

Why should Myanmar Invest in Early Childhood Intervention?

Background

Over the last half century, much has been discovered about how to develop the brain of infants and young children well. Abundant research shows that investing in our nation's children is an essential investment in the future of the country. Dr. James Heckman, a Nobel Prize winner in economics, calculated that investing in early childhood care and development provides up to a **17 fold** economic return on investment (Heckman, 2006). The earlier the investment, the greater the return.

In 2014 the Union of Myanmar Policy of Early Childhood Care and Development (ECCD) was adopted, signifying the beginning of a multi-sectorial effort in the development of early childhood services. Strategy 3 of the ECCD Policy is devoted to Early Childhood Intervention (ECI), as an essential element of all national programs to reduce social inequality and poverty, and promote economic development.

ECCD Strategy 3: *Develop, improve and expand early childhood intervention and rehabilitation services to help each child achieve his or her full potential, and to prevent the discrimination and stigmatization of children with special needs.*

Neuroscience research has shown that the period from preconception and pregnancy to 36 months of age lays the foundation for all later growth and development. If children who are fragile, pre-term, low in birth weight, at-risk, developmentally delayed or disabled do not receive appropriate and quality ECI services, they are more likely to develop cognitive and language delays as well as emotional and social problems, and potentially, become counterproductive members of society. Infancy and early childhood are important times in every child's life, and this period provides opportunities for considerable growth, and conversely, for vulnerability and permanent developmental delays and disabilities. The experiences and opportunities children are provided in the early years set the foundation for future learning and development, and influence factors such as academic success, relationship building, health, wellbeing, and productivity.

The early years also represent a unique opportunity for practitioners and families to protect children from negative factors and positively influence their developmental trajectories.

The development of ECI services will help to prevent suffering on the part of children and parents, lower unnecessary costs for later expensive treatment services, and help children, using their improved abilities, to contribute positively to the economic and social development of Myanmar. In addition, ECI services will lower the incidence of youth and adult crimes and social conflict, which will lower costs for mental health care, prisons and the justice system.

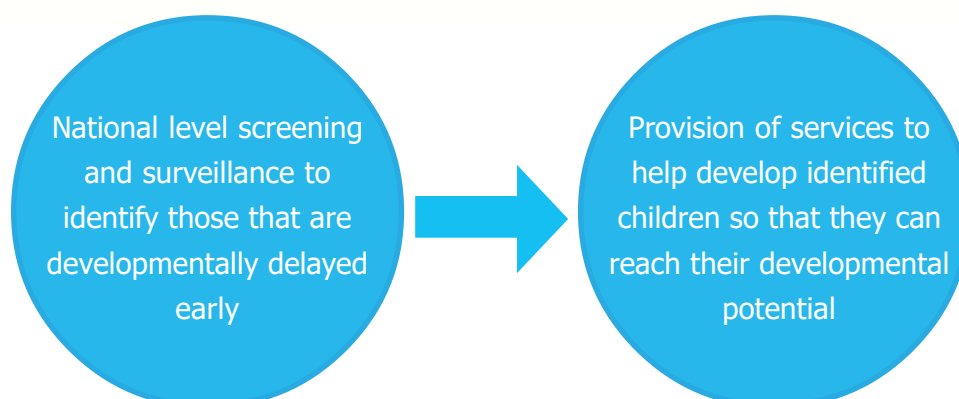
Rate of developmental delays and disabilities in Myanmar

Myanmar currently lacks a national survey on the incidence of developmental delays and disabilities. **However, from UNICEF MICS studies we know that 35.1% of infants and young children have moderate to severe stunting. From research in nutrition and child development we know that virtually all of these children will have one or more developmental delays that will become permanent if they do not receive ECI services.**

In addition, approximately 12% of children are born with or develop physical, perceptual or functional disabilities. In addition, young children are negatively affected by chronic illnesses, micronutrient deficiencies, injuries, and “toxic stress” caused by natural disasters, community conflicts and domestic violence, child abuse and neglect. Most of these children and their parents who were similarly disadvantaged during earlier periods, rarely receive adequate social or health services.

