
RISK AWARD

RISK Award
First-hand news
Best project
proposals 2014



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The projects appear in alphabetical order according to the names of the applying organisations.



“Disaster emergencies – Resilience for the most vulnerable”

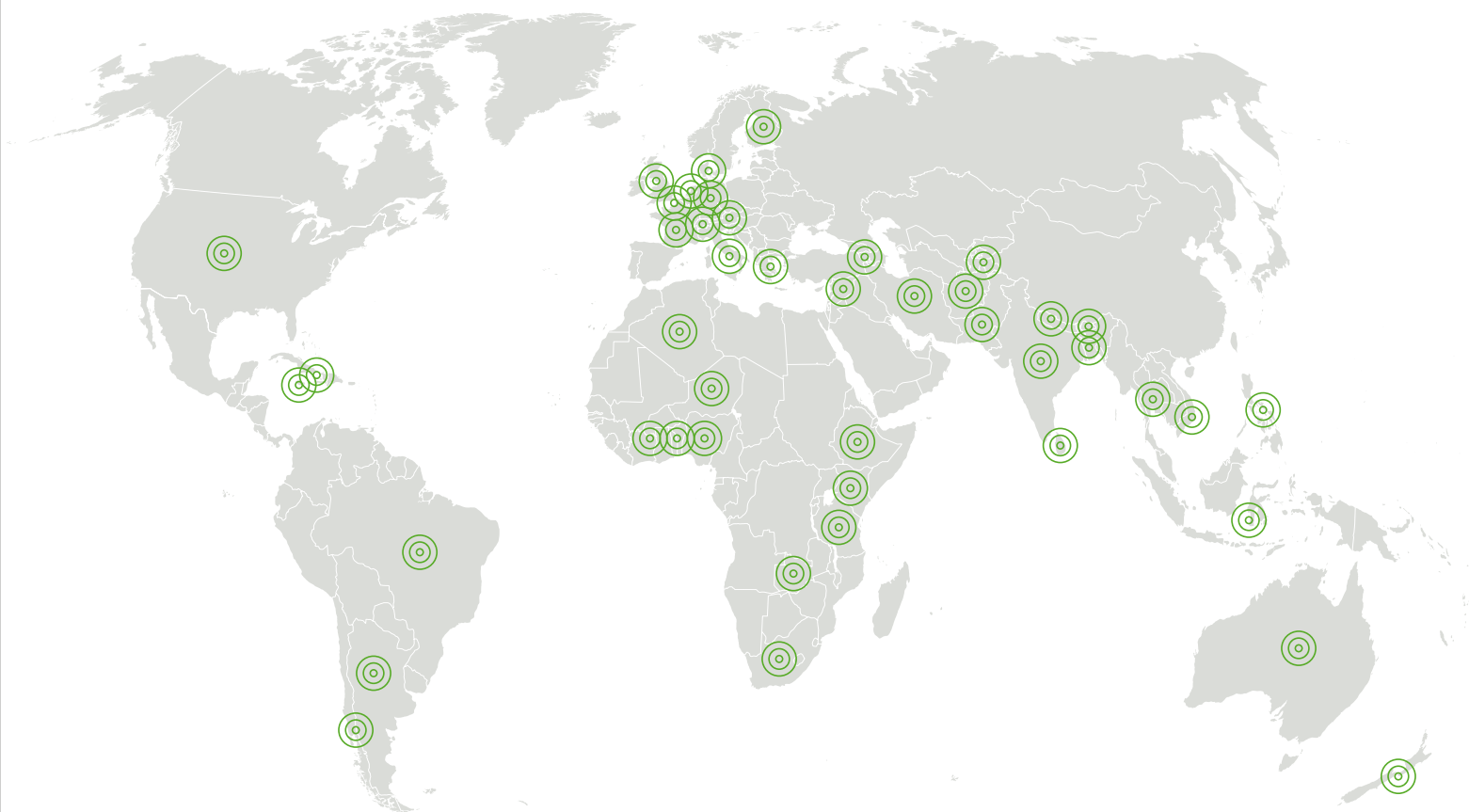
Protection for vulnerable people: the RISK Award supports innovative projects for disaster prevention. Its current focus: people in emergency situations during natural disasters.

When disasters hit, it is of vital importance that the evacuation measures drawn up by emergency response planning committees are effective and actually reach all the people at risk. This applies in particular to the most vulnerable members of society who are at greatest risk due to disablement, age, communication problems, poverty, religious reasons or gender discrimination. They often run the risk of being neglected during planning, and in the worst case are left without defence in the face of a disaster. Inclusive disaster risk management is therefore of the utmost importance.

2014 RISK Award applications

Seventy-seven organisations from forty-four countries have applied for the second RISK Award. The project proposals range from safer primary schools and the inclusion of special-needs citizens in evacuation plans to system ideas at national level. This publication summarises a selection of the best project proposals 2014. They provide valuable information on how effective inclusive disaster risk management can be implemented.

For this publication we received pictures and reports of different kind. Therefore, the style of the project presentation in this publication may vary. Also, different cultures use different languages. We very much thank the contributors from the projects presented.





Enhancing the resilience of citizens with disabilities through community-based disaster management, Indonesia



Persons with disabilities are amongst the most vulnerable when faced with shocks and yet they are marginalised when it comes to disaster preparedness and response activities. This project brings their needs to the centre of the attention at the same time as providing a replicable implementation model which can be used across Indonesia.

Helping persons with disabilities to reach safe havens during a simulation exercise in Malaka district, Nusa Tenggara Timur, Indonesia.

Each year Indonesia witnesses strikingly similar natural disasters which cost lives and livelihoods. According to Indonesia's National Disaster Mitigation Agency (BNPB), 730 natural disasters forced 675,798 people to leave their homes in 2012 alone. Persons with disabilities are disproportionately affected by such disasters, as they are often excluded from disaster risk reduction (DRR) training and committees in Indonesia, and therefore lack essential skills and knowledge when it comes to saving lives.

