Review of Dengue Preparedness and Response of Red Cross Red Crescent Societies in Asia Pacific and Americas Regions

Dengue prevention awareness sessions and fumigation activities conducted at an educational centre in Morales, Izabal, Guatemala. September 2023. Source: Guatemalan Red Cross.

DREF Operational Review

Bangladesh (MDRBD031), Costa Rica (MDRCR023), Guatemala (MDRGT020), Honduras (MDRHN019), Malaysia (MDRMY010), Nepal (MDRNP014), Sri Lanka (MDRLK017)

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Executive Summary

This operational review examines IFRC's Disaster Response Emergency Fund (DREF) interventions for dengue outbreaks across seven countries in the Asia Pacific and Americas regions. By identifying common strengths and challenges in responding to dengue outbreaks, the review provides actionable insights to strengthen preparedness, response capabilities, and long-term resilience strategies throughout the network.

The review draws on a mixed-methods approach, combining qualitative and quantitative data to provide a comprehensive understanding of interventions in addressing dengue outbreaks. The methodology included desk reviews of operational reports, field visits, and stakeholder interviews with National Societies, government authorities, and community members. This multi-tiered approach enabled triangulation of findings, ensuring depth and reliability.

An analytical framework was employed to evaluate interventions across four key dimensions: relevance and appropriateness, efficiency, effectiveness, and long-term impact of the interventions. Each dimension was assessed using structured indicators aligned with global health standards and IFRC guidelines. The review also integrated cross-cutting themes such as Protection, Gender, and Inclusion (PGI), as well as Community Engagement and Accountability (CEA).

Findings, lessons learned, and recommendations are presented in a structured format to provide actionable insights. Key common findings are organized thematically to highlight both strengths and challenges across interventions. Lessons learned from successful initiatives, as well as operational constraints, are explicitly detailed to inform future practices. The recommendations are designed to address systemic gaps and enhance operational capacity, emphasizing anticipatory measures, community engagement, volunteer training, monitoring and evaluation frameworks, and cost-efficiency.

By addressing shared challenges and leveraging collective strengths, IFRC and its National Societies can enhance their capacity to respond to Dengue. The implementation of standardized frameworks, anticipatory approaches, and sustained community engagement will be pivotal in reducing the impact of dengue outbreaks and building long-term resilience.

Interventions aligned well with global and national public health frameworks, ensuring consistency and relevance. Community-led approaches, such as clean-up campaigns and tailored awareness initiatives, successfully raised public awareness and engagement. However, challenges in timely implementation and inclusive targeting were noted, emphasizing the need for improved global pre-crisis preparedness and resource assessments.

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CONTENTS

Abbreviations / Acronyms

Acronym	Full Name
BDRCS	Bangladesh Red Crescent Society
CEA	Community Engagement and Accountability
CHF	Swiss Francs
DGHS	Directorate General of Health Services
DREF	Disaster Response Emergency Fund
EAP	Early Action Protocols
FGD	Focus Group Discussion
HEPR	Health Emergency Preparedness and Response
IFRC	International Federation of Red Cross and Red Crescent Societies
KII	Key Informant Interviews
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MRCS	Malaysian Red Crescent Society
MoHP	Ministry of Health and Population
NHQ	National Society Headquarters
NRCS	Nepal Red Cross Society
NS	National Societies
Oxfam	Oxford Committee for Famine Relief
PAHO	Pan American Health Organization
PER	Preparedness for Effective Response
PLISA	PAHO's Health Information Platform for the Americas
PGI	Protection, Gender, and Inclusion
PMER	Planning, Monitoring, Evaluation, and Reporting
RCCE	Risk Communication and Community Engagement
RCRC	Red Cross and Red Crescent Movement
UNICEF	United Nations International Children's Emergency Fund
WASH	Water, Sanitation, and Hygiene
WHO	World Health Organization

CHAPTER 1: INTRODUCTION

1.1. Background

Latin America and the Asia-Pacific region face significant challenges driven by their diverse geographies, socio-economic disparities, and increasing vulnerability to climate change and disasters. In Latin America, home to 663 million people, approximately 27.3% live in poverty, despite a downward trend[1]. Climate change and the El Niño phenomenon have intensified extreme weather events[2] like droughts, heat waves, wildfires, torrential rains, and hurricanes, severely impacting health, food security, livelihoods, and socioeconomic development. Countries such as Brazil, Argentina, and Uruguay have faced agricultural and water shortages due to droughts, while heat waves have exacerbated cardiovascular and respiratory diseases, with Mexico recording unprecedented temperatures of 51.4°C. In addition, forest fires have increased in frequency and intensity, disturbing air quality, ecosystem temperatures and biodiversity[3]. Hurricanes and floods have caused extensive structural damage in countries including Mexico, Honduras, and Costa Rica. Torrential rains and hurricanes caused flooding in several countries such as Panama and Costa Rica in 2024, while hurricanes Otis, Beryl, and Tropical Storm Sara (2023 and 2024) caused significant structural damages in Mexico (Acapulco), the Caribbean islands (Cuba, Grenada, Jamaica), and Honduras. These recurring phenomena strain public health systems and reveal the region's limited capacity to respond due to low economic development, inadequate health infrastructure, and weak social protection systems.

Similarly, the Asia-Pacific region, home to 4.8 billion people and contributing over a third of global GDP[4], grapples with frequent disasters such as earthquakes, tsunamis, typhoons, and floods. Vulnerable nations like Pacific Island countries face rising sea levels and cyclones, while South and Southeast Asia contend with intense flooding and typhoons. Indeed, the region faces around 70% of the world's disasters, including earthquakes, tsunamis, typhoons, and floods, affecting millions annually[5]. Economic disparities, urban poverty, and humanitarian crises in countries like Afghanistan and Myanmar further hinder disaster preparedness and development. Although progress has been made in public health, challenges persist with diseases like tuberculosis and dengue fever, exacerbated by inadequate healthcare infrastructure[6] and the impacts of the COVID-19 pandemic.

Both regions have seen dramatic increases in dengue cases. In 2024, Latin America reported 13 million dengue cases, with 8,300 deaths[7], indicating a 300% increase from the 4.5 million cases and 2,300 deaths recorded in 2023[8], prompting emergency responses from the IFRC and National Societies. The Asia-Pacific region faces similar outbreaks, driven by climate change and urbanization. Efforts in both regions emphasize the importance of anticipatory actions, disaster risk reduction, and coordinated interventions to mitigate the impacts of this health threat. These challenges underscore the need for learning from and enhancing response strategies to address the complex interplay of environmental, social, and public health factors.

❖ Arboviruses-borne Diseases and Dengue in Central America and Asia Pacific

Dengue fever, a mosquito-borne viral infection primarily transmitted by Aedes mosquitoes, remains a significant global health challenge, particularly in tropical and subtropical regions. The disease thrives in urban and semi-urban areas[9], with epidemics often following seasonal patterns that peak during and after rainy seasons. Dengue outbreaks tend to occur in cycles every three to five years, influenced by high mosquito populations, favourable weather conditions, and the susceptibility of populations to different circulating serotypes. In addition, the spread of as dengue, like most arboviruses, is driven by a complex mix of demographic, environmental, and social factors, including global travel, urbanization, and climate change. Climate change has intensified these factors, extending mosquito habitats and increasing the frequency and severity of outbreaks worldwide.

In the Americas, dengue is endemic in many regions, with an estimated 500 million people at risk of infection. The Aedes aegypti mosquito, which reproduces in areas with stagnant water near human dwellings, is the primary vector. In 2024, the Americas experienced the highest recorded number of dengue cases in history, exceeding 13 million infections, and 8,300 resulting in death.

The unprecedented increase in dengue cases during this period not only highlights the growing threat posed by this disease but also exposes the limitations of public health systems to respond in a timely and sustained manner.

[1] https://repositorio.cepal.org/server/api/core/bitstreams/54467fc5-a2ea-45be-9dbf-0c6c9e5120db/content
[2] https://openknowledge.worldbank.org/server/api/core/bitstreams/d3e9d5ba-bdea-543b-8e51-e53f39308a73/content
[3] https://library.wmo.int/viewer/68895/download?file=1351_State_of_the_Climate_in_LAC_2023_es.pdf&type=pdf&navigator=1
[4] https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=Z4
[5] https://reliefweb.int/report/world/factbox-asia-pacific-worlds-most-disaster-prone-region
[6] https://www.who.int/westernpacific/publications/m/item/health-at-a-glance-asia-pacific-2022
[7] PAHO/WHO Data - Dengue y Dengue grave
[8] https://www.who.int/es/news-room/fact-sheets/detail/dengue-and-severe-dengue
[9] https://www.who.int/news-room/fact-sheets/detail/dengue-and-severe-dengue

Country	Serotype	Year	Epidemiological week (EW)	Total cases of dengue	Severe dengue	Deaths	Lethality
Guatemala	DEN 1, 2, 3, 4	2023	52	72,358	157	119	0.164
		2024	45	171,210	195	176	0.103
Honduras	DEN 1, 2, 3, 4	2023	52	34,050	228	49	0.144
		2024	44	171,502	2,177	152	0.089
Costa Rica	DEN 1, 2, 3, 4	2023	52	30,649	1	0	0.000
		2024	46	29,786	0	7	0.024

Table 1. Dengue and severe dengue in Guatemala, Honduras and Costa Rica, 2023-2024 (Source: PLISA)

Guatemala recorded 171,210 cases and 176 deaths by late 2024, while Honduras reported over 171,502 cases, including 2,177 severe cases, highlighting the growing intensity of outbreaks in the region. High-risk areas such as Sur Oriente and Zacapa in Guatemala, as well as Metropolitana DC in Honduras, faced concentrated impacts, with governments relying heavily on the support of National Societies for vector control, community outreach, and other public health interventions.

In the Asia-Pacific region, dengue is similarly pervasive, exacerbated by climate change, urbanization, and environmental challenges [10]. This region regularly faces outbreaks of vector-borne diseases such as dengue, malaria, and Zika. Countries like Nepal, Bangladesh, Malaysia, and Sri Lanka illustrate the diversity and complexity of dengue's impact. Nepal has faced dengue outbreaks since 2004, with the disease becoming endemic in the Terai region. Bangladesh experienced its deadliest outbreak in 2023, with over 321,000 hospitalizations and 1,705 deaths, driven by the emergence of new serotypes like DENV-2 and favourable conditions created by excessive rainfall and rising temperatures.

Malaysia sees regular outbreaks during the monsoon season, with cases increasing significantly over recent years. Vector control measures[11] like fumigation and public health campaigns are critical but insufficient on their own, requiring sustained community engagement and education to curb the disease's spread. Similarly, Sri Lanka contends with multiple vector-borne diseases, including chikungunya and filariasis, alongside dengue. Despite achieving malaria-free status in 2016, Sri Lanka faces ongoing challenges due to international travel[12] and climate variability, which require continuous surveillance and vector control to maintain progress.

Efforts to address dengue in both regions demonstrate the importance of multifaceted approaches. These include improving public health infrastructure, implementing targeted vector control strategies, and enhancing community engagement to foster long-term behavioural change. In Central America, culturally tailored methods like "La Untadita"[13] and Costa Rica's cleaning campaigns have shown success in reducing breeding sites. In Asia-Pacific, public health campaigns in Bangladesh and proactive measures in Nepal have highlighted the value of early action and climate adaptation strategies.

Despite these efforts, the economic burden of dengue is substantial, with Southeast Asia alone incurring annual costs of $610 million to $1.38 billion, with a per capita cost between $1.06 and $2.41[14]. The challenges of rising temperatures, flooding, and urban migration further complicate control efforts. The recurring and intensifying nature of outbreaks underscores the urgent need for comprehensive strategies that integrate anticipatory actions, effective disease management, and robust public health policies to mitigate the disease's impact on vulnerable populations.

❖ IFRC-DREF Operational Background

Globally, the IFRC has allocated CHF 6,017,167 to 25 DREF operations for dengue prevention and response since 2019, with significant increases in 2023. In 2023 alone, CHF 2,162,349 was allocated across Asia Pacific, the Americas, and Africa, representing 36% of these total funds since 2019. Approximately 90% of this amount supported dengue response in the Asia Pacific and Americas, regions heavily impacted by severe dengue outbreaks.

