

WASH

MEDIA AWARDS 2007-2008
COMPENDIUM

PUTTING
PEOPLE AT THE
CENTRE



Photo, opposite page: The WASH Media Awards 2007-2008 were presented at the World Water Week in Stockholm: From left, Mr. Anders Berntell, SIWI; Ms. Winfred Onyimbo, Trans World Radio, Kenya; Mr. Robert Lamb, Jury Chair; Ms. Salome Gregory, Mwananchi Communications Limited, Tanzania; Mr. Jon Lane, WSSCC; Ms. Cátia Toffoletto, CBN - Rádio São Paulo, Brazil; and Ms. Claudine Efoa Atohoun, Office of Radio and Television, Benin.

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THE WASH MEDIA AWARDS

The WASH Media Awards initiative was launched by the Water Supply and Sanitation Collaborative Council (WSSCC) and aims to use the impact of the press to increase public awareness of water supply, sanitation and hygiene (WASH) issues. The initiative is open to journalists from developing countries who write or broadcast original investigative reports on WASH issues. First presented in Dakar, Senegal, in 2004, the 2nd edition was held in 2007-2008 and was jointly organised by WSSCC and the Stockholm International Water Institute (SIWI). Since 2008 was the International Year of Sanitation, the 2nd edition also aimed to generate interest and action for the 2.5 billion people lacking access to safe sanitation and good hygiene.

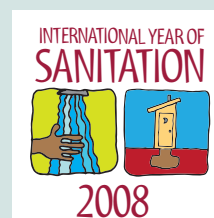


TABLE OF CONTENTS

Foreword.	3
Message from the Chair.	4
“Disease in a bottle”, Winfred Onyimbo, Kenya	5
“This is Same, where fetching water means children miss classes”, Salome Gregory, Tanzania.	7
“Water, the waste condemning São Paulo”, Cátia Toffoletto, Brazil	9
“Dassa the commune of 41 hills”, Claudine Efoa Atohoun, Benin	13
“Cholera fears as Bulawayo water crisis continues”, Yamikani Mwando, Zimbabwe	16
“The great challenge of the faecal peril”, Dieudonné Soubeaga, Burkina Faso.	18
“The heavy burden of protecting the water”, Arif Budiman, Indonesia.	21
“Ganvié, a dying town”, Euloge Aïdasso, Benin	25
“Lima’s antiquated sewers have brought it to the brink of a health crisis”, Julia Fabiola Torres López, Peru	28
Participants in the WASH Media Awards 2007-2008.	31
Jury members	32

FOREWORD

“Journalism can never be silent: that is its greatest virtue and its greatest fault. It must speak, and speak immediately, while the echoes of wonder, the claims of triumph and the signs of horror are still in the air”, said the late *Time* magazine editor, Henry Anatole Grunwald.

Grunwald’s words still ring true. And, as our internet age has made it possible for anybody to say or show anything to anyone at anytime, investigative journalism is needed more than ever. This is especially true for issues like sanitation, hygiene and water that affect billions of people every day but traditionally aren’t on the daily media agenda. Journalists who want to write or broadcast stories on the social development and environmental aspects of water and sanitation, however, often find it difficult to do so in newsrooms where politics, sports and entertainment are prioritised. For journalists in developing countries, the situation is especially challenging.

To help them in their efforts, the Water Supply and Sanitation Collaborative Council (WSSCC) and the Stockholm International Water Institute (SIWI) sponsored the WASH Media Awards 2007-2008. The awards encourage and recognise outstanding investigative journalism

on vitally important water, sanitation and hygiene (WASH) issues.

Today, 2.5 billion people still lack access to basic sanitation and nearly 900 million to safe drinking water. The hugeness of those numbers blinds us to the fact that these are human beings with real lives, hopes, desires and dreams, not the least being an improved quality of life for their children. Poor sanitation and hygiene are either the chief or the underlying cause in over half of the annual 10 million child deaths. At stake, as the WASH Media Award journalists so vividly illustrated, is nothing less than the health and dignity of people, the quality of their lives, their economic well-being, and their living environment.

This compendium contains the winning entries from this year’s WASH Media Awards competition. These original, investigative reports were published or broadcast between 1 July 2007 and 30 April 2008. As first-rate journalism, these stories offer compelling, factual and heart-tugging arguments for providing water, sanitation and hygiene for all. We hope you enjoy them.

We also invite more journalists to participate in the WASH Media Awards 2009-2010. To indicate your interest, visit www.wsscc.org.



Jon Lane
Executive Director
Water Supply and Sanitation
Collaborative Council



Anders Berntell
Executive Director
Stockholm International
Water Institute

A WORD FROM THE CHAIR

The WASH Media Awards promote awareness about water supply, sanitation and hygiene issues through investigative journalism in print and broadcast media in developing countries. Public awareness built through the media paves the way for the global community to care and encourages decision-makers to act on behalf of the 2.5 billion people without access to safe sanitation and the nearly 900 million without safe drinking water.

I was honoured to serve as the jury chair for the 2007-2008 edition of the awards. True passion, commitment and journalistic excellence radiated from the 140 television, print, radio and web entries submitted. In all, journalists from 40 countries in Africa, Latin America, the Middle East and Central, South and Southeast Asia participated. A great many of their stories examined sanitation and hygiene, which is appropriate since 2008 is the International Year of Sanitation.

I would like to congratulate each of the winners and participants in the competition. This publication includes the best of these entries. The Water Supply and Sanitation Collaborative Council (WSSCC) and the Stockholm International

Water Institute (SIWI) are also to be commended for developing and implementing this initiative.

My colleagues on the jury included eight distinguished journalists from English, French and Spanish-speaking countries working in different types of media. They, as I, can attest to the impressive range of reporting shown on the human, economic, political and environmental consequences when there is no toilet to use, soap to wash with or tap to open.

Finally, I would also like to give credit to all journalists, in both developing and developed countries, who write or broadcast water, sanitation and hygiene-related stories. These journalists, as well as their editors, producers and media organisations, give voice to people and issues that all too often are surrounded by silence.



Robert Lamb
WASH Media Awards Jury Chair

Mr. Lamb, of OnePlanet Pictures, is a documentary television producer and filmmaker who has produced programmes for the BBC such as Earth Report and Nature Inc. He also served as chair of the first edition of the WASH Media Awards in 2004.

"DISEASE IN A BOTTLE"

by Ms. Winfred Onyimbo, broadcast date 7 August 2007,
Trans World Radio, Kenya

Sound.

Winfred: We are approaching Kibera in Nairobi – one of the largest slums in Africa and home to close to one million people. On the right side of Kibera is the palatial home of the former Kenyan president Daniel Arap Moi and the Royal Nairobi Golf club, whose lush lawns receive a great amount of clean and cheap water, something the Kibera residents consider a pipe dream.

Door slams – engine turns off.

Footsteps...

Winfred: We now have to leave the vehicle and make the rest of the way on foot – it is the only way to get here because the alleys leading to Kibera are so narrow and slippery. There are many problems here to do with poverty but one of the worst things is the water supply. Here, the average wage is less than a dollar a day and you would need to spend nearly half of this for one day's supply of water. This would not be so bad if the water was of reasonable quality, but this water is muddy and murky and it stinks.

Actuality.

Winfred: We are trying to make our way to one of the vendors. I can see the pipes are coming from way far off and they are passing through some mud, through sewers, and there are some plastic bags littering the hole. How do you feel selling dirty water to your customers?

Mohammed: Nobody has complained. When the water comes, you will find some dirt but you don't sell immediately. We leave the tap open so that the water can spill out for some time so that it comes clean. We really try to keep the pipes tight so that there is no water leaking.

Winfred: Many residents of Kibera rely on illegal water vendors like Mohammed here. The vendors siphon water off from the Nairobi Water Company's network of pipelines and connect it to their own pipes! They do this to earn a little

money to live - oblivious of the huge risk it holds for the health of their customers.

Sounds in Naomi's house.

Winfred: One local resident, Naomi, is washing dishes as she tends to her nine month old son. Where do you buy your water? Is it an official vendor or an illegal vendor?

Naomi: It's not an official vendor, because that woman [who sells it] doesn't have a meter, so I am sure it's not an official thing.

Winnie: Elizabeth is a legal vendor with a water meter and a license from the Nairobi Water Company. She disapproves.

Elizabeth: Now we are competing with people who are not paying or are not meeting any costs, and that has been a great challenge. Then there is also the issue of theft, where people come and steal the pipes so we are forced to have the plastic pipes rather than the metal pipes. When we wake up in the morning we find that the plastic pipes have burst so we have to change them, and that is a bit expensive and also the water gets contaminated.

Winfred: These poor quality plastic water pipes in the slums run through open sewer ditches and become cracked with holes that suck in human excrement. This makes Kibera residents vulnerable to numerous water-borne diseases. Dr. Marjorie Waweru is the medical officer in charge of the African Medical Research Foundation clinic in Kibera.

Dr. Waweru: Mainly you will get patients who come with gastro intestinal infections, these range from worms, bacterial infections like typhoid, itchiness, scabies and sometimes secondary bacterial infections.

Winfred: What kind of solutions would you recommend in terms of sterilising the water?

Dr. Waweru: Every family should be aware that they first and foremost need to boil their water,

and then they can also use the sterilising agents like the water guard which need to be bought - I am not sure many of them would be able to buy. And also they need to have the knowledge of how to use them; how much to use for what quantity of water. A lot of education needs to be carried out; even using radio messages would be appropriate, and if possible tablets can be availed at no cost or very minimal cost to the people of Kibera.

Sounds of Naomi's house and water.

Winfred: Naomi says she needs 200 litres of water a day, which costs her a quarter of a dollar every day. As they only *have* about a dollar a day to live on, the family of six has to use as little as possible to avoid spending all they have on water!

Naomi: Sometimes we boil it but most of the time we just use it like that because you know you have to buy charcoal, if you are using water, you have to consume a lot of power.

Winfred: Compared to other bills what takes most of your money?

Naomi: Water. We consume a lot of water and if it is very expensive, it is not worth it. If there is a

to bathe: the ladies are the ones who bathe and we consume a little.

Winfred: When I spoke to the Nairobi Water Company, they said that they are in the process of setting up water user groups in the informal settlements, where residents will be paying 12 cents for a litre of water to beat the illegal water vendors. But in an area of mass unemployment, a reliable clean water supply wouldn't be particularly good news for the legal water sellers like Elizabeth who would need to keep their prices higher to survive.

Elizabeth: Right now, there are so many families who depend on water as the only source of income, so if they were to do that and cut these people out then a whole livelihood would be cut out.

