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Emergency Appeal Final Report
Central America: Dengue Outbreak

International Federation of Red Cross and Red Crescent Societies

Emergency Appeal: MDR42005	
Date of issue: 26 July 2021	
Operation start date: 18 September 2019	**Operation end date:** 18 March 2021
Host National Societies: Guatemala, Honduras, El Salvador, Nicaragua and Costa Rica	**Funding requirements:** 2,900,000 Swiss francs (CHF) **Appeal Coverage:** 1,216,934 Swiss Francs (CHF)
Number of people affected: 1,250,000 people	**Number of people assisted:** 599,164

Red Cross Red Crescent Movement partners actively involved in the operation: Five Red Cross National Societies in the Central American region (Guatemala, Honduras, El Salvador, Nicaragua and Costa Rica), American Red Cross, Canadian Red Cross Society, China Red Cross - Hong Kong branch, Italian Red Cross, Japanese Red Cross Society, Monaco Red Cross, Netherlands Red Cross, Norwegian Red Cross, Spanish Red Cross, Swedish Red Cross, Swiss Red Cross and the International Committee of the Red Cross (ICRC).

Other partner organizations actively involved in the operation: Ministries of Health in each targeted country, the Adventist Development and Relief Agency (ADRA), Government of Canada, Doctors Without Borders (MSF), European Commission (DG ECHO), the Mennonite Social Action Committee (CASM), the Government of the Netherlands, Oxfam International, Pan American Health Organization (PAHO), Save the Children, the Government of Spain, the United Nations Children's Fund (UNICEF), the United Nations Office for the Coordination of Humanitarian Affairs (OCHA).

The Emergency Appeal was launched for a total amount of 2,900,000 Swiss francs to assist 550,000 people. A total of 1,216,934 Swiss francs was received (42% coverage of the appeal) as cash contributions from different donors (see **Donor Response**). The IFRC, on behalf of the Nicaraguan Red Cross, Guatemalan Red Cross, Salvadorean Red Cross, Honduran Red Cross and Costa Rican Red Cross, would like to extend many thanks to all partners and donors for their generous contributions.

By the operation's 18 March 2021 end date, the total expenditure was 1,699,978 Swiss francs of the total funding, with a closing balance of 81,330 Swiss francs. The remaining balance will be reimbursed to the DREF fund.

<Click **here** for the final financial report, and **here** for the contact information.>

A. SITUATION ANALYSIS

Description of the disaster

Volunteers from Honduran Red Cross (HRC) and the community of Valle de Ángeles, Comayagua, during fumigations. Source: HRC, May 2020.

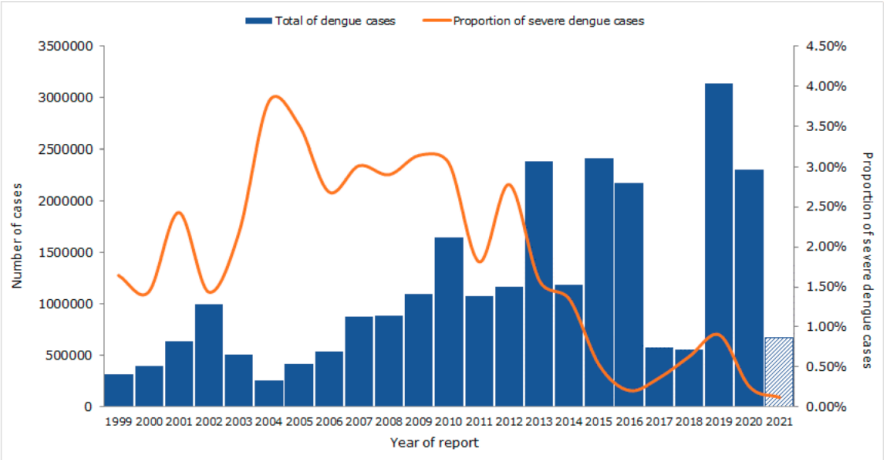
Early 2019, there was a concerning increase in the number of dengue cases reported compared to other years. As of September 2019, case numbers in Honduras, Guatemala, Nicaragua, and El Salvador surpassed the total case numbers of the 2016 outbreak. In Costa Rica, the incidence of cases was much higher than the incidence of cases in 2018 and 2017. The Central America governments of Honduras (14 June 2019), Guatemala (29 July 2019), and Nicaragua (31 July 2019) declared an Epidemiological Alert for the outbreak.

The bite of an infected mosquito transmits dengue. It is an illness that affects infants, young children, and adults, with symptoms ranging from mild fever to incapacitating high fever, severe headaches, pain behind the eyes, muscle and joint pain, and rash. The illness can evolve to severe dengue, characterized by shock, respiratory distress, severe bleeding, and/or severe organ impairment. The disease has a seasonal pattern: most cases in the southern hemisphere occur in the first half of the year and most cases in the northern hemisphere in the second half. This pattern corresponds to the warmer, rainy months. In the Americas, Aedes aegypti is the mosquito vector that is the main source of dengue transmission.

In August 2019, PAHO issued an epidemiological alert flagging that the deadliest serotype of Dengue (DEN-2) was circulating. It was of concern that the population being affected was primarily children under 15 years of age. To support the National Societies of the region, the IFRC launched on 18 September 2019 an Emergency Appeal for 2.9 million Swiss francs to assist 550,000 people in Guatemala, Honduras, El Salvador, Nicaragua, and Costa Rica.[1]

Since the Dengue Outbreak, the circulation of the dengue virus and other arboviruses has coincided with the active transmission of the COVID-19 virus in endemic countries and territories in the Americas. Still, thankfully the number of cases has decreased, and the proportion of severe dengue cases has lowered due to the governments' measures and support of the Red Cross Societies.[2] National Societies in Central America have supported community health outreach activities and used their unique access to cover gaps in service provision, including support for environmental approaches to health.

Figure 3. Distribution of reported dengue cases and proportion of severe dengue cases, by year of report. Region of the Americas, 1999-2021 (up to EW 22 of 2021).



Source: Data entered the Health Information Platform for the Americas (PLISA, PAHO / WHO) by the Ministries and Institutes of Health of the countries and territories of the Region. More detailed information by country can be found at: https://bit.ly/3cwV3b7. Accessed on 1 July 2021.

[1] See IFRC MDR42005 Emergency Appeal Central America Outbreak for more information.
[2] For more information see: PAHO/WHO. Epidemiological Update. Arboviruses in the context of COVID-19. 2 July 2021.

Summary of the response

Overview of Host National Society response actions.

Cruz Roja Costarricense	**Costa Rica Red Cross (CRRC)**

The CRRC coordinated with the Ministry of Health to support the actions they carry out in communities to tackle the increase in dengue cases in the country.

CRRC made its vehicles available to the Ministry of Health to help transport staff and volunteer personnel, enabling them to visit target communities.

The National Society (NS) conducted awareness campaign in communities focusing on education centres and several other campaigns over social networks, radio stations, and using loudspeakers in communities to reach as many people as possible.

Cruz Roja Guatemalteca	**Guatemalan Red Cross (GRC)**

The Guatemalan Red Cross implemented DREF activities in response to the dengue outbreak before launching the sub-regional Emergency Appeal. As of 8 October 2019, the recruitment of the local staff in 4 branches was completed, and strong collaboration was ongoing with the local authorities for coordination and planning purposes. The NS completed the design of the education campaign materials by the time of the Appeal launch. In addition, GRC carried out activities in schools with key information messages related to the dengue outbreak.

Cruz Roja Hondureña	**Honduran Red Cross (HRC)**

Based on its mandate, and as an auxiliary to public authorities in the humanitarian field, the HRC focuses its response at the community level, implementing hygiene promotion actions, adequate water container management and chemical control:

- Technical working groups with SESAL for coordination.
- Workshops and trainings on community approaches and risk communication for HRC volunteers.
- Workshops on vector control for community leaders and volunteers.
- Face-to-face educational visits to check for breeding sites (Aedes Infestation Index Rapid Survey (LIRAa)).
- Larvicide application to household water storage units (permanent and temporary).
- Cleaning days in neighbourhoods to destroy mosquito breeding sites.
- Insecticide spraying days.
- Provision of household cleaning and disinfection tools and supplies to communities.
- Provision of household cleaning and disinfection tools and supplies to schools.
- Support to SESAL through a strengthening workshop and personal protective equipment.
- Educational campaigns for traditional mass media and social networks.

HRC focused this operation's activities on three municipalities in three departments in central Honduras, reaching 17 communities prioritized by SESAL.

CRUZ ROJA NICARAGÜENSE	**Nicaraguan Red Cross (NRC)**

As soon as MINSA decreed an epidemiological alert in July 2019 to address the significant number of dengue cases in the country, Nicaraguan Red Cross, per its auxiliary role, contacted Ministry leadership to learn about the most urgent needs in addressing the epidemiological situation. IFRC's support was requested to respond to said needs through a DREF launched in late August 2019 and ended on 15 November that same year. This fund was implemented in three municipalities - Masaya, Chinandega, and Managua – due to the

infestation rates in these departments. By December 2019, both the epidemiological alert and dengue cases were still ongoing, which led to requesting an IFRC Emergency Appeal to continue with prevention actions and support MINSA and neighbourhood health networks combat the epidemic.

NRC made available a network of 120 volunteers trained in Vector Control, Epidemiological Surveillance, Community-Based Health and First Aid, Epidemic Control, and Psychosocial Support, who later provided significant support by replicating these same courses to new volunteers joining this initiative.

Branches that were not part of this operation conducted educational awareness campaigns with the population and educational activities in schools and homes in coordination with MINSA.

Salvadoran Red Cross (SRC)

The SRC activated its teams in the field from the beginning of the operation to contribute to reducing larval indices in the affected communities. To this end, the NS organized the distribution of packages, known as "UNTADITA", containing 12 bags of bleach, detergent, a brush, and sponges for cleaning water storage tanks. Among the activities carried out by the project were fumigation campaigns, delivery of mosquito nets, awareness campaigns on the elimination of mosquito breeding sites, cleaning campaigns, and delivery of insecticide. The SRC working as an auxiliary of the public authorities and contributed to reducing this mosquito-borne disease.

The Central America NSs drew their expertise from its previous experience with the Community Action against Zika project, including using tools to reduce mosquito populations and community mobilization to implement measures in homes and in the community to reduce the number of dengue cases.[3]

Overview of Red Cross Red Crescent Movement Actions in country

Various Participating National Societies (PNSs) have a presence in Central America, which provide support for different programmes related to health, emergency management, etc.:

	Spanish Red Cross	Norwegian Red Cross	Swiss Red Cross	German Red Cross	Italian Red Cross	American Red Cross
Guatemala	✓	✓				
Honduras		✓	✓	✓	✓	
Nicaragua	✓	✓				
El Salvador		✓	✓			✓

The International Committee of the Red Cross (ICRC) has permanent missions in Guatemala, Honduras, El Salvador, and Nicaragua coordinated by the ICRC Regional Delegation for Mexico and Central America, based in Mexico City. The ICRC coordinates its actions and cooperates closely with the different National Societies and Movement partners active in these countries, the IFRC. The main activities of the ICRC in the countries in which the Emergency Appeal is implemented (except Costa Rica) are aimed at alleviating the human suffering caused by violence in the region and respond to the humanitarian needs of missing persons and their families, migrants and the internally displaced, persons deprived of freedom and people affected by violence. In Nicaragua, the ICRC focuses on detention and supporting the capacities of the National Society in the Safer Access Framework and Restoring Family Links. In all countries, the ICRC strives to strengthen the capacities of the National Societies in close coordination with the IFRC and partner National Societies.

Information was continuously shared through the regional dengue dashboard, epidemiological updates, dengue information bulletins, and other approaches.

[3] **Zika Global Appeal**.

All National Societies participating in this operation were forced to replan and/or adapt some of their activities due to issues (border restrictions, suspension of classes in schools and recreational activities, mandatory quarantines, or curfews) COVID-19 emergency. Little by little local governments have been easing the restrictions imposed, and operations have resumed. Some activities were delayed, but when possible and with the proper duty of care, activities were conducted face-to-face. Key messages (for both emergencies) continue to be disseminated.

Overview of non-RCRC actors' actions in country

The IFRC maintained close and constant coordination with PAHO, which worked closely with the different Ministries of Health responding to the dengue outbreak in their respective countries. PAHO established joint missions to affected countries, and coordination was in place to ensure National Societies are integrated into all the Ministry of Health plans. PAHO technical experts were available to provide professional advice as needed.

Continuous coordination meetings were organized in Honduras, Guatemala, Nicaragua, El Salvador, and Costa Rica with their respective Ministries of Health, and solid, intersectoral coordination existed at the field level.

Respective ministries of health procured and used chemical and biological means to control mosquito populations. These included adulticides (to kill adult mosquito vectors) and larvicides (to reduce mosquito populations by killing them in their larval stage before they become adults). Governments also supported source reduction through elimination campaigns in homes and information campaigns.

Constant coordination was maintained with external partners carrying out dengue fever response activities. In Honduras, OCHA provided an Emergency Cash Grant for 100,000 US dollars from the United Nations, while PAHO/WHO also provided support through the purchase of medical supplies for the response.

Other actors implemented activities including Oxfam, ADRA, Doctors without Borders (MSF), World Vision and UNICEF.

- UNICEF in conjunction with PAHO/WHO and Ministries of Health and Education in the respective countries developed and distributed educational materials for schools to educate children on dengue symptoms and prevention in Guatemala, Honduras, and Nicaragua.
- ADRA, CASM and COPECO were involved in breeding site elimination activities through cleaning campaigns, risk communication, and support for larvicide and adulticide programmes in Honduras.
- Oxfam supported municipal authorities with fumigation campaigns and WASH supplies in schools in El Salvador.
- In El Salvador, Save the Children supported 11 municipalities with existing Zika programmes.
- MSF continued supporting hospitals in the most affected geographical areas with human resources, medical equipment and supplies.

Needs analysis and scenario planning

Costa Rica	When the pandemic began, Costa Rica's health systems prioritized COVID-19-related care and everything it entailed. Fumigations in communities to prevent dengue, Zika, and chikungunya continue with government support as the vector's effects continued to be felt. Fumigations were carried out by institutions such as the Ministry of Public Security and the National Coast Guard Service in coordination with the Ministry of Health to prevent COVID but dengue, Zika, and chikungunya. Places such as churches, health centres, schools, parks, banks, and community bus stops, among others, were prioritized.
Guatemala	Within the context of the COVID-19 pandemic, the incidence of dengue cases in municipalities and departments is on a downward trend. This decline in cases is a goal achieved for health

	service providers who respond to simultaneous emergencies, bringing much-needed respite to areas with communities highly vulnerable to dengue, other arboviruses, and COVID-19. This stage was reached thanks to the adoption of control measures based on reducing the Aedes aegypti population through integrated control actions that were part of a sustained process involving the communities' participation. In October and November 2020, north-eastern Guatemala was pummelled by tropical storms Eta and Iota. Dengue-related actions were put on hold to address this emergency. With an installed capacity in response to the emergency caused by Eta and Iota, delegations in Puerto Barrios and El Estor have included epidemic control actions targeting affected areas in their planning.
Honduras	The following actions were carried out in response to needs based on the characteristics of this health emergency: • Vector control at the community level, under the guidance of Ministry of Health environmental health technicians. • Public awareness campaign to achieve the population's involvement and reduce cases. • Preventive education in schools, whose sensitized population has an enormous potential to multiply prevention messages in homes • Larval source elimination campaign, with participation by families at home and in the workplace. • Mosquito elimination campaign; fumigations where positive and suspected cases are reported. • Communications campaign at the community level and via the media. • As part of its emergency response plan, Health Secretariat (SESAL) assigned each organization their own work areas, with efforts specifically aimed at municipalities most affected by the Dengue virus. • Through these activities, the National Society sought to counteract the socio-environmental nature of the health emergency, encourage a change in mindset among the affected population, promote community mobilization and enhance awareness through messages addressing basic health and hygiene promotion in the home. HRC had to slightly adjust community intervention strategies to include basic biosafety measures to prevent Covid-19 infection: 1. Biosafety equipment was acquired for volunteers conducting home visits 2. The number of community visits as well as the number of people present in community meetings was reduced to ensure proper physical distancing. Messaging via radio and social media was reinforced to include COVID-19 infection prevention.
Nicaragua	The needs assessment and prioritization were based on the Ministry of Health (MINSA) data that indicated the high incidence of Dengue in the country, calling for joint efforts to reduce the number of cases by eliminating the vector. Based on the epidemiological surveillance issued by MINSA, the project came to cover a real need. A comparison made in late December 2019 indicates the number of cases in 2018 and 2019. According to the epidemiological bulletin issued by the Ministry of Health, there were 56,044 suspected cases and 1,924 confirmed cases in 2018 versus 181, 292 suspected cases and 10, 230 confirmed cases in 2019. Considering that these numbers come from official sources and are based on epidemiological surveillance, the need to slow the spread of the virus was more than evident given the number of mosquito breeding sites - the main vector of the disease. Affecting the mosquito's life cycle required working together with the Ministry of Health and the community network, i.e., leaders and families.

	The intervention strategy required controlling hotspots (areas in communities with the highest number of positive cases) through fumigation, accompanied by educational home visits to advise the population on the behaviour of the Aedes Aegypti mosquito, ide*ntification and elimination of breeding sites by placing BTI in large containers, and cleaning days as part of the sanitation to destroy breeding sites.* After all the joint efforts in coordination with MINSA, a downtick in confirmed dengue cases was observed in the first weeks of 2020 compared to 2019. As can be seen in the table below, 15,772 suspected cases were reported in week 10, 6.1 per cent more than in 2019 (14,711 cases) as well as 506 confirmed cases in 2020 versus 566 in 2019. Cases continued to decline in the following weeks, as the numbers for week 21 in 2020 show - the last report issued by the MINSA that year. The intervention strategy met the population's needs, such as disease control and elimination of the mosquito that transmits Dengue through the activities developed by NRC. This is expressed by the neighbourhood leaders with whom NRC worked in a coordinated manner. For example, Ivania del Socorro Mairena, a 48-year-old resident of Barrio 2 de Junio in Chinandega, indicated that the cleaning days carried out together with Red Cross and the Mayor's Office, as well as the house-to-house talks, were very important for raising people's awareness of the dangers of Dengue and the importance of preventing it. Seeing the Red Cross working jointly during cleaning days was an excellent motivation for the community, and the result is that there have been no issues with Dengue (good practices and lessons learned from the Dengue project). The proposed implementation strategy is therefore considered comprehensive, given that it included working to build capacity within the Ministry of Health; training and working hand in hand with neighbourhood leaders, as well as with health centre directors in vector control and epidemiological surveillance training processes; community mobilization through home visits to inform and sensitize families; the organizing of cleaning days; and participation in health fairs to communicate prevention messages to the population in different ways. The changes to the original planning were part of the intervention strategy itself, given that the DREF had a three-month timeframe and most of the planned actions were completed. The Appeal was carried out in two stages. The same intervention process was carried out with a new group of neighbourhoods and schools from December to April and a new group of communities from May to September. No work was done with schools due to the COVID-19 pandemic. The last phase was affected by the suspension of activities and the pandemic, so the timeframe was extended to January 2021 to achieve expected results and indicators.
El Salvador	Dengue in the Americas has evolved from a low dengue-endemic state to a pandemic state, with indigenous transmission now observed in almost all countries. The increasing trend in severe dengue cases and the occurrence of more severe cases in children is alarming. There is no specific treatment to cure dengue, but early identification of early warning signs and symptoms and early supportive care can save lives. Control measures rely on reducing the population of the Aedes aegypti mosquito through vector control activities. The success of these activities depends on an ongoing process that promotes community mobilization and empowerment based on the community-based health and first aid (CBHFA) approach. This approach enabled to plan, develop, and evaluate activities with communities that respond to the needs identified by the communities themselves, promote behaviour change, and mitigate the effect of negative social and environmental determinants to ensure appropriate care-seeking for early supportive care, and to encourage household- and community-level action to reduce mosquito populations in the community.

