



Based upon successful example of community participation in urban DRR in Latin America, experts from Africa and Asia discussed existing practices in their cities and how community involvement might be enhanced.

COMMUNITY INVOLVEMENT AND CAPACITY BUILDING FOR DRR

SUMMARY

Interviews with Latin American experts about community engagement in DRR activities in the cities of Manizales, Colombia, and Teresópolis and Nova Friburgo, Brazil, served as the basis for this discussion. Guardians of the Mountainside in Colombia is a local government programme that employs local women to carry out slope maintenance and other DRR activities. While in Brazil, local community groups have received training from an NGO on how to be better prepared for extreme events. Online participants considered the differences between these two approaches, and their potential applicability in African and Asian cities. Participants also shared details of community involvement in DRR and other local environmental improvement initiatives.





Key Conclusions

Online discussions suggested the following key conclusions related to community involvement in urban DRR activities:

- Creating ownership among community members is key to sustainable DRR and involving communities from inception can help build this sense of responsibility and ownership
- DRR activities can provide opportunities for job creation, thus representing 'no-regret' investments for the government or other institutions responsible for financing
- A combination of top-down and bottom-up approaches can improve the impact and sustainability of community involvement in DRR
- Investments need to be made in raising awareness, building capacity and in appropriate technology

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Discussion: Community Involvement and Capacity Building for DRR

Learning Focus

The discussion on community participation and capacity building for DRR looked at how different cities across Africa, Asia and Latin America are mobilising and training members of the community about climate risks, how to reduce vulnerability, and how to respond to extreme events. Given the variety of approaches adopted in Latin America, the Moderator asked participants to identify whether existing programmes had been initiated by the government or by community members/civil society. Two Latin American cases were shared to demonstrate this difference; the first from the mountain city of Manizales, where the government employs women to carry out DRR work, and the second from the towns of Teresópolis and Nova Friburgo in Brazil where local community groups (NUDECs) have been trained by an NGO to reduce vulnerability to rain-induced extreme events. Participants were encouraged to compare these cases with their local realities, and to identify whether any of the practices might be adapted for use in their cities.

Discussion 6 was guided by the following questions:

1. Do you know of any community-level DRR programmes in your cities? If so, do they follow a model which is more similar to that of the Guardians of the Mountainside programme in Colombia (top-down) or the NUDECs (bottom-up) in Brazil? What do you consider to be the strengths and weakness of these approaches?
2. Do you think that either of the Latin American examples might successfully be adapted for implementation in your local reality? If so, why? And how might you go implementing such a programme?

Latin American Case Studies

For this discussion, two Latin American experiences of training community members in DRR were presented for the benefit of Learning Alliance participants. In order to provide direct insight, interviews were carried out with Ashley Coles about the Guardians of the Mountainside programme in Manizales, Colombia, and with Daphne Sorensen about community groups known as NUDECs, trained in DRR and emergency response techniques, in the cities of Teresópolis and Nova Friburgo in Brazil. Both of these interviews are provided at the end of this document.

Discussion Participation

Thirteen countries were represented in this discussion, with contributions from 30 participants in total. South Asia and Sub-Saharan Africa were the most highly represented regions.



Summary

In the previous five discussions of the Learning Alliance on Climate Resilient Cities, community involvement had often been cited as a critical means to improve urban climate resilience. This week's discussion provided participants with an opportunity to share information about how their cities were integrating community perspectives into urban DRR and training communities to respond to climate challenges and extreme events. A range of community practices were highlighted including programmes implemented by the government, by international NGOs, local NGOs and by community groups themselves. The participants shared their perspectives about which approaches were most sustainable and which practices might be adapted to their local context.

Most participants felt that community involvement was only present in certain, very specific issues – such as waste management - and that raising community awareness about how to reduce other vulnerabilities would bolster disaster risk efforts significantly. In general, it was felt that efforts to improve community participation were fragmented and that without a formal structure to community capacity building disaster risk would remain high. Nonetheless there were some very positive comments about bottom-up local actions.

