

# DREF OPERATION

Colombia: Anticipatory Actions for Volcanic Eruption - April 2023



Nevado del Ruíz volcano emanating volcanic ash. April 2023.

Appeal: <b>MDRCO023</b>	Country: <b>Colombia</b>	Hazard: <b>Volcanic Eruption</b>	Type of DREF <b>Imminent</b>
Crisis Category: <b>Yellow</b>	Event Onset: <b>Sudden</b>	DREF Allocation: <b>CHF 496,034</b>	
Glide Number:	People at risk: <b>57,090 people</b>	People Targeted: <b>16,467 people</b>	
Operation Start Date: <b>2023-04-14</b>	Operation Timeframe: <b>3 months</b>	Operation End Date: <b>2023-07-31</b>	DREF Published: <b>2023-04-14</b>
Targeted Areas:	<b>Caldas, Cundinamarca, Quindio, Risaralda, Tolima</b>		

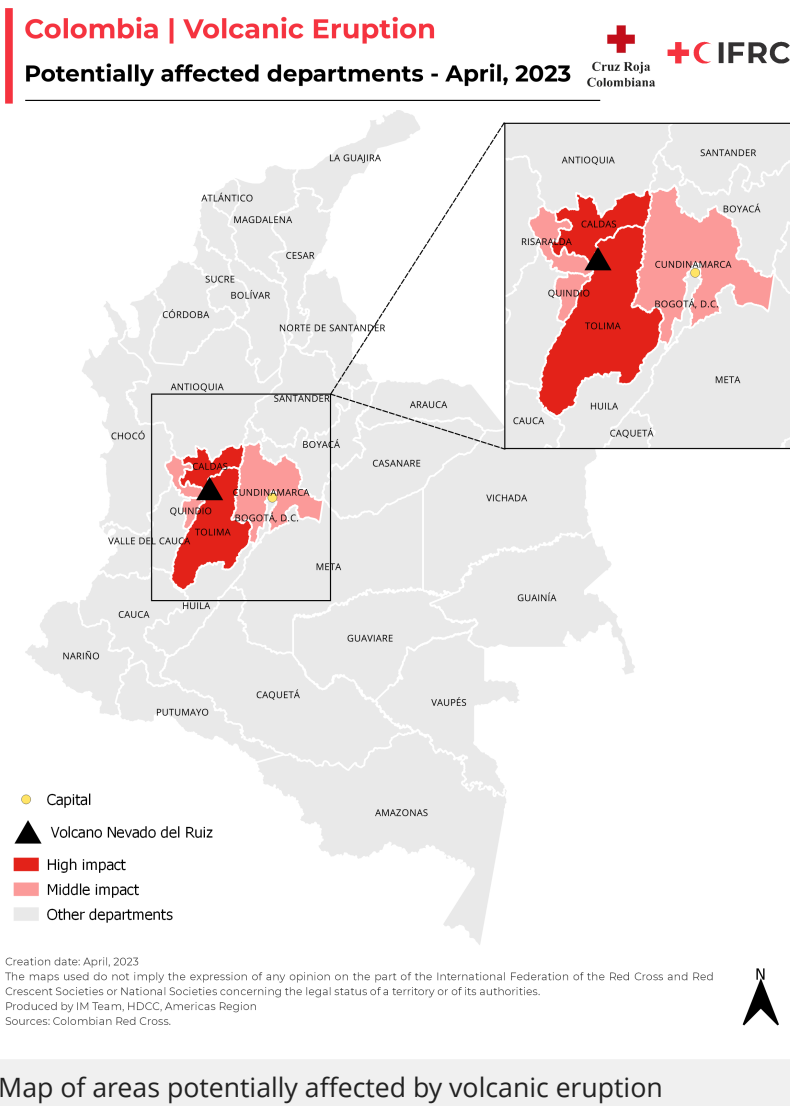
# Description of the Event

## Approximate date of impact

According to the Colombian Geological Service (SGC), the alert level of the Nevado del Ruiz Volcano changed from Yellow level (I) to Orange level (II) on 30 March 2023, which represents a probable eruption in matter of days or weeks, prompting local authorities to take preparatory, mitigation and communication actions.

Source:

(I) <https://www2.sgc.gov.co/Noticias/Paginas/Boletin-extraordinario-volcan-Nevado-del-Ruiz-Cambio-nivel-de-actividad-30-de-marzo-2023-1040.aspx>



## What is expected to happen?

The Colombian Geological System (SGC), attached to the Ministry of Mines and Energy, is the entity in charge of investigating and monitoring geological phenomena that generate hazards nationwide. Therefore, it is the entity responsible for issuing reports and changing the alert level of the Nevado del Ruiz Volcano. The SGC is permanently monitoring the volcanic activity in the country. Based on its monitoring, since 24 March 2023, a significant increase in seismic activity associated with rock fracturing within the volcano has been recorded, registering an increase in the daily rate of occurrence on 28 March, with 6,500 quakes, and more than 11,000 on 29 March. As a result, on 30 March 2023, the SGC changed the volcano's activity level from Yellow (I) to Orange (II).



The change from yellow level (I) implies that the volcano is active and shows changes in its behavior. Furthermore, an orange level (II) means that, given the changes in the volcano's activity, there is a probability that in days or weeks the Nevado del Ruiz volcano will erupt, and it's expected to be more than it has done in the last decade. In the worst-case scenario, the alert level could change from orange to red (III), indicating that the volcano is in the process of erupting or is going to erupt any time, representing the highest level of alert. This emergency endangers more than 57,000 people in the surrounding areas.

#### Yellow level:

- Changes in the behavior of volcanic activity.
- Effects: Increase in volcanic activity: phenomena such as mild earthquakes or felt by the population, ash emissions, lahars, morphological changes, noise, odors of volcanic gases may be recorded; which may alter the quality of life of populations in the area of volcanic influence.

#### Orange level:

- Possible eruption in days or weeks with moderate or high degree of danger.
- Possible eruptive event(s) of explosive or effusive character, coupled with the phenomena of volcanic activity on yellow alert.
- Effects: Nasal irritation and discharge, throat irritation and burning, sometimes accompanied with dry cough or respiratory distress, eye or skin irritation, indirect effects such as increased likelihood of car accidents, contamination of water sources and risk of roof subsidence.

#### Red level:

- Erupting volcano or eruptive process in progress whose climax can be caused within hours.
- It is characterized by multi-causality
- Associated with pyroclasts fall, lava flows, ballistic projectiles, torrential floods, landslides, lahars and forest fires.
- Effects: Injuries; loss of life; loss of farm animals, wildlife and livelihoods; loss of housing and community infrastructure; isolation of communities; loss of crops, harvests and livelihood elements for food security and income generation; water shortages; affectation of sanitation and hygiene systems; increase and proliferation of vectors; high risk due to chemical elements, as well as risks of accidents or incidents due to contamination by weapons (anti-personnel mines - APMs, unexploded ordnance - UXO - and booby traps - ET); damage to infrastructure; disappearance of persons; psychological impact on the inhabitants of the region;

This volcano has been erupting for approximately 10 years, but all eruptive events that have occurred in this period have been minor and, in most cases, their impact has been limited to the areas around the volcano, depending on the wind direction.

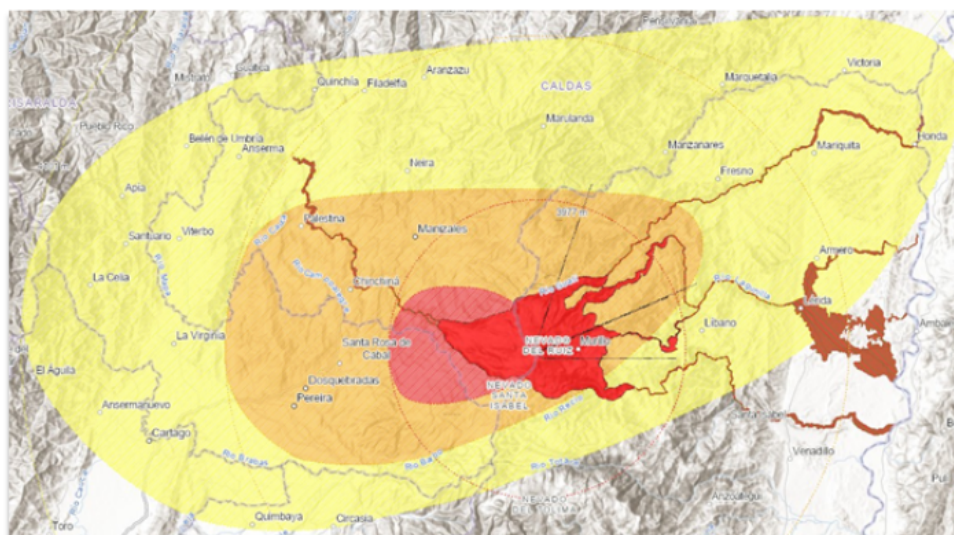
However, if the activity level changes to red and the volcano erupts, the magma would reach the surface and the eruptions would cause the fracturing of rock and the expulsion of pyroclastic material that is estimated to reach a radius of 15 km, along with gases and fluids at high speeds and temperature. Therefore, the municipalities in the area of influence could be affected by falling ash or denser material, highlighting that, according to the experience of Armero, the greatest threat would be the lahars or mud flows, which would flow into the Magdalena and Chinchiná rivers, and therefore, the surrounding populations along its course. In turn, the ashes could affect crops, flora and fauna, affect air traffic by reducing visibility for pilots, reduce air quality, and above all, generate health risks for people, such as respiratory, ocular and skin risks.

