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RESEARCH ARTICLE

DETERMINANTS OF CHILDREN'S PARTICIPATION IN ICDS PROGRAMME: A CROSS SECTIONAL STUDY IN WEST BENGAL

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ABSTRACT

Childhood is the most critical and important phase of human development. Children learn to move, communicate, and interact with the world, and develop a sense of personal and cultural identity. Early childhood offers the greatest opportunities for positive human development, but is also the period when children are most at risk. Nearly half of all deaths in children under 5 are attributable to under nutrition. The study analyzed the beneficiary of ICDS according to different social dimensions of India. The prime objective of the present study was to find out the determinants of child beneficiary under ICDS scheme. To explain the indicators of the child to participate (or not participate) in the benefit of taking supplementary food from ICDS by fitting a logistic regression, with consideration of a number of independent socio-economic variables. The study reveals that social category, years of schooling of the mother, mother engagement, decision making power of the mother, locality of the household as well as asset holding of the household have significant influence on children participation in ICDS programme.

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INTRODUCTION

Childhood is the most critical and important phase of human development. It begins before birth, when a body and brain are being formed. It continues through early infancy. Numerous lines of research confirm that this is a period of rapid physical and mental growth and change. Children learn to move, communicate, and interact with the world, and develop a sense of personal and cultural identity. Early childhood offers the greatest opportunities for positive human development, but is also the period when children are most at risk. Nearly half of all deaths in children under 5 are attributable to undernutrition. Positive interventions work best in early childhood with a variety of sectors including nutrition, health, and education. Measures of child under nutrition are used to track development progress. Sub-Saharan Africa has progressed least since the year 2000, when compared to other regions. Meanwhile, the number of overweight children worldwide – another aspect of malnutrition – is rising. In the Post-2015 development era, estimates of child malnutrition will help determine whether the world is on track to achieve the Sustainable Development Goals – particularly, Goal 2 to "end hunger, achieve food security and improved nutrition, and promote sustainable agriculture" (UNICEF). In accordance to the National Policy for Children in India in this regard, Government of India has designed several intervention programmes like Integrated Child Development Scheme (ICDS), Mid-Day Meal Scheme and universal immunisation programmes to enhance the nutritional well-being of children but unfortunately improvements in the nutritional scenario is negligible. One of the largest integrated family and community welfare scheme in the world was launched in 1975 - Integrated Child Development Services (ICDS). Government of India has committed towards ensuring universal availability of the programme with the following objectives:

- Improving the nutritional and health status of children in the age group 0-6 years
- Reduce incidence of mortality, morbidity, and malnutrition and school dropout
- Empower the mother's capability of caring for the nutritional needs of the child through health education and nutrition.

Integrated Child Development Services (ICDS), a Government of India sponsored programme. It is India's primary social welfare scheme to tackle malnutrition and health problems in children below 6 years of age and pregnant and nursing mothers, which provides food, pre-school education, and primary health care to children under 6 years of age and their mothers. The scheme was however launched in 1975 but Morarji Desai Government discontinued it in 1978 but however from Tenth five year plan the central government

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started focussing more on its objective and re launched it. The main focus is to reducing infant and child mortality and improving maternal health outcomes. The extensive network of ICDS has an important role in combating malnutrition especially for children of weaker groups. Tenth five year plan also linked ICDS to *Anganwadi* centres established mainly in rural areas.

Beneficiaries of ICDS	Services provided by ICDS
Expectant and Lactating mother	i) Health check-up, ii) Immunisation of expectant mothers against Tetanus, iii) Referral Services, iv) Supplementary Nutrition, v) Nutrition and Health Education.
Other women 15-49 age group	Nutrition and Health Education.
Children < 3years	i) Immunisation, ii) Supplementary Nutrition, iii) Health Check- up, iv) Referral Services
Children between 3years to 6 years	i) Immunisation, ii) Supplementary Nutrition, iii) Health Check- up, iv) Referral Services, iv) Non-formal free school education

Objectives of the Study

In this context it seems pertinent

- ICDS beneficiary according to different social dimensions of India.
- Gap between awareness and benefit across the states.
- Evaluation of social orientation of the ICDS in West Bengal
- To illustrate and comparison of a blended measure of infrastructural index across districts of West Bengal.
- Determinant of child beneficiary of ICDS in West Bengal

The analysis is carried out in a number of interlinked sections. Objective of the study is presented in Section 2. Section 3 represents review of related literature, while Section 4 represents source of data and methodology of the study. Section 5 explains the work force of ICDS programme. Section 6 represents infrastructural condition of ICDS of India. In section 7 there is evaluation of social orientation of the Integrated Child Development Services Programme in West Bengal. Section 8is devoted to analyse the main findings of the study, analyse the findings of the logit regression model. Finally Section 9 is devoted to concluding observations.

