Attitudes towards Rainwater Harvesting

0. Summary

- increasing interest and formation of national rainwater associations in East and Southern Africa
- NGOs in West Africa starting to realise the potential of rainwater harvesting; some local cultural obstacles seem to exist
- Donor organisations funding development aid are generally interested in rainwater harvesting. In cases where organisations have specific water policies and strategies, rainwater harvesting is either specifically mentioned as an "alternative water source" or implied under "appropriate technologies"
- Many of the donor organisations who responded to our questionnaire have already funded in one way or the other rainwater harvesting
- Potentials of rainwater harvesting are seen in areas
 - that cannot be served by standard technologies such as groundwater and handpumps or
 - have contaminated/unusable groundwater
- Obstacles to rainwater harvesting are
 - the unconventional approach needed for dissemination and small and very local investment on the household level
 - finance of investment cost for the water storage facility
- Water legislation in South Africa specifically mentions rainwater as a permissible source of water but forces at the same time users to use only water from an authorised service provider

1. Introduction: New developments in rainwater harvesting in Africa

Interest in rainwater harvesting is on the increase in many countries of Eastern and Southern Africa. National rainwater harvesting associations are being formed in Eastern and Southern Africa. The first one of these national associations was the Kenya Rainwater Association (KRA), founded in 1995. Three national associations have been formed in 1998 alone: in Ethiopia, Uganda and Zimbabwe. The associations are usually started at national rainwater workshops. They see their tasks in information dissemination, lobbying and networking.

For SIDA, the Swedish International Development Agency, the

potential for household-level rainwater harvesting in Ethiopia and Eritrea is considered to be enormous and will be investigated.

There is a serious initiative in Southern Africa to promote knowledge on rainwater harvesting and the implementation of it. Participating countries are Namibia, South Africa, Mozambique, Zimbabwe and Zambia.

2. Local NGOs and rainwater harvesting in West Africa

While a lot of interest is being noticed in Eastern and Southern Africa, no important activities in rainwater harvesting are reported from West Africa. Therefore several video shows and discussions have been organised in selected countries (Senegal, Ghana, Togo, Benin) to see the reactions of NGOs re. rainwater harvesting,",".

Some general observations by the organisers of the video shows on rainwater harvesting:

Interest

- Women groups and women departments of NGOs are much more interested than general development departments of NGOs (where usually many men are represented)
- Interest was greatest in areas where there were real (seasonal) shortages of water. This was esp. true for Togo and Ghana with very low water levels of lake Volta leading to rationing of water and electricity. This also affected water pumping and caused many shortages in the distribution system!

Problems

- Rainwater harvesting was sometimes associated with traditional or pagan culture esp. in urban environments
- As rain and rainmaking is often associated with witchcraft, some church groups have difficulties also with rainwater harvesting, being seen as pre-Christian, "backward" practice

Utilisation

- The potential of rainwater harvesting in mobilising own resources, materials and skills was seen by many groups, but not always
- The potential for local artisans and small industry opens chances for local employment
- The improvement of general living conditions by rainwater harvesting was appreciated
- Many people saw rainwater harvesting as an ideal supplement to the public (and unreliable) water supply
- There was a great demand of how-to-do materials (booklets, brochures) to try and put rainwater harvesting into practice as seen in the video.

3. Water Professionals and rainwater harvesting

A letter with an associated questionnaire has been designed. A representative sample of water professionals has been selected. The mailing is being done at present.

4. Donor organisations and rainwater harvesting

4.1. Survey

Donor organisations have been contacted in order to find out their policy and associated strategy, their intervention tools and their partners in project planning and implementation. Questions related also to previous involvement in rainwater harvesting as well as potential advantages perceived as well as objections. Letter and questionnaire sent are given as annex 1, the list of donor organisations contacted as annex 2 (The Collaborative Council made it clear that they are not a donor organisation).

A total of 18 donor organisations were contacted:

- 6 mulitlateral aid organisations
- 8 bilateral aid agencies
- 4 "donor NGOs"

Answers came from 9 out of 18 contacted organisations with varying degree of detail. Sending questionnaires to unknown people has very little chance of getting an answer, as was also the case in this situation. At least one reminder is necessary. Organisations generally responded to e-mail inquires more readily than to letters sent by fax or mail. Organisations involved in rainwater harvesting were more readily giving some feedback than those not involved.

4.2. Results

4.2.1. Water policies/strategies

Every donor organisation who responded showed interest in rainwater harvesting and often asked for more information or expressed interest in the results of the sudy!

Not every donor organisation has its own sectoral policy for water. Organisations like Water Aid have a strategic framework, which lays out general aims and strategies. But each country office has its own strategies which states how that country office will contribute to the general objectives. So WaterAid could easily have many different views on the appropriateness on rainwater harvesting and find no contradiction in that! Similar approaches hold true for UNICEF (..."our country offices independently design strategy and implementation methodologies") and many donor NGOs (e.g. church donor organisations).