Winfred: Meanwhile, Naomi and her little son continue consuming the expensive dirty water of Kibera, where they are faced with a stark choice: spend money on fuel to boil it, or risk catching a dangerous waterborne disease. Do you think your life would improve if the government provided water for Kibera residents?

Naomi: Let me give you an example. My mum got sick. She was suffering from typhoid and after a week my brother got sick and when he was tested it was found he was suffering from amoeba. I am sure if the government could do something we wouldn't get such kind of diseases.

Fade out: water sound effects.



The author, **Ms. Winfred Onyimbo** of Trans World Radio, Kenya, won first place in the English Language category of the WASH Media Awards for 2007-2008.

"THIS IS SAME, WHERE FETCHING WATER MEANS CHILDREN MISS CLASSES"

by Ms. Salome Gregory, publication date 19 February 2008,
The Citizen Newspaper, Tanzania

If there is one thing that greatly affects people here, it is the water crisis. Same has been facing a serious water shortage for 18 years now due to drying up of rivers owing to population increase, overgrazing, tree felling and burning of forests.

The shortage is so serious that some parents see no problem in having their children miss classes so they could go fetch water for the family. Given the distance to the nearest stream, there is no way a child would be able to go fetch water first and go to school later, or vice versa.

It takes them more than six hours to and from the river. They walk between 16 and 18 kilometres to the nearest source of water. Children don't go to school when there isn't enough water at home, remaining behind becomes the best option because their families depend on them to bring the water home.

It is just a matter of prioritising. Either going to school and coming back to a home with no water or sacrificing a day away from school and having something to eat that day. Those mostly affected by such circumstances are children living with grandparents, and those from pastoral families. Sadick Ramadhani, 44, a pastoralist in Minyala village, said the water problem has changed their life styles.

Ramadhani is forced to leave his family behind from time to time in search of pastures for his cattle. When he is away, his son, Ismail, 13, who is in standard six, has to help his mother with fetching water. This means Ismail has to miss classes every time there isn't enough water at home.

"I wish my son could attend classes every day as required, but the problem is that he has to

help his mother fetch water", said Ramadhani. Ramadhani says the government needs to look into ways to solve the water problem in Same or else their children will always lag behind in education.

This is why Jessica John, a mother of three children in Ishinde village, does all she can to ensure none of her children miss classes because they have to help her fetch water. When I met Jessica at the end of January, she was on her way home from the river. Jessica was carrying her one-year-old baby on her back while pushing a bicycle with three 20-litre jerry cans. She had 18 kilometres to cover from the river to her home. Jessica has no one to leave her toddler with; that's why she carries her all the way to the river and back. She says she'd rather suffer that way just to see her two daughters get an education. After all, they are too young to ride a bicycle.

Jessica's eldest daughter Jasinthia is six years old and in standard three, while four-year-old Christina is in standard one. "Even if they were old enough, they would not fetch water during school hours. Their education matters more", said Jessica. She says she normally gets in trouble when the baby falls sick, for she just has to stay home and take care of her.

Fetching water aside, there are days when children miss classes because they have to stay home to wash their school uniforms. This normally happens on Wednesdays because pupils have to be clean on Thursdays when they have cleanliness inspection at school. Most have just one uniform worn throughout the week. Washing it each day of the week is a luxury most families cannot afford. Again, because of the long distance to the stream, it is impossible for them to go to school and manage to wash the uniforms after school. And they dare not go to the assembly on Thursday in a dirty uniform. The teacher on duty would give them a good share of strokes as punishment.

Theodetha Omary, 18, a form four student of Kifarua Secondary School, says she'd rather

miss classes on Wednesday than go to school in a dirty uniform. For her it is not the cleanliness inspection that she fears. "I never feel comfortable in a dirty uniform", she says. The day she stays home to wash her uniform is also the day she fetches water for the family. She rides a bicycle to get the water from the river, which is 16 kilometres from her home. Because of the distance, she can only afford to go to the river twice a day. Omary says although teachers at the school are aware of the water problem, they never take the trouble to excuse students who fail to attend school because of the water crisis. "We would be glad if they could help us compensate on lost time", she said.

To avoid missing classes because of the water crisis, some students carry gallons to school and fetch water on their way home. But that means getting home after darkness. At least this is the case with students of Vumari Secondary School in Njoro ward. You see most of them carrying gallons in one hand and books in another as they head to the river after school in the evening.

Some schools require pupils to bring water for use at school. Because water is such a scarce commodity, students who take water to school with them normally guard it as they would do with any precious belonging. It is because of water theft that Oritha Lazaro, 14, a standard six pupil at Ishinde primary school, stays off school for three days during her monthly periods. She used to carry two three-litre gallons of water during her menses, one as required by the school and another for her personal use until fellow pupils started stealing her water. Oritha would hide her water for personal use somewhere near the school toilets which she would use to clean herself whenever she used the toilet. She used to do this because water in the toilet was not available all the time. Some pupils found out where she kept the water and would steal it and

leave the gallon empty. This is what prompted Oritha to stay at home during her menses for hygiene reasons.

Last November was a good month for Vuje, Bombo, Mtii and Ndungu wards for they received assistance from the Tigo mobile phone company and the Member of Parliament for Same East, Anna Kilango, who donated wells for them. According to information obtained from the clean water department in Same, the district needs Sh 550m to improve its water supply. The district currently survives on only 49% of the water needed. That is what the water authority is able to supply.

Among the things the water authority needs to buy are two pumps and a panel for two water wells, a pump for a long water well in Mahuu and connection to water and electricity. The authority also needs to construct water tanks for preserving water in Kavambugu and Majevu, six-inch plastic pipes for the reconstruction of the main water ways from the pump house, and four-inch plastic pipes for carrying water from the pump house to Majevu tank. Same District Commissioner Ibrahim Marwa said a Sh 30bn water project is expected to ease water problems in Same.

The project is in its feasibility study stage and would be in full gear after the government releases funds from this financial year's budget. It is expected to be completed before 2010. While the district is waiting for government funds, there have been initiatives to overcome the situation.

"We have tree planting campaigns and managed to plant 100,000 trees in Same town last year. We also involve in the campaign non-governmental organisations and religious leaders who educate people to preserve the environment", said Marwa.

Because of the magnitude of the problem, some people think it needs more than a single project to end the water crisis in the district. Water shortage is such a big problem that these people believe five big projects and twenty small ones are needed to arrest the situation.



The author, **Ms. Salome Gregory** of Mwananchi Communications Limited, Tanzania, is a print journalist who was the winner in the Gender category of the WASH Media Awards for 2007-2008.

"WATER: THE WASTE CONDEMNING SÃO PAULO"

by Ms. Cátia Toffoletto, broadcast date 17-21 March 2008,
CBN - Radio São Paulo, Brazil

Chapter 1

Cátia: Around 30% of the water supply in the São Paulo metropolitan area is wasted. We spend much more money than necessary because of the carelessness of the population and the leakages in the water system.

One doesn't need to walk far to meet people using the hose to clean their sidewalk instead of a broom to sweep it.

While interviewing some people on the streets it is easy to hear a variety of excuses for using the hoses.

Cátia: Excuse me, are you washing the sidewalk?

Interviewee 1: Yes I am.

Cátia: Where are the bucket and the broom?

Interviewee 1: It is hard to wash it that way. If I use the bucket and broom it will not be well done, and my boss will ask me to do it again.

Cátia: Some people are lazy, while others truly believe they are saving water by using the hose.

Cátia: What about the bucket ?

Interviewee 2: It is only used to wash the corridor.

Cátia: Let me see if I got it right. You use the hose to push the dirt away?

Interviewee 2: No, in fact I use the hose to push the fur away.

Cátia: Oh! The fur.....but isn't that wasting water?

Interviewee 2: Not at all. If I would do it the other way, using the bucket and the broom, I'm certain it would waste much more water.

Cátia: So, by washing the fur away with the hose you believe you are saving much more water?

Interviewee 2: Yes, I'm definitely sure about that.

Cátia: Three and a half billion litres of water are produced daily in São Paulo, which is considered to be the richest city in the country. Around 30% of this water, or about one billion litres, flows into the street gutter. If a bucket full of water was used together with the broom, it would save around 300 litres of water per use.

The lack of awareness among the citizenry is one of the reasons for water wastage.

Cesar Pegoraro of the Socio-Environmental Institute explains the reasons for this.

Cesar: Some of the noblest and more populated neighbourhoods like Higienópolis or Morumbi use around 500 litres of water per person per day, compared to some others in the suburbs where the usage goes down to 100 litres per person per day. The city-wide average is about 221 litres per person daily in São Paulo when, according to United Nations data, 110 litres per individual would be enough for drinking, hygiene and food preparation.

Cátia: Other factors for water wastage include broken residential water metres, and leaking pipes.

Interviewee 3: It has been a long time – over a month – since a team of plumbers showed up to check the leaking pipe and cut and replaced the wrong section of it. After they discovered that they replaced the wrong section and agreed that the leak was elsewhere, they promised to come back the next day. But they never did.

Cátia: Paulo Massato is the head director of Sabesp, whose responsibility is to manage and maintain water service to 370 of the 645 municipalities in the region. He explains that parts of the pipe infrastructure are too old and that 90% of the problems start around old pipe connections.

Paulo: Around 600,000 leaks need to be fixed per year, due largely to the old pipe systems,

some of which are up to 90 years old. That's too old. Instead of just replacing all of the old pipes, new pipes are sometimes laid instead. Of course, the problem is not just with the old pipe system; intense traffic jams on the streets above means we need to be very careful when thinking about replacing up to 35,000 kilometres of pipes.

Cátia: The silent water crisis has reached the underground aquifers, destroying their environment and leaving a gloomy scenario.

Chapter 2

Cátia: Antônia Farias da Silva has lived for 10 years near Guarapiranga dam, in south São Paulo, in a little townhouse with some brick in visible need of repair. When her house was built, the roads were asphalted and a drainage system built.

Antônia Maria de Jesus Rodrigues, a neighbour, has lived in a four-room house since she was seven and says that back then, everything around used to be covered with mud and there was also a stream and a big green area around.

Antônia: I had a small wooden home - in fact most of them were wooden at that time. Several years later urbanisation came and the drainage system was covered - and life here became much better.

Cátia: Around 2 million citizens live in areas which rely upon aquifers, including Antônia and Maria, whose houses are also located close to the Tanquinho stream, whose dark waters are polluted with household wastes. The contrast with clear water that has been treated and becomes drinkable is stark.

