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Early Childhood Development is perhaps the most important facet of social development for a country, more so for India, which as of 2011, was home to more than 159 million children in the age group zero to six.

Various studies have shown that early childhood development has a long-term impact on a person’s income ability, health and emotional well-being. It is therefore, imperative that the quality and type of interventions are significant determinants of overall development of a child and shaping their overall growth.

Government of India rolled-out the National Policy on Education in 1968, which, along with the National Policy on Children 2013, has repeatedly emphasised on the need for holistic interventions in early childhood development, and the same is reflected in its flagship programme, the Integrated Child Development Services (ICDS). ICDS is delivered through approximately 1.3 million Anganwadi workers and 1.2 million Anganwadi helpers to more than 80 million children under six years of age.

Today, the imperative is to reimagine how Anganwadi services are delivered, and in this publication, we take a look at some pioneering interventions which demonstrate the potential of technology and innovation in transforming early childhood development. While some of the showcased interventions are driven by the government, a few examples also illustrate the large role the private sector can play in the space.

A transformed model of ICDS delivery system is absolutely critical to the timely achievement of the Sustainable Development Goals (SDG) 2, 3 and 4 directly, and other SDGs indirectly as well.

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1. Overview of early childhood development in India

1.1 Early childhood landscape in India

The first six years of development in a child’s life are critical to their overall development and well-being. According to a report, globally 7.6 million children under the age of five years die each year and while more than 200 million children survive, they do not reach their full potential due to various socio-economic factors including families’ income levels, ethnicity, disability, religion or sexual orientation, etc.

Early childhood development (ECD) encompasses an interlinked gamut of elements critical for a child’s cognitive, social and emotional development. These comprise learning, health, nutrition, play and care, in an enabling and protective environment. The absence of these interventions can have adverse effects on the child’s intelligence levels, personality, behavioral aspects such as problem solving ability, learning capacity, etc. thereby limiting their long-term development.

Evidence suggests that early childhood development has an impact on a person’s income, health, and emotional well-being, thereby enabling them to achieve their full potential. The quality and type of interventions are determinants of the way a child’s brain develops and shapes their cognitive, social and emotional growth. It enables successful transition to school, which thereby helps in achieving better learning outcomes, education, employment and health. A recent study from Andhra Pradesh suggested that early life nutrition has positive effects on schooling and labour market outcomes.

India is home to approximately 159 million children in the age group of 0-6 years, constituting 13.12 per cent of the total population, it becomes imperative to ensure holistic development of these children for them to achieve their full potential. India is also committed to achieving the Sustainable Development Goals (SDGs), which encompass various targets on child well-being including quality of early childhood development, care and pre-primary education, elimination of all forms of malnutrition, and ending preventable deaths of newborns and children under five years of age, amongst others.

The government has adopted a rights based approach for addressing challenges in the area of child development. While the country has witnessed significant reduction in U5MR and stunting, the statistics mentioned are below the global average.

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1. UNICEF, accessed March 2019
2. Australian Early Development Census, accessed March 2019
Table 1: Comparison of key statistics on Childhood Development\(^5\)

<table>
<thead>
<tr>
<th>Statistics</th>
<th>World (2017)</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under Five Mortality Rate</td>
<td>39.1 (per thousand)</td>
<td>39 (per thousand)</td>
</tr>
<tr>
<td>Stunted</td>
<td>22.2%</td>
<td>38%</td>
</tr>
<tr>
<td>Wasted</td>
<td>7.5%</td>
<td>21%</td>
</tr>
</tbody>
</table>

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5. The World Bank, Global prevalence of wasting, weight for height, (% of children under 5); Global prevalence of stunting (height for age), accessed March 2019
1.2 Regulatory framework around ECD in India

The Constitution of India guarantees fundamental rights of all children in the country and empowers the state to make special provisions for all children. Article 45 (amended) of the Indian Constitution directs that ‘The State shall endeavour to provide Early Childhood Care and Education (ECCE) for all children until they complete the age of six years’6. The country developed its first National Policy on Education in 19687, a reflection of India’s commitment to its children as the nation’s ‘supremely important asset’. India also ratified various international conventions and treaties including the Declaration of the Rights of the Child, Universal Declaration of Human Rights and its Covenants, Convention on the Rights of the Child and its town Optional Protocols, etc. to reinforce its commitment for advancing and securing the rights of children.

