Consult for Management,
Training and Technologies

Final Report

Evaluation of SDC's support to the International Rainwater Harvesting Alliance (IHRA)

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Table of Contents

0. Abbreviations

ARCSA	American Rainwater Catchment Systems Association
CHF	Swiss Francs
CWSA	Community Water and Sanitation Agency
ECA	Economic Commission of Africa
ECOSOC	Economic and Social Council of the United Nations
GES	Ghana Education Service
GHC	New Ghana Cedi
GHS	Ghana Health Service
IFAD	International Fund for Agriculture
IRCSA	International Rainwater Catchment Systems Association
IRHA	International Rainwater Harvesting Alliance
IWRM	Integrated Water Resources Management
KVIP	Kumasi Ventilated Improved Pit Latrine
MAPP	Method of Assessment of Projects and Programmes
MoU	Memorandum of Understanding
NGO	Nongovernmental Organisation
PACT	Parents-Authority-Children-Teachers
PTA	Parent Teacher Association
RUWADCP	Rural Women and Deprived Children's Programme
RWH	Rainwater Harvesting
SDC	Swiss Development Cooperation
SearNet	Southern and Eastern Africa Rainwater Network
TOR	Terms of Reference
UDDT	Urine Diversion Dehydration Toilet; also called EcoSan* Toilet
UN	United Nations
UNEP	United Nations Environmental Programme
WASH	Water, Sanitation & Hygiene

* *EcoSan is a general term used for toilet systems that separate urine and faeces and store them separately. The project uses one specific EcoSan toilet, called UDDT Toilet*

"Pupils" and "students" are used synonymously

Exchange rate: 1 GHC = 0.4573 CHF (beginning of July 2013)

1. Introduction

The International Rainwater Harvesting Alliance (IRHA) was founded 2002 in Geneva following recommendations formulated during the World Summit for Sustainable Development in Johannesburg (Rio+10). Its mandate combines the federation and strengthening of the disparate rainwater harvesting (RWH) movement around the world in the role of an umbrella organisation, and the promotion of rainwater as valuable water resource contributing to the achievement of the Millennium Development Goals (MDG). In its recently updated vision and mission document, IRHA advocates "A large use of rainwater in every field of life" within the framework of Integrated Water Resources Management (IWRM), and as a tool for climate change adaptation. IRHA is currently organised around four fields of work which they call pillars:

- Project implementation
- Knowledge exchange, awareness raising, and dissemination of good practice
- Empowering stakeholders of the rainwater harvesting movement
- Advocacy and policy dialogue

The Swiss Agency for Development and Cooperation (SDC) has intermittently financed IRHA since 2004, supporting the three pillars of awareness raising and knowledge exchange, the development of an international RWH network, and advocacy, aiming at raising the profile of RWH in the political and development agendas. After completing almost nine years of funding this international work and less than two years of support for the implementation of Blue Schools in Ghana, SDC has commissioned FAKT Consult for Management, Training and Technologies, based in Stuttgart, Germany, with conducting an evaluation of IRHA. Two FAKT consultants have joined for providing a broad perspective, both on technical aspects and project implementation as well as on the awareness raising and policy work: Hans Hartung with his 30 years of experience as development expert in the water sector, and Franziska Krisch whose expertise relates to the nexus between communication, advocacy, and impact oriented planning, monitoring, and evaluation.

In June 2013, Hans Hartung visited the Blue Schools IRHA is implementing with the NGO Rural Women and Deprived Children's Programme (RUWADCP) in Tamale, Ghana, while Franziska Krisch has spent three days at the IRHA secretariat in Geneva, talking to leadership and staff, board members, network partners, and other stakeholders. The evaluators thank IRHA and RUWADCP for their support and hospitality in the context of data collection, and all interview partners for providing their time and creativity. We hope that the learning documented in this evaluation report will contribute to strengthening the international RWH movement and its contribution to meeting the MDG.

2. Methodological approach

On the basis of the Terms of Reference submitted by SDC (see Annex 1), a first review of project documents and preparatory communication with the SDC liaison person at Swiss Resource Centre and Consultancies for Development (SKAT) and the IRHA executive director Vessela Monta, a methodological approach for the evaluation was developed and outlined in an inception report. Relating to the TOR, evaluation questions have been formulated for both Ghana and the international context (see Annex 3) and on the basis of a stakeholder landscape for each of the two scenarios, lists of interview partners (see Annex 4) were developed.

In Geneva and Ghana, the evaluators conducted the interviews in person whereas international stakeholders were interviewed by phone and Skype. Additionally, together with the staff at the IRHA Secretariat in Geneva, an impact framework/ theory of change was developed for depicting the strat-

egy, while in Ghana MAPP group exercises were conducted. In a next step, the evaluators compared the interview responses and other field information with the findings from the document study and the monitoring data provided by IRHA and RUWADCP before coming to an assessment relating to the criteria outlined in the TOR. The results of this analysis will be presented in chapters 3 and 4 of this report.

According to the TOR, SDC wants to use the evaluation findings for the following purposes:

- The results & lessons learnt and recommendations regarding the Blue Schools in Ghana will be communicated and disseminated to other SDC projects currently implementing Blue Schools (possibly through a refined "Blue School concept" with options and guiding principles);
- The results regarding the awareness raising, knowledge sharing, networking and political advocacy will be used by SDC to reflect on the on-going partnership with the IRHA.

In this regard, the evaluators would like to advise caution, since the results of this evaluation do not provide a full picture of IRHA's activities and achievements. With 51 Blue Schools being implemented worldwide, the project work of IRHA reaches far beyond the SDC funded schools in Tamale, Ghana. And for assessing the IRHA secretariat in Geneva, management and administration aspects also play an important role. Wherever possible and appropriate, the evaluators have included information and considerations about relevant issues beyond the TOR, however not in a comprehensive way due to the limited time.

3. Awareness raising, networking, and advocacy

The three pillars of awareness raising and knowledge exchange, the development of an international RWH network, and advocacy and policy dialogue represent the original mandate that led to the creation of IRHA in the aftermath of the World Summit for Sustainable Development in Johannesburg. According to the interview partners, project implementation was started later, in view of gathering own grassroots experience, increasing credibility among professionals of the water sector, as a starting point for local awareness raising and advocacy as well as to improve fundraising. As will be elaborated more in detail under point 3.1, these three pillars are closely interrelated and will therefore be assessed collectively in this chapter.

3.1 Relevance and approach

Two years after its creation, SDC decided to fund IRHA because they rendered RWH an important issue that in Switzerland only this organisation worked on. Taking the relevance of RWH for granted in this evaluation, the organisational contribution of IRHA cannot be assessed without looking at its positioning among the main stakeholders in the global RWH sector as visualised by the evaluators in figure 1.

On the international level, the International Rainwater Catchment Systems Association (IRCSA) came into being in 1989 as a network of RWH professionals from over 70 countries who are meeting biannually at an IRCSA conference. There is no permanent secretariat, with the website currently hosted by the University of Warwick and the next conference being organised in Nanjing, China this autumn. According to the interview partners, there is a strong regional focus on Southeast Asia, and IRCSA is mainly interested in technology.

Only one year after IRHA, in 2003, the RAIN Foundation was started in the Netherlands. Initially they focused on the implementation of small scale RWH structures for drinking water purpose, yet later broadened their scope to multiple uses of the WASH categories. Since 2010 they have begun chang-

ing their strategy and are increasingly getting involved in advocacy. On behalf of IFAD, they are currently implementing a project that is overlapping with IRHA's mission of awareness creation, knowledge exchange and connecting international RWH actors. Apart from these three main stakeholders, there are national RWH associations some of which are members of both IRHA and IRCSA, and regional alliances such as the relatively active Southern and Eastern Africa Rainwater Network (SearNet) confederating national RWH associations from 10 countries.

