



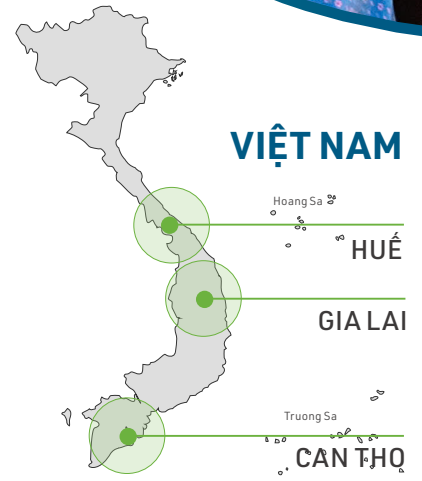
Integrated Disaster Risk Management Information System (DRMIS), Vietnam

Overview

The DRMIS Tool is a user-centered system developed collaboratively with national, provincial and commune partners through iterative consultations and testing to close the long-standing gaps in data management, risk assessment, and vertical coordination, which have been intensified by the recent administrative reform and new two-tier government structure. The tool is evolving from a commune-level Excel package jointly developed between ISET and Plan into a web-based platform that digitalizes DRM templates, integrates simple WebGIS, and automates reporting and plan consolidation for communes and provinces. Designed to fit provincial needs while remaining adaptable, it significantly reduces the time required for data collection and processing while improving risk understanding, data quality, consistency and system-wide coherence in DRM planning.

Our approach

The DRMIS tool is being developed using a user-centered, iterative approach. ISET and Plan began by consulting provincial and commune DRM staff to understand their challenges and DRM planning context, then co-developed an Excel-based commune tool that addressed key data and planning gaps while embedding resilience principles from the Resilience Measurement for Communities (CRMC) framework. Building on this foundation, and responding to our local partners' requests following Vietnam's shift from a three-tier to a two-tier government system and the removal of the district level, ISET is now leading the upgrade to a flexible inter-level web platform. Throughout development, we have been working closely with IT experts and national and local DRM agencies and officers to test prototypes, gather feedback, and refining the tool through continuous iteration.



Facts and figures



Cost of software development (two stages): US\$43,000



Annual update/maintenance costs: ~60 staff days/year



Time to implement: 1 year for two-phased development



Easy to replicate? Yes, the tool is easily adaptable for other provinces.

Photo: DRMIS tool discussion © Photo: Tho Nguyen, ISET Vietnam Office

HIỆN TRẠNG CÔNG TÁC PHÒNG CHỐNG		Tình trạng dễ bị tổn thương (điểm yếu, thiếu, bất lợi)	Tỷ lệ
			Số lượng
A LĨNH VỰC AN TOÀN CỘNG ĐỒNG			
Đặc điểm dân sinh			
	Tỷ lệ đối tượng dễ bị tổn thương trên tổng dân số		73.6%
	Số lượng người chết do thiên tai (Đơn vị tính là: người)		3
	Số lượng người mất tích do thiên tai (Đơn vị tính là: người)		32
	Số lượng người bị thương do thiên tai (Đơn vị tính là: người)		37
Các khu vực có nguy cơ cao ảnh hưởng của thiên tai			
	% diện tích khu vực nguy cơ rủi ro cao/tổng diện tích xã		16.1%
	% hộ dân trong khu vực nguy cơ rủi ro cao/tổng số hộ toàn xã		9.8%
	% nhà yếu (thiếu kiên cố và đơn sơ) nằm trong khu vực nguy cơ rủi ro cao		3.9%
Năng lực và nhận thức của cộng đồng trong PCTT			
	Tỷ lệ hộ dân chưa có kinh nghiệm hiểu biết về PCTT và chủ động trong công tác PCTT (chuẩn bị nguồn lực theo phương châm 4 tại chỗ)		17.0%
	Tỷ lệ người dân vùng nguy cơ cao chưa chấp hành lệnh sơ tán		3.0%
	Tỷ lệ người dân chưa biết cách gia cố, chằng néo nhà ở chống bão		1.8%
	Tỷ lệ người dân chưa biết cách chằng néo tàu thuyền, bè cá, v.v chống bão		133.3%
	Tỷ lệ người dân chưa được tập huấn nâng cao năng lực về PCTT		133.3%
	Tỷ lệ trẻ em chưa biết bơi		3.0%
			0.3%
			41.7%
			22.2%