Cesar Pegoraro also says that it would be extremely helpful if people knew where their water came from. This would make them more aware of the water treatment and distribution process that gives them clean water in their taps at home. That would also make them more aware of the need to preserve those areas in order to avoid repeating the mistakes that were made at the beginning of São Paulo's urbanisation, a period when many aquifers were depleted in the name of progress. Just 60 to 70 years ago it was possible to drink water straight from Tietê river as well as from the Tamanduatei and Ipiranga rivers.

The Guarapiranga river and some other water sources like Billings and Cantareira are responsible for 70% of the water supply in São Paulo. The

illegal appropriation of those areas causes the pollution and degradation of the environment. The river flows have decreased by half.

Paulo: Only 52% of the aquifers remain. We're counting on the rain water to bring the water levels back to their original state.

José Carlos Mierzwa, professor, USP

University: The authorities are aware of the research data and of the necessity, in the near future, to obtain water from other resources besides the ones we have today. And based on studies, more than 25 million litres of water per second will be required until 2025 in São Paulo.

Cátia: Awareness is the priority now in order to avoid over-extracting further from the aquifers.

Chapter 3

Cátia: How could the population contribute in a positive way, knowing that today 30% of the daily drinkable water is being wasted?

What about the use of the virtual water, called that way because it takes into account the water used to produce 1 kg of meat or rice for example, or to manufacture the jeans we wear?

But calculating virtual water use in São Paulo in order to determine our real water usage in litres in the country is difficult. It requires knowing how much water is used exactly for a specific purpose or product.

The water shortage problems are obvious and the waste may cause a lot of damage. Because of that, some basic precautions against waste, like turning the faucet off while brushing teeth or shaving, doing the dishes, and so on, are of extreme importance. Up to 12 litres of water per minute can flow through a faucet.

Isis Biason, a sales assistant, and her family make use of this 'waste water'. She says that in her house, the hot water comes from a solar heating system. As the water takes so long to warm, they save the warmed faucet water in buckets and reuse it for domestic duties like doing the dishes, laundry, etc.

The electric shower is responsible for 46% of the total water use in a house, and a 15-minute shower uses 135 litres of water; washing the car with a hose for 30 minutes uses 560 litres of water.

Cátia: How large is this swimming pool?

Interviewee 4: I'm not sure, perhaps six metres

by four metres. It is small, but large enough to be refreshing.

Cátia: Do you know how much water is needed to fill it?

Interviewee 4: I never thought about that. I'm sorry but I have no idea.

Cátia: Living in one of the richest neighbourhoods in the city, she can't imagine that 4,000 litres of water are necessary to fill her pool, and this kind of waste is among the deadly sins which were defined by the consultant Paulo Cesar Costa:

They are:

- ▶ Avarice - invest in programmes to ration water use
- ▶ Pride - try to be as humble as you can, save water and turn the shower off while washing your hair
- ▶ Sloth - use the broom instead of the hose to sweep the side walk
- ▶ Lust - use the washing machine with its total capacity only
- ▶ Gluttony - use only the necessary water
- ▶ Anger - don't cause your neighbour's outrage

Common sense and technology are good allies for a rational water use.

Thirty percent of the water in the metropolitan area of São Paulo is wasted, information that you already learned here at CBN on Monday.

Without solutions involving the population and the government, the problems tend to grow for the population that lives around the São Paulo area, whereas new technologies are available for smart water use.

Chapter 4

Cátia: One of the greatest challenges we face in our efforts to avoid water waste is to connect technologies and common sense. Nowadays consumers already have products available that are ecologically correct. For example, leak restrictors control leaks and are reasonably cheap and easy to install. All you have to do is substitute the one that comes with your tap and install a new one. They fit perfectly and the screw has the same size. The difference and the benefit you get is that it controls the water flow, turning it into water smart usage.

The leak restrictors can be installed on showers, general use taps, and inside toilet flush

compartments. These items are very inexpensive and they last for a very long time.

The specialist for water rationing, Paulo Cesar Costa, reminds us that for the poorer end of the population, which has little access to this technology, the solution would be for the government to provide the restrictors. Cost is also a factor to be considered in minimising water waste. While 12 reais (R\$12) is charged monthly for 10 thousand litres of water for private residents, retailers and industries pay 25 reais (R\$25) for the same amount of water.

More alternatives are being sought. A consultant, Jack Sickerman, brought from Germany a technology that collects rainwater and passes it through a filter. After being filtered, the water goes to a cistern, which has another filter, making the water good enough to use in swimming pools and washing, but not for drinking.

Another technology developed by the entrepreneur Lito Rodrigues is water-free car cleaning. In this process, a product is used that diminishes the friction between the fabric and the car paint, giving a clean shine.

Rodrigues: There were no concerns about preserving the natural resources before. Nowadays it is a necessity. We didn't realise that using 350 litres of water to wash a car was a relevant issue. The car washing chains in Brazil wash around 70,000 cars monthly. If this technology is adopted, savings of around 22 million litres of water per month could be achieved. That is enough water to supply 44,000 families a day.

Cátia: SABESP, the company responsible for the treatment and distribution of water in São Paulo state, will invest six billion reais until 2010 in the water and sewerage system, including the expansion of the reservoirs, sewerage collection and operational development. The metropolitan director of the company, Paulo Massato explains.

Paulo: We have a recovery and management programme. In this programme we are going to upgrade the system where the pipes are clearly old, where the traffic is heavier and where the leakage incidence is high. It is a process that is to be done in phases, as it is impossible to think of a way where we would be able to open 35,000 kilometres of streets and avenues and change the pipelines.

Cátia: Besides that, a campaign with the distribution of manuals, leaflets and advertising in the general media for the rational use of water

is promoted during the summer, although the campaign should, ideally, run continuously. In an environment where punitive laws for those who waste water are almost non-existent, a good solution is to invest in the children and adolescents' sensibility. Laws and awareness programmes for youth and for better awareness and use of this natural resource should be developed.

Paulo: There are a lot of people that never think about it. They ask themselves if the water is really going to end one day. It is hard to believe.

Chapter 5

Cátia: Juliana is 13 years old and Amanda, Karen, Bruno, Patricia and Leticia are 14 years old. They are students from the State School Pogo Bonn, which is located in the northern zone of the capital. They have already taken part in an educational project about good water use which was adopted in their school classrooms around five years ago. Led by the science teacher Fatima Solange de Laboretti, the school lowered its water bill – an achievement celebrated by many.

They share their experiences:

Juliana: Our water monthly bill used to be around 30 reais but now it is only 20.

Amanda: For us in the house, the bill used to be around 70 reais a month and now we pay around 40 reais a month.

Patricia: Our bill at home has been the same even with the increased prices and taxes.

Leticia: In my house we went from 70 reais down to 60 reais.

Cátia: In the learning process we can also include fun things. The biggest theme park of Latin America, the Hopi-Hari, uses 180 million litres of water. Half of this is reclaimed waste water, and the process of reusing the water is taught to the children when they visit the park at its Educational Laboratory. The lab operation manager, Heitor Garófalo, emphasises that the park is not a substitute for a classroom, but rather teaches in an informal environment, offering the children concentrated information on how important it is to use water smartly. So when these children go to the park and they see all that water, they understand where it comes from and how it was treated. They leave the park with this vision and awareness, which they pass to the members of their families.

There are a few laws designed to prevent water waste. They are directed towards the springs and more recently in São Paulo, towards municipal buildings. Buildings are required to change their hydraulic systems to equipment that reduces the water use. We have already mentioned here that the best tool to raise water waste awareness is to teach people about it.

Children and adolescents are aware: Fernanda, 12, learned the lesson.

Fernanda: In the 5th grade, I studied about water. My teacher told us that we shouldn't waste water, because a lot of people need it. Now that I am in the 6th grade, I saw a very sad picture of a child that cannot shower and doesn't have drinkable water either. So the child drinks water from the puddle. If we waste, waste, waste too much water, other people in need won't have the chance to use this water.

Cátia: The teacher, Fatima, who works with the children and adolescents from Pogo Bonn School, is very proud of her students and herself. She says: "It is worth planting a seed, because it will germinate, for sure".

Fewer than 30 days after this series was aired on CBN radio, the Rational Water Usage Project, which has been slated for voting in the São Paulo Assembly since 2003, was finally approved and sent to Governor José Serra to sign.



The author, **Ms. Cátia Toffoletto** of CBN - Radio São Paulo, Brazil, won first place in the Spanish Language category of the WASH Media Awards for 2007-2008.

"DASSA, THE COMMUNE OF 41 HILLS"

by Ms. Claudine Efoa Atohoun, broadcast dates 9 and 23 September 2007,
Office of Radio and Television, Benin

Traditional music of the Dassa commune.

Matthias Tossou, mayor of the Dassa commune:

You are in the commune of Dassa Zoumé, which has a surface area of 1711 square kilometres, an estimated total population of 93,000 and is divided into 10 districts.

Claudine: Situated in the centre of Benin, 203 kilometres from Cotonou, the commune of Dassa owes its celebrity to Mary, Mother of Jesus. Affectionately named Our Lady of Arigbo after the 1st king of Idaatcha, Olou Afin Arigbogbo, Mary sits majestically enthroned on the hills at the entry of Dassa town, the urban centre of the commune. In her honour, each year in the month of August, tens, even hundreds of thousands of people travel to Dassa to participate in the great marian pilgrimage, considered as a spiritual retreat by many pilgrims.

Priest singing a song to Mary: August 2007 pilgrimage.

Claudine: For the populations of Dassa and its surroundings, however, it is a festival, a great celebration. For the time of the pilgrimage and the rainy season, this festive atmosphere soothes the suffering of the populations of Dassa. This suffering is the shortage of drinking water. The public hand pumps and installations of the National Water Company of Benin, SONEB, are insufficient to satisfy the needs of the town's populations.

Sound of running water and of a hand pump being operated.

Claudine: You come here to draw water, how does it work?

Young man at the fountain: You operate the pump: when there is enough water – it's easy, but when there is not enough water, it is very difficult, especially in the dry season, and the children are not able to draw water.

Hand pump being operated.

Mr. Tchebe, retired teacher: The Beninese Electricity and Water Company (SBEE) which previously managed both entities, today's SONEB and SBEE, had drilled water wells. There was a water conveyance system in the years 1976-1978, recorded as being exploitable for 15 years, with regards to the demography of the time. But today, almost thirty years have passed, there has been no rehabilitation, and the well has sanded up. There were palliative solutions in between, as the area became urban and it was not possible to drill wells, then there were exemptions and wells were drilled, but not enough.

Claudine: Who will solve Dassa's water problem? The people themselves? Community authorities? The state government? Water is the source of life, it is vital.

