

# Rainwater Harvesting Implementation Network

2008 ANNUAL REPORT



AFD AND RAIN

## FOREWORD

Since 1990, an additional 1.6 billion people have gained access to safe water. If this trend continues, the world will achieve the drinking water target as defined within the framework of the Millennium Development Goals. This is obviously great news. However, although more and more people are getting access to good quality water, not everybody is benefiting from this progress: some 750 million people based in rural areas continue to live without or with only very limited access to safe and sufficient drinking water sources, while piped drinking water reaches only 30 per cent of rural households worldwide.

Reaching those 750 million persons will be difficult – very difficult. Many of these people live in remote areas, where water is very scarce and the cost of bringing safe drinking water to them is prohibitive. In other words, the water that is needed for the most destitute, is the most expensive. As a result, investment is lagging behind. While many organisations are involved worldwide in improving water supplies, only a few specifically cater for those who have the most difficult access to water.

RAIN – the Rainwater harvesting Implementation Network – was created to provide water solutions for rural populations that live in regions where water sources such as groundwater and piped water are not available, are not feasible (due to costs and water quantity) or are non-potable (due to geological water quality issues). RAIN's aim is to provide cost-effective rainwater harvesting solutions that are easy to manage, operate and maintain.

In 2008, RAIN made good progress in promoting rooftop water harvesting. The main challenge in this domain are the costs of storage and of scaling up. RAIN is continuously looking at ways to reduce these costs and sees considerable potential for making storage cheaper. At the same time, more work was done on harvesting surface runoff water. Sand dams and other structures were built to help raise the water table. The first results are very promising and RAIN will continue to work on this type of water harvesting. Additional funding became available in the course of 2008, and this enabled the organisation to increase its outreach. RAIN's growing experience also means that it can work more effectively and more efficiently. Although the challenges are enormous, RAIN is playing an increasingly important role in achieving the goals of the water sector.



Peter de Haan  
Member of the Board and Director of Aidenvironment





## 2008 OVERVIEW

### Reaching the 'unserved'

2008 was an exciting year. Over 12,000 people in remote and rural areas where other options for accessing safe and sufficient water are unreliable or unavailable, were provided with water through rainwater harvesting systems. In addition, RAIN expanded its network – which now comprises 35 implementing partners – and attracted funding for 2009 and 2010. RAIN and its outreach is continually growing, which evidences the need for the programme itself.

### Networking at all levels

RAIN continues to focus on rural areas where rainwater is the only reliable water source or where other sources are very limited. The RAIN approach – with its focus on local management, local ownership and local knowledge development – was both maintained and shared not only with partner implementing organisations, but also with local and national governments and policy makers. RAIN stands behind its goal, namely to build an institutional (rainwater harvesting) framework at a national level. In 2008, RAIN participated in several conferences in order to promote and discuss the RAIN approach.

#### Stockholm World Water Week

RAIN (together with Acacia Water) organized a highly successful rainwater harvesting event at Stockholm World Water Week 2008. The session emphasized the value of water harvesting and groundwater recharge in coping with climate change in arid and semi-arid regions.

#### SEARNET conference

RAIN participated in the international SEARNET (Southern and Eastern Africa Rainwater harvesting Network) conference in Zambia. RAIN focused on 'Improved capacity to harness rainwater potential in Africa' and initiated a discussion on the need and institutional set-up for effective rainwater harvesting implementation and management.

#### MUS conference in Ethiopia

RAIN participated in the MUS (Multiple Use Water) conference organized by the International Water and Sanitation Centre - IRC in Ethiopia.

The RAIN programme is active on all levels: from meetings with water management committees to consultations with governmental steering committees. In 2008, RAIN strengthened its relationships at governmental levels in Nepal, Ethiopia and Burkina Faso, and worked actively on the adoption and integration of rainwater harvesting in policies and government water plans. In Ethiopia, the Ministry of Water Resources was actively involved in RAIN's event at Stockholm World Water Week and is currently looking at the possibility of incorporating rainwater harvesting in its portfolio. In Nepal, a national policy on rainwater harvesting recognizes rainwater as a valuable source for domestic and productive use and for groundwater recharge. RAIN's Rainwater Harvesting Capacity Centre (RHCC) in Nepal has established close partnerships with several governmental departments to develop plans for implementing the policy on a decentralized level.

