

IAGU LIMPO – TABANKA SAN 2015



Rain Water Harvesting in Guinea-Bissau, 2005-2015

IAGU LIMPO – TABANKA SAN, Rain Water Harvesting in Guinea—Bissau.

The project started 10 years ago after an intense outcry for help from the village Bedanda: People suffer from a severe lack of drinking water, children are ill and die of diarrhea, women walk for hours every day carrying drinking water. “From February, in the dry season, our wells are empty and if deepened we find salt water.”

Since 2005 my African friend Bicosse Nandafa and I, a former development worker, hurried to find an appropriate and sustainable solution. We constructed and developed water containers of ferro cement, to store rain water to be used as drinking water in the dry season.

After a start in Bendanda, 10 years ago, the project constructed more than 2000 family tanks of 5000 l. in the salty coastal region of Guinea Bissau. People learned the value of drinking water in stock. We have one thousand requests.

A tank is simple in use, low cost and constructed with hand tools. It is built by local masons with local available materials and it is repairable. We train the village masons on the spot. All materials are bought at the local market.

The tankowner pays € 60,-, the project pays € 180,-. The total costs of a tank are € 240,-. Rain water, stored in a dark tank, stays **safe** during the whole year, see the evaluation.

This booklet tells you about it

**We invite donors to support us: NL87 RABO 0340 7787 92
Your gift is welcome as a mouthful water in a dry throat.**

Enthusiastic supporters and students are welcome to contact us
www.degevuldewaterkruik.nl

Thank you,

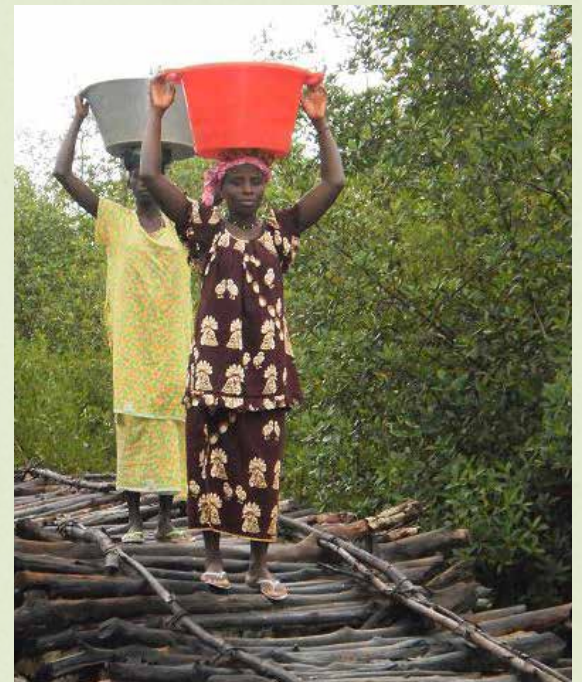
Paul Akkerman

president of the Foundation Friends Holten-Bedanda.
Stichting Vrienden Holten Bedanda.



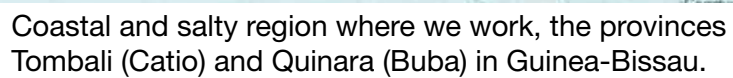


Unsafe water and its consequences: diarrhea and cholera. High mortality of children. Women and girls carrying water for hours, every day.