Out of the four policy documents of contacted donor organisations (see Annex 3), two of them specifically mention rainwater harvesting:

UNICEF gives support to specific "mini-projects" in addition to standard water and sanitation interventions within its "programme strategies", inter alia:

Rainwater harvesting, using roof tops as well as through the construction of underground check dams and dikes

NEDA assigns an importance to our topic by stating in the Technology part of the Policy section: *The development of techniques for harvesting rainwater for drinking purposes will be fostered,...*

The two other documents not yet quoted mention explicitly the promotion and support of appropriate technology (or appropriate products). For SDC, rainwater harvesting is included in this context:

In view of our technical strategies related to the use of appropriate technology, rainwater harvesting is very much in line with our sector policy (quote from letter of .SDC to the author).

SDC further elaborates its strategies in the economic field by stating:

- A reliable and sustainable water and sanitation infrastructure depends on
 - appropriate technology (see above)
 - promotion of local construction.
 - <u>Household</u> and community-level water and sanitation installations will stand a better chance of being used in a sustainable manner if they are built and maintained with local material and know-how,...

The emphasis on household solutions is not found in the other documents studied but clearly indicates an important prerequisite for the widespread use of roofwater harvesting.

4.2.2. Current involvement in rainwater harvesting programmes

Half of the organisations (UNICEF, SDC, WaterAid, SIDA) who answered stated that they already had funded projects which included at least a rainwater component. SIDA has – according to the documents received – a defined strategy to promote and spread rainwater harvesting in East and Southern Africa.

4.2.3 Potential applications, obstacles to rainwater harvesting

UNICEF mentions the need to supply people under difficult conditions, where rainwater harvesting will become important:

...as safe water coverage increases, the remaining unserved people tend to be those that cannot be served by more traditional technologies (notably groundwater and handpumps) and thus alternative technologies such as rainwater harvesting will become more important.

The other important area where rainwater harvesting is seen as a viable solution is in areas, *where groundwater contamination is on the rise* (as seen by UNICEF and SDC). SDC mentions the

example of Bangladesh with about 2 million handpumps which lay in areas where the groundwater is containing arsenic!

... rainwater catchments maybe another interesting alternative

SIDA talks about HRWH, household level rainwater harvesting. They quote Ministers (e.g. of Uganda) asking donor agencies to consider and give more attention to HRWH. But they also see some difficulties:

- The participatory approach required for dissemination (of HRWH) is unconventional and investments are small, numerous and very local. The existing institutions are not geared to working with this kind of projects and may be reluctant to do so.
- Another main constraint is finance of the investment cost for the water storage facility. Many households have great difficulties to accumulate funds for the investment and have no access to credit.

5. Water legislation in view of rainwater harvesting

5.1 South Africa

Water legislation of South Africa was considered relevant, since it is very recent (1997/1998). South Africa has tried to incorporate present knowledge of water resources and their sustainable use into the new legislation (for details of acts referred to, see Annex 4).

Chapter 1 (Interpretation and fundamental principles) of the National Water Bill (1998) defines the entitlement to water use (chapter 4) and refers to Schedule 1. This schedule (permissible use of water) is mentioning roofwater as a permissible water use:

A person may, subject to this Act -(c) store and use run-off water from a roof.

However this right is made relative in the Water Services Act of 1997, stating in chapter 1 (introductory provisions), paragraph 6: Access to water services through nominated water services provider:

... no person may use water services from a source other than a water services provider nominated by the water services authority...

Users of rainwater can come into conflict with the water services act, if there is a nominated water services provider in the area. Clarification of this possible conflict will be sought together with the new initiative of rainwater harvesting in Southern Africa.

ⁱ Günther Rusch: Rain is water: Bericht über Filmvorführungen und Diskussionen während einer Westafrikareise (Report on video shows and discussions during a visit to West Africa)

ⁱⁱ Pierre Jekinnou: Quelques observations (some observations...on discussions with NGOs on rainwater harvesting)

ⁱⁱⁱ Personal communication with Günther Rusch

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Annex 1: Letter and questionnaire to donor organisations

Dear water professional,

I'm writing this letter in the hope that you may be able to assist us in our research programme, called "Domestic Roofwater Harvesting in the Humid Tropics". It is a 3-year-programme to generate reliable information for water policy planners, water supply professionals and ultimately householders. The programme just started and is funded by the EU. It involves 4 partners from India, Sri Lanka, England and Germany. Links are being developed with practitioners in Central America and East Africa. The programme will examine literature and practice from many parts of the world, but it is expected that those from humid tropical areas will be of most use, since Domestic Rainwater Harvesting technology and economics are dominated by factors like climate and culture.

In the view of water resources getting scarce, it is becoming obvious that we should use every available water resource as e.g. rainwater. Rainwater harvesting has been and is successfully practised for millennia around the Mediterranean as a supplementary source of water or the only one available. In many countries of Asia, Africa and Latin America, it is currently newly introduced or its use widened. One of several components of the programme is to define the information needs of organisations active in the water sector. We would therefore like to ask you about your funding policy for the water sector and how it is implemented in the different countries.

We will compile our research findings (we just have started) and will make them available to you if you wish so. They will also be available on a web site, which will soon be established. Please feel free to contact me for any additional information you might want to get.