RAIN continued its active membership of the Netherlands Water Partnership NGO platform, which unites Dutch NGOs that are active in the water and sanitation sector. RAIN also strengthened its relationships with the Dutch water boards, Aqua for All, the Dutch climate bureau, AKVO, the Micro-Finance & Water Network and various expert groups.

### Building capacities, sharing knowledge and remaining critical

The key to RAIN's success is facilitating interactive learning processes on rainwater harvesting. Besides strengthening local capacities through capacity building at a local level, RAIN keeps a critical eye on its programme, and internal and external evaluations are always followed by national workshops, during which



partner organisations share and discuss their experiences and additional topics – such as gender, water quality or impact measurement – are considered. In 2008, several activities were carried out to share experiences and improve the programme.

- RAIN continued to implement the Performance Monitoring and Learning System in order to monitor the impacts of its activities. This enables RAIN and its partners to measure the results and the long-term impacts of the projects and to adjust its interventions accordingly.
- An R&D programme focused on cost reduction, design improvement and alternative technologies was launched in Burkina Faso. In 2009, this multi-year programme will be extended to Ethiopia and Nepal.
- The RAIN Programme Management Unit followed a two-day WATSAN course at the IRC in Delft (the Netherlands) to strengthen and increase the teams' knowledge.
- In Ethiopia, a below-ground surface runoff project was evaluated by an international expert. The evaluation emphasized the great demand for rainwater harvesting systems in this region of Ethiopia and reflected the positive impacts of the rainwater harvesting projects. It was recommended to include micro-finance in RAIN's rainwater harvesting projects. This and other recommendations have been integrated into this year's project cycle.
- RAIN launched its renewed website, which now includes a global map showing all implemented RAIN projects.
- A practical sand-dam manual was developed in collaboration with Acacia Water. The manual details the latest experiences in Ethiopia.
- A RAIN water quality guideline was developed in order to, for example, standardize water quality testing and analysis, and create awareness of water quality in rainwater harvesting projects that focus more on prevention measures than on end-of-pipe solutions.
- Various partner organisations published their rainwater harvesting experiences in newspapers and brochures.

Helvetas Mali, a partner organisation of RAIN, developed a short video, which was shown twice on national television in Mali.

## Looking ahead

RAIN continues to be guided by its focus on the implementation of rainwater harvesting projects to supply the most vulnerable people with water. RAIN and its partner organisations will continue to implement an increasing number of projects and thus reach out to more and more people. In West Africa, RAIN will widen its portfolio of technologies and approaches and continue to work with its 18 implementing partners. In Ethiopia, new projects have been started with partner implementing organisations to scale up the successful (and award-winning) sand dam programme. In Nepal, rainwater harvesting systems will be constructed to produce drinking water, biogas and irrigation water. The RHCC in Nepal will continue to work closely with the government on the further uptake of rainwater harvesting in their national plans and programmes, and will start developing micro-finance opportunities for rainwater harvesting.

Promoting rainwater harvesting and getting it on the agendas of policy makers and decision makers remains one of RAIN's priorities. Providing more and more examples of successful water supply to people living in areas that seemed hard to serve with water will lead to an increased awareness of the potential of rainwater harvesting. This is what RAIN stands for, and we are becoming both more experienced and more effective in achieving safe and sufficient water for all.

Ard Schoemaker  
Programme Manager



## Nepal

### Capacity building and policy influencing

In 2008, the RAIN programme in Nepal received an important boost: the Dutch Climate Change HIER2 programme provided funding for the 'Adaptation to Climate Change through Rainwater harvesting in Nepal' project. In this project, the RHCC (a separate department of BSP-Nepal, BSP-RHCC) is responsible for the documentation and promotion of rainwater harvesting activities by Plan-Nepal and Simavi. Plan-Nepal will construct 375 rainwater harvesting systems for drinking and 200 water ponds for small-scale agriculture use through its local partners in the Central Makwanpur district. Simavi, through its partners NEWAH and ENPHO, will construct 300 rainwater harvesting systems and latrines in the Western and the Far-West Region, following an integrated water and sanitation approach.

