

## Child-Centred Risk Reduction Research-into-Action Brief:

# Early Childhood and Disaster Risk Reduction

Jacqueline Hayden<sup>1</sup> and  
Marla Peta<sup>2</sup>

<sup>1</sup>Macquarie University,  
Sydney, Australia

<sup>2</sup>Save the Children

### Statement of purpose

The Research-into-Action Brief series provides concise summaries of academic and grey literature on a range of topics for practitioners working in the fields of child-centred risk reduction (CCRR), climate change adaptation (CCA), and school safety. This purpose of this brief is to provide a concise review of research findings for practitioners on the topic of early childhood and disaster risk reduction.

Find the full Research-into-Action Brief series at:

[www.gadrrres.net/resources](http://www.gadrrres.net/resources)

Produced by Save the Children and Risk Frontiers, with support from C&A Foundation and C&A

**C&A Foundation**

 **Save the Children®**



### Abstract

The impacts of hazards and threats can be significantly modified through adequate risk reduction and preparedness. The factors that contribute to effective disaster risk reduction (DRR) have been documented and widely applied. However, the nuances of DRR that relate specifically to very young and preschool-aged children are less prominent in the literature, despite the heightened vulnerability of children below the age of eight years. This paper reviews the research and practice literature about early childhood and DRR. A focus on early childhood can be incorporated at national, community, classroom and household levels. The very process of undertaking a DRR assessment for young children has been shown to stimulate raised awareness and increased support for this age group. Information sharing and participatory activities that acknowledge the capabilities of pre-school-aged children are effective DRR mechanisms.

### Glossary

Term	Definition
CCDRR	Child-centred disaster risk reduction
DRR	Disaster risk reduction
ECD	Early childhood development
ECDRR	Early childhood disaster risk reduction
ECCE	Early childhood care and education
INEE	International Network for Education in Emergencies
UNICEF	United Nations Child Emergency Fund
UNISDR	United Nations Office for Disaster Risk Reduction

### Introduction

Young children who experience disasters are at high risk of injury, malnutrition, disease and disability. Children under eight years of age are especially vulnerable because distress and trauma can affect their growth and development, and can impact related long-term health, neurological and psychosocial outcomes (UNICEF, 2011, 2017). Infants who have been weaned and children with low socioeconomic status have been identified as the most at-risk groups for neglect, abuse and death in post-disaster contexts (Datar et al., 2013). Therefore, a focus on early childhood disaster risk reduction (ECDRR) at national/regional, community, classroom and household levels is essential.

## The importance of early childhood

Early childhood refers to the critical developmental phase of life – from conception to age eight. It is during this stage that the foundations of physical and psychological health and wellbeing are determined. It has long been established that stress and distress in early life can affect neurological, biological and psychosocial outcomes. However, recent advances in the field of epigenetics (gene science) have provided a fuller understanding about the role of experiences during the first years of life (Leckman et al., 2014). We now know that factors in the external environment such as exposure to destruction, displacement and/or loss of significant caregivers can change the architecture of a young child's developing brain.

Conversely, during the early years of life, children thrive with consistent caring and respectful relationships and with opportunities for movement, play and stimulating activities. Nurturing experiences during the early years, including quality early childhood programs, are associated with resilience, instilling healthy social behaviours and breaking cycles of poverty (Schweinhart et al., 2005; Engel et al., 2007; Peek, 2008; Shonkoff, Boyce and McEwen, 2009). In fact, quality early childhood services – including home visiting, nursery schools, pre-primary and other formal and informal programs for young children and families – have been identified as one of the most effective investments a nation can make (Heckman, 2006; OECD, 2017).

## Risk reduction and young children

There has been extensive research and policy work on household and community-based disaster risk reduction (CBDRR), including work on comprehensive school safety (CSS). These areas need to be considered through an early childhood lens. It is important that the psychological and social needs of young children are specifically addressed in contexts of disruption and distress and that facilities where young children and staff congregate are safeguarded against hazard impacts. To protect children's rights to safety, survival, education and development, a broad range of risks and hazards must be considered:

- Large-scale, rapid- and slow-onset natural hazards, including cyclones, floods, fires and earthquakes
- Large scale threats caused by people, such as the release of hazardous materials, conflict and violence
- Daily threats, such as road accidents, drowning, air pollution, household accidents and getting lost.

