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Editorial

With great pleasure and enthusiasm, the Department of Economics of St. Paul's Cathedral Mission College, Kolkata, have published another edition of the departmental journal "ECONOGRAPH" in May, 2022. After steering through the hardships of global pandemic and a gap of few years it is indeed a joyous occasion for the students to return to a new normal life once again and accept the challenge to publish the departmental journal once again. We, the educators and the students are immensely happy to come back to college for offline classes.

College journal provides a platform to our young students to express their thoughts and ideas on various issues pertaining to their academics, society, literature etc. and ignites the young minds for the generation of constructive inputs to bring all round growth and development.

The journal is a compilation of research articles prepared by the students as part of their curriculum training to build an effective future career path as researchers and academicians. We sincerely hope that the hard work put in by the students will be appreciated by all.

I take this opportunity to express my sincere thanks to all the students of our Semester IV (Honours) course for their wholehearted support and contributions and our editorial board without whom this journal would not have seen the light of day. I wish this publication all success.

Dr. Indrani Banerjee

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AN OVERVIEW OF PRIMARY EDUCATION IN RURAL INDIA TRENDS, CORRELATIONS AND QUESTIONS

[Anisha Neogi , Ishita Biswas, Priyanka Sinha , Tushar Jaiswal, Yash Burman]

Abstract

Education is a fundamental right for children worldwide, and ensuring optimal learning outcomes is crucial for their development. In the context of rural India, where access to quality education remains a challenge, it becomes essential to identify the factors that impact the learning abilities of students in elementary schools. This article aims to explore and shed light on these factors, addressing key questions such as the correlation between the number of teachers and learning outcomes, the influence of education budgets, and the potential role of private tutors.

Introduction

Improving the learning abilities of students in rural Indian elementary schools is a pressing concern for enhancing educational outcomes. This article delves into key factors that shape learning in this context, focusing on the impact of teacher quantity, education budgets, and the role of private tutors. While the common assumption suggests that a higher teacher-to-student ratio leads to better learning outcomes, research highlights that the quality of teaching is paramount. Teacher training, pedagogical approaches, and effective classroom management play vital roles in creating conducive learning environments. Additionally, while a larger education budget is beneficial, it alone does not guarantee improved outcomes. Factors such as resource allocation, teacher accountability, curriculum relevance, parental involvement, and community support are instrumental in fostering better learning abilities. The role of private tutors, although prevalent in rural areas, varies in its effectiveness depending on tutor qualifications, teaching methods, curriculum alignment, and affordability. A comprehensive approach encompassing these factors is necessary to create an environment that fosters optimal learning outcomes for students in rural Indian elementary schools. By understanding and addressing these influences, policymakers, educators, and communities can work collaboratively towards transformative educational reforms.

Data Sources and Methodology

Throughout our analysis, we utilized educational statistics data provided by the government of India. This data includes information on the Pupil Teacher ratio, the number of teachers employed in elementary, primary, secondary, and higher secondary sectors, as well as the number of enrolled students. We obtained this data from the Unified District Information System for Education (UDISE).

Additionally, we gathered data on education expenditure from various state government budget plans and the Analysis of Budgeted Expenditure published by the Ministry of Human Resource Development (MHRD), under the Department of Higher Education, Government of India.

To enhance our analysis, we extensively relied on the Annual Status of Education Reports (ASER), which encompassed approximately 19,060 villages and surveyed over 699,597 students. ASER reports provided us with data on the arithmetic and reading skills of children in rural areas, as well as the proportion of students attending private and public schools.

Within our analysis, we examined the correlation between the Pupil Teacher ratio and the educational performance of states, as well as the correlation between the Pupil Teacher ratio and government expenditure on education. Furthermore, we explored the increasing trend of parents in rural areas opting to send their children to private tutors.

Given the absence of a comprehensive index measuring the educational performance of states, we developed our own index, defined as the average percentage of students who can read at a second-grade level and perform division. This index was constructed using estimates from ASER reports, specifically the percentages of students who can read second-grade level text and perform division at the fifth-grade level.

We denote this index as by A_i which represents the i^{th} state's performance.

$$A_i = \frac{\alpha_i + \beta_i}{2}$$

where α_i = Std V: % of students who can read 2nd std level text in the i^{th} state

β_i = Std V: % of students can do 2nd std. level division in the i^{th} state and

$(100 - A_i)$ % can be interpreted as percentage of students

having either reading or arithmetic disability or both in the i^{th} state.

Analysis

Pupil Teacher ratio and 5th standard student's ability to do basic 2nd standard math and read 2nd standard text

The Pupil-Teacher Ratio (PTR) refers to the number of students or pupils in a school divided by the number of teachers available to instruct them. It serves as a measure to evaluate class sizes and the level of individual attention students can receive. Typically expressed as a ratio, such as 20:1, with the first number representing students and the second number representing teachers, PTR is an important factor in assessing educational environments.

A lower PTR indicates smaller class sizes, allowing for more personalized attention from teachers. This can lead to benefits such as increased support, better addressing of student questions and concerns, and a focus on individual needs. Conversely, a higher PTR suggests larger class sizes, which may limit individual attention and personalized instruction.

The PTR is a crucial consideration in education policy and planning as it directly impacts the quality of education provided. Different countries and educational institutions have specific guidelines or targets for an ideal PTR, taking into account factors like students' age groups, subject areas, available resources, and desired educational outcomes.

Table 1: States with highest and lowest PTR (Primary Section)(2020-2021)			
State	Primary Level PTR (Top 5)	States	Primary Level PTR (Bottom 5)
Uttar Pradesh	29	Sikkim	7
Gujarat	30	Nagaland	12
Jharkhand	30	Arunachal Pradesh	13
West Bengal	30	Manipur	13

Bihar	57	Himachal Pradesh	15
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Source: <https://dashboard.udiseplus.gov.in/#/home>

Table 2: States with highest and lowest PTR (Upper Primary Section)(2020-2021)			
State	Upper Primary Level PTR(Top 5)	State	Upper Primary Level PTR(Bottom 5)
Punjab	23	Mizoram	8
Gujarat	24	Nagaland	8
Uttar Pradesh	24	Arunachal Pradesh	9
Maharashtra	26	Himachal Pradesh	9
West Bengal	28	Jammu & Kashmir	9

Source: <https://dashboard.udiseplus.gov.in/#/home>

In India, the Right of Children to Free and Compulsory Education (RTE) Act of 2009 specifies the PTR for primary and upper primary schools. According to the act, the PTR should be 30:1 for primary level and 35:1 for upper primary level. Based on the data from 2020-21, all states, except Bihar in the lower primary level, complied with the RTE regulation regarding PTR (Table 1). Similarly, in the upper primary level (Table 2), all states adhered to the RTE regulation. However, it's worth noting that both the primary and upper primary PTRs are very low in North eastern states, which could indicate low student enrollment, raising concerns.

Upon analyzing the scatter plot of PTR and state performance, we observe a weak negative correlation, suggesting that higher PTRs are associated with better state performance. The correlation coefficient between PTR and state performance is approximately -0.2304, significantly less than zero at a 5% significance level (Fig.1).

