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DREF Preliminary Final Report

Ecuador: Floods

 International Federation
of Red Cross and Red Crescent Societies

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| DREF Operation | MDREC011 |
| Date of issue: 27 September 2016 | Date of disaster: 24 January 2016 |
| Operation manager (responsible for this EPoA): Pabel Angeles, Regional Disaster Management Coordinator – South America | Point of contact: Paola López - National Technical Response, Ecuadorian Red Cross (ERC) |
| Operation start date: 1 February 2016 | Timeframe: 4 months |
| Overall operation budget: 184,836 Swiss francs | |
| Number of people affected: Approximately 23,955 people (5,899 families) | Number of people assisted: 3,262 people (733 families) |
| Presence of Host National Society: Ecuadorian Red Cross headquarters, in addition to 24 provincial boards, 110 local branches, 8,000 volunteers, 200 staff members. The Esmeraldas provincial branch has 3 branches at the canton level in Atacames, Quinindé and San Lorenzo, with a total of 50 volunteers. | |
| Red Cross Red Crescent Movement partners actively involved in the operation: International Federation of Red Cross and Red Crescent Societies (IFRC), International Committee of the Red Cross (ICRC) through a development project in San Lorenzo. | |
| Other partner organizations actively involved in the operation: Ministry of Economic and Social Inclusion, Ministry of Public Works, Ministry of Agriculture, Livestock and Fisheries, Ministry of Health (MSP), Ministry of Education, Risk Management Secretariat, local governments, National Police, the United Nations Children's Fund (UNICEF), World Food Programme (WFP), Plan International, World Vision, Catholic Relief Services (CRS), Office of the United Nations High Commissioner for Refugees (UNHCR) and Esmeralda Catholic University's School of Nursing. | |

[<Click here to view the contact information and here for the preliminary final financial report>](#)

A. Situation analysis

A.1 Description of the disaster

At 23:00 on 24 January rains over the province of Esmeraldas started increasing in intensity, causing the overflowing of the Esmeraldas, Muisne, Quinindé, San Lorenzo, Eloy Alfaro, Rioverde and Atacames rivers, which led to landslides that affected homes and the main roads connecting Esmeraldas and Quinindé, Esmeraldas and Atacames, and Esmeraldas and Río Verde. Road conditions began to normalize as rains decreased in intensity.

On 25 January 2016, after two days of heavy rains (24 to 26 January), Esmeraldas, Atacames, and Rioverde authorities declared a state of emergency due to the impact caused by the flooding, especially since rivers and tributaries in the area



Photo 1. Health promotion activities for affected families in the Atacama canton, Esmeralda. Source: ERC

maintained higher than normal levels several days after the event. On 30 January, through its Return Plan, the Provincial Governorate initiated actions to encourage residents to leave the places where they were being housed and return home. To this end, officials from various institutions visited the area and efforts began to clean up homes.

Official reports from the province of Esmeraldas estimated that **5,899 families** (23,955 people) were directly affected; 70 per cent were evacuated to collective centres. The families who returned to their homes lost or suffered damage to between 50 per cent and 80 per cent of their belongings.

According to Status Report 1 and the ERC's final mission report, the road infrastructure, housing, containment walls, productivity, electrical systems, and potable water systems were mainly affected.

The Ministry of Agriculture, Livestock, Aquaculture, and Fisheries (MAGAP) reported that more than 2,000 farmers lost their crops, while 80 per cent of tourism was affected because provincial authorities had to suspend Carnival activities, which are essential to the local economy.

On 1 February 2016, the decentralized local government of Rioverde canton and the mayor of Atacames asked the Ecuadorian Red Cross to provide support to the families affected by floods in the province of Esmeraldas and reduce the impact of the flooding on the affected areas.

The emergency operation had to be extended for one additional month due to the 7.8 earthquake that shook northern Ecuador on 16 April 2016, which led first the declaration of a state of national exception to ensure order and later to a state of emergency; response teams were deployed to affected areas to initiate first response actions and provide humanitarian assistance. This operation's actions resumed after a few weeks.

The major donors and partners of the DREF include the Red Cross Societies and governments of Australia, Austria, Belgium, Canada, Denmark, Ireland, Italy, Japan, Luxembourg, Monaco, the Netherlands, Norway, Spain, Sweden and the USA, as well as DG ECHO, the UK Department for International Development (DFID) the Medtronic and Zurich Foundations and other corporate and private donors. The IFRC, on behalf of the Ecuadorian Red Cross would like to extend many thanks to all partners for their generous contributions.

A.2 Summary of the current response

Overview of Host National Society

The Esmeraldas Provincial Board was involved in the following work areas:

- ✓ Assistance to the Esmeraldas Provincial Board president and her technical team in canton and provincial Emergency Operations Centre (EOC) meetings.
- ✓ Carrying out of damage assessment, needs analyses and registration of families in accessible areas, with the participation of Health, Risk Management and Youth volunteers.
- ✓ Preparation of a situation report and a final report on the emergency and of Ecuadorian Red Cross interventions.
- ✓ Validation of information regarding affected communities and collective centres set up in Esmeraldas and Atacames.
- ✓ Institutional representation at provincial and canton EOC meetings to organise interventions on site with support from national technicians.



