

ICDS : GREAT PROGRAMME – A STATEWISE ANALYSIS

TusharKanti Ghara¹
1Joint Director of Public Instruction
Government of West Bengal
BikashBhavan, Salt Lake City, Kolkata 700091
Email – tkghara@gmail.com

Abstract : Malnutrition is a major problems for the generation to come. ICDS and SNP are flag-shipped programmestowards development and improvement of the children in the states. The methods of implementation are nor the same for all the states. However, the states are common on the issues as laid in the programme guidelines and also in its expenditure pattern. An attempt has been made to consider the issues on a database. The generalized scaore for the states has been derived based on the data and the states have been ranked. The expenditure pattern has been modeled objectively for prediction.

Keywords :ICDS, SNP, Principal Component Analysis, Model Fitting, Power Series



INTRODUCTION

India is in the country with very high level of malnutrition despite large stocks of food grains resulting from increased agricultural productivity. The country experienced economic growth during the 1990s, but this has been accompanied by a very modest decline in child malnutrition. The level of moderate or severe under-malnutrition amongst children below the age of three were 52% in 1992[11][12]. There are two factors responsible for this outcome. Firstly, a significant proportion of the population remains unable to buy enough food; secondly, the whole population is vulnerable to become malnourished due to exposure to disease. The government of India has developed several major programmes for increasing access to food. The approached are (1) price controls – public distribution system, fair-price shops; (2) income support- food-for-work programme, employment guarantee programme; (3) feed children, nutrition supplementation programme, mid-day meal programme; etc. By far biggest nutrition supplementation programme is the Integrated Child Development Services(ICDS).

The ICDS programme started in 1975. It aims to monitor child growth and provide supplementary feeding, de-worming and pre-school education to young children, along with some basic health services to children – pregnant women and lactating mothers. With support from UNICEF and other donors. It is now India's one of the flagship programmes[5][13]. By 1999-2000, the budgetary allocation for the programme was around \$170 million[6]. It is the largest programme perhaps of its kind in the world. The combination of economic growth, agricultural surpluses & slew of programmes aimed at increasing access to food might be expected to yield more than a modest decline in child malnutrition. To unravel these, it is needed to examine functioning of ICDS programme which seeks to direct relation to Nutritional Supplementation Programme(SNP)[14][15]. One of the crucial determinants of success is programme placement –the ICDS centres are allocated to the areas with the highest level of malnutrition. Programme efficacy also depends on how well it is implemented once it is in place. This is more difficult due to lack of prospective data on recipients and non-recipients of the programme. Different studies have done comparing the areas with and without programme but without evaluating the differences in characteristics like patterns of children, their households and villages.

To implement ICDS programme ICDS(Anganwadi) centres (AWC) were established in villages in selected blocks. The centre is staffed by an Anganwadiworker (AWW) whose task is to provide services directly to beneficiaries. Health and nutrition education is provided via home visits to women – pregnant or having infant children. AWW is expected to build liaison with other frontline workers such as MCH(maternal and child health) services including immunization, health check-ups and referral services. One major implementation problem is to train, supervise and support AWWs for understanding of nutrition, pre-school education, and MCH issues. A second problem is erratic provision of supplies,⁹ and leakage in food procurement. Thirdly,

the food supplementation is poorly targeted: it is not confined to malnourished children, and mostly reaches children aged between four and six years old, who are past the optimal window for influencing growth (Allen and Gillespie, 2001: 36)[10][16].

A 2005 study found that the ICDS programme was not particularly effective in reducing malnutrition, largely because of implementation problems and because the poorest states had received the least coverage and funding.[1] During the 2012–13 fiscal year, the Indian central government spent ₹159 billion (US\$2.5 billion) on the programme.[2] The widespread network of ICDS has an important role in combating malnutrition especially for children of weaker groups.[3]

Majority of children in India have underprivileged childhoods starting from birth. The infant mortality rate of Indian children is 44[4] and the under-five mortality rate is 93 and 25% of newborn children are underweight among other nutritional, immunization and educational deficiencies of children in India.