Within Indonesia, Nusa Tenggara Timur (NTT) is one of the poorest areas and is ranked amongst the five least developed provinces in the country. Malaka district was identified by ACTED as being particularly vulnerable, as each year the communities face flooding from the Benanain River watershed as well as seasonal high tides and tropical storms.

The project's goal is to provide an operational model for the effective consultation, participation and access of people with disabilities to disaster response and management through the following activities: (1) Inclusive village disaster preparedness, response and risk reduction planning, (2) Inclusion training for village disaster management committees and village representatives, (3) Information, education, and communication campaigns, (4) Provision of locally-specific evacuation equipment for persons with disabilities, (5) Adaptation of evacuation sites to the needs of persons with disabilities, (6) Distribution of portable radios to people with disabilities to increase their access to disaster information.



"For a person in my situation, it is very important to ensure that my family and I are better prepared and know exactly what to do and where to go when a disaster strikes."

Mrs Berek,
project beneficiary

Households in Besikama village, Malaka district, receiving information on how to protect their belongings and family members when facing a disaster.

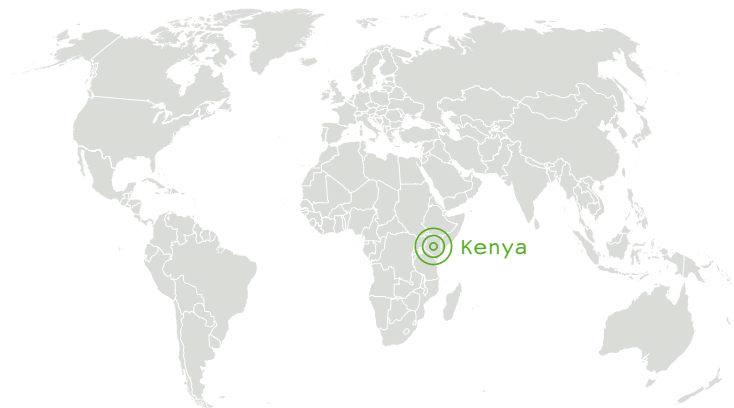


ACTED

www.acted.org



Strengthening community resilience to reduce disaster risks in Samburu County, Northern Kenya



The 2010/2011 drought in the Horn of Africa was the most severe in this region for half a century. It left 3.5 million Kenyans at risk of malnutrition due to their lack of capacities for mitigating the impact of climate shocks. The proposed project aims to increase the capacity of vulnerable people, especially women and children, and governmental county structures to cope with climate extremes. It proposes to do this through supporting the communities in diversifying their livelihoods and managing their natural resources.

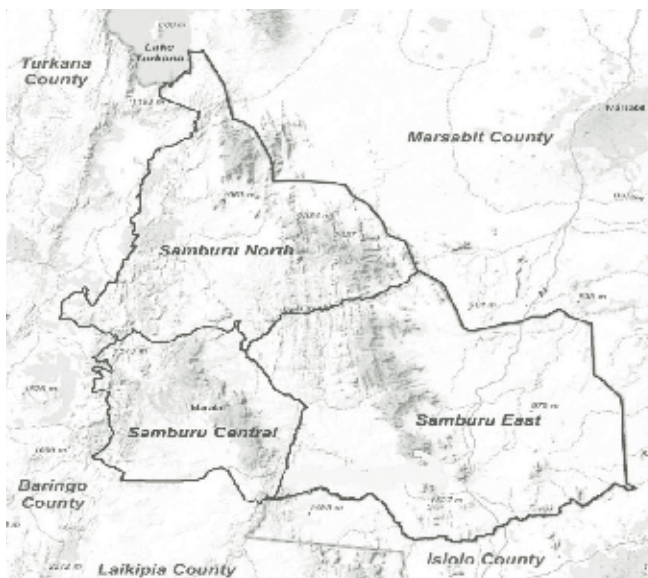
In Samburu County, where this project proposes to intervene, the communities rely on pastoral and agro-pastoral livelihoods. Their major problems include climate shocks, drought and lack of access to water and pastures. Livelihood insecurities are the consequence. According to a survey carried out by ACTED in August 2012, these communities are not prepared for dealing with droughts and cattle rustling, and consider it necessary to manage grazing lands.

This project aims at increasing people's resilience to risk and disaster by enhancing their capacities for anticipating and responding to climatic shocks and stresses. While diversification of the pastoral economy would help to mitigate drought impacts, improved livestock, rangeland and disaster management are essential to reduce future asset losses. ACTED plans to support the communities in achieving this through application of the Community Managed Disaster Risk Reduction (CMDRR) methodology. This process brings people together within the same community with the object of enabling them to collectively address common disaster risks and pursue common disaster risk reduction measures. Community Management Committees are to be formed and supported with grants for livelihood diversification initiatives, related training and resource management activities to build resilience.



"ACTED's work helps families like mine to prepare and respond to potential crises."

Nasas,
an ACTED beneficiary
in Samburu County



Map showing the three main sub-counties of Samburu County, Northern Kenya.

The Lesirikan community maps its resources as part of its CMDRR training in Samburu, Northern Kenya. By doing so, community members learn about their risks, their resources and get a clear picture of their environment.