“The local communities have their own ways of handling the issues and these have been passed down to them orally...although there is no formal training for them, they themselves over time have taken due notice and have [developed local] strategies... which to me is a step in the right direction”

*- Joseph Senyo Kwashi, Ghana
Civil Society*

While the case studies from Latin America focused specifically on reducing landslide risk, participants shared information about programmes to increase preparedness for threats including cyclones, earthquakes and forest fires. Many participants commented that there are more DRR activities in rural areas than in urban areas, and, as previously mentioned, that many of the programmes in urban areas focus on waste disposal. Waste disposal efforts may not appear to have a clear link to DRR, but in fact unmanaged waste poses a series of health threats and can block drainage systems increasing the risk of flooding.

We learned that the cities of Jos in Nigeria and Kampala in Uganda dedicate the last Saturday of each month to environmental management including waste collection and clearing waterways. Godfrey Oluka from Uganda explained how in Kampala these efforts are part of the “Kampala My City” initiative, which encourages city residents to develop a sense of ownership.

“This is not exactly a DRR programme, but is certainly laying the groundwork for such programmes, and as such is targeted at all people in the city irrespective of vulnerability because the idea is to break barriers... so that all people working and residing in the city begin to feel that they belong to the city and that the city is theirs (rather than the city authority's as they commonly perceive it).”

*- Godfrey Oluka, Uganda
Government*



The issue of 'ownership' is indeed very important, and several participants discussed how and when the community should be involved. Either the community is involved in projects from their conception, identifying risks and then working to reduce them, or institutions identify the risks and community members are then mobilised to help reduce them. The impact of these two paths can be quite distinct.

"...the non-participation of communities directly affected by the hazards in the identification of risks and the design of mitigation actions denies the project the insights of people who have actual experiences with risks and the disasters they create. In essence, then, despite DRR being undertaken...it will not be optimal due to the weaknesses I have highlighted."

*- Riaz Jogiat, South Africa
Government*

A feeling of community ownership would make such programmes more sustainable, as community members would seek solutions without relying upon implementing agents. For initiatives to be most successful, it was suggested that the community participation should be completely integrated from conception to implementation. This would turn communities from passive recipients into pro-active members of DRR programmes.

"I have found that as practitioners we very often grapple with the issues around the nomenclature...whether this is 'community-level' or 'community-based' or 'community-managed' or 'community-owned' or 'community-driven'. Such nomenclature draws an imaginary (and artificial) boundary around a community and considers it in complete isolation and disjunction from the larger social processes, economic networks and power relations in which a community is embedded at a given point in time. Secondly, in most projects, communities at-risk are documented and perceived as 'beneficiaries' and not as 'programme participants' "

*- Jyotiraj Patra, India
Civil Society*

With regards to the effectiveness of top-down or bottom-up initiatives it was felt that a combination of the two provides the best outcomes. When initiatives are 100% top-down, as we have seen, the chances of the community wanting to be trained are lower than if local NGOs are involved in getting local residents on board. However, government commitment and financing is key to success on a large-scale. Capacity building and community involvement in DRR need not be seen as being at odds with other development goals, since it can in fact create jobs. One example of this logic being used in practice is the South African programme Working with Fire, which employs local youths to reduce fire hazards in areas that rely upon the timber industry.

The issue of whether or not community members should be paid for their involvement in DRR was a recurrent theme, and it was felt that financial incentives help improve the sustainability of such programmes. Community members involved in the Guardians of the Mountainside programme in Manizales and the Working with Fire programme in South Africa are paid by the government for their work. Participants also shared examples



of bottom-up community managed programmes which create a source of income for participants. The best example of this was the Livingstone Green Initiative in Zambia, which involves composting and the sale of organic waste. When LGI started, a small group of women were trained and they spontaneously began to pass this new knowledge on to other women.

In her interview, Daphne Sorensen from Brazil explained that capacity building for local community members should be provided in tandem with investments in hardware, and many of the participants echoed that view. Training is extremely necessary, and, as one participant put it, community members need to be endowed with “real skills”; but when thinking about DRR for extreme events, there is also a need for hardware that can facilitate monitoring and alert systems, such as that which we saw in the [discussion on Early Warning Systems](#).

