

School Safety First: how adapted education information systems are playing a key role towards ensuring school safety in the Philippines

Evidence and learnings from the successful implementation of the Comprehensive School Safety Assessment Suite (CSSAS) in the Philippines



Photo: Anna Dominique Esmeralda/Save the Children

Students inspect a classroom for possible hazards while using the School Watching Application (SWApp).

PRACTICE PROFILE

This case study explores the critical components and lessons learned from the effective [implementation of the Comprehensive School Safety Assessment Suite \(CSSAS\) in the Philippines](#) since 2021 that have contributed to improving disaster response, comprehensive school safety, and ultimately strengthened the resilience of the education system. In recent years, there has been a growing recognition of the need for a more systematic and evidence-based approach to school safety. While good intentions and policy declarations are important, they need to be backed up by a more rigorous, data-driven approach to school safety. The CSSAS is a set of methods and digital tools available on mobile applications to assist governments undertake a multi-hazard risk assessment to monitor, evaluate, plan, and make decisions to improve school safety. By raising awareness and sharing information, it ultimately supports progress towards Comprehensive School Safety (CSS).

Philippines: the nation with the highest risk of disaster globally

The World Risk Index identified Philippines as the most disaster-prone country in the world due to its high risk, exposure, and vulnerability to disasters and calamities. Over a dozen hazard impact events take place in the region every year. **These disasters also affect schools, learners, and their educators.**

Following incurred damage, repairs to schools and infrastructure can be slow and existing educational inequities are frequently heightened. **Climate events disproportionately affect the most marginalized and vulnerable students.**¹ Children exposed to climate shocks and school interruption have lower educational performance and lower educational and economic attainment in the long-term.

Data vs disaster: Until now, data collection methods by education authorities in the Philippines involved sending a text message with a string of comma delimited numeric responses to previously distributed questions. These were then transferred by hand to spreadsheets, with huge opportunities for error and extensive time required for validation, and then analysis. Post-disaster data collection by international actors has generally been stand-alone and not driven by sovereign education authorities or designed for repeated application by national and local actors.

“Data collection was extremely demanding timewise, so they really couldn’t deal with multiple hazards hitting in close succession. This new automation of Post-Disaster Damage and Needs Assessment helped them to effectively engage local actors nationwide. Currently, 40,000 schools are registered to the system!”

Suha Ulgen, Chief Technology Officer, Risk RApps

The CSSAS approach and its implementation in the Philippines :

The Global Alliance for Disaster Risk Reduction and Resilience in the Education Sector has been working on the development of a method for measuring progress towards school safety for the last decade. As a result of a thorough review and analysis of existing assessments approaches and tools that could be adapted to generate quality and accurate data to inform decisions making processes on the CSS framework and monitor results, GADRRRES organisations have developed the Comprehensive School Safety Assessment Suite (CSSAS), a set of both technical and non-technical digital toolsets, each of which has been piloted in different contexts, in collaboration with Ministries of Education (e.g. Lao PDR, Philippines, Fiji).

The CSSAS is a package of methods and digital tools that can **assist governments in monitoring, evaluating, and intervening for school safety**. Based on [the learnings of the first piloting](#), the CSSAS has been expanded and improved. It is composed of five non-technical digital toolsets and one technical toolset, designed for a **transformation away from extractive data collection to information exchange and just-in-time guidance**.

“The project is an ecosystems project: it encompasses the various areas of risk reduction from prevention to mitigation and preparedness. And it leverages technology.”

Ronilda Co, DepEd DRRMS Director

The non-technical tools include:



1. CSS Policy Survey



2. School Watch
(Child-Centred Social Accountability)



3. School Safety Self-Assessment



4. Post-Disaster Damage & Needs Assessment



5. Family Safety and Resilience Plan

¹ UNICEF, [Unless we act now: The impact of climate change on children](#), 2015

A paradigm shift: the CSSAS was designed with the intention of making it possible to monitor progress towards school safety, beginning with systems and policies, and then to effectively collect and manage school-level data on hazard exposure, school safety and educational continuity management, facilities, and risk reduction and resilience education, pre- and post-disaster, as well as from children’s point of view. A technical methodology called VISUS (Visual inspection for defining Safety Upgrading Strategies) goes further to identify the schools’ facilities that require interventions for retrofitting and replacement.

“Instead of needing ‘external boots’ on the ground to collect data, school communities provide their data inputs via mobile devices – and immediately receive analysis that includes ratings, rankings, and actionable recommendations to improve school safety. Decision-makers at local, sub-national and national level all have important data to support planning for school safety.”