## Early Childhood Disaster Risk Reduction

Child-centred Disaster Risk Reduction (CCDRR) recognises children as the drivers of risk reduction and resilience efforts, who have the capacity to identify needs and to improve the safety of their

***Children by the age of three and four can understand and contribute to DRR***

households, schools and communities (Penrose and Takaki, 2006). Within CCDRR, the needs and roles of young children call for special attention. A focus on children below eight years of age is known as Early Childhood Disaster Risk Reduction (ECDRR). Children from the age of three and four can understand and contribute to DRR for example by, identifying hazards and risks, finding safe spaces, participating in quick evacuation procedures and helping others. Acknowledging and facilitating the participation and capabilities of young children and their family members is critical for effective and sustainable DRR.

Early childhood is associated with three stages of development. However, it is important to note that the stages will overlap, depending on the context, maturity and language levels of each child. The three stages, and how they relate to ECDRR, are:

**Birth to toddlerhood (approximately to two years old):** During this stage, an important focus of ECDRR involves information dissemination to caregivers, and the physical security of the environments where the children spend their time. Since these children are less likely to be in formal settings (e.g., preschool), the focus here is on ensuring that caregivers are prepared with appropriate evacuation plans and supplies, and with information about where to access support for this age group in the event of hazard impacts.

**Preschool-age children (approximately three to five years old):** ECDRR involves physical protection of facilities and classroom activities that promote DRR problem-solving. Preschool children can aid in disseminating important DRR information to their families and communities.

**Children in the early years of school (approximately six to eight years old):** ECDRR participation and programs can be integrated within the Comprehensive School Safety framework (GADRRRES, 2014), addressing safe school facilities, school disaster management and risk reduction and resilience education.

ECDRR involves actions at the national/regional, school/community, program and household levels. The following sections discuss actions that can be taken at each of these levels.

## **ECDRR at the national/regional level**

Most countries have developed national plans or systems for early childhood care and education. These plans often provide a good foundation for ECDRR. National policies and procedures that foster and support access to quality early childhood programs contribute to DRR. This is because ECCE services and programs, by their nature, are intended to be places of physical and psychological safety (Kondo, 2014). However, only high-standard programs, that are child-centred, well staffed and respectful, can be considered protective environments. Programs that do not meet these national quality standards can actually cause harm (OECD, 2017).

## ECDRR at the community level

Here, ECDRR is associated with three activities:

### 1. Conducting a localised child-centred needs assessment

A fundamental component of risk reduction is identifying local hazards and vulnerabilities, as well as the level of child friendliness (or “child-centredness”) of communities (NSW Commission for Children and Young People, 2008). Researchers from four nations in high-risk disaster areas in the Asia Pacific measured four domains of child friendliness within communities: (1) attitudes, (2) service co-ordination, (3) inclusion and (4) governance (Cologon and Hayden, 2017). Indicators for measuring each were developed and adapted for each context. Communities that scored high on supports for young children and families also met criteria associated with DRR. These factors included:

- There are trusted institutions in the community (churches, NGOs, donor agencies).
- There is a sense of safety within the community.
- There is expertise regarding the diverse needs of young children within the community.
- Organisations and services for young children are seen to work together.
- Marginalised groups and affected populations have a voice in the development and implementation of policies and processes that relate to their lives.
- There are effective vehicles for dissemination of information to families with young children.
- Printed or media messages are provided in languages which are understood by all people in the community.

Teachers, health workers and community bodies undertook the ECDRR assessment. In many cases, the assessment process itself raised awareness about the needs of young children in the community and resulted in enhanced policies and supports. This ECDRR assessment tool can be easily adapted and used by different communities (Hayden and Cologon, 2011). To view this tool, please go

to:  
<https://www.preventionweb.net/files/27602asiachildrendisasterriskreduction3s.pdf>

### 2. Reducing dangers in the built environment

Specific indicators for the safety of facilities that serve young children must be considered. The *Comprehensive School Safety Framework* and its targets and indicators (GADRRRES, 2014) provide useful guidance. Indicators for a safer built environment include:

- Every new facility is a safe facility. Guidance and regulations are in place from appropriate authorities for safe construction of ECCE facilities. Safe school or shelter site selection, design and construction are monitored for compliance and enforcement by appropriate authorities.
- Existing preschools and early childhood centres are systematically made safer, with an implementation budget for

***Specific indicators for the safety of facilities that serve young children must be considered***

assessment and prioritisation to retrofit and/or replace unsafe facilities.