[10] Wu, X., Lu, Y., Zhou, S., Chen, L., & Xu, B. (2016). Impact of climate change on human infectious diseases: Empirical evidence and human adaptation. Environment International, 86, 14-23.
[11] Ministry of Health Malaysia: Vector Management Strategies
[12] Sri Lanka Conducts an Integrated Vector-Borne Diseases Review Mission of its National Dengue, Malaria, Leishmaniasis, and Lymphatic Filariasis Programmes
[13] https://www.ajtmh.org/view/journals/tpmd/58/2/article-p257.xml
[14] Shah, S., Abbas, G., Riaz, N., Anees ur Rehman, Hanif, M., & Rasool, M. F. (2020). Burden of communicable diseases and cost of illness: Asia pacific region. Expert Review of Pharmacoeconomics & Outcomes Research, 20(4), 343–354. https://doi.org/10.1080/14737167.2020.1782196

During 2023 and 2024, a total of six IFRC-DREF operations were launched in Central America to address the dengue epidemic, with two operations in Guatemala (2023 and 2024), two in Honduras (2023 and 2024), one in Costa Rica (2023) and one in Panama (2024). These operations targeted a total of 123,608 people with a combined allocation of CHF 2,267,229. Specific interventions focused on Health, Water, Sanitation and Hygiene (WASH), with Protection, Gender, and Inclusion (PGI), and Community Engagement and Accountability (CEA) integrated. In Guatemala, CHF 277,247 was allocated in 2023 to support 5,000 people in Chiquimula and Izabal, while in 2024, CHF 395,901 targeted an additional 5,000 people in Zacapa and Quetzaltenango. Honduras received two allocations totalling CHF 759,448 of which (CHF 303,692 in 2023 to assist 11,943 people in Comayagua and CHF 455,756 in 2024 to assist 15,000 people in Cortés), Costa Rica's operation in Alajuela, Heredia, Limon, and Puntarenas supported 26,665 people with CHF 413,678 and Panama's operation received CHF 420,955 for activities in Panama, Colon and Panama Oeste.

Community needs were addressed through direct health and WASH interventions, such as vector control and sanitation campaigns. Complementing these efforts, the integration of cross-cutting approaches on Protection, Gender and Inclusion (PGI) and Community Engagement and Accountability (CEA) efforts strengthened the capacities of National Society teams and volunteers. These approaches provided tools to identify and respond to the specific needs of the most vulnerable groups, including children, older adults, persons with disabilities, indigenous communities, and others.

Additionally, these approaches promoted dialogue and active participation of communities in dengue prevention activities. This ensured that interventions were culturally appropriate, inclusive, and based on the priorities expressed by the communities themselves, contributing to a more effective and people-centred response.

Furthermore, coordination with National Health Ministries, local authorities, and community leaders and organizations enabled a comprehensive and systematic response aligned with both international and national standards, including those established by the Pan American Health organization (PAHO) and the World Health Organisation (WHO).

In Asia Pacific, recent IFRC-DREF operations highlight the scale and complexity of the response. Nepal, grappling with a rapid increase in cases, received CHF 187,496 for health interventions and sanitation campaigns targeting 596,000 people, noting that the operation started with anticipatory actions and subsequently moved into response. Malaysia's near doubling of cases led to CHF 121,673 in allocations, benefiting 48,000 people through prevention activities. Sri Lanka faced a dual crisis of dengue and flooding, prompting a CHF 348,470 operation reaching 236,000 people with health campaigns and relief support. Bangladesh, experiencing its worst dengue outbreak in five years, with over 321,000 hospitalizations and 1,700 deaths, received CHF 305,871 to support 500,000 people through WASH initiatives, public awareness, and blood donation drives. These interventions emphasized extensive community-level engagement, public health initiatives, and ongoing monitoring into 2024.

The growing scale of dengue outbreaks in Central America and Asia Pacific, as well as the multiplicity of intervention strategies underscores the need for continuous learning to review what has been done so far, to find a harmonized approach in addressing dengue outbreaks. The Asia Pacific and America regions were the most affected and regions with the most DREF allocations for interventions to reduce the impact of dengue on communities based on the DREF data above. That, along with the most recent DREF operations launched addressing Dengue, considering the El Nino effects escalating the climate situation in 2023, the countries considered for this review are Sri Lanka, Nepal, Bangladesh, and Malaysia for Asia Pacific region, and Honduras, Guatemala and Costa Rica for Americas region.

By addressing gaps in health and WASH, these interventions have provided essential support to affected populations, while reinforcing the importance of timely, coordinated responses to mitigate future epidemics.

The surge in of dengue outbreaks in 2023 and 2024 prompted the IFRC, in its technical guidance role, to conduct review these operations addressing this epidemic crisis. Field visits, which have been completed, focused on Nepal and Malaysia in the Asia-Pacific, and Guatemala in the Americas.

1.2. Purpose, Analytical Framework and Deliverables

❖ Purpose

This DREF Operational Review set out to analyse early actions and response strategies for Dengue Fever across the Americas and Asia Pacific regions, adhering to the DREF Operational Reviews Framework , which is aligned to the IFRC Evaluation Framework / 4.3 and ethical standards. The review assessed interventions' relevance, efficiency, and effectiveness while identifying lessons learned, innovative practices, and areas for improvement to inform future operations. It focused on the extent to which interventions met community needs and meaningful participation, aligned with national and international protocols, and achieved their intended objectives in rapidly changing contexts. The review also evaluates interventions' cost efficiency and overall effectiveness, including the extent to which objectives were achieved, the role of risk analysis in informing actions, and the incorporation of lessons learned from previous operations. Additionally, it examines the replicability of interventions in diverse contexts, highlighting challenges,

achievements, and innovative practices that could improve the quality of future National Society responses. The coherence of operations was also looked into by comparing interventions against international standards and protocols, such as those from WHO, CDC, PAHO, and Ministries of Health.

❖ Analytical Framework

As set out in the review terms of reference, the framework outlined the objectives for assessing the dengue prevention and response strategies, focusing on the following evaluation criteria which supported the guiding questions as follows:

1. **Relevance and Appropriateness of Activities / Interventions**
   - Needs-Based Assistance: Examines whether interventions effectively address the specific needs of communities affected by or at risk of dengue.
   - Protocol Alignment: Assesses the alignment of DREF objectives and actions with established standards for dengue prevention and response, referencing protocols from entities like the CDC, WHO, and Ministries of Health.
   - Service Appropriateness: Evaluates how well services align with identified community needs and complement efforts by external actors such as governments and key organizations.
   - Timeliness of Decision-Making: Assesses the responsiveness of escalation or de-escalation decisions in meeting community needs, guided by national dengue monitoring and forecasting systems.

2. **Relevance and Appropriateness of using the IFRC-DREF Tool**
   - Assess the suitability of using the IFRC-DREF tool, rather than an alternative funding mechanism to support the interventions.

3. **Efficiency (Cost/Timeliness) of Implementation**
   - Cost Efficiency: Identifies interventions that deliver maximum impact while minimizing costs, focusing on effective allocation of resources.

4. **Effectiveness of Interventions**
   - Operational Objectives: Measures the extent to which objectives of Disaster Response Emergency Fund (DREF) operations are achieved.
   - Risk Analysis and Assessment Utilization: Reviews the integration of risk assessments into intervention design and methodology.
   - Operational Learnings: Analyses how lessons learned from previous interventions informed current operations and enhanced design.
   - Replicability and Implementation: Evaluates the scalability of interventions across different contexts, highlighting successes, challenges, and the capacity of National Societies (NS).
   - Innovation and Best Practices: Identifies unique approaches and best practices that could enhance future interventions, ensuring quality and adaptability.

5. **Long-term Impact of the Interventions**
   - Assess how/if the IFRC-DREF operations led to any long-term actions for the community and the National Society across regions
   - Examine how Red Cross/Red Crescent Societies could adopt a unified approach and develop long-term strategies for managing future dengue outbreaks.

This structured approach ensured a comprehensive review of the selected operations, allowing implementation teams to collect useful lessons to refine interventions, optimize resource use, and improve community outcomes in dengue prevention and response.

❖ Deliverables

The deliverables included a comprehensive DREF Operational Review report presenting detailed findings and operational recommendations for dengue prevention and response across both anticipatory and response pillars of the DREF tool. The recommendations address key areas such as relevance, efficiency, effectiveness, and coherence of interventions.

While it was initially agreed to produce a supplementary document to serve as a practical guideline, summarizing standard activities for dengue preparedness, prevention, and response, including a matrix outlining the cost efficiency and effectiveness of key interventions to support evidence-based decision-making in future operations, this task has now been transferred to the IFRC Emergency Health team, who will use the findings and recommendations from this review, as well as the existing expertise within the Health Teams of the IFRC globally.

1.3. Methodology

The methodology combined primary and secondary data collection. Field visits were conducted in Nepal, Malaysia, and Guatemala, with countries selected based on recent dengue operations, geographic diversity, and operational capacity. Interviews and focus group discussions were carried out with key stakeholders, including National Society leadership, volunteers, IFRC staff, government officials, and affected community members:

- Sri Lanka: seven key informant interviews and two focus group discussions
- Malaysia: four key informant interviews and six focus group discussions
- Nepal: eighteen key informant interviews and six focus group discussions
- Guatemala: twenty-five key information interviews and four focus group discussions

Secondary data analysis involved a comprehensive review of guidelines, reports, contingency plans, and monitoring documents to assess operational outcomes and contextual factors influencing each country's response.

- **Prioritisation of countries:** Selected countries for the review were prioritized based on National Societies which applied for DREF in anticipation or response to a Dengue outbreak in 2023 with a focus on Asia Pacific and the Americas Regions.

- **Secondary Data Review:** Analysis of available data was conducted through a desk review of Dengue DREF implementation across all seven selected countries. This approach enabled a comprehensive examination of available data to assess the outcomes and contextual factors influencing each country's response. The following documents were selected to support this exercise:
  - Global, Regional, and Government level guidelines, frameworks, policies, and documents around vector-borne disease management, disaster response and management, public health management, and related.
  - National Society disaster and emergency management documents.
  - Global and country-level standards on humanitarian minimum standards.
  - Government and National Society contingency plans.
  - National Society emergency operations planning and resource mobilization documents.
  - National Society DREF operations implementation documents such as assessment and field reports, agreements, monitoring plans and reports, lessons learnt reports, logframes, human resource plan, etc.

- **Primary Data Collection:** To facilitate access to the implementation teams and ensure accuracy in collection of information, the Review Team members conducted field visits to Malaysia (June 2024), Nepal (July 2024), and Guatemala in (July 2024). For each of the visited countries, the Review Team members engaged with the below stakeholders for each operation location at various capacities, either during the field visits or online. The primary focus was on interviewees within the RCRC Movement as seen in Annex 1, which provides insights on the role types which were interviewed during the field missions.

  - Selection criteria for Country Field Visits:
    - Willingness and capacity of IFRC Country Delegation and National Society to receive and support the field visit.
    - Minimum one country represented per region.

  - Tools:
    - Key Informant Interviews.
    - Focus Group Discussions.

  - Key Informant Interview – Profile Selection:
    - National Societies Executive Director, Secretary General, Programme Coordinators, disaster management directors/officers, health & WASH, nutrition, procurement, communication, finance, PGI and livelihood focal points and other relevant sectoral leads at branch level and NHQ.
    - National Society technical volunteers and leads.
    - IFRC Country Delegations Programme Coordinators, Health, WASH, Disaster Management Coordinators/Managers, CEA, PMERs, and finance focal points.
    - Representatives from Partner National Societies in IFRC Country Delegations supporting the operations.
    - Targeted community leaders – with due considerations to gender and inclusion.
    - Local government partners, medical officer, Regional Director of Health Services, National Dengue Control Unit from Government in countries.
    - Red Cross Red Crescent partners supporting the response.

  - Focus Group Discussion – Profile Selection:
    - Affected community members.
    - Red Cross Red Crescent volunteers involved in the interventions.
    - Community-based organizations.

The following annexes to this report provide details of the review tools and methodology, such as:

- **Annex 1**: Key Informants
- **Annex 2**: List of Reviewed Documents
- **Annex 3**: Questions – Secondary Data
- **Annex 4**: KII & FGD Questionnaire
- **Annex 5**: Timeline

1.4. Presentation of Findings and Recommendations

The review systematically presents findings, each substantiated by robust evidence from field observations, stakeholder interviews, and secondary data analysis. These findings are reinforced with clearly defined lessons learned, offering National Societies actionable insights to strengthen dengue preparedness and response.

Key aspects of the interventions, including relevance of activities and their alignment with public health policies, relevance of using the IFRC-DREF funding mechanism, operational efficiency (cost/timeliness), efficiency and long-term impact, are critically assessed. A comparative analysis of the interventions across regions highlights both successful strategies—such as integrated health and WASH interventions, community-driven engagement, and vector control measures—and challenges, including procurement inefficiencies, monitoring gaps, and sustainability constraints.

By linking findings with corresponding lessons learned, the review provides a foundation for National Societies to refine their approaches, improve resource allocation, and implement more effective, data-driven interventions. This evidence-based structure ensures that recommendations are insightful and immediately applicable, enabling targeted improvements that improve the effectiveness and sustainability of dengue response strategies.