Marla Petal, Principal Advisor for Risk Reduction & School Safety

Piloting the CSSAS tools in the Philippines: To improve school safety nationwide and ultimately strengthen the resilience of its education system to all hazards, the Ministry of education of the Philippines is building a ‘Comprehensive School Safety Ecosystem’, notably by using and integrating three of the CSSAS toolsets nationwide : the rapid post-disaster damage and needs assessment ([RaDAR 2.0](#)), child-centered social accountability ([School Watch](#)), and [annual CSS Monitoring](#). The first step consists in the pilot-testing and rolling out the tools in all 47,000 schools nationwide to, ultimately, institutionalize them into the education system.

To achieve this, the following steps are implemented:

- (1) **Contextualization** of the school safety assessment tools at the national level using the [digital development principles](#) to **integrate** into the Philippines' main Basic Educational Information System.



The nine living principles to help digital development practitioners integrate established best practices into technology-enabled programs

- (2) **Establish a Technical Working Group (TWG) led by national education authorities** to support the refinement of tools – including ensure survey questions are consistent with existing data collection taxonomy, data validation process, design of automated reports/dashboards, approval of data analysis algorithms, and provision of guidance documents.
- (3) **Include Analytical, Strategic Planning, ICT/EMIS staff as well as cross-sectoral and support members** (e.g., National Disaster Management Organisation (NDMO), health authorities) in the piloting from the beginning.
- (4) **Develop user-friendly automated reports that can be used to inform planning and decision-making** by users at local, sub-national and national levels. Reports include assessments, rankings, and recommendations.
- (5) **Use Application Programming Interfaces (APIs) to utilize relevant data already existing** in the EMIS to respond to the assessment tools and generate results
- (6) Ensure the annual school safety self-assessment and the post-disaster damage and needs assessment are **designed to be integrated into the EMIS** and consistent data fields for analysis.

KEY ACHIEVEMENTS AND RESULTS

The practice far exceeded its initial objective of piloting the project in two regions and is being successfully deployed nationally. The impact has been significant, leading to a shift in the speed, quality, and usability of data for post-disaster planning and decision-making :

- Since the start of the piloting in mid-2021 , users from 44,980 schools have downloaded and registered. At least 28,779 users have used the RADAR 2.0 toolset to report on 17 hazard impacts events.
- Data collected is analyzed and reported to support school-level, subnational and national level planning and decision making to improve school safety, community resilience and post-disaster response.

“I really like that I am involved in the action that is being done.”

Reynaldo, Grade 10 Student

- Additional CSS Annual School Assessment and School Watch Child-Centered Social Accountability toolsets are similarly designed and being rolled out by the Department of Education, in the context of the Education Basic Information System in the Philippines.

“I am very glad because kids can now learn and see what is not safe for them. They now feel an involvement too”

Sabrina Reyes, SDRRM Coordinator

- Flexible and adaptable institutional data systems that can respond to urgent needs of the stakeholders, including in crisis contexts were developed (e.g., utilization of available data to inform the response to COVID-19, teacher capacities with regards to e-learning, and monitoring the continuity of education at county level).

- One of the important lessons learned throughout the implementation of the post-disaster rapid damage and needs assessment toolset is **the transformational effect of this tool on the quality, timeliness, and utilization of data for planning and decision-making.**

KEY LEARNINGS AND EVIDENCE

- 2 steps for education actors, including UNESCO, to strengthen the use and sharing of relevant crisis and risk-related data

Education actors can all embrace a shift in mindset to apply a Collective Impact Approach to problem-solving. This is how:

- **Engage** all relevant, interested and contributing stakeholders to participate in an ongoing national multi-stakeholder school safety coordination mechanism.
 - **Share a Common Agenda** (the Comprehensive School Safety Framework) and identify a shared set of measurements and targets (from the CSSF Targets and Indicators); engage in mutually reinforcing activities; maintain ongoing communications; provide a backbone facilitating coordination mechanism to incorporate and meet broad range of needs while preventing chaotic, poorly aligned duplication of effort.
- 5 actions to support system strengthening aims within national education systems and across the humanitarian-development nexus through crisis and risk-related data :
 - **Incorporate** risk assessment, risk reduction, and response preparedness at the school level into ongoing Educational Management Information System (EMIS), on an ongoing basis. This can be done with online/offline tools mobile app tools delivering user-friendly, automated report-back (at local and aggregated level) including just-in-time guidance delivered in response to data submitted. Change detection can appraise progress over time.
 - **Involve** variety of education sector duty-bearers, with strong foundations in ongoing education sector development, data collection, capacity-development, school improvement, and post-disaster data collection in systems integration.
 - **Deploy** scarce resources more efficiently. Rapid post-disaster data can be used to triage and identify those smaller number of schools that require engineering technical assessment.
 - **Maximize** impact of humanitarian response through geographic, mapping interface tools.
 - **Invest** in humanitarian response to strengthen education sector EMIS permanently.