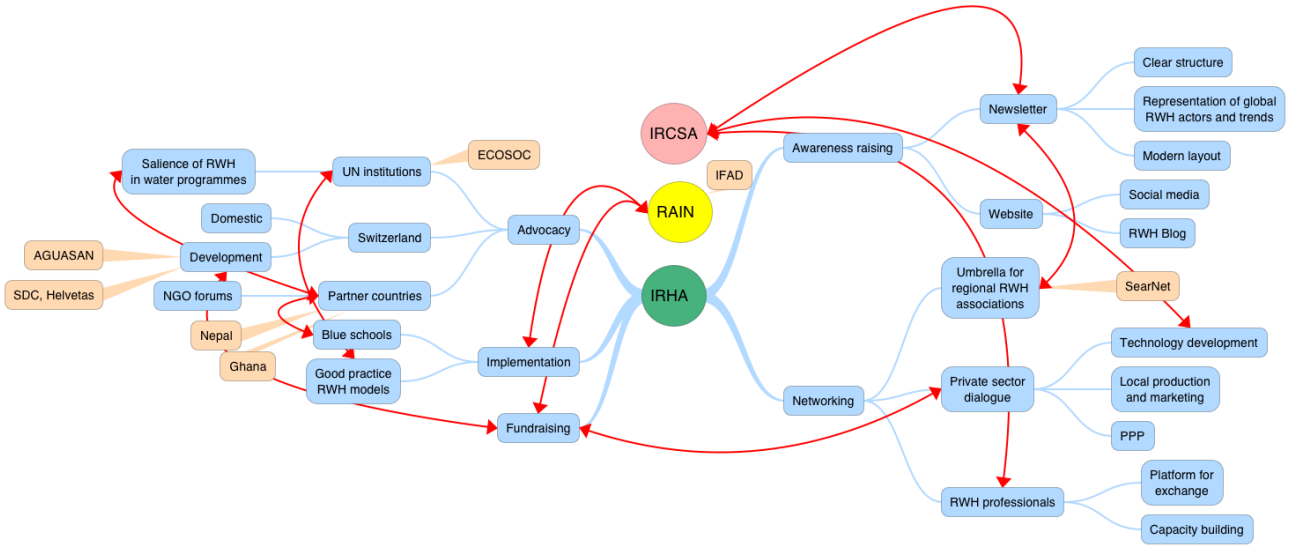

Figure 1: IRHA and its activities in the international RWH stakeholder landscape

Between 2004 and 2013, the cooperation between these main players has been rudimentary and with an angle on competition, at least from IRHA's perspective. In 2009, Vessela Monta was asked to manage the European secretariat of IRCSA. However, in the end the organisation's board decided otherwise. In the opinion of the evaluators, this could have presented a window of opportunity for starting a close cooperation between IRCSA and IRHA. With RAIN Foundation, IRHA has signed a Memorandum of Understanding (MoU) and developed an action plan that starts with small steps such as Vessela Monta contributing to a webinar on RWH that RAIN is conducting. In the context of its IFAD project, RAIN is interested in accessing IRHA's contact list (e.g. the newsletter subscribers) and sees potential for cooperation in the field of awareness creation and capacity building.

Unlike for the implementation of Blue Schools in Ghana where a log frame is available, IRHA's medium to long-term strategy for pillars 2-4 as briefly outlined in the annual business plans remains rather vague as to how the desired impact should be achieved from the planned activities. For a better understanding of the strategy, in a meeting with IRHA staff and volunteers, an impact framework was created that is visualised in figure 2. Mainly focusing on the current funding phase, core fields of action have been selected and analysed with respect to how the outputs of the projects are used by main stakeholders, and how IRHA expects to contribute to achieving the overall objectives of improved awareness and practice on RWH and the functioning of an international platform for RWH. It has to be noted that IRHA is pursuing these objectives at its base in Geneva and Switzerland, in specific developing countries such as Nepal and Ghana, and among international organisations.

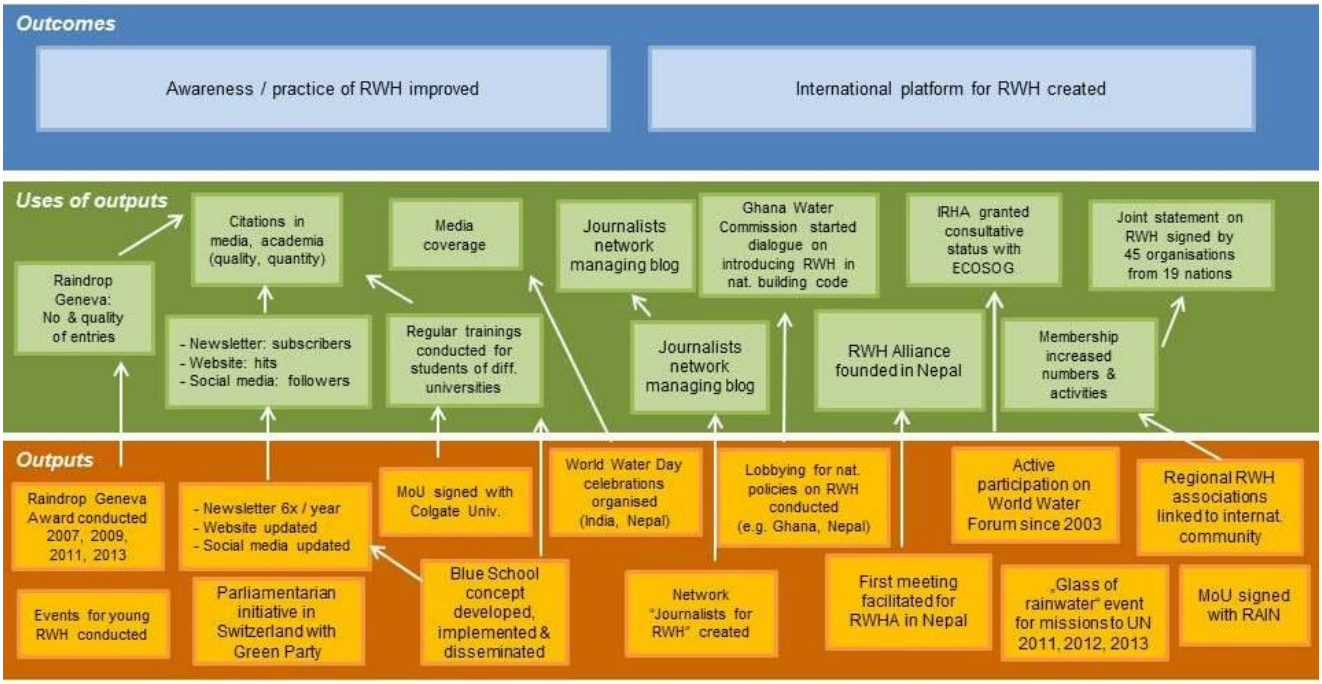

Figure 2: Impact framework of IRHA pillars 2-4

The diversity of working areas and the geographic scope stands for the comprehensive claim of IRHA as the umbrella organisation representing RWH at an international level. In relation to the small team of currently less than a handful mostly part-time staff members, the approach appears over ambitious. Both staff as well as board members have advised caution and suggested that the fields of work need to match the size of the team. At the national level such as in Nepal, however, interview partners stated that such a multifaceted approach is very appropriate for raising the salience of RWH in the public and institutional discourse.

3.2 Effectiveness

According to the TOR, assessing the effectiveness of IRHA will focus on the current funding phase that started in 2011, however in view of the long-term development. The business plans up to the year 2012 do provide a basic target/ actual comparison for the main fields of work, whereas the current business plan 2013 is more geared towards fundraising. In the following, key results from the pillars 2-4 will be analysed and assessed.

