

Costs, costing principles and institutional framework for responsive early childhood care and education models in India: a proposition

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Abstract: Governments in developing countries rarely undertake detailed costing exercises for public service delivery, and policy choices are often made without this information. Costing norms for public services in India usually remain homogeneous without considering the local contexts, culture, practices or requirements of a diverse and highly populated country. Drawing on an ethnographic study and a cost analysis of seventeen early childhood care and education (ECCE) models covering private, public and non-profit sectors in India, this paper develops a costing framework for the planning and provisioning of public services. The main arguments in this paper are that (i) it is important to take quality parameters into account in estimating the economic costs of public service delivery, (ii) it would cost much more than the current level of public expenditure to cover all children through a responsive ECCE model, and (iii) public service delivery models need to use frameworks that allow flexible cost norms while following a set of principles and non-negotiable standards to ensure quality and enable accountability.

Keywords: Costing of public services, economic costs, early childhood care and education, public service provision, responsive EECE model, costing framework, ECCE costing India.

1. INTRODUCTION

It is important to have an estimate for the cost of services by any provider, irrespective of whether the provider is a public or a private entity. However, while private entities attach a lot of importance to this estimation, as it is fundamental to their profit forecast, governments engaged in the business of providing public services in important areas such as education, health, water and sanitation rarely undertake detailed costing exercises. Although it is true that the government has a larger objective of looking into these public services as part of the greater public good, this cannot be the reason for ignoring an understanding of how much it costs to provide the respective services. An accurate estimate of the costs of providing any particular service can help in more efficient planning, judicious use of resources and better decision making regarding subsidies and cost-recovery mechanisms to make the provisions sustainable in the long run.

Cost of services refers here to the entire cost and not recurrent and overt expenditure alone. In the case of public services, the opportunity costs of available government land or infrastructure are rarely considered even when an effort is made to understand the cost of a particular service. Also, while the issue of quality is often raised in the case of various public services, especially in education and health, the cost of high-quality provisioning is rarely understood, or what the essential elements of this costing exercise are. This paper uses early childhood care and education (ECCE) in India as an illustration to undertake a costing exercise leading to the development of a costing framework that can be used by policy makers for planning and budgeting not only for this sector but also for other development sectors, especially in education. While India has one of the largest state-based ECCE programmes in the world,¹ its policy and institutional practices have been largely informed by external norms, shaped largely by what has come to be known as the Global North. The costing patterns remain highly centralised and homogenous in India, despite the size and diversity of its contexts and status. While the policy statements² recognise the need for integrating local needs, this remains mere rhetoric in the absence of an enabling conceptual framework and costing principles that allow the state mechanisms to be more responsive.

¹ India introduced an Integrated Child Development Service (ICDS) in 1978, with a focus on ECCE for children below 6 years of age, and the health of pregnant and lactating mothers. By far, it is the world's largest ECCE programme and is being accessed currently by more than 83 million children between the ages of 0 and 6 years.

² National ECCE curricular framework (https://wcd.nic.in/sites/default/files/national_ecce_curr_framework_final_03022014%20%282%29.pdf) and National Policy for Children (https://wcd.nic.in/sites/default/files/npcenglish08072013_0.pdf).

The paper primarily draws from an analysis of the costs of ECCE services being provided by diverse providers—public, private and the non-profit sector—in different parts of India, and it builds a conceptual framework for institutional planning and a set of costing principles to inform public budgeting practices. The conceptual framework is derived out of the need to enable locally responsive ECCE models while also maintaining accountability norms in a democratic polity. Insights from our recently concluded ethnographic research on two sites in the two Indian states of Bihar and Tamil Nadu (CBPS & UC forthcoming) are a major source of information for an understanding of the diverse needs and practices, as well as one of our earlier pieces of research carried out to understand the costing of a variety of ECCE models in different parts of India (CBPS 2018a, 2018b, 2018c, 2018d). The paper also examines the public expenditure implications of following such costing norms for India's main ECCE programme.

India has a significant child population, with an estimated 158 million children in the age group 0–6 years. However, access to ECCE interventions for these children remains limited and nearly one fifth of the children between 3 and 5 years are not enrolled in any formal centre. Access to quality ECCE services, issues of inadequate infrastructure and space, and financing and regulation of the sector remain key issues (Rao & Kaul 2018, CBPS 2018a, 2018b, 2018c, 2018d). Several studies on 'best practices' and 'good' models of ECCE in India illustrate how research and policy are informed by normative notions of early childhood care practices that tend to be drawn from urban, middle-class and upper-caste contexts (Swaminathan 1996, CBPS & UNICEF 2017, Kaul *et al.* 2017). Despite significant research and advocacy for ECCE at global and national levels, policy debates on improving the quality of provision often overlook the fact that notions of 'quality' ECCE are largely grounded in models and practices of childcare and education that have been developed outside local communities. And there is a need for ECCE research and policy to take the contexts of marginalised communities more centrally into account. Communities themselves could have concepts and models of childcare and education, which can inform institutional practices, but this can happen only when there is scope for modification at local level. This means that we need to promote a responsive framework of ECCE programming as against a homogenous and uniform model.

Responsive models of ECCE necessitate the recognition that contextually and culturally informed practices have the potential to enrich the existing ways in which ECCE interventions are implemented. The presence of such models can also play a crucial role in improving the relevance and uptake of these programmes. The findings from our ethnographic study in both Bihar and Tamil Nadu show the complexity of contexts, diversity of notions regarding an understanding of childhood, varying quality of services and the range of experiences in different sites. These findings form

the basis of defining a responsive framework as inherently flexible yet accountable—both to the rights of the child and to other stakeholders. Our argument here is that, while responsive models are defined by being contextually and culturally more attuned to the local situation, they should also adhere to global norms of accountability, though not necessarily to global norms of practice. With guidance from our cost analysis, where we also try to monetise the non-monetary inputs, we outline the emergent principles that should form the basis for developing a responsive model. Our emergent principles also point to the fact that ECCE reforms have to be rooted in political economy and that technocratic solutions are not necessarily the answer.

Our main arguments in this paper are that:

- (i) It is important to estimate the economic costs of service delivery by taking quality parameters into account for public services as well, because this helps in public policy decision making in the areas of budgets, subsidies and cost recovery.
- (ii) The economic costs need to be estimated by considering the alternative costs of fixed assets, and also taking all the desired processes of a ‘good’ case into account by unpacking the dimensions of quality.
- (iii) It is important that public service delivery models are responsive to local contexts, needs, cultures and knowledge, especially in a diverse country like India. Here we use ECCE as an illustration, but this could apply to other stages of education and a few other social services as well.
- (iv) The development of responsive models on a large scale calls for the existence of an enabling institutional framework and facilitative costing principles, which also have implications for both the costing guidelines and the size of the public budgets meant for respective services.

The paper is organised as follows. In Section 2, we present the insights that we collected from our review of diverse ECCE models in three Indian states, and from our ethnographic study on two different sites in two additional states. In Section 3, we detail the methodology for estimating the economic cost of ECCE delivery. We have tried to estimate the costs by going beyond financial expenditure incurred in order to be able to consider and compute the costs for non-monetised components as well. Section 4 presents a comparative analysis of the cost analysis for seventeen different ECCE models, taken from private, NGO (non-governmental organisation) and public delivery systems. In Section 5, we present our conceptual framework and discuss some of the emergent costing principles for enabling responsive ECCE models on a large scale. The last section discusses some of the policy, institutional and budget implications of applying the proposed framework and costing principles to the Integrated Child Development Services (ICDS) programme in India.