The recommendations are formulated to provide clear, actionable guidance, ensuring that National Societies (NS) and IFRC teams can effectively implement improvements based on the findings. They are categorized under key operational objectives, aligning with the thematic areas of the review, such as relevance and appropriateness of interventions, efficiency, effectiveness, and long-term impact.

Each recommendation is paired with designated operational or technical teams within the IFRC and National Societies, ensuring clarity on responsibility and execution. This approach allows for more targeted action by assigning specific recommendations to the relevant teams, ensuring that implementation is both feasible and aligned with existing operational mandates.

The recommendations follow a tiered structure:

1. Objective-level organization – Recommendations are grouped according to broader objectives, such as intervention relevance, cost-efficiency, effectiveness, and outcomes of these interventions.
2. Action-oriented guidance – Each recommendation is designed to be specific, addressing key gaps and challenges identified in the findings.
3. Defined accountability – Each recommendation is assigned to specific teams within IFRC and National Societies, ensuring that those best positioned to act can take ownership.
4. Cross-sectoral integration – Where necessary, recommendations emphasize collaboration between multiple teams, ensuring an integrated and coordinated approach to dengue response and preparedness.

Overall, the recommendations are aimed to be practical, easy to act upon, and strategically assigned, allowing National Societies and IFRC teams to translate insights from the review into meaningful operational improvements efficiently.

1.5. Limitations and Challenges

The following points summarize the key limitations and challenges encountered during this DREF Operational review:

Coordination Across Regions and Time Zones	Budget Constraints and Impact on Data Collection	Competing Priorities and Staff Workload	Data Collection Challenges During Emergencies	Variability Across Countries
Managing a review simultaneous across two regions (Asia Pacific and Americas) and seven countries was difficult due to significant time zone differences. This challenge delayed the	▪ A limited budget allowed for field visits in only three of the seven countries. The remaining countries relied on virtual or secondary data collection, which lacked the depth and	▪ Conflicting priorities within the review team, country offices, and National Societies disrupted progress and caused delays at different stages of the review.	In Bangladesh (Asia Pacific), ongoing emergencies made it difficult to conduct virtual interviews and focus group discussions. This resulted in a reliance on secondary data,	▪ Each country's unique context, strategies, and interventions made it challenging to analyse data consistently. ▪ To identify trends and comparisons,

setup and initial coordination of the review process.	reliability of in-person observations. ▪ Budget approval delays for the field trip led to setbacks in scheduling visits and data collection.	▪ Heavy workload in country offices, particularly in the Americas, due to overlapping responsibilities with other projects, limited the time and focus staff could dedicate to the review. This slowed data collection, coordination, and report completion.	reducing the richness of findings for this country.	findings had to be generalized, limiting the ability to draw detailed or highly specific insights.

Chapter 2: KEY FINDINGS & LESSONS LEARNT

Objective 1: Relevance and Appropriateness of Activities /Interventions

This section presents findings on the relevance of dengue interventions in addressing community needs, the appropriateness of services provided, and their alignment with government and partner efforts. It also evaluates the timeliness of decision-making, informed by dengue monitoring systems. Lessons learned are shared to help National Societies refine their approaches, improve alignment with community and government needs, and optimize funding mechanisms for more effective and timely future interventions.

Finding	Evidence	Lessons Learned
+ **Interventions aligned with global/ national frameworks, making them adapted to local needs.**	The review found that the interventions by the National Societies in Asia Pacific aligned with global frameworks like the WHO Global Vector Response Framework 2017-2030, focusing on collaboration, community engagement, vector surveillance, and integrated tools. Indeed, Malaysia RC used vector control methods like fumigation and pesticide use, while Bangladesh supported clinical management of dengue through medical supplies and training health workers on Directorate General of Health Services (DGHS) guidelines. This contributed to safe and scalable care, aligning with the Health Emergency Preparedness and Response (HEPR) and the Global Strategic Preparedness, Readiness, and Response Plan for Dengue and Other Aedes-borne Arboviruses 2024. However, in Nepal, it was found that community-based surveillance was conducted without specific alignment to Ministry of Health and Population (MoHP) guidelines. Likewise, in the Americas, all three National Societies adhered to frameworks like the Integrated Management Strategy for Arboviral Diseases in the Americas. Guatemala, Costa Rica and Honduras carried out fumigation campaigns in coordination with their respective Ministries of Health, to whom they donated vector control supplies. In addition, through their epidemiology departments and vector control teams, the Ministries provided dengue clinical management training to both National Society staff and medical personnel from health centres in the intervention areas. In Honduras, the larval index surveys and habitat management were collaboratively conducted with government authorities, allowing greater coverage and strengthened health services in the targeted departments and provinces.	• Aligning interventions with global and national standards ensures consistency and enhances credibility and effectiveness. • As such, it is critical to establish and maintain a relationship with relevant authorities on public health issues as part of preparedness initiatives.
+ **Interventions addressed immediate community needs but faced challenges in timeliness and inclusivity.**	The interventions in Asia Pacific addressed immediate needs thanks to specific targeting of high-risk zones. This was done through community clean-ups, school programs, and vector control training, which were highlighted as successes by the targeted communities, thus contributing to community awareness about dengue prevention. In Bangladesh, the National Society provided PGI orientation to volunteers prior to engaging with the community, which helped in disseminating dengue awareness. Two challenges were however highlighted to have dampened the success of the interventions in Nepal and Bangladesh. In some branches in Nepal, implementation was delayed as awareness-raising and search-and-destroy activities started only after the outbreak had intensified and in Bangladesh, there was a lack of thorough needs or capacity assessments for blood centres, potentially leading to unmet requirements for those centres. In the Americas, National Societies prioritized dengue prevention by promoting the UNTADITA strategy and VELITA method as key community-driven actions against Aedes aegypti mosquitoes. These approaches were implemented through community workshops and household visits, focusing on eliminating breeding sites by promoting practices such as keeping sinks and water drums clean (UNTADITA) and turning over unused containers, disposing of garbage, cleaning water tanks, eliminating aquatic plants, and covering water storage containers (VELITA).	Community-focused interventions should prioritize early deployment and inclusive needs assessments for all affected groups as these are essential to effectively address high-risk areas and community-specific challenges.

	To reinforce these community-led dengue prevention actions, National Societies complemented their interventions with broader health and WASH activities, integrating the cross-cutting approaches of PGI, and CEA to strengthen the quality and relevance of the response. The distribution of cleaning items like chlorine, powdered soap, brooms, and garbage bags, among others, supported general health and sanitation needs, facilitating community participation in clean-up campaigns that also addressed chronic issues like improper water storage and waste management. Additionally, following the needs expressed by the communities themselves and validation of their relevance by the Ministry of Health, mosquito nets were provided in some cases to address other community health priorities, noting that they are not a primary dengue prevention measure.	
+ **Volunteer-led initiatives supported community engagement and participation but faced challenges in remote areas and feedback collection.**	In all selected countries, community engagement was found to be critical in building trust and ensuring active participation of targeted communities. In Asia Pacific, volunteer-led initiatives such as consistent household visits, culture appropriate tailoring of awareness messages and partnerships with organizations like UNICEF and Oxfam amongst others, fostered community trust and participation. In Bangladesh, the National Society combined door-to-door campaigns with digital outreach, reaching over 2 million people, despite initially facing community mistrust. Likewise in Nepal, the National Society partnered with the Risk Communication and Community Engagement (RCCE) cluster to improve coordination and adjust interventions in real-time. In the Americas, similar community engagement approaches promoted early care-seeking and behavioural changes. This was facilitated through collaborations with community leaders and health ministries, especially in Guatemala, where staff of the National Health Ministry were also trained in CEA, proving to be a fruitful experience for participants in developing new approaches and perspectives for community engagement and dengue prevention. National Societies in Guatemala, Honduras and Costa Rica also created dialogue and communication mechanisms (e.g. meetings, gatherings) with community leaders in targeted communities. These proved to be effective feedback mechanisms during the operations, offering important inputs to improve implementation.	• Community engagement is critical for sustainable public health interventions, requiring continuous improvement in strategies. • Volunteer-led, culturally tailored, and community-driven initiatives enhance public trust, awareness, and participation in health interventions.
+ **Mixed communication methods effectively disseminated messages to diverse audiences.**	In Asia Pacific, the National Societies used mixed communication strategies to ensure they reached affected communities widely. Digital (social media, webinars) and traditional (radio, door-to-door) platforms were used by all for public messaging, as were street dramas and billboards to enhance public engagement in Bangladesh as well as multilingual resources and face-to-face distributions to reinforce messaging in Nepal. In the Americas, risk communication leveraged social networks, radio, community workshops, and household visits. In Guatemala, the National Society developed child-friendly educational kits (backpack with educational materials, including colouring books with key messages on dengue prevention, crayons, and mosquito repellent) and tailored messaging to tackle misinformation, while the National Society in Costa Rica emphasized inclusion of diverse age groups, although they faced gaps in material accessibility for children with disabilities.	Combining digital, traditional, and community-based approaches ensures effective and contextually appropriate communication.
+ **Close collaboration with health authorities improved intervention alignment and effectiveness.**	National Societies in the Asia Pacific and Americas closely collaborated with governments to strengthen dengue control efforts. By aligning with health ministries and local authorities, they effectively integrated community-based interventions into national strategies. In Asia Pacific, coordination with health ministries in Sri Lanka, Nepal, and Bangladesh ensured interventions addressed government-identified priorities. In Nepal for instance, the National	Strong partnerships with government entities and alignment with national strategies to amplify the effectiveness and sustainability of interventions and

	Society's blood donor campaigns, community clean-ups, and health worker training filled critical gaps in the outbreak response. In Bangladesh, the National Society contributed to the National Strategic Plan for Dengue 2024-2030, improving risk communication and clinical management, thereby solidifying its role as a trusted auxiliary to the government. In the Americas, National Societies partnered with national and municipal authorities to conduct WASH campaigns and vector control activities, such as joint fumigation in Costa Rica and larval index surveys in Honduras. They actively participated in technical roundtables to align efforts with national health plans, ensuring efficient use of resources and focusing on underserved areas. Training programs for health ministry staff and local committees enhanced early detection and outbreak response, demonstrating the value of these partnerships. By aligning their actions with government strategies, National Societies maximized the impact of their efforts, showcasing the power of coordinated public health initiatives, thereby reinforcing their auxiliary role.	to extend their reach through National Society community network and volunteer mobilization.
+ The application of inclusion strategies during targeting varied in effectiveness, highlighting gaps in engaging high-risk populations.	Efforts to engage vulnerable groups in dengue prevention varied across regions, revealing both effective strategies and gaps. In the Americas, implementation strategies prioritized children through child-friendly spaces, educational workshops, and resource kits, coordinated with Ministries of Education. In Guatemala, the National Society made progress in integrating protection and inclusion into health responses by developing specific materials on gender-based violence (GBV). These materials helped raise awareness about the risks faced by women, girls, Indigenous peoples, and other vulnerable groups in health emergencies such as dengue outbreaks. Additionally, training sessions were provided to staff and volunteers to strengthen their capacities in identifying signs of violence, understanding safe referral pathways, and ensuring that community activities, such as dengue prevention workshops, included messages and practices that promoted safety, respect, and equity. In Asia-Pacific, Malaysia stood out for its comprehensive inclusion of migrant workers and refugees in the response, while challenges in Nepal and Bangladesh highlighted underserved groups like construction workers, schoolteachers and individuals with chronic conditions, due to resource constraints and limited planning. Adaptive measures, such as trained volunteers and PGI strategies, mitigated some of these issues.	Proactive, inclusive and intentional planning, scalable training and adaptive approaches are necessary to address gaps in reaching high-risk and underserved populations, ensuring all vulnerable populations are effectively supported.
- Volunteer retention and capacities impacted message delivery and intervention success	Despite the huge support provided by volunteers in community engagement and participation, their retention in dengue prevention efforts faced significant challenges in both the Asia-Pacific and the Americas, impacting the effectiveness and reach of operations. In Asia-Pacific, high volunteer turnover, scheduling conflict commitments and inconsistent availability further impacted the efficiency of operations. Volunteers often required additional training to effectively deliver key messages, but frequent capacity-building sessions (mainly 1- or 2-day orientations on dengue) were difficult to sustain. Moreover, volunteers had varied technical capacities, with some having received health or CEA training, both or none at all, because volunteer retention was a challenge. Standard communication materials, such as pamphlets, were not always suitable for vulnerable groups like children and construction workers, highlighting the urgent need for more inclusive and accessible resources, such as visual aids and animations. In Central America, National Societies faced similar barriers, as volunteer retention remains a critical challenge that directly affects the continuity and effectiveness of dengue prevention efforts. Many volunteers face competing priorities (such as employment, education and family responsibilities) which limit their sustained engagement in health	• Sustained volunteer training, clear engagement and retention strategies, are vital for maintaining a reliable volunteer workforce during interventions. • Strengthening volunteer capacities and ensuring tailored, community-centred approaches, can enhance the impact of dengue prevention efforts.

	operations. This was particularly evident in locations like Chiquimula (Guatemala), where limited availability and high turnover affected outreach consistency. To address these barriers, National Societies could benefit from developing context-specific retention strategies, including flexible scheduling, local recognition mechanisms, and peer-led volunteer support systems. Furthermore, integrating practical, culturally relevant training materials and diversifying delivery formats—such as mobile-based learning or short interactive sessions—could strengthen volunteer capacities while reducing dropout. Investing in these areas would not only improve message delivery but also reinforce the role of volunteers as trusted community agents in long-term vector control and risk communication.	
- **Inefficient procurement and logistics processes delayed the delivery of critical resources**.	Logistical and procurement challenges severely impacted dengue prevention and response efforts in both the Asia-Pacific and the Americas. In the Asia-Pacific, complex procurement processes in Nepal delayed the distribution of essential items like repellents (cancelled eventually) and fogging chemicals, while in Bangladesh, slow tendering, unclear fund communication, and logistical barriers disrupted support for Maternal and Child Health (MCH) centres. In the Americas, slow and inefficient procurement delayed the availability of supplies in Guatemala and Costa Rica, with administrative inefficiencies and resource shortages compounding the issue. Moreover, transportation limitations in Honduras and Costa Rica, along with difficult access to remote areas, further delayed humanitarian assistance, although advanced planning in Honduras mitigated delays and ensured timely delivery of support.	Streamlined and flexible procurement processes, along with improved logistics, are required for timely delivery of resources in emergency contexts.