In this week’s discussion, participants provided some excellent examples of community involvement in DRR for sudden-onset extreme events. Thuy Duong Pham from Vietnam shared an experience from Ho Chi Minh City, which involves community groups in risk mapping, training exercises, radio broadcasts and much more (the link to a handbook on this project is provided below). Another impressive example came from Nepal, where it seems that the community is truly integrated into DRR efforts (link to a publication on this also provided below).

“In Nepal, there is community involvement in EVERYTHING...awareness and knowledge alone may not suffice to protect people and their valuables as the community may lack safe evacuation routes, even after receiving early warning. Hence, complementing non-structural intervention with structural intervention is considered not just an option but a must...in Nepal.”

*- Ashish Adhikari, Nepal
Civil Society*

Participants from Bangladesh, Ghana and India cited several examples of how international NGOs have been responsible for successful DRR campaigns in community settings, those mentioned having been funded by Action Aid, CARE, GIZ and the UNDP.

“In Chittagong...[there is] a community model similar to NUDECs of Brazil... Action Aid has trained 450 volunteers from the community who were interested in serving and rescuing the community during any hazardous event... In June 2007 there was a severe landslide in the city and these volunteer groups came forward to join the rescue work and helped the affected people.”

*- Rafiul Islam, Bangladesh
Civil Society*



Key Lessons

- Cities across Africa, Asia and Latin America are home to a series of fragmented programmes to train local communities in DRR techniques, all of which demonstrate significant room for improvement
- ‘Ownership’ is key to the success of community programmes. Involving community members from the inception phase, rather than employing them to carry out DRR activities, can increase buy-in from community members and as a result DRR activities will be more effective
- There is no ‘one-size fits all’ solution for how best to train communities in DRR. Both bottom-up and top-down initiatives have proven to be successful at reducing urban risk, and it is likely that a combination of both approaches would achieve the best results; Institutional and financial support from governments can enable community programmes to be more inclusive and sustainable, however NGOs and local community groups play a vital role in raising awareness amongst communities
- Community involvement in DRR can be designed as a job creation scheme, thereby addressing other social development concerns; providing community participants with financial rewards for their involvement gives them an extra incentive to take part, and encourages other community members to take the activities seriously
- For many types of DRR, investments need to be made in hardware, as well as in capacity building

Supplementary Materials

Participants were provided with the following resources in preparation for the discussion:

- [What Role for Low-income Communities in Urban Areas in Disaster Risk Reduction?](#)
- [VIDEO: Disaster Prevention - NUDECs \(CARE Brazil\)](#)
- [Local Disaster Risk Reduction in Latin American Urban Areas](#)

During the exchange, participants shared additional resources:

- [Vietnam responding to Urban Climate Change Risks](#)
- [Community Based DRR in Nepal](#)



COMMUNITY INVOLVEMENT & CAPACITY BUILDING IN DISASTER RISK REDUCTION

The case of the Serrana Region, Rio de Janeiro, Brazil

Interview with **Daphne de Souza Lima Sorensen**

By Emily Trainor



***Daphne de Souza Lima Sorensen** is native to Rio de Janeiro, Brazil. In 2011, following the devastating floods that affected the state of Rio de Janeiro, Daphne joined CARE Brazil as Programme Coordinator for its humanitarian response and DRR programme, a position she held until the end of 2012. Daphne was instrumental in the development, delivery and analysis of training which empowered vulnerable residents from three urban communities to better confront local disaster risk..*

Why do you think that community engagement and training is so important for improving climate resilience in cities?

For climate resilience to work, people – especially those who live in high-risk zones – have to be consulted and engaged. Often, city officials and local authorities think of prevention and preparedness as a “hardware” issue – erecting flood walls, constructing bridges, upgrading drains, etc. But the “software” component – training people to know how to respond in case of an emergency or, better yet, empowering communities so that they can make informed decisions about disaster preparedness and prevention – is equally important. After all, what good would it do for, say, an early warning system (EWS) such as a siren to be turned on if people don’t know how to respond when it does? The most sophisticated EWS in the world is only effective if people who live around it have been involved in its implementation and are aware of how it functions.

What led care to engage in community based DRR in the cities of Teresópolis and Nova Friburgo?

Teresópolis and Nova Friburgo are part of the Região Serrana (the mountainous region) of the state Rio de Janeiro, which suffered the worst natural disaster in the history of Brazil when torrential rains (and ensuing mudslides) fell during the early hours of 12th January 2011. More than 650 people perished.