Thanking you in advance for your time and efforts invested

also in the name of the other partners involved

Hans Hartung Responsible Task Manager for Task B: Institutional Values and Decision Making

Domestic Roofwater Harvesting in the Humid Tropics

A. Water programmes

We would be grateful, if you could give us some details about the general way of your funding of water projects

- maybe documents are available which would help us to explain the procedures:

- a) Aid policy and strategy related to water
 - in general
 - is rainwater harvesting in line with your funding policy or not? If not, why not, are there any objections?
- b) Intervention tools for the water sector within you organisation
 - on the policy level
 - on the project level
 - in technical assistance in general
- c) Partners in project planning and implementation What kind of partners are you working with?

B. Rainwater harvesting programmes

a) Have you already (co)funded projects where rainwater harvesting was involved?

If yes:

Would it be possible to get details about the funded programmes? (reports if possible?) What kind of funding strategy did you use? Do you have general documents on rainwater harvesting considering their successes and failures, highlighting components of the project to be considered in similar projects?

If no:

Do you have general objections to rainwater harvesting and if so, what are they? In particular do you consider financing single households to be in line with your house rules? What kind of information on rainwater harvesting would you be interested in receiving?

Annex 2: Organisations contacted

| Title | Participant | Function | Organisation | Address | City |
|-------|--|---|---|---|-----------------------------|
| Mr. | John Briscoe | Division Chief | The World Bank, Water and Sanitation Division, Transport, Water and Urban Development | 1818 H Street N.W. | Washington D.C. 20433 |
| Mr. | Frank Hartvelt | Deputy Director | Division for Global and Interregional Programmes, United Nations Development Program | One UN Plaza | New York NY 10017 |
| | | | Water and Environmental Sanitation Section UNICEF (DH-40B) | 3, United Nations Plaza | New York NY 10017 |
| Mr. | Liabaert | VIII E4 | European Commission | 200 rue de la Loi, | 1049 Brussels |
| Mr. | S.A. Baha | Director | Asian Development Bank Infrastructure Department | P.O.Box 789 | 1099 Manila |
| Mr. | Dennis Carroll | | US AID Bureau for Global Programmes, Field Support and Research,Office of Health | | Washington DC 20523-1817 |
| Mr. | A. Hartmann | | Swiss Development Corporation SDC Water and Infrastructure Service | | CH-3003 Bern |
| Mr. | Ingvar Andersson and Mrs. Margaretha Sundgren | | SIDA Infrastructure Division | Birger Jarlsgatan 61 | S-105 25 Stockholm |
| Mr. | Henning Jensen | Senior Technical Adviser | Ministry of Foreign Affairs, Danida | 2 Asiatisk Plads | DK-1448 Copenhagen K |
| Mr. | Joep Blom | | Ministry of Foreign Affairs Directorate General for International Cooperation | P.O.Box 20061 | 2500 EB The Hague |
| Mr. | Guy Carrier | Senior Adviser | Canadian International Development Agency (CIDA) Water and Sanitation Policy Branch | 200, Promenade du Portage | Hull (Quebec) |
| Mr. | J. Hodges and Mr. H.B. Jackson | | DFID | 94, Victoria Street | London SW1E 5JL |
| Mr. | Roy Hewson and Mr. John Casey | | Australian International Development Assistance Bureau (AIDAB), Development and Coordination Section | GPO Box 887 | Canberra ACT 2601 |
| | | Technical Adviser, Water and Infra- structure | Christian Aid | P.O. Box 100 | London SEI 7RT |
| Mr. | Van Damme | | Water & Sanitation Collaboration Council | 1 Poellaan 59 | Lisse 2161 |
| Herrn | Pankert | | Misereor Bauabteilung | Postfach 40 50 | 52064 Aachen |
| Mr. | Dave Mather | | Water Aid | Prince Cousort House, 27-29 Albert Embankment | London SE 1 7 UB |
| | | Technical Adviser | OXFAM | 274 Bambury Road | Oxford OX2 7DZ |

Annex 3: Water Policy Documents

- 1. SDC Sector Policy on Water Supply and Sanitation, Series SDC Sector Policies, Swiss Development Cooperation, Berne May 1994
- 2. Water supply and Sanitation in Developing Countries, Sectoral Policy Document of Development Cooperation, NEDA (Netherlands Development Assistance), Ministry of Foreign Affairs, The Hague, 1998
- 3. UNICEF Strategies in Water and Environmental Sanitation, UNICEF, New York, 1995
- 4. Water Policy Issues, prepared by J. Winpenny for Department for International Development (DFID), July 1997

Annex 4: Water Laws

Republic of South Africa:

- National Water Bill (as amended by the Portfolio Committee on Agriculture, Water Affairs and Forestry (National Assembly)), [B 34B-98]
- Water Services Act, 1997 (Act No. 108), as published in the Government Gazette Vol. 390, No. 18522, Cape Town 19.12.1997

Republic of Kenya

• The Water Act, Chapter 372, revised edition 1972