Therefore, at this time we estimate that from 35% to 45% of the children from birth to age 5 of Myanmar require intensive and individualized ECI services. The national ECI system must be developed rapidly in phases in order to attain nationwide coverage by 2025. Many lives will be saved and children will develop much better through the provision of ECI services for child development and parent education and support.

Early Childhood Intervention Basics



What is ECI?

Early childhood intervention (ECI) consists of multidisciplinary services in the fields of education, health, nutrition and protection that are provided to children from birth to 5 years of age to:

- promote improved child health, nutrition and well-being;
- strengthen emerging developmental competencies;
- minimize and overcome developmental delays;
- remediate existing or emerging disabilities to the extent possible;
- prevent further delays and disabilities;
- promote good and nurturing parenting; and
- improve overall family functioning.

The national ECI system is based on the principle that if children with developmental delays are identified early, and are given appropriate services, the impact of their delays will be overcome or greatly reduced. In many countries, the vast majority of children who receive ECI services from infancy onward are able to integrate fully into schools and society with typically developing children. The key is that intervention must occur in the earliest years of the child's life, beginning if possible at birth.

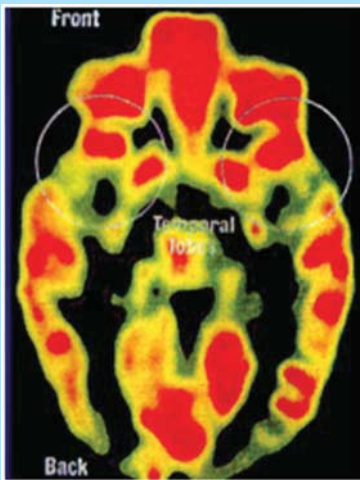
ECI must be early

Early childhood intervention is a two-fold system of medical monitoring/surveillance and developmental screening combined with intervention services. Because neuroscience research reveals that the majority of brain development occurs within the first 3 years of life, it is essential to find children who are in need of ECI services as early as possible. The earlier children are discovered to be developmentally delayed and are given ECI services, the better the outcomes are. Usually about 70% of children become as close to typical levels of development by age 3, and follow up is encouraged to age 5. In order for an ECI system to function well, a developmental screening and surveillance system that is free of charge must be developed to identify children at birth or their first 18 months of life. Currently, a nationwide developmental screening system does not exist in Myanmar.

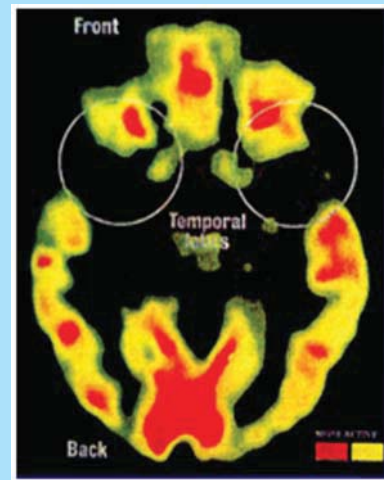
Secondly, children who are identified as developmentally delayed, either through existing health systems or through the ECI screening and surveillance system, must be referred to ECI services. The goal of ECI services is to overcome or greatly reduce the impact of developmental delays (and their causes), and to help each child reach his or her full developmental potential.

Rationale

Decades of neuroscience research have revealed that brain plasticity is highest at birth, and gradually becomes more inelastic as time goes on. While brain development is very complex, the basic principle remains the same. As the brain becomes older, neuronal pathways become more static, and difficult to change. The brain is a lot like clay, after birth this clay is highly impressionable, as the clay is exposed to more and more air (time), the clay becomes increasingly harder to shape, requiring more energy.



The image on the left is of a normally developing brain of a child. The image on the right is the brain of a child with severe delays in an at-risk environment. There are clear deficits in the temporal and frontal lobes, essential regions for language development, cognitive processes, and executive function. Environmental stressors can be detrimental to brain development but if caught early enough, brain plasticity can be used to improve the development of deficient domains.