- Education authorities promote routine maintenance and risk mitigation for increased safety and protection of ECCE investments.
- Hazard and risk assessments at early childhood care facilities take place annually. Local hazard maps identify the specific hazards for young children and show places of safety and places to be avoided.
- Preschools and other physical structures where young children congregate meet construction standards and are in areas which allow for ease of evacuation (such as on the ground floor).
- Equipment and furniture are arranged to ensure that injury from falling items is minimised and that pathways for evacuation are clear.
- ECCE facilities and community shelters are stocked with food, materials and equipment (for example, baby formula, cots, bottles, nappies etc) and medicine appropriate for young children.

### **3. Including a specific early childhood focus in community disaster response planning**

Several important guidance materials and courses have been developed for risk reduction and response planning in schools, pre-schools and similar institutions. These can be adapted for diverse national contexts (see, for example, American Academy of Pediatrics 2011, Riopelle et al. 2004, FEMA 2013).

Priorities include having a set of standard operating procedures for disasters and emergencies in ECCE centres. These should ensure that young children's needs are effectively included in safe building evacuation and assembly, evacuation to a safe haven, shelter-in-place, lockdown and safe family reunification (for example, "Standard operating procedures for disasters and emergencies in schools" in IFRC and Save the Children's *Public Awareness and Public Education: Key Messages*, second edition (2018)). Evacuation planning should take into account the immobility of young children and include plans and devices for the rapid transport of babies and children with disabilities (Cunningham et al., 2001).

The UNICEF (2014) *Early Childhood Development in Emergencies Integrated Programme Guide* recommends these steps in community emergency planning:

- Compiling a roster of ECD experts who can be called upon in the event of an emergency.
- Ensuring that the needs of young children are included in emergency preparedness training, drills and simulations for community members and emergency services.
- Positioning ECD play and recreational material (such as ECD kits) in baby clinics, nutrition centres, and child-friendly spaces (when this material is not available, arrangements should be made to get it).
- Identifying safe spaces and shelters in the community that could be used as ECD centres during emergencies.

## ECDRR at the classroom level

Teachers and care providers are the mainstays of ECDRR programs. Teachers develop, co-ordinate, supervise and apply ECDRR program activities – and, importantly, facilitate the participation of young children as agents of risk reduction (Connolly and Hayden, 2007). The approaches and standards that have been developed for Comprehensive School Safety can also be applied to ECCE services and programs (GADRRRES, 2015). These approaches address three overlapping domains: safer school facilities, school disaster management, and risk reduction and resilience education. They are important to ensure the safety of young children and their caregivers, assure continuity of access to ECCE programs and services, safeguard ECCE investments and build a culture of safety and resilience.

An investigation of early childhood programs within disaster and conflict environments across nine countries found that early childhood programs:

- provide a physically safe place even during devastation and community disruption,
- provide a psychologically safe environment for children and families where emotions can be dealt with, discussed and worked through, thus are a place of healing,
- serve as entry points for families to access health services, essential resources and other community support,
- play a role in mobilising families to advocate for children's needs (Connolly and Hayden, 2007).

### Resources and program aids for ECDRR

All children can gradually and systematically learn skills and competencies that will help them be more aware of dangers, and participate in standard operating procedures for disasters and emergencies. ECDRR activities for preschools and other early childhood facilities include:

- Young children can be shown books and films about hazards, risks and safety behaviour, can create pictures and stories about safety behaviours and concepts, can discuss and role-play safety behaviours and make use of puppets and dolls to practise safety strategies.
- Role-playing, games, puzzles, songs, dances, nature trips, picture-making, stories, drawing competitions for all children in the community; community walks and drills can be used to orient young children to risk identification, risk reduction, and safety routines including evacuation processes.
- Young children can disseminate risk reduction and safety messages, information and materials from child-care and school settings to home. Preschool children can convey this information to their younger siblings and other toddlers in the neighbourhood (UNICEF, 2011b).
- Children can plan and prepare individual "evacuation backpacks". These contain their personal information along with emergency supplies (See UNICEF, 2013 for more ideas).

