.74 Crore, accounting for about 36% of the total allocation in the group of schemes we study. These Block Grants were initiated in 1975 as a part of the ICDS, and have a 50:50 sharing norm in financial allocations between the Union Government and the State Government. The objective of the Block Grant is to provide nutritious food to children in the 0-6 years age group. The norm for providing nutritious food includes (a) 500 calories of energy and 12-15 gms of protein to 0-6 year-old children, (b) 600 calories of energy and 18-20 gms of protein to pregnant women/ lactating mothers/ adolescent girls and (c) 800 calories of energy and 20-25 gms of protein to severely malnourished children as a supplement to their normal intake to promote early childhood nutrition and development.

The second largest activity in terms of financial allocation is also associated with the ICDS, and captures the remaining part of the activities under this; this constitutes 29% of the total allocation to these programs and activities. ICDS beneficiaries include children in the 0-6 years of age as well as adolescent girls in the 10-18 years of age. Starting in 1975, this is funded by the Union government and relates to proving health check-up, immunization, nutrition and health education, pre-school education, supplementary nutrition, and referral services for children. Being a scheme that has been in place for decades, ICDS has seen several evaluations of note and in general the design of the program is widely appreciated (Gragnolati et al. 2006). A key concern has been the failure to eradicate malnutrition among children despite an appropriate design for the scheme. Gragnolati et al. (2006) suggest that more can be done by reaching younger children, specifically, those in the 0-3 years of age, better targeting of poorer states, and by extension, poorer districts, and gram panchayats.

The third largest activity in terms of financial allocation is the National Health Mission (NHM). NHM receives 26% of the total allocation to these schemes. Initiated in 2005 as the National Rural Health Mission, NHM is a program with shared financial responsibilities of 60:40 between the Union government and the State. Targeting children in the 0-18 years of age, NHM is designed to provide accessible, affordable, and quality health care, especially to vulnerable groups such as Women, Scheduled Castes (SC), Scheduled Tribes (ST), Children, Aged, Disabled, Poor migrants, People living with HIV/AIDS, and Sexual Minorities. Some of the key components of NHM are: (i) NRHMRCH Flexi pool, (ii) NUHM Flexi pool, (iii) Flexible pool for Communicable disease, (iv) Flexible pool for non-communicable diseases including Injury and Trauma, (v) Infrastructure Maintenance and (vi) Family Welfare Central Sector component[ix].

Choudhury and Mohanty (2018) analyse the public finance foundation of NHM and document that across 29 states of India, only 55% of funds allocated to NHM were utilized in 2015-16 and 2016-17. The authors reflect that NHM's design places its activities outside the administrative framework of the state government to give it flexibility. However, its rigid framework and its fragmented approach to financial management has led to poor utilization of funds under NHM.

Defining Priority Areas

An area may be deemed as a priority either on account of its importance on theoretical grounds, in so far as child development, health, and nutrition particularly are concerned, or because it is a domain that needs urgent reform or re-design to enable better functioning of a given scheme. Without careful analysis of scheme-specific details, it is difficult to assess this kind of priority. Instead, I focus on the

idea of geographic priority as a means of identifying regions where programmatic intervention is of the utmost importance. Specifically, I use the recently-released NFHS 5 fact sheets to identify geographic priorities that must be kept in mind in any planning or re-budgeting exercise that may be of relevance in a year where COVID-19 has affected both the macroeconomic balance, as well as reduced the fiscal space within which governments must prioritise its expenditures.

Table 8 seeks to identify how each district in the state of Karnataka has performed on 6 child health dimensions between 2015-16 and 2019-20, i.e., pre-COVID-19. These 6 dimensions are wasting, severe wasting, stunting, weight-for-age, anaemia, and vaccination status for children, largely in the 0-5 years age group. These dimensions broadly capture health- and nutrition-related indicators for children; not only do they overlap with the first 3000 days of life, when interventions have the highest value, but they also pertain to the age-group for whom past program implementation literature suggests programs tend to be the weakest.