Objective 2: Relevance and Appropriateness of Using the IFRC-DREF Tool

This section presents findings on the relevance and suitability of using the IFRC-DREF tool as a funding mechanism for these Dengue operations, highlighting its strengths and limitations. Lessons learned are provided to help National Societies optimize the use of DREF in future interventions, particularly by addressing its current limitations and exploring ways it could better support long-term needs in similar operations.

Finding	Evidence	Lessons Learned
+ **Timely and Coordinated interventions to Support Government Efforts**	The review found that the IFRC-DREF tool enabled rapid mobilization of resources and the implementation of preventive measures, proving particularly valuable in contexts where government resources were overstretched. Plans for interventions were generally developed in coordination with the government, to ensure the Red Cross/Red Crescent interventions complemented government efforts, often filling critical gaps in pressured public health systems. This allowed the National Societies to reinforce their traditional auxiliary role to their governments.	DREF is effective for immediate, short-term responses and works well when National Society interventions align with government strategies.
+ **Adaptative Operational Management**	The operational flexibility allowed by the IFRC-DREF tool was also highlighted during the review in both Asia Pacific and the Americas. Indeed, many strategies and interventions were able to adapt based on community needs and emerging challenges such as process and procurement delays, allowing for budget and intervention adjustments when necessary, expanding the geographical scope of interventions and permitting timeframe extensions to ensure activities could be completed. The tool remained flexible in the feedback received, and resources of operations were thought to have been effectively managed through close budget monitoring and adaptive management.	• Flexibility in operational design is key for responding to dynamic challenges and ensuring interventions meet evolving needs.

	Despite this, the support actions led by most National Societies were mainly reactive rather than anticipatory. Seasonal outbreaks, however, can often be pre-empted with proactive measures. It is crucial to adopt an anticipatory approach, particularly for seasonal epidemics, by ensuring coordination with authorities throughout the entire preparedness cycle. Further mechanisms are needed to identify risks, strengthen emergency preparedness, and provide timely, well-informed support to governments.	• The IFRC's Preparedness for Effective Response (PER) and Anticipatory approaches provide opportunities to ensure the National Society can act before the outbreak spreads out, thereby reducing its impact on vulnerable communities.
- **Limitations of the IFRC-DREF Tool**	**Funding ceiling thresholds, eligibility of costs, and timeframe constraints:** The limited funding ceiling for most of the selected Dengue operations was yellow, meaning the IFRC-DREF could only allocate a maximum of CHF 500,000 to each National Society, depending on the plan submitted. In addition, the strict eligibility criteria for costs constrained the scale of interventions and the ability to procure essential equipment, such as spray machines for fogging, as the DREF does not typically fund assets and the evidence for the effectiveness and efficiency of fogging in dengue outbreaks remains inconsistent. In Nepal, restrictive procurement procedures delayed operations for mosquito repellents, ultimately leading to the reallocation of funds to cash activities. **Human Resource Constraints:** Limited funding for human resources hindered the quality and scope of interventions. IFRC-DREF allows some HR coverage, however, DREF operations often cover a wide geographical scope and focal points in technical sectors (health, WASH) and support units such as finance, and PMER in both HQ and branch/district-level implementation. With limited human resources covered through the IFRC-DREF funds and limited secured funding for an extensive array of staff in HQ and branch/district, only a few staff, often at HQ and district/branch manage extensive implementation. This was the case in Guatemala, where only four National Society staff were hired to cover operations across 18 communities targeting 5,000 people, while Costa Rica Red Cross managed the interventions with just two staff for 30 communities and 26,665 people. This led the National Societies to rely heavily on volunteers, whose availability was inconsistent, impacting the continuity of operations. Similarly, in Asia Pacific, the need for focal points across technical sectors was unmet, straining existing personnel and limiting the effectiveness of responses. **Strengthen a systematic and evidence-based approach to monitoring and evaluation (M&E):** The M&E efforts implemented across both regions enabled the tracking of activities and the creation of spaces for analysis and learning, particularly through field visits and lessons learned workshops. These efforts reflect the commitment of technical teams and volunteers to documenting progress and challenges throughout the interventions. However, an opportunity was identified to strengthen M&E frameworks by developing more systematic and sustained methodologies that allow for more accurate measurement of the effectiveness and impact of interventions, both in the short and long term. In regions such as the Americas, the ability to systematize learning was limited by the availability of human and financial resources, as well as the operational timeframes of the actions. Additionally, the need to more systematically integrate the cross-cutting approaches of Protection, Gender and Inclusion (PGI) and Community Engagement and Accountability (CEA) into monitoring and reporting systems was identified, to	• Apply flexibility to support essential operational needs, especially regarding procurement of assets for the National Societies, especially when these respond to operational needs. • Expand HR funding to ensure adequate staffing for technical, logistical, and community engagement needs. • Develop and integrate comprehensive M&E frameworks to measure impact, identify gaps, and improve long-term intervention outcomes. • Longer-term investment is needed in using data for decision making for public health response for National Society health teams, and IFRC health staff. • Ensure the development of technical capacities among National Society staff and volunteers for the application of monitoring methodologies that integrate PGI and CEA approaches is key to generating representative and evidence-

	ensure that the information collected reflects the needs, perceptions, and priorities of the communities in a comprehensive manner. Similarly, in Asia Pacific, although operational monitoring activities were carried out on the ground, there remains an opportunity to move toward a more structured approach that facilitates the generation of disaggregated data and more robust analysis, thereby strengthening evidence-based decision-making.	based information. This contributes to ensuring that interventions are more responsive to the differentiated needs of communities and strengthen informed and context-specific decision-making.

Objective 3: Efficiency (Cost/Timeliness) of Implementation

This section presents findings on the interventions which achieved maximum impact with minimal costs, focusing on the efficient allocation of resources. Lessons learned are shared to guide National Societies in optimizing resource use and improving cost-effectiveness in future operations.

Finding	Evidence	Lessons Learned
+ **Efficient use of DREF resources for maximized reach and impact**	The review found that most operations in both regions exceeded initial targets, demonstrating cost-efficiency. In Asia Pacific, Nepal RC interventions cost CHF 0.20–0.30 per person, leveraging the government's integrated vector management guidelines while the Bangladesh DREF operation reached 500,000 people with an expenditure of CHF 0.60 per person. In the Americas, Costa Rica achieved a cost of CHF 15.51 per person compared to higher costs in Honduras (CHF 25.42) and Guatemala (CHF 55.44/79.18). These variances across countries in the Americas highlight the need for further analysis to identify factors affecting cost differences.	Cost-effective strategies and resource optimization are critical for achieving maximum impact, but variances in costs could be further analysed to improve efficiency.
+ **Effective resource management**	Despite limited funding and resources, interventions were planned and timed effectively through simultaneous implementation of multiple activities into a cohesive and synchronized approach. In Asia Pacific, multiple activities such as awareness-raising, search-and-destroy campaigns, and blood donations were conducted concurrently to maximise the outcome of interventions. Moreover in Malaysia, data collection was inclusive of sex, age, disability desegrated data (SADDD) in assessing vulnerable people and extend necessary assistance as reflected in the DREF report. In the Americas, community engagement and protection actions were strategically integrated into the dengue prevention response framework, strengthening the people-centered approach. The inclusion of child-friendly spaces in community workshops ensured inclusive participation, adapted to different age groups, while the combination of CEA and PGI approaches ensured that interventions were culturally appropriate and responsive to the differentiated needs of the most vulnerable groups. In Honduras, household visits enabled the direct collection of feedback from families, allowing the adjustment of messages and communication channels used in community outreach campaigns. In Guatemala, collaboration with community groups expanded outreach and participation, ensuring that dengue prevention actions were understood, accepted, and owned by the communities themselves.	Combining activities and integrating strategies, such as CEA and PGI, enhances resource efficiency and expands the reach and effectiveness of interventions.

+ Learning from past operations enhances planning and implementation	In both Asia Pacific and the Americas, National Societies adopted proactive approaches informed by past experiences in the implementation of the interventions. In Nepal, early activation of dengue alerts by the government and the Ministry of Health (MoHP), drawing on lessons from 2022, significantly improved response readiness. Similarly in Malaysia, the National Society applied lessons from COVID-19 response to focus their strategies on the value of coordination with health authorities and prioritizing volunteer well-being. In Sri Lanka, learnings from past extreme weather events helped to improve supply chain management for the operation. In the Americas, the Honduran RC effectively anticipated procurement and supply chain management risks by incorporating lessons from past operations. Likewise, in Guatemala and Costa Rica, through past experiences, the National Societies recognised the importance of engaging children in prevention efforts. By teaching children prevention strategies that they replicated at home, they successfully extended the reach of their interventions to a broader audience.	Integrating lessons from past operations strengthens readiness and ensures more effective responses in subsequent interventions.
+/ - Adaptability to logistical and contextual challenges	The review revealed that procedural delays, logistical challenges, and contextual factors—such as weather and short service windows—significantly impacted the timeliness of dengue preparedness and response efforts in both regions. In Bangladesh, procurement and supply chain issues, including customs and transportation delays, slowed the delivery of medical supplies. Improved coordination with local suppliers and stricter quality control eventually mitigated these challenges. In addition, delays in approvals and unclear communication about fund usage also hindered progress, causing stakeholder uncertainty. In Sri Lanka, where the operation blended the response to the dengue outbreak and floods, household selection for shelter items and cash distribution was delayed by complex processes and heavy rainfall, which also disrupted medical assistance and first aid delivery. In the Americas, delayed procurement in Guatemala and Costa Rica significantly postponed the availability of essential supplies for community activities. Guatemala faced additional administrative bottlenecks, while Costa Rica struggled with limited visibility items and volunteer supplies, affecting outreach and support. Despite these setbacks, the National Societies demonstrated adaptability, offering valuable lessons for future DREF interventions. Strengthening processes and improving flexibility are critical to mitigating such challenges.	• Design flexible approaches to adapt to contextual challenges like adverse weather and short service windows. It is critical to foster operational flexibility and proactive problem-solving during implementation. • Build relationships with local suppliers (i.e. providing a potential list of items that may be needed by CVA recipients to the vendor contracted to provide the voucher service) and develop contingency plans for logistical disruptions. • Strengthen local partnerships and ensure consistent communication to address challenges as they arise.
- Delays in procedures and approvals	Despite the streamlined planning process with their governments through early information sharing, the review found that delays in procurement and approvals slowed implementation across regions. This was especially the case for Nepal RC, which faced delays in cash and voucher assistance due to the delays in getting agreements and SOPs in place, which stemmed from the lack of planning as this intervention was added mid-way during the operation because the procurement of repellents was cancelled. Similarly in Sri Lanka, verification for aid distribution	• Streamline procurement and administrative processes to minimize delays. • Prepare agreements and SOPs in advance and consider cultural or

	was hindered by rain and logistical challenges. Internal approval bottlenecks in Malaysia and Guatemala also delayed procurement, with holidays exacerbating timelines.	seasonal events in planning timelines.