Operation Risk Assessment

Access to some geographical areas affected by organized violence was challenging in some communities of Central America, especially in the Northern Triangle (Guatemala, Honduras, and El Salvador). National Societies have increased their capacity to access some of these areas through training in security management and Safer Access (some of them implemented through DREF-funded operations in the region).

Most of the challenges related to safer access were linked to a weak structure at the community level and safety concerns. To manage potential challenges, the National Societies increased the presence of the staff and volunteers, and actions related to community mobilization were implemented. Moreover, National Societies have security focal points for dealing with security management. Constant coordination was ensured between the National Societies and the ICRC for safer access challenges. ICRC offered its support to address safer access issues.

The operation was affected by COVID-19 as most countries in Central America imposed restrictions on their borders and declared mandatory quarantines or curfews. Movement personnel sometimes worked in contact with potentially infected people. Therefore, it required personal protective equipment to carry out activities in communities and prior coordination with authorities to secure permits to continue with activities. Proper duty of care was considered to protect volunteers and personnel when needed, and activities followed the government's recommendation and limitations.

B. OPERATIONAL STRATEGY

Proposed strategy

Overall Operational Objective

To contribute to prevent and respond to the dengue outbreak in affected countries in Central America, reaching 550,000 people in Guatemala, Honduras, El Salvador, Nicaragua, and Costa Rica through activities focusing on:

- Health
- Water, Sanitation and Hygiene Promotion (WASH)
- National Society Capacity Building
- Effective and Coordinated International Disaster Response

Proposed Strategy

A community - and people-centred approach drove implementation where individuals and communities were enabled to lead their response process; assistance which supports and builds on local capacities and links to Government plans; and households and communities strengthened to be better prepared to cope with future outbreaks.

The main efforts focused on the following actions:

1. Supporting National Societies to reduce community-level risks through mosquito source reduction actions including environmental management and water and sanitation activities in communities and schools.
2. Supporting community prevention and response through risk communications campaigns and community engagement and accountability.
3. Supporting Ministries of Health and other partners in closing gaps in epidemic response, especially with regards to community engagement around chemical methods of mosquito control (larvicide and fogging).

This operation was designed considering specific needs, capacities and contexts in each of the five National Societies included in this Emergency Appeal. As such, a flexible approach was adopted when designing each country's operational plan, allowing each National Society to focus on the areas where their capacities could better meet the humanitarian needs on the ground. Each National Society had one single plan of action aimed at one common goal, and the indicators presented in the Appeal's Emergency Plan of Action (EPoA) were meant to be the best reflection of their collective efforts to achieve the main goal of this operation: the reduction of risk, morbidity and mortality related to the current dengue outbreak in Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua.

C. DETAILED OPERATIONAL PLAN

Health

People reached: 599,164 (directly) 8,376,400 (indirectly)[4]

[5]Male: 293,590

Female: 305,574

Health Outcome 1: **The morbidity and mortality of dengue has been reduced through effective management of health emergency risks in affected and at-risk countries**		
Indicators:	**Target**	**Actual**
# of households reached through home visits	10,000	Honduras: 8,013 Guatemala: 23,144 Nicaragua: 20,371 El Salvador: 953 Costa Rica: 11,108 **Total: 63,589**
Health Output 1.1: **The spread and impact of dengue is reduced through community-based Health and first aid (CBHFA) approach**		
Indicators:	**Target**	**Actual**
# of dengue prevention plans based on the CBHFA approach	5	Honduras: 17 Guatemala: N/A* Nicaragua: 20 El Salvador: N/A* Costa Rica: 0 **Total: 37**
# of people that receive information regarding identification of dengue signs and symptoms and/or prevention measures	45,000	Honduras: 40,065 Guatemala: 324,242 Nicaragua: 101,855 El Salvador: 3,887

[4] Trough communication campaigns in social media and other media.

[5] The % of male/ female reached was calculated with data from the Statistical Institute of each country regarding the number of people in a family and the percentage of men and women over the total population.

		Costa Rica: 129,115
		Total: 599,164
# of community leaders reached through educational sessions on dengue spread prevention	80	Honduras: 136
		Guatemala: 779
		Nicaragua: 491
		El Salvador: 33
		Costa Rica: 0
		Total: 1,439
Notes: • *Guatemala: CBHFA plans were not achieved due to restrictions imposed by the government. These plans had not been initially planned for the intervention in Guatemala (see the "narrative description of achievements" section for more information).* • *El Salvador: Prevention plans were not carried out because these activities were not included in the budget for this indicator.*		
Health Output 1.2: **Schools have information on prevention and early detection of dengue complications.**		
Indicators:	**Target**	**Actual**
# of adults reached through educational sessions on preventing the spread of dengue	80	Honduras: 59
		Guatemala: 30,783
		Nicaragua: 398
		El Salvador: 2,908
		Costa Rica: 132,285
		Total: 166,433
# of schoolchildren reached through educational sessions on preventing the spread of dengue	5,000	Honduras: 330
		Guatemala: 14,882
		Nicaragua: 12,174
		El Salvador: 585
		Costa Rica: 1,417
		Total: 29,388
Health Output 1.3: **Improvement of the capacities of vulnerable populations through communications campaigns based on the CBHFA approach that promote the adoption of behaviours that decrease the incidence of dengue cases**		
Indicators:	**Target**	**Actual**
# of communication plans to sensitize and inform families about dengue, zika and chikungunya	5	Honduras: 17
		Guatemala: 1

		Nicaragua: 2
		El Salvador: N/A*
		Costa Rica: 0
		Total: 20
# of campaigns (including awareness tools) to implement dengue, zika and chikungunya prevention	5	Honduras: 17
		Guatemala: 1
		Nicaragua: 17
		El Salvador: 1
		Costa Rica: 5
		Total: 41
Estimated # of people reached through communications campaigns	3,000,000	Honduras: 86,000
		Guatemala: 1,867,554
		Nicaragua: 1,507,395
		El Salvador: 15,000
		Costa Rica: 4,900,451
		Total: 8,376,400
Notes: • *El Salvador: the NS only developed the communication campaign, not a communication plan.*		
Health Output 1.4: **The affected National Societies have the necessary resources and competence to support health authorities in activities in affected and at-risk communities**		
Indicators:	**Target**	**Actual**
# of first- and second-level health personnel trained in clinical management of dengue	250	Honduras: 25
		Guatemala: 105
		Nicaragua: 175
		El Salvador: 22
		Costa Rica: N/A
		Total: 327
# of health personnel and community volunteers trained in timely case identification and referral	250	Honduras: 136
		Guatemala: 46
		Nicaragua: 96

		El Salvador: 22 Costa Rica: 31 **Total: 331**
# of PSS Sessions for families emotionally affected by the outbreak	80	Nicaragua: **27**

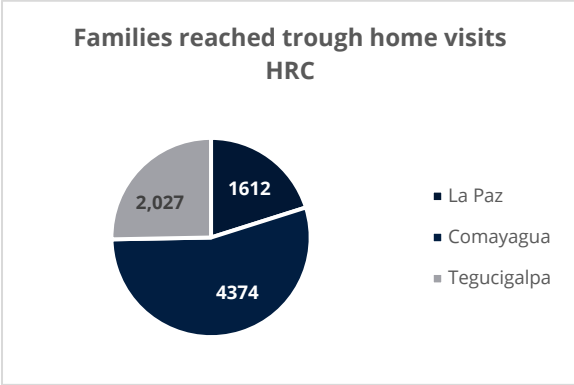
Narrative description of achievements

Health Outcome 1: The morbidity and mortality of dengue has been reduced through effective management of health emergency risks in affected and at-risk countries

# of households reached through home visits

Honduras:

Honduran Red Cross worked in coordination with the intersectoral health tables to join forces against the emergency. Following the preliminary assessments, the most vulnerable work zones were identified. Work on the ground was carried out through house-to-house visits with support from community-based organizations, leaders, and volunteers. In addition to prevention actions for access, all personnel involved using basic biosafety equipment to prevent COVID-19.



A total of 8,000 households were ultimately reached by the end of the operation, exceeding the initial target by 15 per cent, which is noteworthy considering the movement restrictions that were part of quarantine measures. Moreover, all homes in targeted neighbourhoods were visited despite said measures.

The four-step intervention strategy was as follows:

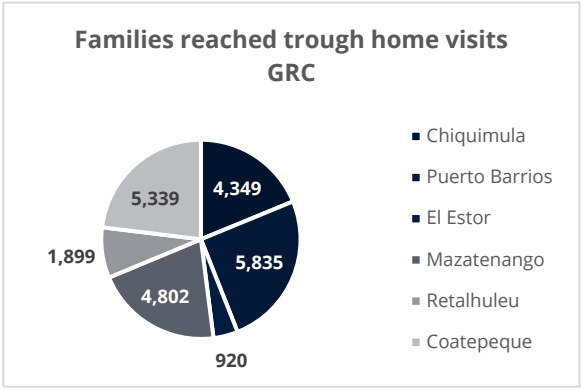
1. Socialization session and workshop on vector control with community leaders.
2. First house-to-house educational visit in coordination with HRC volunteers and SESAL staff, to check homes for mosquito breeding sites and identify Aedes Aegypti infestation risk levels.
3. Community mobilization day, comprehensive neighbourhood walk-throughs to spray insecticide and destroy mosquito breeding sites. Fourth visit, to provide *La Untadita* cleaning kits (plastic container, plastic brush, 1 kg powder detergent and 1 litre of chlorine).

Guatemala:

To determine the target areas, communities classified as high risk were prioritized based on quarterly and monthly entomological surveys provided by MSPAS, which included positive container indices, housing index and the Breteau index.

Entomological surveys in coordination with ETV-MSPAS personnel, Village of Shororaguá, Chiquimula, Source: GRC

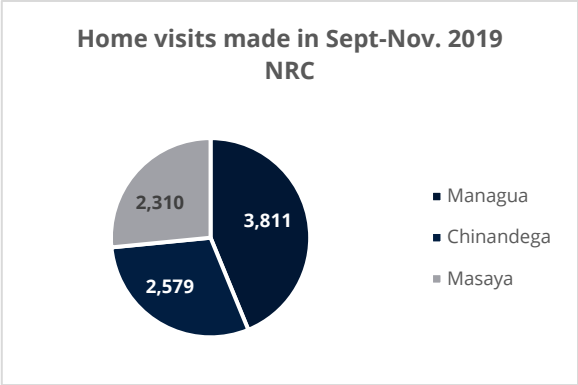
Home visit with Education Plan in the Village of Maraxco, Chiquimula; Source: GRC, January 2021

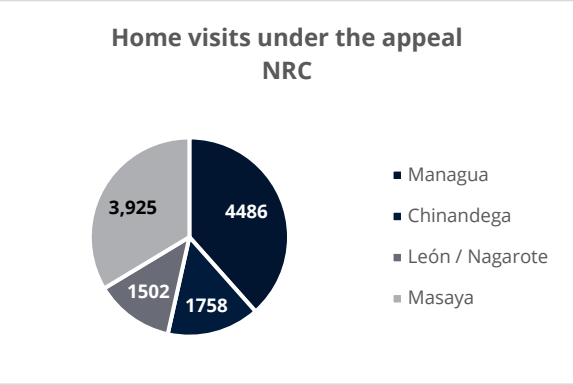


Nicaragua:

The operation reached 31 neighbourhoods: 12 during the immediate response phase (DREF) and 19 under the Emergency Appeal, for a total of **8,700** visits in the first stage of the response and **11,671** in the second.

Teams visited 5,103 of 5,845 homes. The 5845-home target set was not met given that activities were suspended due to the COVID-19 pandemic, and when activities resumed in August, COVID-19 cases were still on the rise and people were not allowing anyone other than family members into their homes. Once activities were resumed in July and August, key messages on breeding site elimination and identification of dangerous symptoms were disseminated via loudspeakers throughout the neighbourhoods during clean-up days and health fairs, which was a way to reinforce the key messages delivered during visits and a way to reach the entire community without visiting homes.





Visits allowed reaching **43,500** people during the initial response phase and **58,355** during the second stage, with support from 55 volunteers from NRC branches in Masaya, Managua, León and Chinandega.

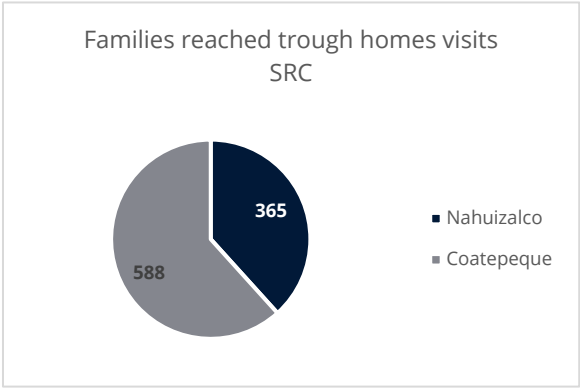
Home visits in Bo. Tierra Prometida, Managua 4/02/2020 Source: NRC

Home visits in Barrio Santa Rosa Masaya; 31/01/2020 Source: NRC

Home visits in Bo. El Carmen. Masaya.13/09/2019 Source: NRC

El Salvador:

Target areas were determined in conjunction with the Ministry of Health in each municipality, prioritizing those with the highest dengue rates. A total of 953 home visits were made in two municipalities in western El Salvador (365 in Nahuizalco and 588 in Coatepeque). A Community-Based Surveillance (CBS) form was used during visits to record personal data, larval indices, etc.



Costa Rica:

In Costa Rica, the Ministry of Health is the body responsible for vector control, so the project coordinated with the ministry to assist with actions in communities from the outset.

Costa Rican Red Cross made its institutional vehicle available to transport Ministry of Health staff and its own volunteers conducting the home visits.

One to three communities were visited per day depending on the time available and the size of the area, simultaneously conducting fumigations, larviciding, collecting samples, and raising awareness among the population.

Support to the Ministry of Health continues, specifically in Siquirres, which continues to have Dengue outbreaks in its communities. The NS loaned three foggers for five months, and the Ministry of Health continued to visit the communities to carry out vector control by applying larvicides and fumigations, which is why this report provides data for communities approached by both the Red Cross and the Ministry of Health.

Joint work with the Ministry of Health in communities of Siquirres – Source: Costa Rican Red Cross January 2020

Health Output 1.1: The spread and impact of dengue is reduced through community-based Health and first aid (CBHFA) approach

# of dengue prevention plans based on the CBHFA approach

Honduras:

Once contact was established with community leaders, Honduran Red Cross set up a number of meetings to prepare a prevention and community communications plan prior to conducting the house-to-house visits. Some had a map of the neighbourhood they would be visiting, in which data obtained from the assessments performed during visits and tours

was recorded. Once the assessments were completed, Honduran Red Cross proposed several preventive or corrective actions that families or the community could take to lower their risks.

Guatemala: N/A

Nicaragua:

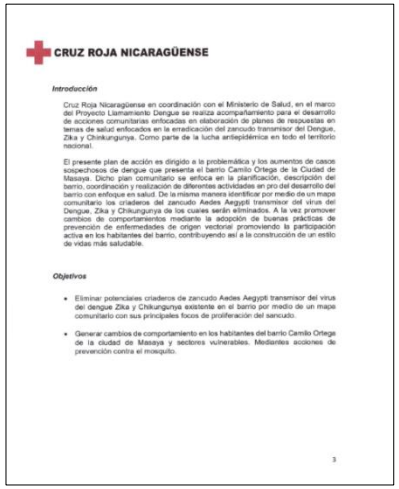
As a result of the training delivered to leaders, **20 community health intervention plans were drawn up,** delivered to communities, and signed by MINSA. Actions in these plans, such as cleaning days, health fairs and home visits, were later implemented.

The Health Intervention Plan is a tool that helps guide and maintain communities' and governments' commitment to continue implementing actions to eliminate the mosquito that transmits Dengue, Zika and Chikungunya.


CRUZ ROJA NICARAGÜENSE

PROYECTO LLAMAMIENTO DENGUE
PLAN DE INTERVENCIÓN COMUNITARIA

Departamento: MASAYA
Municipio: MASAYA
Barrio: CAMILO ORTEGA
ESAFC: MONIMBO


CRUZ ROJA NICARAGÜENSE

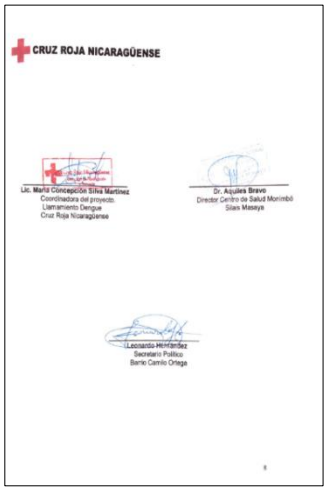
Introducción

Cruz Roja Nicaragüense en coordinación con el Ministerio de Salud, en el marco del Proyecto Llamamiento Dengue se realiza acompañamiento para el desarrollo de acciones comunitarias enfocadas en elaboración de planes de respuestas en temas de salud enfocados en la erradicación del zancudo transmisor del Dengue, Zika y Chinkungunya. Como parte de la lucha antiepidémica en todo el territorio nacional.