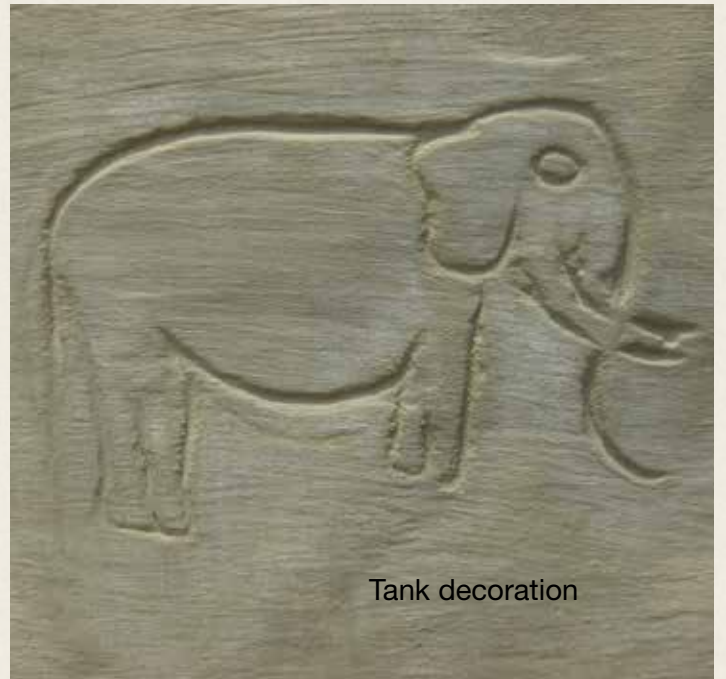


Safe drinking
water in stock.

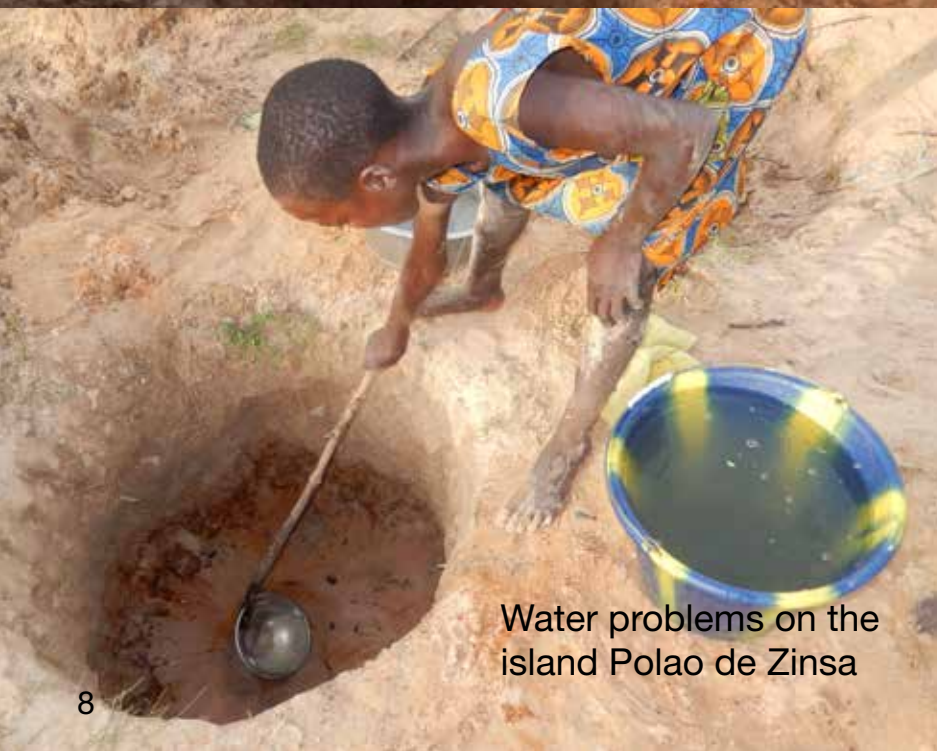




Lady Nda, potter from Bedanda and some of her pottery, drinking water jars inside the house.



Tank decoration



Water problems on the island Polao de Zinsa





Our solution





Children collect unsafe drinking water in Casabetché



At home safe drinking water in stock

History of the project

- 2005 Foundation, 3 underground watertanks in Bedanda
- 2006 Training in Bedanda, 5 trainees, 10 tanks
- 2007 Training in Bedanda, 10 trainees, 50 tanks, 25 overground
- 2008 Training in Catio, 35 trainees, 110 tanks in province of Tombali, support Dutch Embassy
- 2009 Training in Mato Farroba, 30 trainees, 110 tanks in villages of Province of Tombali
- 2010 Training Cobumba and Buba, 42 trainees, 148 tanks, Financial Support of Impulsis, introduction Balanta-tank, mould of clay blocks. Training in Burkina Faso..
Evaluation by Nonny Molentha, student of Saxion Universities, Environmental Science.
- 2011 Training Casabetché and Buba, 24 participants, 244 tanks in 5 provinces
- 2012 Training in Fulacunda, Islands of Como and Buba, 36 participants, 269 new tanks
- 2013 Training in Mansoa, Catunco, Boé, Tite and Gambia, 62 participants, 262 new tanks
Evaluation by Hans Hartung. Visit by Nobel Peace Prize Winner Mr Ramos Horta
- 2014 Training in Catio, Caboxanque, Cataban. G. and Congo-Kinshasa, together 74 participants, 400 tanks. In Congo support by Heineken Africa Fund.
Publication in **waterlines**, international journal of water, vol 33. nr 2. April 2014.
Introduction Calabash Tank, with round bottom, stronger, cheaper and elegant.
- 2015 Training for trainers in Caboxanque. Order from UNICEF to construct 62 tanks near the border of Conakry to prevent that Ebola will enter the country.