For each indicator we assess if a district is doing better in 2019-20 than in 2015-16 as per the NFHS surveys. If a district is doing worse on an indicator, for example, in 2015-16, if the fraction of children who were wasted was lower than the fraction of children who are wasted in 2019-20, then we colour this cell **red** to indicate things have become worse and the district is falling behind its own achievements in the last 5 years. For the indicator on wasting, this is true for the districts of Uttara Kannada, Shimoga, Dakshin Kannada, and Chikmagalur. In general, with rising incomes, health indicators and child health indicators tend to improve with time. Thus, if we see a modest gain, between 0 – 5% points on an indicator within a district, we colour this district **yellow**. Thus, for Anaemia, we find that 21 of the 30 districts report higher levels of Anaemia in 2019-20 than in 2015-16, and are coloured red, but in 8 of the remaining 9 districts there have been modest gains, and these have been coloured yellow. The remaining district, Belgaum, is the only district to report a significant decline (anaemia levels in 2019-20 are more than 5% lower when compared to 2015-16) and thus is coded **light green**. In some instance there have been significant improvements in health outcome for example, in Bijapur, wasting was reduced to 15% from 29.1% in the last 5 years. Similarly, Gulbarga's rates of stunting declined from 52% to 34.5%, while vaccination rates have risen sharply across Karnataka, with 17 districts recording more than a 25%-point increase in vaccine coverage rates. These large improvements are coloured in **dark green**.

Table 2 District Child Health Status according to extent of Decline between NFHS waves

Districts of Karnataka	Wasting	Severe Wasting	Stunted	Weight for Age	Anaemic	Vaccination	Falling Behind (#Red/6)
Bagalkot							33%
Bangalore							50%
Bangalore Rural							50%
Belgaum							0%
Bellary							17%
Bidar							17%
Bijapur							33%
Chamarajanagar							33%
Chikkaballapura							17%
Chikmagalur							67%
Chitradurga							33%
Daksina Kannada							67%
Davanagere							17%
Dharwad							33%
Gadag							33%
Gulbarga							17%
Hassan							33%
Haveri							17%
Kodagu							67%
Kolar							33%
Koppal							17%
Mandya							33%
Mysore							33%
Raichur							33%
Ramanagara							33%
Shimoga							67%
Tumkur							50%
Udupi							50%
Uttara Kannada							67%
Yadgir							33%

Note: Columns on Wasting, Severe Wasting, Stunting, Weight for Age, Anaemia, and Vaccination are constructed from NFHS-4 and NFHS-5 data. Districts falling behind are coloured in red. Districts that show modest gains, i.e., gains less than 5% between the waves, are coloured yellow, while larger gains are coloured green and, in some cases, exceptional gains are coloured in dark green. The last column simply measures the fraction of dimensions on which a state is falling behind (i.e., is red) out of the 6 dimensions; thus, larger values indicate falling behind on a greater number of dimensions. The colour coding for the last column is dark green if there are no reds (0%), yellow if there are 1 or 2 reds (17% or 33%) and red for 3 or more reds (50% or 67%). On Anaemia, 21 out of 30 districts register a decline in NFHS-5 when compared to NFHS-4 indicating that anaemia is perhaps the most widespread deficit in Karnataka.

Thus, we have classified each district into one of 4 categories (Red, Yellow, Light Green, Dark Green) that are broadly consistent with Falling Behind, Modest Gain, Good Gains, and Significant Gains. Table 8 shows that 17% of the districts are falling behind on Wasting, 37% of the districts are falling behind on Severe Wasting, 63% of districts are falling behind on Stunting, 33% of districts are falling behind on Weight-for-Age and 70% of districts are falling behind on Anaemia. No district has fallen behind on Vaccination rates, indicating that on this one measure there is resounding improvement in the last 5 years. Reading down the columns of Table 8 gives us a way to prioritize which dimensions of health and nutrition need critical attention. In this sense, in Karnataka, severe wasting and anaemia are two very important domains on which many districts were failing to meet their achievements of the past 5 years even before COVID-19 became widespread.

The last column of Table 7 calculates the ratio of the number of dimensions on which a district is falling behind (i.e., is red) to the total number of dimensions. Districts with a ratio of 50% or more are coloured red in this column to identify districts where there is a convergence of failures on multiple dimensions. For example, Chikmagalur and Dakshin Kannada both have a score of 67% indicating that it is falling behind on 4 of the 6 dimensions; these are Wasting, Severe Wasting, Stunting, and Weight-for-Age. Similarly, Udupi has a score of 50% and is falling behind its 2015-16 numbers on Severe Wasting, Stunting, and Anaemia. Thus, this column identifies a geographic focus of where the priority is most needed.