“We now have a more presentable, comprehensive, and detailed output”

Renz Razon, SDRRM Coordinator

Other key learnings from successful implementation of the CSSAS in the Philippines:

- **Begin collaboratively** with education sector development actors prior to next hazard impact.
- **Conduct mapping** of existing ICT landscape to identify areas for enhancement and integration prior to design and development of toolset. This can be done during a broader School Safety Context Analysis, validated by the national multi-stakeholder school safety coordination mechanism, and refreshed every 2 or three years.

- **Establish education authority-led technical working group** to guide localization, integration, and roll-out of the toolset elements.
- **Secure collaboration** agreement in advance between GADRRRES members to support this project (esp. UNICEF, UNESCO, Save the Children, Risk RED), and explicitly support a "collective impact mindset".
- **Engage other partners** from national multi-stakeholder school safety coordination mechanism and maintain communication and engagement along the way.
- **Allow 12 months for initial toolset design** and deployment (this will become more rapid as additional country experience is added, and survey question library and options can be automated).
- **Work collectively** to develop and contribute to a global network, to build a community of practice so that each new application strengthens all.
- **Creating a two-way flow of information** so that data providers receive their data back with analysis for action is a best practice for quality data collection. When data is designed to be extracted, it appears that data providers might seek to give answers that they think the interviewers are looking for - compromising the accuracy and quality of the data.
- **Implement a proactive approach** that links each of the tools conceptually, around the normative framework and its targets and indicators. This includes co-developing the tools with educational authorities to be integrated into existing systems. They can be developed and tested first with cloud hosting, without disrupting ongoing work, and fully integrated once stable. Using the tools over time allows for change detection and automated progress reporting.

MAIN CHALLENGES FACED

In general, the humanitarian response community is not embedded ahead of time to strengthen education management information systems, and to make advance investments to think through and design tools, when *not* under the pressure of a crisis. Data collection tools in use remain labour-intensive, extractive, and require hard-to-find skills for meaningful data analysis.

This also means:

- There has been an important waste of resource on collection of data that was: not timely, not analyzed, not used, and did not provide actionable information for planning and decision-making.
- There has been an important waste of resource on digital tools that were for stand-alone, one-time use, that did not follow best practices and Principles for Digital Development.
- Digital toolsets that are not designed to work offline are limited by lack of robust internet access.
- Reports that are not rapidly produced and user-friendly are not actionable for evidence-based planning and decision-making.
- Black box toolsets come with unacceptable long-term dependencies and unaffordable price tags in the long-term. The CSS toolsets instead are built with open-source tools with a Creative Commons Share Alike license.

✦ **Global Alliance for Disaster Risk Reduction and Resilience in the Education Sector (GADRRRES)** brings together intergovernmental, international NGOs, and other partners to support child rights and resilience in the education sector. Its mission is to strengthen global coordination, advocate for advancing school safety measures, and improve global information, resources and knowledge management on risk reduction and resilience education in support of the global agendas. GADRRRES recently launched the Comprehensive School Safety Framework 2022-2030. The Comprehensive School Safety Assessment Suite (CSSAS) is a multi-organisational effort to support monitoring and evaluation of school safety implementation.

✦ **Save the Children** is the world's largest child-centred striving to help all children achieve their full potential by ensuring they grow up healthy, receive a good education, and stay safe. SC is working to secure child rights and resilience in the education sector, developing and supporting evidence-based and scalable solutions to enable all children to be safe in school and learning.

✦ **Department of Education of the Republic of the Philippines** formulates, implements, and coordinates policies, plans, programs, and projects in the areas of formal and non-formal basic education. It supervises all elementary and secondary education institutions, including alternative learning systems, both public and private; and provides for the establishment and maintenance of a complete, adequate, and integrated system of basic education relevant to the goals of national development.

✦ **Risk RED** is a virtual not-for profit organization, championing child rights in the education sector, bridging the gaps between idea and audience, local and non-local practitioner knowledge, content and design, and research and application. Risk RED is supporting GADRRRES in the design and implementation of the CSS Assessment Suite.