In the week following the disaster, the Brazilian government reported that at least 25,000 people had been left homeless and in all some 96,000 people were affected by the floods. Tens of thousands were without food, water or basic supplies. The Rio State Department of Health and Civil Defence reported that more than 20,000 people were forced to stay in emergency shelters or at the homes of friends and relatives. Flash floods and landslides destroyed entire neighbourhoods.

CARE Brazil, as part of its humanitarian mandate to aid in these kinds of disasters, started organising an initial assessment of the region within days. With help from other CARE organisations (including CARE USA, CARE Germany and CARE Holland), it set up a disaster response project that lasted for 6 months and provided an estimated 10,000 people with hygiene kits, towels, and other kinds of assistance.

In August 2011, CARE launched the second phase of its response, focusing on reconstruction and disaster risk reduction for flood-affected families. Months after the disaster, thousands of families remained vulnerable because they had lost their homes and livelihoods and were relying on whatever support they could get for basic survival. Community-based DRR was the natural next step in the region – to look at some of the underlying causes of the disaster and to help vulnerable communities become better equipped to prepare for (or even prevent) another disaster. CARE has decades of experience working in community-based DRR. It is not a technical NGO specialising in, say, engineering or geology. Rather, it has amassed many tools for working with community groups and empowering them to become agents of DRR. Using the partnerships we developed during the first phase in the region – with community leaders and associations – we launched the DRR phase of our programme.

How did CARE go about engaging the community in this project?

One thing that we did was to establish formal partnerships with 15 community associations (Associação de Moradores) in Teresópolis and Nova Friburgo, in essence, formalising the relationships we established with these associations during the first phase of our response in order to continue identifying and supporting the most vulnerable people in these communities. CARE's approach is always to work with and through local structures, which ensures that those most affected in a disaster also have a voice in how and where assistance and prevention activities are structured.

Another thing we did was to create two community DRR groups in Teresópolis and one in Nova Friburgo. The Teresópolis groups were in the neighbourhoods of Rosário and Perpétuo, both of which are considered very high-risk because they are located on hillsides, made up of poorly constructed buildings and their residents live in poor socio-economic conditions. It's interesting to note that more than half (55 per cent) of the 49 active members of both groups are women. (The numbers are pretty much the same for the group in Nova Friburgo, which is located in the neighbourhood of Duas Pedras).

It should be noted that although DRR groups, known as NUDECs (Núcleos Comunitários de Defesa Civil), exist in other parts of Brazil, membership is often compulsory, resulting in a lack of true interest by participants and, in many cases, the dissolution of these groups shortly after training. To help ensure



the sustainability of the groups we formed, we stressed their voluntary nature and used a hands-on participatory training method, in order to help engender a feeling of ownership and pride among group members.

CARE Brazil was able to analyse the information, knowledge and experience acquired during the training process of the three NUDECs, and the result was a Training Manual that is our contribution to other entities that might be interested in starting NUDECs but are not sure how to go about it. The Manual was designed by experts to be easy-to-use and can be downloaded from: <http://www.care.org.br/conhecimento/publicacoes/> (in Portuguese only).

What type of training was offered, and how was it organised? Which other actors were involved?

The training we facilitated included an initial session of reflection about the NUDECs that encouraged participants to decide for themselves the following: whether a NUDEC was indeed needed in their neighbourhood and whether they wanted to be a part of it. We emphasised the voluntary aspect many times in order to ensure that people felt absolutely in control of their time, that is, that they participated freely and willingly. Other sessions discussed the importance of understanding and identifying risks, vulnerabilities, resources and capacities, as well as how to map community risks. Once the initial training was finished, we set up schedules for weekly meetings and on-going capacity building, knowing that close monitoring and support are key to their sustainability.

Something worth mentioning is that once the Teresópolis NUDECs were trained (in October 2011), the Teresópolis Civil Defence decided to install the first (ever!) municipal siren in Rosário, precisely because it understood that DRR = equipment/infrastructure + human capacity. As such, once the NUDEC members were in place, it made sense to bring in the hardware, in this case the sirens. The NUDECs were instrumental during the installation and testing of the sirens. For instance, the sirens were tested pointing in several different directions in order to have maximum reach. After various tests, the technicians and NUDEC were able to agree on a position that ensured that the alarm would be heard as far as possible, including inside the homes of elderly people.

