



## Cuba

### Pillar 3: Risk Reduction and Resilience Education

#### Organisations:

- Cuban Ministry of Education (MINED)

#### Schools Impacted:

- 128+ schools (from project, not including 2017 participants)
- 8,881 schools primary and secondary basic schools (that use national DRR curriculum)



Save the Children



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# Students Leading Communities in Disaster Risk Reduction through Informal Education in Cuba

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## Overview

In Cuba, environmental education and disaster prevention are directly related. From preschool through secondary school, the national curriculum addresses environmental protection. Classes focus on ecological problems, natural hazard risks, and disaster mitigation and prevention. However, officials within the Ministry of Education (MINED) consider formal school-based disaster risk reduction (DRR) and environmental education insufficient, because it excludes adults and cannot be rapidly updated with new knowledge. In response, the MINED-developed informal DRR education programs that include the whole community. The project, Education, Leadership, and Gender for the Strengthening of Resilience in Children and Adolescents against Risk, Danger, and Vulnerability in Cuba (the Education, Leadership, and Gender project), aims to strengthen the resilience and response capacity of children and communities against natural hazards. Despite frequent hurricanes and flooding in Cuba, the number of related fatalities is minimal, largely due to the political will of preserving lives through formal and informal hazard education.

*Keywords: Cuba, DRR education, informal education, community education, hurricane, flooding*

## Policy Context

The island of Cuba is exposed to risks of hurricanes, floods from heavy rains, and coastal flooding, due to its tropical climate in the Caribbean Sea. It also faces risks from earthquakes and other natural hazards. Hurricanes affect Cuba nearly every year. Hurricane Matthew, which struck Cuba in October 2016, was the most intense hurricane in the Caribbean within the past seven years. Hurricanes cause coastal and inland flooding from heavy rains. While flooding is most common during the rainy hurricane seasons, climate change is increasing the frequency of flooding during traditionally dry seasons as well.

The Cuban national government, through the Cuban Ministry of Education (MINED), provides funds to develop environmental and DRR education programs in the 8,881 primary and basic secondary education schools in the country. In 2016, the government allocated 23% of the national budget to the education sector – a far higher percentage than many other countries. In Cuba, the education sector is completely nationalised, and there are no private schools. Education is provided by the state for free and is accessible to all.

Since the Cuban revolution in 1959 – and especially since the 1970s – the Cuban state has used environmental education as a tool to prevent and reduce the effects of disasters on the population. The Cuba Constitution (Cap. 10, Art. 98) established the responsibility of the state to reduce disaster risk

and preserve human lives. The constitution acknowledged the importance of education in this goal. The Cuban education system operates on the theory that proper education about environmental protection and DRR will give students proactive attitudes about the subjects that will remain with them into adulthood. They will put knowledge acquired in school into practice in their personal and professional lives.

The MINED determines the National Education System, which defines the national curriculum and provides textbooks. National study plans, programs, and textbooks started explicitly including DRR education in 1975. Since then, MINED has used the Perfection of the National Education System – an ongoing curricular revision process – to update the national curriculum material and general education approach. During each revision, MINED has added more education material about the environment and DRR and developed new methods of incorporating this material into diverse class subjects.

In primary school, students from grades one to six study their natural surroundings and learn about the environment through daily observation. They write about subjects such as their neighborhoods, plants, animals, national monuments, museums, seas, rivers, mountains, and other components of their environment. The students put emphasis on caring and protecting those environments.

In primary and basic secondary grades, environmental and DRR education are incorporated into the curriculum through natural sciences classes. In primary grades one through four, DRR education is also included in the “World We Live In” class, which is focused on discovering and protecting nature through outdoor excursions. Later, in fifth and sixth grades, students expand their understanding of the natural environment and DRR. Students learn about the national emergency response body, the Cuban Civil Defense, and the role it plays in disaster response and risk reduction. Students also learn about environmental exploitation of natural resources and ways they can actively protect the environment.

The Perfection of the National Education System for the years 2016–2022, which is currently underway, is focused on incorporating further material into the curriculum on topics including risk, vulnerability, resilience, climate change, mitigation, sustainable development, risk management, early warning systems, and evacuation plans.



Figure 1. Students at a primary school in Cienfuegos province demonstrating what they have learned about first aid in Civil Defense class. Photo credit: Orestes Valdés Valdés

## **Problems:**

- High hurricane and flooding risk; incomplete knowledge about disaster risk reduction in communities.