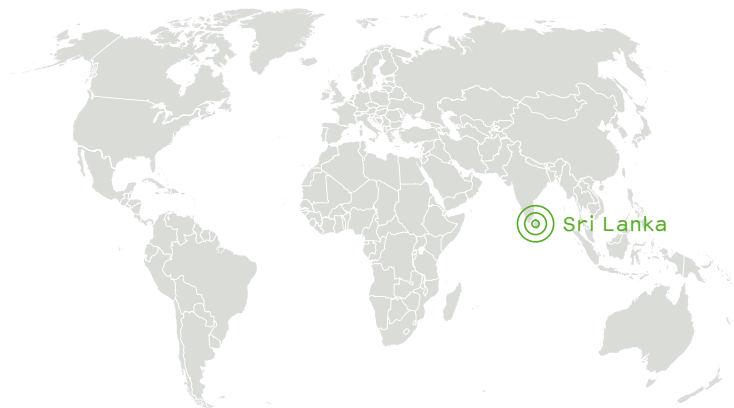


ACTED

www.acted.org



Mainstreaming climate information application for enhancement of ecosystems functions for DRR in Nilwala river basin, Sri Lanka



The project is aimed at enhancing the resilience to multiple hazards of vulnerable farming communities in the lower Nilwala river basin in Sri Lanka. It uses new farming systems and partnership approaches by rallying all stakeholders and policy-makers. The project has introduced an innovative system for technology integration as a Climate Change Adaptation (CCA) package.

Farmers in the Nilwala river basin in Southern Sri Lanka are highly vulnerable to frequent floods, droughts, landslides, salinity, sea-water intrusion and associated problems. In 1983, the government implemented the Nilwala River Flood Protection Scheme (NRFS), constructing protective dams along the river banks to avoid inundation and the intrusion of salt water into paddy fields during high tides. In order to evacuate peak flood water collected in polder systems, the NRFS added fuel-operated pumping stations to the system.

The project was a success in terms of urban flood protection, but it created new problems for traditional paddy cultivation due to the formation of acid sulphate soil in paddy fields drying out after rapid flood evacuation. Due to strict cultural adherences and social taboos, traditional rice farmers were reluctant to find alternative solutions linked to animal husbandry, inland fisheries etc. New innovative approaches to resource allocation and management were therefore needed to ensure sustainable livelihoods for rice-farming communities.

The research and development project that ADPC initiated focused on technological solutions for livelihood sustainability and the building of resilience to multiple hazard risks. ADPC established a field research centre at the pilot site for collecting data, monitoring the weather and analysing climate variability. It enables farmers to understand related challenges from climate change. Furthermore, it helps to introduce new and innovative technological solutions. The farming community is actively involved in project activities and works closely with scientists to find technological solutions. Appropriate pumps and new agro-technologies have already been introduced by the project, and this approach has helped ensure the success of the project interventions.



“Our Initiative with AusAID funding helps to dilute the conflict between farmers and irrigation authorities on water issues, which links to manmade structures and the challenges of climate change.”

ADPC Project Team

Left: The Chairman of ADPC and the Vice-Chancellor of the University of Ruhuna at the inauguration.

Right: Management Committee meeting involving important stakeholders chaired by the District Secretary.



Polythene mulching in paddy fields as an appropriate adaptation measure for water economy in the face of droughts, chemical-free weed control, and impacting on acid sulphate development in drying paddy fields.

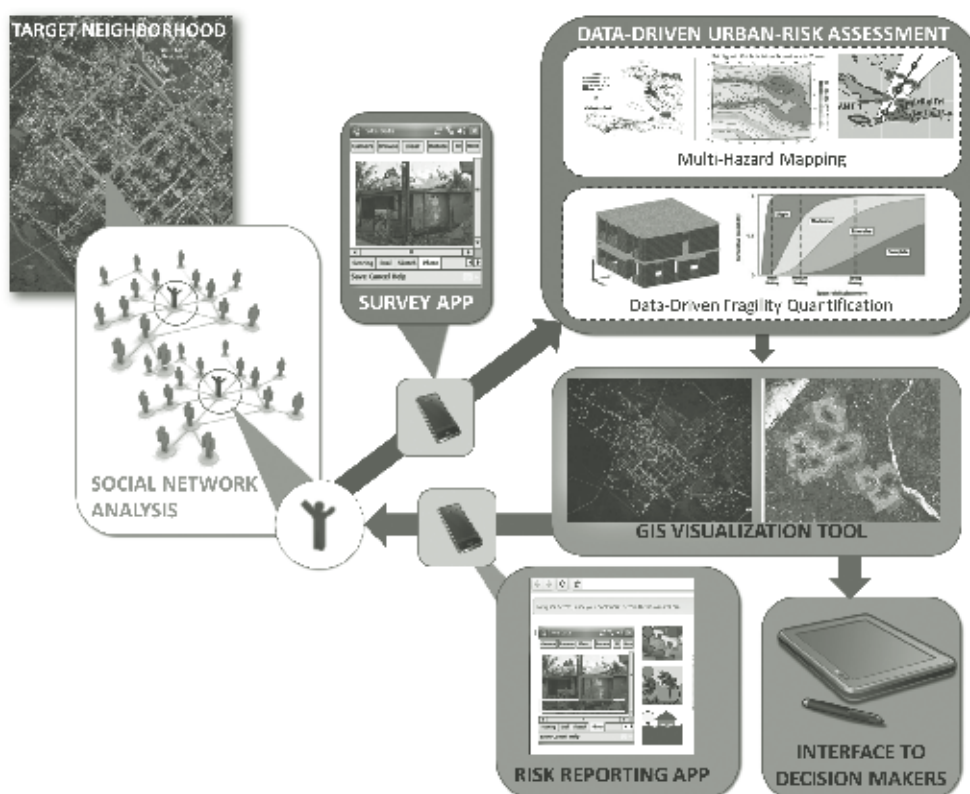
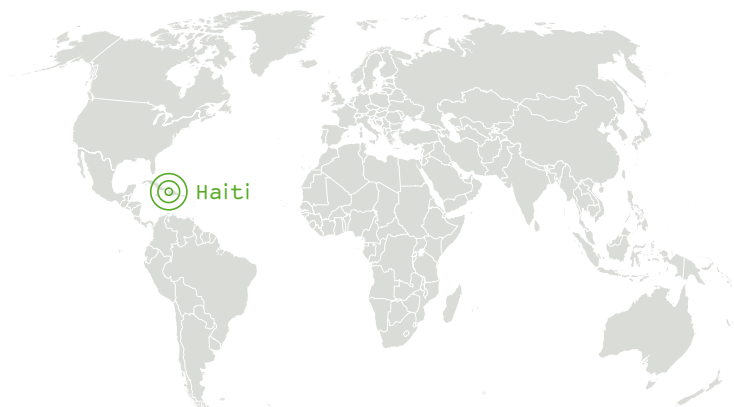


Asian Disaster
Preparedness Centre
(ADPC)

www.adpc.net



A stakeholder-empowered framework for decentralised Disaster Risk Reduction (d-DRR) in Léogâne, Haiti



Schematic overview of the stakeholder-empowered d-DRR concept, employing mobile devices for community-led data collection and dissemination using the hubs of pre-existing, local social networks.