Source: Newsweek Special Edition, 1997

MRIs of Brains of Normal and Delayed Young Children

This concept of reduced elasticity can be related to language learning. In general, how long does it take as an adult to learn a brand new language? Given enough time, and with the right techniques, some adults can learn a language in as little as three months; however, most people will take years to master a new language.

In contrast, infants begin language development before birth and accelerate language learning immediately after birth. The majority of language development occurs within the first year of life. During the first 6 to 18 months, language learning occurs rapidly in conjunction with all other developmental domains (perceptual, physical, cognitive, social, emotional and self-regulation). In many respects, by the time children are 5 years old, the basic structure of his or her brain has been established. After this critical period of development, as the child grows up, significant changes in brain structuring rarely occur. Although the child will learn many new skills and gain tremendous knowledge, this occurs within the brain structure established from infancy to age 5.

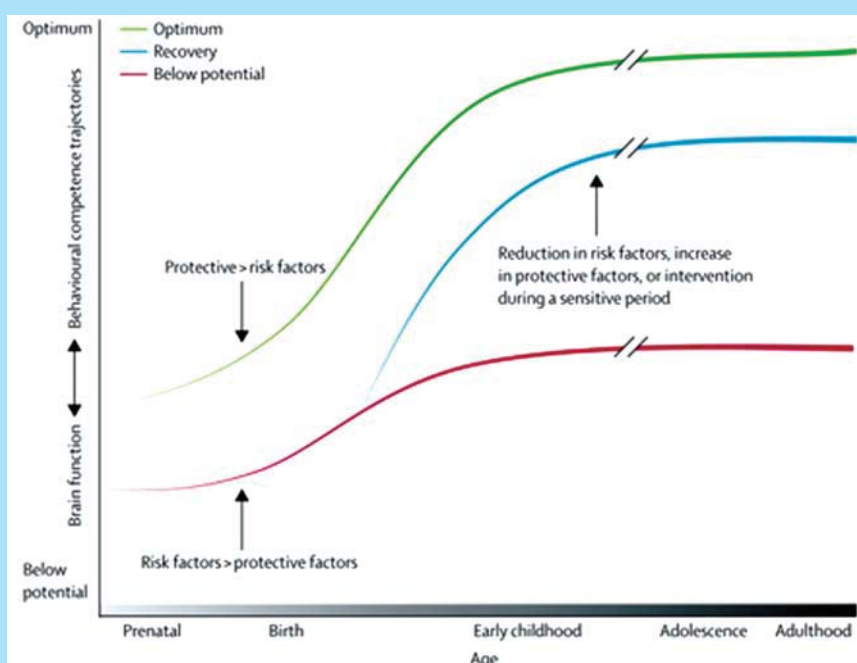
Children develop at different rates

At least 55% to 65% of Myanmar's children will develop normally without the provision of ECI services. They would benefit from general ECCD services as presented in the ECCD Policy. Without significant effort, these typically developing children will learn how to walk, talk, and socialize at expected ages. However, children born with or later developing disabilities or neuro-developmental disorders will not develop without ECI services for the child and family. For example, a child with autism usually will not develop the social skills required to function adequately in society without early intervention. A Down syndrome child requires ECI services to achieve improved neurological development by age 5. With ECI services, most Down syndrome children are able to attend standard schools. Without the adequate infant and child stimulation and parental support, they will not attain their full developmental potential.

Red= Development of children with developmental delays

Green= Normal development

Blue line shows that intervention right after birth during early childhood yields the highest level of growth. As the child ages, the brain becomes increasingly inelastic, and the amount of brain growth plateaus.



