SOCIO-ECONOMIC FACTORS BEHIND UN-SATISFACTORY PERFORMANCE OF ANGANWADI CENTERS UNDER ICDS PROGRAMME IN INDIA

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ABSTRACT

Integrated Child Development Services (ICDS), launched on 2nd October, 1975 in our country is the largest flagship program to address nutrition and development needs of children below six years and reduce burden of under nutrition. It also aims to improve nutrition status of pregnant and lactating women (PW & LW), thereby impacting on the nutritional outcomes among children and break intergenerational cycle of under nutrition. But after 4 decades from the implementation of the programme, we have not achieved our millennium goal. This study has tried to locket that particular socio-economic pockets for which the performance of the programme stumbles in its growth path. A set of cross-sectional data of 20 states in India has used here. For explanation, simple bi-variate linear regression model has used. The study finds that the lack of availability of infrastructural facility, creche facility, assistance from local institutions and low payment to AWWs are the main causes of low performance of AWCs.

KEY WORDS: *ICDS, Anganwadi Worker, Anganwadi Center, External Assistance, Health Education, Preprimary education, Nutritional support and Women's' group.*

INTRODUCTION

Despite making significant progress in the field of economic development, social development indices in the country have not been commensurate with improvement in economic development. Reduction of undernutrition among others has remained one of the biggest challenges before the nation embarking on a path of meeting MDG targets.

Even in this age of scientific advancements in technology and medicine, delivering quality health care to pregnant and lactating mothers and their children continues to be a far-fetched dream in India. Annually, around 50,000 mothers lose their lives due to pregnancy-related complications, while more than 1.5 million children die each year before reaching their first birthday. Institutional delivery entails giving birth in a medical institution, under the supervision and care of skilled medical professionals. Institutional delivery helps in the reduction of infant and maternal mortality and is also linked with the overall health status of the mother and the child. (RetherfordR.D., 2001)

In spite of the numerous efforts and programs launched by the Government of India (GoI) to promote institutional delivery, still one fourth of the rural women did not deliver in an institution (NFHS-4, 2015-16)

Apart from the low levels of institutional delivery, the levels of child undernutrition in India are a matter of grave concern. The rates of malnutrition among under-5 children in India are among the highest in the world and almost 5 times as compared with Sub-Saharan Africa. Around half of India's children are underweight, and 45% are stunted and 20% are wasted - (Bank, 2013)

Undernutrition puts the children at a greater risk of death due to common infection as it results in an increase in the severity of such infections and also delayed recovery. Lack of proper nutrition during the first 1,000 days of a child's life can result in stunted growth of the child, which is irreversible and associated with impaired cognitive ability and reduced school and work performance. Nearly half of all under-5 child mortality in India is attributable to

undernutrition (UNICEF, 2017). According to National Family Health Survey 4 (NFHS-4), the prevalence of stunting, wasting, and underweight among under-3 children in India is 38%, 21%, and 36%, respectively (NFHS-4, International Institute for Population Science, 2015-16)

Integrated Child Development Services (ICDS), launched on 2nd October, 1975 in our country is the largest flagship program to address nutrition and development needs of children below six years and reduce burden of under nutrition. It also aims to improve nutrition status of pregnant and lactating women (PW & LW), thereby impacting on the nutritional outcomes among children and break intergenerational cycle of under nutrition.   (Welfare, 2012-13)

LITERATURE SURVEY

Today, ICDS scheme represents one of the world's largest and unique programs for early childhood development to improve the condition of expectant and nursing mothers. ICDS symbolizes India's commitment to her children towards meeting the challenge of providing pre-school education and breaking the vicious cycle of malnutrition, morbidity, reduced learning capacity and mortality.10 It attempts to provide a package of wholesome integrated service, supported by related services like mid-day meal, balwadi, and special nutrition. (Gupta J.P., 1979)

The Anganwadi worker (AWW) is the community based voluntary frontline worker of the ICDS programme. Selected from the community, she assumes a pivotal role due to her close and continuous contact with the beneficiaries. (Lal)

ICDS is a centrally sponsored scheme run by the State Govt. / UT through AWCs. The main object of the scheme – to improve nutritional and health status of children in the age group of 0-6 yrs, to lay foundation of proper psychological, physical and social development of children to reduce the incidence of mortality, morbidity, malnutrition and school dropout, to enhance the capability of the mother to look after the normal health and nutritional need of the child through proper nutrition and health education. The ICDS Programme provides an integrated package of health, nutrition and education services. The programme aims to cover economically or socially marginalized sections of women and children as primary beneficiaries.