Raphaël Sacca, Officer in Charge of the National Water Company of Benin, SONEB, in Dassa, recognises these sufferings, but says the situation has improved.

Mr. Sacca: The new borehole has only recently been linked to the existing boreholes, and since 2005 we haven't experienced that many problems as we have been able to ensure correct distribution. Moreover SONEB plans on reinforcing the existing infrastructure and companies shall soon be performing linkage works on some of the boreholes. Therefore the SONEB has not been standing idly by with respect to the development of these installations which were only intended to supply water for 15 years; quite on the contrary.

Claudine: The other difficulty faced by the population is the method of water conveyance implemented by SONEB for the town of Dassa. Tap systems equipped with metres and padlocked, protective metal cases are located at street corners. Information received from the population reveals that this SONEB infrastructure serves consumers living far away from these street areas.

Traditional music of the Dassa commune.

Mr. Sacca: These taps are what we call public fountains. They are used by those who can't afford a household connection to the water network. Nevertheless they need drinking water, and therefore there are certain areas with public fountains. A fee is also charged for the consumption of water from these fountains.

Claudine: In periods of rain, the inhabitants give up on all these irritating procedures. The majority prefer to rely on mother nature, who generously supplies free water to the population for a period of six months each year. Mrs. Symphorose Bacho Bassaley receives us in her courtyard, one evening in August 2007, amidst the pre-marian pilgrimage fervour, in the Ayédéro district, in the eastern part of the town. She is using rainwater to prepare the family dinner.

Mrs. Bacho Bassaley: We collected this rain water in the cistern; it is good water because it comes from the sky. For us rainwater is good water. But when the water is not clean, we add a little alum to it.

Claudine: For many Idaashas, water from the sky tastes better than the water supplied by SONEB, a belief shared by state nurse and health control officer, Hippolyte Guedou. The Droit de Cité team met him at the Dassa area hospital, in the centre of town.

Mr. Guedou: Rainwater is not drinkable because it initially falls through the atmosphere; furthermore the containers in which it is collected are often dirty. However people collect this water for drinking. It has a better taste.

Traditional music of the Dassa commune.

Mr. Guedou: Pumped water contains too much limestone and calcium and does not have a pleasant taste. If you leave this water in a container for a certain amount of time, a flaky chalk-like deposit is formed and the water sometimes has a whitish colour. It is true that our blood contains calcium, but if there is too much of it, this creates kidney damage by blocking the urinary tracts and you can therefore no longer urinate correctly; your urination is reduced and this causes pain.

Claudine: Are these preconceived opinions? Have you had any cases which prove that the water is unsuitable for consumption?

Mr. Guedou: These are not preconceptions; we have had cases of people complaining about pain when urinating, and during examinations to determine whether this pain was due to sexually

transmitted diseases, I saw that there had not been any sexual contact. I therefore gave them a treatment and told them to stop drinking pumped water and drink large amounts of water from sources other than the pump. The results were positive.

Claudine: The officer in charge of SONEB in Dassa, however, reassures the population. For Raphael Sacca, the tap water is not dangerous.

Mr. Sacca: I hear people talking about the water in Dassa, so I explain that they need not fear and that they must drink Dassa water, as the water quality is tested, and if necessary, improved.

Claudine: Has he convinced the people? They still continue to drink rain water and the most urgent action would be to help them purify this water. The health workers see to this when they can.

Sister Ruffiné, health worker: During consultations we explain to people how to treat water with bleach. Three drops of bleach per litre, multiplied by the number of litres. This is about health education and communication. Last year I proposed this method to other communities, who refused it, as they believe that the water must be boiled. In all cases, the best water comes from the boreholes, as deep groundwater is natural.

Claudine: As soon as they were established, the community authorities collected population requirements data for the drafting of the community development plan. Solving the water problem was the top priority.

Mr. Tossou: The supply of drinking water was the first point raised and people even said that if we helped them with the water issue we wouldn't have to do anything else.

Claudine: In 2003, affirms the mayor, the community council submitted an application to the government and obtained the drilling of several water holes to, he says, relieve the suffering of the people. To date, this is really their main priority.

Mr. Tossou: The drilling started in the months of June-July 2003, and today we have almost 25 boreholes in central Dassa, and this is not enough. But the noose has been sufficiently loosened because at one stage, during the dry season, people would give up their activity and devote their time to the sale of water for three months in the year. The jerry can was sold at a cost of 500 CFA francs and you didn't know which water you were being supplied with. Today this business no longer exists, as pump

water costs 15 CFA francs therefore from this perspective something has been achieved.

Traditional music of the Dassa commune.

Mr. Tossou: We have not stopped there. We have contacted partners, such as the KFW, who were already envisaging such action, because there is a crystalline basement and the water lies under the rock layer, and there are techniques to detect the locations where the rock layer is fissured, from which water therefore emanates. Thus, if you drill the borehole at the right place, the water supply can last for years. Otherwise, some of the boreholes dry up.

Claudine: Consequently, the needs of the people are far from being satisfied. Those who suffer the most in this battle for drinking water are the school children. Rosemonde Avlessi, about 18 years of age, expresses her suffering - the suffering endured by the children of her generation living today in the urban centre of the Dassa commune.

Miss Avlessi: Sometimes you have classes from 7:00 am until 7:00 pm and afterwards your mother tells you to go to the well, and you have to walk at least one kilometre to find water. Once you arrive you have to queue and wait even if the people in front of you have 10 jerry cans and you only have small containers to fill. It is very difficult to go to class at 7:00 am so if you know of someone who has jerry cans, you can borrow them and then pay them back. On the weekends you can't even go to afternoon tea, as all week you've lost time drawing water and sometimes we get headaches and backaches. If the government could help us obtain boreholes in the district we would be really happy.

Claudine: The suffering is greatest in periods of drought, a season which lasts from mid-October to mid-April, in other words, six months of the

year. The mayor says he is aware of this and promises new drinking water infrastructure for 2008, with the aid of KFW, a Benin-based German agency which specialises in development project funding.

Mr. Tossou: We have to find a more sustainable solution. The KFW has elaborated a project worth almost 2 billion CFA francs to reinforce the number of existing boreholes and select those with the highest yield. We have boreholes which yield 2 cubic metres per hour, 8 cubic metres per hour and sometimes 12 cubic metres or more per hour. These high-yield boreholes are located on the outskirts of the town. This water thus needs to be injected into the SONEB urban network; a company has already been contracted to perform this work. This means that by next year KFW support shall become a reality. We also contacted the head of state, who visited the sugar producing site of Savez, where there is a water reserve with sufficient capacity to adequately supply both the sugar production factory and provide enough water all year for the Savez to Dassa region. The head of state therefore intends on rapidly implementing this project, and already has funding commitments of over 10,000 CFA francs.

Claudine: From what you have just explained, there have been accomplishments, yet the people are not aware of these. So shouldn't campaigns be organised to transmit this information?

Mr. Tossou: We have districts, but their functioning is not perfect yet because it takes time to establish a culture of decentralisation. We have sent area and district leaders down into the districts and we have held debates over the radio, but this is still insufficient. At any time people can come to get information at the town hall. The development of our commune must not be slowed down for any reason whatsoever.

Claudine: One can only hope that these promises shall be held, and that a compromise is reached between the local council and citizens to guarantee the well-being of the people and to ensure the commune's development truly gets off the ground. Water is life. And in a town without life, development is impossible.



The author, **Ms. Claudine Efoa Atohoun** of the Office of Radio and Television, Benin, won first place in the French Language category of the WASH Media Awards for 2007-2008.

"CHOLERA FEARS AS BULAWAYO WATER CRISIS CONTINUES"

by Mr. Yamikani Mwando, publication date 19 September 2007,
Institute for War and Peace Reporting, Zimbabwe

Bulawayo City Council this week announced an outbreak of diarrhoea amid growing fears of a cholera epidemic, but the government in Harare remains unresponsive to calls to declare the water shortage a national crisis.

Officials in Bulawayo, Zimbabwe's second city, say that only when the government formally designates the water problems as a crisis will resources be pumped in to avert what many here already see as a major humanitarian disaster.

A council spokesman this week told a state-controlled daily newspaper that a number of people had now contracted cholera, the deadly water-borne disease that proliferates in areas with inadequate access to clean water.

This revelation, and reports that hundreds of people have been treated for diarrhoea, comes as no surprise given the lack of water mains, which has forced many in this city of more than two million to use untreated water.

Because of the persistent power cuts, people are unable to boil the potentially harmful water they collect from boreholes and other outside sources.

With some townships reporting water outages for seven days in a row, domestic lavatories have all but stopped functioning, and people are using areas where there are trees and bushes as open latrines, while health officials warn of the risks of disease.

"I wake up at about five in the morning, when many people are still in bed and head for the bush", said local resident Hilary Ndlovu, 27,

explaining how he takes a hoe with him and digs a makeshift latrine.

"It's increasingly becoming difficult to do the rounds in these areas because of the human waste", said a council forest ranger.

Pathisa Nyathi, a spokesman for Bulawayo City Council, said there was no need for people to behave like this. "We have publicised the water cuts timetable so people can stock up water", he said.

However, residents complain they cannot store enough water to last them for the seven days they are likely to need it.

There is no sign that the water shortage will ease any time soon.

Information Minister Sikhanyiso Ndlovu recently told state media that the government had an obligation to step in and deal with the water crisis. "The people of Matebeleland must not feel they are being punished by the government", he said.

However, the government has made it clear that assistance will not come until Bulawayo's leaders agree to have the Zimbabwe National Water Authority, ZINWA, take over the city's water network.

Munacho Mutezo, Zimbabwe's minister for water and infrastructure, said recently that the government would not intervene, and cited the city administration's resistance to a ZINWA takeover.

Mayor Japhet Ndabeni-Ncube, who belongs to the opposition Movement for Democratic Change, MDC, says "they [government] want Bulawayo dead".

Bulawayo City Council is run by the MDC, which fears that the government wants to replace it with an appointed commission. There is a

precedent for this - in April 2003, the elected council in the capital Harare, led by MDC Executive Mayor Elias Mudzuri, was dismissed and a commission was installed which still runs the city.

Bulawayo has faced acute problems since with the major reservoir that supplies its water all but dried up after last year's poor rains.

An ambitious project to bring water to Matebeleland from the Zambezi river

450 kilometers to the north has failed to get off the ground since independence in 1980, and some suspect the inaction is due to official resistance to helping this region, seen as a stronghold of opposition to President Robert Mugabe.

Some Bulawayo councillors blame the city's current water problems on the government's reluctance to back the Zambezi project.

