

# Rainwater Harvesting Implementation Network

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- Basja Jantowski Programme Officer
- Peter Ton Programme Officer
- Kirsten Sima Neke Strategic Development
- Robert Meerman Programme Officer
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## Partnerships/alliances

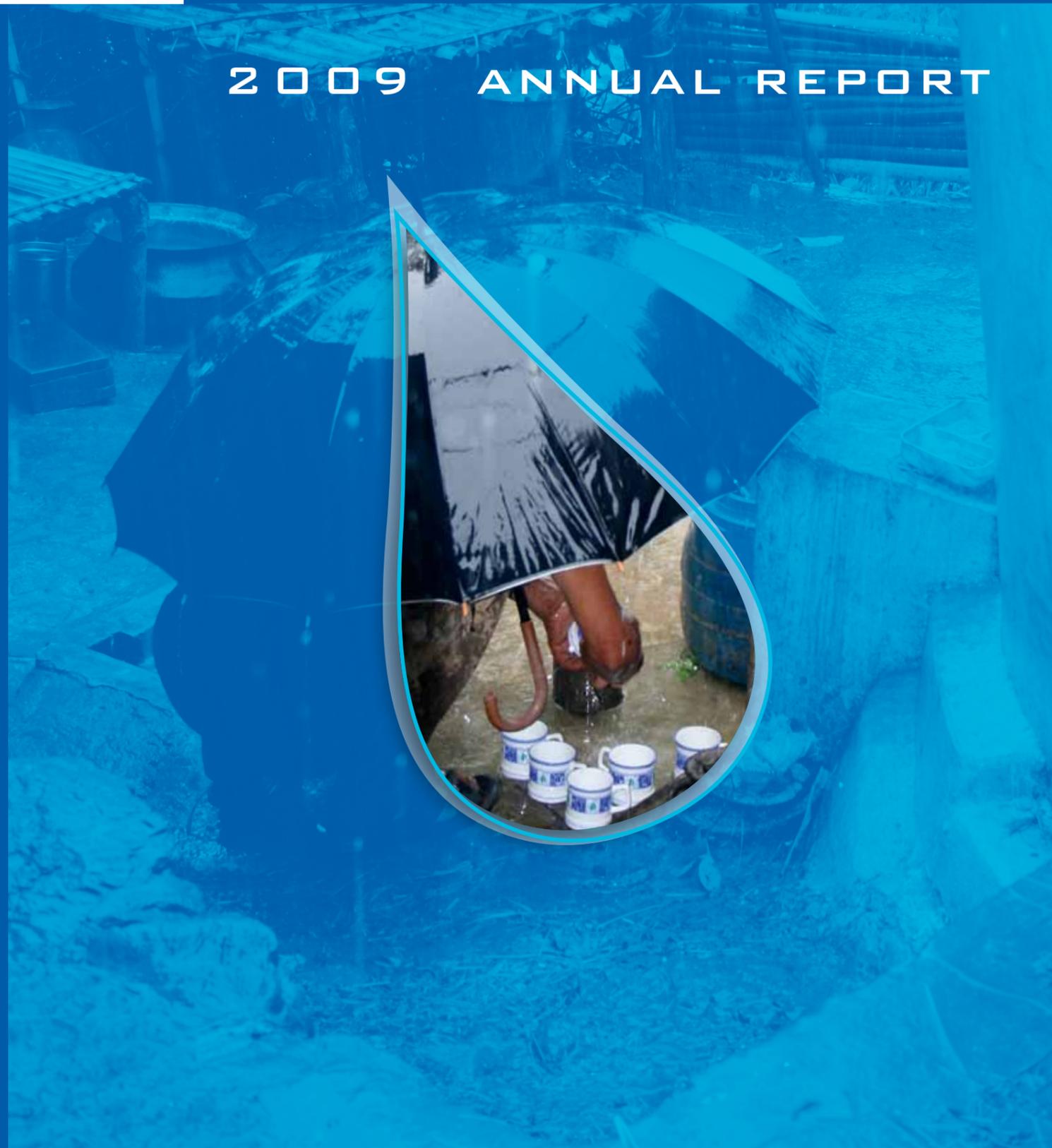
- Rainwater partnership (UNEP, IRSCA, IRHA, SEARNET/ICRAF)
- Klimaatbureau
- CREPA
- Water Aid
- 3R consortium (Acacia, Meta Meta)
- WASH alliance (Simavi, AKVO, Waste, AMREF, ICCO)
- IRC Multiple Use group
- Micro finance & Water Network
- Akvo