Review of Related Literature

According to a study by Lokshin *et al*. (2005) assesses the ICDS's placement and its outcomes, using NFHS data from 1992 and 1998. This study finds that the unconditional distribution of child anthropometric measurements in both the 1992 and 1998surveys is very similar among children living in villages served by the programme and those living in villages without the programme. The conclusion to this paper is high incidence of underweight amongst the children of the highest socio-economic groups (with adequate per capita nutritional intake) indicates that exposure to disease is a major cause of poor child growth, and that the latter cannot be attributed solely to poverty. Study finds states with the greatest need for the programme - the poor Northern states with high levels of child malnutrition and nearly half of India's population - have the lowest programme coverage, and by far the lowest budgetary allocations from the central government. Suggestions from author are firstly, programme coverage and fund allocation need to be shifted towards states with the highest prevalence of child malnutrition. Secondly, efforts have to be made to ensure that funds arefully utilized in the few states where this is not the case. Thirdly, the impact of the programme on recipients can be enhanced by changing some aspects of programme design and implementation.

Gragnolati *et al*. (2006) analyzed the issue of examining the effectiveness of the Integrated Child Development Services programme in addressing the challenge of child under nutrition in India. Service delivery is not sufficiently focused on the youngest children; the poorest states and those with the highest levels of under nutrition still have much lower levels of programme funding and coverage. ICDS workers trainings and more staffing is recommended. Different programs for child and women group are to coordinated, collaborated tells the authors. Community sense of ownership is to be modelled in this program better tells the study. An article by Surwade *et al.* (2013) in a cross sectional study with special references to paediatric beneficiary focusing utilisation of services provided by ICDS to children attending anganwadi centre in urban and rural area of Latur districts.

They found more utilization of supple mentary nutrition than rural area. An immunisation service was better for both the section. Malnutrition is high with grade I malnourished children. According to Ranjan et al. (2014) it starts with the look at the basic characteristics of ICDS, the infrastructure, workers, nutritional components, funding patterns and policy goals and measurement. While evaluating the post universalization scenario here the attempt is to see if expansion and increase in expenditure is capable of improving the efficiency. There are region specific factors that are responsible for why certain regions are performing better or worse, and hence it is necessary to undertake an evaluation of ICDS at the sub-national level and review the financial patterns that have developed over time.

Data Source and Methodology of the Study

Different secondary data sources are used to focus on the objective of this study. For the infrastructural conditions of ICDS centres of different states, we depend on data of Rapid Survey on Children (2012-13) of Ministry of Women and Child Development, Govt. Of India. The information on women's and child's accessibility of ICDS facilities in West Bengal are filtered from the unit level data of Indian Human Development Survey (IHDS- II), 2011-12. The information is limited to women of 15-49 years of age- addressed as *'women of reproductive age'* in the study. Along with the accessibility status of women, and children them. Information is also available on the reproductive health, and other household related characteristics like caste and religion, age, educational qualification etc. For some tabular representation different round of NFHS data are also taken. The secondary data have been utilised to explain the indicator of the child to participate (or not participate) in the benefit of taking supplementary food from ICDS by fitting a logistic regression with consideration of a number of independent socio-economic variables.

Workforce of ICDS

The ICDS work force mainly comprises of Anganwadi workers (AWW), Anganwadi Helpers, Supervisors, Child

Development Project Officers (CDPOs) and District Programme Officers (DPOs). Ananganwadi worker must be a female person from the local community honorary of the ICDS programme. She involved in organizing community support for the ongoing programmes of the government with other grassroots health functionaries like the Accredited Social Health Activist (ASHA), Auxiliary Nurse Midwife (ANM) to achieve common goals of care of young children. Their basic responsibilities are regular monthly recording of child's growth chart, survey of household especially pregnant and lactating mothers and children, organise non formal pre-school education of 3-6 years children in anganwadi centres, organize supplementary nutrition feeding for children of 0 to 6 years along with pregnant women and lactating mothers, counselling, health and nutrition, family planning etc and maintaining all register provided for the scheme. This clearly shows that for the successful operation of the ICDS programme basic infrastructural facilities very important.