"Each year, the council discusses the problem, and each year government frustrates us", said a councillor who spoke on condition of anonymity.

Meanwhile, as the war of words between Bulawayo City Council and the central government drags on, the health risks are likely to become greater as people continue drinking and washing in water from polluted sources.



The author, **Mr. Yamikani Mwando**, Zimbabwe, is a freelance print journalist who won second place in the English Language category of the WASH Media Awards for 2007-2008.

"THE GREAT CHALLENGE OF THE FAECAL PERIL"

by Mr. Dieudonné Soubeaga, publication date 5 - 19 December 2007,
Le Libérateur, Burkina Faso

Open defecation is a regular practice for many Burkinabe living in towns and villages. Their stools pollute the environment, contaminate surface waters and cause many diseases. The faecal peril in Burkina Faso poses the thorny problem of the rights of well-being for poor populations in a sanitation system which is still in an embryonic state. Zoom in on the sanitation situation in the land of upright people under the prism of the faecal peril.

Thursday, November 15, 2007. The rural commune of Dassa, in the province of Sanguié. Under a mild sun, municipal councillor Suzanne Kansolé moves away from the group of women and advances towards a microphone. Facing a motley audience, she says with Olympian calm: "I do not have a household latrine. I still defecate in the bush". This open testimony leaves journalists stunned. A local councillor has spoken out loudly and clearly about a reality faced by many people.

Rate of toilet coverage: 1.56 %.

The practice of outdoor defecation admitted by the widow Kansolé illustrates the sanitation and hygiene situation of many Burkinabe households. For the rural commune of Dassa, general sanitation conditions and latrine issues in particular remain preoccupying. The rate of toilet coverage is 1.56 % for a population estimated at 14 households, affirms the coordinator of the NGO Action Micro Barrages, Mahama Sawadogo.

From the infinitely small of the rural commune of Dassa to the infinitely big of the urban commune

of Ouagadougou, a sense of unease arises at the sight of fresh, less fresh and dry stools. When it is not disgust at the foul stench which seeps into the nostrils, it is the fear of stepping in a stool. The faecal peril surrounds us each day. It is not discernible in the felted lounges and posh rooms of the rich. But the danger is real. What can be done about it?

The issue of household and public latrines has mobilised the international community. Every year since 2001, the 19th of November is celebrated as the World Toilet Day. In Burkina Faso, the commemoration of its 6th anniversary was held in Meguet in the province of Ganzourgou. Populations without decent toilets, technical and financial partners, civil societies and political authorities listened to the speeches on the faecal peril. The voice of Issaka Maiga, deputy minister of agriculture, water and fishing resources, supplanted all other sounds: 2.5 billion people in the world do not have access to private or clean toilets. This means that nearly 40 % of the world's population is forced to use the bush, river banks, water springs, canal banks, bags, buckets or unhygienic toilets for their needs, hammered Minister Maiga.

Using nature as a toilet.

The situation in Burkina Faso presents alarming statistics. The annual national household and poverty survey carried out in 2005 by the National Institute of Statistics and Demography reveals that the proportion of households practicing open defecation is highest in rural areas (78.4 %). While in urban areas, ordinary latrines are predominant (69.8 %). It should be noted that in urban areas, many households still resort to using nature as a toilet (7.5 %). The evil has been identified. Its diagnosis, too. But preventive treatments are long in coming in the fight against the faecal peril.

Contrary to popular opinion, the toilet issue in Burkina Faso concerns towns and villages alike. It strikes poor households. There is a

correlation between open defecation practices and household poverty levels. Just like the poor widow Suzanne Kansolé, the millions of Burkinabe who struggle to make ends meet live without adequate sanitation. Sanitation for the population is urgently needed. But alas, political choices leave a lot to be desired.

The search for a solution to the faecal peril in Burkina Faso can be seen in the national sanitation strategy. In both urban and rural areas, the state advocates independent sanitation by a latrine production program. The National Water and Sanitation Office (ONEA) is in charge of supervising the implementation of the independent sanitation policy with several types of latrines. There are the double pit VIP (ventilated improved pit) latrines, pour-flush latrines and septic tank latrines. The results still fall short of the population's expectations. To confront the challenges of sanitation, the sanitation department was created within the general department for water resources. The Burkinabe government has made its intentions clear. Its objective is to increase the sanitation rate (wastewater and excreta) in rural environments from 10% in 2005 to 54% in 2015 and in urban environments from 14% in 2005 to 50% in 2015.

This ambition is indeed noble. But one must not miss the forest for the trees. Sanitation, and by extension decent toilets, remain the poor relations in terms of investment policies. The evidence? The new sanitation department does not have a clear budget. The government funds allocated to the decentralised hygiene and sanitation services of the municipalities are like a drop in the ocean. To reverse this situation of national marginalisation, the mayor of the rural commune of Dassa, François Baye, provides this recipe: the sanitation problem has to be tackled front-on, in view of the social demand. It is a vital condition for reducing the sanitary consequences of toilets which have become permanent nests of flies, mosquitoes, cockroaches and mice.

An appropriate sanitation system, quality of life in the communities.

Faecal matter has a profound impact on public health. Excreta reach lakes, rivers and water reserves through surface runoff. And yet, 4.2% of rural households still consume water from rivers and streams, indicates the July 2004 poverty reduction strategy paper of Burkina Faso. The consumption of contaminated water increases the risks of mortality and morbidity related to insalubrious water. According to

the Water Supply and Sanitation Collaborative Council, a great many illnesses in the world are caused by faecal matter. Water-related illnesses such as diarrhoea impact the growth rates of children from poor households. According to nutritionists, the illness reduces appetite, prevents the absorption of nutrients, burns calories due to the fever associated with fighting the infection and wastes nutrients through vomiting and diarrhoea.

On a worldwide scale, more than 5,000 children die each day from water-related illnesses. In Burkina Faso, it is believed that the inadequate sanitation system severely strains the family budget of poor households. It also generates production and productivity losses in rural environments. And yet, an appropriate environmental sanitation system, and toilet facilities which meet the needs of both males and females, are determining factors in improving the quality of life in the communities, writes Burkina Water, Sanitation and Infrastructure Program Advisor, Raoul Adjalla.

Outdoor defecation violates the integrity of the earth's vulnerable soil and ground layers. "This goes against article 29 of the constitution of Burkina Faso. It stipulates: "The right to a healthy environment is recognised; the protection, defence and promotion of the environment are a duty for all". The right to decent toilet facilities is almost non-existent in many villages. The latest Burkina Faso sanitation inventory shows that traditional latrines are non-existent in 4,330 villages, a rarity in 3,331 villages and numerous in only 1,062 villages. As for modern latrines, 10,784 were inventoried and distributed amongst 1,263 villages. Millions of Burkinabe are deprived of adequate toilets. A sad truth giving rise to the analysis of the region's governor on this never-ending cycle: without access to drinking water and sanitation, sustainable development is impossible. The populations deprived of these services are prisoners of the cycle of poverty and illness. We thus have no other choice than to solve this major crisis, because the eradication of poverty depends on it!

Human dignity.

The realities of sanitation in Burkina Faso closely resemble those of many other African countries. Within the scope of the Millennium Development Goals the country is committed to halving the proportion of people without sustainable access to sanitation by 2015. Political will alone, however, is not enough. The situation cries out for individual and collective awareness. The

faecal peril is ringing at the doorbells of poor households. It requires behavioural change in urban and rural areas. Because in spite of the presence of family and public latrines in certain localities and concessions, the Burkinabe still prefer mother nature as a toilet. They prefer the caresses of fresh air in the bush when answering to nature's call.

Population awareness actions have become a *sine qua non* condition for challenging the faecal peril. No social layer must be ignored. One needn't look too far either for anti-sanitary behaviour. Here! Take the Marien N'Gouabi college in Ouagadougou, where the pupils leave



their stools outside the toilet orifices, an attitude which confounds the resident representative of British NGO WaterAid, Yéréfollo Mallé: "The problem of drinking water, hygiene and sanitation is not only a question of funding and technicians. It is also a problem of information and communication. The demographic pressure in Burkina Faso is such that the public authorities and the population are left with no choice. The population growth reduces open defecation areas in a village like Bolembar, and people without household toilets travel kilometres to relieve themselves. If the rural areas are already facing difficulties with excreta disposal, one can imagine the plight for urban dwellers. The availability and accessibility of toilets are essential conditions for the well-being of the population, especially the poor. They could guarantee the dignity of elderly people and fight against the new urban phenomenon of defecating in bags."

The author, **Mr. Dieudonné Soubeaga** of Libérateur, Burkina Faso, is a print journalist who won second place in the French Language category of the WASH Media Awards for 2007-2008.

"THE HEAVY BURDEN OF PROTECTING THE WATER"

by Mr. Arif Budiman, broadcast date 27 March 2008,
TV programme Telaah, Indonesia

Segment 1

Arif: Water is an important element for the existence of life in addition to energy. Man can survive longer without food than without water. That's how important water is in life. Not only for consumption, water is also an important part of man's daily activities. There's no doubt, men cannot be separated from water. However, has earth been given sufficient clean water for the 6.5 billion people on it?

Earth is known to be a water rich planet. Water makes 70% of the earth's surface. However, only 2.5% of it is fresh water. Of that percentage, not more than 1 % can be consumed by people. For daily needs, men can obtain water from two main sources: from the river and groundwater. But how good is the condition of these two water sources?

Like the other inhabitants on the banks of the Ciliwung River, in Bukit Duri, South Jakarta, Mamat and his wife are doing their washing at the riverside. Most of the people's activities are carried out on the riverside. Though they use groundwater, they throw the detergent waste into the river. The river, which is supposed to be a source of life, has long been the centre of waste dumping. However, many people still use the river water for bathing. The people's low awareness is worsening the pollution of the river.

Mamat, riverbank inhabitant: The river is already filthy. Where else should we throw it to? Since it's already filthy anyway, we just throw it there.

Arif: People on the riverbank cannot be fully blamed. The lack of government support for their sanitation system plays a role in inhabitants' bad habits. The public facilities for bathing and toilet are usually not functional. Hence, the inhabitants continue to throw waste into the river.

Mamat: There were bathing, washing and toilet

facilities. But they are not used anymore. They all broke down.

Arif: The government states that it's difficult to raise awareness for the community not to throw waste into the river. It is better to monitor industrial waste disposal. In the meantime, new sanctions on environmental pollution are being prepared.

Rachmat Witoelar, Minister of Environment of Indonesia: While the law is being discussed, the ministry is monitoring installations that are not public, like factories and hotels, to control them. It's difficult to control the community because there are millions of people. We have to wait for the laws.