General Impact of ECI Services

Children without genetic conditions, such as Down syndrome, may become delayed due to low birth weight, pre-term birth, early infections, birth asphyxia and other conditions. Furthermore, children born in "high risk" often impoverished families are more likely to lack basic nutrition, minimum standard requirements of stimulation for development, and supportive social environments. Children whose biological, emotional and social needs are not met usually become developmentally delayed. Children who experience severe poverty, internal displacement, community and domestic violence, neglect, parental depression, are born to single or adolescent

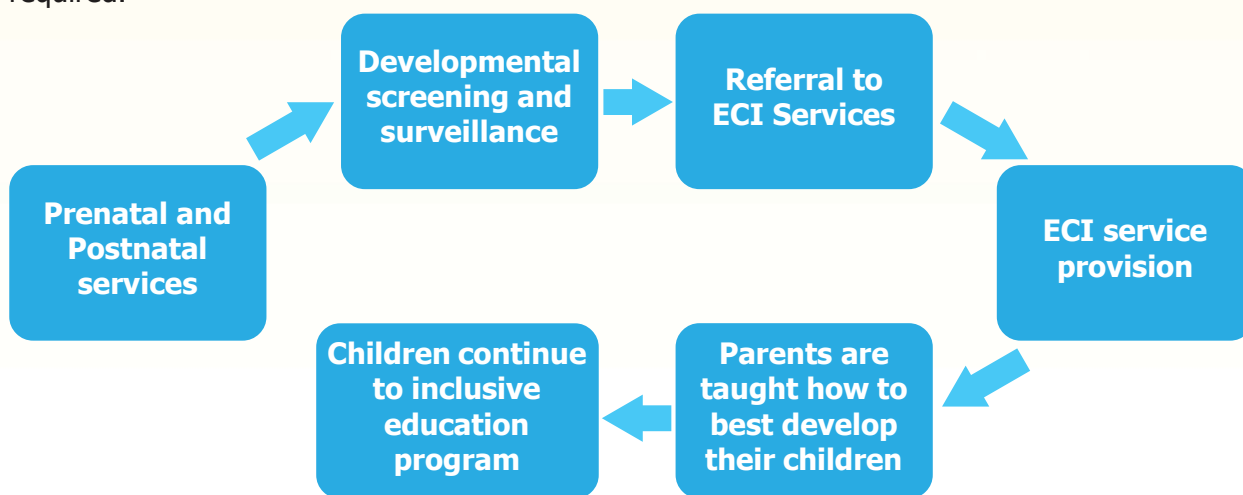
mothers, imprisoned parents, are homeless, orphans, or trafficked, are often overlooked. Yet due to the severity of their situations, they develop delays that rival severe congenital conditions and neuro-developmental disorders.

The detrimental impact of a negative environment on a child's development is well documented in the literature. If children do not experience secure attachment with their families and are not given loving care and attention, severe consequences can occur. A lack of attachment with a nurturing caregiver during infancy can impact children's ability to form meaningful relationships into the future (U.S. Department of Health, 2009).

Furthermore, a lack of stimulation during the early years can damage and diminish the neuronal pathways available for learning and cause development delays across a number of domains, and ultimately across generations (Lancet, 2016) causing long-term developmental delays and disabilities affecting the children of today's young children. For Myanmar to progress well and become a productive nation, ECI services must be begun as rapidly as possible.

Current gap in services

As noted above, from 35% to 45% of Myanmar's children have or are at high risk of becoming developmentally delayed or disabled. These children currently lack access to ECI services. In addition no nationwide system exists for developmental screening and surveillance/monitoring by medical professionals, even at tertiary health centers. Tertiary centers are limited to providing physiotherapy, when more comprehensive, transdisciplinary and individualized ECI services are required.