## COLOFON

Adress:  
Donker Curtiusstraat 7-523  
1051 JL Amsterdam  
The Netherlands

Tel.: +31 20 581 82 50  
Fax: +31 20 686 62 51  
Email: [info@rainfoundation.org](mailto:info@rainfoundation.org)  
Website: [www.rainfoundation.org](http://www.rainfoundation.org)

# 2009 ANNUAL REPORT



## FOREWORD

Where do we stand today with rainwater harvesting (RWH)? According to the Intergovernmental Panel on Climate Change (IPCC), which received the Nobel Peace Prize in 2007, RWH heads the list of adaptation resources in the water sector. As one of the oldest means of collecting drinking water, it is still very much in use today. In Australia, 70% of the children drink rainwater; many areas in the United States rely on it as well. The need for rainwater collection will increase. It is projected that two-thirds of the world's population will be affected by water scarcity over the next few decades, due to population growth, economic growth, increasing pressure on the water supply and the global climate change. According to the Stockholm International Water Institute and the United Nations Development Programme (UNDP, 2006), water scarcity is a growing worldwide problem. The activities of RAIN are fully justified in this context.

The year 2009 was both rewarding and challenging for the RAIN Foundation. We provided sustainable water sources in water-scarce areas in Africa and Asia. At the same time, RAIN entered into a number of new initiatives and partnerships, expanding the scope of its work and seeking new avenues for continued growth and development.

The Board was happy to see that our flagship programme in West Africa (which is financed by the Dutch Ministry of Foreign Affairs) made significant progress in 2009 and is likely to exceed its main goals considerably by the end of 2010. The other major implementation programmes in Nepal, Burkina Faso and Ethiopia, assigned to RAIN as a young and innovative organisation, grew substantially. In Burkina Faso and Ethiopia the programme faced unexpected problems during the scaling up of sand dams. Nevertheless, we are confident that we can achieve the desired results through hard work, together with our local partners.

RAIN is happy to see a renewed interest in RWH and other storage-based solutions for providing water in arid or water-poor areas. To this end, RAIN has actively developed the 3R partnership (Water Recharge, Retention and Re-use), together with other Dutch and international partners. The 3R concept, which integrates food security, water supply and climate-change adaptation, was successfully launched during the World Water Week in Stockholm and the Africa Water Week in Johannesburg. The concept drew considerable interest from a wide variety of partners.

The coming year will be challenging as well, both in terms of further expansion of our thematic work, and of seeking funds for the new programmes. Nonetheless, the Board is confidently looking ahead. RAIN has developed a strong international network of partners with a solid management base in the Netherlands.



I would like to end by thanking the entire RAIN team, our partners and our sponsors for their support for our activities. Together, we are investing in the future; together, we are harvesting RAIN!

Paul van Koppen  
Chair of the Board



## OVERVIEW 2009

### Gaining importance

The year 2009 was one of consolidation for RAIN. It also brought a firmer anchoring of its programme at the three levels with which RAIN works: improving knowledge and interactive learning, strengthening the implementation capacity of the individual country programmes; and advocating and promoting rainwater harvesting (RWH) at the programme (national) and international levels.

In 2009, RAIN and its partners used RWH systems to provide water to almost 20,000 people living in remote areas of Nepal, Ethiopia, Burkina Faso, Mali and Senegal. RAIN continues to focus on rural areas in developing countries where rainwater is the only reliable source of water or where other water sources are very limited. By collecting and storing rainwater, RAIN aims to increase the accessibility of water for the most vulnerable people, particularly women and children. Many people live under the most constrained conditions, walking up to 10 km to fetch water which is often unsafe for drinking that can result in suffering from severe diarrhoea.