El presente plan de acción es dirigido a la problemática y los aumentos de casos sospechosos de dengue que presenta el barrio Camilo Ortega de la Ciudad de Masaya. Dicho plan comunitario se enfoca en la planificación, descripción del barrio, coordinación y realización de diferentes actividades en pro del desarrollo del barrio con enfoque en salud. De la misma manera identificar por medio de un mapa comunitario los criaderos del zancudo Aedes Aegypti transmisor del virus del Dengue, Zika y Chikungunya de los cuales serán eliminados. A la vez promover cambios de comportamientos mediante la adopción de buenas prácticas de prevención de enfermedades de origen vectorial promoviendo la participación activa en los habitantes del barrio, contribuyendo así a la construcción de un estilo de vidas más saludable.

Objetivos

- Eliminar potenciales criaderos de zancudo Aedes Aegypti transmisor del virus del dengue,Zika y Chikungunya existente en el barrio por medio de un mapa comunitario con sus principales focos de proliferación del sancudo.
- Generar cambios de comportamiento en los habitantes del barrio Camilo Ortega de la ciudad de Masaya y sectores vulnerables. Mediantes acciones de prevención contra el mosquito.


CRUZ ROJA NICARAGÜENSE

Lic. María Concepción Silva Martínez
Coordinadora del proyecto
Llamamiento Dengue
Cruz Roja Nicaragüense

Dr. Aquiles Bravo
Director Centro de Salud Morimbó
Silais Masaya

Leonardo Hernández
Secretario Político
Barrio Camilo Ortega

Example of a community intervention plan. Source: NRC

Nicaraguan Red Cross						
Activities schedule						
No.	**Activity**	**Sub-activity**	**Description**	**Site**	**Frequency**	**Responsible**
1	Cleaning days	Clean the channel in barrio Camilo Ortega to destroy potential breeding sites.	Carry out cleaning day to dispose of accumulated garbage	Bo. Camilo Ortega	Once a year	Neighbourhood coordinators
2	House-to-house sanitizing	Visit the population to raise awareness about the virus transmitted by dengue	Conduct house-to-house visits	Bo. Camilo Ortega	Once a year	Neighbourhood coordinators

3	Mosquito and breeding site elimination days	Carry out breeding site elimination days	Go house-to-house to identify and destroy potential mosquito breeding sites	Bo. Camilo Ortega	Twice a year	Neighbourhood coordinators
4	Community health fairs	Organize health fairs in coordination with the Ministry of Health	Encourage neighbourhood residents to participate in neighbourhood fairs	Bo. Camilo Ortega	Twice a year	Neighbourhood coordinators

El Salvador: N/A

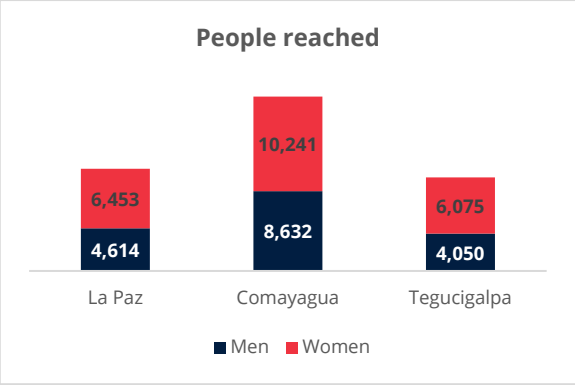
Costa Rica:

The two people in charge of community health, CBHFA issues, and this activity left the institution. This indicator was not achieved, as Costa Rican Red Cross does not use CBHFA in its work, and therefore, very few volunteers are familiar with it.

# of people that receive information regarding identification of dengue signs and symptoms and/or prevention measures

Honduras:

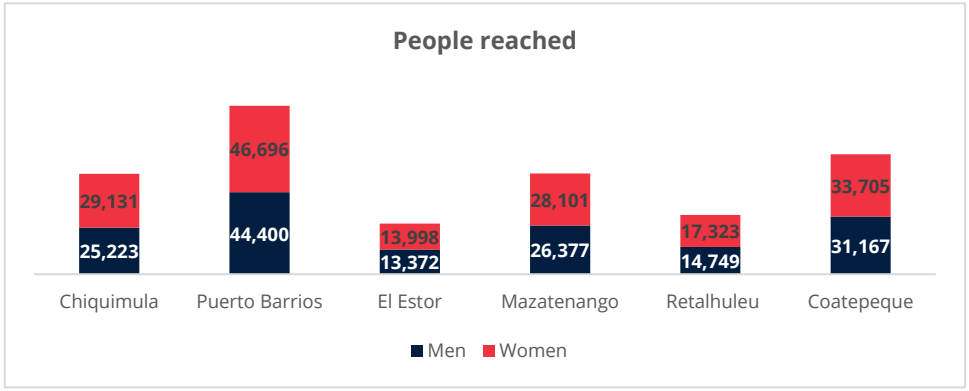
Some 40,000 people were reached directly via the home visit methodology and HRC volunteers and SESAL technical personnel previously trained in arbovirus and vector control issues. They were responsible for carrying out educational and awareness-raising sessions, using various tools and strategies, including the ten-step home visit guide, educational materials, handbooks, flyers, posters, stickers, and messages using megaphones set up on mobile units.



Volunteer from the Comayagua branch conducting a house-to-house educational visit – April 2020. Source: HRC

Guatemala:

Universal access to information was established through community megaphoning, face-to-face or virtual educational sessions, live broadcasts or via Facebook Live, closed webinars, free spaces on radio and TV, during home visits via the education plan, and during the application of larvicide and adulticide. The purpose was to raise awareness regarding warning signs, prevention measures at the individual, family and community level, and the path to refer potential cases.



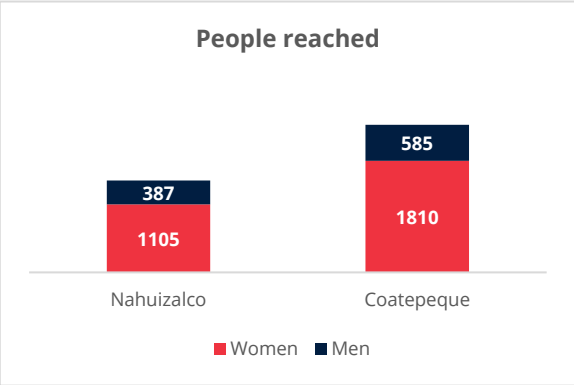
Educational session in the village of El Progreso, Mazatenango, Suchitepéquez - August 2020
Source: GRC

Nicaragua:

The operation reached a total of 31 neighbourhoods: 12 during the immediate response phase (DREF) and 19 under the Emergency Appeal, for a total of **8,700** visits in the first stage of the response and **11,671** in the second. Teams visited 5,103 of 5845 homes. The 5845-home target set was not met given that activities were suspended due to the COVID-19 pandemic, and when activities resumed in August, COVID-19 cases were still on the rise and people were not allowing anyone other than family members into their homes. Once activities were resumed in July and August, key messages on breeding site elimination and identification of dangerous symptoms were disseminated via loudspeakers throughout the neighbourhoods during clean-up days and health fairs, which was a way to reinforce the key messages delivered during visits and a way to reach the entire community without actually visiting homes. Visits allowed reaching **43,500** people during the initial response phase and **58,355** during the second stage, with support from 55 volunteers from NRC branches in Masaya, Managua, León and Chinandega.

El Salvador:

During home visits and distributions of UNTADITA kits in Nahuizalco and Coatepeque, a total of 3,887 families were provided talks on behaviour change and information on signs and symptoms of dengue.



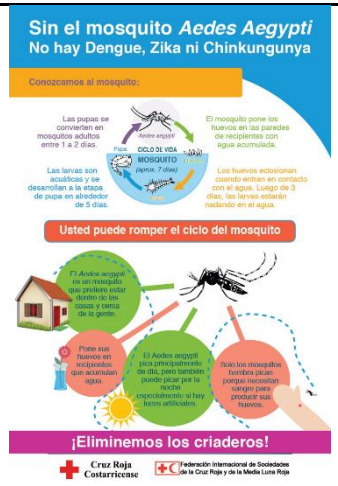
Costa Rica:

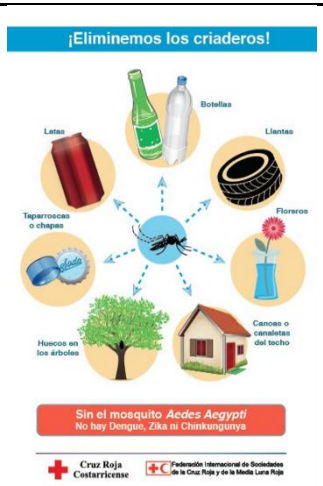
Since the beginning of the project, activities were proposed to approach communities, such as:

- Home visits to deliver key messages through talks, information and brochures.
- House-to-house visits to destroy potential breeding sites and apply larvicide.

The National Society had to suspend community visits when the pandemic began, forcing the NS to find alternative actions to continue with the project:

- Material was provided to the Ministry of Health, as they did not cease their work in the most affected communities.
- NS vehicles were used for megaphoning in communities in order to be able to continue delivering messages to the population.
- Social network campaigns were carried out, targeting both adults and children.
- Radio campaign to cover the communities with the highest incidence of Dengue cases.
- An "Anti-Dengue School Kit" was designed, which was first delivered to first- and second-graders in the most affected communities.

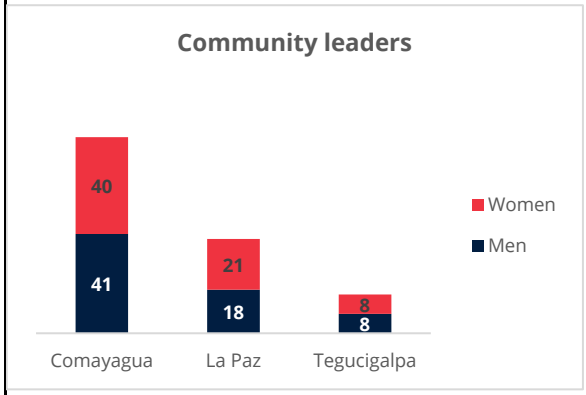




# of community leaders reached through educational sessions on dengue spread prevention

Honduras:

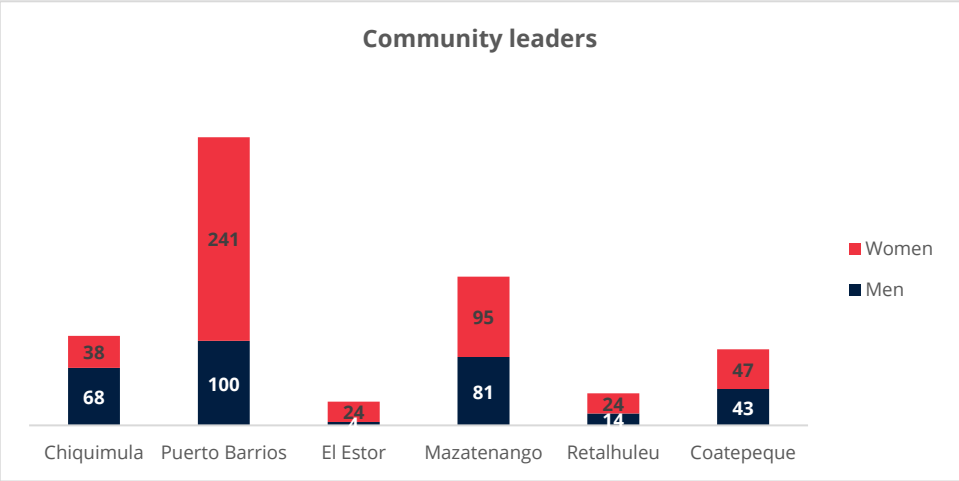
To support vector control actions in their communities, 136 individuals were trained as community guides through training workshops on dengue's main characteristics, signs and symptoms, emphasizing prevention measures and control and prevention actions in each community.



Community vector control workshop in Comayagua - June 2020.
Source: HRC

Guatemala:

Given the health crisis that the country is going through, the role played by community leaders is vital. Efforts must be focused on meeting needs, resuming field activities, and respecting the protocols established in the GRC community procedures guide, which made it possible to obtain approval, support, and authorization to ensure institutional actions and, above all, the safety of staff in the field

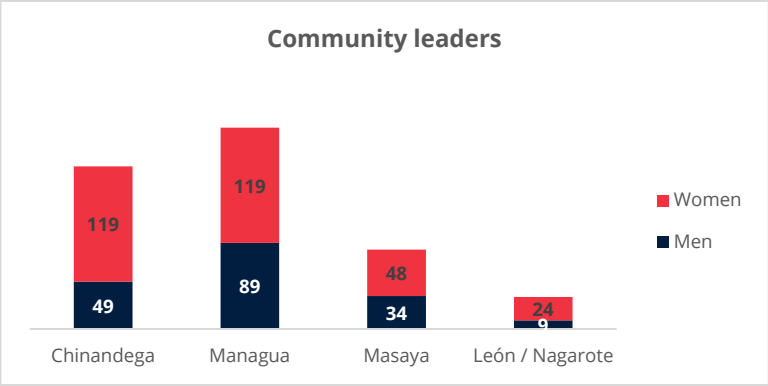


Educational session with community leaders in Punta de Manabique, Puerto Barrios, Izabal. November 2020
Source: GRC

Nicaragua:

Dengue knowledge and skills strengthening was provided to **491 community leaders from 30 communities targeted by the project,** specifically dengue signs and symptoms, warning signs, vector control (life cycle of mosquitoes, where they live, how they reproduce and identification of breeding sites), ending with the preparation of an action plan and community-based surveillance. These leaders are from the 30 communities targeted both during the emergency phase and by the Appeal, who were trained by volunteers in conjunction with project technicians.

Four workshops were held to train leaders, after which activities contained in the community health action plan were carried out, including home visits, cleaning days and health fairs, among others.



Leaders from Bo. Omar Torrijos, Managua. March 2020 Source: NRC

Training workshop for leaders from Barrio El Recreo in Managua. October 2019 Source: NRC

El Salvador:

Leaders from Nahuizalco and Coatepeque were approached through local health promoters, who explained the work to be done, including information about the disease, signs, symptoms and prevention, and control actions to eliminate the vector. The aim was for leaders to later replicate the knowledge in their communities.

Costa Rica:

This issue was to be addressed through meetings, which had to be put on hold because of the pandemic and associated restrictions. The National Society decided to strengthen other activities instead. Despite restrictions, community leaders were reached through the different campaigns conducted.

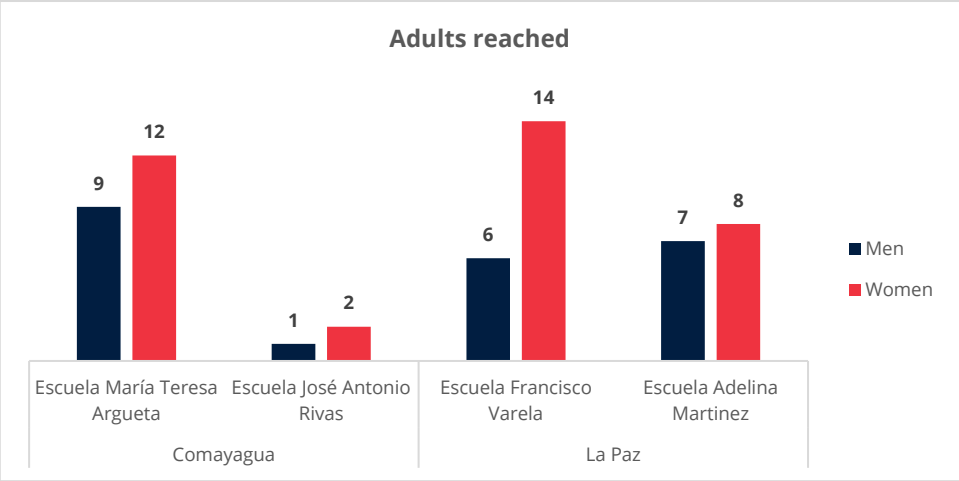
Health Output 1.2: Schools have information on prevention and early detection of dengue complications.

# of adults reached through educational sessions on preventing the spread of dengue

Honduras:

The work was carried out in schools with teachers during workshops specifically organized for them, and with parents during school meetings. Talks on dengue signs and symptoms, prevention actions and larvae elimination were delivered during both events.

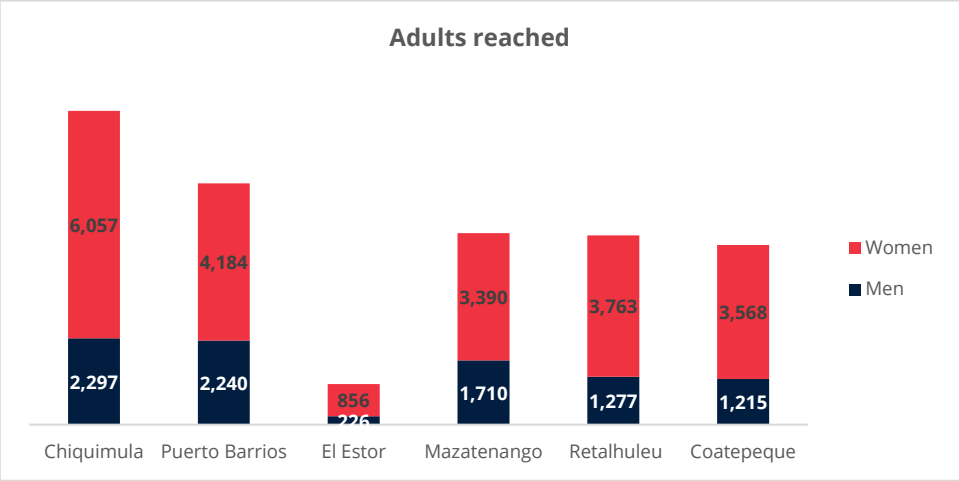
These actions were carried out before schools were closed because of the COVID-19 quarantine. Even though schools were closed, the NS continued to assist through fumigation days and provide tool kits for surface cleaning and disinfection.



