

# Editorial: China–Africa relations

CLARISSA BROCKLEHURST

This issue of *Waterlines* examines three very different themes: the involvement of China in the water and sanitation sector in Africa; the performance of rural water supplies delivered by handpumps; and the question of how to pay – and who should pay – for the full costs of water services.

The first theme, the engagement of the Chinese Government and Chinese companies in the water and sanitation sector in Africa, is controversial and divisive. We present a set of papers that explores a number of aspects and points of view. Kirchherr et al. tell us that relations between China and Africa date back to Pharaonic times (and perhaps it is tempting to contemplate this ancient history rather than our more gritty current reality). Chinese companies began operating in Africa soon after the continent was decolonized. Sam Godfrey and Anthony Ross tell us that OECD data reveal that China's financial investments in Africa's infrastructure sector are now greater than the World Bank's. According to Kirchherr et al., a key criticism of this investment, often voiced in Western media, is the lack of social safeguards. All four papers on our China theme explore the many criticisms of the way the Chinese Government and Chinese companies behave in the sector.

Chinese engagement in Africa's water sector dates back to the 1960s and 1970s when it centred on irrigation systems for rice cultivation. Currently, the Chinese tend to engage in large water infrastructure, such as hydropower dams. Tukic and Burgess posit that the largest proportion of negative social and economic impacts can be seen in the construction of these dams. In terms of the water and sanitation sector specifically, water supply and sanitation infrastructure, such as water treatment plants, has been built by Chinese companies in Kenya, Mozambique, Gabon, Angola, and Nigeria, among others. However, there has been relatively low engagement of Chinese companies in the water and sanitation sector across Africa in the last decade, and Tukic and Burgess suggest that sanitation, in particular, may not be a priority for Chinese companies in Africa. However, there is reason to believe that the Chinese presence in Africa will continue to expand.

There is consensus among the authors addressing this theme that there is a clear role for African governments to legislate, regulate, and set parameters. Carlos Lopes and Chigozirim Bodart say: 'ultimately, it is the responsibility of African leaders to devise a strategy for their relations with China, not for China to be responsible for a mutually beneficial relationship'. Tukic and Burgess echo this: 'There is a pressing need for not only national environmental legislation but also local legislation. Adherence to environmental standards as set out by the African country in question needs to be made mandatory by law'. The authors suggest that in cases in which

---

*Clarissa Brocklehurst (clarissa.brocklehurst@gmail.com) is an independent water and sanitation consultant based in Ottawa, Canada.*

---

© Practical Action Publishing, 2016, [www.practicalactionpublishing.org](http://www.practicalactionpublishing.org)  
<http://dx.doi.org/10.3362/1756-3488.2016.001>, ISSN: 0262-8104 (print) 1756-3488 (online)

African countries do not yet have environmental rules, established international environmental standards should be followed. Lopes proposes that African leaders should be more strategic, and articulate a 'unified China policy'.

Looking forward, Tukic and Burgess are optimistic, saying that:

not only do Chinese companies have a viable opportunity to engage in relatively underdeveloped sectors (sanitation, irrigation, and energy), but they also have the ultimate potential to contribute to African communities in need of both clean and safe drinking water as well as increased energy capacity.

Turning to the subject of handpumps, we must remember that the WHO-UNICEF Joint Monitoring Programme (JMP) estimates that in 2015, globally, 1.7 billion people in the developing regions of the world still use 'other improved sources', many of which are handpumps. A thematic report on water released by the JMP in 2011 estimated that in 2008, 56 per cent of the rural population of southern Asia and 15 per cent of the rural population of sub-Saharan Africa relied on handpumps. As populations in these regions grow, the total number of people using handpumps is increasing, not shrinking.

Casey et al. explore the issue of handpump corrosion, which can undermine handpump functionality and result in poor quality water in wells that otherwise could deliver acceptable services. They conclude that planning is key to avoiding this situation, in tandem with properly formulated contracts and bills of quantities (BoQs) that allow flexibility so that alternative handpump components can be used if site conditions dictate. They also call for competent supervision of well and handpump installation.

*Waterlines'* own editor, Richard Carter, in a paper co-authored with Ian Ross, comes to similar conclusions regarding handpump functionality. Carter and Ross present data that show there is a steep drop in handpump functionality in the first year of operation, with the loss of up to a quarter of commissioned handpumps. This is considered to reflect inadequacies in siting, poor design and construction, and inadequate construction supervision. This paper shows there is a role for governments to play to ensure better monitoring of handpump functionality, beyond a simple binary 'functioning/non-functioning' assessment. Improved monitoring, using parameters that tell the full story behind loss of functionality, would, as the authors put it 'generate a more nuanced understanding of service performance' and allow for appropriate course corrections.

The paper in our third focus area asks the question: who should pay the full costs of universal access to WASH services? In this thought-provoking paper Richard Franceys et al. explain their thesis that past investments in physical assets now imply a future burden of investment in capital maintenance that neither rural nor urban consumers can bear through tariffs alone. They argue that significant subsidies from the other 'T's – taxes and transfers – will be needed to deliver sustainable services at the desired level of improved access in the Sustainable Development Goal era. Their paper calls for an enabling environment in which well-governed and well-managed sector institutions mobilize funds to keep services running, with mechanisms to address targeting of the poor.