$$H_N: r_{A,PTR} = 0$$

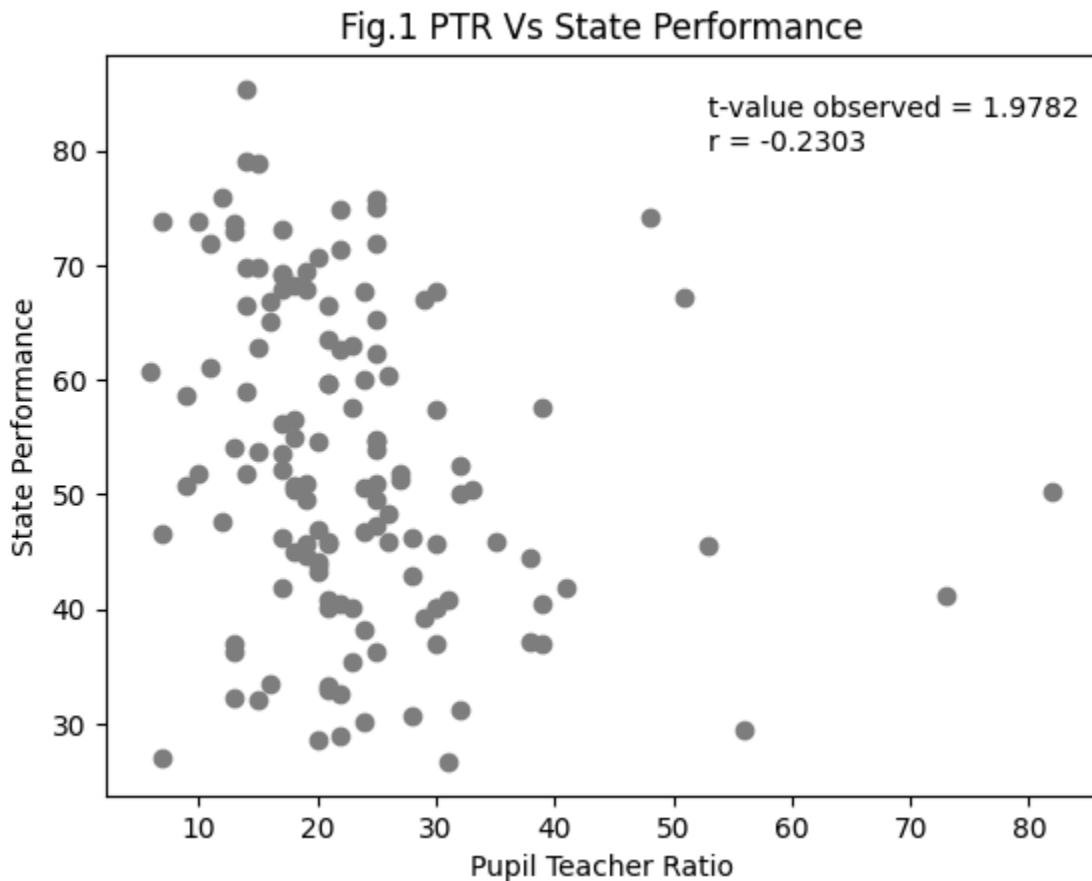
$$H_A: r_{A,PTR} < 0$$

Level of Significance: 5%

t-test statistic (observed) = 2.709281187

Tabulated t-test statistic = 1.9782

Conclusion: Reject H_N at 5% level of significance.



Govt. Expenditure and Enrollment of Students in Govt. Schools

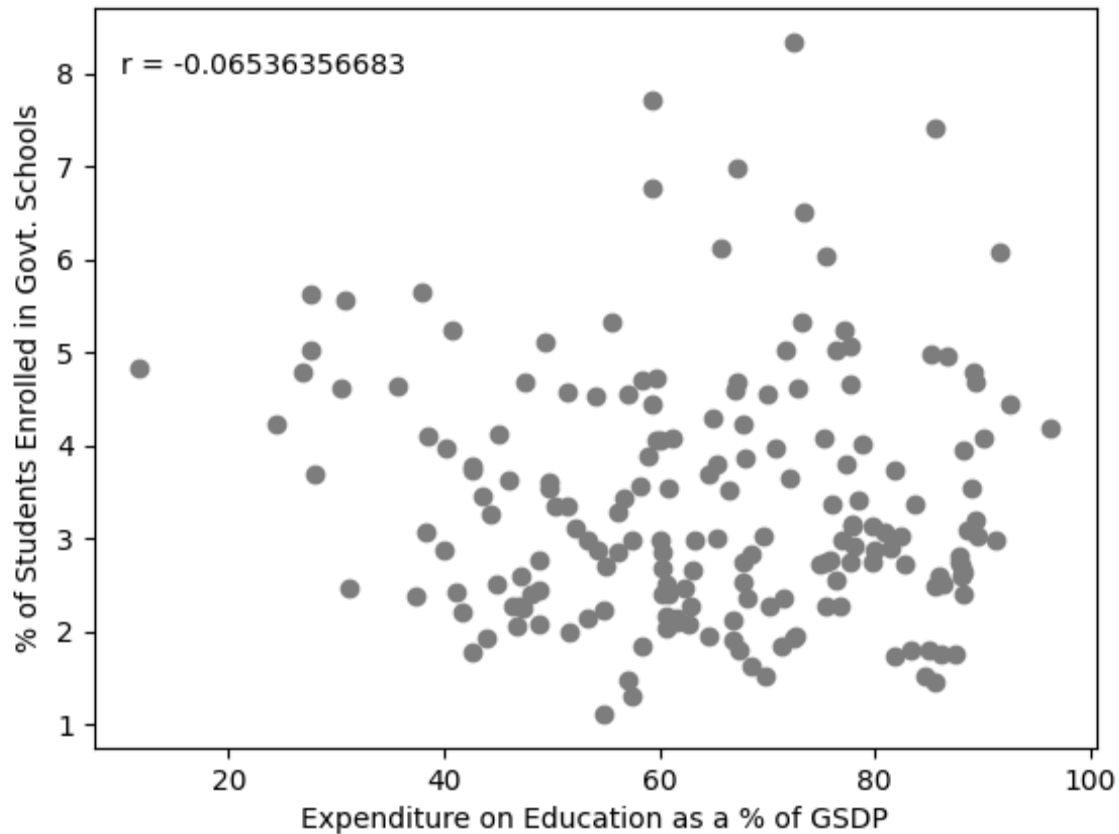
One crucial issue that requires attention in the context of rural India is the accessibility of education to students in remote areas. According to a government report, approximately 14.33 percent of villages (75,613 villages) lack schools. Around 21 percent of villages have schools up to the middle level (Classes 6 to 8), approximately 11 percent have schools up to the high school

level (Classes 9 and 10), and only 6.57 percent have schools up to the senior secondary level (Classes 11 and 12).

Ten states, namely Uttar Pradesh, West Bengal, Jharkhand, Bihar, Manipur, Goa, Odisha, Uttarakhand, Arunachal Pradesh, and Himachal Pradesh, fare worse than the national average, with over 15 percent of their villages reporting a complete absence of schools. On the other hand, Mizoram, Kerala, and Gujarat have less than 2 percent of villages without schools. Kerala particularly excels in terms of higher education, as senior secondary schools are available in approximately 80 percent of its villages, and only around 10 percent of villages have schools only up to the middle or primary level.

When it comes to senior secondary level education, the poorest performers are Odisha, Nagaland, and Jharkhand, with only 1.7 percent, 1.8 percent, and 2.1 percent of villages, respectively, having such schools.

Fig.2 Expenditure on Education as a % of GSDP Vs % of Students Enrolled in Govt. Schools



The government's commitment and efforts to develop educational infrastructure can be seen in its expenditure on education. One would expect that a higher education budget would result in increased student enrollment. However, our analysis indicates that there is no significant correlation, at a 5 percent significance level, between state governments' expenditure on education (measured as a percentage of their State Gross Domestic Product) and enrollment rates.

$H_N: r = 0$

$H_A: r < 0$

Level of Significance: 5%

t-test statistic (observed) = 0.883692489

Tabulated t-test statistic = 1.9729

Conclusion: Fail to reject H_N at 5% level of significance.

The lack of a correlation between government expenditure and enrollment of students in government schools can be attributed to several factors such as;

- **Corruption:** Corruption is a common issue in many countries, including India. If the government is allocating funds for education infrastructure, but the money is not reaching the schools due to embezzlement or corrupt practices, it can hinder the improvement of infrastructure and adversely affect enrollment. This can create a situation where despite increased expenditure, the desired outcomes are not achieved.
- **Inefficient or Misuse of Resources:** Even if the funds are reaching the schools, inefficient utilization or misuse of resources can lead to ineffective infrastructure development. For example, if the funds are not allocated properly or if the construction projects are poorly managed, the quality of infrastructure may not improve as expected, which can impact enrollment rates.
- **Lack of Proper Data:** Another possibility is that a correlation exists between government expenditure on education infrastructure and enrollment, but it may not be apparent due to inadequate or inaccurate data. If the data collection process is flawed, or if relevant variables are not considered in the analysis, the true relationship between expenditure and enrollment may not be accurately captured.

To address these issues and improve the education system, it is crucial to tackle corruption, ensure efficient resource allocation and utilization, and enhance data collection and analysis methodologies. By implementing transparent financial systems, promoting accountability, and adopting innovative approaches, the government can optimize the education system and potentially establish a positive correlation between expenditure on infrastructure and enrollment in government schools.

Increasing Trend of Students Opting for Private Tutions in Rural regions

The proportion of children taking tuition has increased from 2018 to 2021, regardless of grade, school type, or sex. In 2021 according to ASER reports, almost 40% of children take paid private tuition classes. The largest increases in the proportion of children taking tuition are seen among children from the most disadvantaged households. Taking parental education as a proxy for economic status, between 2018 and 2021, the proportion of children with parents in the 'low' (either or both the parents completed schooling till class 5 or less) education category who are

taking tuition increased by 12.6 percentage points, as opposed to a 7.2 percentage point increase among children with parents in the 'high' (both parents studied till class 10) education category. This could be an indicator of increased awareness of the parents with regards to their children getting access to better education.

Conclusion

In conclusion, enhancing the learning abilities of students in rural Indian elementary schools requires a multifaceted approach that considers various factors. While a lower pupil-teacher ratio is important, the quality of teaching, teacher training, and effective classroom management are equally critical. Merely increasing the education budget does not guarantee improved outcomes unless accompanied by proper resource allocation, teacher accountability, relevant curriculum, and active involvement of parents and communities.

The lack of a significant correlation between government expenditure on education infrastructure and enrollment in government schools suggests the presence of underlying issues such as corruption, inefficient resource utilization, and data inaccuracies. Addressing these challenges is essential to ensure that funds reach the intended recipients and are utilized optimally. Transparent financial systems, accountability measures, and innovative approaches can help optimize the education system and establish a positive correlation between expenditure on infrastructure and enrollment.