## **Goals:**

- Elevate the roles of children in community disaster risk reduction; educate communities in disaster risk reduction.

## **Intervention:**

- Comprehensive incorporation of DRR into national curriculum; development of community DRR education programs that place children in leadership roles.

***“The MINED considers school-based, formal education on disaster risk reduction (DRR) and the environmental insufficient because it excludes adults and out-of-school populations ...”***

Environmental education — and DRR education in particular — has been thoroughly incorporated into the Cuban national curriculum through means of formal policy. Despite this achievement, the MINED considers school-based, formal education on disaster risk reduction (DRR) and the environment insufficient because it excludes adults and out-of-school populations and cannot be rapidly updated with new information. For this reason, the MINED has developed other types of formal and informal education initiatives that include the general population while still centring children and adolescents as project protagonists and agents of change. While the incorporation of DRR material into the national curriculum is a type of formal policy, the ongoing development and implementation of DRR education initiatives, usually through partnerships with civil society organisations, reveals an informal policy of promoting DRR education in schools through alternative means.

The MINED maintains the practice of working with international non-governmental organisations, such as the United Nations Children’s Fund (UNICEF), Save the Children, and the United Nations Educational, Scientific and Cultural Organisation (UNESCO), to develop its formal and informal environmental education system through projects and programmes. Based on its current priorities and evaluation of need, the MINED develops and distributes terms of references for environmental education projects that are consistent with their education policy and model of development. Organisations, usually those that already have a work-related presence in Cuba, answer to these terms of references, thereby developing partner projects with the MINED. While each partner organisation has its own approach to project development and implementation, it must work within the educational policy paradigm of the MINED, in accordance with its pedagogical approach to environmental education. In essence, this means that organisational partners must share Cuba’s post-revolutionary values, which revolve around equality in education and environmentally sustainable development. While the duration of a single project may be finite, its lessons are often used for changes to permanent policy through incorporation into curricular content or teacher training content.

## Promoting DRR Education through Partnerships

Among current or recent projects being carried out by the MINED and partner organisations in primary and secondary schools are:

- “Disaster risk reduction in schools and communities in areas of high hazard recurrence in the province of Camagüey” in partnership with Save the Children.
- “Education about climate change for sustainable development in schools associated with UNESCO and other education institutions” in partnership with UNESCO.
- “Education, Leadership, and Gender for the Strengthening of Resilience in Children and Adolescents against Risk, Danger, and Vulnerability in Cuba” in partnership with UNICEF.

The UNICEF project, now in its fifth year, is described in detail below to illustrate how these MINED partnerships with non-governmental organisations work to improve environmental education. Project outcomes will be reported after 2017.

# Education, Leadership, and Gender project implementation

The MINED developed the five-year Education, Leadership and Gender project in 2013, with help from UNICEF Cuba and more than 15 Cuban interdisciplinary ministries and institutes in the sectors of education, civil defence, and DRR. The project aimed to strengthen the leadership roles of children and adolescents, their families, and their communities in learning and pursuing new knowledge and skills in disaster mitigation and prevention. It worked with students, mothers, teachers, and community leaders and focused on girls and women as active decision-makers and project leaders in an effort to challenge the prevailing stereotype that women and girls cannot coordinate or hold directing roles in community projects. Between 2013 and 2016, more than 14,000 children and 1,800 teachers have participated in the project, in 128 schools and 107 communities.

The MINED selects between 25 and 30 participant communities within a single province to participate each year. Within each half of the schools (usually between 35–60) participate each year. Teachers within non-selected schools receive DRR and resilience trainings so they can individually incorporate project material into their class activities.

The MINED evaluates:

- The extent of territory with identified risks, dangers, and vulnerability (considering existing studies in each consejo popular, a small-scale administrative unit, and municipality, carried out by the Ministry of Science, Technology, and Environment; the Civil Defence; the Institute for Planning; and other institutions).
- The population of children and adolescents affected by disaster risk.
- The development and progress of local governments in preventing or preparing for disasters.

The Education, Leadership, and Gender project's annual budget is USD \$42,000 for each project year between 2014 and 2018. The funds are divided amongst all participant communities. The MINED contributes 70% of the funding while UNICEF contributes the other 30%.