The progress of implementation was satisfactory and, in some countries, even more water-harvesting structures were installed than had been planned. The number of RWH systems for water-harvesting at household level increased considerably. Through the intervention of RAIN 784 systems were constructed at household level. For water harvesting at community level, nine community systems were built in Nepal and six below-ground tanks and eight sand dams were built in Ethiopia, resulting in more than 8500 m<sup>3</sup> of water-storage capacity. In Nepal and Ethiopia, fewer facilities were built than had been planned in 2009. But the remainder of these facilities will be built in 2010.

In 2009, RAIN expanded its network in the south to include 22 implementing partners (as compared to 18 in 2008). The efforts of these implementing partners are helping to increase the importance of RWH at the local level. Together with local organisations, the rainwater harvesting capacity centres (RHCCs) are actively promoting RWH at the national level. It is also being promoted outside the traditional boundaries, extending to developmental actors in other disciplines, including education. Research by RAIN has revealed links between access to safe water and increased health,

sanitation and education. The lobby for recognition of RWH as a valuable source of domestic and productive uses, as well as for recharging groundwater is becoming increasingly successful. As a result of these lobbying efforts, the RHCCs were asked to advise several national governments and to organise learning workshops at the national and international level. The RAIN programme is attractive to international organisations (including UNICEF, WaterAid and UN-Habitat) cooperating with governments at the national level, and this resulted in additional funding at the local level. Together with its implementing partners, RAIN has been invited to participate and present papers at international conferences, including the IRCSA conference in Malaysia, the World Water Forum in Istanbul and the Stockholm Water Week. The RHCC in Nepal was closely involved in the organisation of a high-level meeting of the South Asian Association for Regional Cooperation (SAARC) on RWH. This meeting resulted in the adoption of a resolution that was signed at ministerial level.

### Innovation

In 2009, the capacities of the RHCC and its implementing partners were further strengthened through collaboration with international research institutes (including the University of Warwick). These collaborations focused amongst others on the construction and lining of tanks, with the aim of reducing costs. Furthermore, Acacia Water and SASOL identified sites that were suitable for implementing sand dams, resulting in a sand-dam suitability map for Burkina Faso and Ethiopia, as well as on-the-job training in the construction of sand dams. Training on water quality and the monitoring of the water quality are ongoing activities within the programmes of RAIN. One new development in 2009 involved active awareness-raising regarding the opportunities of micro-financing and RWH for accelerating the expansion of RWH at the household level.

The outcomes of the external mid-term evaluation of the RAIN programme in West Africa (Burkina Faso, Senegal and Mali) provided input for national workshops in each programme country. Research on water quality in Senegal and Mali has shown that, in general, RWH systems provide clean water according to the WHO standards although it is advisable to treat the water. In addition, RHCCs have made partners more aware of the need for additional efforts to manage and maintain

the water systems and to motivate beneficiaries to take preventive measures, including the installation of filters.

The potential of RWH goes beyond meeting the need for drinking water. RAIN is engaging in activities to promote and implement multiple use (MUS) of rainwater and also in research on adaptation to climate change. More specifically, this research focuses on the potential contribution of water buffers to balanced ecosystems across the globe, which are under pressure, due to climate change and overpopulation. Under the umbrella of the HIER campaign, RAIN is collaborating with Plan Netherlands and Simavi in Nepal to monitor adaptation to climate change. The goal is to compile experiences that can provide insight into the multiple contributions that RWH can make to human well-being.

### 3R: Recharge, Retention, Re-use

RAIN is one of the three initiators of the 3R consortium, which seeks new ways to provide clean water to people in water-scarce or naturally polluted areas, as well as in areas that are being affected by climate change. The 3R approach integrates a diversity of proven techniques in groundwater storage and rainwater collection, enlarging the buffer capacity of the soil (see also [www.bebuffered.com](http://www.bebuffered.com)). It also aims to promote the multiple use and re-use of water to improve small-scale agricultural production and income generation. As a partner in the 3R consortium, RAIN cooperated with Acacia Water and Meta Meta to organise a seminar at the Stockholm World Water Week entitled 'Water Recharge, Retention & Re-use (3R)'. Attendance at this seminar was high, and it received many positive responses.