After the initial training, all three NUDECs received further CERT (Community Emergency Response Team) Training, dealing with practical, hands-on topics such as triage, safety after disasters and first aid. The NUDECs were also equipped with ropes, triangles, first-aid kits and other materials. The local Civil Defence Units participated actively during the training workshops and even facilitated some of the workshop sessions.



What kinds of resources were acquired to effectively establish the NUDECs?

The NUDEC training involved several facilitators: experts on community mobilisation and empowerment (from CARE) as well as technical personnel from the Civil Defence who had practical knowledge of DRR. All facilitators were well versed in DRR concepts and applications. We invited partners such as the Red Cross to facilitate some of the sessions on first-aid and other specific topics. In light of this, CARE Brazil made a donation to the Teresópolis Civil Defence of equipment (including antenna, computers and software) for it to install a GEONETCAST system, which will greatly enhance its capacity to predict weather patterns and prepare for storms. CARE also made a donation to the NUDECs that included a laptop, digital camera, printer and related supplies, as well as “First Responder” equipment such as ropes, gloves, rain-gear, trash bags, shovels, cones, brooms, rubber boots and wheelbarrows. CARE Brazil’s work in the region was made possible thanks to the support of individuals, organisations and corporations such as Walmart, VALE, Bank of America Merrill Lynch, Kraft Foods, Vostu, Motorola, Levi Strauss, JPMorgan, HSBC, Pfizer, Pricewaterhouse Coopers, Dow, B.Braun, Machado Associados and Saint Paul’s School, which, in some cases, also generated support through their clients and partners. The Humanitarian Aid and Civil Protection department of the European Commission (ECHO) funded CARE Brazil’s work with two grants – one for the response phase following the disaster and the other for the DRR phase, which ran from July 2011 to October 2012.

CARE also established a partnership with Diálogo, a Civil Society Organisation from Nova Friburgo, to spearhead the creation of the Civil Society Emergency Plan (Plano de Emergência da Sociedade Civil – PESCC), conceived entirely by local organisations. CARE, Diálogo and other NGOs went to various neighbourhoods, facilitated meetings with local leaders and conducted a mapping exercise of local associations, churches, volunteers and other resources that could be used in case of an emergency. As part of the partnership with Diálogo, CARE funded part of the expenses of conducting these various activities, including the mapping. Funding for mapping activities went to such things as, fuel, supplies, cost of facilitators, among other general expenses. In terms of human resources, Diálogo was made up of community organisers who were well connected in the city, knew lots of people and had earned the trust of various stakeholders – and that’s key. A best practice that we always strive for is to create local partnerships with groups who are credible and legitimate, as opposed to coming in as “outsiders” and trying to run a project ourselves. It’s always better to tap into local resources and assist in the empowerment of local actors who are already working on making a difference.

What was the methodology for developing this training?

The NUDEC training was developed by me and another colleague, drawing on tools and approaches used by CARE organisations in other countries, as well as documents and experiences sourced from partners in Brazil. Together with the Civil Defence of Teresópolis, we drew up an outline of what the



training would look like, and then using the tools already mentioned, devised modules that totalled about 24 hours, divided into five sessions of 3 ½ hours each plus one full day, final session.

The methodology of the training is participatory and engaging. We subscribe to an experiential learning approach, knowing, as community mobilisers, that adults remember 20% of what they hear, 40% of what they see and hear and 80% of that they do.

As we conducted the training sessions, we would literally sit together each day and revise the training. We used the feedback we received from the participants to review some of the sessions, change some of the games and times, etc. Each of the three NUDEC trainings gave us important insight on how to improve the sessions. We published the Training Manual after analysing this learning process, though we make it clear in the introduction to the Manual that we believe it is a work in progress. We would love for other organisations to use it and offer suggestions for improvement. We hope the Training Manual can be seen as a “living” document that evolves and improves with use and feedback.