Discussions

The COVID-19 pandemic has affected every part of the world, including children, and in multiple dimensions. The Human Development Report for 2020 summarizes this by noting that COVID-19

"crisis is hitting hard on all of human development's constitutive elements: income (with the largest contraction in economic activity since the Great Depression), health (directly causing a death toll over 300,000 and indirectly leading potentially to an additional 6,000 child deaths every day from preventable causes over the next 6 months) and education (with effective out-of-school rates – meaning, accounting for the inability to access the internet – in primary education expected to drop to the levels of actual rates of the mid-1980s levels). This, not counting less visible indirect effects, including increased domestic violence, yet to be fully documented.[x]

While the entire world is affected, children are particularly vulnerable with little ability to voice their challenges, and the first 1000 days of child's life is a period where we now recognize that investments tend to be critical for nurture and long-term behavioural and cognitive development of the child. Clearly, COVID-19 has disrupted the ability of households in taking care of children, as well as affected the routine functioning of various social policies that target children. In this paper we focussed on households and social policy in the state of Karnataka to see how children and policies that target child health and nutrition may be better prioritized or targeted.

COVID-19-driven disruptions to the economy have first and foremost affected households' abilities to earn incomes, particularly for those who were in the informal sector. As analysed in Section

II, incomes have declined across education and occupational categories, with the Gini coefficient rising indicating rising inequalities, some of which have reversed gains that have taken decades to achieve. In Karnataka, quarterly fluctuations in income and expenditure have increased significantly when we compare COVID-19-affected quarters to pre-COVID-19 quarters. The difference between income and expenditure, reflecting the sum of dissaving, gifts, borrowing, asset sales, etc. has been even more volatile, indicating significant dependence on financing routine expenditures outside of income. Children at home are thus living in more economically challenging conditions than ever before; combined with study from home policies, their reliance on the home environment has also become much deeper than ever before, at a time when some households will clearly struggle in providing for children.

At the level of Social Policy too we see that there have been widespread reports of government schemes stalling in the media[xi].

There is clearly evidence of rising deficits and debt of the State Government of Karnataka, as it tries to sustain its expenditures in the face of diminishing revenues and reduced transfers from the Union government. Allocations to policies that affect children have not seen a drastic cut yet, but the position becomes clear when we get the actual numbers for 2020-21. Hardening budget constraints force reprioritisation, and it is not yet clear how this will impact the allocation to child-centric programmes.

NFHS-5 data clearly establishes that even as Karnataka was entering COVID-19 children were doing worse than 5 years ago, i.e., they were doing worse in 2019-20 than in 2015-16. A close look at the data shows that on health and malnutrition measures children were worse off in 2019-20, suggesting that the existing schemes and programs have not led to such improvements as may have been envisaged. Further, the district-level fact sheets enable us to identify identify district-level hotspots where child health and nutritional measures became worse on multiple dimensions, illustrating a convergence of challenges that child-centric social policy faces. Urgency in action is needed to address these deficits, which would only have been accentuated due to COVID-19 and the associated economy wide lockdown.

With vaccination trends improving significantly in the last 5 years of the indicators we studied, it turns out that many of the indicators of under-nutrition for children are worse particularly in the districts of Bangalore Rural, Belgaum, Chikmagalur, Dakshin Kannada, Kodagu, Shimoga, Tumkur, Udupi, and Uttara Kannada. What is surprising is that not all of these are poor in per capita terms, suggesting that the existing pattern of programs is systematically unable to identify "at risk" children. With India's ranking on the HGI 2021 falling behind its South Asian and economic comparators, it is critical we begin urgently directing programmatic focus on children's health and nutritional status through restructuring and better delivery in high priority areas. Thus, identifying districts where child development is weak will provide operational guidance on taking corrective steps to strengthen child development. With an uncertain third wave of COVID-19, and challenges to lives, livelihoods and reducing government's fiscal footprint, child development is at risk. Prioritizing and focussing attention to places with multiple failures can be crucial to ensuring children in Karnataka have a secure future, and more broadly that India reverses its slide on HGI rankings.