Objective 4: Effectiveness of the Interventions

This section presents findings on the effectiveness of dengue interventions, focusing on monitoring systems, community engagement, government collaboration, and volunteer training. It highlights gaps, such as inconsistent monitoring, challenges in sustaining preventive behaviours, and variability in training quality, while showcasing successful practices like multi-channel feedback and robust partnerships. Lessons learned are provided to help National Societies strengthen monitoring systems, standardize volunteer training, and maintain long-term community engagement, ensuring improved preparedness and response in future interventions. These insights aim to enhance operational effectiveness and sustain impact over time.

Finding	Evidence	Lessons Learned
- **Effectiveness of monitoring and evaluation mechanisms**	During the review, it was found that monitoring mechanisms existed but lacked robustness, with inconsistencies across countries and limited evaluation of long-term impacts. While HQ developed and disseminated frameworks to district branches based on past programs, these were not always fully operationalized. The absence of dedicated M&E personnel contributed to challenges in consistency, and some branches reported weaker Monitoring, Evaluation, and Learning (MEL) processes. Reporting mechanisms and information management systems were underdeveloped in several branches due to limited resources. In Nepal, a robust PMER system at the national level was not consistently applied at branches. In Sri Lanka, on the other hand, the National Society maintained detailed records for real-time adjustments but lacked mechanisms for long-term impact evaluation, while in Malaysia, the PMER staff turnover caused monitoring gaps. In the Americas, strategic remote monitoring via virtual meetings identified operational improvements despite limited field visits.	• A standardized, robust M&E framework, with standard dengue KPIs across the IFRC network is critical for consistency and evaluating intervention impacts. • Adequate staffing and long-term evaluation mechanisms enhance monitoring effectiveness.
+ **Complementarity with Government and partners**	Complementarity and integration with governments and partners were key to the success of dengue response efforts in both the Asia Pacific and Americas regions, enhancing intervention efficiency and maximizing impact. In the Asia Pacific region, National Societies aligned closely with government priorities to deliver effective interventions. The Nepal Red Cross Society collaborated with the Ministry of Health and Population (MoHP), local authorities, and IFRC to conduct awareness campaigns, sanitation activities, and health services. The Danish RC also supported by providing CHF 20K for various needs in Nepal related to this emergency. In Bangladesh, BDRCS partnered with the Directorate General of Health Services to implement the National Strategic Plan for Dengue Response, strengthening RCCE, laboratory services, and clinical management. In Malaysia, MRCS supported the Ministry of Health with volunteer mobilization, fogging, and community clean-ups, addressing resource gaps. Sri Lanka's coordination with the National Dengue Control Unit ensured DREF interventions aligned with government priorities, maximizing their effectiveness. In the Americas, National Societies worked alongside health ministries through technical roundtables to identify critical needs, avoid duplication, and align actions with institutional response plans. Joint activities included fumigation campaigns in Costa Rica, larval index surveys in Honduras, and training health ministry staff in Guatemala, Honduras,	• Government integration and collaboration enhances efficiency and impact and eases alignment with national strategies, ensuring targeted, efficient, and impactful interventions. These partnerships help fill resource gaps, avoid duplication, and strengthen local health systems. • Coordinated actions like vector surveillance, fumigation campaigns, training local health staff, and empowering community health groups strengthen early detection and

	and Costa Rica on physical and chemical dengue control. These efforts ensured compliance with regulations and empowered local Health Committees and communities to enhance early detection and outbreak response. Overall, integration with government strategies and resources significantly improved the efficiency and impact of interventions. Successes in Nepal, Bangladesh, Costa Rica, and Honduras highlight how collaboration addresses resource gaps and strengthens dengue control efforts.	outbreak response, showing that joint National Society and Government actions are key to effective dengue control.
+/ - Improved feedback mechanisms	Feedback mechanisms improved community engagement during the interventions in both regions, although their set-up was delayed and/or insufficient in some regions. Indeed, various feedback mechanisms were set-up, with some adopting more robust, multi-channel approaches to enhance community engagement. Community key informant interviews (KII) and focus group discussions (FDG) held during the review confirmed that the selected National Societies had functioning feedback mechanisms in place. However, the analysis revealed that the use of feedback remained largely focused on collection and less on how it informed operational decisions. There was limited evidence of systematic collaboration between health and CEA teams to translate community feedback into real-time programmatic adjustments. Where concrete examples were lacking, this points to a gap in closing the feedback loop, highlighting that while mechanisms existed, the process of integrating community insights into decision-making was not fully operationalized. This underscores the need for stronger linkages between feedback systems and adaptive management, ensuring that community voices directly shape response strategies. In Guatemala, dialogue spaces with community leaders were effective, complemented by satisfaction surveys. In these spaces, the progress of the operation was shared, and feedback was received, allowing for the coordination of effective actions. In the second DREF operation conducted in Guatemala, satisfaction surveys were implemented to understand the level of satisfaction of persons assisted, receiving comments and suggestions on how to improve the operation. Honduras Red Cross conducted household visits to gather feedback that improved communication campaigns. In Asia Pacific, Nepal used a multi-channel approach (hotlines, social media, community meetings) to enhance community responsiveness. In Sri Lanka, volunteers and social media ensured timely feedback while in Bangladesh, delays in responding to feedback through the BDRCS hotline made the system less effective. Lessons learned highlighted that the feedback mechanism needed to be improved.	• Timely and structured feedback mechanisms are essential to operational responsiveness and effectiveness. • Engaging communities through dialogue and feedback improves intervention outcomes.
+/ - Effectiveness of dengue prevention strategies	The interventions effectively contributed in controlling the dengue cases and improved hygiene practices through comprehensive strategies with health and WASH sectors integrating CEA and PGI approaches. Community clean-ups and environmental management were critical in preventing mosquito breeding, supporting reductions in dengue spread across selected operations. In Malaysia, community clean-ups raised awareness and reduced breeding sites. Similarly, Nepal's "Search and Destroy" campaigns were widely praised by communities and the government, while clean-up campaigns, education, and environmental management had significant impacts in Bangladesh. In Sri Lanka, household monitoring efforts ensured sustained cleanliness practices. In the Americas (Guatemala, Honduras, and Costa Rica), the UNTADITA and VELITA methods, paired with cleaning kits, improved household-level practices. More than 50% of DREF budgets were allocated to WASH interventions, prioritizing community needs and addressing chronic issues such as improper water storage and waste management. Community workshops and household visits fostered trust and reinforced key messages, while collaboration with community leaders	• Integrated approaches boost effectiveness. Combining health, WASH, CEA, and PGI intervention strategies with community-driven actions like clean-ups and education, significantly reduces dengue cases and improves hygiene. Tailored initiatives, such as Malaysia's dengue kits, Nepal's "Search and Destroy," and the UNTADITA and VELITA methods

	enhanced information dissemination and implementation. Regular meetings with community leaders also provided valuable feedback for improving activities and addressing misinformation. While these efforts demonstrated progress in coordination with Ministries of Health and community-level actions, key areas for strengthening overall effectiveness remain. Notably, the absence of dedicated monitoring staff and standardized tools in some National Society branches limited the ability to track impact and capture learning. To address these gaps, it is recommended to develop simple MEL (Monitoring, Evaluation, and Learning) formats and provide localized training. This would enhance data systematization, improve impact tracking, and support continuous learning processes which are essential for future interventions. Despite these successes, sustaining preventive behaviours beyond the intervention period proved challenging. Temporary changes in attitudes and practices were observed during interventions but tended to decline over time. For example, in Malaysia, behaviours like eliminating standing water persisted post-intervention but were difficult to maintain long-term. Similarly, in the Americas, continuous dialogue with community leaders encouraged temporary adoption of dengue prevention behaviours. While risk communication and community engagement (RCCE) approaches effectively promoted behavioural change, encouraged care-seeking, and addressed misinformation, maintaining these changes required ongoing engagement and reinforcement.	in the Americas, effectively address local needs. • Sustaining behaviour change needs continued efforts such as Sustained community engagement, regular follow-ups, and reinforcement are essential to ensure lasting impact.
+/ - Inconsistent volunteer training quality	The review of volunteer training across Asia Pacific and the Americas highlights both strengths and areas for improvement, emphasizing the critical need for consistency in training to ensure effective interventions. In the Asia Pacific region, challenges with inconsistent volunteer training were evident. While training improved volunteer preparedness and intervention quality in certain areas, gaps persisted. For instance, in Nepal, recently mobilized and trained volunteers demonstrated strong capacity, enabling timely dengue prevention and control efforts. However, high turnover rates created a need for regular refresher training to maintain volunteer readiness. In Bangladesh, feedback indicated dissatisfaction with the quality of volunteer orientation, underscoring the need for a more structured and comprehensive approach. This should include targeted improvements in how training content is delivered, ensuring materials are practical, context-specific, and easily understood by volunteers and community members. Better session organization is also essential, with interactive, hands-on approaches that build real-life skills rather than focusing solely on theoretical knowledge. A key gap identified was the insufficient integration of Community Engagement and Accountability (CEA), Protection, Gender, and Inclusion (PGI) into volunteer training, limiting volunteers' ability to address community concerns holistically and inclusively. To enhance future trainings, Health and WASH teams should collaborate more closely with CEA and PGI specialists to design comprehensive training packages that address these gaps. This includes co-developing modules that emphasize participatory methods, culturally appropriate messaging, and practical skills for community engagement. Standardizing these approaches and ensuring they are tailored to local contexts will improve volunteers' capacity to deliver impactful interventions and foster meaningful community participation. In comparison, the Americas region demonstrated the implementation of volunteer training and refresher processes in a consistent and systematic manner throughout the operations. Volunteers were trained in physical and chemical	• Standardized and consistent training is essential for effectiveness of volunteers, as demonstrated in the Americas. Regular refresher courses address challenges like high turnover, ensuring volunteers remain equipped to respond effectively. • Comprehensive and structured orientation and specialized skills maximize impact, especially when coupled with the active engagement of volunteers enhance the quality and inclusivity of operations. These approaches build community trust and improve overall intervention outcomes.

	dengue control measures, ensuring compliance with both local and international safety standards. The trainings were carried out in coordination with vector control teams from the Ministries of Health. Concurrently, volunteers participated in capacity-building processes on Community Engagement and Accountability (CEA) and Protection, Gender and Inclusion (PGI) approaches. These trainings not only highlighted the complementarity between both approaches—through integrated sessions—but were also specifically contextualized within the framework of epidemic response, with a particular focus on dengue. The early integration of these cross-cutting approaches into the training processes enhanced the capacity of field teams to ensure the effective inclusion of vulnerable groups, as well as to generate disaggregated evidence to inform decision-making. This included, for example, the adaptation of key messages, the contextualization of educational materials, and the design of culturally appropriate interventions, among others. Overall, while the Americas region demonstrated consistent, structured, and goal-oriented volunteer training processes, the Asia-Pacific region showed greater variability in the implementation of such processes. Some countries established solid training mechanisms, whereas others faced challenges in maintaining standardized levels of preparedness, follow-up, and utilization of trained capacities. This variability underscores the critical need to prioritize standardized training protocols that can be activated at the onset of operations, complemented by regular refresher courses throughout the operational cycle. Equally important is the strategic deployment of trained volunteers with specialized expertise in areas such as Community Engagement and Accountability (CEA) and Protection, Gender, and Inclusion (PGI), ensuring their integration across operational sectors like Health, WASH, and Cash and Voucher Assistance (CVA). These measures are essential not only for enhancing operational consistency and strengthening ongoing responses, but also for generating strategic learning and evidence to inform future emergency operations. Such an approach supports the development of a more structured and replicable knowledge management framework, contributing to institutional learning and long-term capacity strengthening.	

Objective 5: Long-term Impact of the Interventions

This section presents findings on the long-term impact of the interventions for the targeted communities and National Societies across regions, while highlighting strategies for a unified and sustainable approach to future dengue outbreak management. It provides actionable lessons learned for enhancing preparedness, collaboration, and inclusivity.