Furthermore, the increasing trend of students opting for private tuition underscores the need to improve the quality of education in government schools. It reflects a growing awareness among parents about the importance of supplementing their children's learning. Policymakers should consider measures to enhance the quality of education in government schools to reduce the reliance on private tutors and ensure equitable access to quality education for all students, regardless of their economic background.

By comprehensively addressing these factors and implementing reforms driven by transparency, accountability, and community engagement, policymakers, educators, and communities can collaboratively work towards transformative changes in rural Indian elementary schools. This will lead to improved learning outcomes, empowering students with the knowledge and skills necessary for their future success.

INFORMAL EMPLOYMENT: A LOOK AT CHILD LABOR & FEMALE WORKERS IN INDIA

[Annasha Dey, Anurag Banerjee, Avimalya Dey, Rajarshi Sengupta, Tiasa Bhattacharya]

Introduction:

Informal employment, characterized by its lack of legal protection and social security, is a prevalent phenomenon in the global economy. It encompasses work arrangements outside the regulatory framework, offering little job security and often low wages. This article explores the causes, impacts, policy responses, and future outlook of informal employment. Understanding this issue is crucial for promoting inclusive economic growth and improving the well-being of workers worldwide.

View point of Indian Economy:

The informal sector in India constitutes a significant portion of the country's economy. It encompasses a wide range of activities, including street vending, small-scale manufacturing, domestic work, and agriculture. This article focuses on the Indian informal sector, examining its causes, characteristics, and the socio-economic impacts it has on workers and the overall economy. Understanding the dynamics of the Indian informal sector is essential for formulating effective policies that address the challenges faced by informal workers and promote their transition into formal employment.

How does child labour make an impact on the Indian informal economy sector?

Child labour has a significant impact on the Indian informal economy sector. It provides cheap and flexible labour for informal businesses, suppressing wages for all workers. The use of child labour enhances competitiveness and market expansion in the informal sector, posing challenges for formal businesses. Child labour perpetuates the cycle of poverty by depriving children of education and future employment opportunities. Working in hazardous conditions, children face health risks and hinder their physical and mental development. Moreover, child labour violates children's rights, depriving them of education and a safe environment. Combating child labour in the Indian informal sector requires strict enforcement of laws, access to education, social protection, and raising awareness to build

an inclusive and sustainable economy.

As per Census 2011, the total child population in India in the age group (5-14) years is 259.6 million. Of these, 10.1 million (3.9% of total child population) are working, either as ‘main worker’ or as ‘marginal worker’. In addition, more than 42.7 million children in India are out of school

TABLE 1:

Year	Percentage of working children (5-14)			Total number of working children (5-14) (in millions)		
	Rural	Urban	Total	Rural	Urban	Total
2001	5.9	2.1	5.0	11.4	1.3	12.7
2011	4.3	2.9	3.9	8.1	2.0	10.1

Distribution of working children by type of work in 2011.

TABLE 2:

Area of work	Percentage	Numbers (in millions)
Cultivators	26.0	2.63
Agricultural Labourers	32.9	3.33
Household Industry workers	5.2	0.52
Other workers	5.8	3.62

Women in informal sector:

Women in the Indian informal sector makes significant contributions to the economy but face challenges. They experience gender-based inequality, limited social protection, and

work-life balance issues. Lack of representation and access to education further hinder their progress. To address these issues, targeted programs are needed, including skill development, access to credit, and entrepreneurship support. Expanding social protection measures can ensure maternity benefits and healthcare. Empowering women through representation and leadership roles is crucial. Additionally, improving access to quality education and vocational training will enhance their opportunities. By addressing these challenges, women can become agents of inclusive economic growth in the Indian informal sector.

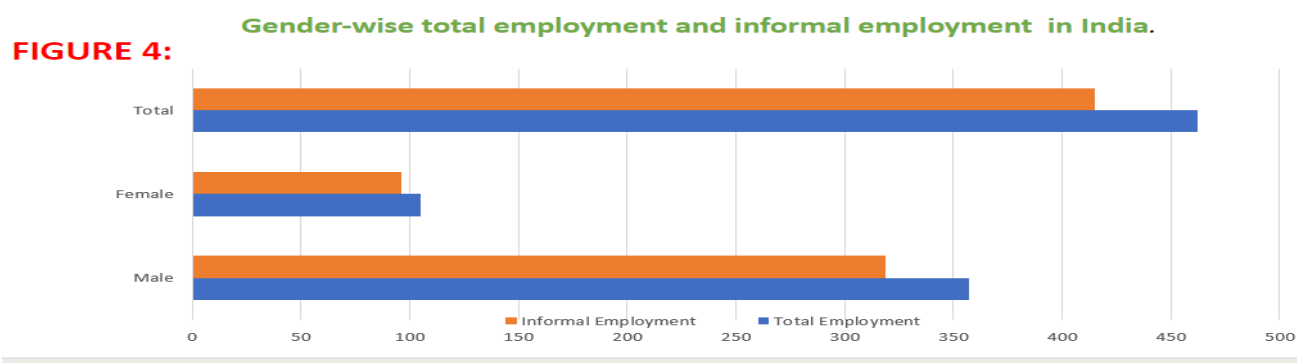
Report:

According to International Labour Organization 81.8 % of women workers are involved in the Informal sector of the economy. Within informal economy, women face a range of challenges, including low wages, lack of social protection, and vulnerability to exploitation and abuse. They may lack access to credit, training, and other resources needed to grow their businesses or improve their economic situation.

Women workers in informal sector in India:

- In India, 94% almost of total women workers are engaged in informal sector.
- Of which 20% work in urban areas.
- Majority of women workers in informal sector comes from those sections of society which need income at any cost.
- Nearly 50% women workers are sole support of their own families.

Important graphical result & Report:



Conclusion:

Predominance of Informal Sector has become one of the central features of the labour market scenario in India. The Informal Sector contributes around half of the GDP of the country where, 90% of the total workforce has been engaged in this sector of the economy.

Thus, Government has introduced Goods and Services Tax, Digital Payment System and other numerous portals and policies to encourage the formalization of the Economy.

Despite this, the formal sector is more productive than the informal sector, whereas working in this informal sector leaves worker often without any protection of labour laws, social benefits such as pension, health insurance or paid sick leave. Therefore, it's necessary to consider multidimensional aspects of formalizing Indian informal workforce.

PUBLIC EXPENDITURE ON SOCIAL SECTOR (BUDGET 2023-24): AN ANALYSIS OF WOMEN AND CHILD WELFARE DEVELOPMENT

[DEBADRITA BANERJEE, TRINA MONDAL, SHRABANA PAUL, PRIYANKA DASGUPTA, SAYANTAN GHOSH]

ABSTRACT:

This paper attempts to look into the expenditure profile of the different Indian ministries with a special attention on the WOMEN AND CHILD WELFARE DEVELOPMENT sector. It preciously focuses on the UNION BDGET 2023-2024 presented by MS. NIRMALA SITHARAMAN on February 1, 2023. Categorically it emphasizes on some of the important budget allocating ministries, specifying the REVENUE and the CAPITAL respectively. Alongside the Union Budget for the financial year 2023-2024, as a whole, it brings into focus the total budget allocated, by the government of India, on WOMEN AND CHILD WELFARE DEVELOPMENT for the years 2021-2022, 2022-2023, 2023-2024. It specifies how the allocation for this sector has remained the lowest for the past 11 years. Our paper provides information with appropriate graphs and trend lines. Finally, it focuses on how a non-cooperation between the state and the government be a major concerning issue owing to the welfare of the people of India.

INTRODUCTION:

Our presentation provides a detailed study on the 'Expenditure Profile' which compiles relevant data across all ministries / departments in order to sketch a profile of the general financial performance of the Govt. of India. The statements contained in this document are prepared on the basis of data/ inputs given by the ministries and some of the statements are contained in the Expenditure Budget prepared by Govt. of India.

The statements on this document reflect vivid discussions on Public Expenditure on Women & Child welfare development which clearly enhances one of the major social sectors.

In this regard, we can say that efforts were concentrated at giving maximum detailed information with minimal repetition.

BUDGET 2023-2024:

The union budget for the FY 2023-24 was presented on February 1, 2023, by our Honourable Finance Minister MS. NIRMALA SITARAMAN. It proposes to spend Rs.45,03,097 Cr. this year. Out of the total expenditure, revenue expenditure is estimated to be Rs.35,02,136 Cr. And capital expenditure is estimated to be Rs.10,00,961 Cr., which accounts for a hike of 1.2% and 37.4% respectively from the revised estimates of the previous financial year.