The Right of Children to Free and Compulsory Education (RTE) Act 2010 was introduced to ensure that children attain quality elementary education. Although ECE is not formally mandated under the RTE, the Act does direct states to provide preschool education for children above three years of age.

The new National Policy for Children 20138 was adopted to ‘reiterate the commitment to rights based approach for children’ and directs states to take appropriate measures to ensure Early Childhood Care and Education (ECCE) to all children below six years of age, to ensure holistic development. The policy also emphasised on maternal health including antenatal care, safe delivery, postnatal care and nutrition support.

In 2013, the government also adopted the National Early Childhood Care and Education Policy to ‘promote inclusive, equitable and contextualised opportunities for promoting optimal development and active learning capacity for all children below six years of age’9. The policy was framed taking into consideration the interlinkage of education, health, nutrition, cognitive, and emotional needs of a child and acknowledging the importance of a child’s early years in building a solid foundation for the overall development and survival.

As part of the ECCE policy, a National Early Childhood Care and Education Curriculum Framework has been developed to promote excellence in early childhood education. The framework provides guidelines on childcare and early learning practices and approaches to ensure optimal learning and development of children. It also sets out standards to ensure adherence to quality and standardisation in the provision of ECCE services across states.

In 2016, the National Plan of Action for Children was launched as a road map for realising policy objectives focused on improving the well-being of children. The plan aims to synergise efforts of various stakeholders working to advance the rights of children, and also strengthen the implementation and monitoring of national and international commitments surrounding child development.

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2.1 ICDS – Government’s flagship program for ECD

The Integrated Child Development Services (ICDS) is one of the world’s largest government-led programme for provision of early childhood development in India. Launched in 1975, ICDS provides a range of services across ECCE and maternal and child health including preschool non-formal education, supplementary nutrition, health-related awareness, immunisation, health check-up and referral services. These are provided through a network of 1.4 million Anganwadis run by approximately 1.3 million Anganwadi workers and 1.2 million Anganwadi helpers catering to approximately 80 million children under six years of age. ICDS is a centrally sponsored scheme implemented by the Ministry of Women and Child Development. However, convergence plays a central role in the implementation of ICDS as it involves delivery of inter-linked services for development of children in the early years. The government encourages regulatory, operational and financial convergence between schemes, policies and programmes related to child well-being for maximised impact through optimal utilisation of resources.

The objectives of the scheme include:

1. Improvement of nutritional and health status of children aged 0-6 years
2. Laying the foundation for proper psychological, physical and social development of the child
3. Effective coordination of policy and implementation amongst the various departments to promote child development
4. Enhance capacity of mother to ensure normal health and nutritional needs of the child through proper nutrition and health education
5. Reduction in incidence of mortality, morbidity, and school dropout
2.2 Service delivery model of Anganwadis

ICDS is implemented on-ground by field level functionaries – Anganwadi worker and Anganwadi helper – who are trained to provide the various education, nutrition and health services in a standardised manner. The service delivery is monitored through a three-tier governance mechanism including cluster level supervisor, Child Development Project Officer (CDPO) at the block level and District Magistrate/Collector at the district level. In addition to administrative monitoring, community-based monitoring mechanism is also promoted under ICDS to ensure accountability through the establishment of Village Health Sanitation and Nutrition Committees (VHSNC).

The delivery framework of services under ICDS is illustrated in the figure below.

<table>
<thead>
<tr>
<th>Services</th>
<th>Target Group</th>
<th>Service Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplementary Nutrition</td>
<td>Children below 6 years</td>
<td>AWW and AWS (MWCD)</td>
</tr>
<tr>
<td></td>
<td>Pregnant and Lactating Mothers (P&amp;LM)</td>
<td></td>
</tr>
<tr>
<td>Pre School Education</td>
<td>Children 3-6 years</td>
<td>AWW (MWCD)</td>
</tr>
<tr>
<td>Nutrition and Health Education</td>
<td>Women (15-45 years)</td>
<td>AWW/ ANM/ MO (Health System, MHFW &amp; MWCD)</td>
</tr>
<tr>
<td>Immunisation</td>
<td></td>
<td>ANM/ MO (Health System, MHFW)</td>
</tr>
<tr>
<td>Health Check-Up</td>
<td>Children below 6 years</td>
<td>ANM/ MO/ AWW (Health System, MHFW, MWCD)</td>
</tr>
<tr>
<td></td>
<td>Pregnant and Lactating Mothers (P&amp;LM)</td>
<td></td>
</tr>
</tbody>
</table>