### More water with fewer staff

RAIN has a small unit in the Netherlands that is responsible for developing an enabling environment in the countries where it is active, as well as for monitoring and evaluating the impact of its programme. The unit also ensures and stimulates cross-national learning and within-country innovation. The RHCCs, which are established by RAIN at national level, laid the foundations for systematic learning and the coordination and implementation of RWH programmes, as well as for promotion and advocacy. The RHCCs play a pivotal role in the strategy of RAIN to secure local ownership and sustainability.

They also secure the continuation of RWH activities in each country independently.

At the beginning of 2009, there was a reduction in staff capacity, ultimately resulting in a search for new staff at the end of 2009. Although the loss in staff capacity was partly covered by external consultants, it was obviously necessary to adapt our plans. Strategic discussion and the diversification of fundraising are lagging behind, but we expect that the recruitment of new personnel will help us to catch up in these areas in the course of 2010.

RAIN receives funding from seven institutional donors. One of the factors in the successful growth or development of any organisation involves the search for partnerships and alliances that can create surplus value. The programmes of RAIN are attractive to other parties in the Dutch water sector. A new collaboration between the Velt & Vecht Water Board, UNESCO-IHE and RAIN will make knowledge generated in Ethiopia available to the RAIN overall implementation programme. UNICEF is becoming increasingly interested in the specific knowledge of RAIN in RWH implementation and training activities, and ties are becoming closer in Ethiopia, Senegal and Mali. RAIN is currently active in the Dutch WASH Alliance, and it is engaged in nine strategic partnerships.

The programme in Nepal is expected to reach a mature position in 2010, due to the considerable expansion of its implementation. In Burkina Faso, the pilot sand-dam programme will be expanded, and a more cost-effective implementation of MUS applications will become available. The RHCC's in Nepal and Ethiopia will generate material for knowledge sharing regarding adaptation to climate change. In Mali and Senegal, approval has already been received to construct more tanks in 2010 than were built in 2009.

In 2010 RAIN will again supply more and more people with water and bring an increased awareness of the potentials of rainwater harvesting. RAIN looks forward to meet this challenge.

Ard Schoemaker  
RAIN Programme Manager



## Nepal Upscaling

The RAIN programme in Nepal made tremendous progress in 2009 with the funds obtained from the government of the Netherlands for 2009 and 2010. This funding was used to expand the scale of the programme, conduct further research and intensify lobbying activities. The RHCC in Nepal, which is hosted by BSP-Nepal, grew from four to six staff members. More than 200 rainwater harvesting (RWH) systems have been constructed by BSP, the Nepal Red Cross Society, Nepal Water for Health (NEWAH) and Helvetas. These systems provide 1869 m<sup>3</sup> of water to people living in remote and mountainous areas of Nepal. In addition to drinking and other small domestic purposes, the water from the RWH systems will be used for cattle breeding and the production of biogas. Despite substantial growth, some of the programmes are slightly behind schedule, as it was necessary for the implementing staff to become accustomed to the site selection criteria of RAIN. BSP-Nepal has been a partner in a climate-change adaptation project in Nepal, together with the Nepalese partners of Plan Netherlands and Simavi. The RHCC will monitor and evaluate all activities for learning and knowledge sharing for the benefit of other climate change programmes. This project, which is part of the HIER campaign receives funding from the Dutch Postcode Lottery, is currently in its final phase.

The RHCC has been actively involved in the National Steering Committee on rainwater harvesting, which achieved two major successes in 2009: **1)** the development of a working policy on RWH in Nepal and **2)** the organisation of a Regional High Level Meeting on RWH for the SAARC (South Asian Association for Regional Cooperation). The Regional High Level Meeting included presentations by delegates from Pakistan, Indonesia,

Bhutan and Sri Lanka. In their presentation, BSP-Nepal and RAIN focussed on key factors in the sustainable implementation of RWH programmes. The Regional High Level Meeting ended with the development of a resolution in which nine recommendations were presented to the decision makers in the SAARC countries. This resolution was signed by Deputy Prime Minister Gacchadar of Nepal.