Promotion of the Blue School concept

According to Vessela Monta, the Blue School concept was developed during the early years of IRHA on the basis of project experiences in her country of origin, Bulgaria. There they had learned that just installing RWH structures in schools will not yield the expected results even if the project is technically successful. After another pilot project with Green Cross in Bolivia, a more integrated approach including building toilets and setting up vegetable gardens, accompanied by awareness raising and hygiene education among teachers, pupils and their families was developed and named “Blue Schools” in 2005/06. The Green Cross has since continued employing the concept under the label “Green Schools” without involving IRHA. On the occasion of World Water Day 2004, UNEP in Nairobi promoted Blue Schools and announced the creation of its own RWH unit, and also SDC is implementing Blue Schools independently of IRHA, however not necessarily promoting RWH but any locally appropriate technology for securing continuous supply of safe drinking water. From the perspective of the evaluators, this can be assessed as a big success, even though Vessela Monta regrets that not enough credit is given to IRHA as creator of the concept.

Awareness generation

This year, IRHA for the fourth time will invite artists and media practitioners from all over the world to submit entries to the biannual Raindrop Geneva Award, this time in the form of posters promoting RWH. The first invitation in 2007 also relating to posters yielded 27 entries. In 2009, videos were submitted covering RWH in a large geographic area. Some of the videos can still be accessed on IRHA's website and have been used in various events since. The 2011 competition covered photographs, and over 500 entries were received. The artwork on RWH which was created for the Raindrops Award is used by IRHA for the promotion of RWH and in its own communication. For a first exposure, they are also organising annual events for "Young Rainwater Harvesters".

Communication

From 2010 onwards, IRHA has professionalised its website technically even though the design looks still rather amateurish; the site is now edited using a content management system that facilitates regular updates. As can be seen in figure 3, visits have more than tripled to currently more than 700 per day. Also IRHA's Facebook page has been made more interactive and as a result is now connected to 89 pages of other organisations and has generated a total of 839 Likes. On Twitter, IRHA to date has 174 followers and 80 on LinkedIn. According to interview partners, the social media have especially contributed to interaction between IRHA secretariat and members, with additional potential for promoting interaction between members yet to be activated. The newsletter "bRAINstorming" has increased its subscriber base to currently 4,076, representing a slight decline after a peak of 4,190 in 2011. One factor behind the quantitative growth could be that the original English edition of the newsletter was since the end of 2009 complemented by a French version. With a new communications officer about to join IRHA in July 2013, German and Spanish language versions are envisaged.

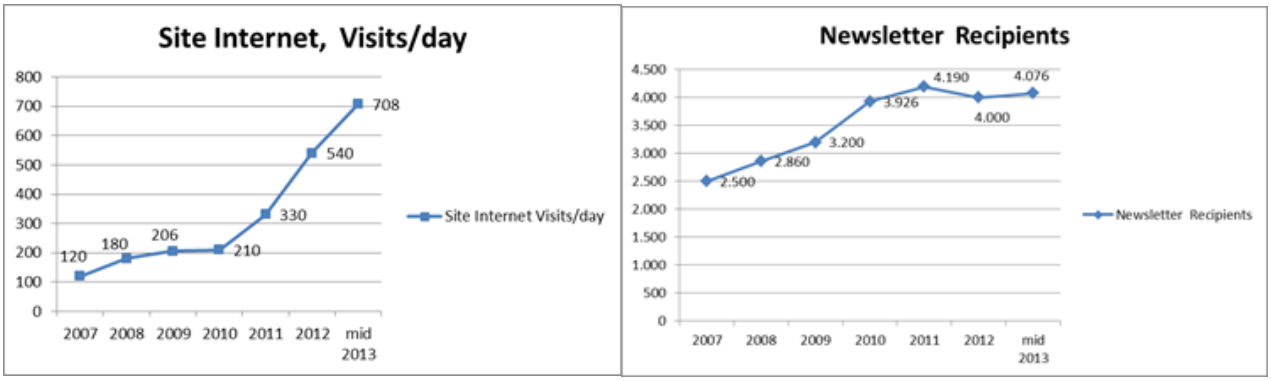

Figure 3: Utilisation of IRHA's communication products

At the qualitative level, the diversity of issues tackled both by the newsletter as well as on IRHA's web presence has increased and is now representing broader dimensions of RWH relating also to environmental issues and climate change. One issue per year is dedicated to organisational members, and another specifically to private sector members. Also the number of contributors has increased lately, with one newsletter lately composed by international journalists. In 2012, IRHA has approached journalists for creating "Journalists for Rainwater Harvesting", for sharing articles on RWH and managing a blog with currently 11 contributors. With a total of 11 entries in 2012 and 5 to date in 2013, the blog is not very active and also not easy to find on IRHA's website. Nevertheless, the most active blogger, an Indian journalist who is actively promoting RWH in South India stated in the interview that for her the blog represents "a fantastic platform under the banner of international RWH".

Apart from these own publications, media relations do not figure high on the agenda of IRHA, and media coverage of events such as World Water Day has been better in developing countries than in Europe. According to their website, altogether only 45 articles have been published about IRHA since

2003. In Switzerland, the language problem has hindered relations with French and German media since the previous communications officer was English speaking. Obviously, given the small team and the large geographic scope, media relations are difficult and would need a much more active contribution from IRHA's membership. To increase the salience of RWH in the development and water sectors, IRHA could also attempt to contribute more articles to professional journals.

Capacity building

IRHA has conducted training workshops in India (2004 and 2010, together with its member, the watershed development NGO WOTR), Kenya (2006), and contributed presentations on RWH to postgraduate courses on sustainable water resources at the universities of Bern (2011) and Zürich (2012). Furthermore, they arranged that participants from South Africa could participate in training courses of the American Rainwater Catchment Systems Association (ARCSA). With Colgate University, IRHA has signed a MoU that foresees regular RWH trainings for Colgate students. Looking at 5 workshops in 10 years, conducting trainings is not a main field of work of IRHA which they also acknowledged in the target/ actual comparisons of their business plans. From a perspective of cooperation between the main stakeholders in RWH, more technically oriented organisations such as IRCSA or ARCSA would be better equipped to provide such a service, with IRHA taking on a facilitating role.

Membership Development

As can be seen in figure 4, the membership of IRHA has continuously increased over the last 9 years to currently 134 members, representing different stakeholders such as development and environmental NGOs, research institutes, private sector, and individual RWH professionals. During the last years, IRHA has specifically targeted the business community and attracted members from companies in the field of RWH. They have also been quite successful in winning eminent personalities as members, such as the former UN rapporteur for the Right to Food, Jean Ziegler, and other influential personalities some of whom even actively serve in IRHA's board of directors and advisory board. Apart from liaising with such champions, however, IRHA has done little to activate its predominantly dormant members or provide them with opportunities to meet, e.g. by organising side events during international conferences, also due to lack of funds. Only in specific countries such as Nepal where IRHA is also implementing Blue Schools, IRHA has facilitated the creation of a national RWH alliance of different NGOs. "IRHA has members, yet is does not function like a membership organisation", one interview partner stated.