Photo 2. River transport of food kits for affected families in the Rioverde canton in Esmeralda. Source: ERC

Overview of Red Cross Red Crescent actions in the country

The IFRC country cluster office in Lima, Peru provides permanent support to the Ecuadorian Red Cross and other countries in South America. The IFRC's Pan American Disaster Response Unit (PADRU) also provided ongoing support and technical assistance during the situation. Additionally, the disaster management coordinator was deployed to support the monitoring actions and to facilitate the lessons learned workshop. About two years ago, an agreement was reached with the IFRC to ensure that Ecuadorian Red Cross would be a strategic location to have an emergency response warehouse for the country, southern Colombia, and northern Peru; this agreement was renewed in November 2015, and the warehouse has been well maintained in order allow for the immediate deployment of hygiene kits, kitchen kits, and safe water storage containers (jerrycans) to respond to 500 families.

The National Society has been implementing a community strengthening project in northern Ecuador with support from the ICRC; which has a strong preparedness component in the province of Esmeraldas.

Movement Coordination

The Ecuadorian Red Cross maintained continuous communication with the IFRC through the submission of progress reports, uploading of information onto the Disaster Management Information System (DMIS) and the holding of virtual and phone meetings in order to coordinate potential actions as scenarios changed. The National Society was constantly sending situation reports to various Movement components in the country: the ICRC, the IFRC, American Red Cross, and Spanish Red Cross (these two Partner National Societies [PNSs] are working in country on other projects and in other geographical areas).

Overview of non-RCRC actors in country

The first relief actions in the affected area were carried out by the Risk Management Secretariat of Ecuador, the Ministry of Transport and Public Works, the Ministry of Agriculture, Livestock, Aquaculture and Fisheries, MIES, the Ministry of Public Health, the fire department and armed forces, the National Water Secretariat and local governments in each canton.

Representatives from the Atacames and Rioverde cantons' autonomous governments, as well as the presidents of the parish boards of Chontaduro, Chumundé and Súa worked on the development of the following activities contained within the plan of action:

- Validation of censuses in communities, with support from municipal risk management unit technicians; as well as vehicles, refreshments and boat rental to mobilize volunteers.
- Delivery of humanitarian assistance kits, with the presence of management technicians, municipal police and community development staff and the provision of tents, chairs and bottled water for everyone there.
- Provision of psychosocial support to the collective centre in Atacames, in coordination with the municipal community development department.

Ministry of Security Coordination - The national police provided security during activities in high-crime areas and during kit distributions.

Ministry of Economic and Social Inclusion – Arrangement made to provide psychosocial support at the Rioverde collective centre.

Ministry of Public Health - Risk management staff participated in the validation of the census in Río Verde, and the National Society participated in three coordination meetings to organize the various health campaigns and home visits.

A.3 Needs analysis, beneficiary selection and risk assessment and scenario planning

Health: During the community interventions, families were observed cleaning out their homes and trying to recover their personal belongings after the flood. Many residents were suffering from skin-related issues,

such as rashes from having come into contact with mud-contaminated items and from the emotional impact of the flooding.

Water and sanitation: Affected families lacked proper water storage containers, and there were also large concentrations of mosquitoes, which increased the risk of Zika, dengue and chikungunya outbreaks in the area.

Livelihoods: Families opted to lease plots to plant their crops or to simply use nearby higher ground. Tourism activities in affected areas and in the province gradually resumed. This period coincided with a national holiday, but the locations that are usually the busiest, such as Atacames, Súa and Muisne, saw a low turnout of tourists due to rains in the area.

Shelter: Many destroyed and damaged homes were observed in the cantons of Atacames and Rioverde, with water damage and loss of appliances most prevalent; these families sought shelter in collective centres, rented other homes or went to live with relatives in other areas.

Target Population:

As per the plan proposed, the target population was 733 families in 24 communities in the cantons of Atacames and Rioverde in the province of Esmeraldas.

Risk Assessment

At the time of the assessment, the main risk identified was the presence of rains in both the affected area and in northern Ecuadorian highlands. This was an issue since water travels down to the coast via the Esmeraldas and Quinde Rivers' main tributaries, which are precisely those that cut across the province.

Actions to remove debris from access roads and to rehabilitate or rebuild bridges were hindered by the rains, which became a constraint to recovery in this area during the following two months, as did the lack of enough heavy machinery in the canton; another important factor was the 7.8 earthquake (Richter scale) that hit the area.

Vulnerability criteria

Families were selected as per the following criteria:

- Located in areas affected by floods and landslides.
- Families who had suffered damage to over 50 per cent of agricultural activities, such as small farmers and agricultural workers.
- Located within sectors assigned to Red Cross by the EOC.
- Families cut off due to landslides or collapsed bridges and roads.

The ERC prioritized care to groups such as:

- Pregnant women.
- Families with disabled members.
- Families with older adults.
- Single-parent and diverse families

B. Operational strategy and plan

Based on the post-flood damage and risk assessments in the Esmeraldas province, the ERC assisted the cantons of Atacames and Río Verde, with immediate support to 733 families through the provision of food, hygiene and cleaning kits and access to basic health and water and sanitation.