At the launch of the Pratichi Child Report II, Professor Senpointed out that ICDS suffers from lack of infrastructure. A survey conducted by Pratichi Trust across 22 centres in six districts of West Bengal and 30 centres in five districts of Bihar pointed out that "About half the centres do not have access to safe drinking water in West Bengal, and the proportion is only a little less in Bihar" (Sen, 2015). The report also focus that compare to 2006 the number of ICDS centres in West Bengal increased 112 percent by 2014 (from 54,961 to 1,16,390) Professor Sen said, "There are certain shortcomings, and solutions are clean on how these can be addressed. Every ICDS facility should have a building of its own and have access to clean drinking water". In order to effectively functioning of ICDS scheme it needs some basic infrastructure of all the AWCs. As per the norms for construction of AWCs building prescribed by the ministry (2011), an AWC must have a separate sitting room for children / women, separate kitchen, store for storing food items, child friendly toilets, separate space for children to play (indoor / outdoor activities) and safe drinking water facilities. (Ministry of Women and Child Development, 2012).

Infrastructural Condition of ICDS in India

We will try to focus on the infrastructural facility of different states of India depending on the available secondary data sources. Rapid Survey on Children (RSOC) are conducted (2013-14)) to strengthen the data system of children and women, based on household cum facility based survey in 28 states and Delhi. This survey provides level of selected indicators at national and state level. RSOC covered 105483 households and 5630Anganwadi centres (AWC) leading to more than 210000 interviews.

Table 1. Percentage of Infrastructural indicators of AWC's in India

	Total	Rural	Urban
Own building	40.5	42.8	19.6
Rented Building	21.3	17.1	60.9
Separate Kitchen	52.7	52.6	54.5
Open space cooking	19.9	20.5	13.0
Having toilet facility	43.4	42.0	56.7
Drinking water within premises	44.7	43.5	56.1
Electricity	32.4	28.6	68.0

Source: Rapid Survey of Children 2013-14, Ministry of Women and Child Development, Govt. Of India

Near about 43% of AWCs have own building in rural India. But the proportion is very high (60.9%) for rented centres in urban India. Rests are functioning in some place with temporary arrangements. Lack of own building forced the AWWs to organize their day to day activities like immunization, growth monitoring, cooking meals etc. in different temporary settings. This put extra burden on them for daily transfer of items like Pre-School Education (PSE) kits, registers, utensils, etc. required for these activities between their place of residence and centre (Sahoo *et al.,* 2016).

Evaluation of Social Orientation of the ICDS Programme in West Bengal

In 1975 ICDS launched in country as well as in West Bengal with two districts Kolkata and Puruliya. After 42 years of operation, ICDS in West Bengal has developed a vast network. As on 2012, 1,12,432 functional AWCs providing nutrition and health services to 1344412 pregnant and lactating women and 6640775 children under six years in 19 districts across the state. There are significant progresses in the field of economic development; social development indices in the country have not been commensurate with improvement in economic development (ICDS MPR of March, 2012).

In this portion we will discuss different social orientation of ICDS beneficiary in West Bengal.

Table 2. Category wise Reproductive Women getting facilities from ICDS in West Bengal (Figure in %)

	SC	ST	OBC	OTHER
Mother				
Pregnant	48.81	17.86	11.90	21.43
Lactating	27.27	0.0	11.36	61.36
Both	33.22	1.99	7.64	56.48
Child				
Immunisation	31.47	2.80	6.99	58.74
Check up	30.08	2.26	3.76	63.91
Growth monitoring	34.51	2.99	10.60	51.90
Supplementary Food	37.65	4.24	10.82	47.29

Source: Scholar's calculation from IHDS (2011-12) unit data

From the above table it is seen that in West Bengal the benefits are varying according to the social groups. Here most vulnerable population are the less benefited from AWCs compare to other population. Scheduled caste populations are taking the facilities more compare to other caste.48.81 percent pregnant women are taking the benefits more compare to other caste. Whereas 61 percent of lactating mother from 'other' caste are taking the available facilities. Whereas 31 percent of SC mother reported that they their child are vaccinated from AWCs. Table reflects that 'Other' women had the highest rate of utilisation of the ICDS services followed by SCs, OBCs, and then by STs. But these backward sections are the main target group.

The reason may be that because of the location of the AWC in parts of village where the upper casts live (Mandar and Kumaran 2006), mothers from vulnerable groups had to travel through unfriendly areas to reach the centre, and vulnerable groups for some household reason do not send the children for preschool education, ignorance of AWWs to visit the SC thorp. However, these types of difficulties faced by mothers of vulnerable group are one of the specific reasons for the poor utilisation of ICDS. Table 3 shows that anganwadi benefits received by mother and, by year of schooling of mothers. It is

clear that lowest rate of utilisation of AWC's benefits by well-educated women (above matriculation) compare to 0 years, or 1-5 years, or 6-10 years of schooling mothers.