In the event of an eruption, an energy wave of great magnitude would be released, which the SGC would evaluate as the eruption signal, thus initiating the response protocol. In such a case, the volcanic eruption must be reported within two minutes of the confirmation of the energy release to the firefighters, Civil Defense, and Red Cross in the departments of Caldas and Tolima, and to the coordinators of the departmental Risk Management Units of Risaralda, Caldas and Tolima.

Source:



(I) <https://www2.sgc.gov.co/Noticias/Paginas/Que-esta-pasando-en-el-volcan-Nevado-del-Ruiz-actualizacion-05-abril-2023.aspx>



Topographic map of the Nevado del Ruiz volcanic threats. Source: Colombian Geological Survey

## Why your National Society is acting now and what criteria is used to launch this operation.

Based on the National Response Plan for the Nevado del Ruiz Volcano and National Disaster Risk Management System (2020), The Colombian Red Cross National Society will take into account the following triggers:

First trigger: Change in the level of activity of the Nevado del Ruiz volcano from yellow to orange level, which signifies a probable eruption in terms of days or weeks, with a moderate degree of danger for populations located in high threat zones by mudflows or lahars, so it is required that populations located in the high threat zone for this event get ready for emergency evacuation

Second trigger: Change in the level of activity of the Nevado del Ruiz volcano, from orange to red, which means an imminent eruption or one in progress, with a high degree of danger for all populations located in the high threat zone due to debris avalanches, pyroclastic flows, ballistic projectiles, mudflows or lahars and high threat zone due to ash fall.

Based on the above mentioned and according to the extraordinary bulletin of the Colombian Geological System of 30 March 2023, in which the activity level of the volcano changed to orange or (II) "eruption likely in days or weeks", the first trigger has been met and as soon as this DREF is launched, the National Society will start the implementation of the anticipatory actions.

## Scope and Scale

According to the SGC, it is not possible to know precisely when or how a volcano would erupt, but it is known that the Nevado del Ruiz is an explosive volcano, which eruptions involve the fracturing of rock and the expulsion of gases and fluids at high speeds and temperatures. The latest eruption from this Volcano was registered in 1985, leaving 25,000 people dead. In that eruption, the volcanic phenomena that occurred were mostly lahars (avalanches), as well as ash and pyroclastic flui

Based on the report on Threat and Exposure of the Nevado del Ruiz Volcano dated 31 March 2023, prepared by the Subdirectorate for Risk Awareness of the National Unit for Disaster Risk Management, the departments and risk areas of the Nevado del Ruiz volcano are specified in the following threat scale



High: Tolima, Caldas, Risaralda, Cundinamarca (Guaduas; Gúail River's Sector).

Medium: Tolima, Caldas, Risaralda

Low: Tolima, Caldas, Risaralda, Cundinamarca (Guaduas; Gúail River's Sector), Valle del Cauca, Quindio.

It is estimated that the population at high risk of the eruption is equivalent to 57,090 people (14,420 located in municipal capitals and population centers and 42,670 in dispersed rural communities) located in 22 municipalities. For this reason, the government authorities have given the evacuation order, as stipulated in the contingency plans of the municipalities and departments involved in the present situation. However, not all people in the volcano's zone of influence have taken the authorities' recommendations and, up to date, 39 people have evacuated.

In case of a new eruption, 8 types of volcanic phenomena would be activated: pyroclastic density currents, lahars, debris avalanches, volcanic gases, ballistic projectiles, lava flows, shock waves and pyroclastic fall. Likewise, as most of the rivers in the west of the country flow into the Magdalena River, many municipalities would be affected. Some mudflows could also reach the Cauca River, through the Chinchina Riv

The municipalities that would be seriously affected because they are in a high threat zone, and which already have a preventive evacuation order are: Villamaría (in Caldas), Casa Blanca, Herveo, Murrilo and Villa Hermosa (in Tolima), and the Gúalí River Sector (in Cundinamarca). However, in general, 35 municipalities could be affected indirectly.

#### TYPES OF VOLCANIC HAZARDS AND THEIR EFFECTS ON HEALTH

According to the National Contingency Plan of the Colombian Red Cross National Society, it has been established that, for the affected populations, the effects on health could be associated with one or some of the following volcanic phenomena

Lava flows: Cause deaths, burns, inhalation of gases, poisoning by ingestion of contaminated water, increase in respiratory diseases. Destruction of infrastructure

Explosions or blast (stones, bombs, blocks): Can cause polytraumas, burns and inhalation of burning gases that can even cause death. Direct impact on health centers and houses near the volcano.

Pyroclastic flows: These are deadly, causing severe and extensive skin burns and respiratory tract problems.

Volcanic ash: Increased demand for health services due to conjunctivitis and corneal lacerations, dermatitis, gastric and respiratory problems. Traffic accidents due to low visibility. Polytraumas due to falling roofs when trying to clean them. Collapse of roofs and weak structure

Mudflows or lahars: They carry materials up to dozens of meters thick, burying populations and causing severe polytraumas

Volcanic gases: Poisoning and death. Evacuation of health care facilities and populations may be necessary.

Acid rain: Although not a direct health risk to people, it burns and kills vegetation, corrodes pipes and roofs, and contaminates water sources and open-air cisterns.

## Previous Operations

Has a similar event affected the same area(s) in the last 3 years?	<b>Yes</b>
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Did it affect the same population groups?	<b>Yes</b>
Did the National Society respond?	<b>Yes</b>
Did the National Society request funding from DREF for that event(s)?	<b>No</b>
If yes, please specify which operations	-

### Lessons learned

Based on the intervention carried out in the Nevado del Ruíz Volcano Project - Phase II, financed by the Bureau for Humanitarian Assistance (BHA), beneficiary communities and the staff of the Colombian Red Cross of the Tolima and Caldas branches have acquired geoscientific knowledge about the Nevado del Ruíz Volcano. In addition, the Early Warning System was strengthened in the ruins of Armero, which helps to reduce the risk of lahars for tourists in the area. Operationally, communications and articulation between teams were improved, in cooperation with the local authorities.

Additionally, the importance of having a specialized technical team and increasing the number of permanent human resources focused on volcanic activity was also identified along with opportunities for improvement in internal administrative aspects such as compliance with legalization schedules and staff retention to avoid breaks in the processes. All these measures have been taken into account to contribute to a faster and more optimal development of preparedness and response actions to the current emergency.

As part of the different emergency responses that have been provided under the framework of DREF Operations, additional opportunities for improvement have been identified in relation to internal procurement management processes including the selection of strategic suppliers with ample stock within the list of suppliers already pre-identified and validated by the CRC. It is important to mention that this measure must be adjusted to the parameters of the National Society's procurement procedures and the WWPP surrender modality, which was identified as part of the lessons learned from the DREF for imminent event of Electoral Elections and the DREF for Response to floods in La Mojana, launched in 2022. These mechanisms have been considered and will be put in place to generate greater efficiency in the purchasing and logistics processes and to mitigate scenarios that may impact the implementation of this new DREF Operation.

Finally, it is worth highlighting a measure that has been adopted from recent DREF Operations, within the framework of accountability, which involves the inclusion of community members in lessons learned workshops, thus integrating the community's perception and feedback in the projection of future actions, taking into account community participation and action without harm.

## Current National Society Actions

The Colombian Red Cross Society (CRCS) has a general plan of action that establishes parameters to respond to the different levels of activity of the Nevado del Ruiz volcano, this includes actions to yellow, orange or red alert. This plan of action contemplates a multi-scenario response, through several response rings, which are summarized as follows.

1. The first response ring involves the departments most likely to be affected due to their proximity, so the response is planned to include transfer times and specialized personnel in search and rescue, as well as rescue in collapsed structures.



## National Society Readiness

2. The second ring of response involves the branches that have specialized personnel and that are close to the impact zone and can guarantee the relief of the first response teams.

3. The third ring of response contemplates a structured response based on needs and capabilities and the support available to provide continuity and sustainability to the operation.

The Colombian Red Cross Society, with its regional and local branches, have a preventive enlistment with volunteers to carry out humanitarian assistance actions. Among the actions contemplated are:

- Coordination with national, regional and local authorities.
- National enlistment of search and rescue teams, including K-SAR canines, water, sanitation and hygiene immediate response teams, emergency medical teams and psychosocial support teams.
- Enlistment of the branches that are located in the different response rings.
- If required, advice and support in the search, management and marking of corpses in coordination and support to Forensic Medicine.
- Evaluations of humanitarian aid needs, such as non-perishable food, kitchen utensils and hygiene kits.
- Support to the National System for Disaster Risk Management in the development of Damage Assessments and Needs Analysis (EDAN by its initials in Spanish), in the affected territories.

However, other measures associated with continuing education for capacity building for Volunteers and collaborators will be developed progressively, and in accordance with the different synergies generated with the Movement's Partners and external Partners, to enhance these actions.

In the event of a change in the activity level of the volcano from orange to red, the actions contemplated in the Colombian Red Cross Society contingency plan would be activated and carried out in their entirety, prioritizing those related to search and rescue and emergency humanitarian assistance.

## Coordination

The Colombian Red Cross National Crisis Room was activated to guide the constant coordination with the branches, especially with those in the area of influence, maintaining 24-hour surveillance and monitoring through CITEL (Telecommunications and Information Technology Centre)

The CRCS provides assistance to the Crisis Rooms and Emergency Management Committees that are activated at departmental and municipal level. Within these entities, actions are coordinated with military entities, relief institutions (fire brigades, civil defence), ministries and public entities (health, transport, agriculture, housing, mines and energy, communications, defence, among others).