Residential construction has proven to be considerably vulnerable to natural disasters, particularly in the developing world. These vulnerabilities have proven especially challenging to evaluate due to informal construction and as-built data deficits. This project offers a scalable, efficient means of overcoming these challenges by using mobile platforms for citizen-led data collection, backed by an automated, data-driven risk assessment that explicitly identifies and communicates vulnerabilities.



Engineering2Empower
(E2E) / University of
Notre Dame

<http://e2e.nd.edu>

Residential construction has proven to be considerably vulnerable to natural disasters, particularly in the developing world where home construction is performed under severe resource constraints and without supervision. In these settings, attempts to quantify risks have met with considerable challenges due to the lack of efficient data-generation mechanisms. While these mechanisms can be instituted by training technical professionals and establishing municipal codes and regulatory frameworks, such a process takes a long time. As an immediate response, this project introduces decentralised Disaster Risk Reduction (d-DRR) that empowers communities to conduct their own assessments by leveraging mobile platforms for data collection and knowledge dissemination. By implementing this framework within existing social networks, a bottom-up, distributed infrastructure for d-DRR can be established to deliver the much-needed assessment of privately-held infrastructure in a manner that is scalable and immediately implementable. To do so, the project will:

1. Demonstrate how community advocates can be used to crowdsource data collection;
2. Feed this information into a data-driven risk assessment for explicit identification of vulnerable elements;
3. Report these vulnerabilities to stakeholders using user-friendly mobile platforms through a pilot project in Léogâne, Haiti, the effective epicentre of the 2010 earthquake and a community where severe resource constraints intersect an evolving multi-hazard environment.



“Now Haitians no longer need to depend on foreign technicians to evaluate their houses. It is a great step forward in the development process of Haiti!”

**Lamarre Presuma,
Community Representative**



E2E community representative Lamarre Presuma and E2E In-Country Director Dustin Mix explain the mobile self-reporting programme to community members in Léogâne, Haiti.



Building disaster-resilient communities in Jamaica



In Jamaica, vulnerable populations are susceptible to four main natural hazards: floods, landslides, earthquakes and hurricanes. Older people, especially older women, represent a significant and growing proportion of those at risk, and are particularly vulnerable to shocks and stresses. HelpAge works to strengthen the preparedness and response capacities of these vulnerable groups and their communities in the most gravely affected areas and integrate them into local and national risk reduction activities.

Community disaster response teams clearing roads and drains in Jamaica. Keeping drains unblocked means it is less likely that the road will flood – ensuring that vital transport links stay open.

Jamaica is one of the most vulnerable countries in regard to natural disasters in Latin America and the Caribbean. In particular the eastern parishes are the most heavily affected due to their topography and geology. In recent years, HelpAge has worked in two of these parishes, improving preparedness and response capabilities through capacity building and training in the fields of shelter management, search and rescue, hazard mapping, community disaster planning, and crop and livestock protection. Although interventions have focused primarily on older people and farmers, they also encompass an intergenerational approach where, for example, children who have been trained can pass on information (e.g. verbally) to older household members (recognising the low literacy levels of the older people in the community).

HelpAge is currently seeking funding to extend its current reach and double its coverage to include two additional parishes, where a support gap has been highlighted and not yet closed. The organisation aims to replicate its previous successful interventions in creating disaster management structures by training 140 people to co-ordinate disaster risk reduction interventions, training and equipping 100 people to act as community emergency response teams, providing radio telecommunications training and equipment to 120 people, developing bespoke disaster plans for 1,000 older people and persons with disabilities, and organise a national conference on the mainstreaming of older people at all levels of disaster response.



"When Hurricane Sandy came in 2012, the group helped a very old lady who was alone. I have learnt that when a disaster comes, we can all help."

Gloria Abrahams,
Local volunteer



HelpAge International

www.helpage.org

This map shows the two parishes where HelpAge is currently active in Jamaica (in light grey) and the two additional parishes that it would like to target (in dark grey).



Peñaflor town inclusive safe community: Resilience for all, Chile



People with disabilities are more vulnerable to disaster because of architectural, cultural and technological barriers. To reduce disaster risk for citizens with disabilities, all these barriers will be eliminated or reduced and every procedure will be made inclusive, thus making Peñaflor resilient for all its inhabitants.

The picture depicts the coordinated local emergency committee network led by Peñaflor Town Council with the participation of the Police and Fire Departments, Inclusiva NGO and others.



In 2006, the international community started to work towards inclusive disaster management. In regard to situations of risk and humanitarian emergencies, Article 11 of the Convention on the Rights of Persons with Disabilities declares that "States Parties shall take (...) all necessary measures to ensure the protection and safety of persons with disabilities in situations of risk (...)." The Republic of Chile is a signatory country of the Convention on the Rights of Persons with Disabilities. As Chile is one of the countries with the greatest seismic activity in the world, has a very long coastline, mountain ranges with numerous volcanoes and extreme and diverse climate zones ranging from the driest desert in the world to the Antarctic pole, local emergencies and national disasters happen almost all the time in every season. This being the case, emergency management and disaster risk reduction must be inclusive to ensure compliance with the rule of law when facing such frequent disasters.