2. INSIGHTS FROM A REVIEW OF DIVERSE ECCE MODELS AND THE ETHNOGRAPHIC STUDY OF TWO SITES

The cost analysis, as mentioned earlier, drew its principles from two sources: an earlier study undertaken recently (CBPS 2018d) where a number of different ECCE models were studied for their cost components using a quality framework derived through a review of the literature, and a recent ethnographic study conducted across two states. Our earlier study argued for having quality parameters such that ‘these parameters do not create barriers for creativity, innovation, experimentation and for contextualisation of interventions’ (CBPS, 2018d: 6). The study revealed that it was possible to have contextually situated and suited ECCE programmes without compromising on certain basic features. This also showed that it helps to have a set of ‘“non-negotiables” ... to allow for the possibility of contextually-relevant learning opportunities ... rather than a list of must-do processes and practices. This can ensure diversity while simultaneously ensuring that programmes or models do not create adverse conditions’ (CBPS, 2018d: 6). The study showed how the models that allow local knowledge and languages to play a major role ensured higher participation of children and ‘better’ quality in their services.

The ethnographic study carried out in two states—Bihar and Tamil Nadu—reinforced the need for the diversity and contextualisation of the ECCE models. The two states were selected for the large differences they present in Child Development Indicators (CDI),³ despite being relatively similar in geographical size and population share of groups that are officially recognised as socially and educationally backward: Scheduled Castes (SC), Schedule Tribes (ST), and Muslim minorities (Maithreyi *et al.* 2018). The study was located in the Korha block of the Katihar district in Bihar and the Gudalur block of the Nilgiris district in Tamil Nadu and each had sizeable SC, ST and Muslim populations (Table 1).

Table 1. Population and literacy of the field sites in the ethnographic study. (*Source:* Census 2011)

Percentages	Korha			Gudalur		
	SC	ST	Muslim	SC	ST	Muslim
Population	13.7	8.1	39.8	26.3	12.8	26.9
Literacy	37.7	39.2	not available	41.3	50.3	not available

³We refer to the index developed by Drèze and Khera (2015), using four indicators—immunisation, female literacy, pre-natal health check-ups and weight.

The three state-run ECCE centres or *anganwadis*, catering to a mixed population of SC, ST, Other Backward Castes (OBC) and Muslim communities formed the locus of ethnographic fieldwork in Gajwa, along with one low-fee private school of very poor quality, located just outside the Gajwa village on the main highway. Through these sites, fieldwork then extended into the community and family spaces, to better understand the social–cultural and economic contexts of families and children, and specifically their child socialisation practices. (See Sriprakash *et al.* (forthcoming) for more details on the context of Gajwa.) Similarly in Gudalur, in Tamil Nadu, the study was conducted across two villages, consisting predominantly of four different ST communities and other OBC and Christian populations. While explicit casteism, as seen in Gajwa, was rarely observed here, the Nilgiris biosphere and the thick shrub-forest of the Mudumalai tiger reserve, geography, terrain, and the threat from wildlife, posed significant challenges to communities for access to state institutions such as *anganwadis*. Ethnographic fieldwork in Gudalur covered two *anganwadi* centres in the two villages, one private school and one NGO school.⁴ The ethnographic fieldwork revealed significant similarities and differences across both sites with respect to families' perceptions of early childhood care and education. Common to both contexts was an understanding of early childhood as extending up to the age of 10 years, and was seen as a relaxed period of play, immersion into community values and knowledge, in Katihar and the Nilgiris. We also tried to understand how families negotiated with the institutions, discourses and structures that supposedly contributed to their children's development.

Parents spoke of children as a 'gift from God' or as 'equivalent to God', and explained that there were few expectations placed on children up to the age of 10 years. For example, Manjula Devi, the 22-year-old mother of a 3-year-old child attending an *anganwadi* in Katihar, belonging to the Sonar (OBC) community, asked: '*Itne chhote bacche ko kya sikhayenge?*' [What do we teach such young children?]. She further added that at this age children only play, and were taught the home language and to identify people and relations. Like Manjula Devi, others spoke of this period as a time for '*khelkood*', or immersion into community life, consisting of activities such as collecting forest produce, grazing '*bakri*' [goats] or '*mal*' [cattle] or in the specific context of Chalikadu, looking after the elephants.^{5,6} Conceptions of play and work were not strongly separated and both were seen to have developmental value.

⁴In the remainder of the paper, we refer to the two sites as Katihar and the Nilgiris.

⁵Several parents across Katihar and the Nilgiris expressed similar opinions to those reported here. However, here we quote two specific informants: Parimala, a 32-year-old Kattunayaka mother of a two-and-half-year-old girl, from the Nilgiris; and Sunil Hansda, the grandfather of a 3-year-old boy attending an *anganwadi* in Gajwa village, belonging to the Santhali (ST) community, along with Manjula Devi.

⁶The reference to looking after elephants was made by Parimala from Chalikadu, which is located within the Mudumalai reserve forest and employs local communities as mahouts and anti-poaching watchers

However, such views of childhood existed alongside parental anxieties to secure formal, ‘English-medium’ education for their children as early as 4 or 5 years of age. Parents such as Manjula Devi argued, ‘*aage badne ke liye padai-likhayi zaroori hai*’ [education is important to move ahead in life]. She further stated that, if children stayed at home they would only play all-day long, and hence it was important to admit them to school as early as 3 to 4 years. This trend was stronger in Katihar, compared to the Nilgiris, where state provisions such as *anganwadi* centres were almost entirely dysfunctional. *Anganwadi* centres in Katihar opened irregularly; nutrition supplies provided through these centres were infrequent; caste-based discrimination and corporal punishment were frequently observed; and preschool learning activities were rarely conducted. In this context of failing and unreliable public services, a large market for private ECCE provision had emerged, consisting of private schools and ‘tuition’ centres within the villages, capitalising on parental anxieties to secure a better future for their children (see Sriprakash *et al.* (forthcoming), for more details).

In contrast, centres in the Nilgiris opened regularly and food was regularly provided. Despite the prevalence of casteism within the larger society, *anganwadi* staff were affectionate and caring to all children attending the centres, irrespective of their caste. Preschool education activities were more frequently conducted in comparison to Katihar. In the presence of reliable and quality ECCE institutions, the desire for private ECCE institutions was not as pronounced here.⁷ However, regular attendance of children at the centres was affected by geography and terrain. Other factors affecting participation included the centralised ICDS (*anganwadi*) curriculum implemented by Tamil Nadu state, which is informed by child development norms of Western psychology and frameworks of ‘developmentally appropriate practice’ (DAP). However, any representation of the knowledge and socialisation practices of ST communities was absent within the curricular framework and that significantly affected children’s and community members’ interest in formal schooling. For example, community members like Gopi, a 32-year-old Paniya man working with an NGO to improve the educational status of the community, drew a contrast between the freedom of space and movement enjoyed by children within the community and the forests, and the restrictive, narrow spaces of formal ECCE centres and schools, which children found difficult to adjust to. There were no resources in the curriculum to support children’s learning in their home (tribal) languages, community-related festivals or cultural practices .

The study concluded that, even when the presence of well-funded and functional public institutions enables greater trust and participation, that alone does not

⁷Within the context of our study, we observed only one child from the ST community within the pre-school section (with a strength of eighty students) of the private school. Due to this, and the relatively low degree of privatisation observed in Gudalur, the discussion on pedagogic practices and curriculum in this section mostly revolves around the issues related to the *anganwadi* centres.

necessarily mean they are responsive to contextual needs. For instance, although the state was much more active and functional in the Nilgiris, the ECCE practices were not necessarily responsive to local contexts and practices. In other words, the study strongly argues for responsive ECCE models that uphold the values of equality and non-discrimination, but allow for and actively facilitate the use and participation of local variations in terms of needs, language, practices, concerns and expectations without any harm (mental, emotional or physical) to children. The study also showed that the presence of civil society helps the community to facilitate dialogue and can perhaps have a role in negotiating the space and curricula. The methodology for the cost analyses and the costing principles drawn thereafter builds on these conclusions.