Overall objective

Assist families in the affected cantons of Atacames and Rioverde River by providing humanitarian aid, as well as awareness-raising through the dissemination of information and measures to prevent diseases caused by floods.

Proposed strategy

The strategy aimed to support the ERC's operation, which was in line with operational plans for these types of events and in accordance with the Fundamental Principles of the International Red Cross and Red Crescent Movement. All actions were conducted according to the role established by the National Society's humanitarian mandate and Movement standards for this type of event. With support from the Disaster Relief Emergency Fund (DREF) and complementary measures, the Ecuadorian Red Cross supplemented its actions with its own resources and through national resource mobilization. The main idea was for ERC to be the point of convergence of actions coordinated by institutions present in the area in order to avoid assuming all of the responsibilities and dependence on external assistance.

The families identified in Atacames as direct beneficiaries were located in Nueva Esperanza, Parroquia Súa, Parroquia Súa, Barrio Luz y Libertad, Barrio 2 de Abril, Nuevo Porvenir, Tonchigue, Manglar and Mangal; in Rioverde in Guayabal, Julian, La Cierpe, Sandobal, Zapallito, El Olivo, La Muralla, Vuelta Larga, Guayabillo, El Alto; and in Chontaduro and Chumundé in Meribe and Las Guantas.

a) Families served immediately with humanitarian assistance.

It was necessary to have kits to assist 733 families immediately, including food, hygiene, protection against vector borne diseases and distribution of foods kits, cleaning kits, hygiene kits, long-lasting insecticide treated [mosquito] nets (LLITNs) and jerrycans.

The National Society deployed a fumigating plant and a psychosocial support team to strengthen local capacity and reinforce the actions delivered by the students from the Esmeralda Catholic University's School of Nursing in collective centres designated by MIES in the provincial capital.

b) People benefitted through key awareness-raising messages on risk management, health and hygiene:

Five community meetings were held to sensitize families regarding risk management. The National Society participated in communities' risk analysis activities, which was an activity led jointly by the Municipal Risk Unit and the person responsible for the Risk Management programme at the Atacames Canton Board.

Health promotion campaigns and volunteer-led home visits allowed 754 families to become aware of flood-related diseases for a total of 3,381 people sensitized on disease prevention measures and safe water management and to incorporate good health and hygiene practices.

Operational Support Services

There were changes in the operational support services for this operation since the DREF Operations Update was issued. For more information on this operational support services for this operation, please refer to the [Emergency Plan of Action](#).

C. DETAILED OPERATIONAL PLAN

Quality programming / Areas common to all sectors

| | Products | % achieved |
|--|---|------------|
| Outcome 1: The affected population has flood response information and disease prevention awareness from the Ecuadorian Red Cross | Output 1.1 Assessment of needs, operational management and operational security | 100% |
| | Output 1.2 There is ongoing monitoring and evaluation of the situation and the plan of action | 100% |

| Activities | Implementation on time | | % of progress |
|---|------------------------|----|---------------|
| | Yes | No | |
| Evaluations of needs, operational management and operational security | X | | 100% |
| Home visits for awareness-raising on various flood related issues | X | | 100% |
| Evaluation and submission of results | X | | 100% |
| Preparation and submission of reports | X | | 100% |
| Maintenance for Kodiak truck to execute delivery processes during the operation | X | | 100% |
| Distribution of messages and materials | X | | 100% |
| Immediate rehabilitation of the radio communications system at the local level | X | | 100% |
| Beneficiary satisfaction survey | X | | 100% |

Progress toward results

Needs assessment

Assessments were conducted in the cantons of Atacames and Rioverde with 50 volunteers from branches near the affected areas. Teams encountered difficulties when trying to access these areas due to the flood damage caused to roads. Communications was also affected; however, they managed to reach the affected sectors to conduct interviews with residents, community leaders and authorities, and identify damage and needs so as to determine the extent of the humanitarian gap.

The census validation

After the rapid and detailed assessments, a census was conducted to identify the affected families to be targeted as per the established vulnerability criteria. This process was carried out in three stages by teams of volunteers during the first month of the operation. In total, 733 families were selected - 491 families from 10 communities in Atacames and 242 from Rioverde.

Home visits for awareness-raising on various flood related issues.

In total, volunteers were able to conduct 754 home visits were conducted: 496 in the communities of Sua, La Unión, Tonchigue and Nueva Esperanza in Atacames; and 258 in the communities of Chumunde, Meribe, La Guanta, Sandoval, El Alto, Zapallito, Guayabillo, Guyabal, Julian, La Cierpe, Chontaduro, Altamira and La Muralla in Rioverde; during the home visits, Red Cross volunteers and volunteers from the Atacames Canton Board provided information on preparedness and risk management.

Evaluation and submission of results.

Each activity conducted on site was registered in reports with information on the conducted activity, date of activity, number of volunteers involved and the start and end times.

Maintenance for Kodiak truck to execute delivery processes during the operation.