The town of Peñaflor was hit by the 8.8 scale earthquake that occurred in Chile on 27 February 2010. Chile, as a country, had no immediate inclusive reaction plan in place at national level. "Peñaflor town inclusive safe community: the Resilience for all" project is part of a larger programme entitled "Inclusive Community" that was launched in 2011 in Peñaflor, Chile. The programme is aimed at enabling the town to safeguard the human rights of its citizens with disabilities. The project seeks to deal with emergencies, disasters and disabilities in working with a system based on the International Classification of Functioning, Disability and Health (ICF) set up by the World Health Organisation. The project goals are: 1) To develop inclusive resilience in Peñaflor, 2) To reduce the risk of disasters and emergencies, 3) To lower disaster risks for citizens with disabilities through barrier elimination, 4) To strengthen the role of people with disabilities as key actors in inclusive emergency management.

Project components: the project is based on a local inclusive emergency plan which includes a) Urban barrier reduction in 10 hot spots highly visited or sought out by people with disabilities (at least 70% of the 9,030 inhabitants with disabilities) such as rehabilitation centres, hospitals and similar institutions, b) Training of 1,200 local leaders as inclusive DRR promoters, c) Adaptation of 150 houses belonging to people with disabilities to enhance safety, d) Supply of 100 technical aids (wheelchairs, transference boards and similar), e) Distribution of 200 inclusive emergency kits, f) A Local Inclusive Emergency Map, g) A bilingual manual.



The picture depicts two key aspects of the project: 1) An inclusive emergency management agent working with people with disabilities, and 2) Physical barrier elimination through practical intervention.



Inclusiva NGO

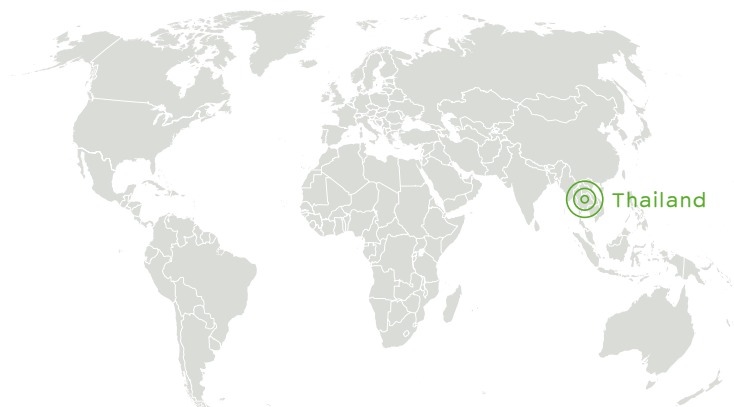
www.onginclusiva.com

"Goodwill, applied knowledge and the burning desire to make the world safer for everyone, specially for the most vulnerable of us, is not only possible, it is also a simple task if we only think and plan everything for everyone. Let's make it real!"

Carlos Kaiser,
Inclusiva NGO



Child-centred climate change adaptation project (4CA), Thailand



The project aims to create safer and more resilient rural communities among the ethnic hill-tribe groups in Northern Thailand who are vulnerable to localised small scale disasters, such as landslides, flash floods, wildfires, severe summer wind storms, drought and cold flashes, which effect the economic security of households and children's well-being and development. The project allows children and adolescents to contribute to managing and reducing the risks associated with changes in the climate through a child-centred climate change adaptation (4CA) programme that integrates the whole community and local government into the process.



Students in Chiang Rai Thailand are learning about disaster risk reduction and climate change in their school by playing a fun quiz game. Due to the success of the project, the Education Area Office in Chiang Rai has already expanded the Disaster Risk Reduction/Climate Change Adaptation (DRR/CCA) curriculum roll-out to a total of 53 schools in their Education Area Zone.

Rural ethnic hill tribe communities in Northern Thailand are especially vulnerable to climate change such as longer droughts and the resulting increase in forest fires, severe off-season thunderstorms, stronger winds, flash floods and landslides. Many of these communities who still rely on agriculture for food security have neither knowledge of nor access to disaster risk reduction and climate change programmes because of language barriers and a lack of participatory community-based approaches. According to a baseline survey, villagers are not aware of hazard vulnerability and capacity assessments, nor have they risk reduction and contingency plans in place. A survey conducted by children themselves found that less than one third of the students in their schools in Chiang Dao district have received lessons on disasters as part of another subject, while only six per cent responded that they had received lessons on climate change at school. Eight per cent of the students did not know whether their school had an emergency plan in place.

To address this problem, Plan International Thailand launched a Child-Centred Climate Change Adaptation (4CA) project in July 2011 with the support of Australian Aid. Together with community-based organisations and the Education Service Area Offices, Plan is working with 12 communities and 10 schools in the provinces of Chiang Mai and Chiang Rai along the Northern Thai border triangle with Myanmar and Laos PDR. The project is part of a regional pilot programme implemented in 10 countries across Southeast Asia and the Pacific.

The children in the project share their information during community-based activities and with relevant organisations and agencies in the local forum. The project supports the establishment of inclusive disaster committees which work to analyse disaster risks, develop planned responses supported by small seed grants, and provide training on disaster risk reduction and climate change among community members. The community volunteers, students and local partners are now seeking to upscale the success of the current 4CA project by developing more long-term resilience plans and expanding the reach of the project to surrounding communities and schools. This community-led approach contributes to consolidating a stronger evidence base for advocating the child-centred CCA approach with local and national governments.



"If ethnic or hill tribe people are older than 40, they don't know anything about disaster prevention. So the most important help comes from children who will become adults in the future."