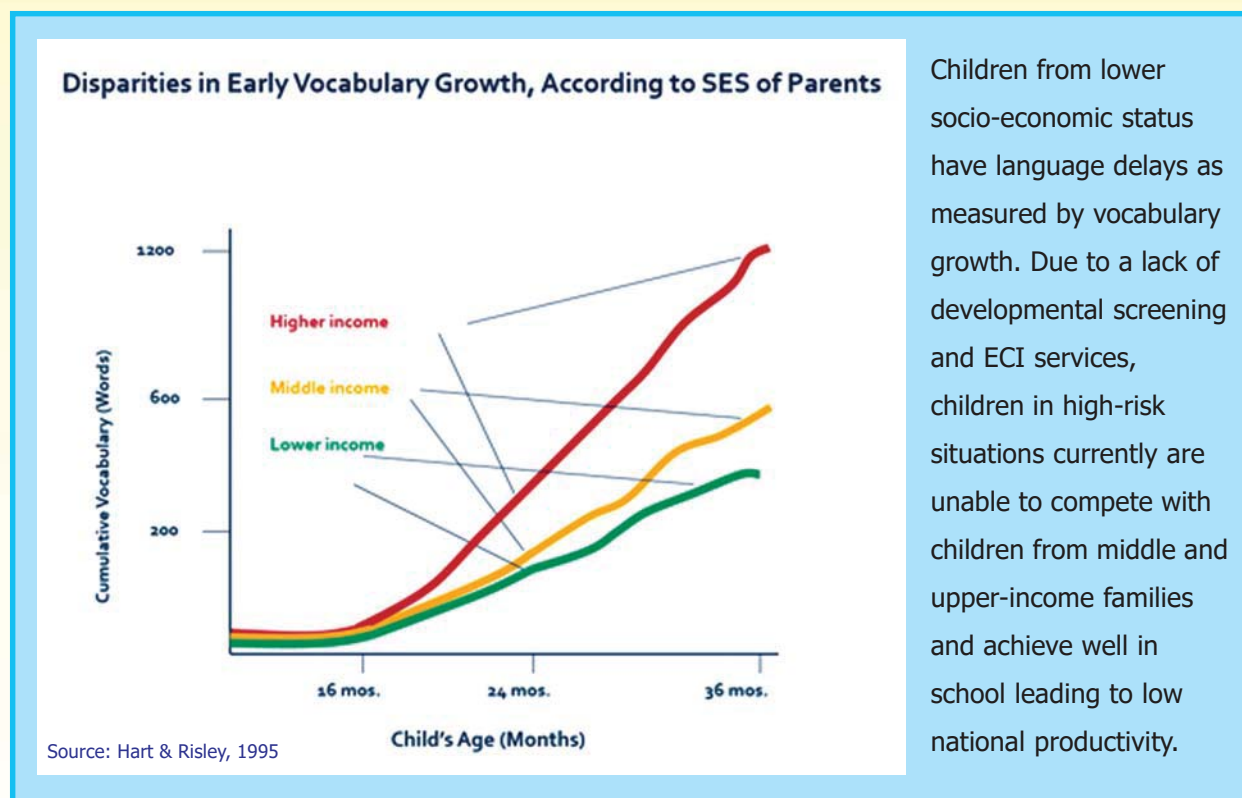


ECI Service Pathway

ECI services have the goal of improving child functioning. Children that are identified to be developmentally delayed may be cured of a chronic infection or improved in their nutritional status but without appropriate stimulation they retain their developmental delays.

In collaboration with health, nutrition, sanitation, education and child and social protection services, ECI services work with parents, legal guardians, and caregivers to provide the necessary education, support, and training to improve child development. Without ECI services, although children may be physiologically treated, they will not thrive and reach their developmental potential.

Myanmar urgently needs to develop ECI services for young children with developmental delays, malnutrition, disabilities, chronic illnesses and neuro-developmental conditions, such as autism spectrum disorders. As noted, no comprehensive national survey assessment exists of levels of child development at different ages from birth to 36 months.



Furthermore improved identification of low birth weight and pre-term infants is necessary. The implementation of the national ECI system would also help to achieve many national policy targets for improved child health, nutrition and development.

ECI is an essential part of every nation's "Continuum of Care" for children

ECI is an essential part of a continuous national system of early childhood services. Parents and children first receive preconception, prenatal and post-natal services, followed by either 1) ECI services for children with at-risk conditions, developmental delays or disabilities or 2) general ECCD services for children with typical development. Once children in ECI services have improved in their development, they are able to transition to an inclusive preschool or inclusive primary

education for all children. The goal of ECI is to foster independence for both the parent and the child, and for the child to ultimately join other typically development children in the inclusive standard program.

By providing ECI services, the need for costly “special education” services will decrease. Most children will participate in inclusive schooling. Special education centers or schools are often expensive multidisciplinary institutions that provide center-based services, and often marginalize children with developmental delays and disabilities from the rest of society.