Maintenance was provided to the Kodiak truck in order to support humanitarian aid distributions, which were scheduled per the plan of action on 10 and 12 March and 1 and 2 April 2016. Given the large amount of kits, two additional trucks were hired for humanitarian aid distribution.

Distribution of messages and materials.

Social networks and local media allowed for the dissemination of health promotion campaign messages and the activities conducted in this regard. Printed materials were distributed to 754 beneficiary families

during home visits.

Immediate rehabilitation of the radio-communications system at the local level.

DREF funds allocated to telecommunications made it possible to rehabilitate repeaters in three provinces to enable coordination of emergencies in Esmeraldas, Santo Domingo de Los Tsachilas, Quito. The Esmeraldas Provincial Board now has communications at local and provincial levels and with ERC's headquarters in Quito. All of these activities facilitated the teams in the field's communications and volunteers' coordination actions and safety.

Beneficiary Satisfaction Survey.

A sample of 340 beneficiaries was chosen, who answered the following questions:

| SATISFACTION SURVEY | | YES | NO |
|---------------------|--|-----|----|
| 1 | Were you able to store safe water for consumption with the jerrycans? | 340 | 0 |
| 2 | Did hygiene and cleaning kits help to maintain proper cleanliness in the family and homes? | 340 | 0 |
| 3 | Did home visits allow you and your family to become aware of health prevention measures? | 340 | 0 |
| 4 | Was fumigation in your home done in a timely manner? | 338 | 2 |
| 5 | Did food kits allow you to solve financial problems in your household? | 340 | 0 |

According to the above results, the Red Cross achieved positive results in flood-affected sectors.

HEALTH AND CARE

Needs Analysis: The assessment conducted by the ERC in affected areas revealed the need to disseminate prevention messages and transfer knowledge to communities in order to prevent flood-related diseases. The affected people did not have access to their normal diets because most of the cultivated areas were flooded. The garbage dragged by the flood, which covered a large part of communities, affected the environment and fostered vector proliferation. ERC supported designated collective centres through PSS actions.

Population to be assisted: 733 families assisted directly and 2,776 people assisted through awareness-raising messages in 24 communities and districts in the cantons of Atacames and Río Verde.

| Outcome 2: The risk of diseases (dermatitis, parasitosis, amebiasis and vector-borne) caused by flood effects has been reduced in affected communities in the cantons of Atacames and Río Verde. | Products | | % achieved |
|---|-------------------------|---|---------------|
| | | Output 2.1 733 families, both in own homes and in collective centres, participate in and learn from epidemics prevention campaigns in their communities and distribution of LLITNs | |
| Activities | Implementation on time? | | % of progress |
| | Yes | No | |
| Dissemination campaigns through community and school meetings | X | | 100% |
| Home visits for epidemics prevention and vector control | X | | 100% |

| | | | |
|--|---|--|------|
| Work and coordination meetings with local sub-health centres | X | | 100% |
| Psychosocial support (PSS) activities in the collective centres | X | | 100% |
| Acquisition and delivery of long-lasting insecticide treated mosquito nets | X | | 100% |

Progress toward results

Dissemination campaigns through community and school meetings

The dissemination of activities was done simultaneously with the census, registering information required for the census while at the same time sharing the health activities to be conducted.

School meetings were not held because school holidays fell within the emergency operation's timeframe and because of the earthquake.

Home visits for epidemics prevention and vector control

Home visits raised awareness in 754 families regarding flood-related illnesses in 21 districts in the cantons of Atacames (496 families) and Rioverde (258 families)

| Canton of Atacames | FAMILIES |
|--------------------------------|-----------------|
| Nueva Esperanza | 140 |
| 2 de Abril | 60 |
| Nuevo Porvenir | 120 |
| Mangal | 20 |
| El Manglar | 100 |
| Tonchigue | 20 |
| La Unión | 30 |
| Piedra Fina- collective centre | 6 |
| Homes visited | 496 |

| Canton of Rioverde | FAMILIES |
|---------------------------|-----------------|
| Chumundé | 40 |
| Meribe | 25 |
| Las Guantas | 52 |
| Sandoval | 34 |
| El Alto | 17 |
| Zapallito | 20 |
| Gauyabillo | 8 |
| Guayabal | 20 |
| Julian | 4 |
| La Cierpe | 6 |
| Chontaduro | 17 |
| Altamira | 10 |
| La Muralla | 5 |
| Homes visited | 258 |

Work and coordination meetings with local sub-health centres.

Coordination meetings were held with the MSP to both enhance the project's visibility, coordinate on-site activities and encourage the participation of physicians working in epidemiology and health risks.

The Red Cross participated in the Technical Working Group #2 meetings, which dealt with health issues, resulting in an anti-parasitic and fumigation campaign to combat the large number of mosquitoes, especially at night. Likewise, meetings were held with the health and community development programme to coordinate project activities.

Psychosocial support activities in the collective centres

PSS activities were carried out by volunteers from branches in the affected area, targeting families housed in collective centres in particular. Activities were also conducted with children living in these centres in order to reduce the emotional impact through recreational activities, allowing them to conduct their daily and

recreational activities in their surroundings. Interventions were also conducted at the Concha de Torres Hospital in Esmeraldas due to the impact caused by the earthquake and its aftershocks.