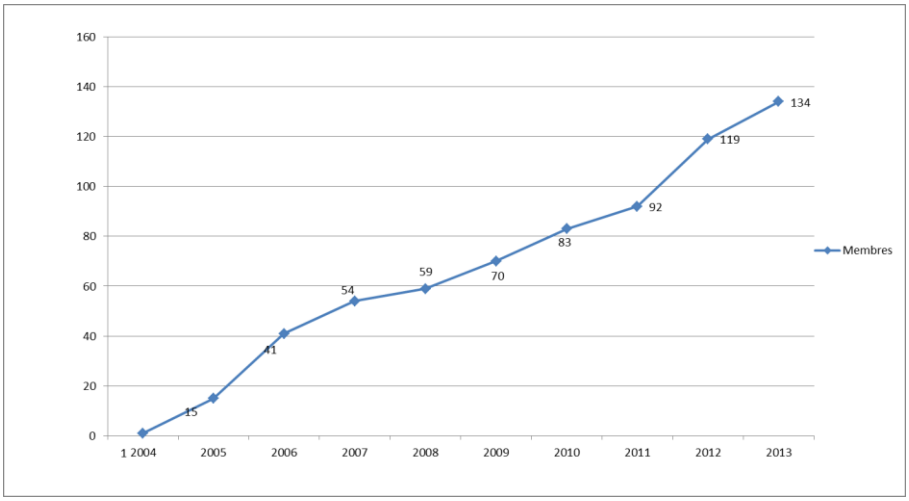

Figure 4: Development of IRHA membership

Political advocacy

As can be seen from the impact framework in figure 2, IRHA is advocating for increased utilisation of rainwater at the three levels of international organisations, national governments in developing countries, and at the location of its secretariat, in Geneva and Switzerland. At the international level, Vessela Monta is attending all relevant conferences and meetings of UN institutions in Geneva and actively highlights the potential of RWH wherever appropriate. This has granted IRHA observatory status at the Economic and Social Council (ECOSOC) which is an important prerequisite for political lobbying among different UN institutions. According to an interview partner from the UN system, however, it is very time consuming to attend all the meetings that are required for achieving results. Further evidence for the recognition of IRHA within the UN system can be found in invitations to Vessela Monta as speaker in UN organised events such as the Caux Dialogue on Land and Security in July 2013. While in earlier years Vessela Monta also regularly attended water related international conferences such as the Stockholm Water Week in 2007, lately such international trips had to be cut down due to financial problems of IRHA. A major result of her efforts at uniting the international RWH community, the Joint Rainwater Harvesting Statement signed by 45 organisations and institutions from civil society, private sector and academia, is thus still waiting to be followed up.

For promoting RWH among national governments of developing countries, IRHA has since 2011 annually invited missions to the UN for an event called “A Glass of Rainwater” which has generated considerable interest especially among African missions such as from Senegal. As already mentioned, in Nepal, IRHA is actively involved in policy dialogue which resulted in a commission being set up in March 2013 that will formulate Guidelines on RWH. What did not work out last year was a workshop in cooperation with Ghana Water Commission that aimed at facilitating the introduction of RWH into building standards and which had to be cancelled three weeks before its planned date in November 2012 since the Economic Commission of Africa (ECA) did not provide the funding they had promised. The workshop has now been postponed to the end of 2013, yet still needs to be financed.

In Switzerland, IRHA has started a dialogue with the Geneva Water Board and with the Green Party, in an attempt of convincing national and cantonal authorities to recognise water as a scarce resource and to introduce legislation that requests rainwater being fed back as a natural resource. According to an interview partner from the Geneva Water Board, even though IRHA is a very small organisation compared to Swiss water institutions, they are taking up an important role of lobbying which members from within the administration cannot do. IRHA's active lobbying in cooperation with Green Party parliamentarian Adèle Thorens has not yet yielded any results, but is moving in the right direction from the perspective of interview partners. Currently they are reshaping their strategy and approaching smaller cantons that are more receptive to RWH for forming a pressure group. One interview partner suggested to also approach more mainstream politicians since the Green Party is still rather marginal in Switzerland. In acknowledgment for its active role in the promotion of RWG, IRHA in 2010 was nominated for the Swiss Ethic Award.

3.3 Efficiency

Taking into account that according to the target/ actual comparisons documented in the business plan, the majority of activities have been implemented according to plan and looking at the results achieved under pillars 2-4 as described under point 3.2, it is hard to believe that the IRHA secretariat at its best times comprised 4 full time staff, the executive director, two programme managers and one communication officer supported by part-time staff and volunteers. Apart from the executive director Vessela Monta, they have all been very young and inexperienced at the time when they started working for IRHA. One reason why the organisation has not hired or developed senior level managers may be the low salary levels between 2,500 and 3,000 CHF per month and thus way below the stipu-

lated minimum wages for Swiss professionals in the development sector which are around 5,000 CHF. This also partly explains why IRHA – apart from its director who is a civil engineer and self-taught in RWH – has never employed an engineer with a technical background in the water sector and experience in RWH; many of its programme managers had a degree in development studies and have acquired technical knowledge about RWH only at the job. At public events and in policy advocacy, IRHA is exclusively represented by Vessela Monta to an extent that some interview partners said that they see the organisation as a "One Woman Show".

The whole IRHA team including the executive director is working out of a one room office in Geneva's Environmental House where many UN organisations are also based. For interview partners from the UN system that renders them an "example of what a NGO should be, small and simple, yet committed to their goals", they are praising the "dedicated people who are doing a fantastic job given the limited funds". Former as well as current employees on the other hand stated that the magnitude of the tasks should be reflected in the number and qualifications of staff. From the perspective of the evaluator, even though the executive director is very good at motivating young volunteers and part-timers, the current set-up condemns them to fighting with their backs to the wall – a situation that may at first sight appear cost efficient yet is ultimately jeopardising effectiveness. The problem has already been recognised by the executive director and by board members who terminated the contract with a previous programme manager and are now employing a water engineer who has previously taught at Lausanne Polytechnique and who is expected to boost the technical knowledge base. Additionally, they would need a senior person who is well connected in the water sector and experienced in advocacy, and who could share part of the executive director's burden in view of growing into a leadership role. For all experienced staff, living wages have to be paid, and expenses for attending conferences and project sites budgeted for.

3.4 Sustainability

Overall, assessing sustainability leads us back to the question of relevance. With three international players in the still relatively small RWH sector, a continuation of the current competition could easily lead to the disappearance of one of the organisations. Only a cooperative approach in which they complement each other by focusing on their respective strengths, jointly advocate for the salience of RWH on the international development agenda and raise funds for the implementation of RWH projects could make them all sustainable. In the case of IRHA, there is an additional risk because they are currently in a critical phase of staff change and impeding leadership transition that can be compared to family enterprises in which the charismatic yet paternalistic (or in IRHA's case matriarchal) owner reaches retirement age.

Between 2004 and 2013, SDC has intermittently funded IRHA's activities in pillars 2-4 with a total sum of 800,000 CHF. There were two major funding gaps, between 01.09.2007 and 31.12.2008, and between 01.01.2011 to 01.07.2011. In 2011, the first instalment of the funding granted for pillars 2-4 was only received in October, together with the support for implementing the Blue Schools in Ghana.

IRHA's claim that they have reduced their dependence on SDC funding to 30% (see figure 5) has not convinced the evaluators for mainly two reasons. Firstly, the pie chart representing the funding situation in 2011 shows that they are including postponements of unspent resources from the previous year amounting to 16.57% that most probably contain also SDC funding. They are also valorising overtime and volunteer work as in kind contribution of 11.14%. Secondly, since the SDC funding stopped at the end of March 2013, they are facing difficulties in meeting the running costs of the secretariat and are basically living off (borrowing from?) funding for project implementation. Altogether this cannot be assessed as sustainable funding strategy, and securing a more diverse and sufficient funding base remains one of the biggest challenges for the organisational continuity of IRHA.