BSP-RHCC increased its capacity and profile as a national RHCC for rural areas of Nepal, leading to a stronger national and international position. Together with the NGO Forum for Urban Water and Sanitation, BSP-RHCC is involved in the Ministerial Rainwater harvesting Steering Committee, which formalized a governmental rainwater harvesting policy and supported the preparations for the High-Level Rainwater Harvesting Conference between SAARC countries in Nepal in June 2009. BSP-RHCC was also present at Stockholm World Water Week 2008 to present and share its Nepali rainwater harvesting experiences.

In 2009, funding from Plan Netherlands will support the activities of three implementing organisations. In addition, the Dutch Ministry of Foreign Affairs is

funding a two-year programme that will focus on implementation, promotion, programme development and capacity building through at least four implementing partners. Because of its integrated approach (using rainwater for drinking and for biogas production, sanitation, small-scale irrigation, etc.), the programme will provide a springboard to a broader programme on rainwater harvesting in rural areas of Nepal. BSP-RHCC and RAIN will document and share their experiences in the coming years and will promote rainwater harvesting as an attractive solution to multiple water needs.

## Ethiopia

### Towards the multiple use of rainwater

In the first quarter of 2008, RAIN and the Ethiopian RHCC ERHA (Ethiopian Rainwater harvesting Association) finalized the implementation of 10 below-ground rainwater harvesting systems, thus increasing access to water for approximately 2,000 people in the dry Borana Zone. The below-ground surface runoff systems, each with a capacity of 60m<sup>3</sup>, are managed by community water management committees, which have been set up and trained to operate, maintain and manage the systems. Each committee consists of seven people (usually four men and three women), each of whom has participated in learning visits to other rainwater harvesting projects carried out by RAIN. This project was funded by Aqua for All.

ERHA and its implementing partner Action for Development (AFD) progressed considerably in the Swiss Re International Resource Award-winning project.



This project is an innovative combination of infrastructure to harvest rain and surface runoff water, and six sand dams and seven surface runoff systems that contribute to regional water resource protection by making optimal use of the available water resources, enhancing catchment water retention capacity and averting groundwater depletion. The final rainwater harvesting systems will be completed by mid 2009. The project will improve access to water for domestic and productive purposes for at least 2,000 people in the Borana Zone. It has led to stronger ties with the Ethiopian Ministry of Water Resources, as ERHA is on the verge of signing a MoU and a representative of the Minister of Water Resources joined the panel during RAIN's event at Stockholm World Water Week 2008.

ERHA is growing as a knowledge and resource centre, as evidenced by the diversification of its donors and partners. Especially the successful sand dam project has led to a lot of new ideas and initiatives related to the promotion and implementation of and stakeholders' involvement in rainwater harvesting. For example, the Dutch Ministry of Foreign Affairs has granted a proposal to scale up rainwater harvesting systems in Ethiopia in 2009 and 2010. In the coming years, RAIN, ERHA and the implementing partners will gain experience and expertise in the multiple use of rainwater.

## Senegal

### Scaling up of rainwater harvesting activities

RAIN started its activities in Senegal in 2005, with the assistance of UNICEF. Since then, RAIN has slowly but significantly increased its activities. While 2007 saw the building of a total of 1,000 m<sup>3</sup> of storage capacity, the figure for 2008 is almost double that, namely 1,816 m<sup>3</sup>. As it is expected that in 2009 at least that amount of storage capacity will be built, by 2010 a minimum of 10,000 people will have benefited from improved access to water since 2007.

The intervention areas of the five implementing partners with which we have been working since 2007 are dispersed over the entire country and are located in areas where other water sources are not available or are infeasible. An example is the Saloum Islands, where the groundwater is non-potable due to the intrusion of seawater; hence, rainwater harvesting is a relevant option for drinking water on these islands. In the remote region of Kedougou, it is often impossible to drill boreholes due to hard rock formations, and again rainwater harvesting offers a solution to the problem. RAIN is working to bring rainwater harvesting to the attention of the government as an appropriate solution to water supply in these regions, and realizes that the installation of an RHCC in Senegal is one of the best options to do so.

