

## A.7 Democratic Republic of Congo – 2002 – Volcano

### Update:

**Keywords:** Returns, Urban neighbourhoods, Household NFIs, Construction materials, Transitional shelter / T-shelter, Community engagement, Mass communication.

#### Country:

Democratic Republic of Congo

#### Project location:

Goma

#### Disaster:

Goma volcano eruption in 2002

#### No. of houses damaged:

15,000 houses destroyed  
(20 per cent of Goma's housing stock)

#### Number of people displaced:

300,000 people displaced

#### Project outputs:

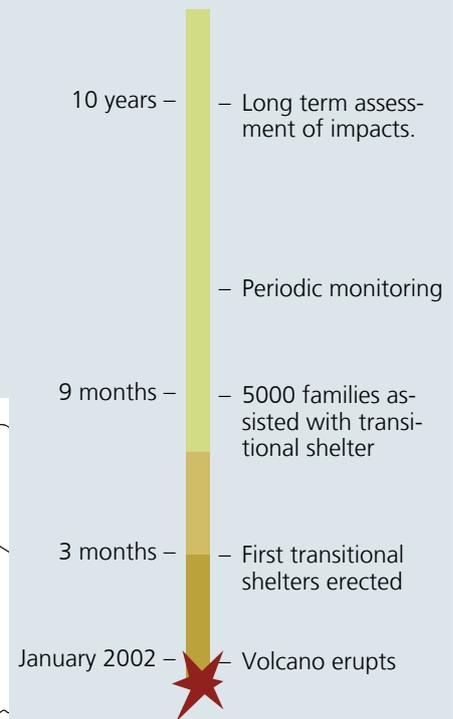
5,000 families supported with shelter and latrine packages

#### Shelter cost:

US\$ 250 average cost: Shelter and latrine (materials and labour)



#### Project timeline



### Project description

This case study summarises an assessment by a major donor of the transitional shelter and recovery programming that it funded in Goma following the volcanic eruption in 2002. The assessment was conducted ten years after the initial response. The assessment found that transitional shelter did help to facilitate the transition to permanent housing, and became a base for many livelihood activities. It also found lasting impacts from both the settlements approach taken and from the supporting activities to help people in Goma to “live with risk”.

### Strengths and weaknesses

✓ *Transitional shelter really can facilitate the transition to permanent housing.* As intended, nearly all of the original 5,000 “t-shelters” have been improved in some way as part of making it a permanent home. A site visit 2012 noted that most beneficiary families continue to live in their transformed transitional shelters. After ten years, some families are still making improvements leading to permanence, suggesting that the process of incremental housing development is both evident and likely to continue in the foreseeable future.

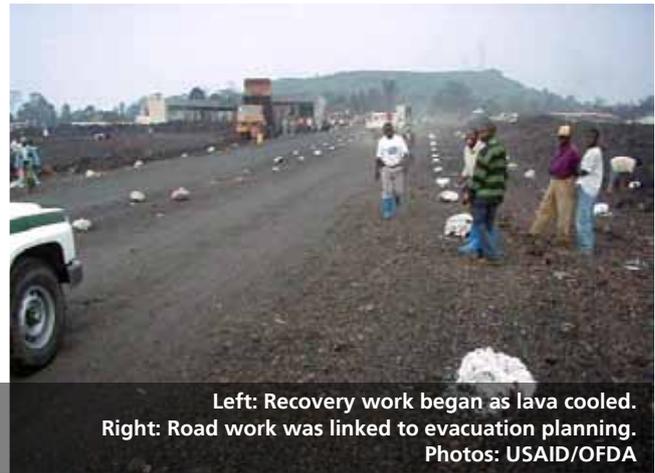
✓ *Transitional shelters have become “shophouses”.* As intended, many project beneficiaries have expanded their shelters to create space for livelihood activities of all kinds, thereby either restoring livelihoods lost in the disaster, or creating new economic activity using the shelter as a much-needed platform for production. This has contributed to both community and regional economic recovery since the volcanic eruption.