Table 3. Percentage of Reproductive Women getting facilities from ICDS according to Year of Schooling (West Bengal)

	0 Years	1-5 Years	6-10 Years	More than 10 Years
Mother				
Pregnant	28.57	29.76	34.52	7.14
Lactating	25.53	23.40	44.68	6.38
Both	30.56	25.58	38.21	5.56
Child				
Immunisation	30.07	27.27	33.57	9.09
Check up	26.32	28.57	35.34	9.77
Growth monitoring	27.37	25.47	40.38	6.78
Supplementary Food	29.11	27.70	37.79	5.40
Pre School	27.03	31.89	36.76	4.32

Source: Scholar's calculation from IHDS unit data

Table 4. Percentage of Reproductive Women taking facilities from ICDS according to Locality

	Rural	Urban
Mother		
Pregnant	90.48	19.01
Lactating	93.33	6.67
Both	75.42	24.58
Child		
Immunisation	74.86	25.17
Check up	74.43	25.56
Growth monitoring	69.11	30.89
Supplementary Food	80.99	19.01
Pre School	82.70	17.30

Source: Scholar's calculation from IHDS unit data

Given that the utilisation rates of ICDS differed among mothers from different caste, mothers' educational, age and locational attributes ,in the next section we estimates the relative strength of the different factors that exercised a significant influence on the utilisation of ICDS in West Bengal.

Determinants of Child beneficiaries under ICDS in West Bengal

Here determines that whether a mother will take the benefit from AWCs have been examined and approximated in terms of some indicators and have been analysed in regression model. The specification of the model is present in following.

Definition and expected signs of the dependent and independent variables

Dependent Variable	Definition
Last Birth Child (0-6years)	Last surviving child (of mother 15-46 age group) taking supplementary nutrition benefit from anganwadi centre under ICDS project.

Analysis of getting Supplementary food by child with Binary Logit Model

In our case the binary Logit Model can be specified in the following way:

$$L_i = \ln\left(\frac{P_i}{1-P_i}\right) = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \varepsilon_i \quad \ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where$\left(\frac{P_i}{1-P_i}\right)$is simply the odds ratio in favor of child's participation in ICDS programme, the ratio of the probability that a child would participate in ICDS programme to the probability that she would not participate in the programme.Here, α is the intercept term and βs are slope coefficients and X_1=SC, X_2 =ST, X_3 =OBC, X_4 = Year of schooling of mother, X_5 = Mother doing any work or ever worked for pay or wages, X_6 = decision of women (mother decide what to do if child falls sick), X_7= Locality of the household, X_8= Total asset of the household. The Table 5 depicts the logit regression result of child's participation in getting the supplementary food from ICDS program.

Definition and Expected Signs of the Independent Variables

Independent Variable	Definition	Expected Sign
X_1= Schedule Caste (SC)	Caste of the women. If the household of the women is from Schedule Caste category then it is coded 1 and other wise 0.	+
X_2= Schedule Caste (ST)	Caste of the women. If the household of the women is from Schedule Tribes category then it is coded 1 and other wise 0.	+
X_3= Caste (OBC)	Caste of the women. If the household of the women is from OBC category then it is coded 1 and other wise 0.	+
X_4=Year of schooling	If the mother never went to school it is coded as '0', if class I then 1, class II=2, Class III=3 and so on. Above bachelors is coded as 16.	-
X_5= mother engage somewhere	If the mother is doing any work or if she ever worked for pay or wages if the answer is yes then code is 1 otherwise 0.	+
X_6= Decision making power	If the mother decide what to do if her child falls sick, that implies she has some decision making power. If mother decide then it is coded as 1 if she has to depend on someone else then code is 0.	+
X_7= Locality	If the respondent is from Urban area then Locality= 1 and if from Rural area then, Locality=0	-
X_8=Household Asset	Household total asset, summed from 0 to 33. It is some of household asset coded by IHDS.	-

RESULTS AND DISCUSSION

All the significant variables as depicted in the Table 5 influence the likelihood of participation with the expected directional relationship. Results depicts that more the children are from SC category more will be the case of taking facilities from AWCs centre compared to general caste. Hence, our hypothesis 1 is true and β_1>0. Results did not show any significant impact on child's benefit of supplementary food. Hence, our hypothesis 2is not true. In the sample the less number of ST child may led the result. Again it is suggested that, in case of benefit of supplementary food by children, as the children are from OBC background the probability of taking food supplement from ICDS increases very much.