Since there is not yet an RHCC in Senegal, monitoring and evaluation activities have so far been carried out by the RHCC from Burkina Faso. These activities predominantly comprise monitoring progress and the





further strengthening of the capacities of the implementing organisations. During a national meeting between the partner organisations in 2008, there was a general demand for a better understanding of water quality issues. Therefore, in 2009 RAIN will carry out a water quality survey. In addition, RAIN has already started to identify potential organisations in Senegal as RHCC in the RAIN programme.

## Burkina Faso

### Expanding the network and increasing the awareness of rainwater harvesting

In 2008, RAIN's activities in Burkina Faso were expanded substantially: the number of implementing organisations active in the dry Sahel region – where access to water is seriously hampered by the adverse geological conditions – increased from four to seven. This led to the construction in 2008 of 2,480 m<sup>3</sup> of rainwater harvesting storage capacity (almost three times as much as was built in 2007), which will provide at least 4,500 people with access to water.

The RHCC in Burkina Faso (Centre d'Expertise en Collecte des Eaux de Pluie; CECEP) carried out two monitoring and evaluation visits and organized a refresher course for all implementing organisations in Burkina Faso. The three new implementing organisations took a separate training course on rainwater harvesting.

In addition, the water quality of 84 of the rainwater harvesting systems constructed in 2006 and 2007 was

analysed. The results were positive on all physical and chemical parameters, and 58% of the systems were completely free (0 cfu/100 ml) of any bacteriological contamination. In only a few cases did bacteriological contamination exceed WHO standards for rainwater (> 10 cfu/100 ml). Contamination is often a result of the improper operation and maintenance of the systems, which emphasizes the importance of training and awareness sessions at a local level. RAIN will use the results of this water quality survey to further improve the programme and to reduce contamination risks in future projects. For this, a water quality guideline has been developed, which will be shared with all partners in the RAIN network.

Because RAIN now has a larger implementation outreach and three years of experience, the RAIN programme in Burkina Faso has started looking into improving its current rainwater harvesting system design and is examining other appropriate technologies. An R&D programme was launched in 2008 under the coordination of CREPA BF, with support from international rainwater harvesting experts Terry Thomas and Brett Martinson. The programme will communicate both the lessons learned about and the technological improvements to rainwater harvesting systems, which should lead to an increase in quality and a reduction of costs. The results will be shared with all implementing organisations.

At a national level, CECEP gained recognition for its role in and work on rainwater harvesting in the course of 2008, culminating in a presentation of the rainwater harvesting programme to the National Steering Committee for Water & Sanitation (Comité de Pilotage – Plan National sur l'Eau et l'Assainissement). The Directorate-General of Water Resources (DGRE) expressed





interest in formally evaluating the rainwater harvesting experiences, since the programme is active on a large scale in Burkina Faso.

## Mali

### Doubling the implementation activities

The number of rainwater harvesting projects and the storage volume grew considerably in Mali in 2008: rainwater harvesting storage capacity almost doubled to 1,900 m<sup>3</sup>, mostly on household level. A total of nearly 300 rainwater harvesting systems have now been constructed in Mali. RAIN not only increased its implementation activities but also decreased its implementation costs by almost 15%.

As an example, around the Douentza region (central Mali, 200 km south of Timbuktu), partner organisations have constructed household systems in areas where rainfall is extremely irregular. Access to water can be very limited due to flooding, while at other times extended dry periods can cause extreme hardship. Providing access to water through rainwater has proven highly successful in these areas.