✓ *A deliberate focus on “Shelter and Settlements” is a critically needed approach to humanitarian assistance in urban areas.* Longer-term recovery was dependent upon regenerating its urban economy. Providing

transitional shelter in the city, based on the “city-focused” approach, maximised and concentrated the economic benefits associated with investments made by the humanitarian community. In turn, residents have had better access to jobs and public services in an urban context than in a remote camp, contributing further to the recovery of their city. Disaster Risk Reduction measures were incorporated into the reconstruction of road and service networks, to enhance both evacuation options as well as access to land and housing markets. The city-focused approach orientated humanitarian assistance towards settlement planning and also reflected beneficiaries' wishes to return to their own neighbourhoods.

✗ In *Shelter Projects 2008*, the implementing organisation noted:

- ✗ For families with eight or more people, shelters were initially not big enough.
  - ✗ Some people felt that plastic walls compromised their privacy and security.
- The project was one of the first-ever attempts by the donor to promote an explicit shelter and settlements approach to shelter activities.



Left: Recovery work began as lava cooled.  
Right: Road work was linked to evacuation planning.  
Photos: USAID/OFDA

## The volcano

(See case study A.1 in *Shelter Projects 2008*)

Nyiragongo, a volcano located approximately 16 kilometers (ten miles) north of Goma, the major town in Eastern Democratic Republic of Congo (DRC), began erupting on 17<sup>th</sup> January 2002. Lava flowed from the southern flank of the volcano, heading towards Goma.

This eruptive activity triggered an exodus of Goma, a city of approximately 450,000 people. Of which an estimated 300,000 people fled briefly to Rwanda, while others fled to settlements to the west of Goma as well as elsewhere within the DRC. Most people returned to the city within three months.

The lava flows and subsequent fires caused severe damage in Goma. An estimated 13 per cent of the city's 35km<sup>2</sup> land area was covered by lava. It heavily inundated the central part of the city, destroying up to 15,000 dwellings (20 per cent of the city's estimated housing stock). In inundating the most developed portion of the city, arguably the most developed portion of eastern DRC, the lava flows destroyed numerous economic enterprises and community structures, and thus thousands of livelihoods.

An estimated 90,000-105,000 people, many of whom were already vulnerable because of conflict-induced insecurity and limited economic opportunities, lost their homes and other assets, and were in need of shelter.

Although eruptive activity ended within 24 hours, seismic activity related to the volcano continued until early February 2002. On February 9 seismologists declared that the eruption was over.

Since early 2002, Goma has subsided by nearly 50cm. Minor subsidences have periodically occurred as a result of on-going tectonic activity.

## Response

With thousands of jobs lost, and the urban and regional economy devastated, national and international organisations mounted a rapid response, with the international community contributing a total of US\$ 40 million in assistance.

In this case-study, the donor's share of the contribution was nearly US\$ 5 million. This included US\$ 2.6 million in emergency relief: water, food, health, and non-food assistance (including blankets, household goods, and plastic sheeting); and a US\$ 2.3 million programme featuring a transitional shelter project and disaster risk reduction activities.

The response featured the design and implementation of one of the donor's first transitional shelter projects.

## Recovery

After critical needs had been addressed, the humanitarian community began to develop strategies for helping residents of Goma rebuild their lives and livelihoods. Shelter quickly emerged as the most pressing need for affected families.

People displaced by the volcano needed a place to call "home".

Options for meeting this need included moving the entire city to a new site, dispersing people to different regions of the country, moving people into camps, and a "city-focused" option aimed at rehabilitating Goma itself, allowing as many people as possible to remain. These options were discussed at length among representatives of all key stakeholders.

The perceived and real security and political conditions in the immediate region affected decisions in shelter assistance by constraining relocation options to the east, north, and west of Goma. The city is also located on the northern shore of Lake Kivu, making large-scale southern movement of the displaced impractical.