The major objectives of the ICDS Scheme are : i) Improvement in nutritional and health status of the children in the age group of 0-6 years; ii) Laying the foundation for a proper psychological, physical and social development of the children; iii) Reduction in the incidence of mortality, morbidity, malnutrition and school dropouts; iv) Co-ordination of policy and implementation amongst various departments to promote child development; and v)

Enhancement of the capacity of the mother to look after the normal health and nutritional needs of the child through proper nutrition and health education.

There is a significant progress in the implementation of ICDS scheme during the years 2002 to 2012 in terms of increase in number of operational projects and AWCs & coverage of beneficiaries. (Annual Report, 2016-17)

But, the performance of the programme – barring in few states – has been more lackluster than indicative of a serious effort to eradicate the evils that are severely detrimental to the development of the Indian children. Even after three decades of the launching of the programme it could bring only a quarter of the children into its fold. And, hardly the quality of the services provided was up to any mark. While the design of the programme included a number of composite services. In many parts of the country, it was taken as the khichri programme, since it only provided a mixture of rice and pulses cooked together undermining the rest of the important services. In addition, despite being a centrally sponsored programme the performance of the programme has been widely varying from region to region. While some of the Indian provinces, particularly Tamilnadu, have made remarkable progresses in achieving the goal of universalising the programme with quality, many of the constituents of the republic seems to have performed dreadfully poorly. They neither seemed to follow the national commitment nor was there any evidence to learn from the performing states. (FOCUS, 2006)

ICDS is the premier malnutrition control program for more than four decades. Even though a large expenditure was made on the program, the results in terms of a change in incidence of malnutrition have not been forthcoming, more so in states like Bihar. Bihar exhibited an impressive economic growth but still languishes at bottom with malnutrition rate of 82% (Sciences, 2000) and (Science, 2007)

Existing literature shows that there are conflicting thoughts on the extent of its success. For example, in a study conducted by the World Bank, it was shown that "there is little evidence of ICDS program impact on overall child nutrition status" (Monica Dasgupta, 2005) and at times a *negative* impact. This is because in spite of wide coverage, there is lack of optimal utilization (Gupta A, 2013) and the quality of services needs to be improved to get the desired results (Chudasama, 2015) . A case study in Kashmir revealed that the medical check-up of children below 3 years of age was not up to the mark. Due to lack of proper coordination between the health and ICDS staff, none of the children below 3 years of age were immunized (Bashir, 2014).

Facilities and performance of AWCs

The following table 1; shows performance index and different facilities provided to the AWC and AWWs of 20 states in India, in order to support to maintain their regular project-related activities.

Table 1; State wise information of ICDS about their performance and facilities available to them