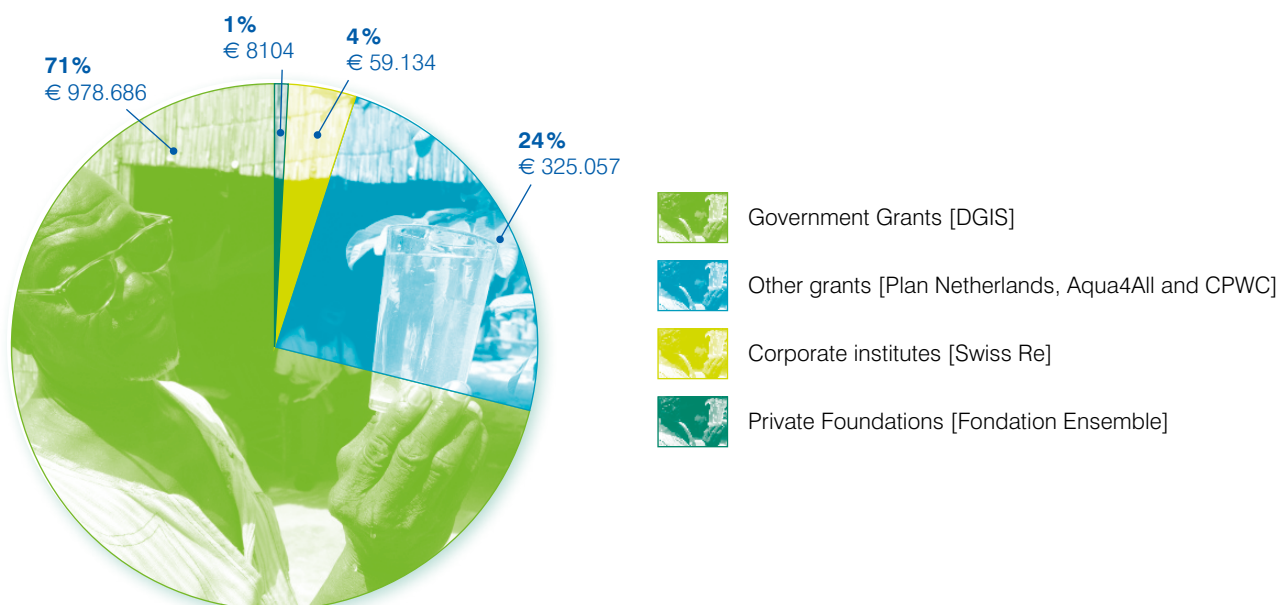
Partly due to the successful external evaluation that was carried out by Fondation Ensemble in June 2008, the first phase of the Fondation Ensemble project in Mali was extended into a second phase, which now also focuses on Burkina Faso.

Since there is no RHCC in Mali, the RHCC of Burkina Faso twice carried out monitoring and evaluation

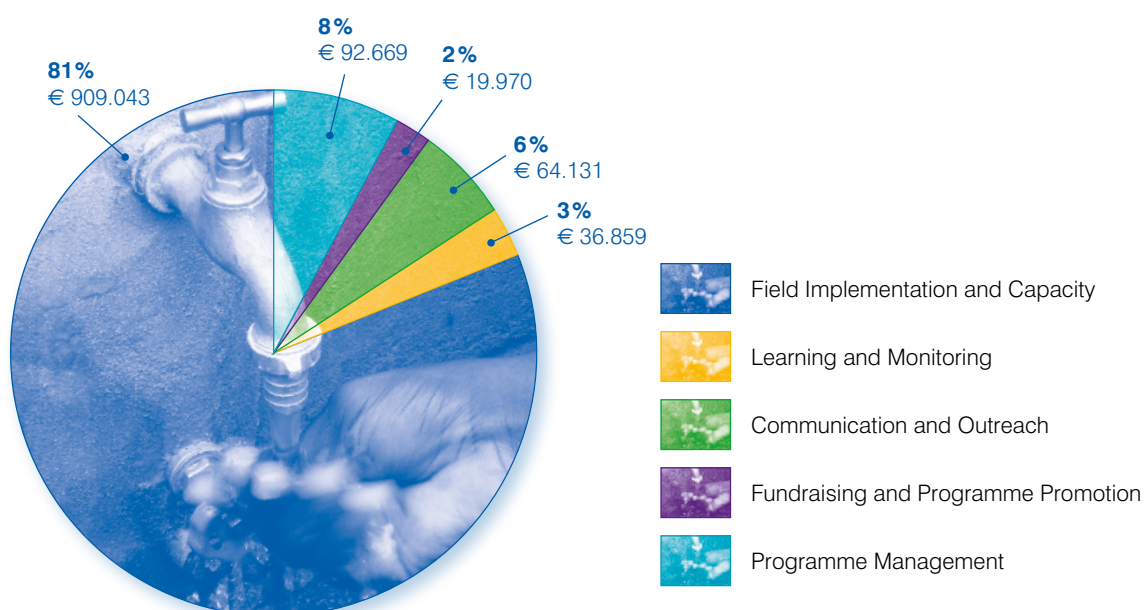
surveys in 2008. During these surveys, projects were discussed on site and technical recommendations for improvement were put forward. This was followed by a national workshop, at which the implementing partners discussed the projects and the achievements. RAIN aims to establish an RHCC in Mali in 2009, since this will improve the outreach to the government and enhance the networking and knowledge sharing amongst the implementing partners.