Something worth noting is that CARE added value to the NUDEC training by using participatory, hands-on methodologies that empower participants to make decisions and truly own this process. During one of our first meetings with the Civil Defence of Teresópolis, someone there, after hearing a little bit about how we proposed to start the training, said “that’s great because we are all military guys. We only know how to order people around. That’s how we do things.”

What were the key components of the training?

The main topics of the initial training were: how to organise a community group and construct a group in a collective manner; how to define and assess risks, vulnerabilities, hazards and resources; how to map community risks; and the importance of communications (internal and external). In addition, CERT and First-Aid training were provided. And, as part of the continuous accompaniment and support of the groups, CARE offered workshops on non-violent communication, conflict resolution, project planning, and other topics identified by the groups themselves.

How successful were these training groups? How did the communities respond?

One of the most significant achievements of creating the NUDECs was the response led by the Teresópolis NUDECs to the heavy rains that fell on their city on 6th April 2012. Although of course everyone prefers not to have to mount an emergency response operation, at the same time, this proved to be an opportunity to put their training into practice and literally save lives! As rains assailed the city, causing dozens of landslides and ultimately killing five people in other neighbourhoods, the NUDECs of Rosario and Perpetuo sprang into action. They rescued people, organised evacuation routes and coordinated a temporary shelter in the local school. The members had recently concluded CERT



(Community Emergency and Response Teams) training as part of CARE's overall capacity strengthening efforts of the NUDECs, which proved invaluable as their worst fears materialised.

A few days later, on 9th April the "O Globo" newspaper, which has a circulation of 270,000, ran an article about the city's response to the rains. Although the angle of the story was a criticism that some of the sirens did not work as planned, it nonetheless contained a quote from Waldecir, the President of the Rosario NUDEC, which is illustrative of the NUDEC's elevated status.

A few weeks after the response, the NUDEC in Rosario was given an "Honourable Mention" award by the city's elected officials for their heroic and valiant efforts.

Could you list some of the types of concrete actions that came out of the community training?

Aside from what was mentioned above:

- In Teresópolis, members of the NUDECs alongside CARE Brazil and various community associations presented an open letter to the city mayor during a ceremony staged outside City Hall, urging him to adopt the UN "My City is Getting Ready" campaign. This led to an impromptu meeting with the Mayor that same day!
- In May 2012, CARE Brazil helped create the first NUDEC in the city of Nova Friburgo. This NUDEC training occurred after local community leaders sought CARE out and requested its support and expertise, because they had heard positive experiences from the NUDECs in Teresópolis.
- October 17-21 marked Brazil's "National Week of Science & Technology", the theme of which was related to preparing for and preventing natural disasters. Both NUDECs signed up to participate by hosting "open door" displays of the risk assessment mapping they had carried out by walking through respective communities, taking photos and creating posters. More than 300 people visited their displays throughout the week.
- Representatives of both NUDECs participated in meetings to prepare the city's contingency plans, including a televised one on 25th October, during which a NUDEC member publicly addressed the session, offering a much needed opinion from the perspective of low-income, high-risk neighbourhood residents.
- On 22nd October, the NUDECs presented their risk maps to more than 2,000 students from a local school
- On 14th December, four members of NUDEC received cell phones from the Civil Defence as part of warning (sirens) protocol.
- In 2012, the NUDECs continued to meet and carry out community based disaster risk reduction awareness raising activities



What were some of the key ingredients to the success of these community groups?

As I mentioned, the training we facilitated included an initial session of reflection about the NUDECs that encouraged participants to decide for themselves how and why to become involved. Once the initial training was finished, we set up schedules for weekly meetings and on-going capacity building, knowing that close monitoring and support are key to the sustainability of the NUDECs. This last part – close support and monitoring – were key ingredients to ensure that the groups didn't "lose steam" after the training. In fact, the Training Manual devotes a whole chapter (Chapter 3), appropriately titled, "What Now?", to discussing strategies and ideas for keeping up the momentum of the groups. These include planning weekly regular meetings and organising actions around the neighbourhood - even simple ones – that engage the group members and give them a sense of accomplishment while they are still forming their group identity. Exchange visits between the groups as well as joint planning exercises, were also really successful.

Would you say that this training led to sustainable change in the communities?