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Andhra Pradesh	0.689	41.6	33.6	18.5	28	1.2	9.3	48	16.8	92.7	6.4	1	39.8	67.1	29.8
Assam	0.253	44.5	74.3	50.2	82.7	2.2	0	56	4.6	87.1	10.7	0	69.6	66.6	43.9
Bihar	0.248	55.3	57.6	10.4	19.3	4.5	1.5	43.7	17.5	98.6	1.4	0	16.1	37.2	15.7
Chhattisgarh	0.53	54.1	28.9	93.3	57.5	0	27	18.2	13.4	89	4.8	0	92.6	77.6	49.9
Gujrat	0.563	39	19.5	36.8	56.2	0	9.5	30.9	17.6	77.7	17.4	4.9	61.5	54.5	46.2
Haryana	0.57	24.4	8	17	7.2	1.7	0	58.1	3.2	96.7	1.7	0.8	28	65.8	42.5
Himachal Pradesh	0.54	65.9	16.1	69.9	78.8	0	8.7	62.7	0	69.9	30.1	0	10.1	77.4	97.4
Jambu & Kashmir	0.494	19	33.8	39.6	42.8	0	0.5	37.3	0.8	90.6	5.1	3.3	1.3	18.4	65.3
Jharkhand	0.68	4	11	45.4	53.4	0	0	50.1	9.5	87.8	10.4	1.8	43.4	62.8	31.2
Karnataka	0.728	58.2	52.8	59.4	43.7	1.3	6.4	50.7	5.9	96.8	3.2	0	65.3	55.3	34.9
Kerala	0.612	87.6	49.5	84.1	94	3.1	1.6	43.9	6.2	72.8	25.8	1.4	65	78.9	77.1
Madhya Pradesh	0.572	35.9	30.3	48.1	46	1.2	3.3	33.7	14.8	96.4	1.5	1.6	48.9	88.1	43.9
Maharashtra	0.716	49.3	43.9	60.3	56.6	0	7.6	50.8	10.2	88.9	7.2	2	68.5	57.9	58.4
Orissa	0.635	28.7	42.5	58.6	61	0	1	36.6	35.1	79.8	15.3	3.1	53.5	59	19.6
Punjab	0.402	61.4	8.4	6.1	10.1	7	0	38.4	19.2	85	8.9	3.4	11.6	57.1	40.9
Rajasthan	0.317	17.6	15	35.3	35	0	19.2	17.1	1.2	84.9	6.2	3.4	39.6	48.6	28.6
Tamilnadu	0.671	34.9	29.6	29.9	32.5	3.7	0	65.1	10.8	43.9	29.2	13.9	85.6	70.9	79
Uttar Pradesh	0.295	29.7	6.2	15.7	39.8	4.3	0	28.1	32.1	80.3	17.5	1	6.7	75.5	16.9
Uttaranchal	0.372	9.7	3.9	0	0	0	0	11.7	66	68.8	31.2	0	35.2	61.7	55.6
West Bengal	0.682	40.8	28.8	26.5	82	0	0	52.5	5.4	52.9	23.1	17.1	34.5	74	28.5

Source: Evaluation Study on Integrated Child Development Schemes (ICDS), Volume-1, Programme Evaluation Organization, Government of India, New Delhi, March 2011. Compiled by researcher.

Clarification of the data (column wise)

1) Overall performance index which includes; a) average number of days received food, b) Percentage of children (12-23 months) fully immunized, c) % of children able to write alphabets, d) % of women reporting attended Nutrition and health education (NHE) meetings, e) % of mother reporting seeking help from AWW when their child gets sick, f) % of mother reporting received deworming tablets from AWC and g) Average attendance (number of children aged 3-6 years).
2) % of AWC getting help from panchayat (HP).
3) % of AWC getting help from village leaders (HV).
4) % of AWC getting help from women's group (HW).
5) % of AWC getting help from mothers of beneficiary children (HM).
6) % of AWW who are illiterate.
7) % of AWW whose education level is primary.
8) % of AWW whose education level is high school level.

9) % of AWW whose education level is graduate and above.
10) % of AWW reside within 1 kilometer.
11) % of AWW reside within 5 kilometers.
12) % of AWW reside within more than 5 kilometers.
13) % of AWC having owned house.
14) % of AWC having drinking water within premises.
15) % of AWC having toilet facility.

The column 1 of table 1; indicates the overall performance of AWCs of 20 states in India. The data shows that out of 20 states only 13 have shown their performance index above 0.5. On the other hand, 7 states perform below 50% of their projected services. In another side, among relatively well performer districts no one cross their performance level above 75%. Therefore, we are far behind from the achievements of our 100% goal. Now we shall consider another time series data (table:2) on financial assistance to ICDS programme from government side. This is national level data on Budget allocation and Actual Expenditure under ICDS scheme during the Eleventh Plan.