Guatemala:

This was a teaching-learning process that allowed sharing and communicating health messages on protection, surveillance, and vector control as well as information on dengue, especially in the context of the COVID-19 emergency. This tactic targeted the people who attended health centres or posts, face-to-face or virtual educational sessions and face-to-face engagements, during clinical care provision at or visits to medical services in GRC branch facilities in southwestern and north-eastern areas. The dynamic is based on the ERCA method, which uses people's previous experiences to build knowledge:

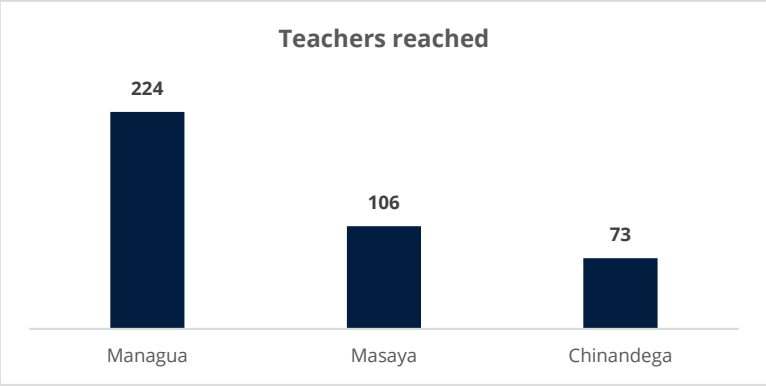
E: Experience. The person is asked about their previous knowledge on the subject.
R: Reflection. They reflect on the best forms of prevention based on what was previously discussed.
C: Conceptualization. Conceptual information on the subject is provided.
A: Action. Actions to deal with the issues raised are proposed together with the person



Educational session with people travelling by boat between the Punta Gruesa and Puerto Barrios, Izabal; November 2020 Source: GRC

Nicaragua:

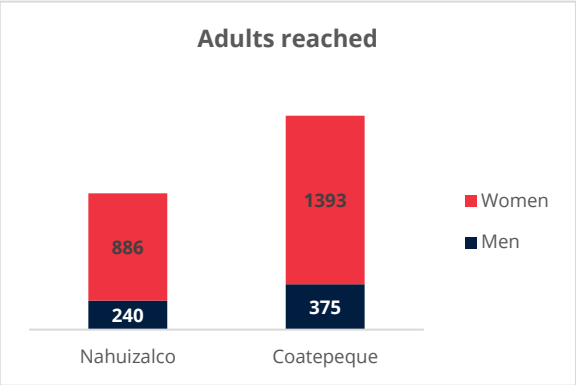
261 teachers from ten schools were trained on vector control, epidemiological surveillance and dengue symptoms and warning signs during the emergency response phase, and 142 teachers from seven schools were trained under the Emergency Appeal. The aim was for teachers and principals to continue to implement dengue prevention measures in schools and educate children TO put them into practice at school and home. It should be noted that the group most affected by dengue during the epidemic were children and adolescents.



El Salvador:

The plan proposed by the National Society includes educational sessions with parents and teachers, which had to be suspended because of the measures implemented by the Ministry of Education to prevent students from becoming infected in schools. Activities were therefore reclassified.

The NS decided to implement the CBHFA tool during *untadita* deliveries, together with information sheets on the life cycle of the mosquito, diseases transmitted by the vector and their signs and symptoms, and active listening during talks on behaviour changes, destroying breeding sites through the VELITA *(*Voltea, Elimina, Limpia y Tapa*, in Spanish)* strategy, and washing basins and barrels with *untadita*.



Costa Rica:

The adult population was reached through the following campaigns and activities:

- Community awareness visits, which were carried out at the beginning of the project in the communities of Betania, Laureles, Brooklin, Victoria, Quebrador, Siquirritos and Tobías, Vaglio in Siquirres canton.
- Radio and social media campaigns. The first social media campaign targeted Siquirres, Turrialba and Atenas, which was later expanded to cover the entire country
- Distribution of the "Anti-Dengue School Kit", with flyers included, held in schools in Siquirres, Turrialba and Atenas.

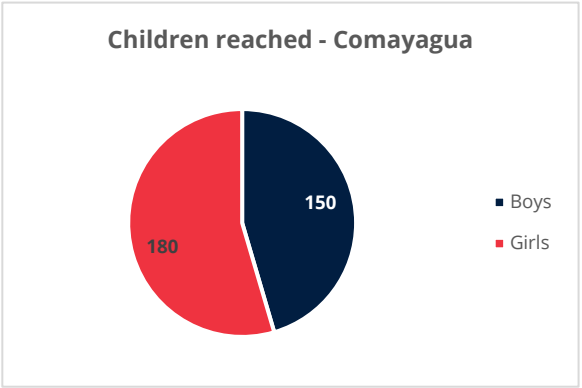
Canton	School	Canton	School
Atenas	Central de Atenas	**Siquirres**	Cultives
	San Isidro		Perlita
	Santa Eulalia		Freeman
	Barrotea		Perla
	Alto Monte		El Encanto
	San Jose Norte		San Luis
	Chucaz		Justo A. Facio
	Estanquillos		La Amelia
	Morazan		Líder Sector Norte
	Alto Lopez		San Rafael
Turrialba	Genaro Bonilla		Siquirrito

# of school children reached through educational sessions on preventing the spread of dengue

Honduras:

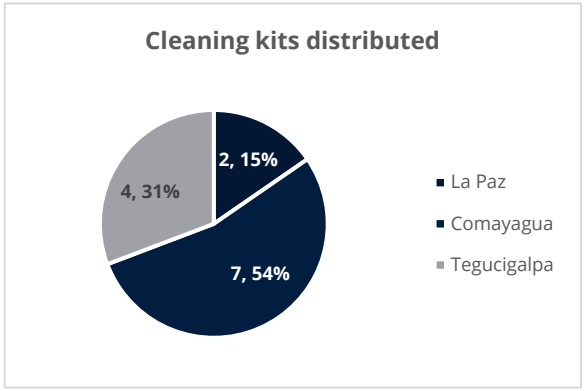
This was implemented in coordination with school authorities. A group of children, leaders from each grade, were trained in the subject, after which Honduras Red Cross replicated these trainings classroom by classroom together with the children trained. Recreational activities, training sessions, etc. were also held.

As a support measure, and to contribute to preparedness, cleaning supplies were provided and vector control were implemented in schools through fumigation and larviciding to lower risks for when face-to-face classes resume.



Provision of cleaning tools in education centres

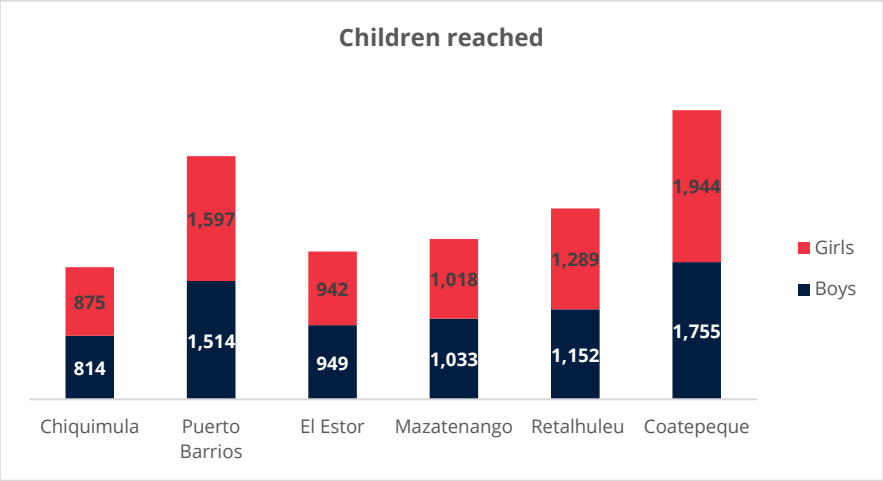
Thirteen surface cleaning and disinfection kits were purchased and delivered to education centres, which contained two wheelbarrows, two rakes, two shovels, six rubber gloves, two machetes, two hoes, two flat files with handle, two brooms, five garbage bags, one megaphone, three alkaline batteries, one spray pump and two gallons of bleach.



Delivery of cleaning and disinfection equipment in education centre in Comayagua, June 2020.
Source: HRC

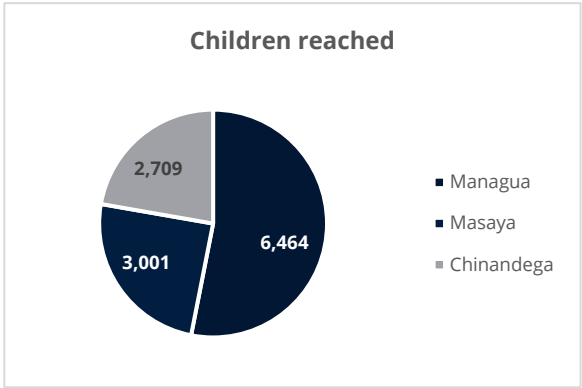
Guatemala:

Given the new normal, virtual sessions or webinars were delivered through digital platforms such as Zoom, Skype and Google Meets, which allowed reaching elementary, middle and high school students.



Nicaragua:

Eleven school brigades were formed with 350 children during the emergency response phase, reaching a total of 7,417 children; and seven brigades were formed with 254 brigade members during the Appeal. Brigade members were trained in vector control, and promoted breeding site elimination actions in schools and visited classrooms together with Red Cross volunteers to teach children about mosquitos' life cycles and how to destroy breeding sites to prevent disease. A total of 4,757 children and young people were reached of a 4700-student target, informing a total of **12,174** students in 18 schools about dengue.



El Salvador:

500 school kits (one colouring book and crayons) with dengue prevention messages were prepared and delivered to the principal of the Paulo Sexto Catholic School, which were later delivered to parents. Additionally, posters and brochures with information on dengue were delivered to schools so these could be hung in schools and distributed to students, as well as 85 colouring books delivered to the National Society National Youth Office to be distributed during a toy delivery.

Costa Rica:

The Ministry of Education suspended classes for the school year because of the pandemic, so the talks planned could not be delivered to the children. Instead, Anti-dengue School Kits aimed at first- and second-graders were created. Kits include:

- Paintable bag, containing
- Activity book to colour and complete
- Crayons
- Informational brochures
- Stickers
- Organic repellent

Schools in Costa Rica have a dining-hall system for the children. Since classes were suspended and given that the food that was to be served had already been arranged for, the Ministry of Education decided to provide monthly food kits to the families. In coordination with the Ministry, Red Cross distributed the kit to the first- and second-graders during these food distributions.

WhatsApp stickers were created so teachers could share them with students.

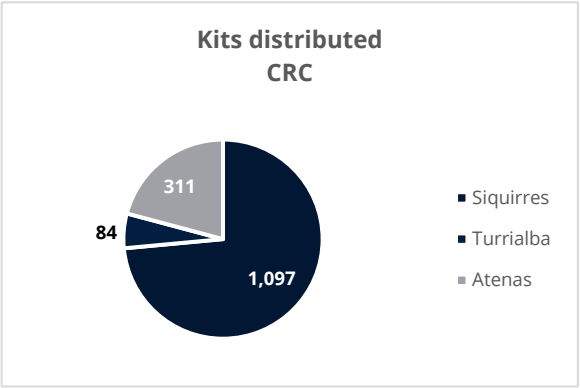
The kit drew the attention of teachers of other grades and other schools, so the kit was shared virtually so that they in turn could share it with their students and address the issues.

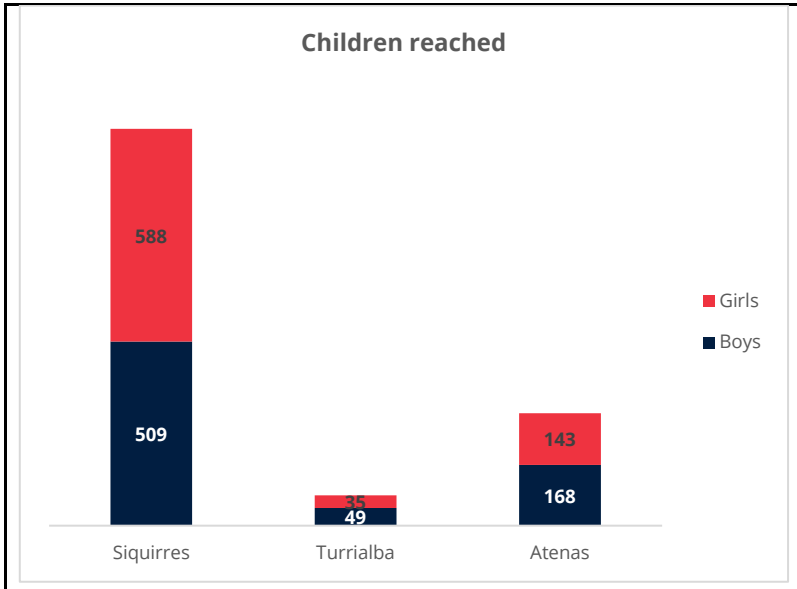
The "Anti-Dengue School Kit" was created as part of the adaptations that had to be made because of the closing of schools in the country. The kit was designed for first- and second-graders.

1000 school kits were initially produced and delivered to students, teachers and school principals in areas with the highest incidence of dengue cases. The activity was so well received that 1,000 additional kits were prepared.

The aim was, on the one hand, to disseminate key messages containing specific information on dengue, signs and symptoms, preventive actions, etc.; and on the other, to conduct a survey on the level of risk in the children's homes, as the kit contains a form that must be filled out at home and handed back to the National Society for review.

508 kits were not distributed because it was the end of the school year and the Ministry of Education had suspended food distributions. However, the auxiliary committees have promised to distribute them once classes are resumed in 2021.




Children reached
588
509
35
49
143
168
Girls
Boys
Siquirres
Turrialba
Atenas


LIBRO DE ACTIVIDADES CONTRA EL DENGUE
9 pasos

Health Output 1.3: Improvement of the capacities of vulnerable populations through communications campaigns based on the CBHFA approach that promote the adoption of behaviours that decrease the incidence of dengue cases

# of communication plans to sensitize and inform families about dengue, zika and chikungunya

Honduras:

One single communications plan was drawn up, which framed the target audience as well as the risk communication tools and strategies, and included dengue action and prevention messages. The Ministry of Health defined the regulations for community education specifically on arbovirus prevention.

Actions and strategies:

1. Educational house-to-house visits.
2. Community surveillance, breeding site inspections.
3. Broadcasting of key messages by radio stations.
4. Educational dissemination over official HRC social network pages.
5. Community mobilization (cleaning campaigns, fumigation days).

Education tools:

1. Printed educational material (brochures, flyers, posters, school handbooks).
2. Messages via radio spots.
3. Banners.

The strategic lines were informed by the main dengue reduction and prevention recommendations.

1. Weekly scrubbing of clean water storage containers
2. Keeping water containers covered.
3. Eliminating standing water.
4. Using repellent
5. Wearing clothing that covers arms and legs.
6. Placing screens on doors and windows.
7. Using mosquito nets around beds.

https://www.facebook.com/watch/?v=199923004563314

Guatemala: see comments below on the indicator about campaigns.

Nicaragua:

Two communications plans were used for the project, one aimed at responding to the epidemiological alert and another for the Appeal. Coordination was established with the Ministry of Health Surveillance Directorate, thereby supporting the campaign promoted by the Ministry. On the NRC side, the campaign was managed by the Communications and Press department and the project's technical team area and the technical team of the project.

The campaign's objective was to sensitize and educate the population on Dengue, Zika and Chikungunya prevention through audio-visual and printed material with key messages on identification of signs and symptoms of Dengue, the mosquito's life cycle and measures to destroy breeding sites.

Audio-visual materials were produced for both phases. Three spots were produced as part of Nicaraguan Red Cross's own campaign, which were aired over Channel 10 (nationwide coverage) and Channel 12, and four spots for the Ministry of Health, which were disseminated over official television channels (Channel 6). The aim was to reach a diverse target audience through broad coverage that allowed reaching people across the country. Likewise, NRC produced four radio spots and the Ministry of Health produced two, all of which were broadcast over radio stations with nationwide coverage such as Radio Ya, La Sandino, Radio Nicaragua, La Maranata and Radio Corporación.

Infographics included four posters ('What is Dengue', 'Symptoms and Warning Signs', 'Life cycle of the Mosquito', and 'Prevention Measures'), as well as the flyers and stickers that were distributed to families during home visits. To conduct home visits, volunteers were provided a brochure with the appropriate guidance.

Twenty canvas banners, 10 normal banners, 6000 posters, 3000 brochures and 2000 leaflets were produced with the Ministry of Health, as well as adverts on buses along four routes, billboards in Plaza España in Managua, and four ‘mopis’ placed in different locations, all in order to communicate prevention messages to the population in different ways.

These actions were conducted during the Appeal's first phase; however, the pandemic was at a critical stage in June and July and people were mistaking one illness for the other, so an informational campaign was launched in national media and NRC social networks and no actions were carried out in the field.

It is important to highlight that the information and awareness campaign was carried out in coordination with the Ministry of Health, to launch the campaign jointly with spots on radio, TV, social networks, adverts on buses and printed material. This time, the materials that were part of the Ministry of Health campaign were used.

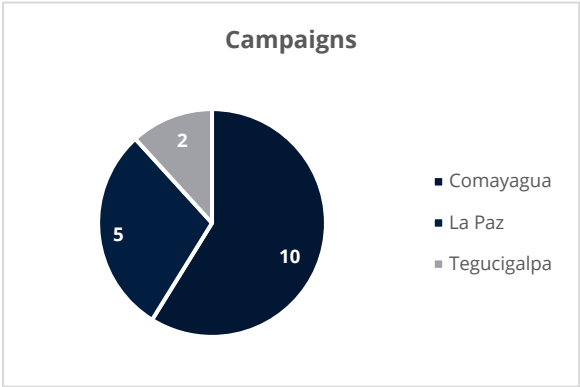
El Salvador: The NS developed a communication campaign, but not a Communication Plan.

Costa Rica:

CRRC did not work on communications as such, but the Press and Institutional Communications departments was responsible for planning and monitoring the activities carried out during the project.

# of campaigns (including awareness tools) to implement dengue, zika and chikungunya prevention
Honduras:

Seventeen mobilization and awareness campaigns were carried out, including distributions of educational materials and mosquito breeding site elimination days. Campaign and mobilization plans, which were derived from the general risk communication plan, were prepared and carried out in conjunction with community representatives.



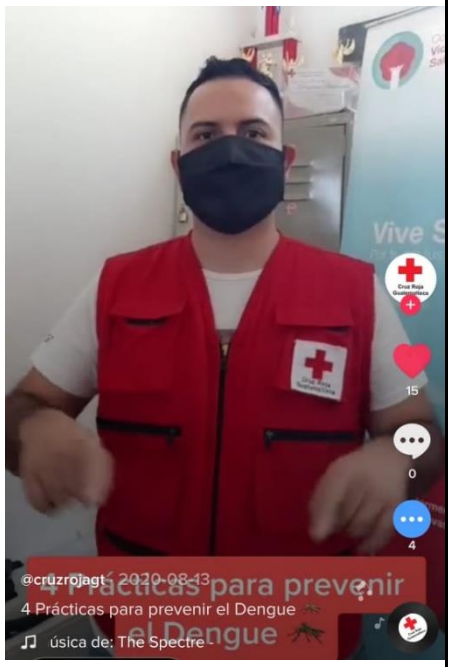
Main actions in educational campaigns

1. Dissemination of printed educational material, flyers, posters, stickers
2. Megaphoning of educational messages.
3. Mosquito breeding site elimination days.

