



Global Alliance for
Disaster Risk Reduction & Resilience
in the Education Sector

GADRRRES Comprehensive School Safety
Policy Case Studies Series



Iran

Pillar 2: School Disaster Management

Organisations:

- *International Institute of Earthquake Engineering and Seismology (IIEES)*
- *Ministry of Science, Research and Technology (MSRT)*

Schools Impacted:

- 82,000 public schools
- 14,000 private schools



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Nationwide School Earthquake Drills in Iran

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Overview

Since Iran initiated its nationwide school earthquake drill program in 1996, it has managed to reach students across the country at all levels of education as well as expand the program to engage community members outside of schools. By 2016, nearly 13 million children participated in earthquake drills across the country for the nation's 18th national drill. In 2015, Iran implemented the Safe Schools – Resilient Communities program. The program uses schools to offer hazard risk education and preparedness tools to community members, connecting student's knowledge to their parents and other stakeholders in the community. Over a two-year period, Safe Schools – Resilient Communities has already been introduced in 37 communities.

The success of Iran's implementation of earthquake drills and hazard mitigation education in schools across the country comes from strong cooperation between the Iranian Ministry of Education (MoE) and the International Institute of Earthquake Engineering and Seismology (IIEES). By centring disaster preparedness education in schools, children have the opportunity to transfer hazard and preparedness knowledge to their families and then to community members (Izadkhah, 2004; Izadkhah and Heshmati, 2007).

Keywords: Iran, earthquake, school disaster management, drills, community engagement

Hazards and Education Context

Iran sits atop the seismically active Alpine-Himalayan orogenic belt and has been struck by many destructive earthquakes (Hessami et al., 2003). The last major earthquake in Iran was the 2003 Bam Earthquake, an event that claimed more than 26,000 lives, destroyed a large percentage of Bam's building stock, and resulted in economic losses of more than \$1 billion USD. Most earthquake-related deaths in Iran result from the collapse of seismically weak buildings. However, during the last decade, most seismically susceptible schools made of adobe or masonry have been reconstructed and are now structurally safe.

In Iran, about 13 million children – around 60% of which are in primary schools and the remainder in secondary and high schools – are enrolled in around 96,000 schools. The MoE has authority over the 82,000 public schools and can mandate earthquake drills, and an additional 14,000 private schools comply with the MoE's principles and also engage in drills when asked (Khabaronline, 2017; Otaghkhabar, 2016).

Iran is a signatory to the Yokohama Strategy for Disaster Risk Reduction (DRR) of 1999, the Hyogo Framework for Action (HFA) of 2004 and the Sendai Framework for DRR of 2015. Accordingly, it has committed to developing disaster-resilient communities through various DRR initiatives, including child-focused ones, since the 1990s. As a prime vehicle for communication, schools can be used to disseminate knowledge to students and families, and can act as spaces for public forums in which the greater community can participate. Furthermore, schools are important institutions in forming the culture of a society (Shaw and Kobayashi, 2001).

Development of a School Drill Program

During the International Decade for Natural Disaster Reduction in the 1990s, the International Institute of Earthquake Engineering and Seismology (IIEES) discussed earthquake risks to schools and communities with the senior management at the MoE, providing evidence of seismically-weak school buildings across the country. The IIEES is an Iran-based international research body committed to developing structural- and management-based solutions to seismic hazards. Both organisations agreed that schools needed more robust hazard preparedness and response policies.

The two organisations decided to work together to encourage formal and informal risk-reduction education, with an emphasis on community inclusion. The IIEES and the MoE concluded that schools were ideal places for conducting hazard awareness activities and began discussing how school sites could be appropriate venues for educating citizens about earthquake safety and preparedness. In 1996, the MoE and the IIEES piloted Iran's first school earthquake drill in one preschool and one elementary school in Tehran, with success. The young students learned how to "drop, cover, and hold on" to their desks during earthquakes. Teachers and staff practiced how to safely evacuate the students from the building and account for everyone's safety.

A year later in 1997, the IIEES and the MoE ran the country's first Earthquake and Safety Drill as a pilot project in three schools: two boys' high schools and one girls' high school. An evaluation of the drill results revealed that the students were capable of responding appropriately to an earthquake event.