2.3 Challenges involved in ICDS

With a range of interlinked services being delivered through these centres, various challenges arise in ensuring high enrolment of children, standardised delivery and quality assurance, due to differing demographic and socio-economic patterns, awareness around importance of early childhood development, capabilities of field level functionaries, etc. Although coverage of ECD through ICDS has expanded, the quality of service provisioning and resultant outcomes across states remain uneven. Although there is a strong ECCE policy and framework, systems are not yet in place to provide adequate training, monitoring and technical assistance necessary for improving quality of programming. Key issues include:

- Inadequate skills of field level functionaries to provide learning according to the ages and stages of child development
- Community engagement has not been effectively leveraged to build ownership of the Anganwadis amongst the community
- Monitoring and evaluation of ECD activities is weak and needs strengthening to ensure timely monitoring of a child’s progress in order to introduce course corrections, inform decisions and improve overall service delivery.
- Many Anganwadis lack basic facilities such as drinking water and toilets, which are essential for providing a healthy environment for children in their early years.

3.1. New government interventions for transforming the existing landscape

**ICDS – Common Application Software (ICDS-CAS)**

In 2016, the Ministry of Women and Child Development launched the ICDS-CAS, an ICT-enabled real time monitoring system for strengthening service delivery of AWCs across the country. The ICDS-CAS aims to transform the collection of high-quality data on growth and nutrition status of children; as well as to reduce the burden on AWWs who were previously recording data on multiple registers. This monitoring mechanism is a game-changer in identifying factors underlying progress in early childhood development and aiding timely redressal.

**POSHAN Abhiyan - National Nutrition Mission**

Nutrition plays a paramount role in the overall development of a child. India’s commitment to eradication of malnutrition by 2030 is reflected in the launch of the National Nutrition Mission, which strives to reduce the levels of stunting, under-nutrition, anemia and low birth weight babies. The programme will be implemented in a phased manner to cover all 36 states/UTs through the use of technology, convergence and behaviour change to create sustainable impact. The objectives of the mission include:

1. Prevent and reduce under-nutrition in children (0-6 years) at 2 per cent per annum
2. Reduce low birth weight at 2 per cent per annum
3. Reduce prevalence of anaemia amongst young children (6 – 59 months) at 3 per cent per annum

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2. Press Information Bureau, Cabinet approves setting up of National Nutrition Mission, December 1st, accessed March 2019
3.2. Evolving synergies between the government and private sector: A game changer for ECD in India

ISO certified Anganwadis in Aurangabad

Aurangabad is the only district in Maharashtra with approximately 300 Anganwadi centres obtaining ISO certification and furthermore in the process of achieving the gold standard. ISO certification is a reflection of the high quality and standardised delivery of services at AWCs across the district. The key driver of achieving the standard of services has been community participation. The community took ownership of the Anganwadi and donated in cash and kind (including furniture, uniforms, books, TVs, water filters, etc.) amounting to INR 10 crore. The funds were utilised for upgradation of AWCs and also introducing additional facilities including 100 percent institutional deliveries, mother care centre, etc. Moreover, one of the AWCs in the village Bharadi in Sillod Taluqa became the first high-tech AWC in Maharashtra. The Anganwadi is equipped with biometric attendance system, air conditioner, internet facility and hi-tech devices in addition to the basic services including mid-day meals and pre-school education.

Integrating technology for monitoring nutrition of Anganwadi children in Vadodara

The Vadodara Municipal Corporation initiated the SMART Anganwadi project to improve the functioning and management of AWCs by way of digitising the monitoring mechanism. VMC launched an Android-based mobile application which monitors the height and weight of children, health status, delivery and consumption of milk and fruit, etc. making it available to the AWWs on their mobile phones for evaluating progress and identifying issues. The details of AW children (name, age, height, weight, etc.) are registered along with their photograph to an allocated zone. As per the Government of India, the zoning is divided into three categories – red, yellow and green – indicating the progress report of the children. The real time availability of this information helps AWW to identify serious cases and continuously follow up to improve the child’s well-being.
The project is active in eight AWCs of the selected 87 high priority Anganwadis in the city of Vadodara and is targeted to be rolled out to 303 AWCs of Vadodara Mahanagar Sevasadan.