Coordination and readiness actions are already being carried out through the daily Crisis Rooms and in coordination with the Branches Offices, in order to update the inventory of available capacities to respond to the emergency and mobilize teams. Likewise, the CRC participates in the different Unified Command Posts (PMU by its initials in Spanish) that have been held in recent days, to coordinate the preventive actions carried out by the National Government



	<p>The CRCS also participates in the National Disaster Risk Management Council, chaired by the President of the Republic, where the main decisions are taken to deal with emergencies. This information is transmitted to the municipal and departmental committees through the CRCS's branches' offices.</p> <p>In the case of Colombia, cash and voucher assistance (CVA) and all emergency response actions are carried out under the guidelines of the Risk Management Unit. Coordination takes place through the unit to avoid duplication of efforts between institutions.</p>
<p><b>Activation Of Contingency Plans</b></p>	<p>The Nevado del Ruiz Volcano Contingency Plan of Colombian Red Cross Society was activated nationally, especially in the Caldas, Tolima, Cundinamarca, Risaralda and Quindío branches, as soon as the Ministry of Mines and Energy, through the Colombian Geological Service, changed the level of activity of the volcano from Yellow (I) to Orange (II) on 30 March.</p> <p>This represents the activation of response capacities and emergency operations centers at national, regional and local levels, and the active participation in the unified command posts (PMU) at the national, departmental and local levels to coordinate activities with members of the disaster risk management system</p> <p>In general, the lines of intervention of the Colombian Red Cross Society, contemplated in the contingency plan, that have been activated and that will be part of this DREF are:</p> <ul style="list-style-type: none"> <li>- Search and Rescue</li> <li>- Management and handling of dead bodies</li> <li>- Pre-hospital care and psychosocial support</li> <li>- Humanitarian assistance in emergencies</li> <li>- Population evacuation support</li> <li>- Support rapid needs assessments</li> <li>- Capacity identification in restoring of family links</li> <li>- Support the management of temporary shelters</li> <li>- Water, sanitation and hygiene</li> <li>- Emergency logistics</li> <li>- Risk mitigation, awareness and reduction</li> <li>- Identify early warning or mine incident/accident areas to consolidate dual-risk areas and necessary preventive activities.</li> <li>- Coordinate with trained ERM teams to assign responsibilities.</li> </ul>

## Movement Partners Actions Related To The Current Event

<p><b>IFRC</b></p>	<p>A field report was generated on the IFRC's GO platform to update the geological information of the area at risk. Also, permanent communication has been maintained with the IFRC on the evolution of this event. The Country Cluster Delegation for Andean Countries and Americas Regional Office have been supporting the formulation of a DREF for imminent event based on forecasts.</p>
	<p>The International Committee of the Red Cross, as a member of the protection and WASH cluster in Colombia, whose objective is the promotion of humani-</p>



<p><b>ICRC</b></p>	<p>tarian response in the territory, has participated in meetings to contextualize and analyze the situation of the Nevado del Ruíz volcano.</p>
<p><b>Participating National Societies</b></p>	<p>In 2020, in cooperation with the American Red Cross and the Office of US Foreign Disaster Assistance (OFDA), a project was implemented to strengthen the response capacity of communities impacted by the Nevado del Ruíz volcano; in order to mitigate, prepare and respond to the adverse effects of a potential volcanic disaster in the municipalities of Armero-Guayabal, Ambalema, Honda, Chinchiná and Palestina, in the departments of Caldas and Tolima, benefiting 1,400 people, according to the prioritization given by the Departmental Disaster Risk Management Councils</p> <p>Consequently, actions were developed to contribute to community disaster risk reduction, in articulation with government institutions. Community capacities were also strengthened, recognizing that community members are the first responders in an emergency, while formal structures and systems are activated, and access to the response area is obtained. Disaster risk information to communities was also improved through the installation of community radio networks and communication lines between Colombian Geological Service (CGS) and Seismological and Vulcanological Observatory of Manizales (OVSM) and vulnerable populations through mobile applications, available to locals and visitors. This project had an implementation period of one year, from 21 September 2020 to September 2021.</p> <p>In addition to the above, and considering that the Nevado del Ruíz Volcano is included in the global CAT-BOND initiative for volcanology worldwide, an initiative promoted by the Danish Red Cross, which for Colombia is accessed through cooperation with the Spanish Red Cross, it is foreseen a possible financing of emergency response actions, which would be defined according to the National Contingency Plan and the parameters of the cooperation mechanism between the PNS.</p>

## Other Actors Actions Related To The Current Event

<p><b>Government has requested international assistance</b></p>	<p>No</p>
	<p>The National Presidency and the National Executive Directorate lead the coordination, guidelines, and possible actions of the institution in relation to the situation. The evolution of the phenomenon is permanently monitored through the Information and Communications Centre (CITEL), accompanying this follow-up with the activation of the Colombian Red Cross National Crisis Room for coordination with the branches.</p> <p>The actions developed by the government authorities have been:</p> <ul style="list-style-type: none"> <li>- The alert level was changed from yellow to orange.</li> <li>- The Colombian Geological System is permanently monitoring volcanic activity in the country to identify when the volcano may erupt.</li> <li>- The National Unit for Disaster Risk Management set up a regional Unified Command Post (PMU)</li> <li>- National Crisis Room organized with the participation of the response enti-</li> </ul>



<p><b>National authorities</b></p>	<p>ties and agencies. - Simultaneously, the Risk Management Unit in Caldas, through the Secretariat of the Environment, ordered the closure of Los Nevados National Natural Park, and began to prepare a preventive evacuation of families living in areas near the volcano.</p> <p>In relation to the evacuation, the local Disaster Risk Management authorities and the mayors and governors have been carrying out actions in terms of care and assistance for the 39 people who have complied with the preventive evacuation instruction. These actions are framed in the provision of accommodation services in shelters or rental subsidies, according to the prioritization made by each municipality. Local governments have also provided food (food kits) and hot meals (community cooking pots), in accordance with the response strategy. Finally, the humanitarian aid provided includes the delivery of personal and family hygiene kits.</p> <p>The Colombian Red Cross Society will complement this response to families who have evacuated by providing Multipurpose Cash Transfers to help cover the family's basic needs.</p>
<p><b>UN or other actors</b></p>	<p>The national WASH cluster, composed of UNICEF, UNHCR, OCHA, Action Against Hunger, AHC, Water Aid Colombia, Halü Foundation, the Alliance for Solidarity - Map Consortium, NRC, International Solidarity, PAHO, the Ministry of Housing, City and Territory, Country 21, IMMAP, the International Committee of the Red Cross and the National Society of the Colombian Red Cross Society, and the Protection, Gender and Inclusion (PGI) Cluster have discussed the capacities of each organization to face the emergency and agreed on avoid duplicity of actions in case of multi-sectoral actions needed.</p>
<p><b>Are there major coordination mechanisms in place?</b></p>	
<p>Through the national WASH cluster and PGI Cluster, a space for coordination that seeks to mitigate the duplication of efforts has been generated. Additionally, to address the issues of food security and cash transfers, the Colombian Red Cross Society participates in coordination spaces such as the Food Security Cluster and the Cash Transfers Group</p>	



# Anticipated Needs



## Risk Reduction, Climate Adaptation And Recovery

In previous years, the Colombian Red Cross Society developed projects that strengthened the knowledge of volcanic hazards in the surrounding communities, as well as their organization, training, equipment and preparedness for response. However, due to the lack of intervention by local authorities in disaster risk management, these capacities are understandably worn out, which demands actions like retraining sessions for previously formed committees in topics like first aid, evacuation, emergency coordination and emergency planning, the reinforcement of community equipment for emergency response (first aid dotation, identification items for first responders, emergency signals, and others) and training sessions for the community and the families of the exposed communities. The main topics in which families and organized groups will be trained are Family Emergency Plan (risk reduction, identification of evacuation points), first aid and conformation of Community Response Committees.

As an anticipatory measure, the National Society has identified the need to strengthen its communications network in order to anticipate any failure in the communication networks in the event of an eruption of the Nevado del Ruiz volcano and to support coordination and operations in the area of influence of the volcano.

The National Society's telematics programme has different emergency telecommunications kits, such as portable lighting systems that are used to generate autonomous lighting in areas where there is no electricity due to failures or damage, guaranteeing security, visibility and the continuity of the operations of the work team in the field, while the energy service is being re-established. However, maintenance and replacement of accessories is necessary to extend the life of some device.

A digital repeater is located on the Mangüi hill in Zipacón, Cundinamarca, which serves as a link between CITELE in Bogotá and the Tolima branch with its municipal units and support groups in the north of the department: the Caldas branch, the Quindío branch and the Risaralda branch. However, in the preventive maintenance performed on 02 April 2023, it was found that the duplexer devices, which allow separating the transmitted work signal so that it does not interfere with nearby frequencies, are not within the normal operating adjustment range, thus presenting a failure in the rejection stage. Therefore, it is necessary to replace it and thus ensure stable communication with the branches located in the areas affected by the volcano. In addition to the above, due to technical recommendations, it is suggested that when changing the duplexers, the 4-dipole antenna be changed simultaneously, as this set corresponds to 90% of the repeater's operability. In addition to the above, a diagnosis of the communication equipment of the Cundinamarca Branch found that 2 portable radio antennas require corrective maintenance, especially those that connect to the Guadas Branch Support Group.

In addition, based on the field visit made by the Disaster Risk Management Team to the Tolima Branch, to validate the operability of the communication system and the inventory of capacities, it was determined that the antennas of the mobile radios should be replaced since they were found to be deteriorated due to their operation, having reached their programmed obsolescence. Therefore, replacement is required.