Arif: The government knows that it is its duty to provide clean water access to the community and protect the environment from pollution. But it will take a while to change the people's view on the river's function.

Mr. Witoelar: Government aid is required for sanitation outside the river. That's a tedious matter but that's the way to save the rivers. The whole world is doing the same. The river is not the centre of waste. It is the source of life. Here it isn't so. The river is the centre of waste, not life.

Arif: Only 84 % of the garbage in Jakarta can be carried to terminal disposal areas. The rest is thrown out in the streets, gutters, and the rivers. The river is the main resource of drinking water companies.

In the processing system, murky water from the river is processed with chemicals. The goal is to reduce mud and bacterial content. However, if the waste is too concentrated, it's impossible to increase the chemicals since it'll be hazardous to health. Afterwards, the processed water is received by consumers in their homes. However, it doesn't mean that the citizens can enjoy the water that is both good in quantity and quality.

Segment 2

Arif: To fulfil the need for clean water, the district government joined with investors to establish a drinking water company. The basic resource is water from the river. The water processing installation owned by Thames Pam Jaya, in Buaran East Jakarta, gets water from Jatiluhur Reservoir, West Java. The raw water flows via the Malang River to the installation. Then several processes are undertaken to obtain a usable water quality.

First the raw water is filtered and separated from any waste. The next process is refinement. The water is mixed with a chemical to remove mud and ammonia.

Rhameses Simanjuntak, communication director of PT Thames Pam Jaya: The Malang river intersects with several rivers which are polluted with household and industrial waste. If waste is disposed into the river, we will get polluted raw water. The production capacity in Buaran is 5,000 litres per second. In Pulogadung, it's 4,000 litres per second. The total capacity is 9,000 litres per second. We currently produce 22 million 6 hundred cubic litres of water per year.

Arif: To maintain the acidic content, the water is mixed with limestone. Control and monitoring of water quality is carried out in the laboratory. The water quality is examined by the hour.

Mr. Simanjuntak: We have many difficulties. First the quality of raw water keeps decreasing. And during the rainy season, there's plenty of water, but it's too turbid. The irony is that during this season, there is plenty of water, but production decreases. This is because our plant has a limit to turbidity of the raw water.

Arif: The company claims the water that has gone through the processes is water that is safe for immediate consumption. However, after leaving the reservoir, the water can become contaminated.

The water installation in Buaran supplies clean water to East and North Jakarta. The water flows through underground pipes extending 20 kilometres from Buaran to the reservoir in Cilincing, North Jakarta. Here at the reservoir the water quality is tested again. From acidic content to chlorine level to level of turbidity, many measurements are made.

An electrical energy of 20 kilo-volts is required to pump water to pipes in peoples' homes. At

this point, the water distribution is frequently disrupted.

Mr. Simanjuntak: We have trouble in distribution since Jakarta is flat and not hilly. So everything needs a mechanism. All of the water must be pumped out. If there is electrical failure, distribution fails too. Production fails as well.

Arif: So it's no surprise that thousands of customers like Arya Wirayati have difficulty in obtaining clean water all day. The citizens of Plumpang, North Jakarta, have water supply shortages. PAM, the water company, has the water volume low; it flows only at certain hours. The water usually only flows from midnight till dawn. Due to that, Arya has to gather water in a tank before it can be used. Usually the dirt that comes with the water settles down at the bottom of the tank.

Arya Wirayati, consumer: Once, the water was murky and had a bad odour. It smelled like a gutter. Work is postponed, washing dishes is postponed. We wait for night to start our chores. We wash at night since water is only available at night.

Arif: Usually the water supply lasts longer if it's not used for washing. But when there is ample water usage and the supply runs out, Arya must wait for the next night in order to get clean water. The PAM water service control agency states that the company that controls PAM water has not been giving maximal service.

Mr. Ahmad Lanti, chairman of PAM regulator: If seen from the contract with the operator, the water production service is fulfilled. But the level of leakage is still out of target. The coverage ratio is also low. The water volume sold is also low. Those are the facts. That is why we always push the operators to fulfil their contract. Especially when it comes to water pressure and quality. There are still complaints from the community.

Arif: The river water, though processed through a modern installation, is still not freely consumed. Groundwater, which people get through pumpwells, is also not free from contamination. The high population growth in the cities causes citizens to live in packed spaces.

People with low incomes can only have simple houses, in a crowded shanty town. With that condition, each home's sanitation system is definitely far from ideal. The distance between the toilet and the water source is very close. There's no doubt at all. The consumed water contains high levels of bacteria.

Segment 3

Arif: In the crowded area of Kampung Kapuk Rawa Gabus, West Jakarta, clean water is what the citizens dream of. Last September, the citizens made a well together since the functioning of wells in many houses was not optimal. A cost of IDR 1 million was pitched in by the citizens, who mostly work as small traders or labourers.

Asban is one of the citizens that took part in the well making. Though he knows of the ideal distance between the well and the septic tank, Asban has no other choice.

Asban, Kampung resident: There's no space far from here for the toilet, so it had to be built near the well. We have no money. If there is more money and more ground, then only we can make it far from here.

Arif: This father of three routinely uses well water to bathe his children. Though the water has an odour and taste, the citizens depend on this well for their daily activities since the wells at their homes are usually dry. But the citizens dare not use it for cooking or drinking. Each week they must buy water from the water hawkers for a price of IDR 2,000 for one filling.

Asban, Kampung resident: It's not good since it's salty. For bathing, it's fine, but it can't be used for cooking and drinking. It's salty even for bathing. If we use it for cooking, the food will be salty too.

Arif: Asban and the other citizens of Kampung Kapuk Rawa are part of the millions of Indonesians that do not have proper sanitation. More than 72 million Indonesians live with poor sanitation. In Jakarta, 60% of the people depend on groundwater for clean water. But 70% of groundwater in Jakarta is contaminated by bacteria and faeces. The cause is the proximity of human waste disposal centres to ground water, which is less than 10 metres below the surface.

Setyo S. Moersidik, water researcher: Around 80 to 90% of the water used for clean water is contaminated by *E. coli*. This means that the sanitation system is closely related to clean water. This is what makes the situation critical.

Arif: Poor sanitation is the main cause of various diseases such as diarrhoea or dengue haemorrhagic fever (DHF). The poor health of the community has an effect on the economy. From World Bank data, Indonesia suffers a loss of IDR

58 billion each year due to poor sanitation. That is why sanitation and clean water supply must be immediately fixed.

Setyo S. Moersidik: When speaking of sanitation and clean water, those are two sides of a coin. Clean water is obtained from raw water for drinking water. Sanitation is how the environment is maintained so water isn't contaminated. So when there's poor sanitation, sanitation involves all the waste and the drainage that's thrown into to the river.

Arif: The laboratory owned by the Department of Health tests hundreds of water samples from water users, both from the business sector as well as agencies. They perform lab tests as much as once every one to three months on the water sources that they use. The microbiology and chemical content of the water sample is the main target, since those contents have an effect on health.

Zamrud Ewita Aldy, head of laboratory: *E. coli* bacteria is very important. It's the indicator of our tests. If it's positive for *E. coli* bacteria, which should be negative or zero, it is likely that other bacteria are also present. On the chemical side, the pH level is usually the problem. Because the pH level is another parameter. Like the manganese level. Manganese will affect the body's metabolism, so oxygen flow to the brain is reduced.

Arif: The government is not standing still. But the lack of funds hinders speedy sanitation access to millions of people through the construction of public sanitation facilities. Foreign agencies are also involved.

Compared to the Kampung Rawa citizens, those living in *RW 008* (block community) Petojo Utara, Central Jakarta, are more lucky. Since September 2007, old facilities that were left unkempt are rehabilitated with aid from foreign non-profit organisations. Not only that, new facilities are equipped with waste processing technology so waste does not pollute the river and doesn't contain *E. coli*. Here human waste is also processed into biogas. With certain processes, the water at the facilities can be consumed. The community is very enthusiastic with the presence of the new facilities.

Atun, RW 008 Petojo resident: This is better. We usually only use the toilets in the facilities. Now we bathe here as well. I think it's the place as well. It's now clean so we like it. Many families have only one bathroom, so they have to struggle. It's better here, because there are plenty of bathrooms.



Arif: Not only that. The people's awareness of the importance of sanitation has increased. In every house, the citizens use a simple container to wash their hands. Whereas before, the habits of the inhabitants of this shanty town were completely the opposite. They used to throw waste into the Krukur River. The presence of the facilities not only changed the community's habits, but it also prevents them from various diseases.

Irwansyah, speaker for the RW 008

community: Before the facilities were constructed, many diseases were found due to poor sanitation, such as dengue hemorrhagic fever, diarrhoea and skin diseases. Since September 2007, even January till March 2008, there are no more citizens suffering from these.

Arif: Water has become a basic human right. Other international agreements have even stated that the first basic right of mankind is access to water and sanitation with affordable costs. Undoubtedly water and its sources are the responsibility of the Earth's inhabitants for their own survival.

The author, **Mr. Arif Budiman** of Astro Awani, Indonesia, is a television journalist who won third place in the English Language category of the WASH Media Awards for 2007-2008.

"GANVIÉ, A DYING TOWN"

by Mr. Euloge Aïdasso, broadcast date 28 April 2008,
Golfe Television, Benin

Euloge: The lake village of Ganvié is one of the jewels of Beninese tourism. This traditional fishing village consists of bamboo huts with straw thatched roofs, perched on stilts above the lake. Attractive and picturesque, this small town is often named the "Venice of Africa" after the Italian city. In Ganvié, the symbiosis between man and nature is total. It is the expression, the symbol, of the adaptation of man to his immediate environment. But in this adaptation, the population has reached a point where it is harming the environment and dangerously threatening the existence of this site. Indeed, today Ganvié is confronted with a serious problem of pollution, a problem of sanitation: the management of faecal matter.

For a long time in Ganvié, the lake waters served as a receptacle, transport and digestion agent for all sorts of waste products. But the combined effects of the demographic explosion and the increase in waste products have exceeded the self-purification capacities of the natural environment.

Eustace Bokononganta, geography professor:

Ganvié is an interesting site which is situated in the lower delta of the Sô river. The position of Ganvié itself is a source of constraint because in the deltaic configurations there is an accumulation of polluting materials from the upper reaches to the lower delta. The outcome is that at the opening of this lower delta, we have an enormous lake of approximately 200 km² which is connected to the sea by a long channel of four and a half kilometres. Unfortunately, for over a dozen years, the opening of this channel into the sea was closed off by rocks. Rocks had indeed been placed there to slow down the intrusion of salt water into the channel. The hydrodynamic conditions were thus modified and the elements propelled by the upper waters from the lake are no longer evacuated into the sea. The lake and the channel have thus gradually silted up, which further complicates pollution issues.