The developments that took place in 2009 have provided the foundation upon which BSP-Nepal is currently developing a national RWH programme for rural areas in Nepal, in cooperation with the Department of Local Infrastructure Development and Agricultural Roads (DoLIDAR). RAIN and its RHCC in Nepal are looking forward to 2010, which will involve further expansion of scale and the beginning of several long-term collaborations within the country that will enable a self-sustainable programme for the longer term.

## Ethiopia Towards multiple uses

In Ethiopia, a two-year programme was started with funding from the government of the Netherlands. It was officially launched by the Ethiopian Ministry of Water Resources at the opening of a training session. Several international organisations (including the University of Amsterdam and two renowned sand-dam consultancies SASOL Kenya and Acacia Water) facilitated sessions for the 12 participating local NGOs. The training on small-scale RWH solutions and ways to combat the negative impacts of climate change, received positive evaluations. A short video impression of this training can be found on the RAIN website, in the media gallery (<http://www.rainfoundation.org>).

Following the training and the verification of the site by renowned sand-dam expert Eric Nissen-Petersen, construction was started of eight sand dams and six below-ground tanks started in southern, eastern and northern Ethiopia to provide 4,000 people with water for drinking and other uses (including hygiene, sanitation, watering livestock and agricultural production). The local RWH Capacity Centre (ERHA) was responsible for the baseline study and for coordinating the implementation. ERHA also engaged in active lobbying with stakeholders and promoted RWH by attending national and international conferences (including IRCSEA in Malaysia). It also succeeded in attracting additional funding from UNICEF, WaterAid and Un-Habitat to provide training on sand dams and rainwater harvesting, as well as for implementation.

Together with their implementation partners in Ethiopia, RAIN and ERHA are well underway to making clean water more accessible, despite the unforeseen extreme weather conditions of 2009, which caused delays. Severe drought forced the communities to move instead of contributing to the projects. The immense rains that followed destroyed part of the newly built facilities. Nevertheless, immediate lessons were drawn and building and site selection was improved. These positive results have not gone unnoticed. After a careful evaluation of programmes in Ethiopia, the Water Board of Velt & Vecht in the Netherlands decided to engage in a long-term collaboration with the RAIN programme. UNESCO-IHE will also participate in the collaboration. This partnership will provide access to the experience of the Dutch water boards in the area of Integrated Water Resource Management. With the goal of upgrading the sand-dam programmes in Ethiopia, this project will also focus on multiple use of water in addition to capacity building and small scale integrated water resources management. Research on how to achieve further

improvements in the hygienic situation will lead to more adapted awareness campaigns for beneficiaries as well as to revised training for water management committees and the NGOs that will implement the project.

## Burkina Faso From cost reduction to sand-dam suitability maps

In 2009, nearly all of the targeted roof-water harvesting systems were realised. Six partner organisations constructed a total of 245 tanks with a capacity of 2,760 m<sup>3</sup> for 5,260 beneficiaries, representing a 10% increase over 2008. A similar number of proposals are envisaged for 2010. In April, the local capacity centre CECEP conducted a mid-term monitoring and evaluation survey for the 2009 project cycle. One of the conclusions was that both the progress and the quality of the project were good, despite a number of delays in the beginning. The results of this survey were presented and discussed with all implementing partners at a national workshop.

Phase I of the Research & Development programme was concluded in mid-2009. A total of four above-ground tanks (all constructed with ferro-cement) and three below-ground tanks (two lined with geo-membrane and one lined with cement) were constructed and tested. One major finding was that cost reductions are feasible, although they will require testing under field conditions. The research was conducted by our partner organisation CREPA supported by two international researchers from the University of Warwick. Based on the knowledge generated by this study, the decision was made to involve more organisations and to shift the



focus of R&D activities more towards action. For this reason, a contest was organised for early 2010 with the objective of developing a significantly less expensive system that collects and stores rainwater and/or surface run-off water at larger quantities for multiple uses.