In summary, the telecommunications' needs identified by the Colombian Red Cross Society contemplate actions at the national headquarters, mainly the departments of Tolima, Risaralda and Cundinamarca. Among the needs are the acquisition of communication devices, radio antennas, mobile antennas, batteries for lighting systems, board cards, and other supplies for the replacement and maintenance of existing telecommunication equipment in the areas of influence of the volcano. These needs could be covered as part of the anticipatory actions during the first month of the operation.





## Livelihoods And Basic Needs

The departments of Tolima, Caldas, Quindío, Risaralda and Cundinamarca are mainly engaged in agricultural activities, including cultivation of rice, sesame, sorghum, coffee, cotton, sugarcane, soybeans, corn, tobacco, cassava and fruit trees. In Caldas, the main activities include the production of textiles and apparel, chemicals, metalworking, wood, cement, and liquor. In Quindío and Risaralda, coffee production stands out; other crops that have increased in recent years are bananas, plantains, cassava, citrus, beans, corn, and cocoa. In Cundinamarca, manufacturing industry, livestock, hunting, forestry and fishing, and electricity, gas and water supply are the most important.

These economic activities provide food security and generate economic income for the population. However, the expansion of economies based on large-scale agriculture and livestock farming, which are highly vulnerable to the consequences of climate change and variability, have been affected, causing the loss of many crops and grazing areas. This situation affects not only producers, but also those who are part of the production chain, including consumers, due to the increase in the prices of scarce products.

In the event of a volcanic eruption, and in general the consequences of extreme weather events, cause damage to livelihoods and assets, sometimes difficult for the communities to solve without external assistance. These effects not only cause economic losses, but also put communities at risk of food insecurity, since the greatest impact occurs in vulnerable communities with difficult access to means and resources that allow them to solve these consequences.

Therefore, it would be necessary to provide humanitarian assistance to ensure the coverage of basic needs of the communities, through multipurpose cash transfers and food kits, so that the affected people have dignified access to food, housing and other needs, such as the continuation of health treatments, among many others.

The use of the Multipurpose Cash Transfers represents a very important role in the whole strategy, since it allows the beneficiary families to use the resources in a personalized way to their needs, with dignity, maintaining the protagonist role in decision making and avoiding that they assume a passive attitude and contributing to the local economy.

During the anticipatory phase, it would be required to provide assistance through Multipurpose Cash Transfers for families being evacuated to ensure the coverage of urgent basic needs. Similarly, in the event of a volcanic eruption, this will be required to assist families directly affected by the emergency, including:

- Reaching the survival threshold
- Purchase of complementary or additional food in addition to humanitarian food aid.
- Purchase of medicines.
- Transportation Payment of debts.
- Payment of utilities Payment of rent
- Livelihood protection
- Purchase of raw materials.
- Purchase of concentrated feed or fodder for livestock.
- Relocation of livestock to safe areas.
- Purchase of seeds and agricultural inputs.



## Water, Sanitation And Hygiene

Volcanic activity can be an important source of water contamination because, when volcano fluids reach surface or groundwater sources, dissolved gases and entrained solid particles can affect water quality. This limits the supply



y of drinking water for communities in affected areas and the availability for animals

The supply of water suitable for human consumption is greatly affected by volcanic activities. Studies conducted in areas affected by volcanic eruptions showed that the water quality parameters most affected are turbidity, pH and increased concentrations of elements that can be both highly toxic and essential for life, depending on the concentrations reached

Turbidity is a measure of the loss of transparency of water due to the presence of suspended particles. Ash produced during volcanic eruptions can increase the turbidity of water if it remains in suspension, although it will slowly settle to the bottom of rivers, lakes or reservoirs. This increase in turbidity can cause some problems in water treatment plants and water purification systems since the filtration processes and the effectiveness of disinfection treatments can be impaired

Changes in pH and an increase in the concentration of certain elements may occur since the outer part of the ash particles contain acid compounds and water-soluble salts; these concentrations may be high or low, depending on the amount of ash deposited, which in turn will be related to the type of eruption and the time that the process lasts. In the case of rivers and streams, the natural process of agitation induced by water velocity will allow dilution to be rapid, so the change in pH and the high concentration of metals will not last long, except in case of eruptive events of long duration.

Up to 55 soluble compounds have been detected in ash-contaminated waters, of which sodium, calcium, magnesium, chloride, sulfate, and fluoride are those that may appear in higher concentrations. In the case of eruptive events limited to a short period of time, the concentrations of these elements were reduced to values below those established in the quality standards, but in the case of intermittent or semi-continuous eruptive events, these elevated values can become chronic, which implies the need for exhaustive control of the quality of such waters

The infrastructure of the different components of the community and municipal aqueducts may be greatly affected by the volcanic activities, causing a shortage of drinking water. The inhabitants of the affected areas will have difficulty accessing items for personal and household hygiene, due to the contamination of water sources. It is therefore necessary to take actions in the affected communities for the supply of water suitable for human consumption, such as the delivery of water bottles, home water purification filters or their preparation, the mobilization and operation of drinking water treatment plants and the activation and deployment of National Intervention Teams (ENI by its initials in Spanish) personnel specialized in water, sanitation and

In addition, the scarcity or lack of treated water and sanitation has a direct impact on people's health, as the consumption of raw water can cause diarrhoea, hepatitis and damage to the gastrointestinal tract, which is why home water treatment filters will be provided at the household level.

The *Aedes aegypti* is a vector endemic to tropical areas that is located mostly in the coffee-growing region, Tolima and Caldas, which can cause communicable diseases such as dengue, Zika, chikungunya, which cause serious health problems for people exposed to the bite of these mosquitoes. It is therefore important to implement actions for the awareness, management and control of these vectors through the delivery of kits which include (impregnated mosquito nets and repellent) to mitigate this situation that can be aggravated during the emergency by the lack of drinking water and inadequate wastewater management.

The communities affected by the emergency may have economic limitations for the purchase of items that meet the basic needs for the development of hygiene habits, which is why it is important to provide family and household hygiene kits.



The most common health effects caused by volcanic eruptions include traumatic injuries, burns, skin diseases, eye injuries, asphyxia, respiratory problems and even death. Particularly, the fall of ash or expulsion of gases, generate risk of water and food contamination, as well as affecting livestock and domestic animals and the environment in general; also compromising basic services (water, transportation, communications) and access to health services. Likewise, the accumulation of ash on roofs or decks can cause damage or collapse of buildings, causing traumatic injuries, both immediately and after the event (clean-up phase). Health facilities may be destroyed or their functioning may be compromised by restricting access to basic service

Given the Orange (II) alert level, the health of the inhabitants of the areas of influence may be affected in various ways causing

- Respiratory effects, due to ash particles that may cause increased coughing and throat and/or larynx irritation
- Ocular symptoms associated with eye irritation due to ash particles.
- Skin irritation, although not common, volcanic ash can cause skin irritation to some people, especially if the ash is acidic.
- Other injuries associated with indirect effects of ash particles such as increased possibility of traffic accidents due to visibility difficulties, engine failure and slippery floors. Falls on streets, sidewalks, or when cleaning roofs. Roofs may sink due to the weight of the ashes, during ash cleaning tasks, due to the weight of the person performing this
- Impact on health facilities and/or personnel in the affected communities, preventing or limiting the provision of health services

Other impacts that should be considered are the psychological effects on health personnel and the population in general, which could manifest as: fatigue, nausea, headache, gastrointestinal disorders, changes in sleep and appetite, emotional signs such as anxiety, depression, burn-out syndrome or exhaustion, and manifestations of post-traumatic stress syndrome due to the situation. All this depends on personal vulnerability, social and family support, and the degree and time of affectation. Health personnel are also exposed to these alterations, so training, teamwork, knowledge of the signs and symptoms that can help to maintain balance and detect the condition in time to receive the required professional support are very important

To minimize impacts and advance with preparedness in case of an eruption, the Colombian Red Cross Society has been in permanent communication with the technical authorities and the health risk management system in order to be making the necessary preparations for an eventual response with trained and properly equipped personnel.

Considering the above analysis, it is necessary to have the respective pre-positioning in the field (branches) to respond quickly and adequately to support the health response in the volcano risk areas. For this, it is necessary to enlist and/or deploy ENI (National Intervention Teams) health personnel, biomedical supplies, triage kits, first aid and pre-hospital care, tents, among others that allow the care of patients, if necessary. Personal protective equipment is also required for health personnel in the field and volunteers involved in the response actions. Strategically, it is considered pertinent to provide a reserve of these supplies at the national headquarters, which can be mobilized to the branches that require them to support their local response in the affected territory

In the event of an eruption, Emergency Medical Teams (personnel, equipment and logistics) must be available at the national level to provide effective support and rapid deployment to the areas most affected



## Protection, Gender And Inclusion

In the event of a volcanic eruption in the Nevado del Ruiz, the National Society has identified the need to use the local capacities already established in the Protection, Gender and Inclusion, accompanied by the team of the National Directorate. This is based on the necessary enlistment of teams, identification of internal strengths in operational communication and safer access to enable communication with those possibly affected, opening up actions in the territory (acceptance) and offering protection to our teams, so that they can carry out their humanitarian work safely, in order to finally provide a coordinated response to the needs of people and communities possibly affected in terms of loss of family contacts, population mobilization. In this way, it will also be possible to be aware of possible situations that require protection actions, which can be addressed without any kind of distinction.