The main objectives of the Earthquake and Safety Drills were to:

1. increase the knowledge of children and teachers about earthquakes
2. develop preparedness for appropriate responses during an earthquake
3. reduce the disastrous consequences of earthquakes
4. build a culture of safety in earthquake-prone communities

Problems:

- High earthquake-related deaths from seismically weak buildings.
- Lacklustre school participation in school earthquake drills.

Goals:

- Reduce injury and death in earthquakes.
- Increase school participation, and quality of participation, in drills.

Intervention:

- Mandatory annual school earthquake drills, directed by a national council and supported by education materials.
- Public awareness campaign within and beyond schools.

Expanding Nationwide

1996

1st pilot drill in one preschool and one elementary in Tehran

1st Tehran Drill for all high schools in Tehran

1998

1999

1st National Drill, high schools only

2nd National Drill, secondary and high schools only

2000

2003

5th National Drill for all schools

Following the successful pilot, the IIEES and MoE sought to scale up the drills to all schools in the capital city of Tehran. In 1998, the IIEES developed several programs to prepare schools to conduct the drills and 1,059 high schools across the city performed the drill. In preparation, the IIEES met with some of the participating high school principals to emphasise the necessity of performing drills in preparation for a hazard event and to familiarise them with drill procedures. Principals that did not attend the IIEES meeting were sent detailed drill guidelines. The IIEES Public Education Department also developed educational programs, which changed each year, that targeted children using workshops, drawing competitions, and exhibitions as educational tools, and through filming educational shows that were aired on local television.

In 1999, the MoE further expanded the program and made the drills mandatory in both public and private schools nationwide; however, problems arose. In some schools, the principals did not take the drills seriously. In some cases, the Students and Parents Associations did not lend their support to the drill program. Additionally, the insufficient number of trainers for the drill programs resulted in inconsistencies in drill implementation across schools and, in some cases, negatively affected performance of drills. As a result, the MoE began requiring that schools submit annual drill performance reports.

In 2002, the MoE and the IIEES established the Planning Council for National Earthquake and Safety Drills for the specific purpose of managing and enhancing the program of earthquake drills in Iran. This drill council is comprised of representatives from the IIEES, the MoE, the Iranian National Committee for Disaster Risk Reduction (later replaced by the National Disaster Management Organisation as a representative of the Ministry of Interior), the Red Crescent Society of Iran, and the Islamic Republic of Iran Broadcasting. Today, the drill council plans and helps execute annual earthquake drills across the country (Parsizadeh et al., 2004).

Drill council organisations are active in helping schools prepare for the annual Earthquake and Safety Drill by raising awareness and offering educational materials. The MoE and the IIEES design and distribute posters advertising the drill to all schools (Figure 1). The Islamic Republic of Iran Broadcasting airs various scientific and educational programs about earthquake safety on the radio and television one week prior to the drill. The IIEES prepares a 12-page booklet of drill guidelines in Persian each year and distributes it two weeks before the national drill. The booklet outlines the objectives of the drill, the logistics, how to identify potential hazards in the classroom, and sheltering and evacuation protocols during an earthquake event. The booklet also stresses the importance of the roles of teachers and instructors in guiding their students through the drill as a learning process.

On the day of the annual drill, the MoE coordinates the Earthquake and Safety alarm within schools, while the Islamic Republic of Iran Broadcasting sounds the alarm on the national radio. On cue, students, teachers, and all school staff perform “drop, cover, and hold” for 30 to 60 seconds, followed by emergency evacuation (IIEES Brochure, 2004). Each year one or two schools are selected as models of good implementation, and their drill, conducted with representatives from IIEES and the MoE, is also broadcast on the radio to encourage student enthusiasm.

The MoE provides partial funding for drill implementation in schools, covering the costs of printing the pamphlets and posters and basic emergency supplies. Some drill-related services, such as the dispatch of ambulances and fire trucks to the schools are provided free of cost through coordination with the Iranian Red Crescent Society and the National Disaster Management Organisation of Iran. Several other organisations contribute their services to the drill each year.

17th National Drill for all schools and pilot community drills in one Tehran neighborhood and five neighborhoods in other provinces

2016

2015
18th National Drill for all schools and community drills in one neighborhood in each province



Figure 1: The MoE and the IIEES design and distribute posters advertising the drill to all schools. Source: IIEES.

“The use of schools as DRR centres enhanced social capital, community involvement, public awareness and social cohesion...”

