

Rainfall in Indonesia is now projected to increase in some regions and decrease in others; extreme droughts and floods are also expected to increase. While some areas might benefit from easier irrigation, increased precipitation would also accelerate soil erosion and reduce the productivity of land – especially at higher elevations.

With a total coastline exceeding 81,000 kilometres, Indonesia is also likely to suffer from rising sea levels: even a small rise would threaten coastal industry, infrastructure, fishing and residential areas (see photo). Here the Pledge Project found its entry point.

However, even compared to Ethiopia where huge variations in topography and elevation create a multitude of microclimates that make climate awareness extraordinarily challenging, the available science on Indonesian climate at local level “does little more than scratch the surface,” according to Melanie Miltenburg, the NLRC’s Pledge Project manager, based in East Nusa Tenggara, in the east of the country.

“Two of the three villages we selected for this project were found to be suffering such severe coastal erosion – the main threat they faced – that in effect they were beyond mitigation,” she says.

“Coastal erosion in that part of Indonesia has simply not been surveyed,” she adds. The remaining coastal-protection structures, built by the government but quickly destroyed by tidal waves, “seemed to symbolize abandonment.”

Miltenburg adds: “We looked far and wide for concrete scientific indicators about what’s going on, about where we could best deploy our resources and what we as the Red Cross could do to support these communities. But the lack of even basic climate data is acute.”

For the Indonesian section of the Pledge Project an area highly disaster-prone even by standards of that disaster-prone nation was chosen: it is also vulnerable to drought and diseases (some climate-related) such as dengue fever,

**“The lack of climate data is acute”**

malaria and bird flu; communities struggle to achieve even the most basic standards of water and sanitation provision; and income levels are low, judged by Indonesian provincial standards.

But though Pledge in Indonesia is somewhat behind schedule, based on revised planning it’s expected that all activities can still be implemented within the three-year time frame, and time has been spent ensuring staff and volunteers are well trained to facilitate the programme in villages.

Recent successes include:

- training of project staff at chapter and branch level
- project workshops to ensure sufficient knowledge and understanding about objectives and approach
- reviewing of initial project documents to fit field reality
- final selection of project villages
- training for new volunteers to work in the project villages.

At this writing, the Indonesian Red Cross, supported by 60 well-trained and highly motivated volunteers, is ready to go into the villages.

## Conclusion

The main project effort so far has fallen into three distinct areas: awareness raising in Colombia, “hard” interventions related to water in Ethiopia, and capacity building and reinforcing voluntary networks in Indonesia.

What generalizations can be made about these three countries, highly disparate at one level but engaged in essentially the same quest: to make risk reduction “climate-informed”?

Climate-related disasters are increasing worldwide. And this basic fact – which is indisputable and skirts the debate about what may or may not constitute climate change – underlies an increasing proportion of disaster risk reduction (DRR) work.

The trend is nowhere more apparent than amid the humanitarian and development work carried out year in year out by the Red Cross Red Crescent.

Integrating climate trends in DRR and traditional public-health work is an important new challenge for the Red Cross Red Crescent Movement.

Pledge has generated some notable success-stories in its first half, above all the VCAs carried out in Colombia and Ethiopia and planned in Indonesia.

One of the most important lessons of Pledge is that “operationalizing” what most National Societies interpret as the main climate activity – awareness raising, knowledge sharing, implementation and advocacy – is difficult but possible. And it is something *completely new* in the humanitarian arena.

The challenge that Pledge is now tackling more or less head-on is to move from “soft” intervention rooted in awareness

raising to the kind of impact produced by “hard” interventions like small-scale infrastructure (such as the check dams and “eyebrow basins”<sup>4</sup> being constructed in the Ethiopian project areas) – and to do so on an increasingly routine basis.

As is often the case in the humanitarian arena, a good operation is often the product of a good assessment – and this is doubly true for climate-related vulnerability, in which a wide range of underlying factors can lie behind disaster

**Even subtle differences save lives**

and health risks. Certain risks, for example, may be attributed to climate change for essentially political reasons, while in reality the true cause might have more to do with poor urban planning or environmental management.

The Red Cross Red Crescent, in any case, has to integrate *all* relevant information, including trends in climate risks, into its DRR work.

The climate-change “signal”, finally, in a local context is often very difficult to pinpoint. For some specific risks, it might be clear; elsewhere the main issue is simply rising uncertainty.

“No regrets” measures, which contribute to strengthening resilience should be considered. Such climate-related projects may hardly differ from standard risk-reduction. Nevertheless, even subtle differences save lives, and more importantly, higher awareness of potentially rising risks in itself increases capacity to cope with an uncertain future.