Implementing the Protection, Gender and Inclusion approach in this emergency implies providing practical guidance to response teams to adopt actions that minimise protection risks, reducing exposure to negative factors and supporting the search for mechanisms to care for people in special conditions of vulnerability (e.g. people with disabilities, children or adolescents, sexually diverse population, among others). PGI actions seek to prevent actions that cause further damage to the population that has been affected by the event.

The greatest exposure is identified, according to early warnings, in the Department of Caldas - municipality of Manizales, and in the municipality of Pereira in the department of Risaralda, where it is necessary to contemplate contingency plans containing preventive action against the high exposure of explosive devices reported and verification with local entities of their emergency plans, which should take into account the practices of safe behavior and verification of training.

For this, it is essential that the community adopts evacuation mechanisms with identified routes and community plans that allow to have evacuation plans mitigating the exposure of mines or explosive devices; so that both social leaders and community actors can perform safe evacuations based on the evaluation of vulnerabilities and capacities of the municipal level. For the other departments of influence, the exposure was evaluated and since it is lower, it is only necessary to share the information so that they have the message of safe behaviors in radio broadcasts, to generate prevention with coverage and immediacy in all areas.

From a protection approach, the main humanitarian needs that may arise are:

- Loss of contact between family members.
- Lack of knowledge on how to act in the face of imminent risk.
- Increase in the number of unaccompanied or separated children.
- Situations of risk of gender-based violence, including sexual violence (especially when activating emergency shelters).
- Incidents and/or accidents due to the presence of anti-personnel mines, unexploded ordnance and improvised explosive devices (if the areas have the presence of these elements).
- Disarticulation and lack of coordination in the humanitarian response, which may increase re-victimization.
- Lack of knowledge on the part of the response teams on how to carry out protection actions (actions aimed at minimizing exposure to harm or abuse, identifying and/or managing protection cases, activating care routes with the authorities for the restoration of rights, mitigating the impacts that limit access to rights in conditions of restriction after an event of this nature - among them, preventing re-victimization and the generation of more actions with harm).



# Operational Strategy

## Overall objective of the operation

Through this DREF Plan of Action, the Colombian Red Cross Society initially aims to carry out preventive and anticipatory actions by reinforcing the technical and operational emergency preparedness capacities of the National Society and the communities in the Colombian Red Cross Society branches, in the departments of Caldas, Tolima, Cundinamarca, Risaralda and Quindio, thus allowing the National Society and communities at risk to be ready in case a response phase is triggered.

First trigger (Target: 2,526 people): Reinforce the technical and operational emergency preparedness capacities of the National Society and the communities in the Colombian Red Cross Society branches, in order to improve the possible response of the population in high and medium threat areas due to the probable eruption of the Nevado del Ruiz volcano.

Second trigger (Target: 13,941 people): Carry out response actions for prioritized population, through humanitarian assistance through the intervention of activities under Health, WASH, Livelihoods, Multipurpose Cash assistance, Disaster Risk Reduction and Protection, Gender and Inclusion.

## Operation strategy rationale

### INTERVENTION STRATEGY BY TRIGGER

Trigger No. 1 - Anticipatory phase (Change from Yellow alert to Orange alert level):

Preventive actions to protect the life, health, livelihood and dignity of exposed people in the high and medium threat zone of the volcano, in the departments of Tolima, Caldas, Quindío, Risaralda and Cundinamarca, will be developed.

#### LIVELIHOODS:

- Feasibility study and Rapid Market analysis.
- Mobilization of personnel and volunteers.
- Volunteer training

#### MULTIPURPOSE CASH:

- Training in cash transfer and implementation of a multipurpose cash transfer program for 200 families for a total amount of \$458,000 COP (approx. CHF 100), for families that are already being evacuated in Caldas and Tolima.

Of the approximately 11,000 people at risk within a 10 km radius of the volcano's crater, priority will be given to those families who comply with the recommendation to evacuate.

The amount of cash to be delivered follows the current government guidelines indicated by the Cash Transfer Group (GTM) for families of up to 3 persons, which corresponds to the average number of persons per household according to the National Administrative Department of Statistics (DANE) in the area.

The cash transfer aims to cover basic needs, including:

- Purchase of food in the place where they are going to evacuate.
- Support for the payment of rent.
- Support for the payment of public services due to an increase in the number of occupants if they evacuate to the homes of relatives/friends.
- Transport.
- Food for domestic and production animals.



As part of the strengthening strategies and installed capacity, the Colombian Red Cross Society carries out the collection of information for cash (characterization and post-distribution survey) through the Kobo tool, where the data is managed/saved according to the country's regulations (Law No. 1581 of 2012).

The Colombian Red Cross Society has previously signed agreements with banking entities and financial operators with national coverage, such as the money transfer company EFECTY, which has a large network of payment points that guarantee the reliable dispersal of funds, charging a low percentage for each money transfer made.

It should be noted that the Colombian Red Cross Society has extensive experience in livelihood intervention and cash transfers in rural and urban contexts in the country, with coverage of more than 20,000 people, covering different profiles of vulnerable populations. Among them: victims of armed conflict, population affected by the COVID-19 crisis, natural disasters (floods in Mocoa - Putumayo, Hurricane Iota in San Andrés, Providencia and Cartagena, rainy season in La Mojana and in the departments of Santander, Norte de Santander, Vichada, Guainía, Guajira and Nariño) and migrant population with funding from Participating National Societies such as: Spanish, German, Norwegian, American Red Cross and with external partners such as Ministry of Foreign Affairs COSUDE, COCA COLA COMPANY, NOVARTIS, among others.

The National Society has also developed a guide for the implementation of Cash Transfer Programmes in COVID-19 contexts based on consultation and reference sources such as the Toolkit for Cash Transfer Programmes (CTP) in emergencies hosted in CashHub, as well as the ICRC market analysis guide used to support feasibility studies for the implementation of CTP.

Finally, the CRCS has a Livelihoods Officer and a Risk Reduction Manager specialized in cash transfers, as well as a protocol developed for the matter.

#### WASH:

- Training of volunteers and the community in the affected area in WASH activities, domestic water treatment and safe water storage (TANDAS by its initials in Spanish)
- Purchase of chemical supplies and maintenance of the Drinking Water Treatment Plants, which are located in the National Directorate and pre-positioned in the Sections in the ring of influence
- Initial assessment of WASH needs and coordination with local stakeholders.
- Procurement and repositioning of 400 water filters for treatment water.
- Procurement of 800 family hygiene kits.
- Awareness raising and training in Water, Sanitation and Hygiene Promotion. In this workshops, 200 family hygiene kits will be distributed to families who have a preventive evacuation order, while the remaining 600 kits will be pre-positioned in the Tolima, Caldas and Cundinamarca branches.

The family hygiene kits include:

- Medium bristle toothbrush for adults suggested brands (PRO, Colgate, Oral B) or of the same quality.
- Medium bristle toothbrush for children suggested brands (PRO, Colgate, oral B) or of the same quality.
- Bath soap in individual packaging minimum 125g.
- Toothpaste 100 cc Suggested brands Colgate or of the same quality.
- Normal, odourless sanitary towels
- Men's razors
- Traditional large size plastic comb (wet comb)
- Blue laundry detergent bar soap x 300 gr Suggested brand, Dersa, Rey or same quality.
- Hand towels in thread 70 X 40 cm.
- Toilet paper double sheet roll
- Shampoo in plastic container 550 ml national brand for family use.
- Nail clippers medium metal curved tip in stainless steel 5cm long
- Disposable nappies stage 4.

#### DISASTER RISK REDUCTION:



- Assessment of the Community Emergency Response Committees formed within the framework of the Nevado del Ruiz Volcano Project Phase II, in 2021.
- Re-conformation of the evaluated committees.
- Training In First aid, evacuation strategies and emergency coordination for Emergency Response Committees.
- Provision to Community Emergency Response Committees with elements for emergency response and evacuation includes, first aid kits, long spinal splint, identification items, fire extinguishers.
- Training in family emergency plans for communities.
- Evacuation Drills for communities in the high exposure area.
- Evacuation drill guided by Red Cross personnel, at the end of the training period for the 14 committees.

#### HEALTH:

- Procurement and prepositioning of first aid supplies, pre-hospital care, trauma and triage kits
- Procurement and prepositioning of personal protective equipment.
- Dissemination of prevention of food-borne and water-borne diseases messages, given that there could be possible contamination from the volcano's residues, which could lead to the need to improve sanitary measures to avoid harmful effects on health. For this purpose, publicity material is required, such as brochures, radio spots, community radio announcements and educational activities in the community

#### TELECOMMUNICATIONS:

- Maintenance of emergency telecommunications equipment in the Sectional Offices and National Headquarter

#### PROTECTION, GENDER AND INCLUSION:

- Work on a strategy of support and review of guidelines and capacities on mission protection issues, from the different intervention teams in a cross-cutting manner, relating to how to develop communication of institutional actions to be carried out and safe access to territory, seen as components of operational security. Preparation of teams with possible intervention through meetings with the directors of Disaster Risk Management, Health, Peacebuilding and Institutional Doctrine and their teams.
- Awareness-raising sessions for communities and institutions on Protection (50 people per branch, convening mainly Emergency Response Teams and leaders of community-based organizations such as Community Action Boards). Specific information will be provided on protection risks such as Contamination by Weapons (CpA), gender and diversity risks, and risks of rupture of family ties, among the most relevant.

In addition, information will be provided on communicating the Institutional Mission and the protection and response actions that the CRC will carry out during the emergency. This action also seeks to identify strategic contacts for coordination during the response. With the institutions, the existence of care routes for the restoration of rights will be identified, as well as the protocols, care programmes and institutional offerings for the mitigation of protection risks that may arise in the event of the eruption of the volcano.

