POLICYbrief

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Sanitation, Potable Water Supply and Environmental Protection

Benefits, Progress and Issues for Sustainability in Developing Countries

Jonathan Okechukwu Okonkwo

At the World Summit on Sustainable Development (WSSD) in Johannesburg in 2002, the international community agreed to a target to halve the proportion of people who lack access to basic sanitation by 2015. Available information paints a grim picture of the water and sanitation conditions in much of the developing countries. The great majority of these people live in Asia and Africa. Over one-half of the rural inhabitants of these continents are without a quality water supply and improved sanitation. Some progress has been made to improve water supply and sanitation in some developing countries. This report attempts to evaluate water supply and sanitation in developing countries, with a view to outlining the benefits of a good quality water supply and good sanitation, progress made so far and the issues in the drive to achieving the Millennium Development Goals (MDGs).

Introduction

History

Although water is one of the precious gifts to mankind, lack of access to safe drinking water and basic sanitation is one of the problems affecting billions of people around the world today. The earliest evidence of urban sanitation was seen in the Indus Valley civilisation. Within the city, homes or groups of homes collected water from wells for drinking and other domestic uses, while wastewater was directed to covered drains, which lined the major streets.[1] Roman cities and Roman villas had elements of sanitation systems, delivering water in the streets of towns, and building stone and wooden drains to collect and remove wastewater from populated areas.[2] But there is little record of other sanitation in most of Europe until the High Middle

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Ages. Unsanitary conditions and overcrowding were widespread throughout Europe and Asia during the Middle Ages, resulting periodically in devastating pandemics, such as the Plague of Justinian and the Black Death, which killed millions of people.[3]

What is sanitation?

Sanitation is the hygienic means of preventing human contact with the multiple hazards associated with waste in order to promote health. Some of the hazards include physical, microbiological, biological and chemical. The most common hazards that pose health problems originate from human and animal faeces, solid waste, domestic wastewater, and industrial and agricultural waste. To prevent the health threat posed by these wastes, engineering solutions such as sewerage and wastewater treatment and simple technologies like latrines, septic tanks or even hand washing with soap rank high. The term 'sanitation' can be applied to the following:

- **Basic sanitation** – refers to the management of human faeces at the household level;
- **On-site sanitation** – the collection and treatment of waste is carried out where it is deposited, for example, the use of pit latrines and septic tanks;
- **Food sanitation** – refers to the hygienic measures for ensuring food safety;
- **Environmental sanitation** – the control of environmental factors that form links in disease transmission, for example, solid waste management, water and wastewater treatment and industrial waste treatment; and
- **Ecological sanitation** – a concept and an approach of recycling to nature the nutrients from human and animal waste.

Impact of poor quality water and sanitation on public health

Lack of access to good quality water and inadequate sanitation can cause several diseases, which are transmitted from human and animal waste to humans via contaminated hands, soil, water, animals and insects. The following diseases can largely be prevented with good quality water supply and basic sanitation and hygiene.[4]

- **Diarrhoea** – causes an estimated two million deaths per year, mostly among children under the age of five.
- **Cholera** – as of September 2002 there were 106,547 reported cases of cholera and a total of 3,155 reported deaths.
- **Schistosomiasis (bilharzias) –** infects 200 million people, of which 20 million people suffer severe consequences.
- **Trachoma** – causes blindness in 6-9 million people.
- **Intestinal worms** – infect about a third of the population in developing countries.
- **Hookworms –** cause malnutrition.

The need for quality water supply and sanitation

The need for quality water and sanitation is widely recognised as an essential component of social and economic development. The provision of water and sanitation services addresses some of the most critical needs of people. Safe water and good sanitation are essential to the protection of community health by limiting the transmission of infectious diseases and by assisting in the maintenance of a sanitary home environment. At the same time, they contribute greatly to the enhancement of human dignity and economic opportunity by freeing people, mainly women and children, from the drudgery of water carrying and providing more time for them to engage in other activities.