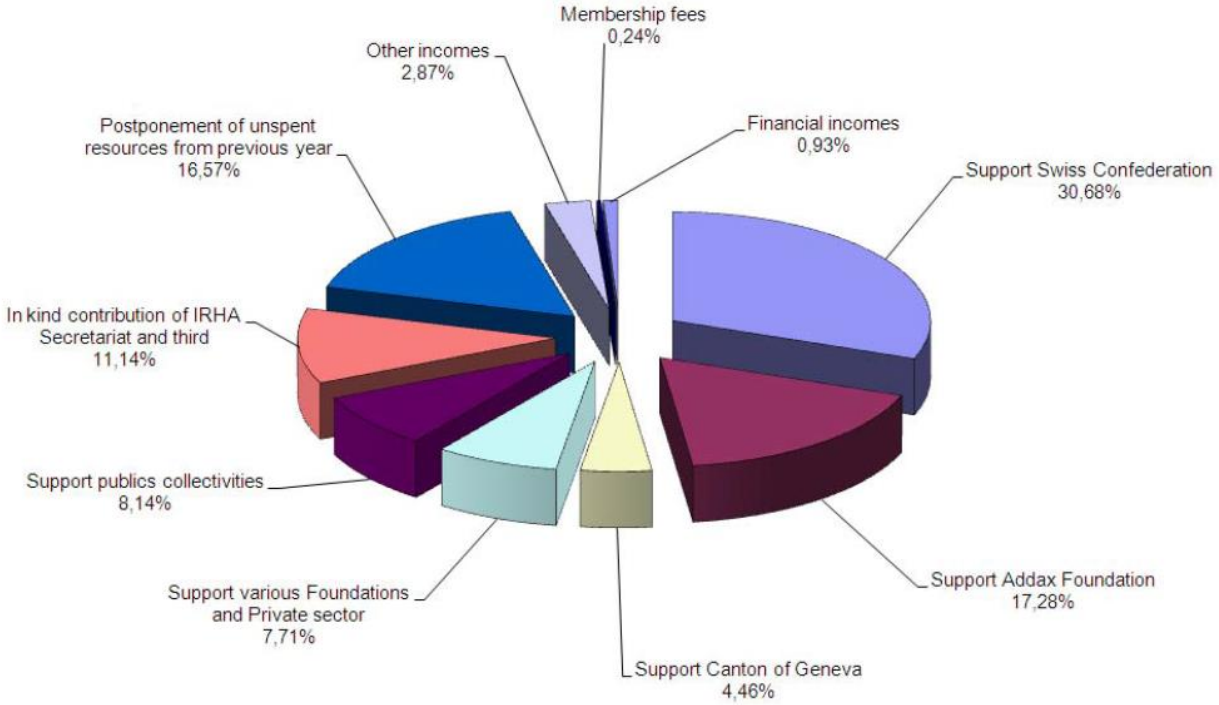

Figure 5: IRHA sources of income 2011

4. The Blue School Programme in Ghana

IRHA has been implementing water supply projects based on rainwater harvesting in schools from the early days of its existence onwards. The concept was developed further and called „Blue Schools“. The present evaluation of the Blue Schools Programme of IRHA is limited to SDC funding (Kreditantrag No. 7 F-03541.04, IRHA Phase 4) of 774.000 CHF. The outcome (objective) is defined as „to improve the livelihood conditions of the schoolgirls and –boys, including their teachers and partially the concerned communities, of 12 schools in Tamale in northern Ghana“.

4.1 Relevance

Relation with national policies and strategies

The National Water Policy of Ghana (June 2007) mentions “schools” only once in its introduction. It states that water services “enhance the enrolment and retention of girls in schools (…).”[1] The Ghana Education Strategic Plan (2003 – 2015) does not mention water and sanitation. Therefore, it is important to look at local level examining how the regional, district and Tamale Metropolitan administration interpret national water and education policies and strategies and implement water & sanitation in schools. The following departments were contacted and interviewed:

Department	Person interviewed	Function	Relation to the „Blue schools project“
Ghana Health Service (GHS)	Dr. Akwasi Twumwasi	Regional Director, Tamale	Had heard of it while arranging interview
Ghana Water Company, Tamale	Edward K. Agyekum	Water Engineer, Tamale	Had not heard of it
Ghana Education Service (GES)	Ayanah Mohammed Abdulai	Head of Planning, Monitoring, Statistics, Evaluation Unit – Tolon District	Had not heard of it
Commumity Water & Sanitation Agency (CWSA)	Ofori Maccarthy	Regional Director, Tamale	Had not heard of it
Tamale Metropolitan Assembly	Akwettey Sampson	Head, Waste Mgmt. Dept.	Had heard of it while arranging interview
Tamale Metroplitan Assembly	Mr. Iddi	Head, Environmental Health Unit	Had not heard of it

Schools and water supply

The Ghana Water Company, which is responsible for water services in Tamale and the Community Water and Sanitation Agency (CWSA) responsible for water supply in rural areas see rainwater harvesting as a temporary solution. They recommend the connection of schools to the town water supply in Tamale and the drilling of boreholes and fitting hand pumps in rural areas. A former president of Ghana demanded, that every school in Ghana should have a rainwater tank attached to it (information Mr. Ayanah, Ghana Education Service), but this is not taken into consideration anymore.

Schools and sanitation

The departments concerned and interviewed (Ghana Health Service, Waste Management Department, Environmental Health Unit, Community Water and Sanitation Agency) recommend the Kumasi

[1] The Ghana water commission has developed a Rainwater Harvesting Strategy. However, according to a conversation with Mr. Ben Ampomah, Director of the Water Resources Commission in Ghana, it has not yet reached the local level in Tamale.

Ventilated Improved Pit Latrine. They have heard of the Ecosan toilet and that there were two demonstration units. However, they do not have any additional knowledge.

"Blue schools" and local administration

According to Pastor Tanko, RUWADCP, the local administration is slow and complicated; many competences are not clear and overlapping. As the Blue Schools were located in 2 districts and Tamale Metropolitan, a great number of departments were involved. The short time given for the implementation has not allowed involving them, as it would have compromised greatly the implementation schedule. Many of the departments visited were astonished to hear about the project and demanded to be involved from the beginning. The Waste Management Department of the Metropolitan Assembly was sceptical towards EcoSan toilets, wanted to monitor their operation and were keen to be involved in the training of the respective PACT committees, especially on the use of urine/faecal matter. According to him, there is a high demand especially for faecal matter to be used as fertiliser.

Partner organisation

RUWADCP, Rural Women and Deprived Children's Programme, "was proposed by the local contacts of the donors (for a Blue School in Kumasi)… and selected after reception of its documents" (according to correspondence with Vessela Monta). As the collaboration was satisfactory in Kumasi, the organisation was chosen for the new project in and around Tamale. No further inquiries of other organisations experienced in rainwater harvesting in Tamale were conducted.

Other donors' or government interventions

A quick look in the internet reveals many organisations constructing rainwater tanks (and sanitation facilities) in schools in Ghana:

- CHF International (US)
- USAID Ghana WASH Project
- Green Cross
- Living Well International
- Create Change (Canada)
- Resource Link Foundation

and specifically in and around Tamale:

- WaterAid America
- New Energy
- Presby Church

The development department of the Presby Church in Tamale had introduced rainwater harvesting on a large scale in 2006 and, in the following years, built more than 200 rainwater tanks in individual homes but also in schools out of which 3 schools with tanks built by Presby Church were visited in the context of this evaluation. A big number of masons were trained by a technician from Kenya and RUWADCP was able to make use of these trained masons when constructing the rainwater tanks. According to the water engineer of Presby church in Tamale, rainwater tanks are still built by them and the existing school tanks are periodically supervised.

There are several programmes that the Blue School Programme could cooperate with, for example:

- UNICEF and New Energy (NGO in Tamale) together with the Ghana Water Company in Tamale connect schools in the Metropolitan area to the main water network
- Football for Water Programme of the Ghana Educational Service with New Energy and Simli (NGO working in the Northern Region) to raise awareness on water and sanitation issues
- Health Clubs at schools (Programme of the Ghana Health Service)
- School feeding programmes in rural areas.

Conclusion

Rainwater Harvesting is a source for water in schools, built mainly with foreign money but not really appreciated by most government agencies in Tamale. Even during MAPP exercises at two schools,

the rainwater harvesting system was not rated by parents, teachers and students as high as e.g. latrines (see Annex 8). The big chance to advocate for rainwater harvesting has been missed so far, as the Blue Schools' project has strictly been working in isolation from related activities. Apart from making use of well-trained masons, experiences from other implementers in the area were not taken on board. The same holds true for sanitation. Government agencies do not know of the project and know the EcoSan concept only theoretically. They are now informed and are interested to follow up.