Khun Nattapol,
Head of Huay Yuak Paso
Village, Chiang Rai

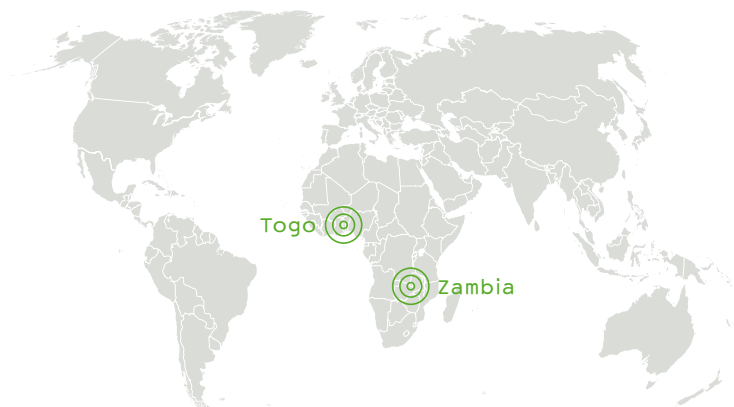


Plan International

<http://plan-international.org/where-we-work/asia/thailand>



Upriver – The Mono River in Togo and Zambezi River in Zambia



Floods are a devastating and re-occurring hazard in Togo and Zambia. This project will set up mobile-phone-based communication networks between upstream and downstream communities through the use of a game on river level observations. The game will lay the foundations for crowdsourcing hydrological data and providing disaster warnings in flood-prone areas that are directly informed by citizen volunteers.

The goal of the project is to encourage players to engage in upstream/downstream communication that will result in flood preparedness. It will set up a mobile-phone-based communication system to make this possible and to crowdsource river level data for local hydrological modelling.

The project will take place in upstream and downstream communities along the banks of the Mono River in Togo and the Zambezi River in Zambia; it will consist of a two-part game. Part one is an analogue game which aims to familiarise players with ways of predicting river levels based on upstream measurements. Players stand in a line with cups of water filled to different levels. Water is added or subtracted using sponges as the water flows “downstream”, and players are asked to predict the water level after extraction.

In the second and “real-life” part of the game, players earn reward points on an ongoing basis (redeemable for phone credit) by reporting water levels, weather and other real-time information on their local area by texting messages. Further points can be gained by making predictions about future conditions. To help make these more accurate, players may also purchase real information about what players upstream are reporting, or buy access to information from the computer hydrological model. The player with the closest estimate of the river level wins the game.

Once the system for passing messages is in place, the project will work with stakeholders to define thresholds for action based on risk information. When warnings are issued, many people are reluctant to take action for fear of acting in vain. However, there are many inexpensive short-term actions, such as moving assets out of harm’s way, which save money, time and livelihoods after a disaster.



“The Zambian Red Cross hopes eventually to bring the game to flood-prone communities throughout the country.”

Wisford Mudenda,
Zambia Red Cross head of
Disaster Management



A Red Cross volunteer explains the UpRiver game to a Zambian community, discussing flood risk and brainstorming actions that can be taken to prepare for floods based on a warning.

Players of a pilot version of the game in Zambia pour water from cup to cup to simulate a river. That can help to predict water levels in real life.

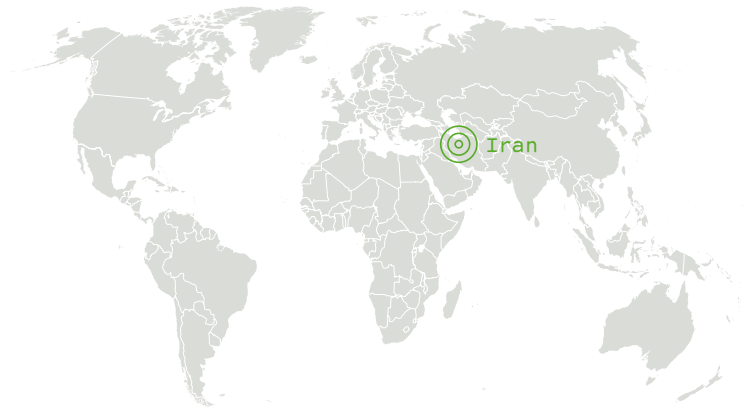
RED CROSS/RED CRESCENT
CLIMATE CENTRE

Red Cross/Red Crescent
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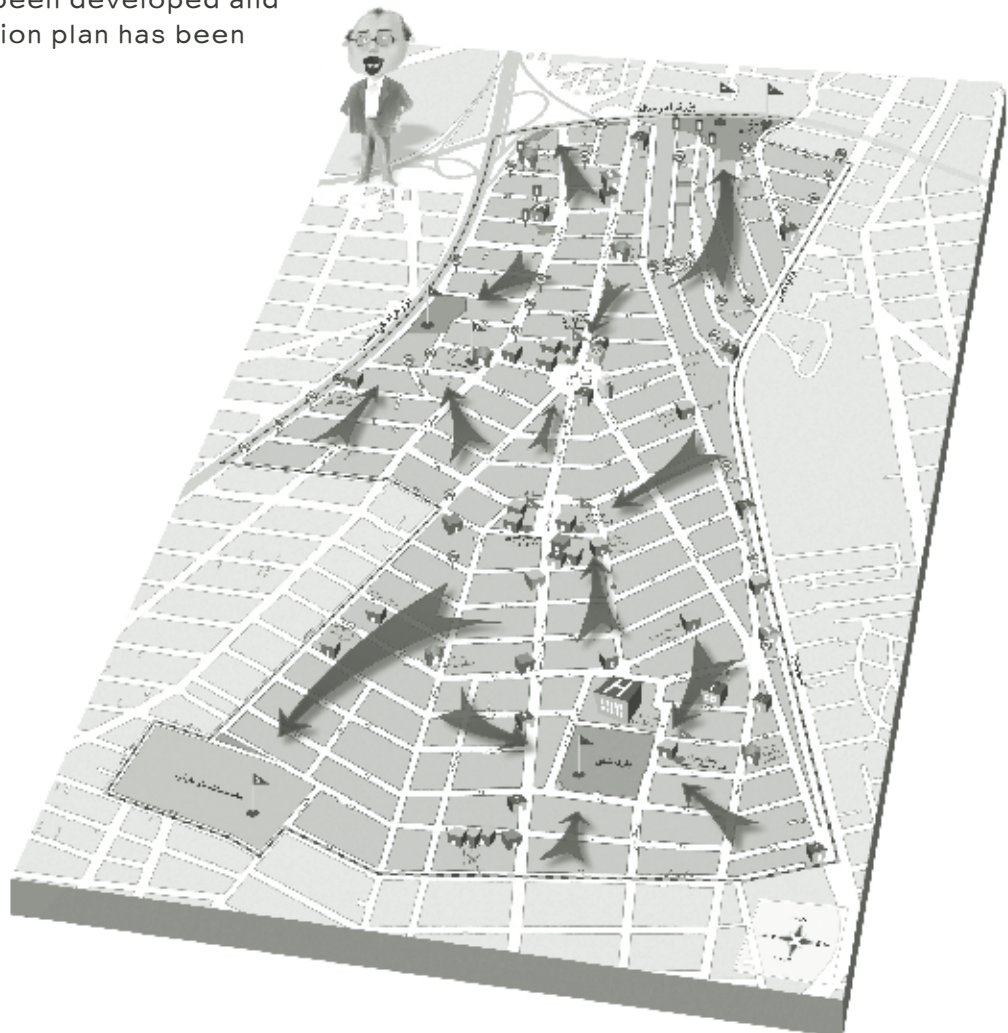
www.climatecentre.org