This is particularly so in the developing countries where the level of access to water and water related facilities is reportedly very low.[5] It is estimated that more than 1.2 billion people in the world still lack access to safe drinking water and 2.6 billion lack access to basic sanitation.[6] Cohen noted that, over the next 30 years, virtually all of the world's population growth is expected to be concentrated in urban areas in developing countries.[7] This means that developing countries are facing great challenges in meeting community water supply needs and improving access to basic sanitation. This is very evident among poor and marginalised populations living in rural settlements and peri-urban slums. These areas have urgent and immediate needs for safe drinking water, appropriate forms of sanitation and excreta disposal, and access to water for agricultural and other domestic purposes. The common factor in all of these needs is health and the environment – their sustainability, protection and improvement.

Available information paints a grim picture of the water and sanitation conditions in much of the developing world. The great majority of these people live in the poorer countries of Asia and Africa. In Africa, Asia and even in the relatively prosperous region of Latin America, over one-half of the rural inhabitants are without improved sanitation, meaning sanitary forms of excreta disposal. In light of the foregoing, this paper attempts to evaluate water supply and sanitation in developing countries, with a view to outlining the benefits of quality water supply and good sanitation, the progress made so far, and the issues in the drive to achieving the MDGs.

The MDG on Water and Sanitation

In September 2000, the United Nations (UN) set eight MDGs for development. Goal 7 of the MDGs addresses environmental sustainability, with a target (Target 10) to "halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation."[8] The attainment of Target 10 also contributes to the reduction of child mortality (Target 5); a decrease in the incidence of major infectious diseases (Target 8); improvement of maternal health (Target 6); and improvement of the quality of life of slum populations (Target 11). Improved water and sanitation also contribute to gender equality and empower women (Goal 3), being linked to school enrolment and attendance, especially of girls. Meeting the target would deliver further development benefits and contribute to poverty reduction (Target 1) and hunger reduction (Target 2) through use of water supply for industry and agriculture, saving productive time in accessing closer water sources and sanitation facilities, and contributing to workforce health. Importantly, improved water supply and sanitation promote economic equity, since those without tend to be the poorer, more vulnerable members of society.

The new sanitation target joined the existing MDGs of halving the proportion of people without access to safe water by 2015. Together, they provide an international commitment for an integrated approach to sanitation, water supply and hygiene promotion.

The Water Supply and Sanitation Issues in Developing Countries

One-half of Africans, one-third of Latin Americans and one-quarter of Asians lack improved water systems. In sub-Saharan Africa, the average child mortality rate stood at 174 per 1,000, but in several East African countries the child mortality rates were much higher – 208 in Burundi and 203 in Rwanda. By contrast, child mortality rates in the industrialised countries, where water and sanitation services approach universal coverage, typically average less than 10 per 1,000 live births.[9] Clearly, the availability of safe drinking water and good environmental sanitation is a major influence upon both the control of diseases and the reduction of infant mortality. In the East Africa region, several countries have particularly acute needs for water and sanitation. Approximately 97% of rural dwellers in Eritrea, 96% in Ethiopia and 76% in Sudan have no access to improved sanitation. Similarly, 89% of rural people in Ethiopia, 54% in Kenya and 48% in Uganda are forced to live without improved water supplies. The costs of inadequate water supply and sanitation are high: 1.6 million children die every year from diarrhoea, mainly as a result of inadequate sanitation, water supply and hygiene. And the economic costs of lost time in fetching water and environmental degradation from wastewater pollution are high, for example, more than 1.4% of GDP in Bangladesh, 1% in Colombia and 0.6% in Tunisia.[10]

While water supply and basic sanitation appear to be simple problems with seemingly relatively easy solutions, recent international efforts have shown it to be complex. The nature of the problems differ depending on the context. The immediate problems tend to cascade into further consequences, which adversely affect the quality of life of the poor. The issues identified involve political, financial, technical and institutional.

Political Commitment

Sanitation, hygiene and safe water supply need to be integrated to maximise their effectiveness in meeting public health and environmental goals. However, sanitation has not received the same level of investment as water supply. For example, between 1990 and 2000, sanitation received only 20% of the US$16 billion invested in water supply and sanitation by national governments and external support agencies.[11] The difference in investment between water supply and sanitation is partially responsible for the gap between water and sanitation coverage. Political commitment for sanitation is seen by many as important in shaping government policy and investment priorities, and in implementing the programmes required to meet the target.