The receipts (other than borrowing) are expected to be Rs.27,16,281 Cr. An increase of 11.7% over revised estimates for 2022-2023. As per the GDP is concerned, the government has estimated a nominal GDP growth rate of 10.5% this yr. Coming to the deficits, revenue deficits in 2023-24 are targeted at 2.9% of GDP which is lower than the revised estimate of 4.1% in 2022-23. There is a total of 102 ministries amongst which the budget is allocated. However, 13 out of which are the highest allocated, where the ministry of defence is allocated for an account of Rs. 5,93,538 Cr. being the highest for this financial year. And some others are-

1. MINISTRY OF RAILWAY- 49% of the total budget followed by
2. MINISTRY OF JAL SHAKTI- 31% and
3. MINISTRY OF TRANSPORT AND HIGHWAYS, which is 25%.

SOME OF THE IMPORTANT BUDGET ALLOCATING MINISTRIES ARE:

MINISTRIES	REVENUE [in Cr.]	CAPITAL [in Cr.]	TOTAL [in Cr.]
1.Ministry of agriculture and farmers welfare	124982.96	52.83	125035.79
2. Ministry of civil aviation	3026.70	86.66	3113.36
3. Ministry of commerce and industry	11765.36	1689.85	13455.21
4. Ministry of defense	422162.85	171374.79	593537.64

5. Ministry of education	112886.40	13.07	112899.47
6. Ministry of consumer affairs, food, and public distribution	205586.16	178.44	205764.60
7. Ministry of electronics and IT	16180.36	368.68	16549.04
8. Ministry of finance	1543366.57	146352.60	1689719.17
9. Ministry of law and justice	2749.80	2002.78	4752.58
10. Ministry of power	20654.52	16.80	20671.32
11. Ministry of railways	1267.51	240000.00	241267.51
12. Ministry of coal	190.77	1.55	192.32
13. Ministry of science and technology	16263.66	97.76	16361.42

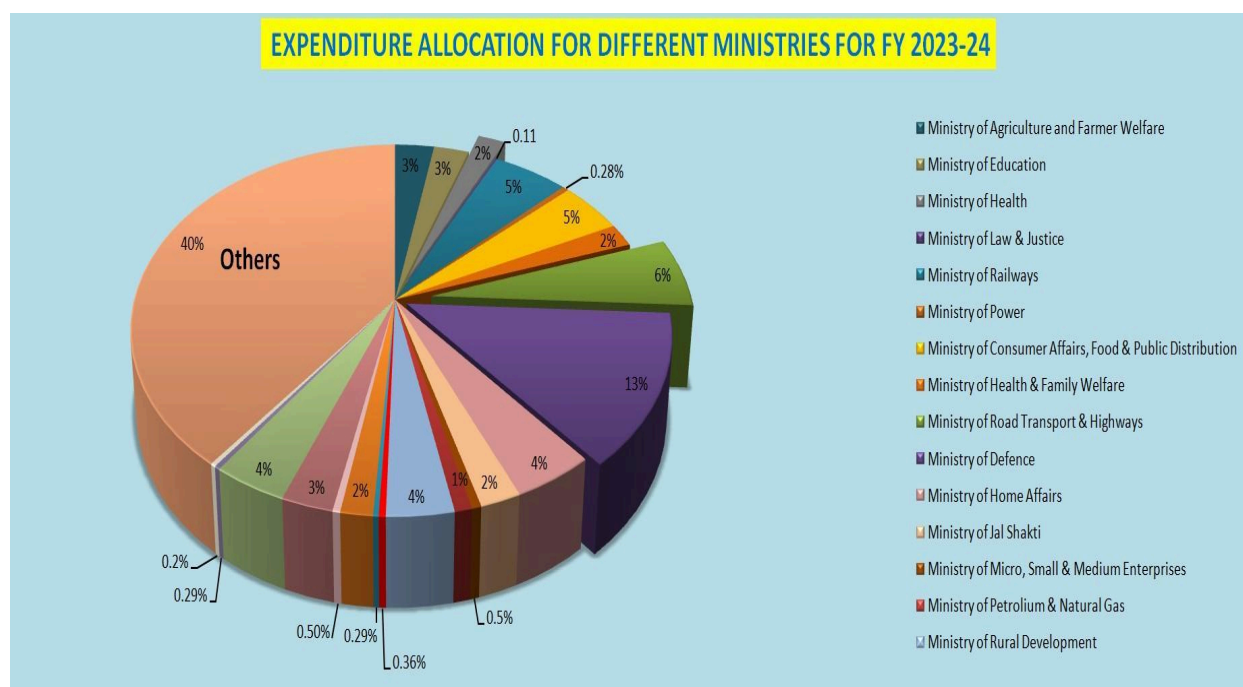


Fig:1

Now we will focus on the budgetary allocation of Women and Child Welfare Development Department:

WOMEN AND CHILD WELFARE DEVELOPMENT:

The Department of Women and Child Development (WCS) was setup in the year 1985 as a part of the Ministry of Human Resource Development to give the much-needed impetus to the holistic development of women and children. The department aims a very clear vision of ***“EMPOWERED WOMEN LIVING WITH DIGNITY AND CONTRIBUTING AS EQUAL PARTNERS IN DEVELOPMENT AND IN AN ENVIRONMENT, FREE FROM VIOLENCE AND DISCRIMINATION AND, WELL NURTURED CHILDREN WITH FULL OPPORTUNITIES FOR GROWTH AND DEVELOPMENT IN A SAFE AND PROTECTIVE ENVIRONMENT”***. The department focuses on building different policies and formulation and implementation of schemes.

Let us now focus on the TOTAL BUDGET ALLOCATED OVER TIME, in this regard, BY THE GOVT OF INDIA for the years 2021-2022, 2022-2023, 2023-2024.

Budget Allocation Over Time :

	2021-2022 (ACTUAL)	2022-2023 (RE)	2023-2024 (BE)	Percentage (%) change
REVENUE	21665	23911	25443	6%
CAPITAL	-	02	5.08	154%
TOTAL	21665	23913	25448.78	6%

As we observe, the budget allocation for women and child welfare decreases over the years and it has remained the lowest in the last 11 years. Some serious issues like - women having access to employment, lack of information on menstrual cycle and childbirth leading to high rates in female mortality and among the children, the longest closure of schools, Nutritional gaps and loss of learning opportunities due to a digital divide during the pandemic period of COVID-19, have shown the least involvement of govt's budget allocation in the women and child welfare development.

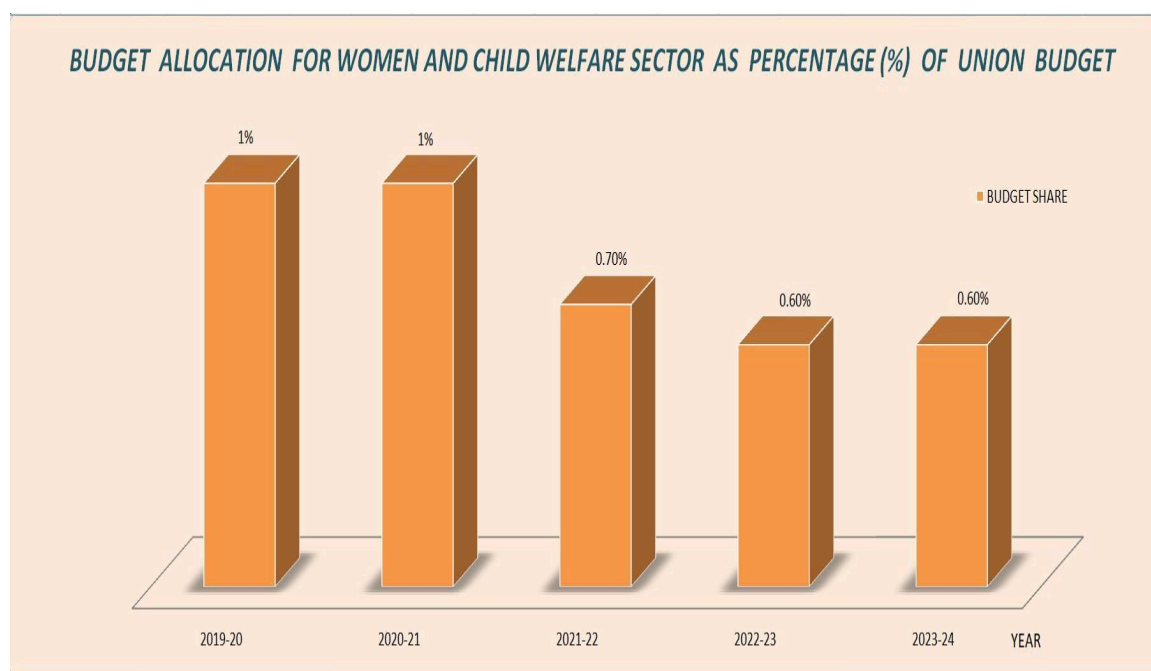


Fig:2

Now let us take a look in the different sectors where the budget is allocated.