Table 2: Budget allocation and Expenditure under ICDS scheme during the Eleventh Plan
(Rs. In Crores)

Year	Budget estimate (BE)[1]	% Growth of BE[2]	Revised estimates (RE)[3]	% Growth of RE[4]	Actual Expenditure AE[5]	% Growth of AE[6]
2007-08	5293		5396.30		5257.09	
2008-9	6300	19.03	6300.00	16.75	6379.36	21.35
2009-10	6705	6.43	8162.00	29.56	8157.76	27.88
2010-11	8700	29.75	9280.00	13.70	9763.11	19.68
2011-12	10000	14.94	14048.40	51.38	14272.21	46.19

Sources: Column 1,3,5; 11th Five Year Plan, also available in Annual Report 2016-17, Ministry of Women and Child Development, Government of India and column 2,4,6; calculated by the researcher.

The table 2; and corresponding figures (Fig. 1,2, & 3) show that throughout the year from 2007-08 to 2011-12,
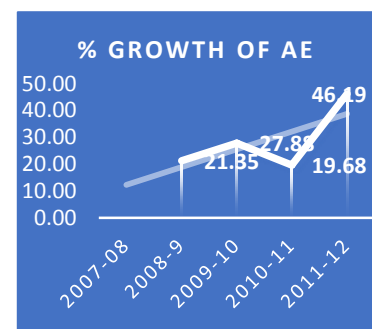

Figure 1

Figure 2

Figure 3

both budget estimate and actual expenditure on the scheme have grown with positive magnitude. Though, the percentage growth of Budget estimate has decreased from 19.03% in 2008-09 to 14.94% in 2011-12 but, the actual expenditure on this project has increased from 21.35% in 2008-09 to 46.19% in 2011-12. This however done through revised estimate in corresponding years. So, it is a significant development from expenditure side.

Therefore, the social audit of this project definitely can demand a continuous positive growth of service performance of the AWCs as well as AWWs. But the above information (performance index, column 1 of table 1) does not show the satisfactory result in this field. This is the point from which our discussion may start. **The**

objective of our present study is to find out the basic loophole of the project for which it deviates from its goal.

Let us now consider another set of information (table-3) consisting marital status, age and job-oriented training of AWWs of the 20 states.

**Table 3; State wise information about AWWs**

	Average age of AWW	% of unmarried AWW	% of married AWW	% of AWW gets job training
Andhra Pradesh	35	7.2	81.9	100
Assam	37	12.5	85.3	97.2
Bihar	37	2.2	92.2	91.7
Chhattisgarh	41	12.9	73.9	58.5
Gujrat	37	1.9	95.8	95.1
Haryana	41	0.8	95.3	100
Himachal Pradesh	36	1.2	87.5	52.5
Jambu & Kashmir	39	3.8	96.2	62
Jharkhand	36	6.6	87.3	100
Karnataka	36	15.5	80.1	64.1
Kerala	41	9.5	87.1	90.6
Madhya Pradesh	39	10.1	68	80.9
Maharashtra	42	2.9	88.7	99.7
Orissa	39	21.8	70.9	98.3

Punjab	39	13.6	78.6	29.2
Rajasthan	36	14.3	77.5	100
Tamilnadu	47	8.1	86.8	96
Uttar Pradesh	37	6.8	83.5	57.1
Uttaranchal	33	6.8	93.2	85.4
West Bengal	42	12.4	85.4	98

Source: Evaluation Study on Integrated Child Development Schemes (ICDS), Volume-1, Programme Evaluation Organization, Government of India, New Delhi, March 2011. Compiled by researcher.