Financing

The public health and environmental benefits that accrue from good water quality and adequate sanitation make them a public good. However, these can also be seen as private good at the household level. Until recently, most countries and donor agencies treated water supply and sanitation only as public good that could not be provided by the market, and which needed to be subsidised. Inappropriate targeting of government subsidies has, however, affected government plans for increasing access to water and sanitation, as subsidies did not reach those who needed them

most. Most of the financing for meeting the target is likely to come from users of the facilities, either through their purchasing of materials and providing labour, or through cost recovery schemes. Some NGOs and community groups have resisted full cost recovery for basic services to poor people, as they see this as exacerbating poverty, but others note that many basic services are already paid for by users.

Technical

There are a number of known water supply and sanitation technology options which can be adapted to developing countries. To facilitate the appropriate transfer of technologies there is a need for information to be disseminated to local decision-makers, as well as the technical capacity to adapt them to local circumstances. This requires both networks for information exchange and skilled technicians to design and market locally appropriate solutions.

One way of increasing local capacity for technical innovation is to assist developing countries' institutions to adapt solutions to suit local conditions. Some locations may require innovative solutions. Technical innovation can also aid sanitation suppliers by improving their products and incorporating local materials and building practices into the design of new technologies.

Institutional Capacity

Water supply and sanitation programmes need planners, decision-makers and sector professionals who are trained in evaluating different approaches to providing, operating and maintaining such programmes. Some of the skilled personnel such as engineers and field workers who can provide the technical and social scientific skills required are in short supply. The greatest challenge lies in building competent, efficient, business-like, and service-oriented institutions. Sustainable service provision is only possible where customers themselves cover the costs of operation and maintenance. Currently, a number of cities in developing countries lack the necessary institutional capacity to be able to manage their rapidly growing populations. As cities grow and evolve, the task of managing them becomes ever more complex. In addition, the nature and tasks of urban management and governance are also undergoing fundamental change. The policy and programme on environment has been altered in many countries, as national governments have decentralised service delivery and revenue-raising to lower tiers of government.

Sustainability of Projects

Sustainability of facilities was reported by Overseas Development Institute,[12] cited by Ademiluyi and Odugbesan to be a major concern in developing countries. Performance on sustainability is often assessed by looking at the number and proportion of functioning and non-functioning facilities. The fact that a functioning facility requires attention to a range of managerial, social, financial, institutional and technical issues is often neglected. The report went further to give an example of unsustainable water and sanitation programmes that started in Nigeria, with financial and technical support from international agencies. The causes of breakdown or non-sustainability (most of which are relevant in the context of developing countries) include but are not limited to the following:

- Communities or households may never have been convinced of the desirability of new water sources, or particularly, new excreta disposal facilities in the first place.
- The financial costs which communities are expected to raise as a contribution to capital or recurrent expenses may be unaffordable and, therefore, unacceptable.
- Communities may never have felt ownership of the new facility because of lack of consultation before the commencement of the project.
- Benefits promised at the onset of projects have failed to materialise.
- Community education (for example, hygiene education) and the attitudinal and behavioural change expected to be achieved by it, take a long time to produce results, and yet it often ceases prematurely.
- Even where full community participation or management has been planned from the start, community-level committees and caretakers may lose interest or trained individuals may have moved away. This can be a particular risk community-level organisation is on a voluntary basis.

Transparency and Poor Accountability

A lack of transparency in decision-making and poor accountability between citizens/consumers, service providers and regulators are weak links

in the governance of the water and environmental sanitation sector in many developing countries and these lead to corruption. Available information suggests that a large proportion of investments are wasted as a result, with severe negative impacts on the equity and sustainability of services. Conditions of scarcity with a lack of access to services, monopoly with a limited number of providers, and institutional complexity in a fragmented sector, all present ideal opportunities for corruption to proliferate. Problems span public and private institutions and large and small projects.