## FINANCIAL

RAIN Income 2008 per type, totalling 1.370.981 Euro



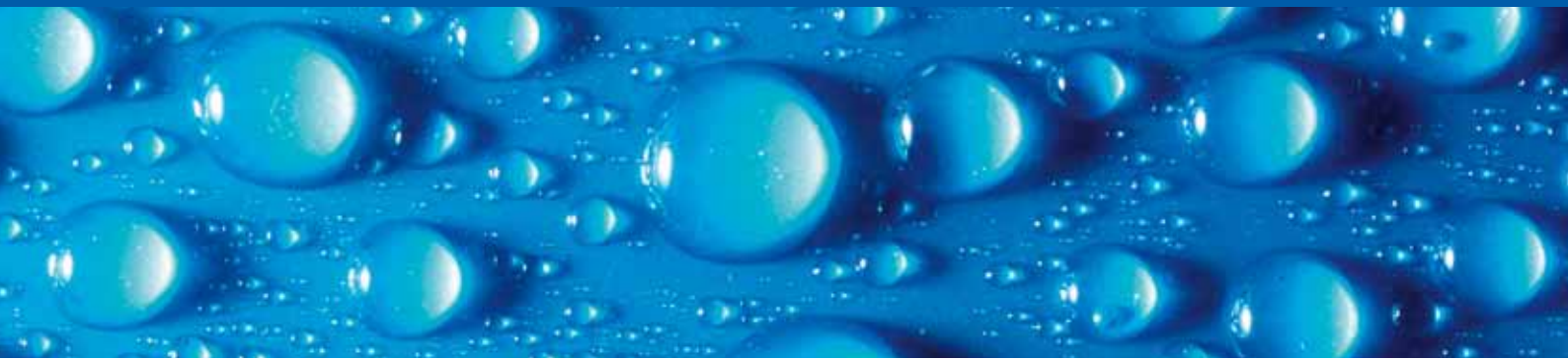
RAIN Expenses 2008 in Euro, totalling 1.122.672 Euro



Remaining budget from 2008 will be used in 2009.







## Board

Paul van Koppen	Chairman of the Board, Senior Consultant and Manager of Kopconsult, former Director of the International Centre for Water and Sanitation (IRC), The Netherlands
Michiel de Wilde	Board Member, Chief Operating Officer of Royal Tropical Institute, former Director of Aidenvironment, The Netherlands
Peter de Haan	Board Member, Director of Aidenvironment, The Netherlands

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Martin Keijzer	Senior Advisor Water & Sanitation at Plan Netherlands, The Netherlands

## RAIN team

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Robert Meerman	Programme Officer
Peter Ton	Programme Officer

## Donors

DGIS  
Fondation Ensemble  
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Aqua4All  
Swiss RE  
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## Partnerships

Rainwater partnership (UNEP, IRSCA, IRHA, SEARNET)  
CREPA HQ  
SEARNET  
Acacia Water  
IRC Multiple Use group  
Simavi  
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