In the Netherlands, we work together with students of WOT, Workgroup for Development and Technology at Twente University.





Waterproblems on Widekea and Caiar.



Theo Hoge, member of the board, on Widekea



View on Island of
Cataban Ntunda



Paul is the Dutch projectleader, he speaks the language and inspects on the spot.

EVALUATION by Hans Hartung in 2013. He is an international consultant RWH. During 10 days Hans travels with us on the islands to talk with the people and to evaluate the effects of our project in the community. He gives us confidence in our skills and courage to export our know how.

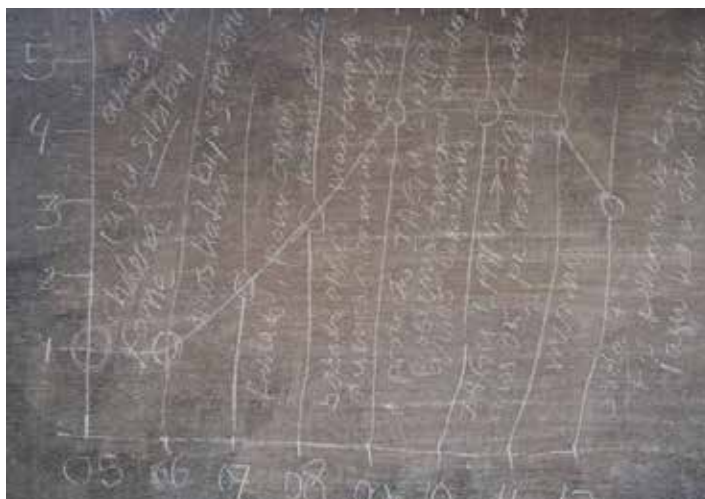


The EVALUATION REPORT is linked to the website: www.degevuldewaterkruik.nl

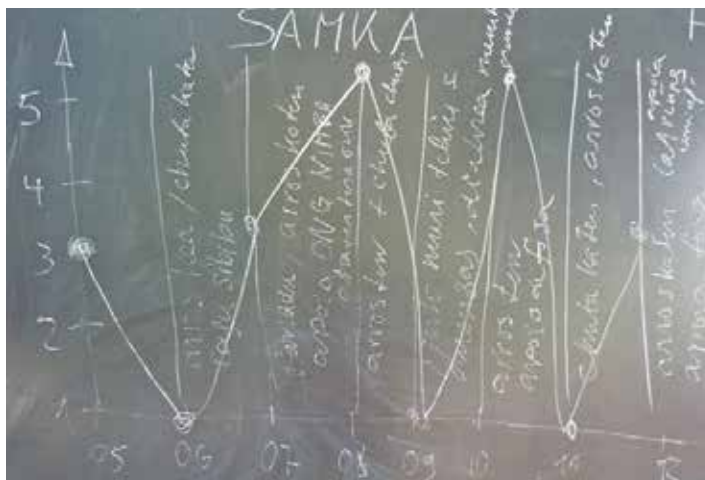


Hans Hartung,
international consultant RWH.