The gap

At the commune level, disaster risk management has long been constrained by fragmented, manually collected data that is stored inconsistently and often lost over time. With commune DRM staff typically working part-time and frequently reassigned, local databases rarely accumulate long-term, reliable information to support planning. As a result, risk assessments are often superficial, vulnerability mapping is incomplete, and DRM plans are based on limited evidence. Reporting processes are equally inefficient: data must be compiled manually and submitted through paper or word/PDF documents, creating risks of error, inconsistency and significant time burdens for commune staff.

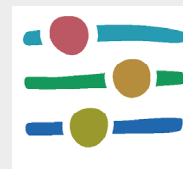
These challenges are amplified at the provincial level. The administrative reform and the shift to a two-tier government system have eliminated the district layer, meaning provincial DRM agencies must now directly coordinate with very large numbers of communes, for example, 103 in Cần Thơ instead of 10 districts previously. Without an integrated system or standardized data flows, provinces struggle to consolidate information, guide planning processes, ensure consistency across communes, or maintain continuity over multiple years.

The existing Excel tool, while useful locally, operates only at the commune level and cannot link data across administrative levels, store multi-year datasets, or support simple mapping functions. This widening gap in information flow and coordination highlights the urgent need for a unified, multi-level system to support systematic, evidence-based DRM planning.

Our solution

ISET collaborated with the Vietnam Disaster and Dyke Management Authority (VDDMA), Plan International, provincial partners, and commune governments to co-develop and pilot an Excel-based tool that supports DRM planning at the commune level. The tool systematizes data compilation, supports more structured risk and capacity analysis, and aligns with national guidelines such as Circular 02/2021/BNNPTNT and Circular 18/2025/TT-BNNMT. While the Excel version helped validate core functionalities, it remained suitable only for individual commune use due to key

DRMIS tool interface - Excel version



Climate Resilience Measurement for Communities (CRMC)

The Climate Resilience Measurement for Communities (CRMC) is a data-driven process, complemented by a web-based tool and mobile app, which helps communities to evaluate and measure how resilient they are to climate hazards. Using the results, they can identify and implement resilience-building interventions and run additional measurements to track improvements.

Find out more: ZCRAlliance.org/crmc

limitations such as the lack of long-term data storage, the absence of inter-level linkages, and the lack of mapping functions.

Building on this foundation and in response to new challenges created by the merging of communes and provinces and the removal of the district level, ISET is now leading the **upgrade to a flexible inter-level web platform** in close collaboration with partners in Huế and Cần Thơ. Unlike the Excel tool, the web platform integrates comprehensive modules for multi-year data management, simple risk mapping, and loss-and-damage reporting. It digitizes DRM forms and templates, enables commune and provincial staff to enter, update, and manage data systematically and consistently; and organizes layered information on hazards, population, vulnerable groups, critical infrastructure, and livelihoods. A simple WebGIS interface allows staff to view, update, and analyze spatial information.

The system also automates reporting, consolidation, and progress tracking at both provincial and commune levels. Huế and Cần Thơ have formally committed to hosting the web platform on their provincial servers, integrating it into their official DRM systems, and covering future management and maintenance costs.

How it increases resilience

Once completed, the DRMIS tool will strengthen resilience by providing a reliable, consistent, and accessible data framework that is standardized across the system yet flexible enough to meet the different needs of both commune and provincial DRM agencies. By systematizing the collection, storage, management, and updating of multi-year information, the tool reduces the risk of data loss and improves continuity and improves institutional continuity, particularly important where commune DRM staff are part-time. Its simple analytical features help local authorities identify strengths, weaknesses and areas requiring improvement, thereby supporting the formulation of more appropriate DRM measures and plans. The WebGIS and multi-layer data functions also enhance understanding of hazards, exposure and vulnerabilities without requiring specialized technical skills.