The project is a big task for the implementers. Tight time limits did not allow for coordinating closely with the concerned government agencies according to RUWADCP. As mentioned above, cooperation with existing programmes in order to complement the water and sanitation aspects would have been the way forward to integrate the Blue Schools in existing programmes. The evaluator reckons that there is still time to start this immediately.

4.2 Effectiveness

The overview of the planned interventions according to SDC Kreditantrag No.7F-03541.04 of 14.06.2011 and the realised ones at the time of the visit (beginning June 2013) are summarised in Annex 5. Six school complexes (consisting of primary and junior high schools, partly with nurseries and kindergarten) have been selected; four of them in Tamale Metropolitan Assembly and two in rural districts (see as well Annex 5, lower table). According to the figures given, more than 6.000 pupils and teachers are in the nursery, kindergarten, primary and junior high of these schools.

Rainwater Harvesting

The table in Annex 6 gives information on the number of tanks and their volume for the different schools. All tanks are built and connected to the roof catchment surface. At the time of visit, the tanks contained some water, as it had rained in the previous days. The tanks convey a good impression and are built professionally. However, water tightness could not be assessed, as the tanks were not full yet. When visits took place during classes at the schools, it could be seen that tanks were used, albeit not yet in an optimal way (e.g. children went with their cup to the tap at the bottom of the tank). The planned water disinfection and storage in front of the classrooms had not yet been installed.

Verification of the volume of the constructed tanks

Six tanks have been measured at random to verify their volume. Annex 6 (part a) demonstrates the method of the measurement and the results. It was noticed, that the volume of the tanks was between 4% and 20% smaller than their reported volume. The dry season in general has not been adequately taken into account by calculating the required tank volume!

Determination of necessary tank volume for 2.5 l/ person/ day

Although the average annual rainfall in Tamale is more than 1000 mm, there is a dry season of 6 months that needs to be supported by the rainwater harvesting system. It is shown in Annex 6 (part c), that necessary tank volumes to provide staff and pupils the requested 2,5 l/person/day throughout the dry season would need between 20% to 36% bigger tank (nominal) volumes than the ones that have been constructed to date.

Determination of catchment surface

The catchment surface, which fills the rainwater tanks, is at one school checked too small and should be extended so that at least during the rainy season the requested 2,5 l/person/day can be supplied. The calculations are given in Annex 6 (part d).

Improvements of the rainwater harvesting system

Small changes of the rainwater harvesting system, especially regarding guttering, can improve the overall efficiency of the rainwater harvesting system and make maintenance easier. Annex 6 (part e) gives suggestions.

Distribution of the rainwater with disinfection and containers in front of the classrooms
Distributing water in front of the classroom as opposed to every child fetching water individually with a cup at the tank tap is certainly a good idea. However, the disinfection with the Antenna technology, which from the perspective of the evaluator offers great advantages in other contexts, seems too complicated for schools in Tamale. This is especially true for schools with no electricity other than batteries and solar equipment, which may represent an additional (financial) burden to the school. Simple chlorine disinfection achieved by hanging a piece of chlorine into the tank, will work effectively and uses less resources.

Toilets
At the time of the visit in Ghana, toilets were at various stages of completion, from one block at Lamasheigu which was just excavated to the toilets at Nyerzee, where only the guttering on the toilet block roofs was missing for the hand washing facility. The need for toilets could be seen e.g. at Jisonayili and Lamasheigu schools, where pupils could be watched defecating in the school compound. Annex 7 gives an overview of the number of toilets/toilet blocks constructed at the different schools for boys/girls and teachers. The state of the construction is as well indicated.

The toilets are well constructed and make a good impression. Teachers and parents were concerned that the wooden doors might be broken as people in the neighbourhood do not have toilets and might want to use them during the night. They therefore asked for metal doors.

All toilets built are EcoSan toilets. Introducing them into schools without any prior test phase is a bold move. Administration departments visited in Tamale do not know EcoSan toilets; they are partly sceptical and partly curious to see how it will work as a system.

Volleyball
Poles for Volleyball fields have been installed as indicated in Annex 6.

Gardens/Plantations
According to RUWADCP, gardens will be planted in the school yards when enough rains have fallen. This should be the case in June. Mango tree plantations have been started according to RUWADCP in all schools except Lamasheigu and Jisonayili. However, except for a few that survived in Nyankpala, all trees were destroyed because the protection against animals had been made from organic material and was not strong enough. Only steel wire fences can give permanent protection against grazing animals. More than 6000 mango seedlings have been raised to replace the destroyed ones. They are ready to be planted after the rainy season has started with enough rains.

PACT Committees
PACT committees have been formed at PTA meetings (Parent Teacher Association) of the schools. They exist for water, toilets and school gardens. The list of committee members for Lamasheigu school is with the author. Training of the committees has been postponed until the water supply and toilets function as normal, meaning water supply with disinfected water in front of the classrooms, toilets can be used, and gardens are functional. The MAPP exercises (see Annex 8) have seen engaged parents, teachers and students (in Malsheigu school) discussing and assessing the project components. One example is the intensive discussion about the water tank at Malsheigu School, which is now used to store mains water and therefore cannot harvest rain water any more.

Conclusions
The Blue Schools project in Tamale is concentrated on physical outputs. The log frame was not usable for RUWADCP as it is in French and has not been translated. The rainwater tanks are well constructed, but spot checks revealed that they have a smaller volume than reported. Their reported volume is still not big enough to supply 2.5 l per staff and pupil during the dry season in Tamale. Improvements in the existing rainwater system, especially the guttering, are necessary.

It is not appropriate to build rainwater harvesting systems in schools which already have mains water supply. The MAPP exercise in these two schools rated the water provision by the rainwater tanks lower than e.g. latrines (because they have a mains water connection?). Also, there are many other schools in the rural areas around Tamale, which desperately need water (GES planning officer, GHS regional director, discussions with Presby development department).

The EcoSan toilets are built well; they are at various stages, but none of them is completely finished yet. It is a new technology for Northern Ghana and has to be accompanied very intensively during the first years of operation regarding their acceptance, the handling of urine and faeces and their further use. RUWADCP will have to accompany them closely.

RUWADCP will have to work with the PACT committees, not only for toilets but as well for the rainwater tanks and the gardens/plantations. So far, not much has been done because the systems are not operational fully. At the same time, however, their sustainability will depend greatly on well-functioning PACT committees.

In a society where animals play an important role, plantations in open school compounds have to be protected very well from the beginning.

4.3 Efficiency

As the rainwater tanks are the dominant factors in a water supply system based on rainwater harvesting, a comparison with other tanks constructed in Tamale is appropriate.

Cost of rainwater tanks

Example	Cost in GHC	Cost in CHF
50 m3 by RUWADCP	12.935	5.915
10 m3 by Presby Church	2.000	914

The cost of the tank of 50 m3 without gutters is taken from the bill of quantities supplied by RUWADCP (file: TANK Cost 50m3.xls); the cost of the Presby church tank (programme funding by the Protestant church of Baden, Germany) according to discussions with their rainwater harvesting programme officials; all prices as of 2013. Both tanks are constructed with ferro-cement. There is a normal digression of costs when tanks are bigger. In this case, the RUWADCP tank is nearly 30% more expensive.

Comparison of the water supply by rainwater harvesting with other systems

**** Example Jijsonayili***

Five tanks of 50 m3 with a total capacity of 250 m3 have been constructed at the school!
Based on the cost of the 50 m3 tank (see above), the tank costs are approximately 64.675 GHC.
Adding 3 % for gutters and the disinfection/storage containers results in **66.615 GHC** in total**.**

The question is now: What would the mains water cost for the school, when supplying the same amount of 2.5 l/ person/ day to pupils and staff?
Assumption: 200 school days/ year and 1.6888 GHC/m3 (value from the water bill of Jisonayili)
1437 persons x 200 school days/year x 2.5 l/day/person x 1.6888 GHC/m3 = **1.213 GHC;**
i.e. the school would have to pay 1.213 GHC yearly for the water for their pupils and staff. With the money invested in the rainwater harvesting system, → the school could pay their water bill for 55 years.