	ANOS	2005	2006	2007	2008
Economia	CRIG LIMA	3	4	5	7
	DESCA	1	3	4	5
RECURSOS	LAGULIMPO	1	5	7	11
	SAUDE	1	5	7	11
	LEGA	1	5	7	11
	LUS	1	5	7	11
INFORMACAO	LAUTINA	1	5	7	11
	Transporte	1	5	7	11
	MOIL	1	5	7	11
	RADIO	1	5	7	11
	ESCOLA	1	5	7	11

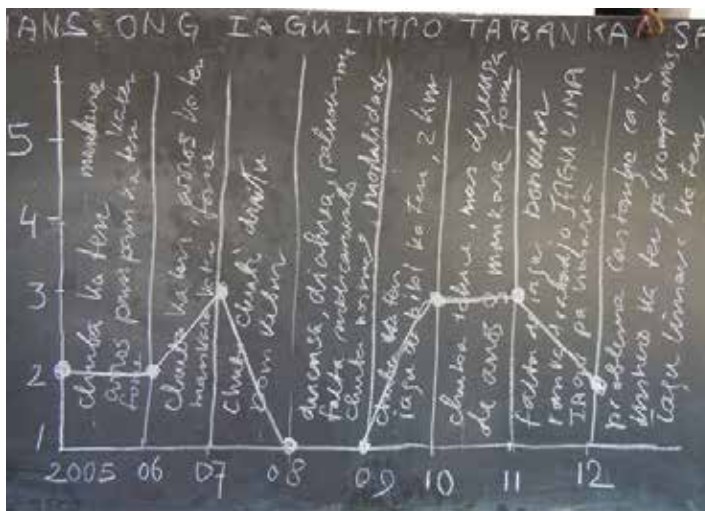


Observations by Hans Hartung

Rainwater tanks and their construction

The rainwater tanks are an integral part of life in the families

- People appreciate them very much as a source of clean water for drinking, whereas water for other purposes (such as cleaning, washing) is usually coming from wells (there the quality maybe a bit salty)
- Water from tanks is especially valued at the end of the dry season (starting from February) when many wells dry up or have very little water
- Water from the tanks is not the only source of water but an additional source, as people use different water sources for different water needs at different times of the year. Rainwater is especially liked for its good taste, its cleanliness and its availability at the house (in the tank). On the islands is no alternative for drinking water.
- Contrary to many beliefs, people collect water from (mostly) thatched roofs in a traditional way (binding the ends of the thatch together), collecting it in available vessels and then storing it in the tank. **The brown colour disappears during the storage as well as bacterial count goes down significantly (as evidence in literature and own earlier tests show, e.g. J. Heyworth[1], who compared a sample of more than 1000 school children, who were regular consumers of tank rainwater. They were at no greater odds of gastroenteritis than those who drank treated public mains water).**



- The construction quality of the tanks is good. Leaks are reported (no statistics available), repair experience is with the masons. A system of monitoring is being set up with the introduction of "representatives" in the areas where tanks have been built. Monitoring of the construction quality is important to make masons responsible for their work; their remuneration should be dependant of a good performance (see as well the recommendations)

- An efficient and cost-effective organisation has been developed. The work is directly benefitting the future users, who are involved from the beginning. In contrast to many organisations, which are spending an increasing amount of funds on project/programme administration (Including offices, cars,...), administration cost here are at an absolute minimum. Paul Akkerman and two coordinators are able to handle the situation well. If activities should increase. the organisational set-up has to be rethought".



How to fill a tank with rain water ?