In summary, in this issue, we look at three different themes, but come away with similar conclusions. The road to universal water supply access is long and there are many still to serve. All nations have a role to play and all technologies and resources must be used to their fullest. In all three questions – how China can engage constructively in the water and sanitation sector in Africa, how handpumps can provide lasting and good quality service, and how sustainable services can be financed – the answer requires strong commitment, leadership, and regulation by governments. Once again we are reminded of the importance of robust government systems, both in the water and sanitation sector and beyond, and the critical need for institution building.

*Clarissa Brocklehurst, Guest Editor*

It is with great sorrow that we report that in December 2015, our friend and colleague Jeroen Ensink was killed. Jeroen was a much-valued member of our Editorial Advisory Board, senior university lecturer and well-respected researcher. Through his teaching, his papers, and his research Jeroen made a far-reaching contribution to a generation of students, researchers and practitioners in the WASH and public health sectors.

Jeroen served on our Editorial Advisory Board for nine years. A warm-hearted, kind, funny, committed and dependable man, he took his editorial responsibilities very seriously. He was extremely generous with his time and expertise. In addition to the support he gave to us, the Editors, over the years Jeroen gave enormously helpful advice to countless numbers of our authors. His decisions and comments were always considered, constructive and well judged.

Jeroen's skill and discernment as a reviewer were underpinned by his practical knowledge of the implementation of WASH programmes in development and humanitarian settings together with his own ground-breaking research on key challenges facing those in the water and sanitation sector.

To the last Jeroen championed the central tenets of *Waterlines*, to neatly bridge the gap between research and practice: he encouraged his fellow researchers to better understand the work of practitioners and he collaborated with practitioners on research, evaluation and documentation in order to improve the effectiveness of their WASH programmes.

Above all, Jeroen was unstintingly passionate about building up the capacity of people in the WASH sector (students, authors, researchers, and colleagues) in their work around the world to ensure everyone has access to safe WASH.

As we look towards the Sustainable Development Goals, and redouble our efforts to ensure universal access, Jeroen's example and work remains as important as ever. Thank you Jeroen, it was our pleasure and privilege to work with you and we will miss you dearly.

An obituary from his colleagues at London School of Hygiene and Tropical Medicine will be included in the April issue.

*The Editorial Team, January 2016*

# Obituary: Sunday Arafan Mangai 1962–2015

*DOTUN ADEKILE*

Sunday Arafan Mangai, Nigerian driller, passed away on 16 November 2015 in Jos, Nigeria, having succumbed to cancer. He was born on 16 July 1962 in Waya Hurti Village, Bokkos Local Government Area, Plateau State, Nigeria. Sunday began his career in the 1980s in Water Surveys Nigeria Limited as a field assistant to Robin Hazell, a pioneer hydrogeologist in Nigeria. After Water Surveys he worked briefly in the irrigation department of the Plateau State Agricultural Development Programme, Nigeria, drilling tubewells



in shallow alluvial aquifers for irrigation. He later joined Peter Ball in the development and promotion of the Eureka Rig and the PAT-Drill series.

I had the privilege of working closely with Sunday over the past 30 years. He was a joy to work with: brilliant, innovative, amiable and very committed to whatever he embarked on. Early in his career, we were drilling shallow tubewells fitted with petrol-driven surface pumps. Sunday's wells consistently gave higher yields than anybody else's because he fashioned an adaptor between the 75mm diameter casing of the tubewell and the 50mm diameter suction hose of the pump such that the casing and suction hose became one continuous unit (whereas the practice had been to insert the suction hose into the tubewell which partly blocked the screen, restricting the flow).

In around 2000, Water Aid Nigeria franchised some drilling equipment to Sunday instead of operating it themselves or handing it over to the State Rural Water Supply Agency. The franchise was very successful. Water Aid achieved the desired number of boreholes, the rigs were well maintained and Sunday was able to drill private boreholes from which he saved money to buy his own equipment. The model was proposed at the Rural Water Supply Network (RWSN) forum in Accra in 2006 as the way forward for external support agencies and donors to promote borehole drilling by young entrepreneurs, instead of supplying equipment directly to state agencies. However it was soon realised that the success of the model was due to the honest and transparent manner with which Sunday operated; attributes which may be lacking in others.

Sunday went on to found one of the most successful and professional drilling operations in West Africa, Fatigen Drilling Company, with operations in Nigeria,

Liberia and Sierra Leone. The company was also the distribution outlet of PAT-Drill rigs in Nigeria. As a consultant, he worked for several NGOs and national governments, training drilling engineers and promoting borehole technology all over Africa, sometimes in perilous conflict situations; in Angola, Botswana, Chad, Ethiopia, Liberia, Kenya, Mozambique, Nigeria, Senegal, Sierra Leone and Sudan. He was an active participant at the RWSN forums in Durban, Accra, and Kampala.

With Sunday's death, Africa has lost one of her best drilling engineers. It was a short life but a very successful one. He is survived by his wife Blessing, and their four children: Salome, a medical doctor; James, a civil engineer; Emmanuel, a student of communication technology at the University of Ghana; and the little girl, Fatigen, who is still in primary school. He will be greatly missed by all of us who knew him. May his soul rest in peace.

*Dotun Adekile  
Ibadan, Nigeria*