**** Example Lamashiegu***

Several tanks of different sizes with a total capacity of 320 m3 have been constructed at the school.
Based on the cost of the 50 m3 tank (see above), the tank costs are approximately 82.784 GHC.
Adding 3 % for gutters and the disinfection/storage containers results in **85.268 GHC** in total**.**

The question is now: What would the mains water cost for the school, when supplying the same amount of 2.5 l/ person/ day to pupils and staff and investing in a mains line of 1 km to the school

Assumption: 200 school days/year and 1, 6888 GHC/m3 (value from the water bill of Jisonayili)
2018 persons x 200 school days/year x 2.5 l/day/person x 1,6888GHC/1000 l[2] = **1.704 GHC;**
i.e. the school would have to yearly pay 1.704 GHC for the water for their pupils and staff. They would have to invest in a 1 km pipeline to their school, which would cost (acc. to Ghana Water Company, Tamale, Eng. Agyekum) 4.200 GHC.
With the money invested in the rainwater harvesting system,
→ the school could pay for their connection and additionally 47 years of water from the mains to supply teachers and pupils.

**** Example Nyankpala***

Five tanks of 50 m3, a total capacity of 250 m3 have been constructed at the school.
Based on the cost of the 50 m3 tank (see above), the tank costs are approximately 64.675 GHC.
Adding 3 % for gutters and the disinfection/storage containers results in **66.615 GHC** in total**.**

According to CWSA regional director Mr. Maccarthy, a borehole plus hand pump fitted is calculated at 15.000 GHC.
The school has 888 teachers and pupils. Two hand pumps would be sufficient to supply them with 2.5 l/ person/ day, i.e. a cost of 30.000 GHC would have been sufficient.

Latrines

KVIP (Kumasi Ventilated Improved Pit Latrine) is the recommended latrine for schools by CWSA in Tamale. It has a large double pit and is designed for 50 students per cabin and containing the faecal matter for 5 to 7 years (the storage spaces for faecal matter and urine are therefore quite large). Though KVIPs are currently a preferred technology, they are not being used properly and their image is slowly becoming tarnished[3].

The EcoSan toilet (UDDT) as used in the „Blue Schools" has as well a double pit and is desgined for 30 students per cabin and containing the faecal matter only for 0,5 years (The storage space for the faeces is therefore much smaller).

A price comparison:
KVIP with 8 cabins (double pit): 13.300 GHC (based on information from the Presby water and sanitation programme; prices of 2013)
EcoSan UDDT with 8 cabins (double pit): 20.051 GHC (acc. to bill of quantities by RUWADCP)

Investment cost for one school:

**** Example Nyankpala:***

5 rainwater tanks at 50 m3 x 12.935 GHC = 64.675 GHC plus 10% for guttering/water distribution sums up to 71.142 GHC
22 toilets x 2.506 GHC/toilet sums up to 55.132GHC
Both investments are **126.274 GHC** (this amount does not contain urinals, the garden & plantation as well as the software parts).
The school has 888 pupils & teachers, i.e. a hardware investment of min. **142 GHC (= 65 CHF), which is below the 130 CHF stipulated in the "Kreditantrag",** page 3, i.e. the investments in water and sanitation are only 50% of the threshold given by SDC.

Use of existing resources/knowledge

RUWADCP has made use of experienced masons who have been trained in tank construction with other projects (Presby church). Intensive discussions and exchange of experience with rainwater harvesting programmes in the Tamale area or related WASH programmes have not been carried out. The programme has also not been coordinated in line with the different government organisations

[2] It should be noted, that schools pay double the price (commercial rate) for each m3 of mains water compared to households.
[3] Investigation of I-WASH's Community-led Total Sanitation and Alternative Decentralized Sanitation Models in Rural Ghana, Adam Questad, MIT, 2012

responsible. The evaluator recommends that the Blue School Programme seek opportunities for co-operation with the following programmes as soon as possible in order to combine the hardware part with awareness raising in the schools (see as well chapter 4.1):

- UNICEF and New Energy (NGO in Tamale) together with the Ghana Water Company in Tamale connect schools in the Metropolitan area to the mains water network and have a big software component
- i-WASH (Integrated Water, Sanitation and Health) programme, coordinated by UNICEF, financed by EU, implemented through "Environmental Health Unit" of Local Government; they implement and monitor school health programmes
- Football for Water Programme of the Ghana Educational Service with New Energy and Simli (NGO working in the Northern Region) to raise awareness on water and sanitation issues
- Health Clubs at schools (Programme of the Ghana Health Service)

Conclusion
Rainwater Harvesting is not a technology that fits everywhere. There are definitely schools, where rainwater harvesting is the most appropriate and economical solutions. For example, this is the case for Northern Ghana which has many areas where no boreholes can be drilled. In cities like Tamale, however, a connection to the mains water pipeline could be a better option as shown in the preceding calculation. In rural areas, boreholes with hand pumps, if they are connected to a maintenance and repair service, are as well an option, which has to be considered when planning the school water supply.

Latrines are a delicate issue and introducing a new technology in an area should be preceded by demonstration and test phases.

Both technologies (i.e. rainwater harvesting and EcoSan latrines) have to be comparable with existing and government-recommended technologies in terms of costs. If they are more expensive, they have to prove their advantages very clearly to all stakeholders concerned. This, however, has not been accomplished in the context of the programme.

Cooperation with organisations working in the same field or complementing the own work is a must and has to be started immediately.

4.4 Sustainability

Risks
There are definitely many risks to the sustainability of the programme and its components and the interviews in Ghana and the MAPP exercises have shown these possible risks, as well as opportunities.

Possible risks at the water supply system based on rainwater harvesting

- Tanks get cracks and leak
- Taps at the outlet leak or break
- Gutters are displaced, fall off or break
- Downpipe is displaced or stolen
- Water containers in front of the classrooms are stolen
- Water disinfection does not work because of a variety of possible reasons

Possible risks with latrines

- No one is interested in making use of urine or faeces; the latrines fill up and are not useable any more
- No one is cleaning the toilets
- Latrines are overused as the whole surrounding community uses it
- Doors are broken by the surrounding community
- Hand washing facilities stop working (no water, tap broken etc.)

Possible risks with gardens/plantations

- Animals destroy all plants as doors are kept open or fence is not strong enough/has holes

- Students are not interested
- Gardening is not integrated into the curriculum

Opportunities
All the risks underline the central importance of PACT committees, which really have to take care of the assets constructed and feel responsible. The MAPP exercises at the two schools have clearly demonstrated the importance of the committees and this was shown in their top rating by the participants (see Annex 8). They will have to be trained well and be accompanied at least for one year intensively.

Indicators for sustainability were also found in Tamale:

- 3 different schools of the Presby church were visited. They all received rainwater tanks between 2006 and 2008 which are still functioning and are being used.
- In addition to the previously mentioned experienced masons, masons to construct the rainwater tanks have been recruited from the community surrounding the school and they will be ready to help "their school" in case there are any problems with the systems.
- Latrines were rated very high during the MAPP exercises (Annex 8)
- There is a great demand for faecal material to be used as fertiliser, so that the Eco-San toilet systems might be emptied.

Conclusions
Many and very real possible risks to the sustainability of the constructed assets exist. So far, all efforts have been concentrated on hardware: construction of the rainwater harvesting systems and the latrines mainly. It is high time to take the software aspects into consideration. Cooperation with programmes raising awareness on water, sanitation and hygiene (WASH) would help. As we can see, the PACT committees play a pivotal role. They have not been involved much as the rainwater harvesting systems just started functioning, the latrines were not yet functioning or the gardens/plantations do not yet exist. The PACT committees need training, strengthening and close accompaniment for at least one year.