3. METHODOLOGY FOR THE COST ANALYSIS

As mentioned earlier, the methodology for the cost analysis of diverse ECCE interventions here is guided by a methodology that we developed earlier (CBPS 2018c) to estimate the economic costs of these interventions. The study had looked at analysing the cost structure of selected ECCE models in three Indian states (Delhi, Odisha and Telangana) by understanding the processes and components of the respective programmes and then costing all of those. In other words, rather than looking at the financial data and then estimating the costs, we first looked at the ECCE model and its processes, and then sought to look at the finances. A quality framework was derived from a critical survey of the literature, which listed all the desired processes. This framework then guided the questions on processes followed in particular models before collecting the cost details. This had two advantages:

- (1) In terms of cost estimates, it allowed us to take note of processes or inputs that would otherwise have remained unnoticed in the financial data. For instance, if a particular model used parents volunteering to teach at least once a week, we estimated the monetary cost of this input if it had to be paid for. Similarly, if a particular model had not included any expenditure on either rent or maintenance of a building because it was provided with physical space free of cost, we estimated the imputed costs for building and space, taking local contexts and prevalent prices or rents into account.
- (2) In terms of arriving at costing principles, this methodology helped us to pick processes that were considered important in the literature review to ensure the quality and responsiveness of delivery. For instance, to repeat the same example mentioned above, the presence of a process that allowed local knowledge and languages to be represented and be part of the curricular processes, was an

indicator of the ‘responsiveness’ of the model, and therefore important even as a costing principle.

The process and norms-based observation of models showed that, while none of the models had all the desired parameters (as listed in the quality framework), in general, the NGO models were better in terms of adequacy and suitability of space, community contact and implementation of the curriculum, compared to either the public or private institutions that were observed. Community engagement was almost absent in private institutions. While the age-appropriate focused curriculum was present everywhere, the quality of delivery varied. A number of NGO-based institutions had defined processes and support systems to implement them, unlike the other providers. The monitoring and reflection processes were weak everywhere, with some exceptions, with the exceptions again coming largely from the NGO sector. It was a similar case when it came to the payment of fair wages and grievance redressal systems. The public system has an elaborate supervision system, but its functioning varied across states. The private institutions were also very different from each other, although one common feature was their focus on teaching in English.

In accordance with the quality framework above, we first developed a process or component chart by identifying the processes or components that should ideally be part of any ECCE delivery model and then identified the cost heads that could represent those processes. This led to the creation of the process/component–cost heads matrix (Matrix 1). The financial data was collected against this matrix after ensuring an understanding of the respective models. This was followed by estimation of the costs for each model.

The cost estimates of the respective models had two steps:

- (i) estimating the total annual costs by taking monetary estimates of non-monetised processes/contributions and by annualising the capital investments, including opportunity costs, wherever suitable;
- (ii) estimating the capital expenditure and annual recurrent expenses; which did not include any opportunity cost.

The recurring costs in this analysis consist of the sum total of six different components:

- (1) infrastructure, space and resources (either given or imputed, as explained above);
- (2) salaries (teachers/caregivers/staff);
- (3) nutrition and auxiliary services;
- (4) learning material and curriculum development;
- (5) teacher/other training;
- (6) parent/community-centred practices.

Matrix 1. Process/component–cost heads matrix.

Processes/components	Cost heads					
	Rent/landbuilding	Capital goods facilities (furniture/other)	Salary	Consumable materials (physical) and nutrition and auxiliary facilities	Materials (teaching/learning)	Travel
Teaching rooms	building/ desks, etc. (if relevant for the approach)	teacher's salary		teaching learning materials		
Playing	playground			play materials		
Sleeping	space*	bedding		food items		
Eating/nutrition	space*			auxiliary services		
Health						
Teacher training**	space*		trainer's remuneration		training materials	travel of teachers/trainers
Monitoring			salary/ remuneration			travel of teachers/trainers
Managing	space**	furniture	salary			travel to headquarters, etc.
Community mobilisation**			salary	food items	training materials	travel to workshop place

* If separate from teaching/learning area

**Depending on the approach the model follows

Information regarding costs for individual components is gathered using both primary and secondary sources.

It is important to mention here that the cost estimation uses various reasonable assumptions for both monetisation and annualisation exercises, and therefore there could be some minor deviation between the estimates and the real costs. This could also happen because the cost and revenue-related information was often collected through interviews and an understanding of the processes of the respective models rather than from the account books, which were sometimes not accessible or, as mentioned earlier, sometimes did not include all the elements of the model that have cost implications. However, this does not have any significant implications either for comparative analysis or in terms of deriving inferences for the policy and costing of public programmes.

At the first stage of cost estimation, we estimated 'total' annual per centre and per child costs for providing ECCE services, taking both capital and recurrent costs into account. This is not the same as the annual running costs. Annual per centre or per capita running expenditure may be less as it often does not take initial capital investments into account. In other words, to reiterate, this exercise was to estimate the actual economic costs and not the expenditure alone. Both normative and statistical analytical methods have been used for analysing data for costing exercises and for calculating per centre/per child cost. Since we wanted to compare the economic costs of various models, we needed to annualise the estimates. Given that different models had started at different points in time, it was important to annualise the costs at current prices for the comparison.

The Appendix provides other details of the cost-estimation methodology, including the assumptions that were used.

4. A COMPARATIVE ANALYSIS OF ESTIMATED COSTS OF ECCE DELIVERY

We have kept the exact identity of the models studied anonymous and refer to these models by the abbreviations given to them in Matrix 2 based on their basic characteristics.⁸ Matrix 2 describes the models, their management and focus. This helps us in viewing the cost analysis from the perspective of the context in which it is operational and the approach it follows. In addition to the models outlined here, we also studied the cost structure of ECCE interventions through ICDS (known as *anganwadis*) in the

⁸This is because we obtained cost data for some models on condition of anonymity. Since we cannot reveal all names, we decided to reveal none for the sake of uniformity.

Matrix 2. Abbreviations used for the models and their management.

	Abbreviation	Model	Management
Private			
1	LRPS	Low-cost rural with pre-primary sections	private
2	LUPS	Low-cost urban with pre-primary sections	private
3	CRSP	Composite rural school with pre-primary sections	private
NGO			
4	CUSP(2)	Composite urban school with pre-primary sections	NGO
5	UPPS	Urban preschool plus primary school model	NGO
6	UPCS	Urban programme involving community stakeholders	NGO
7	CBCDC	Rural community-based child development centres	NGO
8	CUSP(1)	Composite urban school with pre-primary sections	NGO
9	UCM	Urban crèche model	NGO
10	TPCBCD	Tribal programme- community-based child development	NGO
11	UBM	Urban <i>balwadi</i> model	NGO
Public			
12	SSUP	State university supported urban pre-school programme+	public
13	ICDS Delhi	Government of India and Government of Delhi funded	public
14	ICDS Telangana	Government of India and Government of Telangana	public
15	ICDS Odisha	Government of India and Government of Odisha	public
16	ICDS Tamil Nadu	Government of India and Government of Tamil Nadu	public
17	ICDS Bihar	Government of India and Government of Bihar	public

+funded by the state government through a public university.

ICDS: Integrated Child Development Services.

states of Delhi, Odisha, Telangana, Bihar and Tamil Nadu.⁹ Although ICDS is guided by similar Government of India norms, the respective state governments are free to add components using their own resources. In all, seventeen models were studied for

⁹The first three states were part of the earlier study that CBPS undertook with funding support from Save the Children India. The last two states were part of the study undertaken with funding support from the British Academy.