Pledge’s findings, it is already clear, will be of great relevance to a wide range of agencies: Red Cross Red Crescent societies who stand to benefit directly from the experience; the IFRC and the Climate Centre in The Hague; the wider humanitarian, development and scientific communities; and the Netherlands government itself.

# Climate-informed reduction of disaster risk

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## Introduction

In the Great Lakes region of Africa there is a beautifully succinct proverb which people sometimes cite when confronting the general challenges of life: *a stone you see in good time will not damage your hoe*.

It encapsulates much of the philosophy underpinning the Pledge Project, which was born in 2007 when the Netherlands government and Red Cross jointly pledged<sup>1</sup> to help a pilot group of National Societies adapt their efforts to reduce disaster-risk to the ever-rising hazards of climate change.

With the benefit of only just under two years’ hindsight and with implementation now underway, the choice of countries – Colombia, Ethiopia and Indonesia – appears even more apt than it did.

Ethiopia is suffering what a late-2008 assessment mission by the International Federation of Red Cross and Red Crescent Societies (IFRC) called “environmental shock” – centred, from the humanitarian point of view, on seemingly perennial drought in the near-desert lowlands, but also including both drought at higher elevations and spasmodic floods everywhere.



<sup>4</sup> Small stone-built rainwater harvesting reservoirs.

<sup>1</sup> At the 30th International Conference of the Red Cross and Red Crescent in Geneva that year.

By the end of May 2008, after weeks of heavy rain, floods across Colombia had forced an estimated 100,000 people to abandon their homes and claimed 11 lives. All but five of 32 provinces were affected. Broadly speaking, the Caribbean coastal region, including the Pledge Project areas, meanwhile, continues to display the same perplexing mix of what the Red Cross Red Crescent Climate Centre in The Hague (the “Climate Centre”) has referred to as the “drought-flood-drought” typical of climate-related disasters worldwide.

Most recently, if unrelated to climate, Indonesia more than lived up to its reputation as one of the most disaster-prone countries of the world with the powerful 7.6-magnitude earthquake that devastated western Sumatra in September

### Climate-change awareness as a benefit in itself

and left more than 1,100 people dead. But Indonesians continue to face an array of worsening environmental problems, many linked to climate: deforestation, water pollution from industry and sewage, air pollution, smog and haze from forest fires, coastal erosion and others.

Colombia – exactly opposite Indonesia on the other side of the Pacific “ring of fire” – shares the seismic risk. And the

environmental picture in parts, at least, of all three Pledge countries has historically been complicated by conflict. In the case of Ethiopia, significantly, relatively low-level internal conflict over water resources.

The National Societies involved were “early success stories” from the Climate Centre’s own Preparedness for Climate Change programme, according to its associate director, Maarten Van Aalst. They have very different histories and backgrounds, strengths and weaknesses, but have all wholeheartedly embraced the notion of adaptation to climate change.

The Colombian Red Cross – starting from a more avowedly environmentalist base and with solid in-country scientific expertise on which to draw – has probably done most to develop the idea of climate-change awareness as a benefit in itself, not just with community-based advocacy and education but also physical communications products and what the Colombians themselves call “merchandise”.

The review that took place at the meeting in The Hague on 29-30 September 2009 was not a formal evaluation (that is due shortly) but an attempt by the chief National Society and Netherlands Red Cross (NLRC) actors involved, at just past the half-way mark in the three-year programme, to review progress and agree lessons learned.



A Colombian Red Cross educational puppet show in La Guajira. (Photo: Bruno Haghebaert/NLRC)



A dried-up well in a cattle region of Ethiopia. Recharging groundwater is a key component of the Pledge Project. (Photo: Alex Wynter/IFRC)

## Colombia

Magdalena and La Guajira departments

People in villages in the Colombian countryside occasionally “equate the violence of the civil conflict with the ‘violence’ of the sea that, in the project areas of La Guajira and Magdalena departments, is eating the coastline,” says Javier Gonzalez, of the NLRC office in the Colombian capital, Bogota.

Ironically, although the quality of the scientific information available to the Colombian Red Cross is better than the other two National Societies, what emerged from the

### “The changes they see may not be temporary but actually long-term”

Colombian testimony at the September meeting was the importance of traditional culture in setting the pace of adaptation and growth in climate awareness.