A positive finding noted by an external consultant who conducted an evaluation of CARE's programme is that the NUDECs have become important actors in their communities, above and beyond DRR activities, for instance, organising events for children during Easter and generally providing a positive influence in communities faced with a host of socio-economic challenges.

I also recall a speech made by a member of the Duas Pedras NUDEC at the launch of the Training Manual on 10th October 2012, when he said, "We learned from Roberta [CARE Brazil's Programme Officer and the person directly working with the NUDECs since the initial training] the word 'empowered' and that's how we now feel, now that our NUDEC is working and we have shown people that we can organise ourselves and improve our community." That will always stay with me as a testament to the positive change we were able to achieve, together.



COMMUNITY BASED DISASTER RISK REDUCTION

The *Guardianas de la Ladera* (*Guardians of the Mountainside*) programme, Manizales, Colombia

Interview with Ashley Coles

By Emily Trainor



Ashley Coles is a Ph.D. candidate at the School of Geography and Development at the University of Arizona. Ashley spent three weeks in Manizales in 2010 to study the *Guardianas de la Ladera* programme as part of her preliminary doctoral dissertation research. She also spent one year in Manizales following up on this project and undertaking further research on relocation as a hazard management strategy. Along with her dissertation co-author, Mauricio Quintero Ángel, Ashley is preparing the results of the *Guardianas de la Ladera* study for publication.

Guardianas de la Ladera (*Guardians of the Mountainside*) is a community based disaster risk reduction and local income generation project in the city of Manizales, Colombia, which was designed and implemented by the Municipality. The project employs predominantly single women residing in areas highly vulnerable to landslides in the city to perform slope maintenance, disseminate information on disaster risk reduction measures to fellow community members and to report information to the municipality on infrastructural damage and informal household data

Why are community based disaster risk management initiatives important in the context of climate change?

Community-based hazard management is important because although there may be similarities between different cases, each community has a unique set of social and environmental characteristics. A one-size-fits-all approach is not likely to succeed outside of its original context. It is even better when members of the community are able to participate directly in problem identification and solution, because they are often more aware of how hazard management strategies will affect them.

What specific events led to the development of the *Guardianas de la Ladera* project in the city of Manizales?

Several factors and events led to the development of this project in Manizales, including the occurrence of heavy precipitation in the city in 2003. These rains resulted in landslides killing close to forty people



and destroying around one hundred homes constructed on peripheral slopes in high risk zones of the city. Projections have been made suggesting increasingly intense rains and climatic occurrences in the near future.

Infrastructure meant to protect citizens and structures in Manizales from water infiltration during occurrences of heavy precipitation has existed in the city for several decades. Nevertheless, for several years this infrastructure had been undermined by insufficient maintenance, as well as a general lack of awareness and education among citizens regarding the risks of informal waste disposal, which can obstruct the functions of infrastructure. The existence of poverty and unemployment in high climatic risk zones of the city was a further factor contributing to the development of this programme.

What actors were involved in the project development and delivery? What was their role?

Manizales City Government developed the project and allocated financial resources from the its disaster risk reduction fund toward its implementation. The local government then contracted the Corporación del Desarrollo de Caldas (CDC), a local NGO, to hire, train and manage the female guardians (*Guardianas*) in slope maintenance and its importance in terms of reducing climate vulnerability. A major responsibility of the CDC is also to maintain a census of settlements located in the city's high risk zones via a mapping exercise which includes collection of household data (name, family size, ages, gender and occupations) and the identification of the construction of new informal settlements. This census data is collected by the *Guardianas* through their day-to-day involvement in the community. This information is verified by the municipal government and used by municipal officials to begin negotiations for relocation with residents of new informal settlements in areas of high vulnerability.

What are the main components of the *Guardianas de la Ladera* project?

The project was developed as a local income generation initiative as well as a disaster risk management measure. The project targets primarily unemployed, single mothers who reside in peripheral areas, highly vulnerable to landslides and heavy precipitation. These women are employed by the municipality on a part-time basis and these positions are usually advertised within the communities. The part-time position allows women to be at home in the afternoon in order to provide childcare. Approximately 200 *Guardianas* are currently employed within these positions and six staff are employed full time within the NGO CDC to offer administrative support to the project.