Finding	Evidence	Lessons Learned
+ **Sustained community engagement and behavioural change**	The review highlighted that community awareness of dengue prevention increased significantly thanks to the IFRC-DREF funded operations, resulting in improved hygiene and mosquito control practices. This was especially the case in Malaysia, where schools continued dengue prevention practices post-DREF intervention. Similarly in Sri Lanka, communities adopted waste management practices that reduced mosquito breeding sites. In Guatemala and Honduras, communities applied household-level strategies like UNTADITA and VELITA to sustain mosquito control efforts.	• Positive behaviour changes are achievable through focused interventions, but their sustainability depends on continuous reinforcement. • Leveraging institutions like schools as long-term community influencers ensures the persistence of prevention practices. • Tailored, community-driven strategies enhance local ownership and long-term behaviour change.
+ **Building long-term preparedness through collaboration and capacity building**	The interventions effectively contributed to setting the basis for long-term preparedness in both regions as was seen in Nepal, where NRCS developed a dengue contingency plan and improved coordination with health and non-health actors. Bangladesh RC also used the framework of its intervention to preposition medical supplies, contributing to the 2024-2030 National Strategic Plan. In Sri Lanka, the National Society also used the opportunity of the intervention to resume and advance its work on a Simplified Early Action Protocol (sEAP) for dengue and floods. In Guatemala, Honduras, and Costa Rica, training sessions focused on strengthening community-level readiness through National Society volunteers, while coordinating with Ministries of Health on technical aspects such as vector control, entomological surveillance and clinical management which will be key in next outbreaks.	• Establishing contingency plans and early action protocols improves readiness for future risks and outbreaks. • Strengthened partnerships with governmental and non-governmental actors lead to cohesive responses and long-term strategies. • Training programs for local volunteers and health staff build technical expertise and strengthen future outbreak responses. • Prepositioning critical supplies ensures timely responses and mitigates operational delays.

+/ - Impact on Dengue reduction and sustained monitoring	In Nepal, proactive community engagement helped reduce mosquito breeding, breaking transmission cycles. In Costa Rica and Honduras, collaborative monitoring efforts with Ministries of Health ensured targeted prevention strategies, while Sri Lanka faced resurgence in some areas, emphasizing the need for continuous monitoring and community involvement.	• Continuous monitoring and evaluation are necessary to sustain the reduction in dengue cases. • Ongoing community engagement and resource allocation are critical to maintaining the gains achieved through interventions. • Preventive measures should be regularly reinforced to address potential resurgence. • Collaborative monitoring with government entities enhances data accuracy and informs effective, sustained interventions.
+ Expanding impact through strategic coordination and resource mobilization	Nepal RC extended its activities to Tanahu, leveraging savings and securing additional resources and Sri Lanka increased household visits from 46,200 to over 71,000 within the same budget through effective scaling. Guatemala and Honduras Red Cross Societies improved logistical efficiency and expanded intervention reach through collaboration with Ministries of Health. Overall, the UNTADITA and VELITA methods in the Americas fostered sustainable household practices for mosquito control, replicable in future health programs.	• Strategic resource allocation and coordination amplify the impact and scope of interventions. • Scaling activities within budget constraints demonstrates the importance of efficiency and adaptability. • Tailoring strategies to local practices increases their acceptance and sustainability. • Proactive resource mobilization enhances the ability to address dynamic community needs and vulnerabilities. • Logistical improvements in one operation can inform and improve future program efficiency.

CHAPTER 3: RECOMMENDATIONS

The analysis of findings and lessons learned from both regions reveals significant alignment in key areas, highlighting shared priorities in dengue prevention and control. Government and partner collaboration with National Societies emerges as a central focus with strong alignment highlighted. Indeed, both regions stress the need for formal partnerships with Ministries of Health to facilitate training and implement coordinated activities, such as fumigation campaigns and larval index surveys. These collaborations not only maximize resource efficiency but also ensure alignment with national public health strategies, fostering cohesive and impactful interventions. A unified approach could further support these collaborations by providing a standardized framework for planning and execution, ensuring consistency across different contexts.

Community engagement is another area of focus, with both regions emphasizing the importance of multi-channel feedback mechanisms such as hotlines, surveys, and community meetings. These tools have been pivotal in promoting community participation and responsiveness as they ensure communities are heard and involved in real-time. However, meaningful and sustained community engagement goes beyond feedback collection. It involves fostering long-term behaviour change and enabling the active participation of affected populations in decision-making processes. In this regard, leveraging local leadership, schools, and trusted community structures is essential to embed dengue prevention practices into daily life. Such approaches help sustain behavioural changes beyond the immediate intervention period and empower communities to take ownership of their health outcomes.

The importance of monitoring and evaluation (M&E) is also shared across both regions, with a focus on developing robust frameworks to track intervention impacts. This recognition underscores the critical role of data-driven approaches in adapting strategies to evolving needs and ensuring the effectiveness of interventions. A standardized M&E framework could guide teams in capturing and utilizing data effectively.

Finally, volunteer training is a common priority, with both regions emphasizing the need for consistent training programs. Particular attention is given to areas like Community Engagement and Accountability (CEA) and Protection, Gender, and Inclusion (PGI), ensuring that volunteers are well-equipped to deliver inclusive and effective interventions. A unified approach, incorporating tailored training modules within the cheat sheet, would provide teams with accessible, actionable guidance to standardize and elevate staff / volunteer training as well as implementation quality across different contexts. Such an approach, (E.g. a standardized "Dengue Prevention and Response Guide") developed by IFRC health teams, could serve as a valuable tool for harmonizing efforts and guiding implementing teams with clear and concise strategies.

Despite the commonalities highlighted, notable differences reflect the unique regional contexts and operational priorities. In the Asia Pacific, there is a strong emphasis on pre-crisis readiness, such as prepositioning medical supplies and developing contingency plans like Simplified Early Action Protocols (sEAP). For instance, Bangladesh has contributed to its 2024–2030 National Strategic Plan, while Sri Lanka has advanced work on its sEAP for dengue and floods.

In contrast, Central America highlights the importance of cultural adaptation and mid-crisis logistical agility. Strategies like UNTADITA and VELITA, tailored to local practices, promote sustainable household-level mosquito control. Furthermore, Central America prioritizes scaling within budget constraints, as seen in Guatemala's collaborative logistics for fumigation and vector control, which expanded reach and efficiency. These differences highlight the importance of regional adaptations to complement shared global strategies for dengue prevention.

Below are more details of the key recommendations:

	Recommendation	Responsible Operational / Technical Teams
Objective 1: Relevance and Appropriateness of Activities /Interventions		
1	**Adhere to Global/National Standards and Strengthen Partnerships with Local Health Authorities**: • Ensure interventions align with global (e.g. WHO Global Vector Response Framework 2017-2030) and national public health standards to enhance consistency, credibility, and effectiveness. This could be done by conducting regular training programs on physical and chemical dengue control to guarantee adherence to local, national, regional, and international standards. • Build and maintain relationships with government public health authorities to support coordinated preparedness, resource mobilization, and long-term sustainability.	• **National Society Leadership and Health Manager**: Ensure alignment with national health strategies and oversee collaboration with government authorities. • **IFRC Health and Care Team**: Provide guidance on global (and regional) standards and support National Societies in aligning with international frameworks through evidence-based planning and implementation. • **Advocacy and Policy Teams, in tandem with National Society and IFRC Health and Care Teams**: Lead in building partnerships and fostering dialogue with public health stakeholders.
2	**Adopt Inclusive, Community-Centred Approaches**: • Prioritize early deployment of interventions and conduct inclusive needs assessments to address challenges faced by high-risk and underserved populations. • Implement culturally tailored, volunteer-led, and community-driven initiatives to enhance public trust, awareness, and participation. • Use a mix of digital, traditional, and community-based communication strategies to deliver contextually appropriate messages. • Understand community insights and social-behavioural data (how people understand risks, how they behave and the solution they promote/adopt) to inform community actions plans	• **National Society Health Teams**: - Design and implement community-centred health promotion and RCCE strategies, ensuring messaging resonates with target populations with support from CEA teams as needed. - Strengthen NS capacity for the collection, analysis, interpretation and use of community insights to understand contextual, societal, and cultural factors influencing health behaviours. This includes fostering meaningful community participation in the design and delivery of interventions, ensuring that strategies are not only technically sound but also firmly grounded in community realities and priorities. • **Volunteer Management Teams**: Recruit, train, and support volunteers for culturally sensitive and community-driven initiatives. • **National Society Operations and Field Teams**: Conduct needs assessments and deploy interventions in high-risk areas.
3	**Strengthen Volunteer Capacity and Improve Operational Efficiency**: Invest in sustained and scalable training programs for volunteers to enhance their capacity. Develop clear engagement and retention strategies to maintain a reliable workforce. Streamline procurement processes and improve logistics to ensure the timely delivery of essential resources. Regularly evaluate and refine strategies to adapt to changing needs and improve sustainability.	• **Training and Development Teams**: Create and implement scalable training programs tailored to emergency response needs. • **Logistics and Procurement Teams**: Develop streamlined processes to reduce delays and ensure timely resource delivery. • **Volunteer Retention and Support Teams**: Establish clear engagement frameworks and retention strategies to maintain a motivated workforce. • **IFRC Disaster and Crisis Management Team**: Provide technical support for logistics, procurement, and operational improvements. • **Monitoring and Evaluation (M&E) Teams**: Assess the effectiveness of strategies and provide insights for continuous improvement.

	Recommendation	Responsible Operational / Technical Teams
Objective 2: Relevance and Appropriateness of using the IFRC-DREF Tool		
4	**Enhance Anticipatory Measures for Seasonal Epidemics**: Establish mechanisms for risk identification and proactive preparedness, including better coordination with government authorities throughout the preparedness cycle. Incorporate IFRC's institutional preparedness and anticipatory approaches (e.g., Preparedness for Effective Response – PER and Early Action Protocols of the DREF Anticipatory Pillar) to mitigate the impact of predictable outbreaks.	• **National Society Health and Operations Teams:** - Anticipate predictable outbreaks through coordination and information sharing with local health authorities and actors. - Conduct regular PER readiness checks to systematically assess, measure, and analyse the strengths and weaknesses of the National Society response system to take remedial actions. - Coordinate and collaborate with authorities and other stakeholders to align anticipatory actions with national health and emergency preparedness plans. - Engage in preparedness activities in coordination with authorities and local communities. - Develop (simplified) Early Action Protocols in collaboration with health authorities, local stakeholders and partners, including IFRC. • **IFRC Health and Operations Teams:** At country, regional and global levels, provide technical support to ensure that seasonal epidemic risks are identified and prioritized within regional preparedness plans. • **IFRC Disaster Preparedness and Response Team:** Develop risk identification mechanisms, integrating institutional preparedness and anticipatory strategies like PER, ensuring alignment with broader disaster preparedness goals. • **IFRC Advocacy and Partnership Team:** Provide resource mobilization support to ensure feasibility of preparedness and anticipatory actions.
5	**Expand and Strengthen Human Resource Capacity:** Expand IFRC-DREF funding for HR to ensure adequate staffing across technical sectors and logistical operations, especially at the National Society district/branch levels. This includes ensuring continuity and availability of focal points to manage operations effectively.	**IFRC-DREF Coordination Team:** Work on ensuring flexibility of the DREF tool to cover branch-level human resources and assets considered critical for implementation of activities.
6	**Strengthen Monitoring and Evaluation (M&E) Frameworks**: Develop and integrate robust M&E systems to consistently assess intervention impact, identify gaps, and improve long-term outcomes. These frameworks should include strategies for PGI (Protection, Gender, and Inclusion) and CEA (Community Engagement and Accountability) to ensure comprehensive reporting.	• **National Society and IFRC Country/Region PMER Teams:** - Prioritize the development and integration of standardized, robust M&E frameworks to enhance data collection and analysis across all operations. - Advocate for and secure sufficient resources to support consistent monitoring and data collection efforts. - Incorporate PGI and CEA-specific metrics into M&E frameworks to ensure interventions are inclusive, equitable, and responsive to community needs. • **National Society and IFRC Country/Region Operations Teams:**

		- Ensure M&E systems are operational from the outset to enable real-time tracking and informed decision-making during interventions. - Allocate budget and staff capacity specifically for M&E activities to ensure ongoing and systematic evaluation. - Engage community stakeholders early and continuously to integrate their feedback into M&E processes and outcomes. • **IFRC Health (Geneva):** - Include specific dengue KPIs as part of review to the Epidemic Control Toolkit.