In April, a sand-dam feasibility survey was conducted, resulting in a sand-dam suitability map and the identification of four possible sand rivers. Based on these results, CECEP organised a needs assessment and site-selection survey in November and December. The study concluded with a workshop presented by Acacia and Sasol. During the survey, a total of 22 sites were pre-selected, two of which were selected as pilot sites to be completed in early 2010. Meanwhile, CECEP issued a call for proposals for more sand dams. All partner organisations participated in the site identification and the sand-dam selection, and five partner organisations received on-the-job training during the actual construction of the first two sand dams.

## Senegal Expansion of RWH activities

This year proved to be an exciting year for RAIN in Senegal. In addition to the construction of 177 RWH tanks with a total capacity of 1,912 m<sup>3</sup> and providing approximately 3,455 people with access to water, a local RWH capacity centre was identified.

The systems are being implemented by four partner organisations in different intervention areas. As in previous years, the technical aspects of these efforts were evaluated by the RAIN capacity centre in Burkina Faso. In 2009, the search for a partner organisation to host the RWH capacity centre was concluded and

CREPA Senegal was selected. This organisation will coordinate all field activities, including monitoring and evaluation, the promotion of RWH as an inexpensive and appropriate technology, and raising funds for implementation and expansion. They will also play an important role in training beneficiaries and NGOs, as well as in raising awareness of key decision makers in the government and in the water sector.

Water-quality tests were performed at 20 different tanks in two different sites to ensure the safety of drinking water obtained from rainwater (provided the necessary precautions, including the installation of filters and the maintenance of roofs and gutters). In addition, an exchange visit took place with neighbouring colleagues from Guinea-Bissau to share experiences with design, construction, cost-reduction measures and the use of water from the RWH tanks. This visit was the first step in the realisation of a closer collaboration with the Dutch foundation known as 'De Gevulde Waterkruik'.

Finally, Caritas Kaolack, a long-time implementing partner of RAIN, was awarded funding for 2010 through Akvo, which organised a project involving three swimmers who will cross the North Sea Channel to raise funds for a programme in southern Senegal.

## Mali Stressing the water quality

In 2009, our five partner organisations realised 162 tanks with a total capacity of 1,746 m<sup>3</sup> for 3,010 beneficiaries. Even though we had fewer implementing partners than we had in 2008, the overall project execution is still on track, with 5% fewer facilities than were planned for 2009. A call for proposals was issued for the project implementation in 2010. This call resulted in the approval of the construction of 193 tanks in 2010.

As in previous years, CECEP Burkina Faso performed the mid-term evaluation and progress monitoring of the water-harvesting programme in Mali for 2009. In a national workshop with all implementing partners, it was concluded that the knowledge about proper management and healthy use are lagging behind the technical quality of the facilities. Information campaigns will receive priority in the second phase. One of the interesting outcomes reported in the mid-term evaluation is the increased enthusiasm of the trained masons, who are able to earn a proper income from constructing RWH tanks. In the beginning of the programme, the trainees who had been selected for technical capacity building had mixed, generally negative feelings regarding the project's commercial potential. The programme was therefore successful in the stimulation of small enterprise development.