There was also the local security consideration that many people wished to remain close to their former houses to prevent appropriation or looting.

Following consultations with affected communities and authorities, the donor devised a two-pronged strategy that would bring new life to Goma and reduce the impacts of future disasters.

## Transitional Shelter

Due to the security, safety and economic concerns of the affected population, the first element of the programme was to support a city-focused transitional shelter program, devoting 80-85 per cent of program funds to the Goma urban area. The donor and its

**“The central business district, buried under rock, is re-emerging; there is even a new Volcano Internet Café on the edge of the destruction. The camps set up for displaced residents are now mostly shuttered, and Goma is experiencing something of a housing boom.”**

The New York Times (emphasis added), November 10, 2002



Transitional shelter (left) has evolved into permanent housing (right) for thousands of families. Photo: USAID/OFDA

partners determined that there was sufficient space in Goma to shelter residents there, and that the existing social and economic infrastructure, even post-eruption, made it easier to assist people in the city rather than elsewhere.

The donor funded a single organisation to provide shelter in Goma to assist 5,000 households. All of the households were assisted within nine months of the eruption. Other donors saw the efficacy of this strategy and provided a combined total of 8,000 additional households with transitional shelter. A further 2,000 households received other assistance from a variety of other organisations.

Assistance was used to expand or supplement host family homes, or build on under-used or vacant private residential parcels of land. Shelter supplies were sufficient to create 21m<sup>2</sup> of covered living space for an average beneficiary household of up to six people. The supplies included plastic sheeting, zinc roof sheeting, wood framing, and concrete screed flooring. A modest latrine was also provided.

Three-quarters of households were assisted on land occupied by host families (relatives or friends); many of these beneficiaries have remained on hosted land.

### Living with risk

The second element of the strategy was rooted in the basic message of learning to live with risk: a Disaster Risk Reduction programme was designed to promote improvements in volcano hazard mon-

itoring (provision of equipment, staff support, and technical assistance to the Goma Volcano Observatory).

The donor also sponsored a two-year, community-based Disaster Risk Reduction program linked to the Goma Volcano Observatory to enhance early warning systems, upgrade evacuation routes, and improve community awareness of what to do and where to go when eruptions and earthquakes occur.

The road network was expanded following discussions with local officials and representatives. This was intended to increase the number of evacuation routes.

### Outcomes

Despite the considerable changes in Goma during the 2002-2012 period, including recent conflict in and near the city, several outcomes of the donor-supported post-eruption activities have become visible over time:

- In addition to providing much-needed shelter, the city-focused programme had a significant impact on Goma's economy. Beneficiary families supported nearly 45,000 person-days of labour to transform their transitional shelters into permanent homes. This generated nearly 3,600 new jobs, and helped to jump-start economic recovery in Goma.
- Volcano monitoring is ongoing, with most of the equipment provided still functional, though upgrades are needed.

- The Goma Volcano Observatory continues to operate many community-based education activities, although updating is required. Activities include providing volcano activity reports to radio stations, sharing information at a local volcano information center, and updating alert levels in public areas.

- Over time, nearly all beneficiary families transformed their transitional shelter into permanent housing, resulting in the re-establishment of local markets and communities, contributing to overall recovery.

The rapid response to the 2002 volcanic eruption, the incorporation of Disaster Risk Reduction into the response, and the explicit shelter and settlements approach adopted were aimed at strengthening the resilience of Goma's citizens by promoting recovery and lessening the impact of future disasters.

The 2012 assessment by this donor found that the activities that it supported have contributed to a transition to recovery and reconstruction. This outcome is notable, for it demonstrated the utility of using shelter as a means of promoting economic recovery and linking humanitarian community shelter activities to the process of longer-term permanent housing development. Furthermore, shelter activity was deliberately concentrated in neighbourhoods, where people wanted to resume their lives and livelihoods. It enabled people to learn to live with risk, supporting them with risk reduction activities.