Guatemala:

Eleven tools were used to promote campaigns, including promotional posters, radio and TV interviews, live interviews on social networks, megaphoning at the community level, eco-bags with dengue prevention messaging, animated gifs, webinars on private platforms, infographics, promotional videos and institutional Tik Tok.

Interview in the native Q´eqchi language over Radio Éxito, El Estor Izabal. September 2020
Source: GRC



Tik Tok – Let's Prevent Dengue (link here)
Source: GRC

Nicaragua:

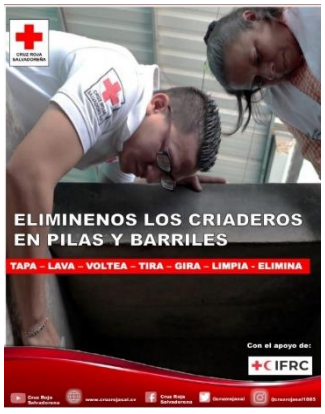
The campaign was conducted in three phases: in October and November 2019, when dengue was at its highest; in May and June 2020 to complement communication and awareness actions among the population, given the suspension of activities due to the pandemic and intended to increase the perception of risk among the population in view of the simultaneous uptick in both COVID-19 and dengue cases in the country; and in October, November and December 2020 with the joint Ministry of Health-Nicaraguan Red Cross campaign.

A total of 17 tools were used for the campaign: two radio spots, one broadcast over Radio Ya, which has nationwide coverage, and another over local radio stations covering the departments of Chinandega and Masaya. It included visits to media outlets to provide information on dengue symptoms and self-protection and prevention measures; printed materials; 12,000 flyers, 8000 stickers, 20 murals, 10 flip charts, 3000 brochures, 250 posters, 500 infographics, adverts on buses covering routes across Managua; and the holding of Health Fairs in neighbourhoods and schools.

El Salvador:

Educational materials prepared for campaigns included:

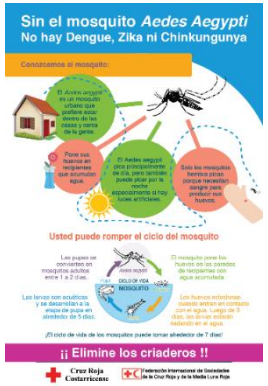
- Brochure on the life cycle of the mosquito and signs and symptoms of dengue, which were delivered during home visits.
- Stickers on using the Untadita method, which were included within the kits.
- Posters with information on the VELITA Strategy, breeding site elimination and cleaning campaign, which were placed in strategic locations in communities in conjunction with promoters and community leaders.

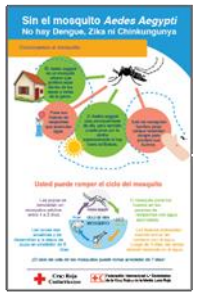


Costa Rica:

Two campaigns had been initially planned (one radio and one on social networks), but when the pandemic hit and activities had to be put on hold, CRRC decided to scale up campaigns over social networks and radio:

- Conducted two one-month campaigns communicating dengue prevention messages intended for adults, especially in rural areas where social networks are not normally used. The company offered airtime for interviews in each campaign and shared the messages over its social networks.
- The first social media campaign was carried out on Facebook and Instagram, making 20 posts over two months as well as ten additional ones with recommendations related to COVID-19 when the pandemic started. In order to avoid competing messages (COVID and dengue) and interfering with the COVID-19 messaging that was just getting started in Costa Rica, the campaign targeted only the communities with the highest incidence of dengue cases and youths and young adults with access to social media.
- The second social media campaign was also carried out on Facebook and Instagram, with 30 posts in two months, targeting youths and young adults with access to social media (nationwide coverage).
- The third social media campaign was carried out on Instagram, Google and Tik-Tok, which are networks in which the NS is venturing into. Sixteen posts were made over a period of one month, targeting youths and children with access to these social networks.
- The campaign also included printed materials, which were distributed in communities and shared with institutions such as the Ministries of Health and of Education for use in their facilities and activities. These were also included in the Anti-Dengue School Kits.





Estimated # of people reached through communications campaigns

Honduras:

HRC reached more than 86,000 people indirectly with dengue prevention information through radio spots on two regional radio stations. The campaign was carried out for two months.

People were also reached via face-to-face visits and interventions, informational talks and educational brochure distributions. These sessions included applying larvicide in the water storage containers. All larvicide was provided by SESAL.

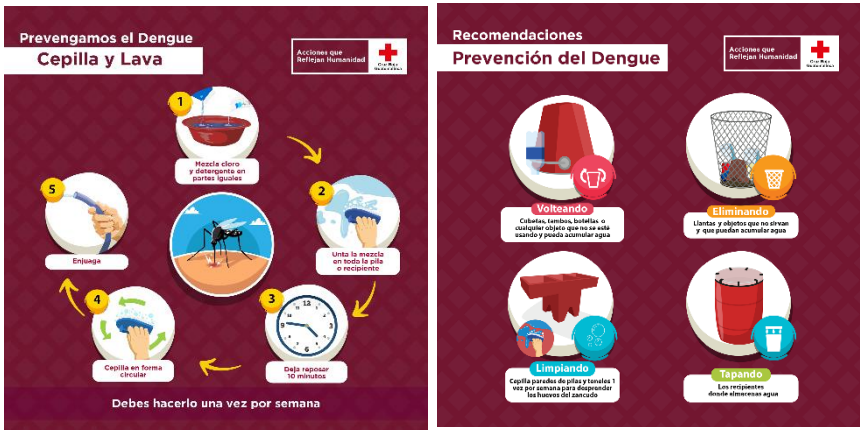
Guatemala:

Messages disseminated over local radio campaigns were also recorded in the Q'echi language for the municipalities of El Estor and Puerto Barrios, Izabal, and in Spanish for the municipalities of Coatepeque, Retalhuleu, Mazatenango and Chiquimula.

The main modality used to communicate messages - such as on dengue signs and symptoms, preventing dengue through the VELITA method, scrubbing and washing water storage containers and promoting the elimination of potential breeding sites both inside and outside homes - was via live transmissions or transmissions over Facebook Live. Listeners could call in during live transmissions to have doubts clarified or ask questions, which may even have included demonstrations on how to properly wash and scrub water storage containers.

A total of 1,867,554 people were reached via radio and TV, Facebook Live and campaigns on Instagram and Facebook.

Promotional posts on one of the branch's page; September 2020. Source: GRC



"Cepilla y lava" and "Velita" campaigns in social networks; August 2019 (link here) Source: GRC

Megaphone communication in Barrio Río Escondido, Puerto Barrios Izabal, 2020, Source: GRC

Nicaragua:

The educational campaign reached approximately 1,507,325 people, which is calculated based on the coverage of the media used for the campaign: Channel 10, Channel 2 and Channel 6 have nationwide coverage and high viewership levels, especially Channel 10. Radio Ya, Radio Sandino and Radio Corporación also have nationwide coverage and a broad audience. Visiting radio stations and TV channels to provide information on dengue and prevention measures was another way of reaching the population on a massive scale.

Project leader together with an NRC volunteer providing information on dengue and prevention measures on Channel 10 in Nicaragua. September 2019. Source: NRC

NRC technician talking about dengue prevention measures on Radio Somos Estéreo in Chinandega. February 2020. Source: NRC

El Salvador:

Approximately 15,000 people were informed. Educational material was reproduced for communications campaigns, such as:

- 500 posters on elimination of breeding sites using the VELITA strategy.
- Informational brochure on the life cycle of mosquitoes, signs and symptoms, what Dengue is, and fundamental principles of the Red Cross.

Costa Rica:

Five campaigns were conducted, two on radio and three on social networks, which disseminated key messages on prevention and mitigation actions.

Campaign	Medium	Posts	Duration	Reached
Radio #1	Radio	12	1 month	29,680
Radio #2	Radio	12	1 month	29,680
Social networks # 1	Facebook / Instagram	30	2 months	1,076,641
Social networks # 2	Facebook / Instagram	30	2 months	3,233,821
Social networks # 2	Google/ Instagram/ Tik-Tok	16	1 month	530,629
			Total reached	**4,900,451**

Hashtags:
#SomosCruzRojaCostarricense
#CampañaCRC
#DengueCRC

Social network links:
https://www.facebook.com/140032002832088/posts/1578563425645598

https://www.facebook.com/140032002832088/posts/1597276030441004

https://www.facebook.com/140032002832088/posts/1593818477453426

https://www.instagram.com/p/CNBMW8TArrj/?igshid=eedxr8t6ga8k

https://www.instagram.com/p/CMX_nj2rBYx/?igshid=1onbrzt92yqst

Radio links:

https://www.facebook.com/RadioLaGigante800am/videos/520958538594126/?vh=e&d=n

MDT NOTICIAS 15-05-2020 - Radio La Gigante 800am (facebook.com)

https://www.facebook.com/RadioLaGigante800am/videos/313852176298698/?vh=e&d=n

Health Output 1.4: The affected National Societies have the necessary resources and competence to support health authorities in activities in affected and at-risk communities

# of first- and second-level health personnel trained in clinical management of dengue

Honduras:

In coordination with the Comayagua working group, two workshops were held to strengthen health personnel's knowledge regarding the dengue clinical management protocol applied by SESAL; 25 health professionals were trained; the COVID-19 care protocol was socialized; and HRC delivered its Psychosocial Support Grief Management module.

The workshops, facilitated by the director of the Public Health Surveillance Unit and HRC PSS staff, were delivered on 25 and 26 June (to a different group each day to avoid overcrowding).

Guatemala:

During the Appeal, four regional workshops were held to deliver training to doctors, nurses and technicians responsible for treating people arriving with signs and symptoms of dengue. Workshops used the Ministry of Health's "Guide for the first, second and third level of care", which provides the protocols for clinical dengue care and management, for suspected and confirmed cases, and for distribution of patients to hospitals according to protocols and zones. This activity was requested by the Ministry of Health.

The COVID-19 pandemic in the country did not allow many MSPAS-supported trainings during government restrictions.

Dengue Prevention and Control Workshop, aimed at CRG volunteers and Ministry of Public Health and Social Assistance Vectors Programme staff, Coatepeque, Quetzaltenango; October 2020 Source: GRC

Nicaragua:

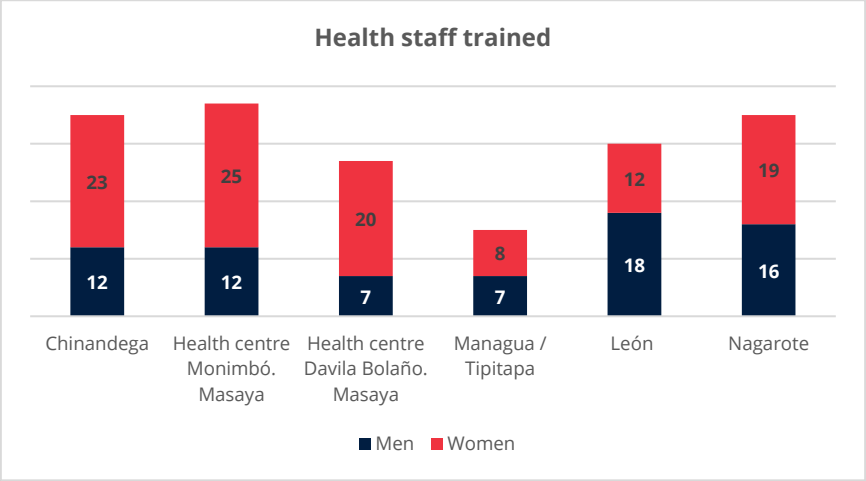
Ministry of Health staff in Chinandega, Masaya, León and the municipality of Tipitapa, the latter at the request of the Ministry, received training on dengue management protocols. In total, 179 officials from ESACF health centres were trained through six workshops on Clinical Dengue Management

Also, as part of the strengthening of health personnel for the implementation of the dengue management protocol, the NRC delivered mosquito nets and blood pressure monitors to health centers.

During the Dengue epidemiological crisis in the months of July 2019 to March 2021, hospitals and health centers exceeded their capacity of space and personnel for the care of cases of Dengue and one of the main mechanisms of protection and control of the population was the location of rooms equipped with each bed with mosquito nets and the control of vital signs to the patient. For this reason, assessing the lack of resources in the Health Centers, within the framework of the project and at the request of SILAIS and Health Center directors, priority was given to the delivery of 1400 mosquito nets distributed in the eight (8) Health Centers, with which the project was working.Likewise, 72 blood pressure monitors were delivered and distributed among the Health Centers and CRN branches involved.

Another way of supporting health personnel was the updating of the National Health Crisis Response Plan. This activity was coordinated with the National Epidemiological Surveillance Directorate and the Emergency Care Unit of MINSA, with the participation of representatives of the national epidemiological units, resulting in an updated Health Emergency Plan in the Ministry.

Mosquito nets distribution	
Health Center	**Quantity**
Altagracia	175
Edgard Lang (San Judas)	175
Pedro Altamirano	175
Centro de Salud Carlos Rugama	175
Centro de Salud Monimbó Masaya	175
Centro de Salud: DAvila Bolaño Masaya	175
Centro de Salud Chinandega 1	175
Centro de Salud Chinandega 2	175
Total	**1,400**



ESAFC workshop in Silais Masaya, 30 October 2020.
Source: NRC

El Salvador:

A Community-based Surveillance and Monitoring workshop using a CBHFA approach was held in order to train volunteer and health personnel on the use of this tool during community activities. This workshop, held 16-18 October in Santa Ana, was attended by twenty-two people, who learned about the CBS protocols, key messages focusing on behaviour change, and effective techniques to communicate with communities and improve the quality of life in targeted communities.

Costa Rica: N/A

# of health personnel and community volunteers trained in timely case identification and referral

Honduras:

The technical personnel and volunteers to carry out training actions with community leaders were identified based on HRC's experience with vector control. Some 136 people in 17 communities were trained in arbovirus concepts, dengue identification, the vector, the mosquito's life cycle, and dengue prevention and control measures.

Guatemala:

The workshops held provided information on signs and symptoms of dengue, how to refer people showing such symptoms, as well as information on specialized centres receiving these cases according to each work area. Attendees included 15 women and 31 men from the six municipalities targeted by the National Society: Retalhuleu, Coatepeque, Mazatenango, Chiquimula, Puerto Barrios and El Estor.

Workshop for community volunteers, village of San Vicente Pacaya, Coatepeque, Quetzaltenango. Source: GRC

Nicaragua:

SILAISs in León, Chinandega and Masaya trained their network of community health volunteers (Community Health Managers) to identify warning signs and symptoms so they could refer cases to health centres when required. Ninety-six community leaders were trained.

El Salvador: see comments on indicator above.

Costa Rica:

An Epidemic Control workshop was held to train volunteers on the most common and deadliest epidemics, promote evidence-based actions and other procedures to prevent the spread of communicable diseases in their communities, provide adequate care to sick people and reduce the number of deaths. The workshop was supplemented with an induction to Community Engagement and Accountability (CEA).

This activity was attended by staff from the areas most affected by dengue cases.

Epidemic Control Workshop work group Source: Costa Rican Red Cross, San José, 01-15-2020

Participants in Vector/CEA Workshop			
Site		Men	Women
Region 1	Regional	1	1
	Aserri	1	
Region 2	Atenas	2	2
Region 3	Turrialba	1	2
	La Suiza de Turrialba	2	
Region 4	Regional		1
Region 6	Regional		1
Region 7	Regional	1	
	Siquirres	1	3
Headquarters	DINAGER	3	3
	Total	**12**	**13**

# of PSS Sessions for families emotionally affected by the outbreak

Nicaragua:

Twenty-seven psychosocial support sessions were conducted with support from the Nicaraguan Red Cross Psychosocial Care Centre: 12 were aimed at the school level, 10 at the community level, and five focusing on stress management were aimed at volunteer personnel given the fear and anxiety felt by staff at the beginning of the COVID-19 pandemic. Within this same framework, one PSS kit was delivered to each school and stress management materials were distributed to project volunteers.

Two Psychological First Aid workshops were held in October, one for 12 volunteers at the Nagarote branch and the other for 12 volunteers at the Tipitapa branch. PSS sessions highlight the importance of addressing mental

Psychosocial support session with students from Colegio Alejandro Vega in Masaya, 12 March 2020. Source: NRC

Psychosocial support session with Bo. Pantasma leaders in Managua, 21 November 2020. Source: NRC

health in crises caused by any event, whether natural, social or health-related. Sessions were supported by psychologists from the NRC Psychosocial Support Centre, who designed the methodology and theme. Sessions were delivered by members of the PSS network made up of volunteers from different branches.

Challenges

Honduras:

- Working in these areas was not a major challenge, as these are communities in which HRC has implemented other projects. What was challenging were all the issues that came with the pandemic. The lengthy quarantine periods and limitations to face-to-face interaction with communities made it harder to assist communities.
- Given the new reality involving biosafety measures, social distancing is dealt with through teleworking to avoid having too many people in field offices and at headquarters.
- In the third quarter of 2020, a large part of the country came to a complete stop due to the devastating effects of Tropical Storms Eta and Iota. Fortunately, HRC had already met its targets by that time, so it was not a major challenge for the project. On the contrary, some available logistical resources were used to assist the Comayagua branch during the alert and response period.

Guatemala:

- Coordination and integration with MSPAS and Municipalities. This was addressed by incorporating volunteers who worked with the MSPAS vector control programme brigades and municipal cleaning brigades.
- The shortage of volunteers for training and replication because of pandemic-related restrictions. This required using digital media that allowed constant virtual training.
- School closures due to the pandemic and students' limited access to virtual media. This required seeking out schools that had already started with the virtual modality and that already had platforms set up for teaching their students.
- The hurricane season affected the normal performance of activities, as two hurricanes affected at least three of the six branches conducting dengue control and prevention actions. This was addressed by targeting new communities and providing support to hurricane response teams.
- There is no commitment by local authorities to provide garbage collection vehicles and drinking water so as to allow access to services for the population.