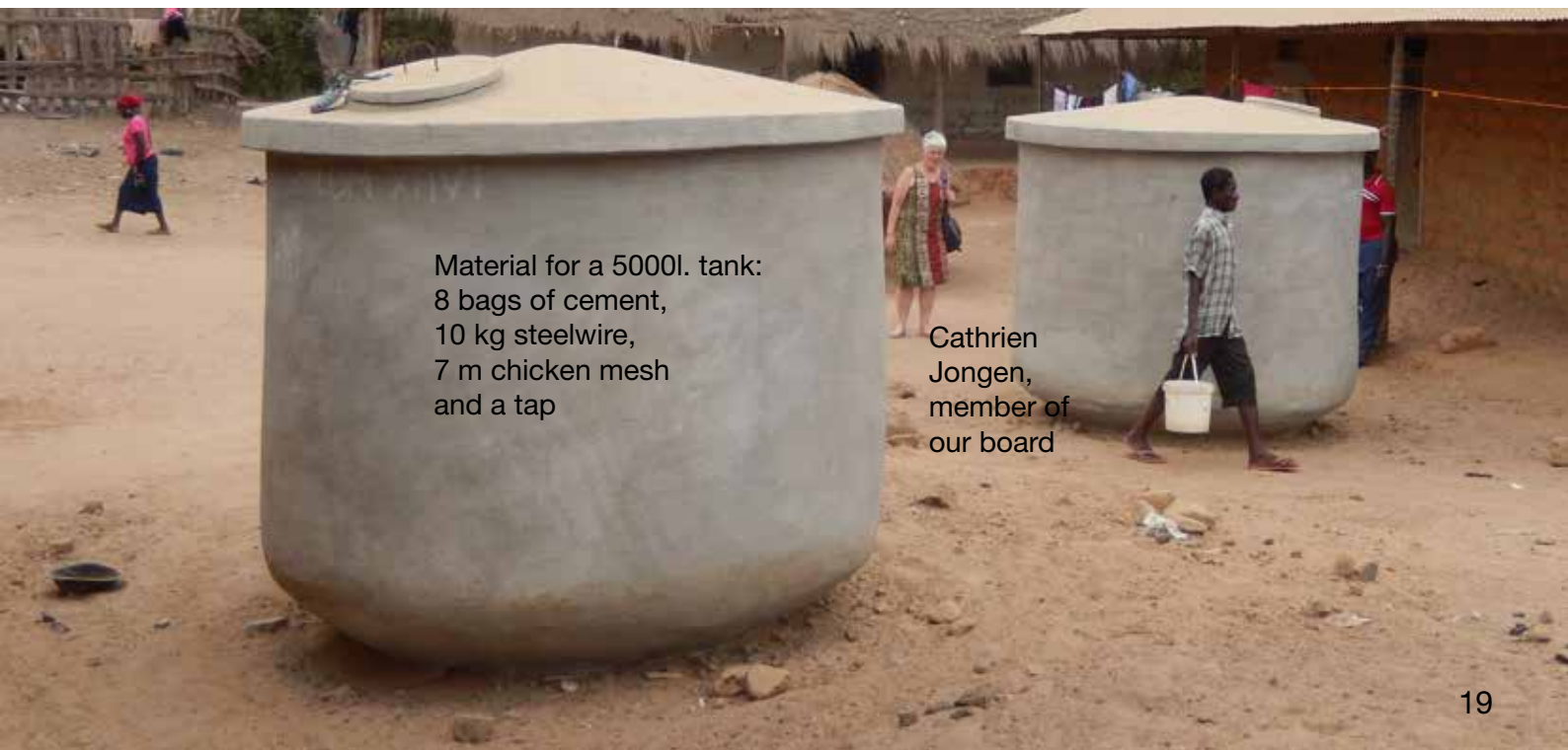


Construction sequence, from the mold to the calabash tank: 1 2 3 4 5 6 7 8 9





Above: watertanks under construction. Under: same tanks ready for use.



Material for a 5000l. tank:
8 bags of cement,
10 kg steelwire,
7 m chicken mesh
and a tap

Cathrien
Jongen,
member of
our board



Sadjaliu Djalo, coordinator advisor



Julio Nahonta, coordinator islands



Iaia Indjai, assistant

OUR COORDINATORS, TRAINERS AND LEADERS OF 12 TEAMS OF MASONS

Some team leaders have more than one team



Amadu Djau,



Bacar Dabo,



Paulo Djonde



Bitam Na Ifa,



Sambu Na Sumba



Bucar Sambu



Ilna Nabanka



Domigos Na Naska



Sambis Na Mboto



Paul Akkerman
Coordenador holandes



Water Centre in Buba
with yearly meeting of village
representants and
10.000 litre tank



Water Centre in Catio
with yearly meeting of
village representants



The life span of a tank can be
more than 30 years if you do
the maintenance



canoa to transport cement to the islands
with capiton Balana



The flood of African refugees is an indication of the urgency of our work. (photo from newspaper)





Hans Stam, member
of our board

TRAINING and EMPLOYMENT

Every year we train 36 new village masons in 3 groups. Good masons are the treasure of our project. Besides we train our 20 experienced masons, who are trainers for trainers. We teach them new technologies.