Safe emergency evacuation programme in Tehran neighbourhood units, Iran



Tehran is located in the world's most active seismic belt. TDMMO has implemented the safe emergency evacuation programme in order to improve the emergency response plan and reduce any possible earthquake impact in Tehran. For this project, TDMMO has cooperated with the Japan International Cooperation Agency (JICA). With the help of Tehran citizens, the evacuation map and guideline have been developed and the emergency evacuation plan has been improved.



Example of a safe emergency evacuation map which has been prepared for Tehran neighbourhood units. The map is distributed in the location for which it has been planned, and an electronic version is also available on the TDMMO website.

The goals for this project are: to improve the emergency response in the first 72 hours after an earthquake, enhance the level of preparedness of citizens and official organisations responsible for emergency evacuations, and increase public awareness and public participation. TDMMO aimed to prepare, plan and design possible methods for evacuating, transferring to and settling Tehran citizens in nearby, safe and well-equipped places during earthquakes. The safe emergency evacuation programme is implemented at neighbourhood level. Based on this, scenarios and terms of reference for individuals and organisations were finalised, guidelines and the evacuation map were prepared, training sessions held and evacuation drills implemented. The pilot project demonstrated that these kind of drills extend the level of citizens' preparedness and trust in public organisations and their officials. They also enhance confidence levels among local people and make them ready and prepared to boost their participation in mitigation, preparedness and response plans.



"Our project is very important, because it serves people at risk. With our efforts we can save lives and help each other."

A volunteer of TDMMO

Holding an evacuation drill in a Tehran neighbourhood unit with the cooperation of key persons and young volunteers. Drills have been implemented in order to increase residents' level of preparedness, enable them to respond appropriately to possible disasters in Tehran, familiarise them with the emergency evacuation process and enhance the level of public participation.



Tehran Disaster
Mitigation
and Management
Organisation (TDMMO)

www.tdmno.ir



Mainstreaming, methodology and human rights responsibility: DRM Pacific Network



Mainstreaming, methodology and human rights responsibility: DRM Pacific Network is a project providing a virtual platform designed to facilitate dialogue and collaboration between sectors and to create links across existing disaster-related social data silos. The project is developing a rights-based virtual network which supports community-based DRM and empowers vulnerable groups in the Pacific.

The photo shows the beauty of an island in the Pacific. At first glance one would not expect that these small-islands states are exposed to natural hazards and climate change effects – but they are. The project addresses a particular dimension of climate change adaptation, namely the displacement and mobility of vulnerable groups. The rights based network enables cross-sector dialogue and cultural understanding in the face of displacement.

The Pacific region is a vast area with a small population. The increased frequency of disasters in the region highlights the importance of disaster risk management (DRM) strategies. This project builds an opportunity for renewing vigour in partnerships across sectors (donors, government, business, civil society and community groups) and researching capabilities for building an inclusive, intercultural nexus centred on developing a virtual platform to facilitate rights inclusion in Pacific DRM. A multi-stakeholder interdisciplinary approach promotes Pacific culture in lieu of a one size fits all stance. A whole-community learning strategy enables dialogue and the empowerment of Pacific groups.

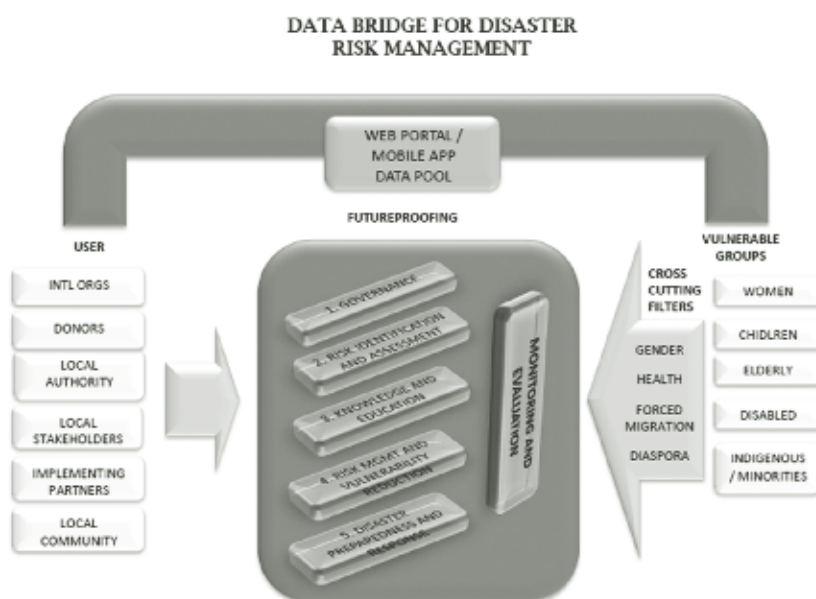
Technical and social data is generated and consumed in large amounts before, during and after disasters; there is a general need for improved targeted access and sharing of data and information across sectors. The virtual platform incorporates a data bridge to generate access to data for the islands. The project is framed by a results-based approach to data management, building disaster-related partnerships through data and knowledge spill-over. This embraces and transcends the scientific-social divide thus fostering direct social knowledge transfer – designed to enable groups and individuals, who previously might not have transcended discipline or sectoral boundaries, to share information and expertise.