ECI saves money

ECI services are provided to parents and children together in their homes and/or child care centers. Because they are home-based and transdisciplinary, ECI services reduce the costs services and many more children can be served. ECI reduces the cost of special education by reducing the number of children requiring special education. ECI reduces education costs by reducing drop out, grade repetition and low achievement, and ensures that children transition well into inclusive preschools and primary education.

In Myanmar, of all the children who begin basic primary education, only 10% of them graduate 10th standard. Most students who graduate from 10th standard come from upper-income homes and urban areas. The high dropout rates in primary and secondary schooling can be attributed to some extent to the current lack of ECI services, and most especially in rural areas, where high levels of stunting and cognitive delays are found. Due to lack of robust developmental screening, many children with unrecognized learning disabilities and cognitive deficits cannot compete in school. On average, children develop physically and cognitively at much slower rates (as determined by standardized tests) in rural areas.

The benefits of ECI services extend throughout each child’s lifetime. Longitudinal studies have shown that the effects of ECI services persist in several domains up to 35 years after leaving ECI services. Children who have received ECI services demonstrate significant lasting gains in the following domains: cognition development and academic achievement; language development; behavioral and emotional competencies; educational progression and attainment; reduced child maltreatment; improved health; reduced delinquency and crime; reduced social welfare program use; and improved labor market success.

Family-focused and child-centered

Families and professionals work as a team to plan appropriate services based on the unique needs of the child and family. ECI services are highly individualized, strength based, and programs

are built around the child and the family's specific needs. The intensity, frequency, and type of program can vary, based on the child's level of development. The core of the ECI service is providing parental education and support – working together with parents and empowering them with the tools to best develop their child. The strength of the relationship between caregivers and their children, and the subsequent positive environment that is fostered, represents a key foundation for successful ECI strategies.

Home-based programs provide a unique advantage over center-based programs because the primary intervener is the parent who usually has a strong relationship with the child, and is able to provide therapeutic activities with the child throughout the whole day, as opposed to only 1 to 2 hours a week solely with a professional therapist. Research shows that home-based, parent-focused programs are not only cost effective, but also result in significant developmental gains. Parents are able to avoid service dependency (and reduce costs for welfare services), are empowered to make important decisions regarding their child's development, and foster strong long lasting bonds with their children. They are able to recognize their strengths and not just their "special needs."

Children spend the majority of their time with their families in everyday routines and activities. A home-based program enhances program effectiveness by providing stimulating activities for the child in her or his natural environment. Therapies and activities that are conducted in the home are more likely to be remembered and used, and they will improve functioning more rapidly and effectively. There is usually no need for expensive equipment or toys; instead usual household items and activities are used. Parents are taught to incorporate stimulating activities into their child's daily routine during bath time, dressing, feeding, and shopping. This form of contextualized learning helps children develop functionally rapidly and effectively.

ECI is low cost

Given limited national and regional budgets, ECI is an ideal system to be implemented in Myanmar. The National Strategy for ECI has been designed for maximum effectiveness at the lowest possible cost. From screening to intervention and transition to inclusive preschool and primary school, the system has been designed to be as simple, feasible and high in quality as possible.

Medical personnel can provide basic surveillance and monitoring of child development and make referrals to ECI services. For developmental screening, parents, nurses, home visitors, preschool teachers and others can learn how to administer and score the Ages and Stages Questionnaires that have been adapted and validated in many nations. If a child is found to have a developmental delay or disability, they then refer the parents and child to an ECI service site,

and a home visit is made to do a basic intake and conduct a comprehensive child assessment. If found to be eligible for ECI services, home visits are provided until the child has reached his or her developmental potential, which can range from 9 months to approximately 3 years depending upon the child's individual needs.