Faecal matter is the thorniest problem of this pollution as it is directly released into the lake water. It is a threat for the ecosystem, for the

environment and in particular for public health. Each day 15,115 litres of excreta are poured into the lake waters, of which only 6,046 are treated by the self-purification capacities of the lake. The remaining 9,069 litres, represent a major pollution burden.

Hariss Kaltou, environmentalist: Each day, the population of Ganvié releases no less than three tankers of faecal matter into the lake waters. In 2006 it was about the equivalent of 925 tankers. In 2008, no less than 1,500. And when one makes a projection through to 2025, no less than 12,500 tankers of faecal matter shall be poured into the Ganvié site only. In Ganvié practically all the latrines are suspended, with an enclosure and a platform, and all of the population's excreta is discharged directly into the lake.

Euloge: These suspended latrines are generally erected outside the homes. They consist of a straw or metal sheet enclosure to hide the occupant. The floor of the latrine, which is generally the prolongation of the house floor, is composed of boards assembled such that a hole is left for excretion. There are more than 4,000 latrines of this type at Ganvié. Raised latrines are extremely rare.

The latrine floor paving at the public primary school of Ganvié is destroyed in some places, which creates an exposed pit. In flood periods, its contents are released into the water. There are no waste collection costs indeed – everything goes into the lake, domestic waste products and faecal matter alike.

Hariss Kaltou: On the environmental side, the oxygen quantity index needed by micro-organisms to oxidize the organic material present in the water - the biological oxygen demand (BOD) - is 10 times greater than the standard quantity of 3 milligrams per litre, whereas here, in some places, one can find 30 milligrams per litre. This means that the survival of all the species in this environment is at risk. The immediate consequence is that this water is not suitable for any use whatsoever. However, as you can see the

population uses this water, they swim in it, and sometimes I think this water may well be used in the preparation of food.

Euloge: The water has a greenish colour and exudes a foul stench. It is a potential source of illness. The floating market of Ganvié is also held on the waters. It is indeed captivating by its beauty and originality, but the contact of food materials with the waste-infected waters is a health risk.

Hariss Kaltou: One gram of faecal matter can contain 10 million viruses, 1 million bacteria, and 100 parasites. So when you imagine the volume of faecal matter which is discharged each day into the lake, it's frightening. In these conditions, epidemic diseases, such as cholera for example, are inevitable. There were disease outbreaks in 2003 and 2004 not far from Ganvié, and I am afraid that if nothing is done, there shall be others.

Camille Dagbo, Sô-Ava chief of medicine:

There are infections, parasitoses, which are frequent in the commune, and the statistics in 2007 compared with those of 2006 show that there is a progression of parasite-related infections in this commune. It is therefore necessary to inform people on how to improve waste management. The local council must absolutely intervene, because sanitation is everybody's business. Some areas are difficult to access, and when you are in these areas, in the middle of nature, the cost of travel is high, you have to paddle, and people don't want to make the effort to travel for kilometres to find public latrines. Furthermore, general findings show that the public latrines are not well maintained.

Each year National Polio Vaccination Days are organised in Benin, when there hasn't been any case of indigenous contamination in Benin for years. However, there is a large country next to ours, Nigeria, which is the worldwide reserve of this disease, and there is a mixing of the populations, with people going to Nigeria regularly. Therefore it is easy to import the virus. One of the characteristics of this disease is that the virus is frequently found in waste products, in stools and with open defecation. The stools are within the reach of children; this aspect causes us a lot of concern.

Euloge: For populations whose main activity is fishing, it is obvious that the reduction in fish production has a negative impact on their financial situation, and consequently, on their living conditions. The population is becoming poorer each day because of the insalubrity of the lake's water.

Shrimp exports to European countries have also been greatly affected by the economic catastrophe due to the insalubrity of the water.

Hariss Kaltou: The main activity of the population is fishing. And as I said before, because the BOD is very high, survival in this environment is uncertain. Fish production has therefore dropped and shrimp exports have plunged. The European Union has prohibited the import of these shrimps, which are not fit for consumption.

Euloge: Inadequate management of faecal matter at the site of Ganvié has also scared the tourists away.

Florentin Agbonon, tourist guide: The population does not have latrines, and people practice outdoor defecation. As a result the stench drives the tourists away. There are bags lying on the ground which contain animal and human excrements. If you were a tourist, you would leave, too.

Raphael Houssou Mianwadoude, hotel

manager: I invested money in wells so that we could have drinking water, and for the sanitation of the village, because there is a serious problem: everything is discharged into the water and the water is polluted. There are no available resources; this is the consequence of poverty. If the government could do something, the situation could be improved.

Euloge: In these conditions, it is not surprising that the number of visitors coming to this exotic site has fallen drastically.

Hariss Kaltou: Ganvié is one of the jewels of Beninese tourism, but between 2001 and 2005, now listen well, Ganvié lost most of its tourists. It is a national disaster. The water stinks, it is insalubrious, and even the people who live here feel uncomfortable. So I don't see what interest a tourist could possibly have in coming here.

Euloge: A situation which challenges the administrative and political officers in charge.

Andre Todje, mayor of Sô-Ava: The living conditions for people who spend their lives in pirogues, in huts perched above the water, are very complicated and difficult. As they don't have adequate toilet facilities, people have adopted the natural system and defecate into the water directly from their homes. The faecal matter which floats at the surface is very hazardous to human health. Furthermore, it is badly looked upon, by us the authorities, by the population and by the foreigners and tourists. Today we

are looking at how this environment could be sanitised, to set up infrastructures worthy of this name, so that people could answer to nature's call in adequate conditions, and to prevent faecal matter from being discharged into the water. At present, it is difficult to tell inhabitants that they must leave their homes, take their pirogue and travel kilometres before finding latrines. We are in the process of developing a certain number of projects with our partners to define which system to adopt for public or family latrines in Ganvié. The studies are underway but the systems are complicated. We have a Chinese system, but it is difficult to implement in view of the geographical aspect of the Ganvié area. We are trying it out in the land districts. At the moment, we have decided to install it in the schools, to give the children access to toilets, and to educate them at the same time so that in turn they can educate their parents at home. Because once the latrines are installed, we need to heighten public awareness to ensure the people use them, instead of defecating directly into the water.

Gisele Doussou - Yovo, assistant director of tourist development: The situation is really alarming, because the faecal matter circulates in the waters at Ganvié. But I would like to reassure you, the minister for tourism is determined to solve this problem, we have a sanitation project



underway which will cover Ganvié and the entire Sô-Ava commune. We want to collaborate with the NGO Oxfam Quebec and the Department of the Environment. A steering committee has been established to decide on the environmental sanitation actions to be adopted here, to make the air breathable again, for all the Beninese and tourists who visit the site.

Euloge: Considering the enormous consequences related to the inadequate management of faecal matter in Ganvié, it is inevitably necessary to find the appropriate solution, which requires certain preliminary conditions.

Eustace Bokononganta: An appropriate solution requires equipment which is resistant to humidity. We also need to see whether these equipment costs can be borne by the population at the community and individual level, because housing in Ganvié consists of individual dwellings where each has its own shower and latrine facilities. We must therefore consider the replicability of the installations. The solution has not been found yet, but one thing is sure, the faecal matter must be evacuated from the Ganvié waters.

Euloge: The environmental capacity of Ganvié is not exceeded yet. But if nothing is done soon, it will be a disaster. If Benin wishes to keep on marketing its "Venice of Africa", the public authorities must rapidly undertake the environmental sanitation actions required to ensure the slogan "entirely built on water" doesn't become "entirely built on waste". The simple truth is that life in Ganvié depends on it.

The author, **Mr. Euloge Aïdasso** of Golfe Television, Benin, won third place in the French Language category of the WASH Media Awards for 2007-2008.

"LIMA'S ANTIQUATED SEWERS HAVE BROUGHT IT TO THE BRINK OF A HEALTH CRISIS"

by Ms Julia Fabiola Torres López, publication date 20 April 2008,
Diario el Comercio, Peru

Lima and Callao's sewerage network is on the verge of collapse and yesterday the government declared a state of emergency to deal with it. Those most at risk are the local population.

Their tiny nostrils have lost all sense of smell. The stench makes you want to throw up, but the only concern of the small group of children playing near the excrement-coloured waters of the river is counting the birds fluttering overhead. This is the Santa Beatriz de Ventanilla shanty town, just opposite Oquendo beach, where the Comas sewer, one of Lima's twelve waste outlets, is also located.

In fact, the river in which the children are playing is the wastewater outlet for the entire population of the northern part of the capital; its final destination is the Pacific Ocean. Every day, an amount of human and industrial waste that would fill two national stadiums flows into the ocean from different drains. The Lima Water and Sewage Department (Sedapal) processes barely 12 % of the city's wastewater.

As if by a cruel twist of fate, for the last month the same Ventanilla district, where the children are playing, has also become the wastewater outlet for Lima's seven other districts thanks to the northern main sewer, which passes barely 500 metres away from the Comas sewer. The main sewer was not due to come into operation until the wastewater had first been treated; however, it has been open since the collapse of the Costanero de San Miguel outlet last March.

Yesterday the office of President of the Cabinet officially acknowledged a situation that could no longer be denied: the Lima and Callao sewerage network is in a state of emergency. Supreme

decree N°030-2008-PCM warns that because of the antiquated state of the discharge pipes (N° 6, Centenario, Bocanegra, N° 19 and Argentina) they may pose a similar threat to that from the Costanero sewer, which is on its last legs.

The government has promised to take within two months all the measures necessary to prevent any risk for the population. Sedapal will have just two months to tackle a problem it should have dealt with several years ago, in accordance with its own master plan for 2005. In all, 22 % of the main drainage networks, which include the sewers, are more than 50 years old; according to the same document, a further 17 % are between 30 and 50 years old.

According to the firm's plans, by 2006 the Taboada treatment plant (which has yet to be built) should have been in operation to draw off wastewater from the northern main sewer. This pipe would divert fluids from at least four antiquated sewers to avert their collapse.

The working life of the drainage infrastructure spans fifty years, a period that varies depending on its use and preventive maintenance.

"However", according to Javier Prado, a sanitary engineer and the former civil society representative on the Board of the National Sanitation Services Supervisory Authority, (Sunass), "the city's growth, the overloading of the sewers and their antiquated state make it imperative for us to renew them".

Populations at risk.