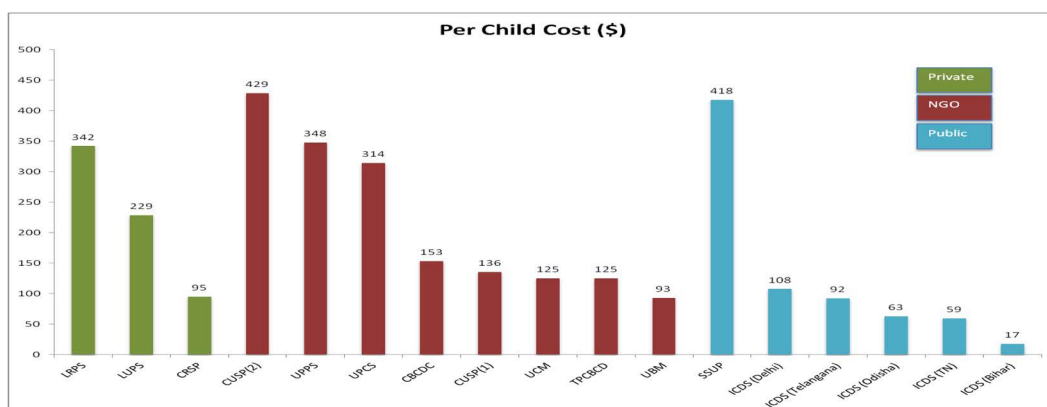


Figure 1. Total annual cost per child (US\$).

their costs, out of which three were privately managed, eight were managed by non-profit NGOs and six were managed by either state government (in five Indian states) or by a public body.

Figure 1 presents the per child total annual cost incurred in the various models studied. As we can see, there is a wide range across the various models, ranging from the lowest cost of \$17.5¹⁰, in the case of an *anganwadi* in Bihar, to \$428.78 in the case of an NGO-managed model. There is also wide variation within these management groups: within the institutions run by NGOs (non-profit), among those publicly managed and also between those managed by for-profit private entities. Nevertheless, two noticeable patterns emerge: first is that the cost is generally higher in urban models (LUPS, CUSP(2), UPPS, UPCS and SSUP) perhaps due to the high cost of space, human resources and materials, and second, that state-sponsored ICDS has one of the lowest costs. ICDS Delhi, which has the highest cost among the five studied ICDS models, is also largely urban and it is the rent for space that pushes up the cost there.

The component-wise analysis of the privately run models indicates that space, infrastructure, equipment and learning materials cover about half the cost while the other half goes to the wage/salary component in the two urban models (Table 2). This also reveals that they invest substantially in infrastructure to attract their clientele and create demand. In contrast, the rural private model is spending a larger proportion and also a larger amount on human resources, perhaps indicating that it is difficult to find qualified people in rural areas on low wages, whereas that is possible in urban areas, due to high competition for jobs and high unemployment rates. There is no component of community outreach or contact in the urban models while that is an important

¹⁰ All the cost data were originally collected in Indian National Rupees (INR) and later converted to US\$ using the conversion rate of US\$1 = INR 68.86.

Table 2. Component-wise distribution of the annual per centre cost of the private ECCE models.

	Infrastructure, space & resources	Salaries (teachers/ caregivers/ staff)	Food, nutrition and auxiliary services	Learning material and curriculum development	Training	Parent/ community- centred practices	Total
LRPS	392.08 (4)	9026.85 (89)	NP	171.83 (2)	239.60 (2)	302.53 (3)	10132.90 (100)
LUPS	9367.89 (30)	15251.22 (49)	NP	6240.67 (19)	495.97 (2)	NP	31355.75 (100)
CRSP	1980.20 (14)	6574.28 (46)	NP	5445.56 (38)	277.23 (2)	NP	14277.26 (100)

Note: Amount in \$ per annum per centre.

Auxiliary services cover negligible amounts.

Figures in parentheses indicate the percentage share of the component.

NP—no provision.

element of the rural model. There is also no provision of food or nutrition in any of the three models. That indicates that the focus is on early childhood education and school readiness rather than on comprehensive early childhood care and development in these models. The absence of food and nutrition also brings the costs down, as this is one element that pushes up the cost for the NGO models substantially.

Salaries take up 70 per cent or more of the total annual cost of an ECCE centre if there is no provision of food and nutrition in the NGO-run models (Table 3). Nutrition covers 16–44 per cent of the total centre's costs wherever the provision exists. The proportion spent on food and nutrition is higher in urban models, indicating the higher cost of food in those locations. UCM is the only model where nutrition is the biggest cost component. However, UCM functions only as a crèche with an emphasis on nutrition. We can also see that there is hardly any investment in the component of training of teachers/caregivers or development of teaching material in any of these models, except for TPCBCD, where training is a major cost component. Located in a tribal location, TPCBCD plays a crucial role in the preschool education of tribal children through various modes, including facilitating the recruitment of tribal teachers in state-run ICDS centres. They also ensured that tribal children continued to access educational services by following up the children personally. This signifies the importance of not only having an adequate number of instructors or teachers but also of proper investment in training and capability building of the teachers in ECCE interventions. Another model located in the tribal area of another state, CBCDC, also puts a lot of emphasis on connecting with the community and engaging

Table 3. Component-wise distribution of the annual per centre cost of the NGO-managed ECCE models.

	Infrastructure, space & resources	Salaries (teachers/ caregivers/ staff)	Food, nutrition and auxiliary services	Learning material and curriculum development	Training	Parent/ community- centred practices	Total
CUSP (2)	7934.46 (26)	21073.62 (70)	NP	1006.76 (4)	NA	NA	30014.84 (100)
UPPS	4542.17 (12)	32658.85 (85)	NP	299.84 (1)	part of salary	751.87 (2)	38252.72 (100)
UPCS	1398.30 (12)	5540.45 (46)	3459.24 (29)	476.77 (4)	768.13 (6)	290.43 (3)	11933.71 (100)
CBCDC	362.65 (16)	1524.76 (66)	407.76 (18)	NA	NA	NA	2295.17 (100)
CUSP (1)	2332.21 (24)	6429.23 (70)	NP	730.98 (6)	NA	NA	9492.43 (100)
UCM	582.76 (19)	1090.20 (35)	1388.26 (44)	43.56 (1)	30.50 (1)	cost included in teacher's salary	3135.28 (100)
TPCBCD	164.69 (3)	3398.03 (53)	1019.41	348.41 (5)	1488.74 (23)	NA	6448.33 (100)
UBM	636.19 (34)	994.43 (54)	NP	145.22 (8)	82.77 (4)	cost included in teacher's salary	1858.61 (100)

Note: Amount in \$ per annum per centre.

Auxiliary services cover negligible amounts.

Figures in parentheses indicate the percentage share of the component.

NP—not provided; NA—data not available.

them in running the programme, including their contributions in terms of food and the use of local language materials. These examples tell us that it is possible to develop responsive models if there is freedom and space for local action and intervention.

The variation in the publicly funded and managed ICDS is explained by the difference in the level of funding that comes from the respective state governments.¹¹ While ICDS is a centrally sponsored programme where the union government and state government jointly fund it under a fixed formula, state governments are also free

¹¹ The table is based on a primary analysis of budget documents for each state for the relevant year. The analysis involved identifying budgets/expenditures on children between 0 and 6 years that cut across different programmes/functions even when analysing budgets and expenditures for the ICDS scheme alone. The expenses on ICDS, nutrition (for children, and for pregnant and lactating mothers) and *anganwadi* infrastructure are included.

Table 4. ICDS budgets and other child-related expenditures (0–6 years), 2017–18 (US\$ hundred thousands).

	Delhi	Telangana	Odisha	Tamil Nadu	Bihar
<i>Anganwadi</i> / ICDS	213.63 (37.31)	1252.16 (53.91)	1573.91 (40.74)	2433.27 (51.57)	2033.61 (40.78)
Preschool education			49.37 (1.27)		
Nutrition	214.36 (37.44)	936.68 (40.33)	1822.67 (47.18)	286.02 (6.06)	2594.49 (52.03)
<i>Anganwadi</i> infrastructure		67.51 (2.90)	321.50 (8.32)	29.04 (0.61)	232.36 (4.66)
Other	144.47 (25.23)	66.12 (2.84)	95.00 (2.45)	1969.53 (41.74)	125.45 (2.51)
TOTAL	572.47 (100%)	2322.47 (100%)	3862.46 (100%)	4717.86 (100%)	4985.91 (100%)

Source: estimates based on the respective state government (sub-national level) budgets in India.