	Recommendation	Responsible Operational / Technical Teams
Objective 3: Efficiency (Cost/Timeliness) of Implementation		
7	**Enhance Cost-Efficiency and Resource Optimization** Conduct cost analyses to identify and address variances across countries and promote scalable, culturally accepted interventions. Share cost-efficient practices across National Societies to standardize effective strategies.	**IFRC Finance and Logistics Teams:** Conduct detailed cost analyses across regions to understand factors influencing cost differences, such as logistics, procurement practices, and activity design. **National Society (NS) Operations Teams:** Share insights and best practices from cost-efficient operations, such as Nepal's integration with government guidelines and Bangladesh's low-cost prevention efforts, to standardize approaches.
8	**Build on Lessons Learned to Improve Planning and Preparedness:** Institutionalize successful strategies from past operations (e.g., early activation, supply chain improvements) to enhance readiness. Promote anticipatory actions by leveraging forecasting and past outbreak patterns.	**IFRC Regional Disaster Preparedness Teams:** • Develop a structured system to share lessons from past operations, focusing on successful strategies. Learnings from DREF and Emergency Appeal operations are systematically documented on the IFRC Operational learning Platform as part of a project led by the Global IFRC-DREF and PER teams). Operational learnings can be accessed here: https://go.ifrc.org/operational-learning • Promote anticipatory actions by incorporating forecasting mechanisms and using past outbreak patterns to design response plans. **NS PMER Teams:** Encourage teams to use the operational learning platform when designing/planning any emergency or long-term projects/programs, building the plan based on lessons documented.
9	**Strengthen Integrated Activity Implementation for Resource Efficiency:** Prioritize and combine activities (e.g. awareness campaigns, blood donations, and community clean-ups) to create cohesive intervention packages. Integrate PGI and CEA strategies to enhance inclusivity and impact.	**IFRC Operations, Health, CEA and PGI Teams:** • Provide trainings to National Societies on resource-efficient implementation strategies • During review of operational strategies, provide guidance on how resource-efficient strategies can enhance implementation speed.

10	**Improve Timeliness and Adaptability by Streamlining Processes and Enhancing Flexibility:** Simplify procurement and approval processes, build local partnerships to mitigate logistical challenges, and develop contingency plans to address contextual disruptions like weather and customs delays.	**NS Logistics and Procurement Team** • Streamline procurement processes by pre-establishing supplier agreements, aligning SOPs with operational timelines, and reducing administrative bottlenecks that delay implementation. • Build local partnerships to ensure quick access to resources and mitigate potential disruptions in supply chains caused by external factors, such as customs delays or adverse weather conditions. **IFRC Operations, Health and Institutional Preparedness Teams:** Enhance adaptability by developing contingency plans to address contextual challenges, including alignment with seasonal or cultural events, encouraging proactive problem-solving to respond to unexpected delays or challenges in the field.

	Recommendation	Responsible Operational / Technical Teams
Objective 4: Effectiveness of the Interventions		
11	**Develop and Implement a Standardized, Robust M&E Framework:** Create a consistent M&E framework that includes mechanisms for long-term evaluation, addressing gaps in monitoring effectiveness across countries.	**National Society and IFRC PMER Teams in collaboration with relevant technical sectors :** • Develop and disseminate standardized M&E frameworks to district branches. • Train M&E personnel to ensure consistency in monitoring and evaluation. • Establish mechanisms for evaluating long-term intervention impacts. • Strengthen reporting systems and information management at branch and national levels. • Allocate dedicated M&E staff for consistent data collection and analysis
12	**Strengthen Integration with Government and Partners:** Formalize partnerships with government health ministries and other stakeholders to align actions with national strategies, address resource gaps, and improve outcomes.	**National Society Leadership and Operations Teams:** • Collaborate with government health authorities on planning, training, and joint implementation. • Participate in technical roundtables to identify gaps, ensure alignment with national strategies, and avoid duplication. • Facilitate training for health ministry staff and community health groups on vector control measures. • Develop and implement joint activities like fumigation campaigns and community health training. • Define NS auxiliary role in dengue preparedness and response with MoH and other relevant ministries.
13	**Enhance Feedback Mechanisms to Improve Responsiveness and Community Engagement:** Establish robust, multi-channel feedback mechanisms to ensure timely responses and strengthen community trust.	**National Society CEA Teams and IFRC CEA Teams:** • Implement multi-channel feedback systems (e.g., hotlines, surveys, community meetings) tailored to local contexts. • Set clear response timelines for addressing feedback to enhance operational responsiveness. • Train volunteers in effective communication and feedback collection techniques. • Share feedback results and actions taken with communities to build transparency and trust. **Health and CEA teams** • Define process for joint review of feedback in Dengue (and other health response), with roles and responsibilities for both health and CEA teams, including action of feedback. • Documentation of how feedback use has held define/redefine response strategy.

14	**Improve Volunteer Training with Standardized and Comprehensive Programs:** Standardize training protocols for volunteers, ensuring consistent readiness and enhancing intervention effectiveness across all regions.	**IFRC Volunteer Development Teams and National Society Training Units, and health teams:** • Develop standardized training modules. • Conduct regular refresher courses to address volunteer turnover and maintain readiness. • Tailor training to local contexts, incorporating lessons learned from successful interventions. • Engage specialized volunteers in specific areas like CEA and PGI for enhanced operational impact.

	Recommendation	Responsible Operational / Technical Teams
Objective 5: Long-term Impact of the Interventions		
15	**Foster Sustained Community Engagement and Behavioural Change:** Foster sustained prevention through school partnerships, community-led interventions, and culturally tailored strategies for local ownership.	**National Society Health Teams:** • Partner with local schools and institutions to serve as long-term influencers for sustained prevention practices. • Conduct regular community-led interventions to reinforce positive behaviours like hygiene and waste management. • Develop tailored, culturally relevant strategies to ensure local ownership. **IFRC Health Teams :** • Provide technical support and funding for training and resource development. • Facilitate knowledge sharing and dissemination of successful practices (e.g., UNTADITA and VELITA) across regions.
16	**Strengthen Preparedness through Collaboration and Capacity Building:** Develop contingency plans and early action protocols, enhance technical capacity through training, and preposition critical supplies for rapid outbreak response.	**National Society Capacity Building, Health and Resource Mobilization teams:** • Develop and implement contingency plans and simplified early action protocols (e.g., sEAP) for dengue and other outbreaks. • Conduct regular training programs to build the technical capacity of volunteers and local health staff. • Preposition critical supplies to enable rapid responses. **IFRC Operations, Health and Resource Mobilization teams:** • Support National Societies in aligning their contingency plans with regional and global strategies. • Encourage partnerships with government and non-governmental organizations for coordinated outbreak responses.
17	**Expand Impact through Strategic Coordination and Resource Mobilization:** Improve logistical efficiency through collaboration with health ministries, adapt interventions to local practices for sustainability, and secure additional resources for scalable operations.	**National Society Operations Management, Health, Logistics and Resource Mobilization Teams:** • Enhance logistical efficiency and expand intervention reach using collaborative approaches with health ministries and other stakeholders. • Tailor interventions to local practices to ensure community acceptance and sustainability. • Regularly identify and mobilize additional resources to support adaptive and scalable operations. **IFRC Operations Coordination, Health, Logistics and Resource Mobilization Teams:** • Provide financial and technical assistance to scale efficient practices (e.g., increasing household visits). • Share successful models of resource allocation and logistics improvements for replication.

CONCLUSION

Focusing on seven DREF-funded operations, namely Bangladesh (MDRBD031), Costa Rica (MDRCR023), Guatemala (MDRGT020), Honduras (MDRHN019), Malaysia (MDRMY010), Nepal (MDRNP014) and Sri Lanka (MDRLK017) in the Asia Pacific and Americas regions, the review highlights positive outcomes in supporting Ministries of Health in responding to dengue outbreaks through coordinated and context-specific interventions.

National Societies effectively aligned with global and national health frameworks, demonstrating strong coordination with government health authorities. Integrated health and WASH strategies played a crucial role in addressing immediate needs, reinforcing a comprehensive approach to disease prevention. Community engagement, particularly through volunteer-led initiatives, emerged as a key driver of success, fostering trust, participation, and awareness among at-risk populations. Cost-effective interventions, such as Guatemala's logistics model and Malaysia's prepositioning efforts, further maximized impact within resource constraints. Capacity-building initiatives strengthened the technical expertise of health workers and volunteers, leading to improved long-term preparedness and sustained community resilience.

Despite these achievements, challenges remain. Operational delays and logistical barriers, including procurement inefficiencies and transportation constraints, hindered the timely delivery of resources. High volunteer turnover and inconsistent training quality affected intervention continuity. Limited monitoring and evaluation (M&E) frameworks restricted the ability to measure impact effectively and adapt strategies based on data-driven insights. Additionally, sustainability challenges highlighted the need for ongoing reinforcement and long-term planning to maintain behavioural changes and intervention outcomes beyond immediate response efforts.

To enhance future interventions, the review emphasizes the importance of anticipatory action, including the development of Early Action Protocols (EAPs) to improve response speed and coordination. Standardizing volunteer training and retention strategies is critical to ensuring a skilled and reliable workforce, with a focus on mainstreaming Community Engagement and Accountability (CEA) and Protection, Gender, and Inclusion (PGI) strategies. Strengthening M&E frameworks will enable more comprehensive impact assessment and strategic resource allocation. Furthermore, promoting scalable and sustainable practices, such as the UNTADITA model in the Americas and "Search and Destroy" campaigns in Asia Pacific, will support the long-term effectiveness of dengue interventions.

In conclusion, while notable progress has been made, addressing these challenges through systematic improvements in preparedness, resource management, and sustainability will be essential. IFRC and its National Societies must continue fostering collaboration, innovation, and knowledge-sharing to enhance resilience and mitigate the impact of future dengue outbreaks. By leveraging lessons learned and refining strategies, future responses can be more efficient, impactful, and sustainable.

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ANNEXES

ANNEX 1 – Key Informants

Organization	Position	Type of Engagement
Nepal		
NS NHQ	Secretary General NRCS	KII
NS NHQ	Executive Director, NRCS	KII
NS NHQ	Junior and Youth Red Cross Department Director, NRCS	KII
NS NHQ	CEA coordinator NRCS	KII
NS NHQ	General Support and Coordination Department Director, NRCS	KII
NS NHQ	Health Service Department Director of NRCS	KII
NS NHQ	Disaster Management Department Deputy Director, NRCS	KII
NS NHQ	Former Operation coordinator for emergency NRCS	KII
NS NHQ	Programme Officer NRCS	KII
NS Branch	NRCS President for Kaski branch and management	FGD
Volunteers	volunteer of Kaski Branch	FGD
Health post (MoH)	6th level gov body, health post in charge Kaski	KII
Community	CVA recipient	KII
NS Branch	NRCS President for Tanahu branch and management	FGD
Volunteers	Tanahu volunteers	FGD
MoH	National Health Education, Information and Communication Centre (NHEICC)	KII
MoH	Chief Of Health Emergency and Operation Centre, Ministry of Health and Population	KII
WHO	National Professional Officer for Communicable Diseases	KII
Danish Red Cross	Head of Programme	KII
Swiss Red Cross	Country Representative	KII
Finish Red Cross	Country Director	KII
American Red Cross	Country Representative	KII
IFRC CD/CCD	Manager, Disaster Management Programme, IFRC CD Nepal	FGD
IFRC CD/CCD	Senior Officer, PMER and Communications, IFRC CD Nepal	FGD
Bangladesh		
IFRC CD/CCD	Senior Health Officer, Health and Care, IFRC CD Bangladesh	FGD
IFRC CD/CCD	Manager, Cash Transfer Programme and Livelihood, Programs and Operations Department, IFRC CD Bangladesh	FGD
Sri Lanka		
NS NHQ	Assistant Manager - Disaster Management	KII
NS NHQ	Assistant Manager, Health & Nutrition	KII
NS NHQ	Assistant Manager, Livelihood Development	KII
NS NHQ	Assistant Manager, Reporting and Communications	KII
NS Branch	Volunteer lead - Colombo branch	FGD
NS Branch	Operation coordinator - Colombo branch	FGD
Gov. / MoH	Medical officer of Health - Battaramulla	KII
IFRC Delhi CCD	Manager, Programme	KII
IFRC Delhi CCD	Senior Officer, Programme	KII

IFRC Delhi CCD	Support Services Coordinator	KII
Malaysia		
NS NHQ	Senior Officer, Operations	KII
NS NHQ	WASH Focal Point	KII
NS NHQ	PMER Focal Point	KII
NS NHQ	CVA Focal Point	KII
IFRC Malaysia CD	Coordinator	KII
IFRC Malaysia CD	Operations Manager	KII
IFRC Malaysia CD	Senior Officer, Operations	KII
Community	Kota Damansara, Community	FGD
Community	Pangsapuri Seroja Setia Alam	FGD
Volunteers	Selangor, Branch-Staff and Volunteers	FGD
Volunteers	Volunteers, MRCS	FGD
Guatemala		
NS NHQ	Head of the Health Department	KII
NS NHQ	Community Health Coordinator	KII
NS NHQ	WASH Coordinator	KII
NS NHQ	Head of the Communications Department and National CEA Focal Point	KII
NS NHQ	General Administrator	KII
Community	Representative of the Community Development Council (COCODE)	KII
Community	Representative of the Community Development Council (COCODE)	KII
Community	Representative of the Community Development Council (COCODE)	KII
Community	Representative of the Community Development Council (COCODE)	KII
Community	Traditional birth attendant (comadrona)	KII
Community	Target Population Reached	KII
Community	Target Population Reached	KII
Community	Target Population Reached	KII
Community	Target Population Reached	KII
Community	Target Population Reached	KII
Community	Target Population Reached	KII
MoH	Representative of the local health centre	KII
MoH	Representative of the local health centre	KII
MoH	Representative of the Departmental Health Office	KII
MoH	Representative of the Ministry of Health's local vector control unit	KII
MoH	Representative of the Ministry of Health's local vector control unit	KII
NS Branch	President of the Chiquimula Department Branch	KII
NS Branch	President of the Santo Tomás de Castilla Municipality Branch	KII
NS Branch	Technical focal point responsible for the local implementation of the IFRC-DREF	KII
NS Branch	Technical focal point responsible for the local implementation of the IFRC-DREF	KII
NS Branch	Volunteers and representatives from the Chiquimula Department Branch	FGD
NS Branch	Volunteers and representatives from the Santo Tomás de Castilla Municipality Branch	FGD
Community/MoH	Representatives of community leaders and staff from the Ministry of Health's vector control unit	FGD