REFERENCES

Deloitte (2020) Opportunity in the times of COVID-19: Positioning Karnataka as a preferred investment destination. (in-about-deloitte-opportunity-in-the-times-of-covid-bcic-noexp.pdf; 18-02-2021)

Government of India, 2019. SDG India Index Baseline Report 2019-20, NITI Aayog, New Delhi.

Government of India, UNICEF, and Population Council, 2019. Comprehensive National Nutrition Survey (CNNS) National Report. Ministry of Health and Family Welfare, New Delhi.

Government of Karnataka, 2018. Karnataka Human Development Report 2015: Accelerating Equitable Human Development, Planning, Programme Monitoring and Statistics Department, Bengaluru.

Government of Karnataka, 2019. Economic Survey of Karnataka, Planning, Programme Monitoring and Statistics Department, Bengaluru. (Various rounds)

Gragnolati, M., C. Bredenkamp, M. Das Gupta, Y. Lee, and M. Shekar. "ICDS and persistent undernutrition: Strategies to enhance the impact." Economic and Political Weekly (2006): 1193-1201.

HAQ, Centre for Child Rights, 2015. Budget for Children 2008-09 to 2013-14. HAQ, New Delhi.

Jacob and Chakraborty L., 2020. "Fiscal Prudence for What? Analysing the State Finances of Karnataka", National Institute of Public Finance and Policy, Working paper No. 293.

Jha, J., Madhusudhan Rao, B.V., Siddarth, S., Sowmya, J., Lekshmi, P. T., Susmitha, M. V., Deepa, K. S., and Abraham, S. M. (2019). "Public Expenditure on Children in India: Trends and Patterns". Centre for Budget and Policy Studies and United Nations Children Fund, India.

Mukherji, Arnab, and Arjun Shatrunjay. "Coping with COVID-19 and its Consequences." *The COVID-19 Pandemic, India and the World: Economic and Social Policy Perspectives* (2021): 213.

UNICEF, 2017. UNICEF's Engagements in Influencing Domestic Public Finance for Children (PF4C): A Global Programme Framework.

United Nations. General Assembly, 1960. Declaration of the Rights of the Child: Adopted by the General Assembly of the United Nations, New York, November 20, 1959 (No. 2). HM Stationery Office.

NOTES

ii The Global Hunger Index (HGI) is annually published jointly by the Concern Worldwide and Welthungerhilfe. HGI comprehensively measures and tracks hunger with the aim to trigger action to reduce hunger around the world. India's HGI score has declined from 38.8 points (2000) to 27.5 (2021) in the past two decades. See https://www.globalhungerindex.org/india.html for details.

iii Angwanwadis are pre-school, childcare centres that also provides nutritional programs and services to pregnant and lactating women. Originally conceived in 1975 as a part of the Integrated Child Development Services, they remain key to any nation wide strategy for reducing child and maternal hunger and malnutrition.

iv See Johari, A. (2020) "With Anganwadis locked down across India, children are missing out on vaccines and nutrition", Scroll, July 5th, see online at: https://tinyurl.com/yclxs4vw.

v https://www.statista.com/chart/22048/university-of-oxford-coronavirus-containment-and-health-index-selected-countries/

vi   https://timesofindia.indiatimes.com/city/bengaluru/karnataka-12-economic-contraction-estimated-before-budget/articleshowprint/80555133.cms

vii https://thewire.in/economy/india-economy-gdp-q1-decline-coronavirus-lockdown

viii See https://data.unicef.org/sdgs/

ix NHM and details of its key components are discussed in https://nhm.gov.in/images/pdf/NHM/NHM_more_information.pdf. Many of the activities under NHM directly or indirectly affect child development.

x COVID-19 and Human Development: Assessing the Crisis, Envisioning the Recovery | Human Development Reports (undp.org)

xi Several articles document disrupted delivery of public programs for example, Johari (2020), Rajendra, Sarin and Singhal (2021), "Covid-19: How well are government schemes supporting Bihar's vulnerable populations?", Ideas for India, 18th March, and A. Sharma (2021), "Pandemic relief packages must prioritise school education – but India is failing to do that", The Scroll, 18th February.