Figures in parentheses indicate the percentage share of the component.

to add more than the minimum that is expected by this formula. As seen earlier, Delhi has the highest per child annual cost, and rent and nutrition account for almost 75 per cent of this expenditure. The Delhi government has no outlay for capital expenditure for construction and maintenance of *anganwadis*, as all centres are located in rented accommodation. Research has indicated that the amounts allocated for rent are often not adequate in many locations (CBPS 2018c). The high amount appearing in the ‘other’ section for Delhi in Table 4 is largely because of the cash transfer scheme, that is, *Ladli Yojana*.

Telangana has the second highest per child annual cost because of the increased expenditure by the state government in recent years. The increased allocations have gone to the higher salaries of *anganwadi* workers and new nutrition support schemes for both children and pregnant and lactating mothers. Feedback from the field suggested that the centres are responding well to these changes (CBPS 2018c). In Odisha, which comes next in terms of the annual per child cost for ICDS, the government has provided separate outlay for preschool education, and has increased its expenditure on nutrition and infrastructure development. Odisha has also adopted certain policies related to multilingual learning materials in the ECCE centres that are more responsive in nature compared to other states. This has also enabled the NGO-run models in that state to establish better cooperation and collaboration (CBPS 2018c). Tamil Nadu, unlike other Indian states, has adopted the policy of having two *anganwadi* workers, and this has helped better service delivery in the field (CBPS & UC forthcoming). In Bihar, where the annual per child cost is the lowest among the five studied

states, nutrition is the primary focus in *anganwadis*, where parents had grievances about the neglect of the preschool education component (CBPS & UC forthcoming). The comparatively lower allocations/expenses in the case of Bihar compared to the other states indicates lower expenditure on all components: fewer staff recruited, lower wages, and thus lower costs on wages as well as on training and teaching materials, and also the amount and quality of food being supplied.

The feedback from the field in these five states indicated a somewhat higher level of satisfaction about the services in Telangana, Tamil Nadu and Odisha compared to Delhi and Bihar. This indicates that higher number of working hours, higher level of salaries, greater attention to training and motivation of human resources, coupled with attention to monitoring by and accountability to diverse stakeholders, are perhaps more important in terms of ensuring a quality service than investing in infrastructure alone. Although this is not an either/or choice, investment in human resources seems to be a necessary condition while investment in infrastructure is a sufficient condition (CBPS, 2018d; CBPS & UC forthcoming).

When we compare these with the other publicly funded institution, SSUP (state government supported and attached to a university), we see a high cost share for the infrastructure, space and resources and salaries components (Table 5). An important consideration here is that this crèche cum preschool is situated within a university campus and thus has no space and infrastructure constraints. Additionally, it employs five teachers who are supported by an assistant professor of the university. Hence, while the costs incurred on these components are high in our analysis, these costs are not actually borne fully by either the state or the parents. This signifies the important role that collaboration with other local institutions with resources can play in improving the efficacy of ECCE interventions. A clear message that emerged especially in the backdrop of our quality framework that we used to examine the costs is that there are no shortcuts; quality delivery is linked with high expenditure on space, teachers, training,

Table 5. Component-wise cost structure of SSUP.

Cost head	Cost incurred (%)
Infrastructure, space and resources	11509.16 (31)
Salaries (teachers/caregivers/staff)	23771.49 (61)
Nutrition and auxiliary services	259.35 (0.6)
Learning material and curriculum development	2513.67 (6)
Training	625.77 (1)
Parent/community-centred practices	174.26 (0.4)
Total	38853.71 (100)

Note: Amount in \$ per annum per centre.

Figures in parentheses indicate the percentage share of the component.

curricular materials and support. This implies that it is important to have a minimum threshold of expenditure and costs that is required for the delivery of quality ECCE services. We will return to the issue of what this threshold could be in the case of ICDS in India in Section 6 after discussing the conceptual framework and guiding principles for the costing and monitoring of ECCE services.

5. CONCEPTUAL FRAMEWORK AND GUIDING PRINCIPLES FOR COSTING RESPONSIVE ECCE MODELS

What emerges from the discussion so far is that, while the costs and cost structures of different models are varied, this is not necessarily on account of making respective models responsive. The costs vary for a number of other reasons, including the presence or absence of a certain component, the relative emphasis on various components and the pricing of a particular component in that location. What also emerges clearly is that the needs of various diverse groups and locations are indeed not similar, and a unified and homogeneous cost approach does not work. Another message that emerged from the study is that money matters: high-quality and stimulating ECCE services require certain fundamental provisions and these provisions have significant cost implications. This implies that there is a threshold of costs that must be borne to ensure a particular level of ‘quality’ ECCE services. However, it is not clear what those thresholds are, how to arrive at those thresholds or how to ensure ‘responsiveness’ while deciding the thresholds. In addition, in the context of a large-scale intervention, such as ICDS in India, the challenges of scaling-up are daunting if they amount to creating space for flexibility at all levels while also ensuring accountability. Three particular challenges exist in such situations.

(a) Centralisation–decentralisation dilemma

This is a classic dilemma that any large-scale governance structure faces: what decisions should be made centrally and what should be left for the lower levels to decide. The issue of accountability is often linked with this dilemma, as decentralisation is also associated with control and power; if lower levels have control and power to decide, then this has to be accompanied by accountability mechanisms as well. Centralised norms and processes often become the easier choice in such situations, as they offer ease of implementation. It is easier to implement a uniform norm across a state or country than having decentralised norms that need mechanisms to ensure that those decentralised norms are justified and relevant. Uniform norms are also used at times in the name of equality: since they are the same for everyone, they are equal. The fact

that the same norms for diverse needs may mean they are iniquitous does not find a place in such arguments.

(b) Planning cost norms versus estimation cost norms

This is another common dilemma that large-scale governance structures face: definite cost norms are required for estimating the need for resources. And a state or country needs to mobilise the resources for a particular intervention and the estimation of resources calls for a fairly definite idea of both the requirements and their prices. And often, these estimation norms, which are fine as long as they are used for budgeting, also become planning and ‘scheme’ norms. This is where the problems start. Let us explain this through a simple illustration. If we decide that India on average needs public spending of US\$250 per child per year for ECCE provisioning for an estimated 100 million children, and the government makes a provision for US\$25,000 million per year in its budget, this is absolutely fine. But then if it is extended as a universal norm that every individual centre must get the same amount and must spend that uniform amount on every sub-component, it becomes rigid, and therefore unresponsive. Therefore, planning or scheme norms must be developed as being different from estimations norms.

(c) Absence of a framework that could provide the mechanics of a responsive model for carrying out costing exercise

This is the biggest challenge that leads to the above two—the use of estimation norms for planning, and that too in a centralised and uniform manner. By design, responsive models have to be flexible and accommodate variations and diversity. However, if everything is diverse and different, then how does one ensure any form of accountability and affirm the responsiveness or relevance?

This is where we are proposing a conceptual framework for governance that uses a set of costing principles and democratic processes to enable the emergence and sustenance of responsive ECCE models. This framework, we argue, is generic in its potential for application, and costing principles can be modified to suit a particular stage of education or other public service. Our conceptual framework and especially the costing principles are derived from an analysis of the models that we studied. While these were located in diverse contexts and locations, and the models differed in their approaches, commonalities also emerged in the form of essentials that must be covered. We used both these diversities and commonalities to develop the framework and principles presented here.