DIFFERENT ALLOCATION FOR DIFFERENT SECTORS:

	REVENUE	CAPITAL	TOTAL
1. ESTABLISHMENT EXPENDITURE	79.32	3.08	82.40
2. AUTONOMOUS BODIES LIKE: NIPCCD, CARA, NCPCR, NATIONAL COMMISSION FOR WOMEN, CENTRAL SOCIAL WELFARE BOARD	168.71	---	168.71
3. PROTECTION AND EMPOWERMENT TO WOMEN (Nirbhaya Fund)	20	---	20
4. SCHEMES	25188.44	2.00	25190.44

There are different schemes undertaken by the govt. within which the budget allocation is distributed. They are -

SCHEMES:

	REVENUE	CAPITAL	TOTAL
1. SAKSHAM ANGANWADI and POSHAN 2.0 (Umbrella ICDS – [under which we have-] Anganwadi services, Poshan Abhiyan, Scheme for adolescent girls) whose	20552.31	2.00	20554.31

<u>MOTIVE</u> is to <u>Take care of- malnutrition in children, adolescent girls and pregnant women</u>			
2. MISSION VASALYA whose <u>OBJECTIVE</u> is to <u>Secure a healthy and happy childhood for each and every child.</u>	1472.17	----	1472.17
3. MISSION SHAKTI (which is further subdivided into 2 schemes namely SAMBAL and SAMARTHYA):	3143.96	----	3143.96
<u>i.SAMBAL -</u> [BetiBachaoBetiPadhao, One Stop Centres, Mahila Police Volunteer, Women Helplines etc.]	562.00	----	562.00

ii.SAMARTHYA- [Shakti Sadan, Sakshi Niwas, Palna, Pradhan MatriMatri Vandana Yojna]	2581.96	-----	2581.96
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Fig:3

Source:
www.indiabudget.gov.in

Despite a decreasing budget allocation over the past 11 years on the women and child welfare sector, the budget allocated to the women and child development ministry stood at Rs.25,172.28 Cr. in 2022-2023, a slight increase of 3% from Rs.23,435 Cr. that was given in 2021-2022. In between this fluctuation of budget allocated to this ministry, part of the fund goes unutilized over the years.

As we observe, there was a massive hike in the unutilized funds in the financial year of 2020-21. From an unutilized fund of 20.657% in 2019-20, we see a galloping rise of 36% of unutilized

fund in the succeeding year. But soon it decreased to 11% and 5% respectively on the years 2021-22 and 2022-23. So, as we observe utilization of funds have increased over the last 2 years.

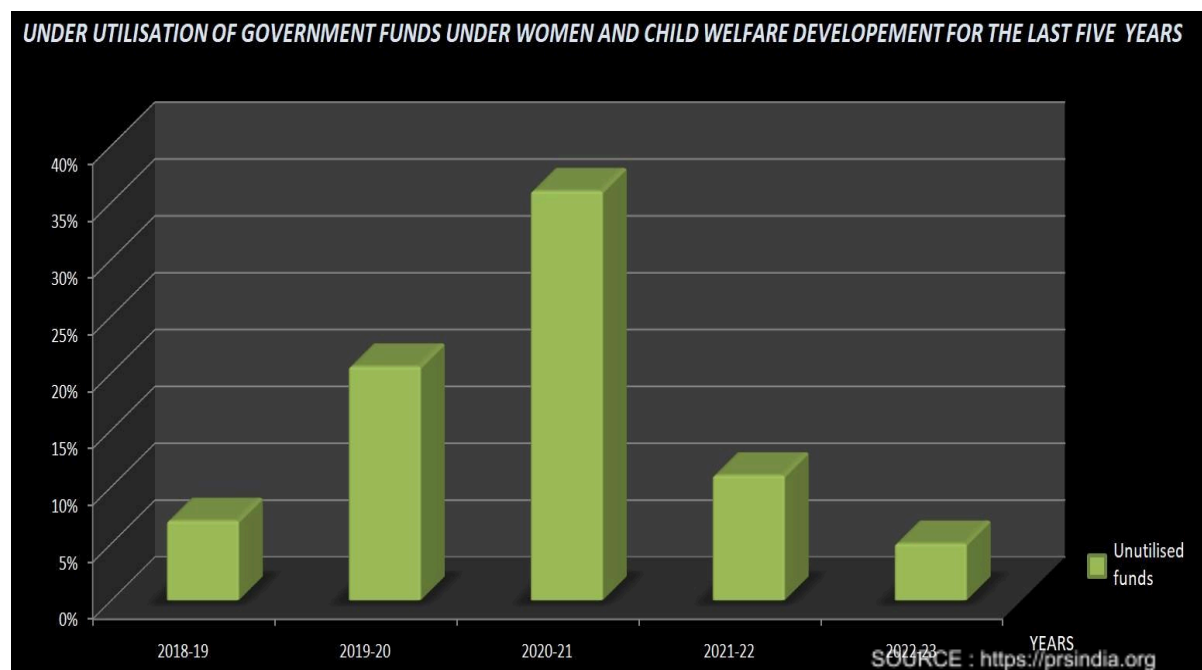


Fig:4

Though we demand for a greater portion of the union budget to be allocated in this sector, yet within the allocated budget some of the funds are under-utilized. The ministry is constrained to observe that the actual expenditure has been showing a declining trend over the years which is not only worrisome but there is an urgent need to address this issue. The underutilization of funds indicate that financial prudence is not being exercised while seeking budget allocation under these schemes or there are gaps in proper planning, implementation and monitoring which is resulting in steep decline in actual expenditure. The committee also takes into account that, due to the emergence of pandemic for the last 2 years, it has affected greatly on the implementation of the schemes. Some of the underutilized schemes of the central govt are “BETI BACHAO, BETI PADHAO”, “NIRBHAYA FUND”.

1.Beti Bachao Beti Padhao: Out of the total fund allocated for this scheme, 78.91% of the expenditure was spent on ‘MEDIA ADVOCACY’, between 2016 and 2019. In the year 2020-21 the percentage has dropped to 11.45%.

After the economic year of 2020-21, there are no significant data available on this.

2.Nirbhaya Fund: Despite the legal frameworks and various institutions put in place, violence against women has not been reduced and outbreak of Covid-19 pandemic, had worsened the

situation of women in the country. As per the 334th report, “under-utilization of NIRBHAYA FUND is still a pressing issue of concern for long. At present out of the allocated funds of Rs.9549 Cr. and funds released as Rs.4241 Cr., the funds utilized so far stand out to be around Rs.2989Cr. only.

BUT AMONGST ALL THESE PROBLEM, IS A NON-COOPERATION BETWEEN THE STATE AND CENTRAL A MAJOR CONCERNING ISSUE?

If we take a look into the utilization of fund for women and child welfare development state wise, then we can see, states like Meghalaya, Mizoram, Nagaland have a very high utilization rate of Central Government Funds (98%, 94%, 98% for POSHAN Abhiyan Scheme between 2017-18 to 2021-22 respectively). These states do not have many schemes made by their own state government (Meghalaya has only 3 grants in aid fully sponsored by state).

There are also states like Tamil Nadu, Kerala where state government have their different schemes for women and child welfare, still the utilization of fund is moderate and praise worthy (75%, 61% respectively for POSHAN Abhiyan Schemes between 2017-18 to 2021-22).

But there is a different scenario for some of the states like West Bengal, Delhi NCT. These states have a very high number of schemes affiliated by the state Government (12 for West Bengal & 8 for Delhi NCT). The utilization of central government funds has been least for these states in last few years, especially for West Bengal. Schemes like “Pradhan Mantri Matri Vandana Yojana”, “POSHAN Abhiyan”, “Mahila Shakti Kendra (MSK)” have not reached to the people of Bengal. The scheme of WHL (Women Helpline) is not functional in West Bengal. The allocation of SAG (Schemes for Adolescent Girls) for the state West Bengal from the Central Government become 0 in the year 2021-22 after the utilization of previous year’s allocation not being reported by the government of West Bengal.

For the last few years, the tension between the Bengal and central government has taken a new height. The lack of cooperation between these two governing bodies can be the major reason for these under –utilization and under- allocation of government funds.

Our Constitution depicts India as an “**UNION OF STATES**” with a “Parliamentary System of Government”. The ultimate goal of this system is nothing but becoming a “developed” country from a “developing country”. But the rivalry between State & Central Government has been a huge hindrance in the path of progress and advancement for the years.

These two different Governing bodies have to coordinate with each other putting their political

interest aside and make their way to become “the government of the people, by the people, for the people”.

Utilisation of Funds by States Under POSHAN Abhiyaan from 2017-18 to 2020-21:

NAME OF STATES	% OF UTILISATION OF FUND
Mizoram	94%
Nagaland	98%
Kerala	61%
Tamil Nadu	75%
West Bengal	0%

Fund Released by GOI Under Pradhan Mantri Matru Vandana Yojana (PMMVY) During 1.04.2021 to 31.12.2021

NAME OF STATES	AMOUNT RELEASED (Rs/- In Lakhs)
Mizoram	55.62
Nagaland	59.40
Kerala	3766.92
Tamil Nadu	1751.10
West Bengal	0.00

SOURCE: Annual Report 2021-22 By Ministry of Women and Child Development

So at a glance budget 2023-24 prepared on 1st February, 2023 says that :

The budgetary allocation for children as a percentage of total expenditure has been declining from 2.35% in 2022-23 to 2.3% in the budget estimate of financial year of 2023-24.