A central component is the feedback loop supported in the Pacific by in-country coordinators. Part of their role involves identifying champions in their countries and communities who will support and advocate rights inclusion and the empowerment of vulnerable groups in DRM. This leads to an instant translation between the network and actions of the various sectors working on the ground in the Pacific.



“Promoting rights and providing opportunities for connection and empowerment – this project hopes to help things happen in the Pacific.”

Dr. Katharine Vadura,
Project Leader



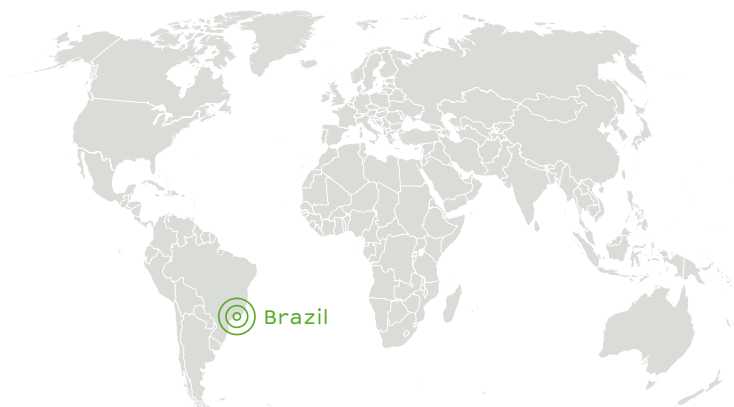
Map of the virtual platform designed to facilitate link-ages, collaborations and dialogue across sectors and build a data bridge that can be filtered by cross cutting themes.



University of Canterbury
www.canterbury.ac.nz



Community protection programme Rio de Janeiro, Brazil



These simulations are organised jointly by the Civil Defence and public schools in the communities. Children have classes in which they are taught basic first aid by the Brazilian Red Cross and learn how to safely evacuate from schools in the event of heavy rains and go straight to the emergency shelters.

The city of Rio de Janeiro lies between the sea and the mountains and has for decades experienced disordered urban development, which has led to high population densities on hills exposed to geological risks. One consequence of this is that the summer's torrential rains often cause not only severe environmental and material damage but also unacceptable loss of life as a result of landslides. Bearing this in mind, the city's Civil Defence department launched a project to transform communities into resilient areas. For a community to become resilient, it needs to have the necessary resources and be capable of organising itself prior to weather events and also during critical situations. The particular geographical characteristics and climatic conditions of the city of Rio de Janeiro mean that public education is a vital part of any disaster risk reduction effort and risk monitoring through risk identification and evaluation.



Under Secretariat of
Civil Defence of the
City of Rio de Janeiro

www.rio.rj.gov.br/web/defesacivil

Since the beginning of the 20th century, the disorganised occupation of land in Rio de Janeiro, with houses being built in unregulated high-risk areas allied to the special geological and geographical characteristics of the city, has made Rio very susceptible to landslide-related disasters during heavy rains. With the aim of protecting the people living in those slums, especially the ones in the high-risk areas, Rio de Janeiro's Civil Defence department created the community protection programme, which focuses on three areas: (i) The training of community agents, (ii) The community alarm and alert system, and (iii) Simulation exercises at public schools.

Community agents live and work in the community and their training is important mainly because these residents know the vulnerabilities and are great multipliers of information, advising other people about the dangers. There are currently almost 6,000 trained community agents operating in communities.

The alert and alarm system for rainstorms consists of sending text messages (alerts) and activating sirens (alarms). An alert is sent when meteorologists at the Rio Operations Centre identify the possibility of rain. The community agents and community leaders registered to receive these alert messages on their cell phones are ready to support the community. An alarm is triggered when the rain gauge indicates that rainfall has reached critical levels. Sirens have already been installed in 103 communities.

The simulation exercises at public schools consist of training for the evacuation of the community in the event of heavy rains. The school represents the community, while the Civil Defence tents assembled in the courtyard represent the emergency shelters, which are safe places around the community where residents can take shelter temporarily during an emergency. The older students act as monitors, helping the younger students and playing the role of public officials and volunteers. This whole mise-en-scène has been helping many communities to overcome the challenges raised by the rains in Rio.



"In Rio, we are increasing our capacity to deal with extreme climate-related events. In 2010 we began preparing the city against such disasters and, most importantly, saving lives. Initiatives such as the Rio Operations Centre, weather radars, warning sirens and community training schemes have been adopted. Resilience has to live in the hearts and minds of every citizen."

Eduardo Paes,
Mayor of Rio de Janeiro

The diagram demonstrates the importance of coordination in improving the city's resilience in order to protect and save lives. The alert and alarm system greatly improves communities' preparedness, with support from the meteorological system, geological risk mapping, the Rio Operations Centre, master and contingency plans, partnerships with other institutions, and volunteers from the communities acting as community agents.



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