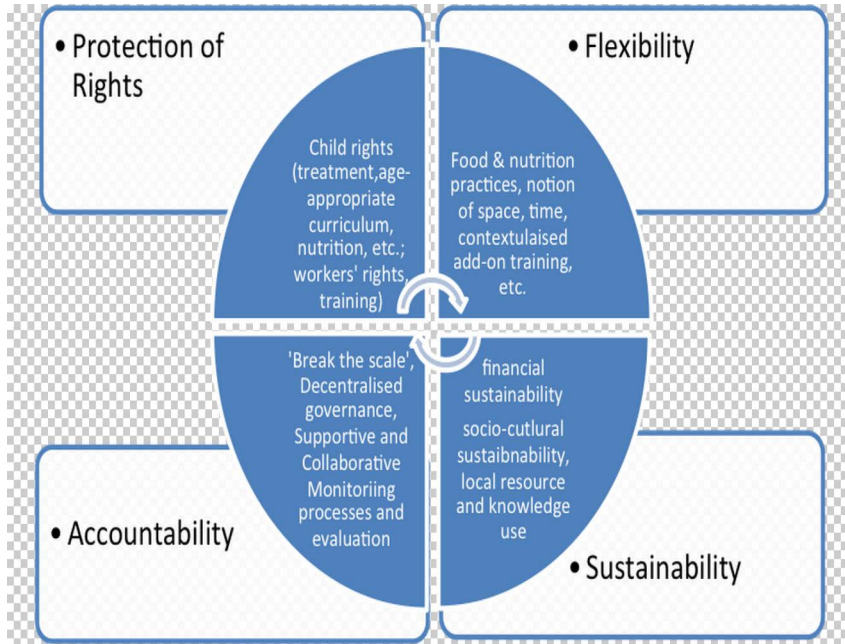


Figure 2. Conceptual frame for developing and costing responsive EECE models.

The conceptual framework that we propose (Figure 2) has four dimensions: (i) Protection of Rights, (ii) Flexibility, (iii) Sustainability, and (iv) Accountability.

(i) Protection of rights

Protection of rights for determining entitlements is the first dimension of the framework. This applies to both children—the primary users of the service—and workers/teachers—the primary providers of the service. We argue that, once we agree to adopting a rights-based approach, a number of other decisions become easier. We elaborate this further in our discussion on the guiding principles later.

(ii) Flexibility

This is the cornerstone of a responsive model in a diverse, stratified and unequal society. It is important to have the flexibility within the norms/entitlements defined by the rights-based approach to be able to respond to local and contextual notions, beliefs and practices. There could be tension between the two, but our research shows that, underneath the divergencies, there also exist notable commonalities that can help in maintaining adherence to the boundaries set by rights-based norms while also allowing for flexibility to respond to contextual needs. If there are formal spaces and

mechanisms for dialogue and negotiation at various levels, these could be sorted out locally. For instance, universal age-appropriate norms recommend the inclusion of particular physical activities for children in the 3–4 years age group, but our ethnographic study revealed that children in forest areas could have far more developed motor skills due to their proximity to forests and early exposure to certain kinds of activities, such as climbing trees (CBPS & UC forthcoming); in such contexts, the curriculum could be changed to bring in other activities to make it more relevant there.

(iii) Sustainability

The dimension of flexibility is also closely linked with sustainability. Sustainability is usually referred to only in the context of the financial sustainability of an intervention. We are arguing that sustainability has various sides, including financial. A responsive service delivery model is more sustainable when it is rooted in integrating the use of local resources and knowledge on various contours of the model (education, nutrition, space, etc.) that could make it closer to the communities it is trying to serve. In addition, it can also play a role in bringing down costs. For instance, the use of locally grown herbs and vegetables for nutrition based on the advice and engagement of parents and other local community members is a regular practice followed in the CBCDC model, which has also helped bring down the cost (CBPS 2018c) and therefore contributes to financial sustainability as well.

(iv) Accountability

One major challenge that any responsive or flexible model operating on a large scale in diverse locations faces is that of accountability; the presence of uniform norms and processes makes planning, budgeting, flow of funds and monitoring easier. We argue that the only solution to tackling the issue of scale is to break the scale. While centralised models may appear to be easier to implement and manage, the fact that the model has been extremely limited in fulfilling the policy objective also makes it highly inefficient and ineffective. Therefore, breaking the units of scale may help in developing context-specific responsive ECCE models. The presence of a third level of governance in the form of elected bodies for municipalities in urban locations and three-tier *panchayats* at village, block and district levels make it easier to create decentralised accountability mechanisms for the monitoring of decentralised ECCE service delivery using flexible cost and other norms. Our research has shown that the presence and inclusion of civil society organisations add value in creating

safeguards and developing mutual accountability between different institutions: bureaucracy, *panchayats* and non-profit organisations (CBPS 2018c; CBPS & UC forthcoming). Such collaborations not only help in creating greater confidence among the communities but also enable access to greater resources and knowledge, that can enrich the delivery content and processes, and in turn improve the quality of the ECCE service.

There is an obvious tension between these four dimensions of the conceptual frame, and the policy challenge lies in resolving that tension by having clearly defined boundaries for all the parameters without setting a definitive cost norm or a rigid process. While we realise that it is a challenge to design a framework for a responsive ECCE model that operates on a large scale, we argue that the presence of a set of guiding principles can help this happen. These principles provide the framework for developing flexible and responsive processes at decentralised levels, and act as boundaries beyond which the flexibility cannot be stretched. While we have listed some of these under the four dimensions of the conceptual framework in Figure 2, we prefer to list them together here as, in reality, they overlap across the four dimensions.

(a) The presence of a quality framework that determines the compulsory and desirable components for ECCE services and the linked cost heads

It is important to have a quality framework that defines the essentials of the programme (in this case, ECCE) and the respective cost heads. For instance, Matrix 1 in this paper identified processes such as teaching, playing, eating and monitoring as the essential components of an ECCE delivery centre, and maps them to different cost heads. This helps to ensure the presence of desired components/processes and to that extent provides the enabling conditions for quality.

The literature suggests that good-quality programmes with developmentally appropriate practices and curricula have been built over the years through large investments made in curriculum development. Towards this end, it is important to ensure that certain cost heads, such as budgets for curriculum development and training, are established as non-negotiable for both public and other ECCE providers. It is difficult to recommend a particular amount for this cost head, but the presence of the head would enable investment. Considering the continuous and cumulative nature of child development, ECCE programmes need to be planned appropriately, going beyond practices of simplistic downward extension of the school curriculum. In this context, it would be helpful to have a list of non-negotiables and non-acceptable practices rather than a list of must-do processes and practices. This could ensure diversity while simultaneously ensuring that programmes or models do not create adverse conditions.

(b) Ranges rather than uniform cost norms

Suggestive cost ranges can be provided rather than definite uniform/homogenous costs to allow for contextual and programmatic differences to have a place. These differences can arise from various aspects, such as location (which affect provisions such as rent), purchasing power parity (for example, for salaries) and other contextual features of models (for example, the number of working hours, qualifications, training or language or nutrition norms). We earlier argued that the cost norms for planning have to be different from those for the estimation of resources required. As mentioned earlier, the cost norms for planning need to be facilitative, allowing for contextual planning within a defined boundary of principles, rather than the definitive norms that we need for the estimation of resources required. All the pieces need not be equal and the same, but as a whole they need to be close to what has been estimated as resource requirements. The cost ranges could facilitate responsive planning.

(c) Ensuring minimum wages and social security provisions for teachers and others who deliver the programme

Professionalisation of teachers/caregivers, through better salaries is important for building better quality ECCE programmes, and better quality ECCE programmes are critical if we are worried about quality of education at all levels of schooling, from primary to higher. Any profession cannot be professionalised without paying the minimum respectable remuneration and social security benefits. We argue that, in the case of ECCE workers in India, the remuneration must be at least equal to the minimum wage rate for skilled workers. At present, it is far from that in most Indian states.

This principle emanates from the fact that currently only one model, UPCS, which is an NGO-run model, pays minimum wage based salaries to ECCE teachers, and that happens to be the highest wage among the studied models (Table 6). Although SSUP, the university-based publicly managed model also pays the same amount, there is a difference in the educational qualifications, and taking that into consideration, the SSUP wages are lower than those for UPCS. While this comparison does not allow us to account for differences in purchasing parity in different locations, it is clear that wages are much lower than the prevailing minimum wages in most cases. Payment of minimum wages is also important to establish that equality and non-discrimination remain non-negotiable principles for all stakeholders.