Nicaragua:

- Achieving coordination with the Ministry of Health, especially with SILAIS in Managua, took a long time despite previous high-level coordination. This in turn delayed activities and subsequent implementation, both at the beginning of the project and especially during the final stage, as the work plan had to be approved by the Ministry of Foreign Affairs - which took more than two months to review and approve it.
- Some households refused to allow home visits because they associated NRC with the Ministry of Health, which has lost much credibility due to the political and social crisis that the country is experiencing. However, the NRC actually facilitated MINSA's access to neighbourhoods that they were not allowed to visit, such as Monimbó in Masaya.
- The greatest challenge is seeing a change in practices in the population, which requires constant messaging that increases their perception of risk. Hence the importance of reaching families through different tools and more consistent processes.

- The pandemic limited field operations for four months, delayed activities, and put everyone at risk of exposure during field activities; therefore, biosafety measures were taken to reduce these risks to a minimum. It also limited home visits, making it necessary to conduct awareness activities from outside the home unless the house had a yard or an open area.
- The pandemic affected the school year. While the Ministry of Education did not suspend classes, parents chose not to send their children to school, which led the NRC to rethink and suspend activities in schools scheduled for the last phase of the Appeal. The budget for these activities was reallocated to the communications campaign and community activities.

El Salvador:

- Some residents would not allow SRC inside or near their homes for fear of infection, which made it necessary to find a way to engage with the population while respecting the measures imposed by the government. Therefore, at the time of the home visit, the heads of household were given an informational brochure so that they could share the information with the rest of the family members.
- The fact that the pandemic limited large gatherings prevented SRC from providing information on dengue signs and symptoms to the entire targeted population. People were provided information on signs and symptoms during home visits and Untadita kit distributions, adhering to biosafety measures.
- This limitation on large gatherings also prevented SRC from holding educational sessions on dengue prevention. One alternative was to implement the CBHFA tool during Untadita kit distributions, also handing out information sheets on the life cycle of the mosquito, diseases transmitted by the vector and their signs and symptoms, and active listening during talks on behaviour changes, destroying breeding sites through the VELITA strategy, and washing basins and barrels with Untadita.
- Because of the pandemic, the Ministry of Education implemented measures to prevent students from becoming infected in schools, such as working online (distance modality). Activities were therefore reclassified, and 500 school kits was made and delivered to school principals. The kits consisted of one colouring book with dengue prevention messages plus a box of crayons.

Costa Rica:

- Giving continuity to project activities after the onset of the pandemic, reinventing them and adapting them to the new conditions in the country because of Covid-19.
- Having to carry out activities with little support from volunteers, because the auxiliary committee had none to offer and in other cases for fear of the pandemic. CRRC therefore worked to make the staff feel safe in community activities through the established safety measures.
- Having volunteer structures empowered to carry out different activities.

Lessons learned

Honduras:

- HRC used virtual tools (meeting platforms) to maintain social distancing, hold meetings, make presentations on progress, and even trainings that no one had even thought of conducting in any other way than in person.
- One major contribution to achieving targets in a timely manner was renting vehicles for mobilization to and logistics in the field during the entire implementation of the operational plan. No delays were experienced due to this resource.
- The new strategy required rethinking the way operations are usually conducted, especially this type of operations that require mobilizing large numbers of HRC and community volunteers. The work was carried out using the minimum number of people required and without having to enter homes because of people's fear of contracting COVID-19. Proposed targets were met despite the limitations.

- Acquisition of biosafety equipment. Protective equipment and materials were purchased for all the people working in the field and in offices in order to reduce the risk of contracting COVID-19. This decision helped with continuity of operations and has been taken up as a good practice to be applied in other HRC projects.

Guatemala:

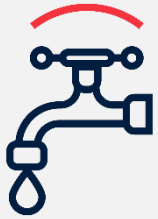
- Working through community leaders promoted people's acceptance and mobilization at the beginning of the intervention.
- Training volunteers in vector prevention and control in coordination with MSPAS, both face-to-face and virtually, allowed moving forward with activities.
- Working with children in education centres allowed strengthening the school system in disease prevention.
- Direct strengthening of MSPAS for future emergencies through monitoring to control hotspots.
- Regular visits to homes to monitor control measures and use of adequate vector control methods allowed establishing cleaning habits to eliminate potential vector breeding sites.
- Providing people with the means to adopt the habit of controlling and predicting potential breeding sites (physical control and lids for barrels) was very well accepted, particularly in the areas where these means were provided.
- Involving the population in community mobilization activities to eliminate potential breeding sites.

Nicaragua:

- Education centres are important points for eradicating dengue, Zika and Chikungunya, since they encompass parents, teachers and students as part of the education community.
- The methodology used by Nicaraguan Red Cross to share information face to face with the population has been the most effective way of raising awareness, both among adults and children, of how urgent it is to combat dengue in their communities.
- Volunteers' participation in project activities is essential to achieving expected results.
- Performing a risk analysis of all possible scenarios that may affect project implementation will help to avoid jeopardizing target and indicator fulfilment.
- Using a participatory methodology in training processes with children and adolescents is more effective for learning.
- These good practices and lessons learned can be replicated in future project processes with similar characteristics, integrating an intervention strategy that mobilizes community health networks to carry out home visits. This activity is essential for ensuring the dissemination of information as well as the integration and training of leaders, as are the awareness and training efforts in schools given that this educational structure helps to lay the foundations for changes in behaviour and create a culture of disease prevention through the implementation of action plans at the school level.

Costa Rica:

- Previous projects were studied to review lessons learned, which helped to find the tools and designs that were adapted to and implemented in this project.
- In some communities, communication with the institution is limited, so it must be improved through greater engagement with community leaders.
- It is important and necessary to continue providing Psychological First Aid training to institutional personnel to better serve communities.



Water, Sanitation and Hygiene

People reached: 51,769
Male: 25,367
Female: 26,402

WASH Outcome 2: **The risk of dengue has been reduced thanks to hygiene promotion and vector control**		
Indicators:	**Target**	**Actual**
# of communities that have controlled mosquito breeding sites	80	Honduras: 17 Guatemala: N/A* Nicaragua: 31 El Salvador: 21 Costa Rica: 7 **Total: 76**
WASH Output 2.1: Social mobilization is promoted for the elimination of dengue vector reproduction sites		
Indicators:	**Target**	**Actual**
# of breeding site elimination sessions conducted	80	Honduras: 24 Guatemala: 57 Nicaragua: 43 El Salvador: 1 Costa Rica: 2 **Total: 127**
# of community leaders empowered through dengue prevention and sanitation measures	80	Honduras: 136 Guatemala: 779 Nicaragua: 491 El Salvador: 21[6] Costa Rica: N/A **Total: 1,427**

[6] SRC didn't provide a detail on the # of community leaders, so the number reported corresponds to the number of communities where they worked, assuming that at least 1 community leader was reached per community.

# of kits distributed	17,000	Honduras: 4,900
		Guatemala: 33,666
		Nicaragua: 1,150
		El Salvador: 2,908
		Costa Rica: 1,492
		Total: 44,116
# of households reached by the fumigation campaigns and home visits	7,000	Honduras: 8,013
		Guatemala: 20,035
		Nicaragua: 2,600
		El Salvador: 926
		Costa Rica: 20,195
		Total: 51,769
WASH Output 2.2: The response provided by the Ministry of Health is strengthened		
Indicators:	**Target**	**Actual**
# of foggers purchased	80	Honduras: 6
		Guatemala: 29
		Nicaragua: 40
		El Salvador: 9
		Costa Rica: N/A
		Total: 84
# of communities that have reduced larvae	72	Honduras: 17
		Guatemala: N/A*
		Nicaragua: 31
		El Salvador: N/A*
		Costa Rica: 7
		Total: 55
Notes: • *Guatemala: CBHFA plans were not achieved due to restrictions imposed by the government. These plans had not been initially planned for the intervention in Guatemala.* • *El Salvador: No work was done on this indicator because there was not enough time and budget to follow up with the communities to verify whether the larvae could be reduced.*		
Narrative description of achievements		
WASH Outcome 2: The risk of dengue has been reduced thanks to hygiene promotion and vector control		

# of communities that have controlled mosquito breeding sites

Honduras:

Infestation levels (positive breeding sites) were reduced in 17 communities thanks to a combination of factors including technical support, training workshops for community leaders, awareness sessions, chemical control days, equipment (cleaning tools), and provision of water container cleaning kits (La Untadita).

Guatemala:

CBHFA plans were proposed that would allow community leaders and members to participate in actions to control potential breeding sites. This activity had not been initially planned for in the GRC plan of action, only involvement and training of community leaders. With this time extension, the need to promote plans that would allow communities to plan transformative actions became evident; however, restrictions imposed by the government once the first positive case of COVID-19 was detected in the country made it impossible to carry out the training, planning and mobilization processes to control breeding sites. The measures restricting gatherings, schedules, movement, etc. affected even vector programme activities, leading to gaps in measurement of aedic indices in targeted communities that in turn prevented the performance of entomological surveys.

Nicaragua:

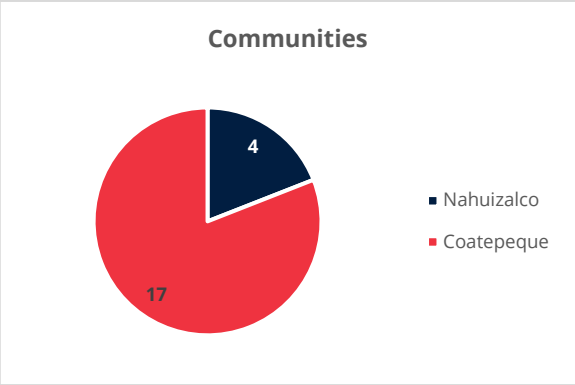
The operation reached a total of **31 communities**: **12** during the immediate response phase (DREF) and **19** under the Emergency Appeal, carrying out cleaning days and home visits to identify and destroy positive breeding sites. The strategy coordinated with the government of previously applying BTI, or in the case of Masaya at the time of the home visit, helped to ensure clean homes, reduce larval indices and therefore cases of dengue. It is important to note that some households had large amounts of water stored in tanks and barrels, which could not be thrown away because there was no other water available. These households were provided guidance and referred to MINSA to have the BTI applied. The breakdown of communities is reported in home visits made.

Cleaning day in Barrio 2 de Junio in Chinandega, July 2020. Source: NRC

Cleaning day in Barrio Santa Rosa in Masaya, August 2020. Source: NRC

El Salvador:

Larviciding campaigns were held during home visits in 21 communities in Coatepeque and Nahuizalco, in addition to providing information on where mosquito breeding sites can be found and how to destroy them, providing UNTADITA kits for cleaning barrels, basins and other water storage units and carrying out fumigation days, all in conjunction with the Ministry of Health and community leaders.

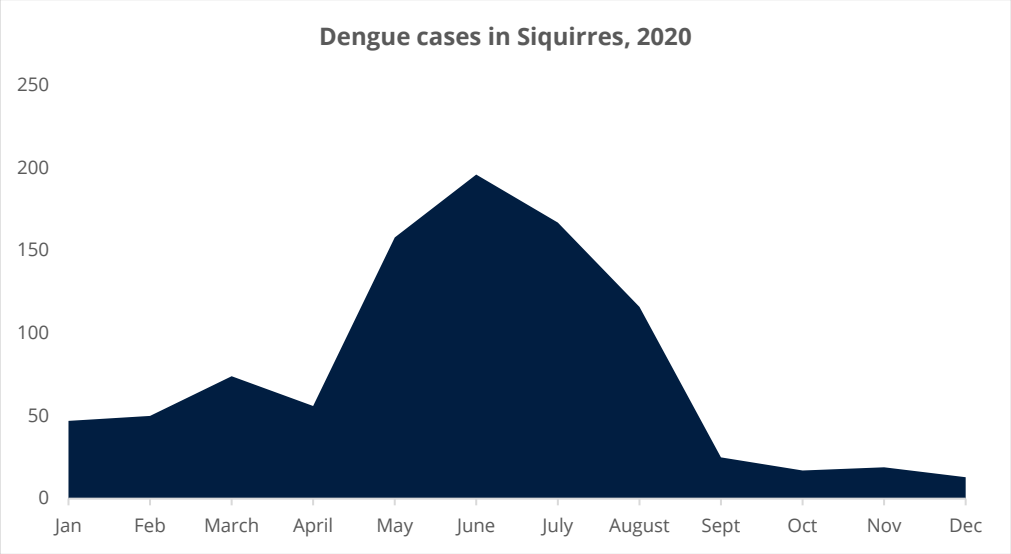


Costa Rica:

Because of the pandemic, CRRC was only able to coordinate with the Ministry of Health in Siquirres. Communities were addressed in conjunction with the Ministry of Health, the body responsible for vector control and per its intervention plan based on the incidence of cases in the different communities. Costa Rican Red Cross made its institutional vehicle available to transport Ministry of Health staff and its own volunteers conducting the home visits.

One to three communities were visited per day depending on the time available and the size of the area, simultaneously conducting fumigations, larviciding, collecting samples and raising awareness among the population.

Before the pandemic hit, CRRC managed to serve the communities of Betania, Laureles, Brooklin, Victoria, Quebrador, Siquirritos and Tobias Vaglio in Siquirres.



Dengue outbreak analysis in EGI- VECTORES - Ministry of Health

WASH Output 2.1: Social mobilization is promoted for the elimination of dengue vector reproduction sites

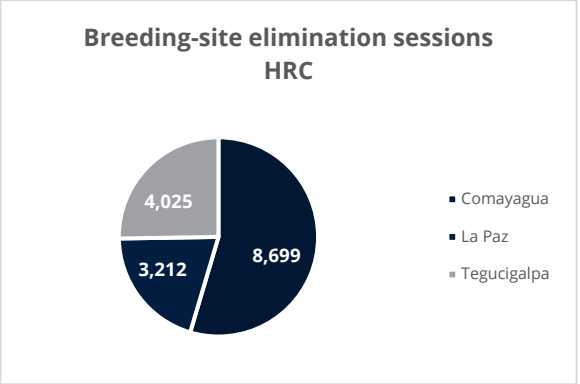
# of breeding-site elimination sessions conducted

Honduras:

Twenty-four breeding site elimination sessions were conducted. The first 17 included mobilizations to remove and dispose of debris and solid waste in all targeted communities. As added value and a preventive measure against the proliferation of mosquitoes after the tropical storms, seven communities were fumigated for a second time in the project's last quarter.

Fumigations were planned and coordinated with SESAL, using a chemical control technique that involves making epidemiological fences around confirmed cases of dengue. On this occasion, 100 per cent of neighbourhoods targeted by the project were fumigated. Municipal governments supported these efforts by providing trucks and crews to collect the solid waste gathered during cleaning days.

The fumigation agent - 2.5 per cent Deltamethrin (insecticide) diluted in diesel (domestic and agro-industrial use) - is applied as a fog.

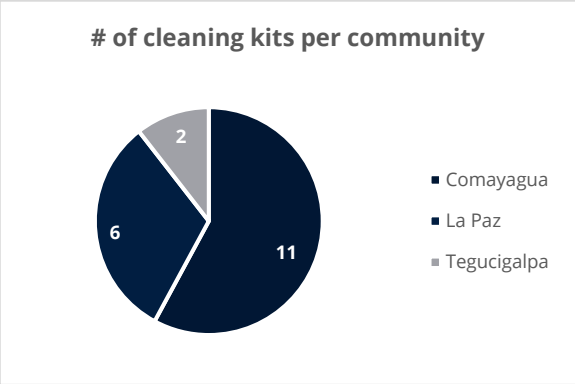


HRC volunteer during a vector control session in Tegucigalpa, August 2020. Source: HRC

Two rounds of fumigation were carried out during the intervention: the first in May, reaching **7,923** homes, and the second between December 2020 and January 2021, reaching **8,013** homes.

Provision of community cleaning toolkits

Nineteen surface cleaning and disinfection toolkits were acquired for this operation and delivered to communities.



Cleaning toolkit delivery to community committees in Tegucigalpa, August 2020 Source: HRC

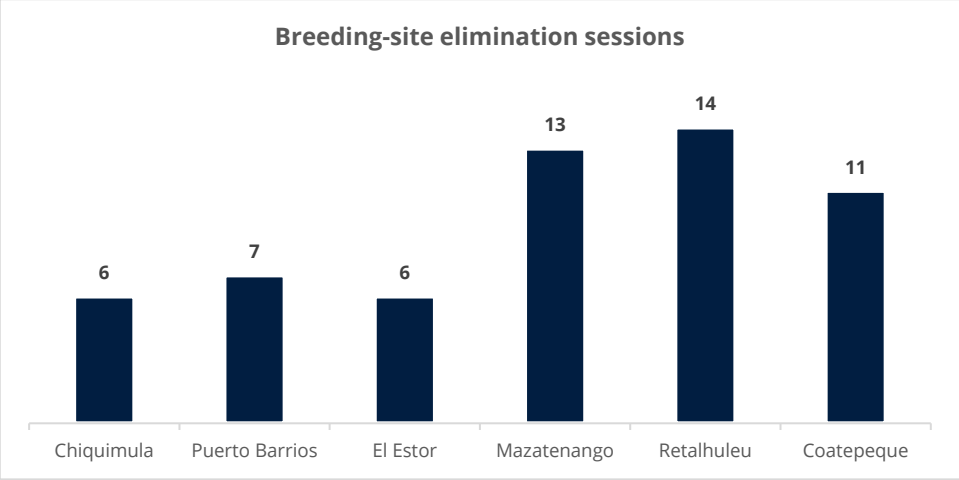
Toolkit Content	
Amount	**Description**
2	Wheelbarrow
2	Rake
2	Shovel
6	Rubber gloves
2	Machetes
2	Hoe
2	Flat file with handle
2	Brooms
5	Garbage bags
1	Megaphone
3	Alkaline batteries
1	Spray pump
2	Gallons of chlorine

Guatemala:

Clean-up sessions are an intervention tactic traditionally used in Guatemala at the community level that engages community members, groups and sectors in vector-borne disease control. This activity mainly focused on unused containers that may become potential breeding sites for the Aedes aegypti mosquito.

