

# How Education Systems Respond to Extreme Climate and Environmental Events: A Background Note

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*This is a background note to accompany [a blog](#) published on 01 July 2024, examining educational responses to climate and environment-related shocks in South Asia.*

## 1. Description of underlying data

The database underpinning this analysis was built through web searches on publicly available websites, NGO reports and news reports. It attempts to capture qualitative policy and shock information and allow users to interpret the information in a standardised, comparable way. The database comprehensively captures information on climate change events and resulting actions, but only those for which online reports were accessible, which means there is a high possibility that some instances are missed. Coverage is also thus lower for earlier years than for more recent periods.

Not all the events listed in our database can be attributed to climate change. For example, high pollution incidents, while aggravated by factors linked to climate change (such as heightened fossil fuel usage and diminished green cover), cannot be exclusively attributed to climate change itself. They are included given the similarities in how these shocks are experienced by students and education systems, as well as the policy responses adopted to cope with these shocks.

## 2. Methodology applied for estimating number of children impacted by climate or environment shocks

According to the preciseness and reliability of information available, we categorize the estimation of students affected by each shock by confidence level 1, 2 and 3, from least to most conservative. We then add weights smaller or equal to 1 for each, and constructed three estimates of the total number of students affected per year from least to most conservative.

1. Confidence level 3 with weight 0.6
2. Confidence level 2 with weight 0.8, confidence level 3 with weight 0.5

3. Confidence level 2 with weight 0.6, confidence level 3 with weight 0.4

Table 1: Examples of data scenarios with corresponding confidence levels

Scenario	Type of information	Confidence level and weight assigned	Weights
School closures are announced in a certain jurisdiction. All schools in jurisdiction are affected.	National statistics on number of students in that jurisdiction	1 (we can reliably estimate the number of students affected)	1 in all scenarios
Shock affects specific number of schools (information usually provided by NGO report)	Number of schools affected (number of students per school must be estimated through national statistics, using average number of student per schools in the location)	2 (we have had to make some assumptions)	1 in the least conservative scenario, 0.6 in the most conservative scenario
Shock affects certain named districts	National statistics on number of students in those districts	2 (we recognise that the estimated number of students is amplified due to lack of precise information)	1 in the least conservative scenario, 0.6 in the most conservative scenario
Shock affects certain named province / state / division, but information on specific districts affected is not available	National statistic on number of students in state / province affected	3 (we recognise that the estimated number of students is amplified due to lack of precise information)	0.6 in the least conservative scenario, 0.4 in the most conservative scenario

### 3. Alternative policy responses to shocks

Table 2: Examples of adaptation and in kind or cash support policies by regional and national governments

Bangladesh	National	<a href="#">Fourth Primary Education Development Program (PEDP4)</a> : a 5-year plan that sets out plans for school infrastructure for different geographical areas, including disaster-resilient infrastructure
India	Uttar Pradesh	Uttar Pradesh government: In 2006/2007, the Elementary Education Department proposed to integrate earthquake resilient design into all new school buildings; 3 schools designs were prepared with detailed construction manuals. The disaster-resilient measures added 8 percent to the construction costs; prepared 4 master trainers for each of 70 districts, who in turn conducted trainings for 1,100 fellow Junior Engineers and Education Officers
	Kerala	Flood adaptation: Kerala State Disaster Management Authority with the support of UNDP, a pilot school safety programme was launched in the state. Two schools of every district implemented school safety project. The activities included training students/teachers/non-teaching staff in school safety, conducting mock drills, forming school safety committee and preparing school safety plans.
	National	Supreme Court ordered drought-affected states to keep providing mid-day meals to school children during summer holidays

	Maharashtra	State government announced exemption of university and examination fees to the students from drought-hit areas for the year 2018-19
	Delhi	Government distributed face masks to 5 million children in response to high pollution levels in 2019, before eventually shutting schools
Maldives	National	Climate change adaptation: Guide for School Emergency Operations assigns roles and responsibilities to relevant partners and agencies to guarantee a better response; presents specific procedures to be used in preparing for, and responding to school emergencies
Sri Lanka	Northwestern, North-Central, Northern	Schools in the Puttalam, Kurunegala, Anuradhapura, Polonnaruwa and Mannar Districts severely affected by the drought were provided with water tanks, and awareness programmes were held in schools in these 5 Districts on ways to minimise water wastage
	Southern, Western	Western Province Education Ministry provided dry rations to 300 affected schools, in addition to the relief packages from the Ministry of Education; Southern Province Education Ministry provided relief packages to all the affected students, in addition to the relief packages given by the Ministry of Education, and held a special student-counseling programme