But the allocation of women specific programmes went up by almost 70% from the previous year budget estimation.

However if we look into the social condition we can observe a huge improvement in the sex ratio in India which have been changed from 949 females per 1000 male in 2011 (2011 census report) to 1020 females per 1000 males (as per fifth round of National Family health Survey , 2019-21) in 2022.

But on the contrary the crime rate against women and children is increasing in a huge rate over

YEAR	CRIME AGAINST WOMEN
2019	405326
2020	371503
2021	428273

the last 10 years. By this current trend of rising crimes, the violence against children will cross 2.5 lakhs by 2028 and violence against women will cross 5 lakhs by 2026.

Reported Crime Against Women In India:

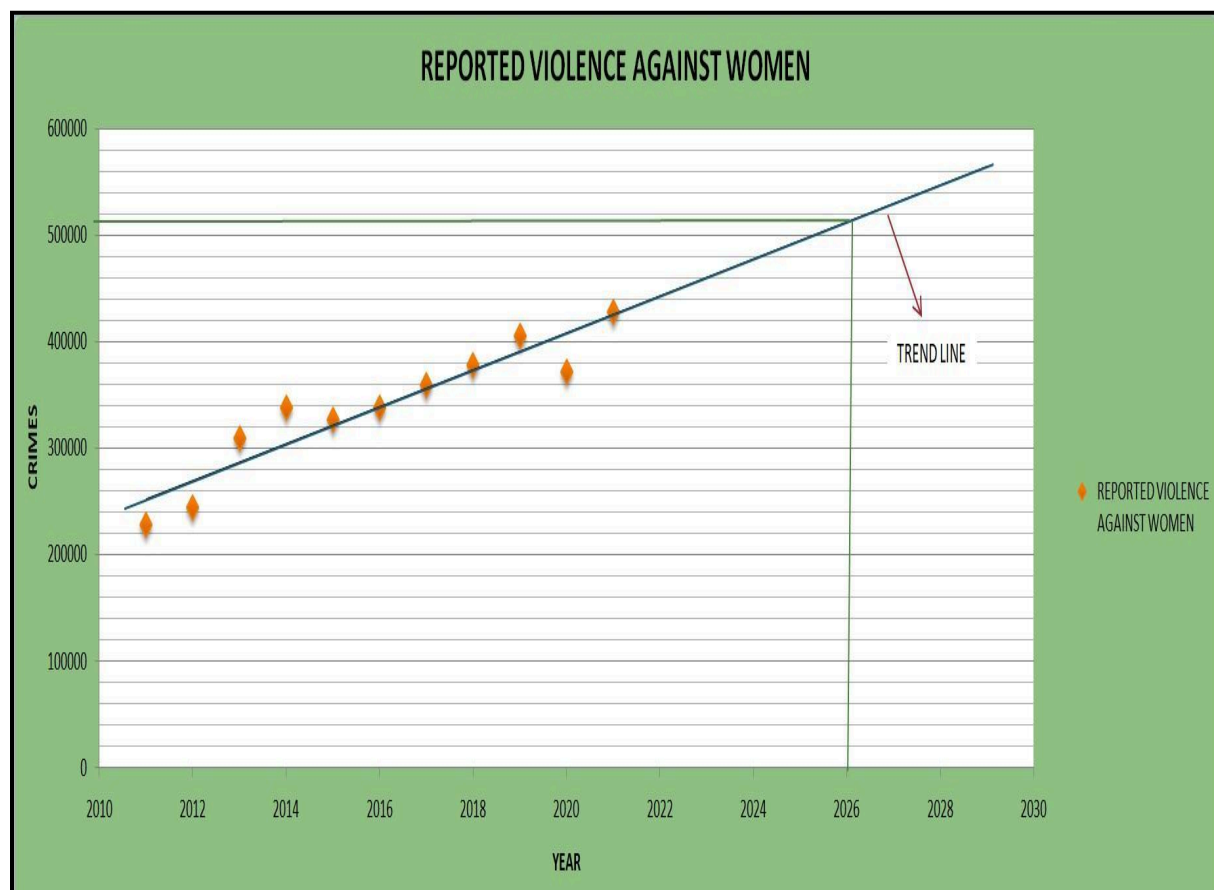


Fig:5

**Reported Crime Against
Children In India:**

2019	148185
2020	128531
2021	149404

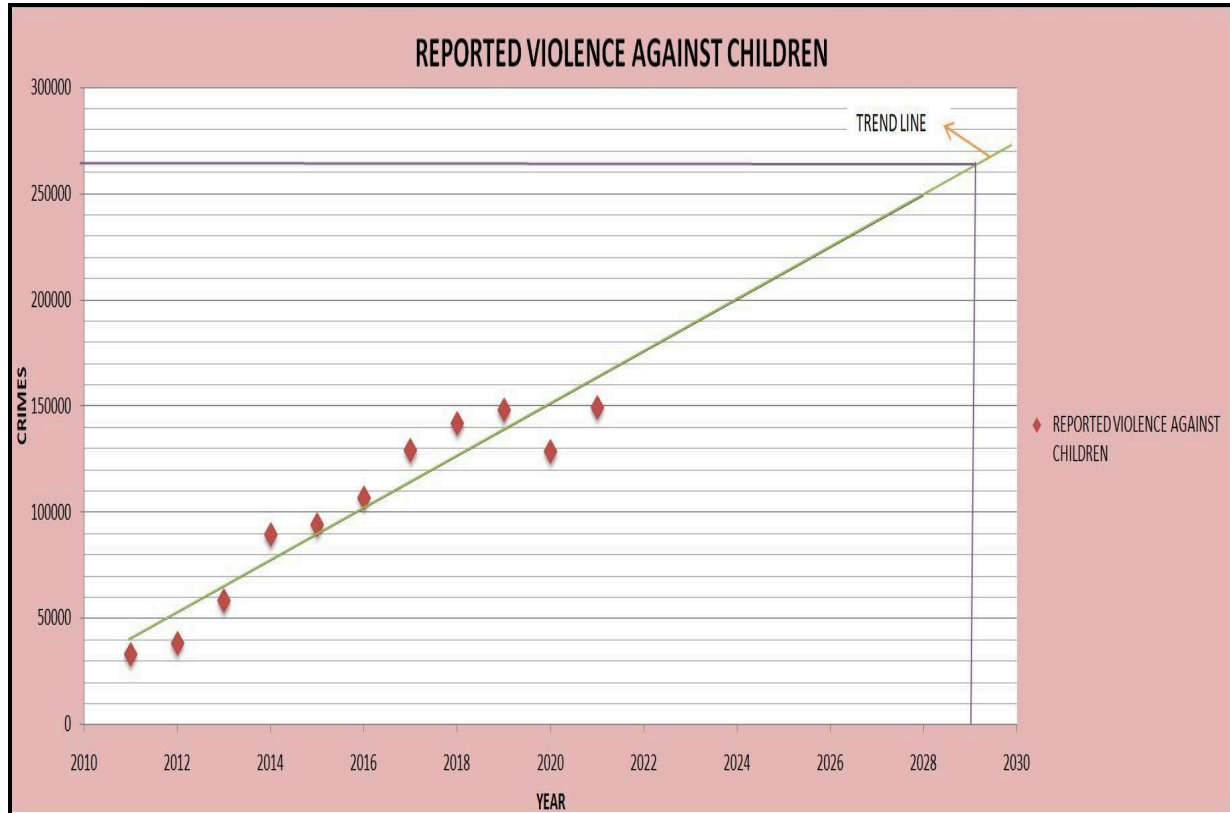


Fig:6

SOURCE : <https://ncrb.gov.in>

So, in spite of improvement in sex ratio there is no such major betterment happened in the social condition of women and children in our country. The vision of the “Women and Child Welfare Development” department is yet to be fulfilled.

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PUBLIC HEALTH IN THE INDIAN CONTEXT AN: OVERVIEW OF SANITATION AND INSIGHT INTO CHILD VACCINATION

[Debosmita Barik, Shreya Biswas, Srijita Ballav, Trisha Pathak]

This article sheds light on the crucial aspects of public health in India, with a specific focus on rural and urban hygiene, sanitation, and vaccination programs. By examining the challenges. And opportunities within these domains, we aim to identify a way forward to improve public health outcomes in the country. This article aims to delve into the Indian context of public health by focusing on child vaccination, examining data gaps in the system, and highlighting the role of the government in the health sector. By addressing these objectives, we strive to enhance the understanding of public health in India and underscore the importance of effective vaccination programs for children.

ABSTRACT:

- Rural and Urban Hygiene and Sanitation.
- Vaccinations Programmes in India.
- A Way Forward.
- Case study.