Although we are now in 2008, Sedapal has still not carried out its plans. In the thick of the emergency, the public water utility has set itself a fresh deadline for the Taboada plant: two years. Nevertheless, the risk of further collapses among its sewers is heightened by the presence of people living in the vicinity of the drains.

"Why should we have to pay with our health for a problem that could have been prevented? It's not just the stench, it's the plague of rodents and our peace of mind", says John Torres, who lives in the vicinity of N° 6 sewer, which pours wastewater into the river Rímac, alongside block 25 on Avenida Perú, in San Martín de Porres.

The Ministry of Health has not identified the area affected by pollution, nor has it carried out an epidemiological survey among the populations living beside six of Lima's sewers, which for several decades have been pouring untreated water into the river Rímac and into the ocean.

According to Fausto Roncal, who works for the Environmental Health Department (Digesa), a technical team will carry out a risk evaluation in these areas to determine the level of exposure depending on the location, how the wastewater is evacuated, the population's access to basic services and their behaviour in the presence of the danger.

"The kids get spots on their skin; they are poor. We think it's because of the environment but what can we do about it?" complains Albertina Flores, who lives in the El Progreso shanty town opposite the Bocanegra sewer, which also pours its waste into an irrigation canal. "We've nowhere else to go".

The Pan American Health Organization (PAHO) has drawn attention to the inadequate (in actual fact non-existent) treatment of urban wastewater. The PAHO has warned of the grave risk for the environment and for human health from the lack of wastewater treatment plants.

The impact.

Mauricio Pardón, director of the PAHO Pan-American Center for Sanitary Engineering and Environmental Sciences (CEPIS), has suggested that the wastewater discharge areas in Lima should be declared off limits and that a charge should be levied for the environmental services with which they provide the city.

The Ministry of Housing has offered financial compensation to try to persuade families living in the Cerro de Pasco and Chépén districts of La Perla to allow the sewer that runs past their houses to be brought into operation, thus allowing the north main sewer to be closed until the Taboada plant has been built.

Digesa, the Peruvian Maritime Institute (Imarpe), Sedapal and the Civil Defence service have

decided that the environmental impact would be less in La Perla, as the housing development is separated from the pipe by the cliff and the road. "Besides, in contrast with the ocean at Ventanilla, the tidal system in the area by the La Perla sewer is better suited to limiting the environmental damage caused by wastewater", explains Marcos Alegre, Chairman of the Group for Environmental Activities (GEA).

However, the local inhabitants replied with a single voice: "Health is not for sale". A total of 88 % of the inhabitants of Lima interviewed by Ipsos Apoyo also thought that opening up the sewer would affect the population's health. Mabel Zapata has lived on the sea front in La Perla since she was born, but her mother has always told her not to go down to the beach. "The Costanero sewer was nearby and it polluted the water. Now, they are going to open another pipe even closer to where I live and it will be even worse", she sadly laments.

While the authorities discuss how to finance the works needed to treat wastewater, the impact on the marine ecosystem is more apparent every day. In accordance with the Water Law, there should be no more than 4,000 PPM/100ml of faecal coliform bacteria (most probable number of particles per 100 millilitres of water).

However, in Callao, in the vicinity of the Centenario sewer, samples have been collected that contain more than 12,500 times the maximum limit to protect the population's health.

Farmland polluted

The urban sprawl onto the fields of the Oquendo and San Agustín farms has covered up several irrigation canals, making it impossible to draw water directly from the rivers Rímac and Chillón. As a result, some 1,500 farmers have been irrigating their crops for more than 10 years with sewage from the N° 6, Bocanegra y Comas sewers.

The main crops grown in the area are garlic, onions, corn, celery and tomatoes. The farmers supply the markets of Callao and the wholesaler in La Parada.

Since 1987, Cepis has carried out several studies on the San Agustín farm, and it has been suggested that the district's wastewater should be processed and used for irrigation to limit the risks.

This is the result of uncontrolled discharge – for more than 60 years – of completely untreated domestic and industrial wastewater into the sea.



Boncanegra: alongside the Fawcett Bridge on the road to the airport, the Bocanegra sewer pours like a torrent into the river Rímac and into an irrigation canal used by the San Agustín farm to irrigate fields of vegetables for sale on the markets.

At risk: this isn't a river, but the Comas sewer which flows through the Santa Beatriz shanty town, home to 1,500 families.

Poisoned: despite warnings about the high risk to public health, farmland in Callao is irrigated with untreated wastewater.

Overload: according to Sedepal, like the four other sewers, number 6 main sewer is on the brink of collapse.

The author, **Ms. Julia Fabiola Torres López** of Empresa Editora El Comercio S.A., Peru, is a print journalist who won third place in the Spanish Language category of the WASH Media Awards for 2007-2008.

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Ms. Nadia El-Awady, Islam Online, Egypt (Print)

Mr. Robert Lamb, One Planet Pictures, UK (TV) - Jury Chair

Mr. Bernard Robert-Charrue, Dev TV, Switzerland (TV)

Ms. Elisabeth Bonneau, Radio France, France (Radio)

Mr. Mouhamed Gueye, Le Quotidien, Senegal (Print)

Ms. Claudia Mazzeo, Agencia CyTA, Argentinian (Print)

Ms. Lisbeth Fog, Colombian Association of Science Journalists, Colombia (Radio)

Mr. Oscar Ugarte Ordoñez, TV Viva la Tierra, Ecuador (TV)

MEDIA RESOURCES

The WSSCC Communications unit is at the service of journalists interested in learning more about water, sanitation and hygiene issues; arranging interviews with experts from the WSSCC Secretariat or from its network in over 30 countries; identifying story angles and topics; and conducting research and answering questions.

Visit www.wsscc.org for more information or to join the WSSCC media list. Phone enquiries may be directed to the WSSCC communications unit at +41(0) 22 917 8657.

Below is a short list of web sites that are useful for journalists who want to learn more about water, sanitation and hygiene issues:

- ▶ AusAid, Water and Sanitation, <http://www.ausaid.gov.au/keyaid/water.cfm>
- ▶ Bill & Melinda Gates Foundation, Water, Sanitation, & Hygiene, <http://www.gatesfoundation.org/topics/Pages/water-sanitation-hygiene.aspx>
- ▶ Building Partnerships for Development in Water and Sanitation, <http://www.bpd-waterandsanitation.org>
- ▶ Changemakers.net, <http://www.changemakers.net/en-us/competition/waterandsanitation>
- ▶ Eawag: Department Water and Sanitation in Developing Countries, <http://www.sandec.ch>
- ▶ End Water Poverty, <http://www.endwaterpoverty.org>
- ▶ Gender and Water Alliance, <http://www.genderandwater.org>
- ▶ Global Water Challenge, <http://www.globalwaterchallenge.org>
- ▶ Global Water Partnership, <http://www.gwpforum.org>
- ▶ Initial, <http://www.initialsanitation.com>
- ▶ International Decade for Action, Water for Life, 2005-2015, <http://www.un.org/waterforlifedecade>
- ▶ International Secretariat for Water, <http://www.i-s-w.org/en/index.html>
- ▶ International Water Association, <http://www.iwa.org>
- ▶ IRC International Water and Sanitation Centre, <http://www.irc.nl>
- ▶ Joint Monitoring Programme (JMP) for Water Supply and Sanitation, <http://www.wssinfo.org>
- ▶ London School of Hygiene & Tropical Medicine (LSHTM), <http://www.lshtm.ac.uk>
- ▶ Netherlands Ministry of Foreign Affairs, <http://www.minbuza.nl/en/home>
- ▶ Norwegian Agency for Development Cooperation, <http://www.norad.no>
- ▶ Skat - Swiss Resource Centre and Consultancies for Development, <http://www.skat.ch>
- ▶ Stockholm International Water Institute, <http://www.siwi.org>
- ▶ Streams of Knowledge, <http://www.streams.net>
- ▶ Sustainable Sanitation Alliance, <http://www.susana.org>
- ▶ Swedish International Development Cooperation Agency, <http://www.sida.se>
- ▶ Swiss Agency for Development and Cooperation, Water and Sanitation, <http://www.sdc.admin.ch/en/Home/Themes/Water>
- ▶ Tearfund, <http://www.tearfund.org>
- ▶ Toolkit on Hygiene, Sanitation & Water Supply, <http://www.schoolsanitation.org>
- ▶ UN Water, <http://www.unwater.org>
- ▶ UNICEF, Water, Environment and Sanitation, <http://www.unicef.org/wes>
- ▶ United Kingdom Department for International Development, <http://www.dfid.gov.uk>
- ▶ United Nations Educational, Scientific and Cultural Organization, <http://www.unesco.org/water>
- ▶ Water and Sanitation for the Urban Poor, <http://www.wsup.com>
- ▶ Water and Sanitation Program (WSP), <http://www.wsp.org>
- ▶ Water and Sanitation Rotarian Action Group, <http://www.wasrag.org>
- ▶ WaterAid, <http://www.wateraid.org>
- ▶ WaterPartners, <http://www.water.org>
- ▶ WEDC - Water Engineering Development Centre, <http://wedc.lboro.ac.uk>
- ▶ WELL - Resource Centre Network for Water, Sanitation and Hygiene, <http://www.lboro.ac.uk/well>
- ▶ World Bank, Water Supply and Sanitation, <http://www.worldbank.org/watsan>
- ▶ World Health Organization, Water, Sanitation and Hygiene, http://www.who.int/water_sanitation_health/en
- ▶ World Toilet Organization, <http://www.worldtoilet.org>
- ▶ World Water Council, <http://www.worldwatercouncil.org>

WATER SUPPLY & SANITATION COLLABORATIVE COUNCIL

PUTTING **PEOPLE** AT THE **CENTRE**

The Water Supply and Sanitation Collaborative Council (WSSCC) is a global multi-stakeholder partnership organisation that works to improve the lives of poor people. WSSCC enhances collaboration among sector agencies and professionals around sanitation and water supply and contributes to the broader goals of poverty eradication, health and environmental improvement, gender equality and long-term social and economic development. The activities undertaken by WSSCC were recognized in the United Nations General Assembly resolution A/RES/45/181 of 21 December 1990. WSSCC is hosted by the World Health Organization (WHO). WSSCC's network of national WASH Coalitions and individual members give it the legitimacy and flexibility to work effectively at the grassroots level. Through Networking & Knowledge Management, Advocacy & Communications and the Global Sanitation Fund, WSSCC is at the forefront of knowledge, debate and influence on water, sanitation and hygiene (WASH) for all.

WATER SUPPLY & SANITATION COLLABORATIVE COUNCIL

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