Acquisition and delivery of mosquito nets

1,466 mosquito nets were delivered to families (2 for each of the 733 families), as described below:

| Canton | Community/district | Families | No. of mosquitos nets distributed |
|-------------------------|--|-----------------|--|
| Atacames | Nueva Esperanza | 177 | 354 |
| | Parroquia Súa | 25 | 50 |
| | Parroquia Súa. - Barrio Luz y Libertad | 8 | 16 |
| | Atacames/Barrio 2 de abril | 28 | 56 |
| | Nuevo Porvenir | 100 | 200 |
| | Tonchigue | 16 | 32 |
| | Voluntarios | 15 | 30 |
| | Manglar | 100 | 200 |
| | Mangal | 16 | 32 |
| | Collective centre | 6 | 12 |
| Rioverde | Altamira | 11 | 22 |
| | Guayabal | 21 | 42 |
| | Julian | 4 | 8 |
| | Chontaduro | 6 | 12 |
| | La Cierpe | 5 | 10 |
| | Sandoval | 1 | 2 |
| | Zapallito | 14 | 28 |
| | El Olivo | 2 | 4 |
| | La Muralla | 5 | 10 |
| | Vuelta Larga | 42 | 84 |
| | Guayabillo | 4 | 8 |
| | El Alto | 13 | 26 |
| | Chumunde: Meribe | 63 | 126 |
| Chumunde: - Las Guantas | 51 | 102 | |
| TOTAL | | 733 | 1,466 |

Challenges: The earthquake that occurred in April in the area hindered the actions in the final month of the operation.

Water, sanitation and hygiene promotion

Needs Analysis: Given the risks arising from the first flood, it became essential to assist the community in restoring healthy habits through the distribution of hygiene, cleaning and safe water storage items; this was supplemented through community awareness campaigns and the distribution of cleaning kits and household hygiene kits. The Coca-Cola Company provided drinking water to communities, and jerrycans were delivered to families because they did not have enough containers to properly store it.

Population to be assisted: A total of affected 733 families (2,776 people) receive awareness-raising messages in 24 communities and districts in the cantons of Atacames and Río Verde.

| Outcome 3: The affected population in the cantons of Atacames and Rioverde have access to safe water and household hygiene and cleaning items | Products | | % achieved |
|--|-------------------------|--|---------------|
| | | Output 3.1: 733 affected families receive assistance for safe handling of water and household hygiene based on Sphere minimum standards | |
| Activities | Implementation on time? | | % of progress |
| | Yes | No | |
| Acquisition and delivery of jerrycans for safe water storage | X | | 100% |
| Acquisition and delivery of household hygiene kits | X | | 100% |
| Acquisition and delivery of cleaning kits | X | | 100% |
| Safe water handling awareness-raising campaign (conducted together with home visits) | X | | 100% |
| Start-up of fumigating plant in affected areas (15 days of fumigation) | X | | 100% |

Progress toward results

Delivery of jerrycans for safe water storage, household hygiene kits and cleaning kits to each family.

733 families (2776 people) in 24 districts and communities in Atacames and Rioverde benefitted directly from these actions in water, sanitation and hygiene. Each family received a one-month hygiene kit, as well as one household cleaning kit, one 10-litre jerrycan and one tarpaulin.

CANTON OF RÍO VERDE

| Districts | Families | Kits | | | |
|-----------------------|------------|------------|------------|------------|------------|
| | | Hygiene | Cleaning | Jerrycans | Tarps |
| Altamira | 11 | 11 | 11 | 11 | 22 |
| Guayabal | 21 | 21 | 21 | 21 | 42 |
| Julian | 4 | 4 | 4 | 4 | 8 |
| Chontaduro | 6 | 6 | 6 | 6 | 12 |
| La Cierpe | 5 | 5 | 5 | 5 | 10 |
| Sandobal | 1 | 1 | 1 | 1 | 2 |
| Zapallito | 14 | 14 | 14 | 14 | 28 |
| El Olivo | 2 | 2 | 2 | 2 | 4 |
| La Muralla | 5 | 5 | 5 | 5 | 10 |
| Vuelta Larga | 42 | 42 | 42 | 42 | 84 |
| Guayabillo | 4 | 4 | 4 | 4 | 8 |
| El Alto | 13 | 13 | 13 | 13 | 26 |
| Chumundé: Meribe | 63 | 63 | 63 | 63 | 126 |
| Chumundé: Las Guantas | 51 | 51 | 51 | 51 | 102 |
| TOTAL | 242 | 242 | 242 | 242 | 484 |