The women perform three key functions:

1. Performing regular maintenance of slope infrastructure defending the community from the infiltration of water during heavy precipitation. The women primarily clear away any debris obstructing infrastructure, repair fissures and cracks in infrastructure and reinforce falling slopes.



2. Disseminating knowledge to fellow community members regarding the means for mitigating risks associated with heavy precipitation by way of hosting community events, distributing information flyers to households on the role of *Guardianas* in decreasing disaster risk, as well as going door to door within the community to share knowledge with families on ways they too can help decrease disaster risk. The *Guardianas* also help teach students in school appropriate waste disposal methods and facilitate information sessions with students on ways to reduce disaster risk in their communities.
3. Observing and reporting fissures and cracks in infrastructure, the construction of new informal settlements, and informal household data for census purposes.

A final key component of the project is the bi-weekly training sessions that *Guardianas* are required to take part in as employees of the project which encompass themes specific to the *Guardiana* job such as appropriate slope maintenance practices, how to use tools and methods for the job, and how to identify slopes that are becoming unstable. They are also trained in practical aspects of daily life, including family health, conflict resolution and further basic life skills.

To what extent have community members been involved in this project?

Guardianas de la Ladera has involved several hundred members of the community as employees in the project. It is almost entirely a top-down project, in terms of the project development, implementation and the design of the curriculum for bi-weekly training sessions. No input is sought from the community members regarding this programme, including the employees.

What are the strengths of this project?

There is a general consensus that the *Guardianas de la Ladera* are preventing landslides in the city as a result of the regular maintenance they provide to slope infrastructure and observations of slope stability. They also provide an educational service to the community and have been instrumental in spreading the word about landslide hazards. The census component of the project helps identify new physical vulnerabilities to landslides, and the local income generation component of the project helps address local socio-economic vulnerabilities to climatic occurrences. Another strength of the project is that the work that the *Guardianas* perform, as manual labourers, is extremely respected by fellow community members who now understand the significance of this work and other day-to-day household practices in mitigating disaster risk.

What are the major limitations of the project?

Slope maintenance work is high risk and a physically demanding job. The slopes are steep and often slippery, sharp tools such as machetes could cause injury, and at times, women are required to rappel down slopes to perform their work. The pay is minimum wage despite the dangerous work, and at half-



time pay it is not always sufficient for supporting the family. It is therefore not an ideal source of income for many, though all employees are grateful for the opportunity.

A further issue is that bi-weekly training sessions do not include transferable job skills, a component that many *Guardianas* would like to see included. The typical themes are specific to the work of the *Guardianas* or more general self-improvement topics, therefore new skills acquired cannot be utilised to acquire other local employment opportunities. Additional job skills would help the *Guardianas* address socio-economic vulnerability over the long term, which is especially important given that employment contracts are typically only 3 months at a time.

Short-term contracts allow the project to extend the income generating activities to as many community members as possible. Thus, the project offers a temporary solution to issues of socio-economic vulnerability. However, offering the additional training potentially undermines the programme because an investment in each employee's training must be made, and higher turnover as the *Guardianas* transition to other employment opportunities could result in high costs associated with training new employees.

What measures have been implemented to ensure the sustainability of the project?

According to a CDC representative, municipal funding for the project is all but guaranteed because of the success that it has had so far. Barring financial crisis or a dramatic shift in priorities, the project will likely have funding into the foreseeable future. However, the project is not self-sustaining and thus depends on municipal budget revisions.

What have been the main results of this project in the city of Manizales?

The *Guardianas de la Ladera* programme is credited with preventing landslides and educating the community about landslide hazards. Several hundred women have had the opportunity to obtain an additional source of income through the project, and many have gained confidence through their new knowledge and abilities. They are also proud of their role in protecting their families and communities. The acclaim for this project has inspired several other cities in Colombia to adopt similar strategies.

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To learn more about the Learning Alliance on Climate Resilient Cities, or any of the specific themes raised in the Learning Alliance Highlights, contact the author and Learning Alliance moderator, Charlotte Olivia Heffer, ELLA Brazil Project Coordinator at the Environmental Laboratory at the Federal University of Rio de Janeiro (UFRJ), at charlotte@lima.coppe.ufrj.br.

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