“There have been difficulties identifying climate-risk scenarios with indigenous communities in La Guajira peninsula,” said Gonzalez. “Local Wayuu [Amerindian] culture places more value on the past as a guide to life in the present. This was accentuated when programme staff tried to explain the difference between ‘climate variability’ and ‘climate change’.”<sup>2</sup>

Historical and seasonal calendars that chart important climatic events such as intense winters and long droughts have been found to be much more effective in the Colombian context than “overly technical explanations”.

Not for the first time in the experience of the Red Cross Red Crescent worldwide, the Colombians working on the pledge project found that puppet shows are among the most effective ways of getting simple messages about climate risk and adaptation. It is, of course, a labour-intensive process, “but we rely on the energy of volunteers,” Gonzalez explains.

The challenge here (as in so many other locations worldwide) is to convince people that “the climatic changes they see

<sup>2</sup> The local wayunaiki language has no word for “climate”.

may *not* be temporary but actually long-term,” as Van Aalst puts it.

Lessons learned from the first half of Pledge, many of them revealed by two Vulnerability and Capacity Analyses (VCA):

- Ancestral knowledge is of the utmost importance.
- People believe that climate adaptation is just another form of risk reduction – not a strategic shift in its own right toward greater long-term awareness.
- It’s important to explain the difference between climate change (global warming) and climate variability (such as El Niño), and to acknowledge the relevance of climate information on all timescales.
- There is not enough information on the effects on health of climate factors.
- Networks involving public, private and voluntary sectors can be created relatively easily and are effective in scaling-up interventions.
- Targeted communication of objectives is important as way of focusing effort.

## Ethiopia

South Gondar, eastern Hararge

Ebinat *woreda* (district), south Gondar, could serve as a microcosm of Ethiopia’s turbulent modern history.

It’s also one of those places where the climate is changing before the very eyes of the farmers who struggle to wrest a living from the estimated 25 per cent of its soil that is cultivable. What used to be the short but useful *belg* rainy season, local people report, is sliding into history.

Combined with this disaster are man-made deforestation and the legacy of war. The area was a centre of opposition

to the Dergue and government forces destroyed the forests in which they believed guerrillas were hiding. It never recovered. And according to Dawit Daricha of the Ethiopian Red Cross Society, who manages the Pledge Project, the land “lost its physical and biological productivity”.

“Since 1993 the area has faced recurrent droughts that cause food shortages,” he adds. “In order to get some

### The most vulnerable part of a vulnerable region

income for supplementary food, people started large-scale deforestation to sell wood and charcoal as fuel.

“Population pressure also plays a big role in natural-resource degradation in the area.”

Wage Wargaja *kebele* (the smallest administrative unit in Ethiopia – in effect a cluster of villages) was nominated for a Pledge VCA as the most vulnerable part of a vulnerable region. Local people were asked to rank the climate-related hazards they face. First came drought and a request for irrigation infrastructure or river diversion to carry them through dry periods.

Then health problems like malaria and diarrhoeic illness; then livestock issues – disease and low productivity amid the absence of good pasture. Then other problems like transport and education only indirectly related to climate.<sup>3</sup>

These communities, only a few hundred-strong, were already attempting to adapt: dropping from two sowings a year to one; carrying feed to cattle instead of letting them graze,

<sup>3</sup> But related to it nevertheless. Schools in Ethiopia, for example, cannot open unless they can provide pupils with drinking water. And even tarmac roads quickly become impassable after heavy rain if drainage infrastructure is not built alongside.



The sea eats away at the foundations of a coastal road in Sikka, Flores Island, Indonesia. (Photo: Teguh Wibowo/Indonesian Red Cross)

or shifting altogether to more drought-resistant goats and poultry; changing from late-maturing high-yield sorghum, *teff* and barley to early-maturing, low-yield varieties.

But many Wage Wargaja farmers – admirably if stubbornly optimistic – were reluctant to blame climate factors for their problems, explaining that such weather forecasts as do exist are not detailed enough to be any use. Says Daricha: “Some of them told us ‘We believe in God, not the radio’.”

Yet even here, as close to actual household level as it’s possible to get, the perception of hazard varies greatly: people who live within reach of a town and veterinary services might not worry too much about the health of their livestock, while for more isolated communities disease is more likely to be fatal.

## Indonesia

Flores and Alor islands

Disaster response and preparedness alike are massive logistical challenges in Indonesia – a vast archipelago of more than 17,500 islands which is part of the seismic “ring of fire” generated by the ever-shifting crustal tectonics of the Pacific.

Yet the National Board for Coordinating Disaster Management now puts the proportion of *hydrometeorological* events among total disasters suffered by Indonesia at just over 50 per cent.