CANTON OF ATACAMES

| Districts | Families | Kits | | | |
|--------------------------------------|------------|------------|------------|------------|------------|
| | | Hygiene | Cleaning | Jerrycans | Tarps |
| Nueva Esperanza | 177 | 177 | 177 | 177 | 354 |
| Parroquia Súa | 25 | 25 | 25 | 25 | 50 |
| Parroquia Súa: Barrio Luz y Libertad | 8 | 8 | 8 | 8 | 16 |
| Atacames/Barrio 2 de Abril | 28 | 28 | 28 | 28 | 56 |
| Nuevo Porvenir | 100 | 100 | 100 | 100 | 200 |
| Tonchigue | 16 | 16 | 16 | 16 | 32 |
| Volunteers | 15 | 15 | 15 | 15 | 30 |
| Manglar | 100 | 100 | 100 | 100 | 200 |
| Mangal | 16 | 16 | 16 | 16 | 32 |
| Collective centre | 6 | 6 | 6 | 6 | 12 |
| TOTAL | 491 | 491 | 491 | 491 | 982 |

In order to reach remote communities, volunteers had to be transported in motorboats to conduct activities such as the census validation; delivery of food, household cleaning and hygiene kits, jerrycans and LLITNs; and larviciding and fumigation actions. Three motorboats were used to conduct these actions. The cost of one motorboat was covered by the DREF while the cost for the remaining motorboats was covered by Rioverde's decentralized autonomous government and/or the Chumunde Parish Board. These boats were the only way to reach the communities of Guantas and Meribe in Chumunde in the canton of Rioverde during the winter.

Safe water handling awareness-raising campaign:

Three health promotion campaigns were conducted to promote good hygiene practices among families in the communities of Nuevo Porvenir and Nueva Esperanza in Atacames and in the community of Chumunde in the canton of Rioverde.

Start-up of fumigating plant in affected areas (15 days of fumigation).

In total, 771 fumigations were conducted in homes using MSP backpack sprayers, benefitting 3,312 people. This activity was carried out in coordination with the Ministry of Health and through agreements and commitments assumed in meetings:

- ✓ The Ministry of Public Health provided three backpack sprayers with the necessary chemicals
- ✓ Volunteers operated the sprayers and fumigations were conducted in homes.
- ✓ MSP provided a "Santana", a fumigation vehicle, and only fumigated bodies of water that did not flow into streams (outside homes)

| CANTON OF RIOVERDE | HOMES |
|--------------------|-------|
| Las Guantas | 52 |
| Chumundé | 40 |
| Meribe | 25 |
| Vuelta Larga | 37 |
| Sandoval | 34 |
| El Alto | 17 |
| Chontaduro | 46 |
| Guayabal | 14 |

| CANTON OF ATACAMES | HOMES |
|---------------------------------|------------|
| Nueva Esperanza | 219 |
| Nuevo Amanecer | 20 |
| La Florida | 20 |
| Parroquia Súa: - Nuevo Porvenir | 38 |
| Parroquia Súa: - Manglar | 50 |
| Parroquia Súa: - Mangal | 24 |
| Piedra Fina: collective centre | 10 |
| Mompiche | 6 |
| Mompiche: collective centre | 1 |
| Parroquia Tonchigue | 18 |
| Homes fumigated | 406 |

| | |
|------------------------|------------|
| Zapallito | 20 |
| La Muralla | 18 |
| Altamira | 15 |
| La Cierpe | 6 |
| San Vicente | 41 |
| Homes fumigated | 365 |

The Santana (vehicle with a large-capacity sprayer) sprayed approximately 20 collective centres set up for the earthquake in the canton of Muisne, Portete, Mompiche, Cabo San Francisco, Bunche and El Salto.

The National Health and Community Development Programme provided protective gear to volunteers participating in fumigation actions with backpack sprayers and fumigating plant:

| Quantity | Detail |
|----------|--|
| 60 | Multi-purpose overalls with white hoods |
| 20 | Masks with filter respirators |
| 60 | Cartridge for masks to protect against organic gases |
| 20 | Transparent goggles with elastic |
| 60 | Earplugs with lanyards |
| 20 | Nitrile gloves (pairs) |
| 10 | Anti-bacterial soaps for personal hygiene |
| 5 | Red bags for chemical waste |
| 10 | Plastic brushes |
| 1 | Red vinyl tape |



Photo 3. Fumigation vehicle in Muisne canton in Esmeralda. Source: ERC

Challenges: The earthquake in the area hindered the actions in the final month of the operation.

Food security, nutrition and livelihoods

Needs Analysis: The affected area is an agricultural and touristy area. Given the damages, it was essential to support families through the delivery of food kits and to support the re-establishment of their livelihoods for two months, giving them the opportunity to generate income that they would then be able to invest in recovering their homes and livelihoods

Population to be assisted: A total of 733 families in flood- and landslide-affected areas that suffered damages to more than 50 per cent of its agricultural sector and lost belongings.

| Outcome 4: | Products | % achieved |
|--|--|------------|
| Food kit deliveries have covered household food costs until families can | Output 4.1 733 families receive two household food kits (one per month during the first two | 100% |

resume their production programmes in the area. months of the operation), which allow them to meet their needs according to Sphere standards.

| Activities | Implementation on time? | | % of progress |
|---|-------------------------|----|---------------|
| | Yes | No | |
| Allocation, purchase and acquisition household food kits. | X | | 100% |
| Receipt and distribution to families | X | | 100% |

Progress against results

Through the corresponding procurement process, the first and second food kit distributions were conducted in the cantons of Rioverde and Atacames, distributing a total of 1,466 food kits and benefitting the 733 families who were registered with the project.