- Mine risk education training for local response agencies to identify safe behaviors in evacuation routes and other operations.
- Mine risk education training for communities with the greatest exposure in the evacuation zones contemplated.
- Dissemination of safe mine risk behavior messages in all departments in the area of influence.
- Capacity building in Protection, Gender and Inclusion. Training of volunteers from the response teams of the focalized sections in the PGI guidelines to identify protection risks, mitigation mechanisms and response coordination strategies that reduce exposure to new risks that arise during the development of humanitarian actions.

Trigger No. 2 - Response phase (Change from Orange alert to Red alert level):

#### LIVELIHOODS:

- Procurement and distribution of non-perishable food kits for emergency response.
- Recovery of agricultural livelihoods through the delivery of livestock feed and/or the delivery of agricultural inputs for the re-establishment of short-cycle crops that favor food security.

#### MULTIPURPOSE CASH:

- Training in cash transfer and implementation of a multipurpose cash transfer program for 582 families for a total



amount of \$458,000 COP (approx. CHF 100). As in the anticipatory phase, the amount delivered will correspond to the governance guidelines of the Cash Transfer Group (GTF).

This multipurpose cash will be delivered to the most affected families by the eruption, with the purpose of reaching the threshold of survival and recovery of their livelihoods for one month, such as:

- Payment of debts.
- Purchase of food.
- Purchase of inputs for the recovery of their livelihoods.
- Transport.
- Purchase of medicines.

#### COMMUNITY, ENGAGEMENT AND ACCOUNTABILITY:

Within the CEA mechanisms for the cash transfer programme, different communication channels will be established with the beneficiaries: WhatsApp, telephone, email, social networks, where they can send their requests, requests and/or complaints.

Once the people are selected, a telephone call will be made to provide guidance on how to withdraw the money and general recommendations on the use of the transfer and security. Subsequently, a post-distribution survey will be conducted to monitor and evaluate different aspects of the cash delivery and its functionality.

From the start of the different actions, assertive communication is used to avoid generating false expectations, and clarity is provided on the execution of the actions, requirements and exit strategies. Likewise, constant communication is maintained with people to socialize and follow up on each stage of the programme.

#### WASH:

- Mobilization and operation of drinking water treatment plants.
- Procurement and distribution of household cleaning kits, composed of:
  - 22 gauge rubber gloves No. 8
  - Black plastic rubbish bag 70cm x 90cm x 10 und
  - Red rubbish bin bag 45cm X 58cm x 10 und
  - Cloth mouth cover
  - 10L plastic bucket
  - Absorbent kitchen towel 20cm X 18cm
  - Broom with stick
  - Floor brush with stick
  - Liquid floor soap X 150 ml
  - Detergent powder X 1000 gr
  - Sponge for tile type sabra
  - Disinfectant cleaner X 1000 ml (hypochlorite)

#### HEALTH

- Procurement and distribution of vector management and control kits:
  - 3 awnings or mosquito nets impregnated with mosquito repellent.
  - 2 bars of 50 grams of nopikex repellent.
  - Tula or packaging to carry the elements.
- Mobilization of emergency medical teams: To enable effective support and rapid deployment to emergency areas. Each team will be composed of a medical doctor, nurse, psychologist, two nurse's assistant, and two medical logistic members, who will provide first aid and primary medical care to safeguard the life and physical integrity of the personnel, while the person is transferred to a care centre or hospital.

Likewise, this team contemplates the integration of a psychologist for MHPSS assistance for health effects derived from the volcano eruption, such as: fatigue, nausea, headache, gastrointestinal disorders, changes in sleep and appetite, emotional signs such as anxiety, depression, burn-out syndrome or exhaustion, and manifestations of post-traumatic stress syndrome due to the situation.



Healthcare workers are also exposed to these disturbances, so training, teamwork, knowledge of the signs and symptoms that can help to maintain balance and detect the condition in time to receive the required professional support are very important.

#### PROTECTION, GENDER AND INCLUSION:

The International Federation of Red Cross and Red Crescent Societies has consolidated the Protection, Gender and Inclusion (PGI) approach to emergency response to provide practical guidance for the incorporation of four principles (Dignity-Access-Participation-Security) in the sectors that are activated in a humanitarian emergency response. The implementation of actions from the PGI Approach allows the adoption of measures aimed at limiting exposure to risks of violence and abuse, minimizing the impacts or possible actions with harm (derived from the implemented actions) and mitigating the humanitarian impacts suffered by the population after exposure to the event that causes the emergency

In trigger 2, it has been considered the implementation of actions such as:

- Awareness-raising workshops for communities and institutions on Protection (50 people per branch). Dissemination will be carried out on the local institutional offer of local care routes and protection mechanisms for cases that may arise in relation to: Persons reported missing, re-establishment of contact between family members, gender-based violence - including sexual violence - (especially if temporary shelters are activated), unaccompanied or separated children, violation of rights towards sexually diverse people, among others. This action will support the management of information on the restoration of rights and the management of protection cases.
- An Emergency Fund for the Management of Protection Cases will be activated in order to have the necessary resources to provide support in the care and/or referral to the institutions responsible for the restoration of rights for individuals and/or families affected by protection risks.
- For the establishment of protection from Weapons Contamination Actions, activities to be carried out within the framework of anti-mining and other explosive ordnance regulations are contemplated, and are established with the main objective of providing a contingency plan based on safe behaviors that allow the warning emergency to be addressed without exposing the population to actions that increase their risk in another scenario, which could generate accidents or incidents with mines or explosive devices.
- In addition, in case of reports of missing persons, search requests will be taken from relatives in order to activate the corresponding actions in emergency contexts and the corresponding coordination processes will be established with the competent authorities to facilitate the processes of search, identification and reestablishment of contact between family members
- From the component of Restoring Family Links (RFL), if required, connectivity points will be activated depending on the affected areas, purchase and installation of a series of logistical tools (plans, tents, furniture, stationery, transportation resources) and volunteer staff, in order to prevent the disappearance of people and family separation. Connectivity services are intended to make available tools that allow people to establish contact with their loved ones through devices such as cell phones, tablets, mobile battery charging elements and modems to provide Wi-Fi service

Intervention strategy by support services:

Logistics and Supply Chain: The procedures and protocols established in the procurement process and in the quality management manual of the Colombian Red Cross Society will be implemented, according to the amounts and items detailed to ensure the eligibility of the resource. Suppliers will submit their quotations according to the selection criteria managed by the institution, which will be supported by a purchase plan that seeks to access from the beginning of the intervention to the purchase of humanitarian assistance elements, according to their technical characteristics established by the Manual of Standardization of Humanitarian Aid of the National System of Disaster Risk Management, focused on quality and quantity according to the identified needs of the community

The mobilization of personnel and equipment will be supported by the capacity of institutional vehicles and boats; however, to mobilize a large amount of material and due to the dynamics of the area due to the emergency, it will eventually be necessary to rent cargo vehicles to move cargo and personnel, in order to be able to access the affected



areas

**Communication:** Institutional actions will be made visible through the Institution's social networks and the coordination spaces in which the review and validation of the processes developed at the humanitarian level will be carried out.

**Information Technology:** To guarantee an articulated communication strategy, it will be supported under the national telecommunications network supported by the technical support of the Colombian Red Cross Telematics team, in the systems established in VHF and HF that are currently operational and functional in the field; however, to support aspects of coordination and permanent contact for the national context

**Security:** The National Society will work within the framework of action of Safer Access, in addition to compliance with the provisions contained in the Colombian Red Cross Security Manual, which must be applied and established by all components of the Red Cross Movement, present in Colombia and in the region, as well as the management, employees and volunteers of all the Colombian Red Cross Society branches.

**Administration and Finance:** The administrative and financial processes are framed in the quality system of the Colombian Red Cross Society, and support all the actions of our humanitarian mission, ensuring transparency and accountability in an appropriate manner

## Targeting Strategy

### Who will be targeted through this operation?

In the first stage of the intervention, 2,526 people will be assisted, who will be part of the capacity building actions for the prevention of emergencies.

The target population for the first trigger is made up of the people prioritized in the high threat zone of the municipalities of Villamaría (Caldas), Casabianca, Herveo, Murillo and Villa Hermosa (Tolima), who received preventive evacuation alert due to the possible effects and the high severity that could be caused. The needs of the most vulnerable groups such as minors, women, pregnant and lactating women, chronically ill adults, people with disabilities and the elderly, as well as migrants, refugees and internally displaced persons will be taken into consideration.

For the second trigger, a more extensive intervention is contemplated in the five departments prioritized for being affected by an imminent volcanic eruption, according to the rings of intervention and affectation.

The target population for the second trigger will be 13,941 people, who will receive assistance after the eruption of the volcano.

Although people targeted in the first phase could also be part of the second phase, it is highly unlikely due to the fact that the first phase is aimed at people whom are evacuating from the high threat zone in the departments of Caldas and Tolima. However, in case of the second phase, the people targeted would be those that remain in the high threat zone of the five prioritized departments.

### Explain the selection criteria for the targeted population

The prioritization of the affected population will be made considering the area of greatest influence of the affectation by the recent activity of the Nevado del Ruíz volcano and the governmental guidelines of preventive evacuation. Local censuses conducted by the Red Cross and other relief and risk management groups will be taken into consideration, as well as the most vulnerable populations identified by the teams in the f

Two line of actions are considered as part of anticipatory actions:

1. Evacuation: This applies to individuals, families and communities within a radius of 15 km, and applies to some



residents of areas in the municipality of Villamaría in the department of Caldas, and also for some areas in the municipalities of Herveo, Murillo, Casabianca and Villahermosa in the department of Tolima.