The table shows that, the average age of AWWs range from 33 to 47. The marital status of AWWs shows that in almost all states more than 80% are fall into married category. In case of

job training, we see a hopeful picture. In this field there are only four states including Chhattisgarh, Himachal Pradesh, Punjab and Uttar Pradesh where below 60% AWW have gotten training. Among these four, picture of Punjab is worst. There is only 29.2% of AWWs have trained.
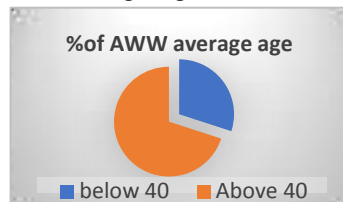
Now, keeping the view towards objective of the study, and for sake of simplicity of explanation, four indexes have been made from table 1, which are;

1) Index of External Assistance (IEA)
2) Index of physical infrastructure facility (IPI)
3) Index of Educational qualification (IEQ)
4) Index of distance barrier (IDB)

Next, we shall clarify all these four indexes one by one;

Index of External Assistance (IEA): It has calculated by the simple average of external helps getting by the AWCs from four institutions like, local Panchayat, village leaders, Women's group and Mothers community. These institutions provide helps to AWCs in the form of motivation, monitoring and required infrastructure facility. i.e., **IEA =** $\frac{\sum_{i=1}^{4} Hi}{400}$ where, H_i stands for % of AWC getting help/ assistance from different external institutions.

Index of physical infrastructure facility (IPI): Index of average infrastructure facility has calculated by the simple average of three types of infrastructures

available to AWCs. These are like 'Owned Housing facility', 'source of Drinking water' within the premises and 'good toilet facility'. Therefore, **IPI =** $\frac{\sum_{i=1}^{3} P_i}{400}$ Where, P_i stands for % of AWCs having different infrastructure facilities mentioned above.

Index of Educational qualification (IEQ): The educational index has made by the weighted average of percentage AWWs at each level of education. Here, four-point scale has been used. The study considers weights (or relative impact of education on ICDS programme) for each stage of education as: Illiteracy (level-0) =0, Primary (level-1) =1, High School (level-2) =2 and Graduate (level-3) =3. Then the formula became; **IEQ =** $\frac{\sum_{i=0}^{4} E_i W_i}{400}$ Where, E_i stands for percentage AWWs with different levels of educational qualification and W_i stands for weight of different levels.

Index of distance barrier (IDB): It is also a weighted average of percentage AWWs according to distance of their residence from work place. Here the study uses 3-point scale. The study assumes that more distance from work place creates more barrier to provide services. Keeping this in mind the weights are determined as: 2 for distance more than 5 kilometers, 1 for distance more than 1 but less than 5 kilometers and 0 for distance less than 1 kilometers.

Then the formula become; **IDB =** $\frac{\sum_{i=1}^{3} D_i W_i}{300}$ Where, D_i stands for percentage of AWWs resides various distances from their work place and W_i stands for weight for different distance. The following table–3 shows values of four indexes in different states.

Table 3; Indexes of Four Variables

Name of States	Index of External Assistance	Index of average physical infrastructure facility	Index of Educational qualification	Index of distance barrier
Andhra Pradesh	0.30	0.46	0.39	0.03
Assam	0.63	0.60	0.31	0.04
Bihar	0.36	0.23	0.35	0.00
Chhattisgarh	0.58	0.73	0.26	0.02
Gujrat	0.38	0.54	0.31	0.09
Haryana	0.14	0.45	0.31	0.01
Himachal Pradesh	0.58	0.62	0.34	0.10
Jambu & Kashmir	0.34	0.28	0.19	0.04
Jharkhand	0.28	0.46	0.32	0.05
Karnataka	0.54	0.52	0.31	0.01
Kerala	0.79	0.74	0.27	0.10
Madhya Pradesh	0.40	0.60	0.29	0.02
Maharashtra	0.53	0.62	0.35	0.04
Orissa	0.48	0.44	0.45	0.07
Punjab	0.22	0.37	0.34	0.05
Rajasthan	0.26	0.39	0.14	0.04
Tamilnadu	0.32	0.79	0.41	0.19
Uttar Pradesh	0.23	0.33	0.38	0.07
Uttaranchal	0.03	0.51	0.55	0.10
West Bengal	0.45	0.46	0.30	0.19

Source: Calculated by the researcher form table-1

Now we have come in to the threshold of operation to reach our primary objective. In order to do this the study uses bi-variate linear regression model. The study has not used multi variate model in order to avoid multi-co-linearity problem. In the study, The Performance index (PI) of AWCs is considered as dependent variable and there are eight independent variables which are; External assistance (EA), Physical Infrastructure (PI), Educational Qualification (EQ), Distance Barrier (DB), Average Age (AA), Marital Status; Married (M), Un-Married (UM) and professional Training (T). The values of first four available in table 3 and the values of last four are available in column 6,7,8 and 16 of table 1 respectively. The results of regression have shown in table number 4.