| Canton | Community/district | Families | Food kits distributed |
|--------------|--|--------------|-----------------------|
| Atacames | Nueva Esperanza | 177 | 354 |
| | Parroquia Súa | 25 | 50 |
| | Parroquia Súa: Barrio Luz y Libertad | 8 | 16 |
| | Atacames/Barrio 2 de abril | 28 | 56 |
| | Nuevo Porvenir | 100 | 200 |
| | Tonchigue | 16 | 32 |
| | Voluntarios | 15 | 30 |
| | Manglar | 100 | 200 |
| | Mangal | 16 | 32 |
| | Collective centre | 6 | 12 |
| Rióverde | Altamira | 11 | 22 |
| | Guayabal | 21 | 42 |
| | Julian | 4 | 8 |
| | Chontaduro | 6 | 12 |
| | La Cierpe | 5 | 10 |
| | Sandoval | 1 | 2 |
| | Zapallito | 14 | 28 |
| | El Olivo | 2 | 4 |
| | La Muralla | 5 | 10 |
| | Vuelta Larga | 42 | 84 |
| | Guayabillo | 4 | 8 |
| | El Alto | 13 | 26 |
| | Chumunde: Meribe | 63 | 126 |
| | Chumunde: Las Guantas | 51 | 102 |
| TOTAL | 733 | 1,466 | |

Food kits contained rice, beans, oats, lentils, oil, canned tuna, sugar and iodized salt.

Challenges: Same as above.

Lessons Learned

As part of the operation's final activities, the National Society held a lessons learned workshop in order to analyze the situation faced due to the floods while taking into consideration the challenges encountered. To this end, the Ecuadorian Red Cross' disaster team organized this event in coordination with the branches that participated in the operation. The workshop was facilitated by the IFRC's disaster management coordinator for South America, and it was attended by 38 volunteers. Below are the most significant lessons learned.

OVERALL: Working at the community level in rural areas is complex because, even though it is possible to conduct health, sanitation and hygiene actions, the fact that they lack basic services makes it almost impossible to ensure that families continue these practices.

COMMON AREAS

- a. The process of communication between provincial and canton boards needs to be strengthened, as the planning of actions or their participation in this planning is limited and reduces the local vision to facilitate high-impact actions at the community level with fewer resources.
- b. The integration of old and new volunteers in activities that go beyond distribution aroused their interest in areas such as hygiene promotion, health, telecommunications and even reporting. It should be noted that this was strengthened by the intervention during the earthquake.
- c. It is important to make arrangements at internal levels to provide permanent uniforms and protective gear once the plan of action is finalized and to focus support on new staff.

HEALTH AND CARE

- a. It is important to influence local government bodies to provide support that improves conditions in each community to reduce acute respiratory diseases (ARIs) and acute diarrhoea in the population.
- b. It is necessary to strengthen volunteers' knowledge regarding psychosocial aspects in crisis management.

WATER AND SANITATION

- a. As for fumigation, which is an ongoing issue in this area, it is necessary for the Provincial Board to ensure constant training in the use of fumigation equipment and machines.
- b. Coordinating a year-round action plan with the Ministry of Public Health aimed at preventing vector-borne diseases in rural areas can facilitate working in the community and empower them.

FOOD SECURITY

- a. Delivering food to flood-affected families can help them to recover faster; however, the investment in logistics is quite high. Next time, it might be advisable to consider implementing cash transfer actions in coordination with local suppliers.
- b. Working on food security at the community level should be based on transferring the capacity to families in order to prepare healthy meals.

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Disaster Response Financial Report

MDREC011 - Ecuador - Esmeralda Floods

Timeframe: 12 Feb 16 to 12 Jun 16

Appeal Launch Date: 12 Feb 16

Preliminary Final Report

Selected Parameters

| | | | |
|-------------------------|---------------|-----------|----------|
| Reporting Timeframe | 2016/2-2016/8 | Programme | MDREC011 |
| Budget Timeframe | 2016/2-2016/6 | Budget | APPROVED |
| Split by funding source | Y | Project | * |
| Subsector: | * | | |

All figures are in Swiss Francs (CHF)

I. Funding

| | Raise humanitarian standards | Grow RC/RC services for vulnerable people | Strengthen RC/RC contribution to development | Heighten influence and support for RC/RC work | Joint working and accountability | TOTAL | Deferred Income |
|-------------------------------|------------------------------|---|--|---|----------------------------------|---------|-----------------|
| A. Budget | | 184,836 | | | | 184,836 | |
| B. Opening Balance | | | | | | | |
| Income | | | | | | | |
| Other Income | | | | | | | |
| DREF Allocations | | 184,836 | | | | 184,836 | |
| C4. Other Income | | 184,836 | | | | 184,836 | |
| C. Total Income = SUM(C1..C4) | | 184,836 | | | | 184,836 | |
| D. Total Funding = B + C | | 184,836 | | | | 184,836 | |