2. Readiness: This corresponds to other populations in the zone of influence and applies to the five departments surrounding the Nevado del Ruiz volcano, including Tolima, Caldas, Cundinamarca, Risaralda and Quindí

The Emergency Humanitarian Assistance and anticipatory actions are focused on the populations that are in the 15 kilometer ring, because currently they must evacuate. It is not possible now to determine if they will lose their homes or not; however, with the current situation they cannot be located in these sites, because of the risk and exposure of their physical and mental health due to the effects that can generate an eruptive event such as the one that is estimated to happen, since the ash, gases, high temperatures, presence of pyroclasts as the most critical events do not allow to be in the area. Therefore, these people will be located in shelters, refuges and other areas other than their homes, so humanitarian assistance is prioritized in order to assist and satisfy their needs in a dignified manner

#### MULTIPURPOSE CASH TRANSFERS:

The people selected will be prioritized according to the following criteria, and may or may not be registered in the National Unit for Disaster Risk Management (UNGRD by its initials in Spanish) Single Registry of Affected and Affected Persons (RUDA by its initials in Spanish):

- Livelihoods affected.
- Families with children under 5 years of age.
- Families with pregnant or breastfeeding women or adolescents.
- Families with members with special capacities (physical, mental, sensory or intellectual), or with chronic, critical or degenerative illnesses that disable them to work.
- Families at risk or who assume negative survival strategies (sale of productive assets, prostitution, reduction of the number of meals, reduction of health and education expenses, consumption of seed reserves, among others).

#### GENERAL CRITERIA FOR PRIORITIZING BENEFICIARIES:

The population prioritized for the different activities will be chosen taking into account the group of people most affected, considering the following criteria:

- People who could not evacuate and lost their basic means of subsistence.
- Population without access to food.

Likewise, the main criterion will be the agreement with government entities on the population that could not be assisted by the state, in order to avoid duplication and to reach people who did not receive other forms of assistance.

## Total Targeted Population

Women:	<b>8,399</b>	Rural %	Urban %
Girls (under 18):	-	<b>74.76 %</b>	<b>25.24 %</b>
Men:	<b>8,068</b>	People with disabilities (estimated %)	
Boys (under 18):	-	<b>21.80 %</b>	
Total targeted population:	<b>16,467</b>		



# Risk and security considerations

Please indicate about potential operational risk for this operations and mitigation actions

Risk	Mitigation action
Protection risks, such as internal displacement due to damage or total loss of housing and family disintegration.	The Colombian Red Cross Society conducts a capacity assessment of the branches and the National Headquarters in order to identify strengths and opportunities for improvement in the protection of family ties.
Due to the increase in rainfall, which generates water dams and becomes breeding grounds for vectors, there is a health risk due to exposure to vectors that cause tropical diseases such as Dengue, as well as to untreated water.	<ul style="list-style-type: none"> <li>- Strict use of Personal Protection Equipment (impregnated mosquito nets and repellent) for volunteers and personnel supporting the operation.</li> <li>- Attention to public health and self-care measures by NS (National Society) personnel.</li> <li>- Promotion of hygiene practices and family cleanliness and people.</li> </ul>
Financial risk due to illiquidity or late disbursements	<ul style="list-style-type: none"> <li>- Planning of activities and schedules, based on the adequate provision of time for the preparation of letters of understanding with the Partner and the CRCS Branches, and resource requests to the Partner.</li> <li>- Recategorization of costs</li> </ul>
Technical risk due to non-compliance of suppliers or the supply chain	<ul style="list-style-type: none"> <li>- Performance policies subject to contracts, in terms of stock.</li> <li>- Follow-up processes</li> </ul>
Financial risk due to ineligibility of expenditure.	<ul style="list-style-type: none"> <li>- Control of the invoicing, payment and legalization process with the finance team.</li> <li>- Follow-up on the delivery schedules of the branches for the reporting of expenses.</li> </ul>
Exchange rate volatility	Timely identification of surpluses to effect a request for repurchase from the Partner or extension at no cost for the execution of the surpluses.
Lack of situation reports or status information impacting readiness and implementation.	Regular meetings between IFRC and CRCS, and between CRCS and National Disaster Risk Management System (SNGRD by its initials in Spanish) institutions.
Insufficient or unavailable trained personnel to implement the response plan.	Enlistment of staff and volunteers trained in emergency response.
Coordination risks	Participation in as many Unified Command Posts as possible
The increase in temperatures in the volcanic buildings (structures created from the accumulation of solid fragments produced in an eruption) generates melting of the summit of the Nevado del Ruíz volcano, which can lead to avalanches, an increase in the water table, overflows or lahars.	<ul style="list-style-type: none"> <li>- Evacuation of the population and mobile livelihoods.</li> <li>- National authorities should have Departmental Water Plans to anticipate possible emergencies in the structure of aqueducts and water intakes.</li> </ul>
	- Projection of transportation and logistics according to the current characteristics of the territory.



<p>Rainfall, landslides and other events caused by the current rainy season may limit land access to the emergency zone.</p>	<ul style="list-style-type: none"> <li>- Coordination with fluvial authorities operating in the area</li> <li>- Synergy with the UNGRD and the territorial DRM Councils.</li> </ul>
<p>Health risks to people and animals due to falling pyroclasts or ashes that affect the respiratory system, visibility and limit land and air access to the emergency zone.</p>	<ul style="list-style-type: none"> <li>- Risk communication</li> <li>- Preventive delivery of personal protection equipment to the exposed population in the high threat zone.</li> </ul>

**Please indicate any security and safety concerns for this operation**

Taking into consideration that the fulfilment of the humanitarian work of the institution is directly and indirectly related to threats, vulnerability and risk derived from events of natural origin or situations produced by human beings, and that the integrity of humanitarian personnel, image, credibility and the institutional work based on the Fundamental Principles may be at risk or affected at any given moment, all actions will be carried out in accordance with the rules, protocols and procedures established by the Colombian Red Cross Society.

For the purpose of mobility and on a permanent basis, the members of the Participating National Societies and Movement components will strictly follow the procedures and security measures foreseen in the Colombian Red Cross National Contingency Plan for the Nevado del Ruiz volcano.




# Planned Intervention

	<b>National Society Strengthening</b>	<b>Budget</b>	CHF 101,339
		<b>Targeted Persons</b>	
<b>Indicators</b>	<b>Target</b>		
Lessons learned workshop	1		
T1. Percentage of progress in strengthening communication systems	90		
T1. Number of volunteers and staff reached with personal protective equipment	236		
T1. Number of volunteers and staff reached with visibility uniforms to conduct activities	236		
<p style="text-align: center;"><b>Priority Actions:</b></p>	<p>Phase I: Anticipatory</p> <p>T1. Reinforcement of communication systems through preventive maintenance of communication networks and branch office telecommunication accessories used for communication between CRC teams.</p> <p>T1. Personal protective equipment for volunteers</p> <p>T1. Uniforms for volunteers</p> <p>T1. Recruitment of full-time staff to deal with the emergency.</p> <p>Phase II: Response</p> <p>T2. Recruitment of full-time staff to deal with the emergency.</p>		

	<b>Livelihoods And Basic Needs</b>	<b>Budget</b>	CHF 75,832
		<b>Targeted Persons</b>	8742
<b>Indicators</b>	<b>Target</b>		
T2. Percentage of assisted families that re-establish their livelihood assets to reach the survival threshold.	60		
T2. Number of families reached with livelihoods supplies (agricultural and/or animal feed)	101		

T2. Number of families reached with food kits	2914
<b>Priority Actions:</b>	<p>Phase II: Response</p> <p>T2. Procurement and distribution of food kits for 2,914 families (8,742 people)</p> <p>T2. Procurement and distribution of 454 livelihoods supplies (Agricultural inputs and/or animal feed) for 101 families (303 people).</p> <p>T2. Baseline livelihoods market study and final survey.</p> <p>T2. Guidance to families on the proper use of agricultural and livestock inputs delivered for the recovery and protection of their livelihoods.</p>

	<b>Multi-purpose Cash</b>	<b>Budget</b>	CHF 84,388
		<b>Targeted Persons</b>	2346
<b>Indicators</b>		<b>Target</b>	
T2. Number of families reached with cash transfer assistance as part of the response phase.		582	
T1. Number of families reached with cash transfer assistance as part of anticipatory phase.		200	
<b>Priority Actions:</b>		<p>Phase I: Anticipatory</p> <p>T1. Multipurpose Cash Transfers for 200 families (600 people)</p> <p>Phase II: Response</p> <p>T2. Multipurpose Cash Transfers for 582 families (1,746 people)</p> <p>Activities prior to cash delivery:</p> <ul style="list-style-type: none"> <li>- Feasibility study</li> <li>- Characterization (this characterization includes descriptions such as # of family members, gender, age, ethnicity, among others).</li> <li>- Orientation and training of families in the use of the cash.</li> </ul> <p>Activity after the delivery of the cash:</p> <ul style="list-style-type: none"> <li>- Post-distribution survey (includes information on the use of the cash, difficulties in cash collection, among others).</li> </ul>	

	<b>Health</b>	<b>Budget</b>	CHF 102,812
		<b>Targeted Persons</b>	4800
<b>Indicators</b>		<b>Target</b>	
		800	