EXPORT of KNOW HOW

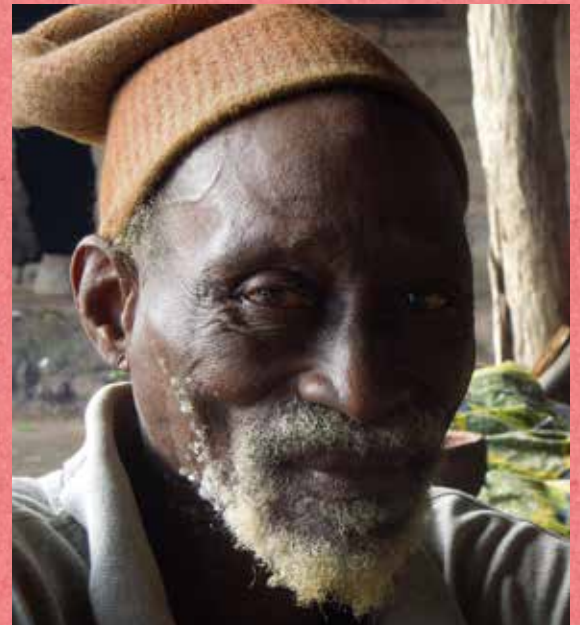
Training in Kinshasa 2014 with support of Heineken Africa Fund and Don Bosco. We also trained masons in Gambia and Burkina Faso. Examples of South-South cooperation.



conversation with prime minister,
Domingos Simoes Perreira

photo: consul Jan van Maanen

Meeting with the population of Camitongo and Homen Grande Kedele Na Ritche, 2 May 2015



Ngwiri Nantchama, Bedanda



Meeting with the Government: Minister of the Interior and the governors of the 7 provinces.
Palacio de Governo, May 8 2015.

Mr. Abu Camara

IN SEARCH FOR EXTENSION.....!!

In the coastal regions of West Africa, thousands of families have urgent need for safe drinking water!!



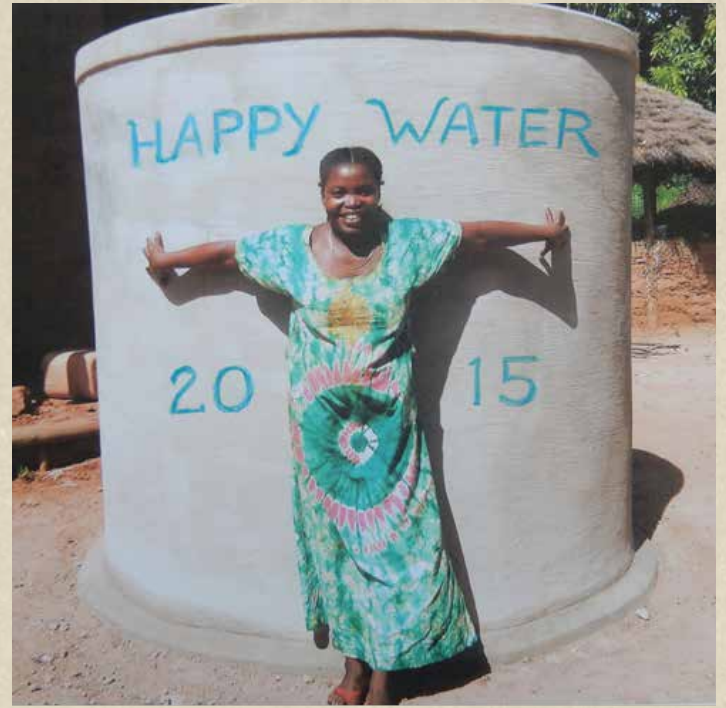
spin-off of our project...

We invite Mr. Ramos Horta, Nobelprize winner 1978 and delegate of Ban Ki-moon in Bissau, to visit our project. He offers a motor canoe for each of the isolated islands and opens a possibility for transport to the hospital, 2013



Tankowners with their watertanks







Coordinator Sadjaliu explaining the project to local women.







OUR PURPOSE: CLEAN WATER – HEALTHY FAMILIES

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BIC nr. RABONL2U



www.degevuldewaterkruik.nl
www.cleanwaterhealthyvillage.com