* Funding source data based on information provided by the donor

II. Movement of Funds

| | Raise humanitarian standards | Grow RC/RC services for vulnerable people | Strengthen RC/RC contribution to development | Heighten influence and support for RC/RC work | Joint working and accountability | TOTAL | Deferred Income |
|----------------------------------|------------------------------|---|--|---|----------------------------------|----------|-----------------|
| B. Opening Balance | | | | | | | |
| C. Income | | 184,836 | | | | 184,836 | |
| E. Expenditure | | -181,369 | | | | -181,369 | |
| F. Closing Balance = (B + C + E) | | 3,467 | | | | 3,467 | |

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| | | | |
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| Budget Timeframe | 2016/2-2016/6 | Budget | APPROVED |
| Split by funding source | Y | Project | * |
| Subsector: | * | | |

All figures are in Swiss Francs (CHF)

III. Expenditure

| Account Groups | Budget | Expenditure | | | | | TOTAL | Variance |
|---|----------------|------------------------------|---|--|---|----------------------------------|----------------|----------|
| | | Raise humanitarian standards | Grow RC/RC services for vulnerable people | Strengthen RC/RC contribution to development | Heighten influence and support for RC/RC work | Joint working and accountability | | |
| | A | | | | | B | A - B | |
| BUDGET (C) | | | 184,836 | | | 184,836 | | |
| Relief items, Construction, Supplies | | | | | | | | |
| Clothing & Textiles | 5,320 | | 5,160 | | | 5,160 | 160 | |
| Food | 60,384 | | 56,339 | | | 56,339 | 4,044 | |
| Water, Sanitation & Hygiene | 1,471 | | 20,298 | | | 20,298 | -18,827 | |
| Teaching Materials | 21,870 | | 12,745 | | | 12,745 | 9,125 | |
| Utensils & Tools | 24,046 | | 17,120 | | | 17,120 | 6,926 | |
| Other Supplies & Services | 14,377 | | | | | | 14,377 | |
| Total Relief items, Construction, Sup | 127,467 | | 111,662 | | | 111,662 | 15,805 | |
| Logistics, Transport & Storage | | | | | | | | |
| Distribution & Monitoring | 5,855 | | 2,277 | | | 2,277 | 3,578 | |
| Transport & Vehicles Costs | 10,459 | | 6,361 | | | 6,361 | 4,099 | |
| Logistics Services | 1,138 | | 2,047 | | | 2,047 | -910 | |
| Total Logistics, Transport & Storage | 17,452 | | 10,684 | | | 10,684 | 6,767 | |
| Personnel | | | | | | | | |
| National Staff | | | 103 | | | 103 | -103 | |
| National Society Staff | 6,767 | | 10,858 | | | 10,858 | -4,091 | |
| Volunteers | 9,052 | | 8,871 | | | 8,871 | 181 | |
| Other Staff Benefits | 981 | | | | | | 981 | |
| Total Personnel | 16,799 | | 19,832 | | | 19,832 | -3,033 | |
| General Expenditure | | | | | | | | |
| Travel | 1,961 | | 1,136 | | | 1,136 | 826 | |
| Information & Public Relations | 2,844 | | 3,439 | | | 3,439 | -595 | |
| Office Costs | 4,482 | | 4,133 | | | 4,133 | 349 | |
| Communications | 2,059 | | 888 | | | 888 | 1,171 | |
| Financial Charges | 490 | | 1,803 | | | 1,803 | -1,312 | |
| Total General Expenditure | 11,837 | | 11,398 | | | 11,398 | 439 | |
| Operational Provisions | | | | | | | | |
| Operational Provisions | | | 16,723 | | | 16,723 | -16,723 | |
| Total Operational Provisions | | | 16,723 | | | 16,723 | -16,723 | |
| Indirect Costs | | | | | | | | |
| Programme & Services Support Recove | 11,281 | | 11,069 | | | 11,069 | 212 | |
| Total Indirect Costs | 11,281 | | 11,069 | | | 11,069 | 212 | |
| TOTAL EXPENDITURE (D) | 184,836 | | 181,369 | | | 181,369 | 3,467 | |
| VARIANCE (C - D) | | | 3,467 | | | 3,467 | | |

Disaster Response Financial Report**MDREC011 - Ecuador - Esmeralda Floods**

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Preliminary Final Report

Selected Parameters

| | | | |
|-------------------------|---------------|-----------|----------|
| Reporting Timeframe | 2016/2-2016/8 | Programme | MDREC011 |
| Budget Timeframe | 2016/2-2016/6 | Budget | APPROVED |
| Split by funding source | Y | Project | * |
| Subsector: | * | | |

All figures are in Swiss Francs (CHF)

IV. Breakdown by subsector

| Business Line / Sub-sector | Budget | Opening Balance | Income | Funding | Expenditure | Closing Balance | Deferred Income |
|--|----------------|-----------------|----------------|----------------|----------------|-----------------|-----------------|
| BL2 - Grow RC/RC services for vulnerable people | | | | | | | |
| Disaster response | 184,836 | | 184,836 | 184,836 | 181,369 | 3,467 | |
| Subtotal BL2 | 184,836 | | 184,836 | 184,836 | 181,369 | 3,467 | |
| GRAND TOTAL | 184,836 | | 184,836 | 184,836 | 181,369 | 3,467 | |