Community/MoH	Representatives of community leaders and staff from the Ministry of Health's vector control unit	FGD

ANNEX 2 – List of Reviewed Documents

Key areas	Ref.	Documents	PIC	NP	BD	MY	SL
Analysis	A.1	WHO / CDC Vector Borne Diseases Guidelines/Strategy Documents	RT/RO	x	x	x	x
	A.2	Dengue Information Bulletins - Country Specific	RT/RO	x	x		
	A.3	MoH SOP, Guidelines for Dengue	NS/CD/CCD	x	x	x	x
	A.5	Annual Plans (CD/CCD)	CD/CCD	x			
	A.6	Annual Plans (NS)	NS/CD/CCD	x			
	A.7	Emergency Response Framework	RO	x	x	x	x
	A.9	Principles and Rules of Humanitarian Response	RO	x			
	A.10	SPHERE / relevant global humanitarian standards	RT/RO	x	x		
	A.11	Past Dengue DREFs / Emergency Operations in the Region (max. 5 years)	RO	x			
	A.12	NS Contingency Plans	NS/CD/CCD				x
Planning and Resource Mobilization	B.1	DREF EPoAs, Operations Updates and Budgets, Final Reports and Financial Reports	NS/CD/CCD	x	x	x	x
	B.3	Relevant National Society policies on disaster management, epidemics, emergency health & WASH, etc…	NS/CD/CCD	x	x	x	x
	B.4	Preparedness for Effective Response (PER) plans of action	NS/CD/CCD	x	x		
	B.5	DREF donor feedback (replenishments / no replenishments)	RO	x			
	B.7	CEA and PGI plans, mechanisms	NS/CD/CCD				x
	C.2	Field monitoring and PDM reports (including CEA & PGI)	NS/CD/CCD				x
	C.3	Implementation plan of operation	NS/CD/CCD	x			
	C.4	Situational Update Reports	NS/CD/CCD	x	x	x	x
	C.8	PFA - project funding agreements	NS/CD/CCD		x		x

	C.9	Lessons learnt reports from this and previous related operations	NS/CD/CCD	**x**	**x**	**x**	**x**
	C.10	Monitoring plan and logframe	NS/CD/CCD			**x**	**x**
	C.13	HR / Organogram or list of staff engaged in Dengue DREF	NS/CD/CCD				**x**

ANNEX 3 – Questions – Secondary Data

Objective 1: Relevance and Appropriateness of Activities / Interventions

- Q1a - Were the objectives and technical interventions of the DREF aligned with gaps, needs?
- Q1b - Were the objectives and technical interventions of the DREF aligned with epidemic response standards?
- Q2 - Were the interventions in line with the mandate of the NS? Q3 - Did the activities align with MOH/WHO response strategy?

Objective 2: Relevance and Appropriateness of the DREF tool

- Q4 - Were the mitigation objectives clear in the DREF operation (vs response-related activities)
- Q5 - What were IFRC systems and common challenges across operations – procurement & supply chain, finance, HR/Surge?
- Q6 - Were DREF operations planned or structured such that they were able to evolve? (transition between imminent and response)

Objective 3: Efficiency (Cost / Timeliness) of Execution

- Q7 -When was the DREF Project Framework Agreement (PFA) signed?
- Q8-When was the cash request sent to IFRC by NS?
- Q9-When was the cash request sent by IFRC Delegation/Region to GVA Treasury?
- Q10-When were funds sent from IFRC (Delegation/Region/HQ)?
- Q11 - Was timeline to delivery linked to the timing of the risk? (for early actions/epidemic preparedness focused operations)
- Q12 - Was the decision making (escalation, transition from AA to Response) timely to meet the needs of the community based on dengue monitoring and forecasting?
- Q13 - Were the allocation of each activity considered cost efficient to meet the needs on ground?

Objective 4: Effectiveness of the Interventions

- Q14 - Was the NS able to coordinate with other partners on the ground to meet its defined role / mandate?
- Q15 - Did strategy change with evolution of the epidemic risk?
- Q16 - Did the interventions achieve minimum standards of quality (e.g. adherence to guidelines, standards, etc.)? Was this measured in any documented way?
- Q17 - What were the risk analysis and assessments conducted and to what extent were they used to plan the DREF interventions?
- Q18 - What were the perimeters of designing the assessment methodology?
- Q19 - Were operational learnings (lessons learnt) from previous similar interventions considered during the design of the interventions?
- Q20 - Do you think these interventions are replicable in different contexts, referring to the achievements and challenges faced in implementation, including considerations of NS capacity?
- Q21 - Were there any unique or innovative approaches and best practices which could improve the quality of NS future interventions in anticipation and response?

Objective 5: Long-term Impact of the Interventions

- Q22 - Did the NS achieve the intended activities by the end of the operation?
- Q23 - Did the community continue practices from the DREF operation to mitigate potential outbreak? Where/how?

ANNEX 4 – KII & FDG Questionnaire

1. **KII Questionnaire: https://ee.ifrc.org/x/CN8SW9Ik**

2. **FGD Questionnaire for Community**
   1. **General**
   A. Did you receive a dengue alert? Yes/no
      i. If yes when did you receive the dengue alert and how?

   B. What did you do?

   C. When did you start these actions?

   D. Did you receive any support from NS related to Dengue?
      i. If yes, how were you informed about the dengue support that NS offered?
      ii. Please describe what support you received?
      iii. Was there any other support that was missing or that you would have liked to receive?
      iv. What did you find most helpful from NS support?

   E. Did you receive any information about Dengue from NS? Yes/No
      i. If yes, did you find the information useful and easy to put into practice? How did you use the information?

   F. Do you know how to share suggestions comments, questions or complaints with NS?
      i. If yes, how would you do that?

   G. How do you think NS selected your community to provide materials or information regarding dengue?
      i. Do you know any other community that needed support/information but didn't received help?

   2. **Impact**
   A. What are you doing to keep yourself and people around safe from dengue?

   B. Are you still using the materials/items or information that you received from NS during the dengue response?
      i. If yes, what are they?
      ii. If not, why not?

   C. Is there anything else you think we should know about supporting you to manage dengue?

   D. Do you have any other questions or comments you'd like to share with us?

3. **FGD Questionnaire for Volunteers**
   1. **General**
   A. Did you know about the dengue outbreak? Yes/no
      i. If yes, when did you receive the dengue alert?

   B. When did you start the response activities?

   2. **Relevance and Appropriateness**
   A. What were the activities you carried out for this imminent DREF response?

   B. Do you think the activities carried out met the needs and gaps of the target community?
      i. If yes, how did they met, and can you give us an example of that?

   C. Were there any gaps in the intervention?
      i. If yes, what were they? What could the NS have done to address them better?

D. How do you engage with community during the intervention?

3. Efficiency

A. Did you feel the operation was planned or structured in a way where there was space to change the strategy when needs change?

B. Did the intervention strategy change with the changing situation of the epidemic risk or other factors?
   i. If yes, what changes were made?

C. Did you make any decisions based on the community insights received?
   i. If yes, please elaborate what decisions were made on what kind of insights from community?

D. Were there any IFRC/NS/PNSs systems and common challenges across operations?
   i. If yes, what are they?
      1. Logistics & Supply Chain
      2. Funds transfer
      3. Financial management (prioritization and monitoring)
      4. Operations coordination
      5. PMER (monitoring, course correction, reporting)
      6. Information Management (assessments/needs analysis)
      7. Communication
      8. Resource mobilization
      9. Information Technology
      10. Administration
      11. Other
      12. Please elaborate on some of those challenges faced

4. Effectiveness

A. Do you think the activities carried out were successful to mitigate the effects of dengue?
   i. What are they? Of all the interventions that you consider successful, which would you recommend for implementation in other countries facing Dengue outbreaks?

B. Do you think if there is any improvement needed in the quality of NS future interventions in anticipation and response?
   i. If yes, please elaborate on any approaches and best practices?

C. How do you think NS selected who to give assistance to?

D. Are there any people that were not helped that should have received help?

E. Did the completed the planned activities by the end of the operation?
   i. Yes
   ii. No
   iii. partially
   iv. other, please specify
   v. If not, what activities couldn't be completed and why?

5. Impact

A. Do you know about any community that continue practices from the DREF operation to mitigate potential outbreak?
   i. Yes
   ii. No
   iii. If yes, what activities have been continued in which communities?

B. Do you think the recent efforts to prevent and control dengue have worked in reducing cases and improving the community's health?
   i. If yes, please elaborate how well it worked.

C. Did you receive any orientation or training on the implementation of dengue DREF operation?
   i. If yes, please explain how has the knowledge and training of volunteers influenced the success and effectiveness of dengue prevention and control efforts?

ANNEX 5 – Timeline

Outcome: A DREF Review is conducted to analyse the anticipatory actions, preparedness and response strategies for Dengue Fever in Asia Pacific and the Americas Regions.										
Output 1: Finalise review terms of reference and budget										
Planned Activities / Month (2024)	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Prepare and share the terms of reference with all stakeholders	*X*									
Finalise the terms of reference	*X*									
Finalise the international cost budget for field visits			*X*	*X*						
Initiate discussion with involved CD/CCD		*X*	*X*							
Output 2: Set up review team, identify key informants and contact points in countries to be visited										
Planned Activities / Month (2024)	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Identify the DREF Ops Review Team		X								
Prepare and share the DREF Ops Review itinerary		X	*X*							
Determining who will be the Team leader and sharing roles and responsibilities		X								
Identify/sharing key documents (including secondary data, methodologies used: e.g. household survey tools), including operational documents, SitReps, assessment reports, monitoring reports, lessons learned workshop reports, etc.		*X*	*X*							
Identify key informants	*X*	*X*	*X*							
Identifying in-country contact persons in each of the destination countries	*X*	*X*	*X*							
Output 3: Finalise secondary data review and set up field visits										
Planned Activities / Month (2024)	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Finalise secondary data review and desk study				*X*						
Conduct interviews with key informants to guide the review				*X*						
Finalise briefing with the DREF Ops Review team				*X*						
Confirm itinerary of the DREF Ops Review mission				*X*						

Confirm logistics arrangements (transport, per diem, etc.)				X						
Finalise methodologies to be used for the Review as well as translation, etc.				X						
Output 4: Carry out field visits										
Planned Activities / Month (2024)	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Arrival at various destinations for field visits				X	X					
Briefing with the Operation Management teams and presentation of the objectives of the review mission				X	X					
Output 4.1: Carry out key informant interviews, focus group discussions and visits for data collection										
Planned Activities / Month (2024)	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Interviews with management, Operations Team, relevant technical teams and ICRC in the Region and implementing Delegations				X	X	X				
Interviews with implementing National Societies' management, technical staff, and partners (as relevant)				X	X	X				
Field visits in localities targeted by the DREF operations				X	X					
Orientation of volunteers on the Ops review mission and methodology				X	X					
Focus group with volunteers				X	X					
Focus group with recipient communities				X	X					
Focus group with key delegation and NS focal points				X	X	X				
Debrief the management of implementing National Societies				X	X					
Departure from the various countries				X	X					
Output 4.2: Analyse data collected and finalise review report as well as analysis papers per expected results										
Planned Activities / Month (2024)	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Notes and draft analysis completed by the DREF Ops Review team							X	X	X	X
Submit first draft of DREF Operational Review report for review and input by the Regional Offices										X
Debrief IFRC Regional Team										X
Output 5: All stakeholders provide feedback to the report and DREF Coordination Team ensures follow-up of recommendations										
Planned Activities / Month (2024)	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**

Feedback on reports received (by IFRC region)										*X*
Management response from implementing NSs, IFRC Delegations and Regional office										*X*
Finalise the DREF Operational Review report										*X*
Publish the report (on IFRC data platform)										*X*