Our research studies also show the need for much deeper conscientisation of the ICDS teachers/workers in the context of a highly economically and socially stratified, and geographically diverse society (CBPS 2018c, CBPS & UC forthcoming). That also points towards the need for reforming the process of identification, education

Table 6. Comparative analysis of teachers' qualifications and wages for studied ECCE models.

Models	Average monthly gross salary (\$)	Teacher's/worker's education and professional qualification (minimum)	Daily hours	Estimated per hour wage (total monthly salary/working hours in a month)	Whether provision for any social security (Provident Fund, gratuity, etc.) exists
LRPS	156	10th pass	6.5	0.89	no
LUPS	114	graduation	6	0.77	yes
CRSP	65	12th pass	5	0.01	no
CUSP 2	109	DIET/NTT trained/graduate	6	0.73	yes
UPPS	157	post-graduation in ECE	6.5	0.96	yes
UPCS	213	8th/10th or 12th pass	8	1.07	yes
CBCDC	65	none, mother tongue	9	0.29	no
CUSP 1	109	DIET/NTT trained/graduate	6	0.73	yes
UCM	44	12th pass	7	0.25	no
TPCBCD	134	10th pass	6.5	0.01	yes
UBM	35	12th pass (flexible)	3.5	0.39	no
SSUP	189	graduation	7	1.07	yes
ICDS (Delhi)	73	matriculation	5	0.58	no
ICDS (Telangana)	152	matriculation	7	0.87	no
ICDS (Odisha)	58	matriculation	5	0.46	no
ICDS (Tamilnadu)	73	10th pass	7.5	0.39	yes
ICDS (Bihar)	65	8th/10th or 12th pass	7.5	0.35	no

Source: Authors' calculations based on CBPS (2018c) and CBPS & UC (forthcoming).

and training of these workers, but the introduction of such provisions also calls first for the fulfillment of the workers' right to receive minimum wages and social security as a basic enabler.

(d) Adjusting space and infrastructure norms to needs

Adequate infrastructural support is one of the prerequisites for meaningful ECCE delivery. A number of studies have identified space as a major constraint, especially in urban areas. At present, the only distinction that ICDS makes in its norms is between tribal and non-tribal areas; it does not do justice to the vast differences that exist in a large country like India. The current unit cost norm for ICDS infrastructure is based on one unit of building, which does not take account of the fact that the number of children that a centre serves or is likely to serve varies vastly. In other words, it does not take the per child need for space into account.

It would help to have a per child need-based space defined to act as the basis for estimates and the recommended unit cost for building should be given as a range for this space. Similarly, it is important to change the rent norms for urban areas and peg them to prevalent rates. This is a clear lesson emerging from non-ICDS models that, given the high level of migration and concentration of urban poor in urban localities, the need for providing ECCE services implies high expenditure on space. Similarly, the absence of any provision for maintenance in ICDS operating out of rented buildings needs another look, as most places to rent in urban areas where ICDS centres are located require maintenance and the owners/providers do not necessarily take on that burden (CBPS 2016).

Our research also informs us that the notion of ‘adequate’ and ‘appropriate’ space can also vary from place to place and from one community to another. Here again, a responsive model demands the flexibility to interpret global norms in a socially relevant manner. For instance, our ethnographic work in Tamil Nadu showed that, in a sparsely populated, tribal area, there may be a need to keep the infrastructure more ‘open’ and accessible rather than closed and confining in order to give children a sense of continuity from home to institution.

(e) Linking nutrient expenditure to the required food and nutrition standards according to context

Under the ICDS, children are entitled to a morning snack (in the form of milk/banana/seasonal fruits or micronutrient fortified food) as well as a hot-cooked meal at an *anganwadi* centre. Given the high prevalence of malnourishment and the criticality of early years’ nutrition for learning as well as health in all stages of life, this is a very important intervention. India faces the particular challenge of child malnourishment, and hence this intervention is critical. ICDS in several states have faced the criticism of serving poor-quality food with a low level of nutrition. For instance, our ethnographic study in Bihar documents this complaint from parents and the community (CBPS & UC forthcoming). One solution could be to peg these to certain universal standard norm (for example, WHO (World Health Organization) norms), as practised by UPSCS. However, from our ethnographic study, it emerges that the nutrient requirements for children in different contexts might be different. Nevertheless, it is important to define a minimum standard and then allow for local variations, taking local needs as well as knowledge into account, as practised by CBCDC. What is important to understand is that the benefits of this additional burden on public expenditure would be spread over the entire life cycle of these children, leading to enhanced well-being and productivity, which would easily offset the seemingly high burden at present.

(f) Location-specific partnerships for training and monitoring

This is an important principle for decentralising the accountability mechanisms and allowing a large number of stakeholders to contribute to both training for and monitoring of services. Keeping in mind the need to allow for diversity as well as the challenge of scale, promoting local-level partnerships is an important strategy to have. Partnerships can also take other innovative forms; for instance, learning from SSUP model, we suggest that university campuses, public sector enterprises and private companies can be called upon to provide space for ECCE centres not only for their own employees but also for publicly funded programmes catering to children from neighbouring locations. A number of other models studied, especially from tribal areas of Odisha and Tamil Nadu, suggest that the presence of a civil society organisation can play a role in improving the reliability and quality of services by engaging with the community. This indicates the need for recognising such partnerships as a way to address the need for contextualising the processes while also addressing the issue of scale.

(g) Regulation of private ECCE Institutions on similar principles

The presence of the private sector is significant in the ECCE sector in India and no kind of regulatory framework exists to define the parameters and ensure the provision of essential and desired processes. The ethnographic research at two sites clearly indicated the need for greater and appropriate regulation of non-state ECCE institutions. We clearly saw in Bihar that such institutions have mushroomed and they are not expected to be accountable to any norms or fee ceilings or outcome structures. It is important that all age/stage-specific norms for various components (such as space; teachers'/workers' qualifications, salaries and benefits; broad curricular guidelines with a list of don'ts to avoid the very early introduction of reading–writing; nutrition guidelines) become part of a 'non-negotiable' framework for running preschool/ECCE centres by any actor: state, for-profit or non-profit institutions. In addition, ceilings must be fixed not just on user charges/tuition fee but also for compulsory contributions in kind and out-of-pocket provisions that can place a burden on poor and disadvantaged families and communities.

The presence of an enabling costing framework and principles coupled with a regulatory framework would allow a the loosening of 'centralised' planning and cost norms, leading to the evolution of responsive ECCE models in the public sector. We also argue that the presence and implementation of such regulations is also likely to weed out a number of private players who would not be able to adhere to these norms, and would in turn put pressure on public institutions to perform better and be more

accountable to children and communities. In that context, we also question the argument that scale is an insurmountable challenge for developing responsive ECCE models. We propose that the use of this conceptual framework in conjunction with guiding principles will provide a mechanism that could help implement responsive models in letter and spirit. In the next section we briefly analyse the implications for adopting this framework for ICDS in India.

6. POLICY, INSTITUTIONAL AND BUDGET IMPLICATIONS FOR THE ICDS IN INDIA

The very nature of a responsive model is that it does not allow one to undertake a typical policy simulation exercise that calls for a making a choice based on definite alternatives. We, therefore, present here a brief analysis of the policy, institutional and budget implications for the ICDS in India. We start with financial implications and go on to policy and institutional implications.

As stated earlier, ICDS is India's flagship programme for early childhood education and nutrition that also combines maternal health and care in an integrated fashion. Although it started in the 1970s and was one of the first such integrated programme globally, recent evaluations have indicated a definite need for re-evaluation and revision (CBPS 2018a). One recent analysis of public expenditure for children for sixteen major Indian states shows that the early years of 0–6 is one of the most neglected age groups with the lowest spent per child in most of these states (Jha *et al.* 2019). Our own analysis in Section 4 clearly revealed that the per child annual cost is the lowest for ICDS among the models studied, and this included even those states where the state government has been adding substantial amounts of money to this scheme that is otherwise centrally sponsored. Therefore, the first implication is that the Government of India and state governments need to increase their allocations to this programme. Given that the federal policy functions in a complex manner, a sophisticated estimate needs to take state-wise gaps and consequent requirements into account. Here, however, we present a simple analysis to give an idea of the amount of increased public spending that is required.