T2. Number of vector control management kits delivered	
T2. Number of medical care provided (First Aid/Prehospital care)	4000
T1. Number of people reached by health prevention and promotion	400
T1. Number of pre-positioned medical assistance kits	10
<b>Priority Actions:</b>	<p>Phase I: Anticipatory</p> <ul style="list-style-type: none"> <li>T1. Procurement of trauma kits with stretcher.</li> <li>T1. Procurement of Triage kits.</li> <li>T1. Procurement of Biomedical supplies.</li> <li>T1. Procurement of personal protection items (eyes and respiratory protection)</li> <li>T1. Materials for prevention campaigns (teaching materials and flipcharts on food practices and disease prevention).</li> </ul> <p>Phase II: Response:</p> <ul style="list-style-type: none"> <li>T2. Deployment of emergency teams (composed of doctor, nurse, psychologist, two nurse's assistant and 2 medical logistic members, who will provide first aid and primary medical care) and psychologist for mental health care.</li> </ul>

	<b>Water, Sanitation And Hygiene</b>	<b>Budget</b>	CHF 87,994
		<b>Targeted Persons</b>	2400
<b>Indicators</b>		<b>Target</b>	
T1. Number of family hygiene kits pre-positioned		800	
T1. Number of water treatment plants that undergo preventive maintenance		9	
T1. Number of water filters prepositionated		400	
T2. Number of family cleaning kits provided		800	
T2. Number of Drinking Water Treatment Plants mobilized		3	
		Phase I: Anticipatory T1. Training of volunteers and the community in the affected area in WASH activities such as Household Water Treatment and Safe	




<b>Priority Actions:</b>	<p>Water Storage (TANDAS)</p> <p>T1. Purchase of chemical inputs and maintenance of Drinking Water Treatment Plants, which are located in the National Directorate and pre-positioned in the Branches in the influence rin</p> <p>T1. Procurement and prepositioning of Family hygiene kits.</p> <p>T1. Procurement and prepositioning of water filters.</p> <p>Phase II: Response:</p> <p>T2. Mobilization and operation of Drinking Water Treatment Plants.</p> <p>T2. Procurement and distribution of cleaning kits.</p>
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	<b>Secretariat Services</b>	<b>Budget</b>	CHF 14,027
		<b>Targeted Persons</b>	
<b>Indicators</b>		<b>Target</b>	
T2. Deployment of a Regional Intervention Team (RIT) member with disaster management expertise to support NS actions in the event of trigger 2 activation.		1	
Number of monitoring missions conducted.		3	
<b>Priority Actions:</b>		<ul style="list-style-type: none"> <li>- Monitoring missions</li> <li>- Communication actions</li> </ul> <p>Phase II: Response:</p> <p>T2. 1X Surge Field Coordinator for 1 month</p>	

	<b>Protection, Gender And Inclusion</b>	<b>Budget</b>	CHF 15,169
		<b>Targeted Persons</b>	1500
<b>Indicators</b>		<b>Target</b>	
T1-T2. Number of people reached through awareness-raising days for communities and institutions		1500	
T1. Number of departments reached with radio broadcast of key messages on safe behaviors		4	
T1. Number of local response civil servants that participate in assessment of needs,		10	



vulnerabilities and municipal capacities for building community response	
T1. Percentage of staff and volunteers that participate in the review and implementation of guidelines and capacities in Operational Safety	100
<b>Priority Actions:</b>	<p>Phase I: Anticipatory</p> <p>T1. Awareness-raising days for communities and institutions</p> <p>T1. Implementation of connectivity points</p> <p>T1. Meeting with local authorities to implement municipal ENVC, response application route and community diagnosis.</p> <p>T1. ERAE workshop for the response committee on the subject of care routes for the population at risk of CpA in the municipalities of greatest exposure</p> <p>T1. ERAE workshop for the population in the vicinity of identified zone</p> <p>T1. Capacity-building in Protection, Gender and Inclusion (protection risks such as Contamination by Weapons (CpA), gender and diversity risks, and risks of rupture of family ties).</p> <p>Phase II: Response</p> <p>T2. Awareness-raising days for communities and institutions</p>

	<b>Risk Reduction, Climate Adaptation And Recovery</b>	<b>Budget</b>	CHF 14,472
		<b>Targeted Persons</b>	630
<b>Indicators</b>		<b>Target</b>	
T1. Number of community drills developed (1 Drill per community)		14	
T1. Number of families from the prioritised communities receive training on the Family Emergency Plan (15 families per community, with 3 members per family nucleus).		210	
T1. Number of community emergency response kits delivered		14	
<b>Priority Actions:</b>		<p>Phase I: Anticipatory</p> <p>T1. Family Emergency Plan Workshops</p> <p>T1. Training Community Emergency Response Teams (ECRE)</p> <p>T1. Procurement and distribution of Emergency Equipment (first aid kit, megaphone, identification waistcoats, whistles) for the 7-person Committee.</p> <p>T1. Community Drills</p>	

# About Support Services

## **How many staff and volunteers will be involved in this operation. Briefly describe their role.**

The team will be made up of the following members, considering that the personnel will be hired and deployed with 100% dedication to this emergency. Additionally, the personnel deployed for Trigger 1 will remain in case Trigger 2 is activated:

Trigger 1:

- x1 Operation Coordinator
- x1 Administrative Assistant
- x1 Accounting Assistant

Trigger 2:

- x1 National administrator
- x1 National Cash Technician
- x1 ENI in information and communications management
- 236x Volunteers

Volunteers with experience in actions related to health assistance, damage assessment and needs analysis, livelihoods, humanitarian emergency assistance, prevention and health promotion with a focus on water, sanitation and hygiene.

The National Society will support the operational actions with hired staff, who will be supporting the DREF intervention strategy with exclusive dedication to aspects related to procurement, purchasing, registration, financial monitoring, accounting, operational logistics, monitoring of actions in the field, operation reports and consolidation of information.

The Social and Humanitarian Development Team will support the technical and operational coordination processes of the actions to be carried out in the development of the operational lines, the staff has the knowledge, experience and expertise in processes of Health, Livelihoods, Protection, Humanitarian Assistance, Emergency and Disaster Response, implementation and development of humanitarian projects, among others. This team will be a reference to support and coordinate the field work teams and the management of the personnel that will be linked to develop the operation.

## **Will surge personnel be deployed? Please provide the role profile needed.**

1X Surge Field Coordinator in case trigger 2 is activated.

## **If there is procurement, will it be done by National Society or IFRC?**

The Colombian Red Cross Society will manage the logistics and supply chain. The procedures and protocols established in the procurement procedure and in the quality management manual of the Colombian Red Cross Society will be followed, according to the amounts and items detailed to guarantee the eligibility of the resource. Suppliers will submit their quotations according to the selection criteria managed by the institution, which will be based on a list of purchases that seek access from the beginning of the intervention to the purchase of humanitarian aid items, according to their technical characteristics established by the National Disaster Risk Management System Manual, focused on quality and quantity according to the identified needs of the community.

Mobilisation of personnel and equipment will be supported by the capacity of institutional vehicles and vessels; however, in order to mobilise a large amount of material and due to the dynamics of the emergency area, it will eventually be necessary to hire and rent cargo vehicles and fluvial vessels such as boats to move cargo and personnel to access the affected areas.

## **How will this operation be monitored?**



The monitoring of this DREF will be supported by the Project Office, which will monitor the data and information captured and processed by the Risk and Disaster Management team, monitoring the timely management of technical and financial goals, accompanying the technical management and monitoring committees, providing feedback to the executing areas, generating implementation alerts and, if necessary, supporting the construction of improvement plans.

The Humanitarian and Social Development team is responsible for the implementation of this plan, in coordination with the other National Society directorates. The International Federation of Red Cross and Red Crescent Societies will conduct regular monitoring sessions with the Colombian Red Cross Society, in order to know the progress of actions to support the affected populations in each of the departments where DREF operations are taking place.

Likewise, the CRCS will participate in the operational coordination spaces with the National Disaster Risk Management System and other humanitarian organizations or agencies present in the area. The National Directorate of the Colombian Red Cross Society and its Disaster Risk Management Team will carry out constant monitoring visits to the evolution of the situation in the area and the geological events that may generate variations in the context of the area.

**Please briefly explain the National Societies communication strategy for this operation.**

Institutional actions will be made visible through the institution's social networks and the coordination spaces in which the review and validation of the processes developed at the humanitarian level are carried out. Likewise, elements of visibility and identification will be used in the spaces where humanitarian aid is provided

For the deployment of this operation, the incorporation of a staff dedicated to the management of information and communications has been considered, who will be in charge of collecting evidence, photographs, audiovisual material or testimonials on the processes involved in this operation. These activities will be carried out in coordination and with the support of IFRC.



# Budget Overview



## DREF OPERATION

### MDRCO023 - Colombian Red Cross Anticipatory Actions for Volcanic Eruption

#### Operating Budget

<b>Planned Operations</b>	<b>380.667</b>
Shelter and Basic Household Items	0
Livelihoods	75.832
Multi-purpose Cash	84.388
Health	102.812
Water, Sanitation & Hygiene	87.994
Protection, Gender and Inclusion	15.169
Education	0
Migration	0
Risk Reduction, Climate Adaptation and Recovery	14.472
Community Engagement and Accountability	0
Environmental Sustainability	0
<b>Enabling Approaches</b>	<b>115.367</b>
Coordination and Partnerships	0
Secretariat Services	14.027
National Society Strengthening	101.339
<b>TOTAL BUDGET</b>	<b>496.034</b>

all amounts in Swiss Francs (CHF)



# Contact Information

For further information, specifically related to this operation please contact:

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[Click here for the reference](#)