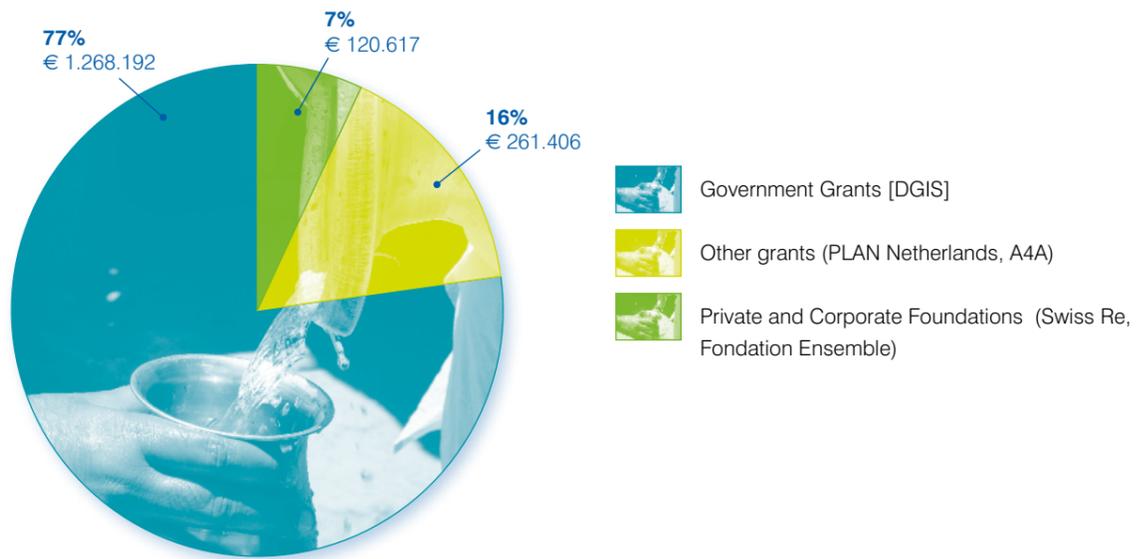
Water quality is an important issue in rainwater-harvesting techniques. In October, the water quality of tanks in the Koulikoro region was sampled and tested representatively. In most cases, the water quality was good, with only a few tanks requiring water treatment. A number of preventive measures to keep the water clean were apparently ignored. For this reason, a special

training was organised for the implementing partner organisations and the beneficiaries.

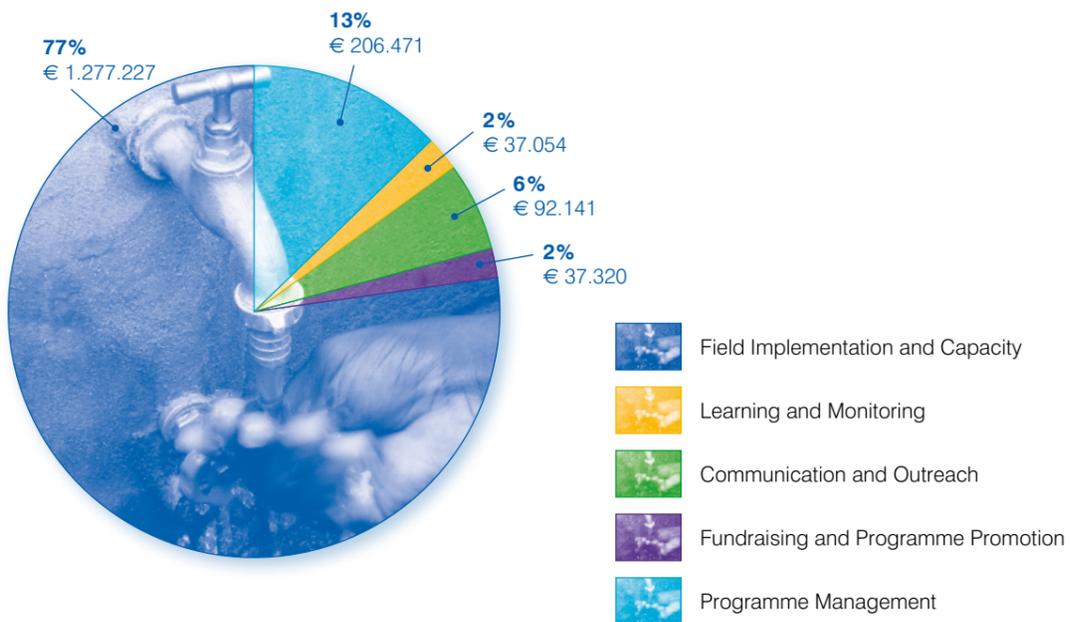
At the end of the year, a local organisation was identified to host the RWH Capacity Centre in Mali. Of the two candidates, Helvetas Mali was selected to assume this role. The contract, budget and work plan will be completed in early 2010.

# FINANCIAL

RAIN Income 2009 per type, totalling 1.650.215 Euro



RAIN Expenses 2009 in Euro, totalling 1.650.213 Euro



Over 2009 the financial statements were approved by Horlings, Amsterdam. The statements gave a true and fair view of the financial position of RAIN as at December 31, 2009 and of its results. They were in accordance with applicable accounting principles.