## Early childhood programs:

- *Provide a physically safe place*
- *Provide a psychologically safe environment*
- *Serve as entry points for families to access services*
- *Play a role in mobilising families to advocate for children's needs*

### **Adapting programs and resources for young children**

Many resources and activities developed for older children can be adapted for younger children by substituting pictures and symbols for text, using puppets and role-playing to explore concepts, encouraging children to draw pictures to communicate their ideas and by frequently reinforcing information through story books, three-dimensional models, play figures, sand sculptures and similar physical materials. It is useful for DRR professionals to work with a teacher who understands the local context and who has early childhood training or experience to revise questions and discussions to suit the comprehension levels and capabilities of young children and to ensure meaningful application of the activities to the local situation.

### **Reaching children who are not in programs**

Children who do not access an early childhood program can be included in ECDRR through story-telling, drama, puppet shows and other activities offered by staff and volunteers through community outreach programs, libraries and public events. A recent report promotes the use of mass media – community loud speakers, radio and TV spots – to transmit DRR messages to children who do not access a formal program (UNICEF, 2011b). In a Northern Ireland study, this type of media initiative was shown to be effective in disseminating information and facilitating helpful attitudes and behaviours in young children (Connolly et al., 2006).

## **ECDRR at the household level**

Discussions and practice exercises will assist children to feel in control and remain calm when an emergency strikes. Families can ensure that children memorise their contact details (names and address) and that they are familiar with safety rules, including how to find help if they get lost. In turn, children can contribute to family safety by sharing information discussed in their preschool setting with their caregivers, encouraging the development of household evacuation plans, assisting with identification of a family emergency meeting place and helping to develop and safely store a family emergency kit (Please see: <http://toolkit.ineesite.org/resources/ineecms/uploads/1058/LetsGetReadyEN.pdf>).

## **Young children's needs after disasters**

Beyond a rapid response to protection, health and nutrition programs, young children in post-disaster environments have the best chance for recovery and development when they have: (1) consistent relationships and (2) a safe, nurturing environment (Shonkoff et al., 2012).

### **Consistent relationships**

Children need stable and responsive interactions with one or more significant adults. For this reason, in post-disaster contexts, every attempt must be made to keep children within their family (familiar) groupings –parents, siblings, relatives and/or neighbours. Thus, a focus on providing supports to family members and facilitating communities to redevelop after a disaster is one of the most effective ways of protecting young children.

### **After disasters young children need:**

- *Consistent relationships with significant adults*
- *A safe, nurturing environment*

## Safe spaces

A “safe space” is the term used to identify locations where both physical and psychosocial safety is assured after a danger, threat or disaster. An important function within the space is to facilitate trust and emotional security. Programs provided in safe spaces need to be holistic (address all aspects of children’s needs), inclusive (open to all individuals and groups), respectful (reflect active listening and non-judgemental support), child-centred (allow children to make choices and to determine the focus and timing of their activities) and need to include play that encourages free expression (role play, art activities). Typical activities in an early childhood safe space include many opportunities for free play, dramatic play, clay and sand play, expressive art, traditional games, songs and stories (See *Starting up Child Centred Spaces in Emergencies: A Field Manual* at [http://toolkit.ineesite.org/resources/ineecms/uploads/1058/Starting\\_U\\_p\\_Child-centered\\_Spaces.PDF](http://toolkit.ineesite.org/resources/ineecms/uploads/1058/Starting_U_p_Child-centered_Spaces.PDF)).

## Practical Applications

Practitioners involved in ECDRR program design and implementation should strive to:

### **1. Include the needs of young children in policy, planning, risk reduction and preparedness, at all levels**

At the national or regional level, promote awareness of potential hazards and ensure protections against infrastructure risks. At the community level, investigate current strengths and gaps in services and advocate for enhanced supports for young children and families, including a specific focus in local emergency planning. Engage city/town planners, education departments and community members in careful consideration of location, access and design of ECCE settings. Ensure young children and families have access to appropriately equipped safe shelters. Frameworks, such as the Comprehensive School Safety Framework, can provide a useful guide for creating safer school facilities, school disaster management and risk reduction and resilience education.