4.5 Approach

Design & Method
The Blue School concept is certainly well accepted and appreciated. Sustainability can be achieved through the PACT committees. Important is the cooperation with relevant authorities; in this case, the ones concerned with education, water, sanitation and health. Coordination with supplementary and complementary programmes will support the programme. This has not been done in the present case for reasons of project duration. The selection of the implementing organisations should be based on clear criteria or a (restricted) tender procedure.

Location
Northern Ghana has many areas where neither groundwater nor surface water is available. These areas are well suited for rainwater harvesting. In this context it needs to be pointed out that the selection of the schools is not clear. While RUWADCP insists that IRHA has selected the schools after a tour through many schools, IRHA says that the selection was done by RUWADCP. No criteria could be given for the choice of the schools. It could be argued that it was not based on the need for water or sanitation nor was it coordinated with local administration. Four out of six school complexes are in the Metropolitan area, two of them have mains water connection, and the other two are not far from main water lines. Four out of the six school complexes have an electricity connection, which shows that they are „better schools". The Ghana Education Service planning officer for Tolon district was surprised about the selection of schools. Meeting him at Nyankpala School, he was astonished that already „flashy" schools were selected as „Blue Schools" while he has six schools in his district without any toilet and schools with no water at all.

Duration

The project period is too short according to RUWADCP. A further obstacle was that the transfer of funds in the critical construction period was delayed by 3 months. For RUWADCP, the short project duration did not allow for integrating local/district administration, as this is a process that takes a long time. The evaluator was experiencing administrative hurdles (such as meeting a civil servant which necessitates an official letter to the head of the organisation, stating reason for the meeting) and unclear competences, e.g. for sanitation at schools.

Organisational set-up

A water project for schools (and health posts) pursuing a totally different approach is implemented by Helvetas in Benin (see Annex 9). Here, the implementation is not through an NGO but through the municipalities themselves, ensuring the integration into local government. The administrative structures are different in Ghana and Benin and a direct comparison is difficult; however, an in-depth look and sharing of experiences might lead to good recommendations.

Conclusions

The idea of Blue Schools – to the understanding of the evaluators – is to provide (among others) water and sanitation to the school. The concept goes beyond water harvesting as a mere water source and should take into account which locations are in need for such an approach and suitable in terms of economic and resource-related aspects. This is not the case for the Tamale programme.

The short project duration (2 years) and delays in money transfer have led to a concentration on the hardware part of the programme. The selection of the schools did not follow clear criteria and is questionable, as schools in town, with existing mains water connections and schools that are well off had been selected. Integration with local administration and existing programmes, which could support the Blue Schools programme has not been done yet.

A valuable chance for lobby and advocacy for rainwater harvesting and EcoSan toilets has been missed so far as there is quite some interest in Rainwater Harvesting at the Water Commission of Ghana in Accra, albeit not at the relevant water institutions in Tamale. The project could provide a link from national to local level, which has not been done yet.

5. Lessons learned and recommendations

The majority of stakeholders interviewed made a statement in favour of IRHA whom they consider an important or at least promising actor in the international RWH scene. In the opinion of the evaluator of pillars 2-4, they are specifically good in raising awareness regarding RWH among laypersons who do not have a specific technical background, and in accessing decision makers, either directly or via influential patrons of IRHA. Also only a strong focus on advocacy specifically towards the UN system and other international organisations justifies the high cost of maintaining the IRHA secretariat at Geneva. What is now somewhat artificially structured into 3 pillars could become an advocacy pillar that is supported by communication, all on the basis of an active membership development.

In the past 9 years, SDC has given IRHA enough funds to survive the critical first years of every new organisation yet too little for establishing a professional secretariat with experienced senior managers. SDC now needs to take a decision if they continue to back IRHA, and in that case they should give them proper funding over another 3-year-period for strategic repositioning and generation change; perhaps with external backstopping. In the case that this will be granted, the following recommendations could be considered:

Strategically reorganise for linking efficiency to effectiveness

- Ensure proper funding from different sources; build on the suggestions and support received from Accenture pro bono as part of the Ashoka entrepreneurship contest
- Develop a long-term strategy that can be broken down into funding periods and into programmes and projects that match the preferences of different donors
- Introduce impact oriented planning and monitoring on the basis of indicators also for pillars 2-4
- Match number and qualifications of staff with the set objectives and tasks to be performed
- Pay at least living wages or preferably remunerative salaries

Strengthen cooperation

- … and division of labour among the three main players IRCSA (technical expertise for capacity building), RAIN (successful fundraiser and experienced implementation agency) and IRHA (awareness raising and policy dialogue)
- … with academia
- … with UN institutions

Expand communications

- Relaunch design of newsletter and website
- Invest in media relations, especially targeting professional journals of the development and water sectors

Invest into membership development

- Promote increased contributions from and exchange between existing members
- Liaise for technical capacity building with other organisations such as IRCSA
- Offer communication and advocacy training for members

Expand advocacy

- Further intensify political dialogue among UN institutions by including RWH in any multilateral agreement on water and into the Post 2015 process

- Liaise more with national donors with a development focus such as GIZ, and NGOs such as Helvetas, as well as with environmental organisations such as the WWF for accessing their networks
- Do not invest too much energy into processes at national level neither in developing countries (instead build the capacity of member organisations) nor in Switzerland

Broaden concept of Rainwater Harvesting

Rainwater Harvesting is gradually recognised as a source of water that can have a contribution to drinking water, small-scale irrigation, animal rearing and the environment. The scope of rainwater harvesting is thus broadening from rooftop harvesting to a much wider and comprehensive approach, which should be better reflected within IRHA and its activities.

How should IRHA go on with "implementation"?

The following recommendations are mainly based on evaluating the Ghana "Blue Schools" project.

The present organisational setup of IRHA makes it difficult to implement rainwater harvesting projects. In-depth technical know-how is presently not available with the staff. The Ghana "Blue Schools" project shows as well that close supervision cannot be done from Geneva. So far, "Blue Schools" activities have been scattered around the globe and make it difficult to systematically gather experience.

Does IRHA have to implement RWH projects and thus work in parallel with organisations with long-term implementation experience? What would be the alternative?

There are movements (e.g. initiated by IFAD) to bring the different rainwater umbrella organisations closer together and to make them cooperate better. This could be a chance for IRHA. However, in its future role, IRHA will have to build technical competence to get a higher acceptance from professional people/ organisations. This competence can be used to accompany and consult projects with a rainwater harvesting component. Implementing organisations can be supported from project conception through implementation to evaluation. IRHA will then (with sufficient technical competence) be able to cover the whole range of applications of rain water harvesting, access experiences and know-how from the world wide rainwater scene, assess the possibilities and give competent advice. An accompanying "mandate" with a large implementing organisation or donor will be necessary for the start.

Improve the Blue Schools concept and its implementation

Lessons learnt:

- Infrastructure projects (like e.g. rainwater harvesting systems) have to be open for possible alternatives and compare different options before implementing them
- Construction contracts need independent supervision
- Selection of locations for implementation need clear criteria and coordination with local government
- Cooperation with local government can be an entry point for lobbying and advocacy
- Many existing programmes (i.e. awareness building at schools) can ideally complement and support the Blue Schools Programme

Recommendations to finish the project in Tamale/ Ghana well:

- Rectify tank sizes by building missing tank volume
- Construct additional tank volume to ensure 2.5 l/ person/ day or construct the missing volume at different schools which are in urgent need for water
- Improve the guttering system and maximise the catchment surface

- Construct strong fencing for gardens and plantations
- Put emphasis on the software aspects like training and accompanying committees
- Make sure that the newly built infrastructure is integrated into the school and the curriculum of the school