INTRODUCTION:

Public health plays a crucial role in safeguarding the well-being of individuals and communities, and its significance is particularly pronounced in the Indian context. India, with its vast population and diverse healthcare challenges, requires comprehensive strategies to address public health issues effectively. In this article, we will provide an overview of two critical aspects of public health in India: sanitation and child vaccination. Sanitation is a fundamental pillar of public health, directly impacting the overall health and quality of life of individuals. In a country where a significant portion of the population resides in rural areas and urban slums, access to clean water, proper sanitation facilities, and hygiene practices are essential for preventing the spread of diseases and ensuring a healthy environment. We will explore the state of rural and urban sanitation in India, highlighting the challenges and initiatives undertaken to improve sanitation infrastructure and promote hygienic practices. Child vaccination, another vital

component of public health, plays a significant role in preventing infectious diseases and reducing child mortality. India has made commendable progress in its immunization efforts, but there are still gaps to address. We will delve into the importance of child vaccination, examining the data gaps, analysing the vaccination system, and exploring initiatives undertaken by the government to enhance vaccination coverage and protect children from vaccine-preventable diseases. By shedding light on sanitation and child vaccination in the Indian context, this article aims to underscore the importance of public health interventions and highlight the challenges and progress made in these areas. Through a comprehensive understanding of these critical aspects, we can strive towards building a healthier future for all individuals in India.

WHAT IS PUBLIC HEALTH? According to the World Health Organization (WHO), “Public health refers to all organized measures (whether public or private) to prevent disease, promote health, and prolong life among the population as a whole. Its activities aim to provide conditions in which people can be healthy and focus on entire populations, not on individual patients or diseases.” The categories of public health are: Epidemiology, Environmental Health., Health Promotion, Mental Health, Health Education, Biostatistics, Health Economics, Global Health, Health Policy and Management, Sanitation, Infectious Diseases, Occupational Therapy.

The difference between health, hygiene and sanitation: According to the World Health Organisation: HEALTH- Is “a state of complete physical–mental, social well-being and not merely the absence of disease. SANITATION-Generally refers to the provision of facilities and services for the safe disposal of human urine and faeces. HYGIENE-Is “The conditions and practices that help to maintain health and prevent the spread of diseases.

RURAL SANITATION IN INDIA:- Rural sanitation plays a vital role in improving public health outcomes in India. The lack of proper sanitation facilities in rural areas contributes to the spread of diseases, hampers hygiene practices, and affects the overall well-being of communities.

CHALLENGES IN RURAL SANITATION : Lack of adequate and appropriate toilets used to contribute to the main reason for open defecation in India. There is shortage of adequate water in rural India. Almost one fifth of rural habitations did not get the minimum entitled quantity of water also insufficient access to purified drinking water. Water contamination and inadequate waste management systems further exacerbate the problem. Cultural and behavioural factors also influence sanitation practices, making behaviour change a complex task.

STEPS TAKEN TO ACHIEVE PROPER SANITATION FACILITIES: The Central Rural Sanitation Programme (CRSP) was started in 1986 for rural sanitation, Total Sanitation Campaign (TSC) was launched in 1999 followed by Nirmal Bharat Abhiyan in 2012, The Swachh Bharat Mission is one of the biggest mass movements or Jan Andolan programmes of independent India which was launched in 2014.

URBAN SANITATION IN INDIA: Urban sanitation in India is a critical aspect of public health, as a significant proportion of the population resides in urban areas. However, ensuring proper sanitation infrastructure and practices in urban settings remains a significant challenge. This section will provide an overview of urban sanitation in India, highlighting the key issues, initiatives, and progress made in improving urban sanitation. Sanitation is a pressing issue especially in slums, where crowded conditions and poor sanitation contribute to frequent outbreaks of diseases. The sewers in most Indian cities are badly maintained: frequent blockages, siltation, lacking manhole covers, gulley pits. More than 37% of the total human excreta generated in urban India, is unsafely disposed.

CHALLENGES IN URBAN SANITATION: The rapid growth of urban areas often outpaces the development of adequate sanitation infrastructure, resulting in inadequate sanitation coverage and services. Urban areas in India often face issues of overcrowding and the presence of slums. These conditions make it challenging to provide proper sanitation facilities and services to all residents. Despite efforts to eliminate open defecation, it remains a problem in some urban areas, especially in slums with limited access to toilets. The improper disposal of waste can lead to environmental pollution, health hazards, and the spread of diseases.

STEPS TAKEN TO ACHIEVE PROPER SANITATION FACILITIES:- Jawaharlal Nehru National Urban Renewal Mission (JNNURM) 2005, National Urban Housing and Housing Policy, 2007, Urban Sanitation Policy, 2008, Basic services for the urban poor, Rajiv Awas Yojana (RAY), 2011, Integrated Housing Slum Development Program (IHSDP).

VACCINATION: Vaccination is a critical component of public health in India, aimed at preventing the spread of infectious diseases and safeguarding the population, particularly children, against vaccine-preventable illnesses. This section will provide an overview of vaccination in India, highlighting its importance, initiatives, and achievements. Vaccination is a critical public health measure that saves lives, prevents the spread of diseases, and protects

communities. It is an essential component of maintaining individual and population health, contributing to healthier societies and global well-being.

IMPORTANCE OF VACCINATION: Vaccines play a crucial role in disease prevention by stimulating the immune system to fight specific diseases. They have contributed significantly to eradicating and controlling diseases worldwide, as evidenced by India's achievement of 12 polio-free years. Vaccination is vital for protecting vulnerable populations, establishing herd immunity, and preventing disease outbreaks. Moreover, it is a cost-effective public health intervention, reducing the economic burden of treating vaccine-preventable diseases. Additionally, vaccination contributes to global health security by preventing the international spread of infectious diseases and driving research and development in immunology and vaccinology.

CHILD VACCINATION: Child vaccination is a vital component of public health programs, protecting children from vaccine-preventable diseases. This article utilizes data from India's Integrated Child Health and Immunization Survey (INCHIS) to shed light on vaccination outcomes, access to public health facilities, and the quality of health services for children under 24 months of age. The survey provides valuable insights into the vaccination landscape in India. The INCHIS survey was conducted between March 2015 and April 2016. It employed a nationally representative, stratified, cross-sectional household survey design. The survey collected data on vaccination outcomes, access to public health facilities, and the quality of health services at the village level.

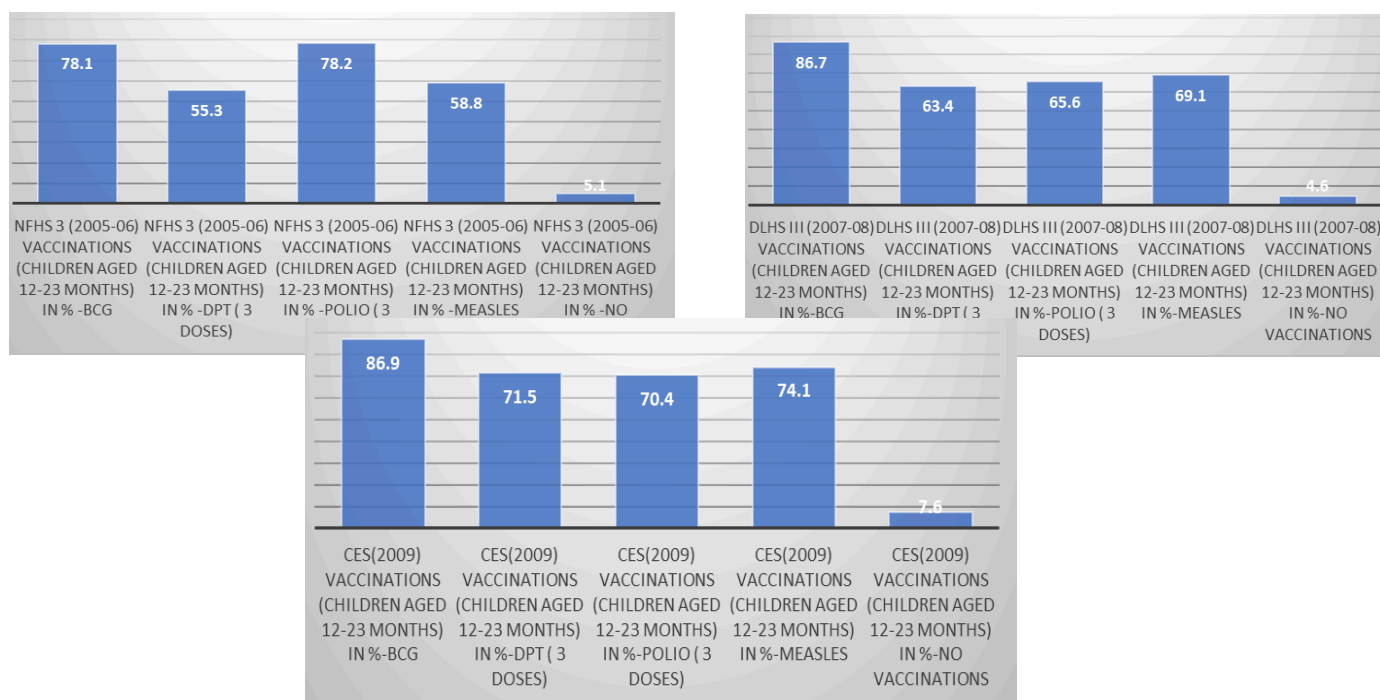
Vaccine	Definition	Recommended age
BCG	Bacillus Calmette–Guérin	at birth
Hep B0	Hepatitis B	at birth
DPT-1	Provides vaccination against diphtheria, pertussis	6 weeks
DPT-2	(whooping cough), and tetanus, and requires three	10 weeks
DPT-3	doses and a fourth booster dose.	14 weeks
Measles1	First dose of measles vaccine	9 to 12 months
Fully vaccinated	A child is considered fully vaccinated when they receive one dose of Bacillus Calmette–Guérin, three doses of DPT and polio and one dose of measles. Full immunization can occur in children as early as 9 months of age and is typically evaluated at 12 months of age.	12 months
OTV	On-time vaccination defined as child eligible for DPT-1, DPT-2, DPT-3, and full immunization having been vaccinated 28 days after becoming eligible for the respective vaccine. Child evaluated for last vaccination they were eligible for.	See above