Project activities are divided into two categories: some activities for students only happen in schools, while other activities happen in workshops geared towards entire communities, including students. Ministries with disaster-based expertise, such as the Ministry of Science, Technology, and Environment, provide data on local hazard risk; organisations with education-based expertise such as the Centre of Pedagogical Documentation and Information help design the pedagogical approach of the project; and civil society organisations such as the Federation of Cuban Women and the Committees of the Defence of the Revolution help garner community support for the project and encourage their own members to get involved.

The project provides teachers with a three-day training workshop. It relies on a cascade training approach. Officials from the MINED and UNICEF play a supervisory and coordination role after the initial teacher training workshops, relying on teachers and school administrators to direct project activities to meet the goal of enhancing local DRR capacity.

Teachers learn to incorporate various learning methods, such as thinking exercises, competitions, research projects, presentations, games, skits, discussions, stories, songs, poems, and exhibits. These activities are permanently incorporated into annual classroom activities.

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***”***  
***...***



## Major Impacts:

- DRR education from primary school through pre-university for all Cuban students; inclusion of over 14,000 students and their families and communities in community DRR education project.

## Greatest Insights:

- Using children as project protagonists and community risk communicators; development of a national curriculum that instills environmental and natural hazard awareness from an early age.

## What's Next:

- Implementation of Education, Leadership, and Gender for year 2018; the MINED has plans to develop a community education project that focuses on multi-risk early warning system.

The range of interactive learning experiences for students represents best practices delivered globally. These include:

- Creation of risk maps of the school and its surroundings to encourage thinking about risks and vulnerabilities in their own neighbourhoods and households. These are updated every three months. The exercises direct them to talk with their families about measures they should take in the house to protect themselves from hazards. Students also discuss past disasters that have affected the community.
- Competitions, research projects, exhibits, and discussions, using creative and artistic mediums, writing and listening to songs, stories, and poems with themes of environmental protection and hazard prevention, and development of short skits on the same theme.
- Exploratory excursions around the school to identify potential risks through their own observations.
- Presentations to families and the rest of the community in two-day public workshops, which are led by teachers, administrators, and community leaders. Students use skits, demonstrations, games, and presentations. The workshops end with food, dancing, and local music with lyrics that focus on disaster prevention and environmental protection.

Children are encouraged to continue teaching their families and neighbours about the environment and DRR, and serve as liaisons between schools and the community. The project is designed to involve families and communities in the education and training process so they can support children to continue activities related to DRR and environmental stewardship within the household and in school.



Figure 2. Student risk maps or models of their school and community for display in the community. Photo credit: Orestes Valdés Valdés

# Challenges and Successes

The partnership and coordination between the MINED, supporting ministries, institutes, and organisations, and schools and partners have been a major factor in the successful advancement of knowledge of hazard risk mitigation and disaster prevention in over 100 Cuban communities. Non-governmental partner organisations help facilitate ongoing DRR education initiatives in Cuba, which support the Cuban government's proactive policy approach to disaster prevention. These DRR education initiatives fit within an existing national legal framework that holds the government responsible for ensuring the safety of human lives in situations of disasters.

Lack of financial resources remains an ongoing challenge in the implementation of formal and informal DRR education projects across Cuba. Financial resource scarcity has been exacerbated by the ongoing economic blockade imposed by the United States, despite the reestablishment of diplomatic relations in 2015. The economic blockade, among its other effects, impedes access to finances and credits for the development of educational projects and programs in Cuba. Nevertheless, the MINED and other Cuban institutions and organisations continue managing existing funds and resources for developing and monitoring educational projects and programmes that reduce disaster risk and protect the environment.

The Cuban government promotes the principle that children, women, and men are a major component of the environment, and the most precious resource to be protected in disasters. The development and implementation of environmental and DRR education demonstrates the commitment of the state to this principle, as well as its commitment to environmental protection. The success of Cuba's formal and informal education, and its commitment to these principles, is reflected in the country's low number of disaster-related fatalities. Despite its strength, Hurricane Matthew in 2016 left no fatalities, highlighting a culture and society centred around disaster prevention.

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*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/>*

GADRRRES. (2017). Pillar 3: Students Leading Communities in Disaster Risk Reduction through Informal Education in Cuba, GADRRRES Comprehensive School Safety Policy Case Studies Series.

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