**Integrated Smart Early Education (i-SEE) Anganwadi in Ahmedabad**

With innovation at the core of this initiative, i-SEE has been pioneered by Ahmedabad Municipal Corporation as part of the ‘Smart City’ initiative. A public-private partnership, the building and set-up costs have been contributed by corporates while the management and operations is the responsibility of Ahmedabad Municipal Corporation (AMC). The concept is built around ‘learning through play’ and incorporates innovative strategies such as showcasing educational videos in Augmented Reality, colourful and child-friendly environment, role-play activities on ‘Swachh Bharat’, road safety, etc.

The AWWs in these centres will also be equipped with smartphones/tablets for record keeping and monitoring the development of every child.

Government of Maharashtra – Reliance Foundation partnership for developing kitchen gardens at AWC

With the vision of reducing malnutrition and improving health and well-being of children and women in the state, the government has collaborated with Reliance Foundation for developing kitchen gardens across all AWCs initially in six districts. The kitchen gardens are envisaged to aid improved nutrition for children and mothers at AWCs, imbibe the importance of nutrition in children as well as inculcate an interest in farming, and promote the replication of these kitchen gardens amongst village households to guarantee year round nutrition for the family.

The project was developed as a demonstration and training centre for rest of the Anganwadis in the blocks. Reliance Foundation is responsible for providing technical support by way of orientations/workshops, training and handholding.

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5. The Indian Express, May 16th, 2018, Accessed March 2019
Ministry of Women and Child Development and Vedanta Foundation – Project Nand Ghar – Integrated Service Delivery approach

The Ministry of Women and Child Development, Government of India has entered into an MoU with Vedanta Foundation for building 4000 Nand Ghars, which are modernised Anganwadis equipped with upgraded infrastructure and innovative solutions for delivering ECD. Nand Ghars are constructed in 40 days using pre-fabricated technology, and are fitted with solar panels, drinking water supply and sanitation facilities and have incorporated the Building as Learning Aid (BaLA) component. Nand Ghars are pioneering the revolution in delivering ECD by collaborating with reputed partners for providing e-learning through television, pre-cooked nutrition, smart kits and AD boards as new age learning tools, and a strong capacity building model for enabling AWWs to deliver high-quality services. The Nand Ghars are currently operational across Rajasthan, Uttar Pradesh and Madhya Pradesh, impacting more than 6,600 children and over 7,500 women.
This initiative is unique in the way that it not only looks at next generation infrastructure for Anganwadi centres, it is also providing cutting edge services to children and pregnant and lactating mothers. Further, the initiative is also utilising these centres as a ‘Village Resource Center’, wherein primary healthcare services for the community, skilling services for women as core offerings and other value added services such as farmer trainings, English speaking classes, etc. are also provisioned. It is also leveraging advanced digital monitoring tools, enabled through mobile applications to track and monitor actual on-ground operations and therefore initiating corrective measures, where required, in near-real time.
Way forward for smart Anganwadis: Transforming the future of India

Smart Anganwadis are the need of the hour as early childhood development is emerging as a significant development driver in the Indian context. Reduction in malnutrition and improvement in school learning outcomes require interventions from the early years of a child to develop the requisite physical, social, cognitive and emotional capabilities. Various innovations in this sector have proved to be successful in strengthening the delivery of ECD in India, and it is important to institutionalise and scale up such practices to ensure standardisation and impact creation at the national level.

KPMG in India’s experience points to the following components as anchors of next generation Anganwadis in India:

- **Leveraging mobile technology for monitoring progress of beneficiaries and enabling trend analysis to understand the overarching factors influencing progress.**
- **Introducing key ages and stages tools as well as modern pedagogy and learning tools for enhancing the learning experience of children.**
- **Capacity building of field level functionaries to adopt modern pedagogy and curriculum for enhancing the learning experience of children.**
- **Sustained capacity building of field level functionaries with modern teaching methodologies as well as digital monitoring tools.**
Acknowledgements

We are sincerely grateful to the following people for extending their knowledge and insights to prepare this report.

1. Ritu Jhingon, CEO, Project Nand Ghar, Vedanta Foundation
2. Officials of the Ministry of Women and Child Development, Government of India
3. Officials of the Government of Maharashtra

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TRANSFORMING THE ANGANWADI ECOSYSTEM

TO CREATE UNPRECEDENTED GROWTH AVENUES, A STATE ENVISIONED, SELF-SUSTAINABLE FINTECH ECOSYSTEM. TURNING THIS DREAM INTO FINTECH VALLEY TOOK SOME JOSH... #KPMGJOSH

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