Table 4: Result of bi-variate linear regression (Dependent variable: Performance index (PI))

Independent variables	Test Statistics				
	β	Constant	Anova Sig. (P)	R	St. Error
External Assistance to AWC	0.263	0.438	0.263	0.263	0.199
Available physical infrastructure	0.439	0.293	**0.053**	0.439	0.224
Educational qualification	0.063	0.116	0.792	0.063	0.431
Distance barrier	0.249	0.748	0.289	0.249	0.685
Average Age	0.389	0.020	**0.090**	0.389	0.011
married AWW	-0.097	-0.002	0.683	0.097	0.005
unmarried AWW	0.056	0.002	0.815	0.056	0.007
Professional training	0.234	0.002	0.321	0.234	0.002

Source: Calculated by the researcher

Explanation of the Result

The result of the study shows that, among 8 independent variables only two i.e., availability of physical infrastructure (at 95% confidence level) and average age (at 90% confidence level) are significantly correlated with dependence variable (performance of AWCs). The values of β – coefficient for these two are highest and with positive magnitude. Therefore, Infrastructure facility to AWCs and the age of AWWs are most important and influencing factors for service performance of AWCs. In other words, lack of these two are the main obstacles to achieve optimum performance of the them. Interestingly, the result shows higher aged AWWs perform better. This may because, relatively lower aged AWWs suffer from family hazards more and they may suffer from lack of job satisfaction which decreases the level of perfection in their activities for AWCs. For younger AWWs, the opportunity cost for this job is higher than that for older. So, older serve their services more minutely than youngers.

Among another six insignificant factors, the variable 'distance barrier' has positive co-relation with better performance. This is because, AWWs reside more distance from AWCs have to devote more time in their duty since some how they are free from family matters during the time of service.

The marital status of AWWs show another interesting picture. Here, married is inversely and unmarried is directly co-related with performance. Here also come the concept of family disturbance in the form of dependance (like child caring). So, due to the freeness from dependance unmarried workers pay more attention to their duties.

Therefore, in several cases family hazards appear as an important obstacle against better performance of AWCs. So, it may be considered as a 'derivative' factor for low performance of the programme.

Though insignificant but β-coefficient of other 3 variables i.e., External assistance, Educational qualification and Professional Training are positive. So, they are directly related with workers' performance.

CONCLUSION

According to the Mod-value of β-coefficient it is clear that availability of infrastructure, family hazards, external assistance and professional training are most influencing factors respectively. Here, Education plays minimal role for increasing performance. This may because it is relatively low paid job. Higher educated persons have low job satisfaction in this profession and the opportunity cost of their time spent is also higher. The picture for less educated persons is quite opposite. They serve their services with mental satisfaction. Therefore, if we plan for better performance of AWCs then we must have to emphasis on availability of infrastructural facility, payment to AWWs, creche facility (to reduce family hazards) and assistance from local institutions. The performance of this programme needs a holistic support both by the beneficiary and other related institutions.

APPENDICES

Table: Regression Equations

Dependent Variables	Regression equations
External Assistance to AWC (EA)	**PI = 0.438 + 0.263 (EA)**
Available physical infrastructure (PI)	**PI = 0.293 + 0.439 (PI)**
Educational qualification (EQ)	**PI = 0.116 + 0.063 (EQ)**
Distance barrier (DB)	**PI = 0.748 + 0.249 (DB)**
Average Age (AA)	**PI = 0.020 + 0.389 (AA)**
married AWW (M)	**PI = -0.002 – 0.097 (M)**
unmarried AWW (UM)	**PI = 0.002 + 0.056 (UM)**
Professional training (T)	**PI = 0.002 + 0.234 (T)**

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