

Water infrastructure, the UN MDGs and sustainable development

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Abstract

This paper examines some of the challenges related to international development, delivery of the UN Millennium Development Goals and the provision of effective infrastructure, in particular with respect to safe water supplies and sanitation.

Keywords: International development; Infrastructure; The UN MDGs; Water supply; Climate change

1. The state we're in

We all depend on the underpinning infrastructure to support basic human needs and the economy. Many of us take it for granted. But for many peoples of the world, even the most basic of infrastructure is but a dream – not even a dream from which they are rudely and occasionally awakened by rare natural disasters, but rather an ongoing nightmare from which there appears no prospect of escape. Even without the effects of hurricanes, floods, earthquakes and landslides, the immediate prospects for both the urban and rural poor in many parts of the world are bleak, with little or no access to even the most basic infrastructure, education, and healthcare, and with little, or at best tenuous, legal tenure to land or property. Marginalised communities outwith and unsupported by the official economy and local government systems.

From Mumbai to Nairobi, from Cape Town to Rio de Janeiro, the urban landscape is scarred by

amorphous, slum-grey shanty towns, built from whatever materials come to hand, with water courses polluted by sewage and solid waste, and with little or no connection to basic infrastructure services. But behind these slum-grey facades, millions of individual families eke out a living, strive to educate their children, and struggle to add some colour to their lives and to their individual dwellings.

In the Kianda-Kibera township, a massive urban slum in Nairobi, community groups are bettering their community by constructing toilet blocks and running a health clinic and maternity unit, assisted by aid funds and their own personal subscriptions of a few of their valuable Kenyan shillings per month. The local population has tenuous property rights and therefore little legally recognised capital against which to borrow. Their daily life is largely disconnected from the official economy, and equally disconnected from the basics of infrastructure and services.

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Fig. 1. Contrasting Images of life in Kianda-Kibera, Nairobi. An 8-year-old schoolgirl learning about the environmental consequences of cutting down trees (left); a woman selling fuel wood (right).

The pattern is repeated across the continent of Africa, large parts of Asia and South America. But even in Kibera the mobile phone is ubiquitous and TV aerials sprinkle the shantytown skyline. In the schools the kids are there in their overcrowded classes, attentive and smartly turned out – though goodness knows how considering the conditions in which they live. In her schoolbook an 8-year-old girl writes in neat handwriting that cutting down trees is bad because it leads to soil erosion.

The grey slum settlements of Kibera and elsewhere are simultaneously distinct from and – however reluctantly officialdom acknowledges it – part of their wider urban and national economies. This is not new.

In 17th century London the squalor inside the city walls was nothing compared to that in the unofficial settlements outwith them, and yet the city depended economically on them. Historically, there is not much difference between the current state of affairs and what was common in the major cities of Europe before the 19th century. And ultimately, the solutions today are no different – the provision of basic urban infrastructure and effective infrastructure services. And principally, safe water supplies and wastewater disposal.

Two billion people worldwide currently are without access to an adequate water supply. The UN's target is to halve that number by 2015. And that in the face of a world population which is becoming more and more urbanised, especially in the developing world, where almost all of the population increase will be accommodated in slum areas like Kibera.

Providing safe water for 1 billion people by 2015 means connecting more than a quarter of a million people per day, every day, for the next 10 years. Can it be done? If so how?

Infrastructure delivery requires investment. Those mired in poverty do not have and cannot afford all the resources necessary to resolve their plight. Internal economic regeneration is important, but it also needs external public and private investment – and the assistance from the engineering community. It has always been this way. The provision of effective water supply and sewerage systems in the developed world has always depended on public investment – the recent trend in some countries towards a system of privatised utilities is part of the endgame – it was never so effective in the opening moves. Nothing is different today, except, that is, the scale of the problem, the growing gap between the rich and the poor, and regrettably, political immobility and the insidious effects of corruption. Politicians and economists have never delivered infrastructure. Engineers do that – and in the developing world – working with and within the communities in need.

2. The UN Millennium Development Goals (MDGs):

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality

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