Measures and instructions regarding preparation, implementation and closeout of the activity were addressed in coordination with community leaders, MARN staff, MINEDUC authorities, municipal authorities (for waste collection and ETV staff), and others, who in turn were in constant communication via email, phone or WhatsApp. The following was taken into account:

- The sessions were planned based on Aedic indices.
- There were maps or sketches that identified the high-risk areas within the community.
- During the activity, it was ensured that GRC staff and other participants had the minimum PPE and complied with recommendations in a COVID-19 context.
- The group formed could not consist of more than ten people, with a maximum of four volunteers assigned including the technical team, to assist with the collection of solid waste and unused containers while observing social distancing measures, washing hands and using PPE.
- Megaphoning in the targeted community at least one week beforehand in order to publicize the activity, delivering key messages (dengue and COVID-19) reminding residents that only trash placed inside plastic bags or sacks would be collected, which should be placed in front of homes and schools for adequate final disposal in the municipal or local landfill



Nicaragua:

Forty-three clean-up sessions were carried out in 27 communities and 16 schools. "Garbage Plan" activities were conducted in coordination with neighbourhood leaders, the Ministry of Health and the mayor's office, which included guidance on how to eliminate breeding sites. During home visits, breeding sites were eliminated or BTI applied in the properties of families that allowed NRC into their homes. It is important to note that the pandemic limited home visits to avoid possible infection.

Elimination of breeding sites in Bo Walter Arata in Chinandega, October 2019 Source: NRC

Elimination of breeding sites in Barrio Patricio López in Masaya, 9 November 2019. Source: NRC

El Salvador:

A clean-up day to destroy breeding sites in the community was organized in conjunction with community promoters and community leaders in 7 Príncipes in Coatepeque and El Carmen, Cerritos, Santa Lucia and Ojusthal in Santa Ana. SRC provided garbage bags and made available a National Society van to collect the waste, as well as provided informational materials (posters).

Costa Rica:

Before the pandemic, CRRC visited communities together with Ministry of Health staff to raise awareness as well as to destroy breeding sites, apply larvicide and collect samples. The communities served were Betania, Laureles, Brooklin, Victoria, Quebrador, Siquirritos and Tobias Vaglio.

# of community leaders empowered through dengue prevention and sanitation measures

Honduras:

As part of HRC's approach strategy, a training workshop on general information about the vector, breeding sites, the dengue virus and its symptoms was delivered to adult and adolescent community leaders. Additionally, homes and surrounding areas were inspected and residents were provided with effective and practical vector control tips. Work plans for control and risk communication actions were carried out during these sessions.

Guatemala:

Institutional recognition at the community level facilitates the transition of good practices to community leaders for the management of sanitation and dengue prevention measures. Adequate management oriented to the needs of the community allows activities to be directed to these needs, installing, strengthening and concretizing the sustainability of actions through the community leaders themselves.

Nicaragua:

A total of **491** leaders from 19 communities were trained during the Appeal - 185 in the first stage of the Appeal and 118 in the second stage - as well as 188 leaders from 12 communities during the emergency response phase. Leaders were trained in vector control, as it is easier to identify and destroy breeding sites if you are familiar with the mosquito's life cycle. The training was delivered over four or five meetings, and leaders learned how to eliminate mosquitoes more effectively.

Leaders from Barrio Cuatro Esquinas in Masaya, 23 July 2020. Source: NRC

Leaders from Barrio Tierra Prometida in Managua, August 2020. Source: NRC

El Salvador:
No work was done on this indicator because there was not enough time and budget to follow up with the communities to verify whether the larvae could be reduced.

Costa Rica: N/A

# of kits distributed

Honduras:

4,900 "La Untadita" kits were purchased and delivered to each family house by house, together with messages promoting hygiene and on how to eliminate mosquito eggs. Communities that had difficulty accessing water were identified.

The kits contain the following:

- 1 litre of liquid chlorine
- 1kg of powdered detergent
- 1 plastic cleaning brush
- 1 plastic container.

Delivery of "UNTADITA" kits to clean barrels and basins in Tegucigalpa, October 2020.
Source: HRC

Guatemala:

This tactic promoted the scrubbing and washing of containers used to store water inside the home in order to eliminate mosquito eggs. Providing these supplies encouraged people to participate in home visits and face-to-face sessions, aiming to reinforce sustainable behaviours to promote changes in habits and eliminate potential mosquito breeding sites. In addition to the kits, 10,000 donated units of OFF repellent were strategically distributed based on reported cases. Children under 15 and women were the most affected. Some 1,200 lids were also provided to cover barrels, prioritizing high-risk areas in Las Palmas, Coatepeque, Quetzaltenango. Cleaning kits included a container, chlorine, a brush, detergent and an eco-bag.

Kit deliveries in health centre, Puerto Barrios, Izabal; January 2021, Source: GRC

Municipality	Kits distributed	Repellent	Barrel covers
Chiquimula	5,961	1,526	
Puerto Barrios	5,961	2,731	
El Estor	4,911	1,600	-
Mazatenango	5,961	1,600	
Retalhuleu	4,911	1,016	
Coatepeque	5,961	2,196	1,200
Total	**33,666**	**10,669**	**1,200**

Dotación de tapa toneles, aldea Las Palmas, Coatepeque, Quetzaltenango; marzo 2020 Fuente: CRG

Nicaragua:

Hygiene kits were distributed to **1,150** families in order to provide them with basic cleaning tools as well as chlorine, detergent, soap and a brush to wash water containers and remove mosquito eggs. Families were selected by neighbourhood leaders based on two criteria: families who kept a clean house and those who were low income. The delivery process was carried out using the ODK and Mega V tool. A voucher was registered in the tool and provided to each beneficiary. During delivery, the voucher was checked against a barcode to ensure an orderly distribution.

A total of 500 kits were delivered during the first phase - 320 in barrio El Carmen in Masaya and 180 in barrio Bello Amanecer in Chinandega; 350 kits were delivered during the second phase - 100 in barrio Tierra Prometida, 100 in barrio Omar Torrijo and 80 in Barrio Andrés Castro, all in Managua, and the remaining kits were delivered to schools and health centres; 150 kits were distributed during the third delivery – 50 in barrio Gerónimo López, 50 in Sonrisa de Dios and 50 in Tierra Prometida, all in Nagarote. In addition to the 1,000 kits committed in each stage, 150 more were purchased for neighbourhoods in Managua, that had asked for assistance. Considering that there was still some budget available, 50 kits were delivered to Grenada, 50 to Pantasma, 25 to Fraule and 25 to Santa Ana.

Hygiene kit delivery in barrio Omar Torrijo in Managua, September 2020. Source: NRC

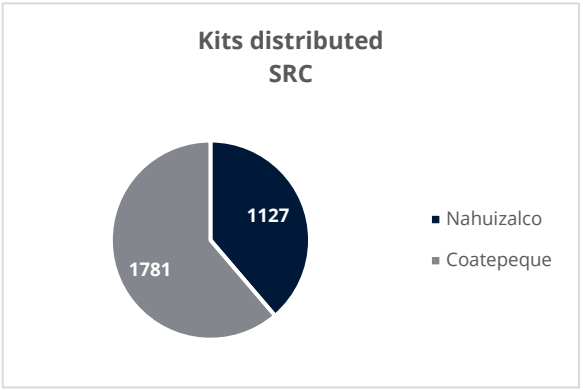
Cleaning kit delivery in health centre in Monimbó in Masaya, January 2021. Source: NRC

El Salvador:

2,908 UNTADITA kits were distributed in Nahuizalco (1,127) and Coatepeque (1,781), which contain:

- 12 Populinos (chlorine bleach)
- 2 sponges
- 1 brush
- 1 Rinso
- Stickers with recommendations for its use.

The purpose was for families to use the UNTADITA at home, which resulted in reduced larval indices and fewer cases of dengue cases. Deliveries included talks on how to use the UNTADITA.



Costa Rica:

CRRC distributed “Anti-Dengue School Kit” for first- and second-graders, instead of cleaning kits. See details on Health indicator 1.2.

# of households reached by the fumigation campaigns and home visits

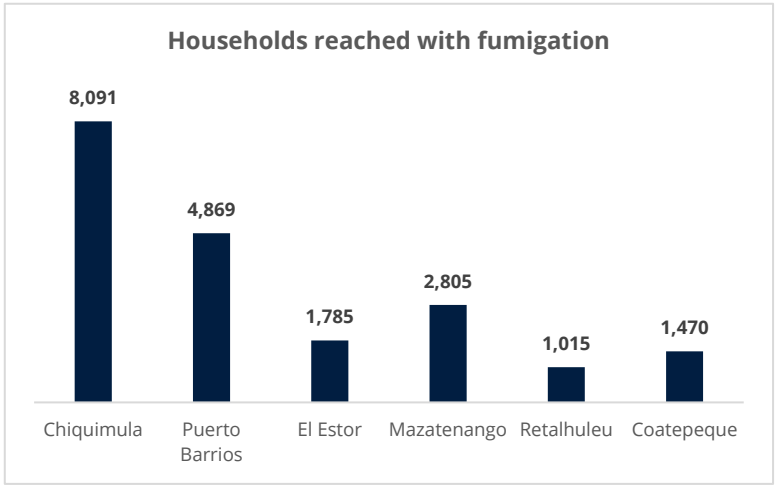
Honduras:

A total of 8,013 homes were reached by the end of the project. HRC's strategy for families involves three visits: one to look around and check for breeding sites and to apply larvicide to larger containers; the second visit involves fumigation sessions to destroy mosquito breeding sites; and the third is an educational visit and delivery of the La Untadita kit. This is a formula promoted by HRC based on its extensive experience handling emergencies caused by mosquito-transmitted diseases.

Guatemala:

The emergence of confirmed cases of dengue activated an inter-institutional response plan led by the Ministry of Public Health and Social Assistance to control the outbreak. Chemical control was carried out, respecting physical distancing as a preventive measure given the current COVID-19 situation. It was agreed with the heads of vector brigades in six targeted municipalities that risk would be assessed based on the COVID-19 Warning Dashboard, which would indicate whether or not to enter homes and ask families to leave doors and windows open during fogging.

Guatemalan Red Cross continues supporting health services and providing supplies for this type of control, i.e., human resources, fuel, chemicals, PPE and materials necessary for implementing the activity.



Fogging in Barrio El Centro, El Estor, Izabal; October 2020. Source: GRC

Nicaragua:

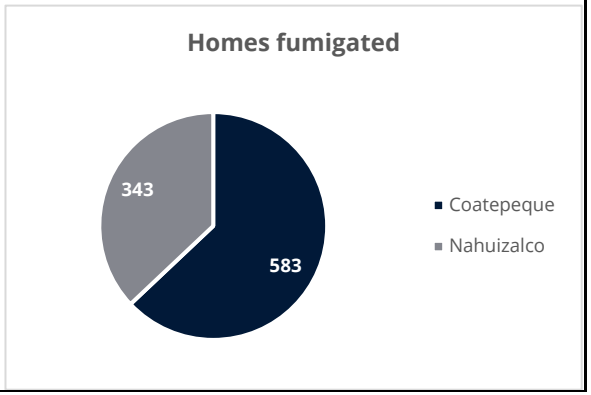
Given the increase in dengue cases in December 2019, the Municipal MINSA delegation planned a sweep in neighbourhoods with the highest number of reported dengue cases, requesting the NRC's support with fumigations. Sixteen volunteers from the Chinandega branch, together with MINSA, have managed to fumigate 2,600 homes. Volunteers received a protection kit to be used during fumigations containing a mask, an apron and gloves. Fuel vouchers and two fogging machines were provided to MINSA and RC.

Municipality	Community	Houses	Total
Chinandega	Comarca Ranchera,	250	**2,600**
	La Joya	700	
	Grieta	50	
	La Florida	800	
	El Rosario	800	

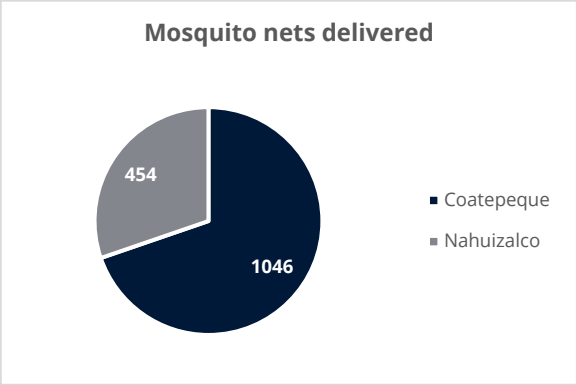
Fumigation in Barrio Camilo Ortega in Chinandega by NRC volunteers. Source: NRC

El Salvador:

A fumigation campaign was carried out in Coatepeque and Nahuizalco with support from the Ministry of Health, health promoters and community leaders, reaching a total of 926 homes. Posters were set up.



1,500 mosquito nets were also distributed in Coatepeque y Nahuizalco to families identified as having a larger number of mosquito breeding sites, all in conjunction with community promoters and community leaders.



Costa Rica:

Despite that the Ministry of Health is responsible for this issue and has the supplies required to carry out fumigations, the deterioration of protective gear and the unavailability of equipment limited the work. The NS therefore supported the Ministry of Health in Siquirres by donating personal protective equipment to conduct fumigations, loaning three thermal foggers to increase the Ministry's fumigation capacity and providing printed materials for distribution in communities.

In conjunction with the Ministry of Health, the NS targeted three communities daily, simultaneously fumigating, applying larvicide and sensitizing the population. The table below shows fumigations by the Ministry of Health in the first three quarters in 2020.

Homes fumigated in Siquirres as of September 2020

Month	Focal treatment						Fogger	UBV Machine (Leco)	Spray
	Existing	Visited	Positive	Closed	Hesitant	% of closed houses	Homes fogged	Homes fogged	Homes fogged
January	1,300	934	81	366	-	28%	471	-	510
February	2,435	1,749	126	680	6	28%	2,284	-	344
March	2,154	1,635	112	519	-	24%	5,548	18,200	-
April	14	12	-	2	-	14%	1,987	9,900	484
May	2,622	1,874	182	745	3	28%	2,213	33,893	2,696
June	2,610	1,830	175	779	1	30%	1,303	16,500	2,212
July	1,477	1,023	74	450	4	30%	2,617	1,100	1,294
August	1,648	1,262	119	384	2	23%	3,326	7,700	835
September	542	438	18	104	-	19%	446	19,800	668
Total	**14,802**	**10,757**	**887**	**4,029**	**16**	**27%**	**20,195**	**107,093**	**9,043**

WASH Output 2.2: The response provided by the Ministry of Health is strengthened

# of foggers purchased

Honduras:

Six new foggers were acquired for this operation, which were added to the ten foggers that HRC already had. This acquisition allowed fumigating 350 homes per day.

As an added value, some 60 HRC and community volunteers were trained on this equipment's operation and maintenance.

Right: HRC volunteer applying insecticide in homes for vector control, Tegucigalpa, October 2020. Source: HRC

Guatemala:

Two equipment purchases were made. The first purchase was 15 thermal foggers and 10 backpack foggers, distributed as follows:

MSPAS health area	Thermal foggers	Foggers
Izabal	6	4
Suchiquepequez	3	2
Retalhuleu	3	2
Quetzaltenango	3	2
Total	**15**	**10**

The second purchase was four thermal foggers, which were to be used by GRC staff. The National Society kept five of the 29 foggers acquired.

Nicaragua:

A total of **40 foggers** were purchased - 26 were delivered to MINSA and the rest were distributed to NRC branches throughout the country promoting fumigations at the branch and community level, i.e., branches in Rivas, Tipita, Sebaco, Juigalpa, Matagalpa, Ocotal, Chinandega, Nagarote, Masaya, Somoto, León and National Headquarters.

Delivery of thermal foggers and protection equipment to SILAIS León.
Source: NRC

Delivery of fogger to health centre in Nagarote
Source: NRC

El Salvador:

Nine foggers were purchased and deployed to communities based on needs. These are managed by SRC HQ and made available to National Society branches. Furthermore, six foggers belonging to the National Society were provided maintenance and repaired.

Costa Rica:

The National Society did not purchase foggers because it still had the ones purchased for previous projects, although it did provide maintenance to the ones it had so that they could be used for this operation.

# of communities that have reduced larvae

Honduras:

Larvae populations were reduced in 17 communities through community surveillance using the LIRAa (Aedes Infestation Index Rapid Survey) strategy, which directs actions towards community areas identified as critical. It also systematizes the assessment of the activities carried out, which enables making better use of the human and material resources available.

Larval indices are the most widely used in HRC dengue control programmes, and infestation indices are frequently used. The advantage of using the LIRAa strategy is that it quickly and safely presents larval infestation indices (in the home and Breteau), it can be used to assess post-intervention results, and provides some guidelines to orient actions to control and prevent vector reproduction.

HRC volunteers collecting larvae during entomological surveillance sessions in Comayagua, May 2020. Source: HRC

Findings of surveillance using the Aedes Infestation Index Rapid Survey (LIRAa)					
N	**Community**	**Targeted**	**Sample 30%**	**House index (1st LIRAa)**	**House index (2nd LIRAa)**
1	Colonia Fiallos	225	68	27.45	12.00
2	Aldea Quebracho	141	42	44.10	22.60
3	Colonia Valladolid	306	92	33.00	19.60
4	Barrio Cabañas	314	94	35.00	24.30
5	Colonia 21 de Abril	653	196	42.60	17.55
6	Barrio Independencia	450	135	45.00	12.00
7	Colonia Lomas del Rio	400	120	37.00	14.00
8	Aldea Valle de Angeles	450	135	41.50	21.32
9	Colonia Iván Betancourt	693	208	38.00	25.20
10	Colonia 1 de mayo	742	223	31.30	16.00
11	Barrio San Antonio	310	93	30.00	25.00
12	Barrio San Juan	283	85	39.55	11.45
13	Barrio La Concepción	303	91	31.00	15.00
14	Barrio La Merced	316	95	41.34	13.10
15	Barrio La Granja	400	120	29.40	16.15
16	Los Pinos, Sector F*	1,012			
17	Los Pinos, Sector D*	1,015			
Total		**8,013**	**1,796**	**36.42**	**17.68**

**** Houses in Los Pinos sectors F and D were not inspected due to security issues and per recommendations by health authorities.***

During this operation, a LIRAa assessment was conducted in each community at the beginning of the activities in coordination with SESAL environmental health technicians and with support from HRC volunteers. The average assessment obtained was an infestation index of **36 per cent**. According to health authorities, an index **greater than 10%** indicates a high level of risk for Dengue, Zika and Chikungunya infections.

After the project's intervention, which included strategies aimed at changing behaviour, chemical control and environmental manipulation, the second LIRAa assessment indicated an infestation index of **17.68 per cent**, an **18.74 per cent reduction** in the level of risk during the operation's support to communities.

Guatemala: N/A

Nicaragua:

This is not an indicator specific to Nicaragua. The NS is responsible for locating the communities that have reduced mosquito breeding sites, but it does not track larval index reduction as such. What can be affirmed is that the communities targeted by the project in which breeding sites were destroyed and whose families received information managed to reduce the number of larvae in their homes and community.

El Salvador:
No work was done on this indicator because there was not enough time and budget to follow up with the communities to verify whether the larvae could be reduced.