INCHIS collected data on vaccination outcomes and access to public health facilities for children below the age of 24 months, and the quality of health facilities at the village level. Vaccination outcomes included: DPT-1 (first dose of diphtheria, pertussis, and tetanus), DPT-2, DPT-3, first dose of measles, hepatitis B given at birth (Hep B), Bacillus Calmette–Guérin (BCG), full vaccination, and a measure of on-time vaccination (OTV). This Table describes each vaccine and the

appropriate age for vaccination, according to the Indian Academy of Pediatrics.

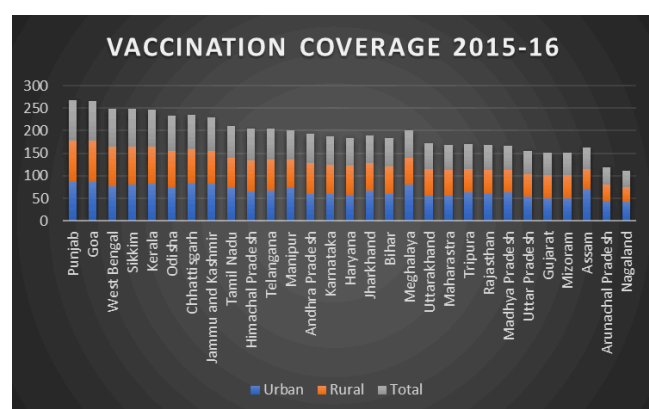
NEW VACCINES : Inactivated Polio Vaccine (IPV) has been introduced in UIP as part of Global Polio end-game strategy, to mitigate the risk associated with tOPV to bOPV switch. IPV was introduced in November 2015 initially in 6 states, which was expanded across the country by April 2016, Rotavirus vaccine (RVV) has been introduced to reduce mortality and morbidity caused by Rotavirus diarrhoea in March 2016. It has been introduced in 11 states. The vaccine was be expanded across the country in 2019-20, Measles Rubella (MR) vaccine was introduced in the country through a campaign mode in a phased manner in 2017. MR campaign target around 41 crore children in the age group of 9 months to 15 years followed by 2 doses in routine immunization at 9-12 months and 16-24 months. Pneumococcal Conjugate Vaccine (PCV) has been launched in May 2017 for reducing Infant mortality and morbidity caused by pneumococcal pneumonia, Tetanus and adult diphtheria (Td) vaccine has been replaced with Td vaccine in UIP to limit the waning immunity against diphtheria in older age groups.

CHILD VACCINATION COVERAGE IN% OF 2005-06,2007-08,2009 BY NFHS, DLHS ,CES:



These are vaccination coverage of India in 2005-06 , 2007-08,2009 by NFHS, DLHS, CES. Looking into the graph we can see that from 2005 to 2007 there is an increase of vaccination in BCG from 78.1% to 86.7% , DPT also increased from 55.3% to 63.4% . The no vaccination rate also decreased from 5.1% to 4.6% . From 2007-08 to 2009 almost all vaccination percentage increased but no vaccination percentage also increased with respect to a increasing population. So we can see fluctuations in vaccination rates.

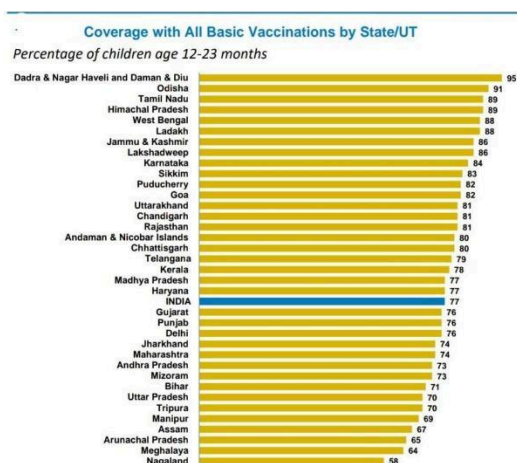
CHILD VACCINATION COVERAGE 2015-16 (IN %): As per data from NFHS round 4 (2015 -16) in INDIA 62% of children recieved vaccination at the time of survey.



The data from NFHS Round 4 highlights the progress made in child vaccination coverage in India. While the coverage rate of 62% indicates significant achievement, it also signifies the need for further improvement to reach all children with vaccines. Addressing the existing challenges, reducing regional disparities, and continuing efforts to raise

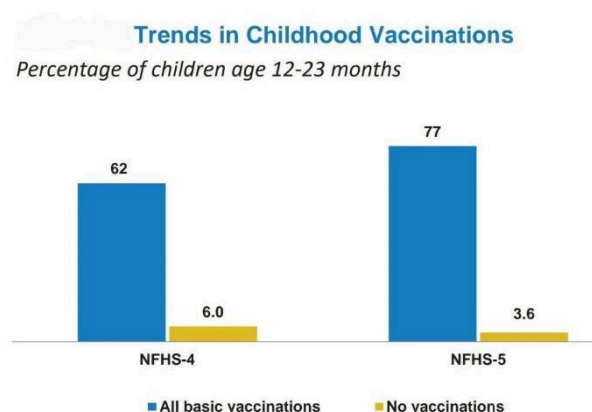
awareness about the importance of vaccination are crucial for achieving higher coverage rates and ensuring the health and protection of all children in India.

CHILD VACCINATION COVERAGE IN 2019-21 (IN %): As per data from NFHS round 5 survey (2019-21) in INDIA 77 % of children of age 12 -23 months recieved all basic vaccination at any time before survey.



Child vaccination coverage in India has shown significant progress according to data from the National Family Health Survey (NFHS) round 5 survey conducted between 2019 and 2021. The survey reveals that 77% of children between the ages of 12 and 23 months received all basic vaccinations at any time before the survey was conducted. Overall, the data from NFHS round 5 reflects positive trends in child vaccination coverage in India, highlighting the country's commitment to protecting

children's health through immunization. Continued efforts and targeted interventions will be necessary to achieve even higher coverage rates and provide comprehensive protection to all children across the nation.



Improved Child Vaccination Coverage in India: A Positive Trend from NFHS-4 to NFHS-5: The rise in child vaccination coverage from NFHS-4 to NFHS-5 in India indicates a positive trend and demonstrates the effectiveness of government initiatives and community engagement. The 14% increase over nearly three years reflects the commitment to protecting children from vaccine-preventable diseases.

However, sustained efforts are necessary to maintain and further improve coverage rates, ensuring that every child receives the essential vaccines they need for a healthy and disease-free future.

BARRIERS IN CHILD VACCINATION : Although India is a leading producer and exporter of vaccines, the country has the greatest number of deaths among children under 5—the majority are from vaccine-preventable diseases. Understanding these barriers is crucial for developing targeted strategies to overcome them and ensure improved vaccination coverage.

Two-thirds of children in India do not receive their vaccinations on time, prolonging their susceptibility to diseases and contributing to untimely deaths. The researchers found that only 12 percent of children are vaccinated with the measles vaccine by the required age of 9 months, although 75 percent are vaccinated by age 5. This delay in vaccination can contribute to frequent outbreaks of measles in India. On the demand side, parental decisions play a pivotal role – socioeconomic factors, lack of awareness, and religious beliefs are all documented factors behind vaccine delays. Frequently reported barriers to vaccination included concerns regarding vaccine safety or efficacy, vaccine hesitancy, lack of insurance, cost of vaccination, perceived lack of risk, and lack of guidelines or education and HCW recommendations. After the first COVID-19 induced lockdown in India in 2020, several reports indicated a disruption of routine health services. Despite concerted efforts of the authorities, according to the NHM (National Health

Mission)’s HMIS (Health Management Information System) data, about one million fewer BCG, almost 1.4 million fewer measles and Pentavalent-1 vaccines, and 606,000 fewer OPV-0 vaccines were administered in April 2020 as compared to January 2020. The engagement of ASHA and ANM workers – who are instrumental to primary rural healthcare – in the COVID-19 response could be one of the probable reasons for fewer vaccinations.