By end of 2010, the programme is claiming to reach 80.6 lakh expectant and lactating mothers along with 3.93 crore children (under 6 years of age)[9]. There are 6,719 operational projects with 1,241,749 operational Aanganwadi centre[6]. Several positive benefits of the programme have been documented and reported

A study in states of Tamil Nadu, Andhra Pradesh and Karnataka demonstrated significant improvement in the mental and social development of all children irrespective of their gender.[8]

A 1992 study of National Institute of Public Cooperation and Child Development confirmed improvements in birth-weight and infant mortality of Indian children along with improved immunization and nutrition.[8]

However, World Bank has also highlighted certain key shortcomings of the programme including inability to target the girl child improvements, participation of wealthier children more than the poorer children and lowest level of funding for the poorest and the most undernourished states of India.[1]. It is true that target may not be easy to hit and West Bengal may be one state in India has attempted to hit the target by indirect mode.

DATA

A number of variables have been considered to measure effectiveness of the scheme. The variables are average number of days received food(X1), percentage of children (12-23 months) fully immunized(X2), Percentage of Children able to Write alphabets/ words(X3), Percentage of women reporting attended NHE meetings(X4), Percentage of mother reporting seeking help from AWW when their child gets sick(X5), Percentage of mother reporting received deworming tablets from AWC(X6), Average attendance (number of children aged 3-6 years) based on 3 sudden visits by Field Team(X7). The data has been considered for 20 states of India - Andhra Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, Uttaranchal and West Bengal. Also expenditure made by the states for 10 years 2005-2006 to 2014-2015.

ANALYSIS

Our aim to find the effectiveness for all the states based on the variables and also model the expenditure pattern on time line for each of the states. For analysis towards measuring effectiveness, it is essential to find weights of the variables. Principal component analysis method has been used and factor loading (1st factor) of the variables have been considered as weights. The model is

Measure = 0.186904*X1 + 0.10015*X2 + 0.013399*X3 + 0.105064*X4 + 0.256005*X5 + 0.145295*X6 + 0.193183*X7

Table 1.1 showing the Effectiveness Values and the Ranks of the States

<i>State</i>	<i>Measure</i>	<i>Ranks</i>
Andhra Pradesh	0.821481	3
Assam	0.262118	20
Bihar	0.304312	19
Chhattisgarh	0.597362	12
Gujarat	0.665380	9
Haryana	0.660954	10
Himachal Pradesh	0.565148	13
Jammu and Kashmir	0.487844	14
Jharkhand	0.812913	5
Karnataka	0.849536	2
Kerala	0.600117	11
Madhya Pradesh	0.694704	8
Maharashtra	0.852325	1
Orissa	0.721211	7
Punjab	0.423152	15
Rajasthan	0.390963	16
Tamil Nadu	0.754830	6
Uttar Pradesh	0.357753	18
Uttaranchal	0.378069	17
West Bengal	0.816510	4

One objective way to find effectiveness of the states for the ICDS programme. Based on this objective way, West Bengal is on 4th position among the states of India. X5 bears maximum weight and X3 bears minimum weight in predicting the success of the programme. In respect of expenditure made by the different states, the states have different formats and means of explanations. The attempt has been made to find the predictive best fitting model for each of the states(Annexure-A). In all states, the predictive model is not same. Attempts have been made using least square method. The best fitting model (with higher R^2) is linear, polynomial, power series(or log-linear) or exponential for the states.

DISCUSSION

Effectiveness for each of the states has been measured using statistical method and the states have been ranked. In this light, Maharashtra, Karnataka, Andhra Pradesh and West Bengal are top 4 states. In the light of expenditure made on SNP, model has been made mostly power series or polynomial with degree 3 or 4. Linear has been fitted for the state Assam only. For West Bengal, the best model is power series. Thus, the programme like SNP may be mapped successful using objective method. The prediction may also be made using the model. It is also can be stated that Uttar Pradesh is mostly under effective state as compared to all other states. In other words all states are working similarly by and large except Uttar Pradesh.

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Annexure –A : Fitted models for the states on SNP exoenditure