Costa Rica:
Because of the pandemic, CRRC was only able to coordinate with the Ministry of Health in Siquirres. Communities were served in conjunction with the Ministry of Health, the body responsible for vector control and per its intervention plan based on the incidence of cases in the different communities.

Costa Rican Red Cross made its institutional vehicle available to transport Ministry of Health staff and its own volunteers conducting the home visits. One to three communities were visited per day depending on the time available and the size of the area, simultaneously conducting fumigations, larviciding, collecting samples and raising awareness among the population.

Before the pandemic hit, CRRC managed to serve the communities of Betania, Laureles, Brooklin, Victoria, Quebrador, Siquirritos and Tobias Vaglio in Siquirres.

Challenges

Honduras:

- HRC faced the challenge of having to carry out a health-oriented work plan in the midst of a global health crisis, where fear and lack of information prevented it from reaching the people it had pledged to help. However, it was able to overcome these obstacles and fulfil its pledge to the target population by slightly modifying field actions and improving biosafety measures.

Guatemala:

- Using personal protective equipment while handling and applying chemicals to control adults and larvae.
- The rainy season limits the hours available to apply the chemicals during outbreak control.
- Pandemic-related restrictions limited home visits.

- Using vector control chemicals according to outbreak control standards.

Nicaragua:

- Promoting families' participation in cleaning days so that they assume collective responsibility for cleaning their community and stop expecting MINSA and the Mayor's Office to do it for them.
- On many occasions, NRC was unable to get the local government to provide trucks to collect the garbage, which had to be left out in the open. This made it necessary to look for other alternatives to dispose of the garbage to avoid losing credibility with the population, so trucks were rented using project resources.
- Waste management in homes and protecting stored water continue to be great challenges for MINSA, local governments and organizations working at the community level. Families just let garbage accumulate, which many times ends up becoming mosquito breeding sites. Achieving changes in behaviour constitutes a major challenge for eradicating dengue in Nicaragua.
- No one entered homes during home visits for fear of COVID-19 infection, which affected the ability to keep track of the number of existing breeding sites and the number of those eliminated.

El Salvador:

- There was no vehicle available to collect the garbage during the cleaning day due to the Christmas holidays. A vehicle (van) was provided by the NS, making it possible to carry out the activity in 7 Príncipes, Santa Ana.
- Suspension of project activities due to biosafety issues.
- UNTADITA kit supplies were damaged because of the prolonged storage (7 months) due to COVID-19 restrictions. A reclassification of funds was requested to be able to purchase more bleach, sponges and detergent to complete the damaged kits, distribute them, and thus achieve this indicator.

Costa Rica:

- The main challenge was that this type of activity falls under the purview of the Ministry of Health, which allowed the NS to broadly coordinate efforts with the Ministry in some regions while not all in others. Therefore, the central level must be approached to have them download information to their regional and local structures.
- Proposing activities that allow the NS to work with communities in parallel with actions carried out by the Ministry of Health.
- Inter-institutional support for risk management in order to prevent dengue. For example, with materials, vehicles or human resources.

Lessons learned

Honduras:

- Good results were obtained thanks to the extension of the operation's timeframe. What began as a three-month DREF was scaled up in terms of both geographic coverage and funds, and this 12-month period turned out to be a positive factor in reducing larval infestation rates in homes as well as dengue infection rates in the population.

Guatemala:

- The training of volunteers in vector prevention and control in coordination with MSPAS, whether face-to-face or virtually, was essential for this operation.
- Regular visits to homes to monitor control measures and use of adequate vector control methods allowed establishing cleaning habits to eliminate potential vector breeding sites.
- Actions such as physical vector control kits were evidence-based on good practices interventions, in addition to the barrel lids that contributed to managing containers.
- Applying chemicals per the MSPAS standard allowed timely control; however, strengthening the epidemiological surveillance system is important.

Nicaragua:

- Cleaning days need to be coordinated with the mayor's office to arrange for same-day garbage removal instead of having it pile up in key points in the community and become a public health problem.
- Conduct campaigns that stress the difference between having a home free of garbage and a home free of mosquito breeding sites, which is the ultimate goal of the project.
- This type of training needs to include topics such as garbage management at the household and at the community level so that it does not become a mosquito breeding site.
- Better coordination between MINSA and the mayor's office is required to ensure cleanliness, especially in neighbourhoods with sources of contamination and dengue outbreaks.

Costa Rica:

- Promote better coordination between our Auxiliary Committees and the Ministry of Health in each region prior to emergencies or events, which in turn will facilitate the coordination of actions in the event of a project.
- Engagement with other institutions that interact in communities, to publicize that Red Cross is able to carry out this type of action.
- Institutional positioning with the community on risk management issues.
- Significant decrease in dengue cases in the last epidemiological weeks.

Strategies for Implementation

Outcome 1: **National Society capacity building and organizational development objectives are facilitated to ensure that National Societies have the necessary legal, ethical and financial foundations, systems and structures, competences and capacities to plan and perform**		
Indicators:	**Target**	**Actual**
# of National Societies that are better prepared to respond to future outbreaks	5	5
Output S1.1: **National Society capacity building and organizational development objectives are facilitated to ensure that National Societies have the necessary legal, ethical and financial foundations, systems and structures, competences and capacities to plan and perform**		
Indicators:	**Target**	**Actual**
# National Societies have included preparedness elements to respond to future outbreaks in their contingency plans	5	5
Output 1.2: **National Societies have the necessary corporate infrastructure and systems in place**		
Indicators:	**Target**	**Actual**
# of personnel hired in National Societies as part of the operation	20	Honduras: 5 Guatemala: 8 Nicaragua: 5 El Salvador: 2 Costa Rica: 1 **Total: 21**

# of volunteers deployed for response	450	Honduras: 58
		Guatemala: 52
		Nicaragua: 58
		El Salvador: 20
		Costa Rica: 62
		Total: 250
***Outcome S2.1:* Effective and coordinated international disaster response is ensured**		
***Output S2.1.1:* An effective mechanism for preparedness and response is maintained in National Societies in the event of emergency situations**		
Indicators:	**Target**	**Actual**
# of IFRC staff that has supported the dengue operation	10	12
# of monitoring visits conducted	20	7
# of RITs deployed	3	4
# of external evaluations of the operation carried out	1	1
Narrative description of achievements		
Outcome 1: National Society capacity building and organizational development objectives are facilitated to ensure that National Societies have the necessary legal, ethical and financial foundations, systems and structures, competences and capacities to plan and perform		
# of National Societies that are better prepared to respond to future outbreaks		

Honduras:

HRC has once again demonstrated the effectiveness of its community health and vector control approach, to the point of lowering vector infestation rates and reducing the number of people reported as sick with dengue.

Chemical control equipment was acquired and reinforced; six foggers were purchased and human resources were trained on their use and maintenance; and volunteers acquired significant field experience in these matters.

Guatemala:

With the budget allocated for the third phase, Guatemalan Red Cross acquired chemical control supplies, PPE, four thermal foggers to respond to future outbreaks, and strengthened its monitoring system through the standardization of tools and training processes for technical staff in the context of the COVID-19 pandemic.

Nicaragua:

Twelve working sessions were held to prepare the Contingency Plan with representatives from the areas of health, relief, training, volunteers and the project's technical team, and a final approval session was held with the Director General for approval by the Executive Committee. Part of the methodology proposed by the International Federation of Red Cross and Red Crescent Societies (IFRC) has been used.

El Salvador:
The activities carried out under the project resulted in trained personnel in community intervention for behavioral change and equipment.

Costa Rica:
As a National Society, it assesses what has been done in previous projects, takes ideas and updates designs to replicate them, while developing materials that can be used as models for future projects involving vector management. Likewise, the lessons drawn from this project are captured to strengthen future plans dealing with this issue.

OUTPUT S1.1: National Society capacity building and organizational development objectives are facilitated to ensure that National Societies have the necessary legal, ethical and financial foundations, systems and structures, competences and capacities to plan and perform

 # National Societies have included preparedness elements to respond to future outbreaks in their contingency plans

Nicaragua:

A Contingency Plan for epidemiological alerts was drawn up as part of this project. Key National Society areas - Health, Risk Management, Training and General Directorate - were involved in its preparation in order to have a validated tool useful for responding to any health crisis or epidemiological alert. To complement this process, Health NIT training was provided and Community Engagement and Accountability (CEA) and Vector Control workshops were held, which strengthen the National Society's capacity to respond to epidemiological or pandemic alerts.

El Salvador:

Epidemic care has been integrated into the National Response Plan for development, and into the NS procedures.

Output 1.2: National Societies have the necessary corporate infrastructure and systems in place

# of personnel hired in National Societies as part of the operation
Honduras:
The following team was hired to carry out actions in the field:
- 1 field coordinator.
- 1 administrative assistant, deployed to the field
- Three field technicians, assigned to Comayagua, La Paz and Tegucigalpa.
- 1 driver/logistician.

Additionally, three volunteers were given the opportunity to do a three-month internship in administrative, logistical and technical roles in the field.

Guatemala:
Eight people were been hired for this operation:
6 sanitation technicians, one for each of the following delegations.
- Chiquimula

- Puerto Barrios
- El Estor
- Mazatenango
- Retalhuleu
- Coatepeque

1 administrative technician (Headquarters).
1 project coordinator (Headquarters).

Nicaragua:
The staff is made up of a coordinator, an administrator, two technicians and a driver/logistician, for a total of five hired staff. The staff initially hired remained throughout the operation. Performance evaluations were performed, which allowed correcting some gaps. The driver was changed because he was transferred to another position.

El Salvador:
Two people were hired for this operation: one project coordinator and one specialist technician.

Costa Rica:
Only a project coordinator was hired, who worked out of Headquarters, with support from regional and local structures to implement project activities.

# of volunteers deployed for response
The initial target of 3,000 volunteers for this operation, was affected by the COVID-19 pandemic. Due to the measures adopted by each country government, volunteers being on risk groups or taking care of family members affected by the pandemic, restrictions on mobilization and social gatherings, it was considered best to lower this target to align it better with the NS actual capacity to mobilise volunteers. Therefore, the target was updated to 450.

Country	Branch / Delegation	Volunteers
Honduras	Comayagua	22
	La Paz	18
	Tegucigalpa	18
	Total	**58**
Guatemala	Chiquimula	16
	Puerto Barrios	8
	Mazatenango	14
	Retalhuleu	6
	Coatepeque	8
	Total	**52**
Nicaragua	Chinandega	25
	Masaya	18
	Managua	15
	Total	**58**
El Salvador	Coatepeque	5
	Nahuizalco	5
	Headquarters	10
	Total	**20**
Costa Rica	Turrucales	5
	Atenas	4
	Siquirres	49
	Headquarters	4
	Total	**62**
	Total	**250**

Outcome S2.1: Effective and coordinated international disaster response is ensured

Output S2.1.1: An effective mechanism for preparedness and response is maintained in National Societies in the event of emergency situations

# of IFRC staff that has supported the dengue operation

# of monitoring visits conducted

# of RITs deployed

# of external evaluations of the operation carried out

Narrative description of achievements

Regional:

Twelve IFRC staff members have been highly involved in this operation, from the design stage and DREFs to the Emergency Appeal. Said staff have had different roles during the operation: head of operation, head of Central America CCST, staff from different areas, information management, planning, monitoring, evaluation and reporting, finance, partnership resource development, surge, health, security and water, sanitation and hygiene.

IFRC conducted seven monitoring visits; two Health RITs have been deployed to Honduras and Nicaragua to support Appeal actions; and three RITs have been deployed to the regional office to assist with PMER and Information Management.

A workshop on Health in Emergencies was conducted by IFRC staff in Colombia, before de COVID-19 pandemic.

Challenges

Honduras:

- Working under quarantine conditions, achieving a balance between meeting work goals and being there for family and loved ones in times of health and emotional crises.

Guatemala:

- Volunteers' involvement was limited by COVID-19 pandemic context.
- Advancing with activities during various unions strikes.

Nicaragua:

- At the beginning of the project, coordination with MINSA and SILAIS Managua was a challenge because of the time it took to coordinate at the local level. Coordination could not be achieved even after the Minister had given her approval, which delayed activity start-up. Indicators and results were achieved within the expected time thanks to the support provided by NRC volunteers and by NRC leadership, who made all resources available.
- Field activities were suspended due to the uptick in COVID-19 cases and high levels of infection among the population. Furthermore, volunteer participation was limited, which delayed the continuity of actions. When activities were resumed, the initial dynamics had changed, as entering homes during home visits to identify and eliminate breeding sites was not allowed. Only educational visits were made.
- The Central Government's enforcement of the law regulating foreign agents once again caused delays, as the Plan of Action needed to be authorized and approved by the Ministry of Foreign Affairs, by the Ministry of Health at the central level and later by all local coordinators. Closing the last phase of the project took almost two months. The times that were agreed with IFRC for activity close-out helped a great deal.

El Salvador:

- The greatest challenge was that parallel to the development of this operation, prevention actions began to be developed during the COVID19 pandemic.
- Health personnel focused on the COVID-19 pandemic, leaving the issue of arbovirosis in the background.
- Due to the COVID-19 pandemic, activities had to be suspended for a period of four months, and for each activity, it was necessary to find a strategy to achieve social distancing and biosecurity measures.

Costa Rica:

- Achieving greater involvement by national and regional volunteer structures of the NS for their empowerment for the different activities to be carried out.

Lessons learned

Honduras:

- Using technological tools to overcome barriers related to distance.

Guatemala:

- Working through community leaders promoted people's acceptance and mobilization at the beginning of the intervention.

Nicaragua:

- It is important to have a specialized vision on health issues when drawing up contingency plans, especially when preparing response protocols for health events and especially given the pessimistic scenarios that predict the presence of the Coronavirus for longer than expected and endemic diseases such as dengue and malaria.
- Volunteers' support and availability was fundamental for carrying out the home visits, cleaning days and school activities. They were an important arm in the operation.
- Project risk analyses need to consider the context and the environment to be able to plan mitigating actions that do not jeopardize project fulfilment.

Costa Rica:

- Having more NS support staff at the Project Unit level to facilitate monitoring and implementation of activities.

D. FINANCIAL REPORT

Click here to go directly to the final financial report.

Contact Information

Reference Documents

Click here for:

- **Emergency Appeal and Operations Updates**

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How we work.

All IFRC assistance seeks to adhere to the **Code of Conduct** for the International Red Cross and Red Crescent Movement and Non-Governmental Organizations (NGO's) in Disaster Relief and the **Humanitarian Charter and Minimum Standards in Humanitarian Response (Sphere**) in delivering assistance to the most vulnerable. The IFRC's vision is to inspire**, encourage, facilitate and promote at all times all forms of humanitarian activities** by National Societies, with a view to **preventing and alleviating human suffering**, and thereby contributing to the maintenance and promotion of human dignity and peace in the world.

Selected Parameters			
Reporting Timeframe	2019/09-2021/06	Operation	MDR42005
Budget Timeframe	2019/09-2021/03	Budget	APPROVED

Emergency Appeal
FINAL FINANCIAL REPORT

Prepared on 15 Jul 2021

All figures are in Swiss Francs (CHF)

MDR42005 - Central America - Dengue Outbreak

Operating Timeframe: 18 Sep 2019 to 18 Mar 2021; appeal launch date: 18 Sep 2019

I. Emergency Appeal Funding Requirements

Thematic Area Code	Requirements CHF
AOF1 - Disaster risk reduction	0
AOF2 - Shelter	0
AOF3 - Livelihoods and basic needs	0
AOF4 - Health	1,500,000
AOF5 - Water, sanitation and hygiene	580,000
AOF6 - Protection, Gender & Inclusion	0
AOF7 - Migration	0
SFI1 - Strenghten National Societies	320,000
SFI2 - Effective international disaster management	500,000
SFI3 - Influence others as leading strategic partners	0
SFI4 - Ensure a strong IFRC	0
Total Funding Requirements	**2,900,000**
Donor Response* as per 15 Jul 2021	**1,216,934**
Appeal Coverage	**41.96%**

II. IFRC Operating Budget Implementation

Thematic Area Code	Budget	Expenditure	Variance
AOF1 - Disaster risk reduction	0	0	0
AOF2 - Shelter	0	0	0
AOF3 - Livelihoods and basic needs	0	0	0
AOF4 - Health	1,026,926	821,850	205,076
AOF5 - Water, sanitation and hygiene	135,680	69,336	66,345
AOF6 - Protection, Gender & Inclusion	0	38	-38
AOF7 - Migration	0	0	0
SFI1 - Strenghten National Societies	302,834	366,175	-63,341
SFI2 - Effective international disaster management	418,535	403,653	14,882
SFI3 - Influence others as leading strategic partners	47,261	18,703	28,558
SFI4 - Ensure a strong IFRC	30,990	20,224	10,766
Grand Total	**1,962,226**	**1,699,978**	**262,248**

III. Operating Movement & Closing Balance per 2021/06

Opening Balance	0
Income (includes outstanding DREF Loan per IV.)	1,781,308
Expenditure	-1,699,978
Closing Balance	**81,330**
Deferred Income	0
Funds Available	81,330

IV. DREF Loan

* not included in Donor Response	Loan :	806,249	Reimbursed :	241,875	**Outstanding :**	**564,374**

Selected Parameters			
Reporting Timeframe	2019/09-2021/06	Operation	MDR42005
Budget Timeframe	2019/09-2021/03	Budget	APPROVED

Emergency Appeal
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MDR42005 - Central America - Dengue Outbreak

Operating Timeframe: 18 Sep 2019 to 18 Mar 2021; appeal launch date: 18 Sep 2019

V. Contributions by Donor and Other Income

Opening Balance	**0**

Income Type	Cash	InKind Goods	InKind Personnel	Other Income	TOTAL	*Deferred Income*
American Red Cross	123,888				**123,888**	
China Red Cross, Hong Kong branch	25,114				**25,114**	
DREF Allocations				564,374	**564,374**	
European Commission - DG ECHO	498,344				**498,344**	
Japanese Red Cross Society	36,457				**36,457**	
On Line donations	27				**27**	
Red Cross of Monaco	10,971				**10,971**	
Spanish Government	110,195				**110,195**	
Spanish Red Cross	14,913				**14,913**	
Swedish Red Cross	209,761				**209,761**	
The Canadian Red Cross Society (from Canadian Gov	22,309				**22,309**	
The Netherlands Red Cross (from Netherlands Govern	164,956				**164,956**	
Total Contributions and Other Income	**1,216,934**	**0**	**0**	**564,374**	**1,781,308**	***0***
Total Income and Deferred Income					**1,781,308**	*0*