Extending to Communities

Inspired by the successful expansion of Iran’s national school drill program, in 2015, the IIEES expanded their work to engage the broader community in earthquake risk reduction measures. They initiated a new program called Safe Schools – Resilient Communities, which aimed to raise hazard awareness and build resilience in the communities surrounding schools. The program provided communities with broad DRR training and facilitated community participation in the annual Earthquake and Safety Drill. Community engagement and training is particularly important where local governments lack the capacity to prepare for and respond quickly to strong earthquakes or other natural hazards (Amini Hosseini et al., 2014). Furthermore, they knew community members could make a substantial contribution to emergency planning and response because they are most familiar with their environments and have a personal incentive to reduce local risks (Izadkhah and Hosseini, 2010).

The IIEES decided to base the Safe Schools – Resilient Communities program in school buildings to emphasise the importance of a partnership between schools and the broader community in reducing overall community disaster risk (Amini Hosseini, 2016). As the site of the Safe Schools – Resilient Communities program, school buildings had to be structurally sound and building contents had to be secured so that students and community members were physically safe inside. Therefore, each school selected as a community DRR centre was assessed for its structural characteristics by the Organisation for Development, Renovation, and Equipping Schools of Iran as a representative of the MoE. The organisation also equipped each participant school with emergency response equipment.

Major Impacts:

- All school children practice how to respond safely during earthquakes.

Greatest Insights:

- Mandatory reporting of drill performance and an adequate number of trainers helped ensure schools did the drills, and did them correctly.

What's Next:

- Expand partnerships between schools and communities to build community response preparedness.

The IIEES first implemented Safe Schools – Resilient Communities in 2015 in one neighbourhood of Tehran and five neighbourhoods in other major Iranian cities, in conjunction with the annual national Earthquake and Safety School Drill (Figure 2). As of December 2016, one selected neighbourhood in Tehran and 30 others in large cities had piloted the Safe Schools – Resilient Community program.

For the three months prior to the Earthquake and Safety School Drill, the Safe Schools – Resilient Communities program educated community members about earthquake mitigation and response strategies. IIEES representatives trained local facilitators to hold workshops to teach community members appropriate responses to an earthquake event, sheltering and evacuation protocols, and methods for addressing structural and non-structural risks in houses. Workshop facilitators also guided community members in preparing risk maps of their neighbourhoods.



Figure 2. Registration of local people for safety drills at the entrance of schools and joining the students to perform the safety neighbourhood drills. Source: IIEES.

Policy-Enabling Factors and Remaining Challenges

Through the Safe Schools – Resilient Communities pilot program, schools began playing a major role in community risk reduction. Not only did the schools participating in the Safe Schools – Resilient Communities pilot program serve as physical spaces for disaster training and education before a disaster; they became a symbolic site for disaster preparedness.

Iran's expansion of school earthquake drills nationwide and its development of a cooperative and inclusive community risk reduction program are the products of the long-term partnership between the MoE and the IIEES, demonstrating the necessity of strong relationships between government institutions and expert advocate organisations. However, Iran's education sector still faces challenges with strengthening weak schools and measuring the effectiveness of its emergency management systems. Over 30% of Iran's school building stock is seismically unsafe. Furthermore, the effectiveness of the earthquake drill and community risk reduction program will not be known until the next major earthquake occurs.

Existing research (Paci-Green et al., 2015; Ronan et al., 2015) indicates a need for teaching flexible drill procedures that allow students to consider their circumstances before reacting to a hazard. Incorporating more flexible drill protocols may be a next step for Iran's national Earthquake and Safety Drill.

Program organisers hope to build upon the lessons learned so far and expand Safe Schools – Resilient Communities to all urban and rural areas of Iran by 2025, based on the number of structurally safe school facilities available. With the support of United Nations Educational, Scientific and Cultural Organisation (UNESCO), the Safe Schools – Resilient Communities program is currently being developed for piloting in Afghanistan and Pakistan in 2017. The organisers of the program hope the introduction of schools as local centres for disaster management will serve as an operational bridge between residents, students, parents, and school staff, ensuring that even beyond participating in earthquake drills, the greater community remains engaged in risk reduction with the support of program specialists.



Comprehensive School Safety (CSS) is a framework for advocacy and action aligning policies and plans across education and disaster management sectors at all level. It uses child-centred all-hazards risk assessment and context analysis as the evidence base for action in three overlapping areas: Safe Learning Facilities, School Disaster Management, and Risk Reduction and Resilience Education. For more information, see <http://www.gadrrres.net/>

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