By integrating information across administrative levels, the tool strengthens vertical coordination, improves the data consistency and quality, and ensures that commune-level insights feed directly into provincial planning processes. It also enhances preparedness and emergency response by enabling faster access to essential

Conditions for success

Q: Is this intervention appropriate for other communities?

A: Yes, the majority of communes and provinces in Vietnam face similar data-related challenges, making this tool highly relevant and beneficial.

Q: What conditions are needed for the interventions?

A: Strong provincial commitment, a stable hosting environment, designated local focal points, and sufficient resources for training, system management and ongoing maintenance.

Q: Was there anything special about the communities where interventions were effective?

A: Effective implementation depended on decisive, highly committed leadership and engaged stakeholders offering practical insights.

The screenshot shows the 'Evacuation Data' interface for 'Flood' events. The table below summarizes the data presented in the interface.

TT	Village/Residential Group	Water alert level from level 2 to level 3						Water level above alert level 3					
		No. of Households/Persons to Evacuate & Relocate (auto)		No. of Households/Persons to Shelter in Place (evacuate to solid neighbour's house)		No. of Households/Persons to Relocate (to centralised areas)		No. of Households/Persons to Evacuate & Relocate (auto)		No. of Households/Persons to Shelter in Place (evacuate to solid neighbour's house)		No. of Households/Persons to Relocate (to centralised areas)	
		HH	Person	HH	Person	HH	Person	HH	Person	HH	Person	HH	Person
1	Thôn Sơn Công	0	0	0	0	0	0	0	0	0	0	0	0
2	Thôn Hà Lạc	0	0	0	0	0	0	10	38	10	38	0	0
3	Thôn Tháp Nhuận	0	0	0	0	0	0	0	0	0	0	0	0
4	Thôn Thủy Lập	0	0	0	0	0	0	20	43	20	43	-	-
5	Thôn Mỹ Thành	0	0	0	0	0	0	9	19	9	-	-	-
6	Thôn Ngự Mỹ Thành	14	50	14	50	0	0	15	60	-	-	-	-



DRMIS tool trainings for communes and wards in Can Tho city, May 2026 © Photo: Hoa Truong, ISET

information, clearer roles during mobilization and more efficient coordination among agencies. Over time, this contributes to stronger institutional continuity, more robust and evidence-based decision-making and more effective use of limited local resources for DRM.

Other benefits

The tool provides substantial operational and administrative benefits. It helps provinces comply with national reporting requirements, reduces long-term data management costs, simplifies staff onboarding, strengthens post-disaster learning, and creates a digital backbone that can be expanded for future DRM and climate-related applications.

Lessons learned

A key lesson is the importance of grounding system design in a clear understanding of local needs, capacities, mandates and policy requirements. Close engagement with provincial and commune staff ensures that the tool fits real workflows rather than adding new burdens. Long-term sustainability requires formal integration into provincial DRM systems, designated administrators and committed maintenance budgets. At the same time, the platform must remain flexible enough to adapt to different local contexts and evolving institutional needs.

Get in touch

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For more resilience solutions:
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The Institute for Social and Environmental Transition – International (ISET) is a non-governmental organization committed to building inclusive and transformative resilience in the face of natural resource, environmental, and social challenges, especially related to climate change, natural hazards, and urbanization. Officially operating in Vietnam since 2010, ISET has an intimate understanding of Vietnam’s institutional landscape and its strengths and challenges, and has proven expertise in working effectively across levels to bridge the still significant divide between science, policy, and implementation. ISET is working in Huế City and Gia Lai Province, both coastal areas in central Vietnam and Cần Thơ city in the Mekong Delta.