At the classroom level, implement programs that stimulate knowledge, skills and appropriate attitudes among caregivers and children to act calmly and responsibly in the case of a disaster. Within early childhood program settings and households, ensure furniture and equipment are arranged for quick evacuation and that infant evacuation processes are in place. Undertake hazard mapping with and for young children to ensure their understanding of safe and non-safe areas. Raise awareness of caregivers, teachers, administrators, health professionals and other adults who play a role in children’s lives to ensure that they know what to do before, during and after a disaster. Include a DRR focus in educational materials, games, songs and other teaching methods. Acknowledge and facilitate the efficacy of young children to learn and share information, and to participate in other risk-reduction activities.

Use media and other communication methods to extend messages about ECDRR to those who may not have access to early childhood programs.

### Practitioners can:

- *Include the needs of young children in policy, planning, risk reduction and preparedness*
- *Ensure the participation of young children*
- *Customise ECDRR to the local context*



## **2. Ensure the participation of young children**

Children from very young ages have the capacity to participate in risk reduction (Peek, 2008). Vulnerability is reduced and resilience is enhanced when young children and their caregivers have access to resources and information, and are encouraged to participate in risk reduction, preparedness and response activities. Media can be used to extend messages to those who may not have access to programs.

## **3. Customise ECDRR to the local context**

Work with local ECCE co-ordination networks, stakeholders and advisors to guide ECDRR, and to customise approaches to ensure that strategies are culturally appropriate and address the needs of each community. A committee or group of advisors with local knowledge has been identified as an effective strategy for addressing this task (Hayden and Cologon, 2011). Professionals and advisors with early childhood knowledge can facilitate the adaptation of existing resources and materials for local families and children (Hayden and Cologon, 2011).

# **Conclusions**

New understandings about brain development and epigenetics reinforce the importance of experiences during the early years of life. Quality early childhood programs improve resilience, social stability and even national productivity. While empirical research projects concerning young children and DRR are not common, related studies and reports have provided guidelines for improving ECDRR. A focus on early childhood in national and local DRR plans, assessing and enhancing community support and programs, providing targeted training for early childhood workers and teachers and facilitating young children to be participants in the implementation of diverse DRR activities are recommended targets for ECDRR. While many of the resources, materials and program supports available for school-age children can be adapted for younger children, further research is needed for developing specific supports to enhance the risk reduction for this crucial stage of development.

# **Follow-up Questions**

1. What actions are required at the national level for effective ECDRR?
2. What actions are required at the community and school level for effective ECDRR?
3. What can be done to raise DRR awareness of caregivers and others with responsibility for young children who don't have access to formal programs?
4. What can be done to facilitate and support the active participation of young children in ECDRR planning and activities?

# **Bibliography**

All the references in this Research into Action Brief, and many more, can be found in the CCRR and CSS Bibliography at:

[https://www.zotero.org/groups/1857446/ccrr\\_css](https://www.zotero.org/groups/1857446/ccrr_css)

Find all the references on this topic using the tag “Early Childhood”.

## Readings

American Academy of Pediatrics, American Public Health Association, National Resource Center for Health and Safety in Child Care and Early Education 2011, *Caring for Our Children - National Health and Safety Performance Standards: Guidelines for Early Care and Education Programs*, 3rd edn, .

FEMA 2013. IS-36: Multihazard Planning for Childcare  
<http://training.fema.gov/EMIWeb/IS/courseOverview.aspx?code=is-36>

GADRRRES 2015, Comprehensive School Safety Framework

IFRC & Save the Children 2018, *Public Awareness and Public Education: Key Messages*, 2nd edn. .

Riopelle, D. et al 2004, *Head Start Disaster Preparedness Workbook*, UCLA Center for Public Health and Disasters, Los Angeles.

Suggested citation: Hayden, J. and Petal, M. (2018) *Early Childhood and Disaster Risk Reduction*. GADRRRES Research-into-Practice Brief.

© 2018 Global Alliance for Disaster Risk Reduction and Resilience in the Education Sector  
The complete series of case studies can be found at: <http://www.gadrrres.net/resources>