Table 5. Logit Regression Result of Children's Participation in ICDS Programme

Variables	Coefficient	Standard Error	Prob.
SC	0.362	0.211	0.087
ST	-0.764	0.482	0.113
OBC	1.469	0.430	0.001
Years of schooling	-0.060	0.030	0.045
Mother Engagement	0.543	0.248	0.029
Decision Making power	.678	0.285	0.017
Locality	-1.403	0.239	0.000
Household Asset	-0.080	0.025	0.002
Constant	1.672	0.374	0.000
Number of Observations	669		
Cox & Snell R^2	0.280		

Source: Author's calculation from secondary data

Result shows that compare to other caste probability of OBC children to take supplementary food is high and hypothesis 3 is true: $\beta_3>0$ Regression analysis led to the conclusion that mother's education level significantly and negatively associated with ICDS benefits. As the mother is highly educated probability of maintaining a healthy standard of living is high and so less probability of the child to take supplement food from AWCs. Hypothesis 4 is true i.e$\beta_4<0$. Positive and significant impact of wage earning mothers on their child's anganwadi benefit reflects that as the mothers are engaged in informal or unorganised sector probability is high that they send their child to the AWCs. For four hours the child stay safe in the centre the most important thing is that cooked meal is also served. Hypothesis 5 is true i.e $\beta_5>0$ Again it suggests that, in case of mother's decision making power, as the women takes decisions the probability of taking supplementary food, immunisation etc. from AWCs increases very much. If the women have the power to decide what to do in case of her child's illness this has a positive impact on taking the facilities of AWCs. So, hypothesis 6 is true: $\beta_6>0$ Negative and significant impact of locality on benefit from AWCs by mother implies that as the mothers are from rural area so the child probability of taking supplementary food from AWCs increases. In West Bengal at root level the facility of getting supplementary food free of cost are able to register more people under the scheme. Whereas in urban area the programme is not as popular as in rural area. So, hypothesis 7 is true in this case, $\beta_7<0$ Negative and significant impact of household asset implies the more the value of the household asset score; less is the probability of the child to take services provided by AWCs. Hypothesis 8 is true,$\beta_8<0$.

Conclusion

It is a universal project and after four decade of its operation malnutrition is reducing but in a slower rate than its target, and there is a gap between awareness and availing of the services provided by programme. The gap is high for the upper class compare to the backward class of the society. Community based management will be helpful for its successful operation. The availability of at least two anganwadi workers at each anganwadi centre would make it possible for one of them to concentrate on providing the home-based services, while the other can provide centre-based activities such as pre-school. The helper would have a role to play in bringing the children, cooking and serving, and keeping the centre clean.A comprehensive monitoring and evaluation system: A more regular and independent monitoring and evaluation system, where workers are not forced to under-report malnutrition is needed.

REFERENCES

Gragnolati, M., Bredenkamp, C., Das Gupta, M., Lee, Yi., and Shekar, M. 2006. 'ICDS and Persistent Under nutrition: Strategies to Enhance the Impact', *Economic and Political Weekly,* Vol. 41, No.12, pp. 1193-1201.

Infrastructure Development, Report No. 22. 2012. *Performance audit of ICDS scheme*, Ministry of Women and Child Development, Accessed from: www.cag.gov.in/.../report-no-22-2012-13-performance-audit-integrated-child-develo...

Integrated and Child Development Services, 2012. Monthly Progress Report March, Accessed from: www.icds-cd.nic.in/revicedmis25052012/AWC%20MPR%20Format%20(English).pdf

Lokshin, M., Das Gupta, M., Gragnolati, M. and Ivaschenko, O. 2005. 'Improving Child Nutrition? The Integrated Child Development Services in India', *Development and Change,* Vol. 36, No. 4, pp. 613-640.

Ranjan, A. K. 2014.A study on the status of Integrated Child Development Services (ICDS).*Counter Currents*, pp. 1-11.

Sen, A. 2015. ICDS suffers from lack of infrastructure, Staff Reporter, *The HINDU*, Kolkata, 10 Feb.

Surwade, J.B., Mantri, S.B. and Wadagale, A.V. 2013. 'Utilization of ICDS Scheme in Urban and Rural Area of Latur District with Special Reference to Pediatric Beneficiaries', *International Journal of Recent Trends in Science And Technology*, Vol. 5, No. 3, pp. 107-110.

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