This simple exercise is based on estimating the minimum cost threshold per child and multiplying that by the estimated population in the 0–6 age group. Going back to Figure 1, which compares the per child cost of various models, one can see that models such as UPCS, that follow the principles of minimum wages and WHO standards for nutrition, have a relatively higher per child annual cost (US\$314). However, Figure 1 also shows that community-based models in rural or semi-urban locations, such as CBCDC (US\$153) or TPCBCD (US\$125), have a relatively lower per child annual cost, even though they follow a number of the principles that we identified in the last

section. Assuming that (i) inter-location costs will be high due to big differences in purchasing power, (ii) economies of scale will allow ICDS to reap certain cost advantages, and (iii) the number of rural ICDS programmes far outnumber those in urban areas, we can safely say that the minimum threshold for ICDS could be located somewhere between these two. At the cost of sounding arbitrary, we can assume this to be somewhere close to at least US\$200–US\$220 per annum per child. This is two to twelve times higher than what is presently being spent in the studied states (see Figure 1). The gap is highest for states like Bihar which also happens to have the lowest overall per child spending among major Indian states (Jha *et al.* 2019). If we simply multiply this figure of US\$200 by the estimated child population of 165 million in this age group, it amounts to US\$3,300 million. Although we do not know the entire size of public expenditure on ICDS and related schemes, as it combines union and state government expenditure, this projected amount is likely to be at least five to ten times bigger. Even if one assumes that public services would cover only about half the relevant population, the country needs to increase its public spending by three to five times the current level on ECCE services.

Next, we discuss the institutional implications of adopting this framework and the set of principles. Towards that end we present a comparative matrix of present practices and the likely changed practices that adoption of such a framework would lead to, especially in terms of deciding cost norms:

Matrix 3. Nature of current and proposed norms/guidelines for ICDS/associated schemes.

Head/processes	Current norm/guidelines	Changed norm/guidelines
Teacher/worker salary	Fixed at a low rate and revised only periodically, the period of revision not being fixed or regular	Pegged to minimum skilled wage rate per hour, and therefore automatically revised if there is any change
Teacher training	No or varied allocations—generally very low and only at the time of induction in resource-poor states; slightly higher in resource-rich states	Compulsory allocation for induction and regular training on fixed periodicity; a range per centre/per teacher or worker annual allocation (with a ceiling)
Curriculum and teaching learning materials	No or a small amount for new centres; periodic additional amount in some states—periodicity not fixed	A range per new centre and a range for per child allocation annually (with a ceiling); with space for varied usage based on collective decision at decentralised levels

Matrix 3. *Continued.*

Nutrition	Wide inter-state variation depending upon specific state's priorities; central norms minimalistic and not based on any standards	A range based on universal standards, with space for local variations based on collective decisions at decentralised level
Space and infrastructure	Per centre specification; variation only for tribal and non-tribal or hilly areas	Per child space norm based on the range of activities (eating, sleeping, playing, leaning activities, mothers' activities) into account; cost range rather than fixed norm linked to local prices; rent norms pegged to space need and prevalent market rents into account
Health	Wide inter-state variations; varied practices with good coordination with the Department of Health in certain states and none of that in others for immunisation and regular health checkup	Incentivising active coordination with the Department of Health for immunisation and regular health checkup; based on 'good practices' adopted by states where the coordination is successful
Management and monitoring	No separate allocation in scheme in most states; the Women and Child Welfare Department (WCD), where the schemes is generally located, take care of this through the department's budget	Provision for periodic local management and monitoring by a multi-stakeholder group (government, civil society, <i>panchayats</i> , professional) with an in-built mechanism for providing feedback to the community through a small allocation

This matrix shows that the cost norms can be designed in the form of guidelines, allowing for local variations both in terms of the choice of how it is to be implemented and how much to spend. As mentioned earlier, the norms should act as guidelines for local programming and could also incentivise local mobilisation of human or financial resources through innovative measures, but without disincentivising the absence of such measures.

Next come the policy implications. The most important change that the policy needs in the context of ECCE in India is the recognition that it is one of the most important stages for the child's emotional, mental, intellectual and social development, as shown by various pieces of research in different contexts (CBPS 2018a). At present, despite the presence of a large-scale integrated programme, this view is not necessarily present in a coherent manner in the country and states. Although the

Government of India has adopted a progressive Child Policy¹², all the states are yet to evolve similar policies and, more importantly, back them with institutional mechanisms and budgetary allocations. Policy documents without the presence of commensurate institutional frameworks and adequate budget allocations cannot bring about much difference.

In the end, coming back to the issue of estimating the costs of service delivery, we argue that it is essential to undertake that task to be able to develop appropriate policy, institutional frameworks and costing norms. We also argue that in a large-scale and diverse country like India, it is important to promote responsive models not only in ECCE but also in various stages of education and other public service delivery sectors, and the conceptual framework alongside the guiding principles we have proposed have the potential for universal adaptation and applicability.

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APPENDIX

Estimation of annual value for capital deployed

In general, an estimation of the annual value of a capital cost is difficult because the capital is paid over a period of one or two years while the yields are spread over a much longer period. So, if we take the entire capital expenses, this would inflate the cost of the model in the initial period. If the assets are rented, then the annual rent can be used to represent the value of the capital resource used during the year. However, in our analysis of some models, capital assets like land and buildings are not rented and therefore some estimates are required for the annual value of used capital. To resolve this, we estimated imputed rent, which measures the annual value of the amount of capital used up each year and used this to arrive at the total annual costs of the respective models. This requires a careful assessment of the opportunity costs and depreciation of assets.

After estimating the annual current expenditure, per centre/per child, the annual cost has been arrived at by dividing the total cost of the programme by the total number of centres/children under that particular model. To estimate the per centre or per child cost for composite institutions that provide services for non-ECCE age groups or classes, each institution is divided into the number of classes/grades it offers. For the costs of the components that are used by all but where no clear divisions are available, the annual amount for that component is first divided by the number of classes. Then that amount is multiplied by the number of classes that the ECCE services account for, as explained below. For instance, if the centre caters to students from pre-primary to primary, then this means there are eight classes/grades in the centre (three for pre-primary and five for primary), and the annual cost of that component would first be divided by eight and then multiplied by three to arrive at the annual cost for the ECCE stage.

To calculate ECCE centre/preschool cost, the following method was applied:

To calculate the rental value of capital investments, rate of depreciation and interest rates were estimated first. The interest rates were used to estimate the

opportunity cost, which refers to the alternative possible uses of the asset. In many cases, assets like land and buildings are pre-existing and donated by the community, government or someone else, but these buildings and land may have had alternative uses and the decision to build or use it for a particular purpose may mean the sacrifice of an opportunity to build or use it for something else. In such cases, we have used interest rate plus rate of depreciation to calculate the rental value of assets (land and buildings). We used interest rates that could have been earned through alternative usage of the same asset to be equivalent to the bank rate of the Reserve Bank of India on first-class bills of exchange (6 per cent per annum in 2017); based on the assumption that this is modest and reasonable. For assets that have been created just for that purpose, only the depreciation rate is considered for calculating the rental value of the assets, as one may already be paying interest on loans taken for that purpose.

The rate of depreciation is a much-disputed item. Depreciation depends upon the lifespan of the asset. For the purposes of this study, the working life of a permanent or semi-permanent building is assumed to be fifty years and that of computers and equipment to be five years. The life of all other assets is assumed to be ten years. To calculate the rates of depreciation, a straight-line method is used which assumes equal rates for each year. This may be a simple assumption and the reality may be a little different, but it suits the needs of the present analysis.

Table A1. Parameters used in for calculation of rental value.

Component	Lifespan	Depreciation rate
Building	50	2
Furniture and fixtures	10	10
Vehicles	10	10
Computer and equipment	5	20
Others	10	10

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