ECI services are designed to be high in quality and low in cost. Unlike expensive center- or hospital-based programs, ECI's service provision takes place in the child's home. Well-trained paraprofessional home visitors will provide most of the services, under the supervision of a transdisciplinary team of professionals. No special equipment or service building is required, although each ECI team needs office space and a meeting room. The largest cost will be the pre- and in-service training of professionals and paraprofessionals for the transdisciplinary team that will be placed in each ECI service site. After developing all essential program contents, materials, methods, and training, monitoring and evaluation materials, pilot sites will be established to field test the Myanmar ECI model. Once the field sites have been monitored and evaluated, the ECI system will be revised and then go to scale in stages in all regions of the nation. At each point, key requirements for achieving sustainability will be given priority attention. Also every effort will be made to ensure that a robust, accountable and efficient national ECI system will be developed.

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Summary of benefits

ECI services constitute a high-quality, effective, and low-cost intervention that focuses on reducing the impacts of developmental delays on children. The intervention is family-focused, child-centered, individualized, comprehensive, developmentally appropriate, culturally sensitive, and empowering for both children and parents. ECI services are designed to be accessible and equitable to all, community-based, and provided in the natural environment of the child and family. ECI is a strength-based model, a new way of viewing development where pathology and diagnoses are replaced by building on each child's abilities and the improvement of parent and caregiver-child relationships. ECI services that are correctly implemented have long-lasting positive impacts on children and their families. They forge long-lasting relationships, and provide children with skills and abilities that remain relevant throughout their lives.

ECI services are an integral element of any ECCD system, and they will provide Myanmar with significant economic and social rewards that will have a lasting positive impact on Myanmar's road to development.

It is essential that all of Myanmar's vulnerable children between the ages of 0-5 years with developmental delays, malnutrition, chronic illnesses, disabilities, neuro-developmental disorders, and other special needs access high-quality ECI services in order to achieve their rights and full potential for physical, mental, social and emotional development within nurturing, safe and stimulating home and community environments.

With adequate ECI services in place, Myanmar children – from all socioeconomic levels, family environments, rural or urban settings, with or without a delay or disability – will be able to achieve well in school, thereby raising national social development and economic productivity.

This paper is published by Establishing ECI System project implemented by the Department of Social Welfare, Ministry of Social Welfare Relief and Resettlement with the support of UNICEF and The Leprosy Mission Myanmar.



Summary of ECI Benefits

- ECI ensures that the rights of parents and children are protected, supporting legislation, coverage and adherence.
- ECI successfully improves the development of children with delays, fragile birth status, disabilities, malnutrition, chronic illnesses, and neuro-developmental conditions. Over 70% of children with developmental delays will be able to join inclusive preschools and schools.
- ECI supports existing health structures and provides a continuum of services that do not currently exist. Physicians refer children to ECI services, and they to ensure child health and nutrition status are improved. ECI services assist with the transition from Neonatal Intensive Care Units to the home, thereby ensuring a continuum of services for fragile infants.
- ECI improves the development of children who are fragile at birth, have congenital conditions or subsequently become developmentally delayed, by means of stimulating children, encouraging balanced development and working to ensure children consolidate their gains in all developmental areas.
- ECI decreases the costs of special education by reducing the number of children requiring special education. By reducing the number of low-functioning children, the need for specialized expensive rehabilitation centres is decreased.
- ECI decreases education costs by reducing drop out, grade repetition and low achievement in school. Children who receive ECI services show marked short-, medium- and long-term improvements in social, academic, and emotional functioning.
- ECI ensures good transitions from home to inclusive preschools, kindergarten and primary schools.
- ECI reduces health care and later rehabilitation costs. Rehabilitation centres require many well-trained professionals and expensive equipment. By using home as the service site, the rehabilitation centre can be forgone, thereby reducing the burden on the already stressed rehabilitation system.
- ECI services reduce the social isolation and stress of parents as well as help to preserve families when they have a child with a developmental delay or disability.
- ECI services reduce the rate of and help to end placement of infants and children (0 to 3 years especially) in orphanages, monasteries and other institutions, by encouraging family preservation. Furthermore young children who are deinstitutionalized from orphanages can be developed to their full potential and most will become productive citizens.
- ECI not only improves child development; it also helps to achieve full social inclusion and attaining independent living as adults.
- ECI reduces the incidence of crime caused by persons with previously unidentified delays and disabilities. Better-developed children will become productive members of society and contribute positively to the development of Myanmar.