Population Explosion

High rates of population growth, together with significant rural–urban migration, have contributed to the rapid and unplanned expansion of low-income settlements on the outskirts of many large cities, which has occurred without a concomitant expansion of public services and facilities. In Africa and Asia, a number of cities are growing in spite of poor macroeconomic performance and without significant direct foreign investment, making it next to impossible for urban authorities to provide adequate basic infrastructure or essential services such as water supply and sanitation.[13]

Socioeconomic Fragmentation

Every city has its relatively more affluent and relatively poorer neighbourhoods. But in developing countries, poorer neighbourhoods can have dramatically lower levels of basic services. Consequently, a large number of urban residents in developing countries suffer to a greater or lesser extent from severe environmental health challenges associated with insufficient access to clean drinking water, inadequate sewerage facilities, and insufficient solid waste disposal. A major recent UN report on the state of water and sanitation in the world's cities found that the water distribution systems in many cities in the developing world are inadequate, typically serving the city's upper- and middle-class neighbourhoods but not rapidly expanding settlements on the urban fringe.[14] Furthermore, the current data on the provision of water and sanitation in urban areas is very weak, and the true situation is actually far worse than most international statistics suggest.[15] The large projected increases in the numbers of urban residents in the developing world over the next 20–30 years implies that municipal authorities responsible for these sectors face very serious challenges in the years ahead. In many cities, the scarcity of public water supplies forces many low-income urban residents to use other water sources, such as private water vendors, who charge many times more than the local public rate. Consequently, people in slums often must pay much more for lower quality water than other urban residents.[16] Improving public sanitation is another major urban environmental challenge that needs to be immediately addressed in virtually all cities in the developing world. Failure to collect garbage, as well as inadequate waste management and recycling policies and practices, mean that cities are being inundated in their own waste.

Although issues bordering the provision of quality water supply and basic sanitation have been outlined above, some progress has also been made in some developing countries towards achieving MDGs. Four case studies showing examples of successful technological, financial and institutional experience in four developing countries are discussed in this report. These studies are contained in the Final Report of the UN Millennium Project Task Force on Water and Sanitation. These success stories could be used to formulate strategies for achieving Target 10 in other developing countries.

Progress with Case Studies

South Africa: Basic water supply for the poor

In 1994, 15.2 million South Africans did not have access to basic water supply, which is defined as 25 litres per person per day of water of acceptable quality within 200 meters from home. Of these, 12 million lived in rural areas. Furthermore, about 20.5 million lacked access to basic sanitation, defined as a ventilated improved pit latrine or its equivalent. South Africa has used a combination of instruments to improve the situation by reforming its policies and providing an accompanying sound legislative framework. Responsibility for water supply and sanitation has been passed from the national government level to the local government level, using community-based approaches.

Free access to basic water supply was introduced and had reached some 27 million people by 2002. As a result of all this, it is with hope that everyone in the country will have access to basic water supply within a very short time. This remarkable success in increasing access to basic water supply has been underpinned by a strong political leadership and significant national government funding to support the capital works programme and the free basic water policy. An important contributory factor has been the existence of a very substantial

organisational and technical capacity that was already in place before 1994. The existence of an appropriate institutional framework facilitated the introduction of legislation needed for the programme. The policy of free access to basic water was made possible by the level of economic development in South Africa, which is probably not necessarily applicable to other developing countries.

Brazil: Condominium model of community-based urban sanitation

The condominium model looks at an urban block, square or its equivalent, where the residents work through an informal community organisation to define the scope for their own sewer network and branch sewer that is connected to the public sewer. The network within the condominium block is treated as 'private' infrastructure, and its investment costs are borne by the residents. Infrastructure beyond the condominium branch sewer up to the treatment plant is the public network; the network investment and operation are the responsibility of a public-service provider, with costs recovered from sanitation fees paid by users. The public network is, in turn, divided into localised and citywide parts. For the localised part, the urban area is divided into a number of small natural drainage basins. Each basin has its own independent sanitation micro system for collection, treatment and disposal. It receives waste from the condominium blocks and either purifies them within the basin, or feeds them into a citywide sanitation network. This decentralised model has now become a standard solution for entire urban areas in Brazil, irrespective of residential income. The Water and Sewerage Company of Brasilia has been using this model for over ten years, and within the first eight years 121,000 homes were linked to the condominium system. Community participation is an integral part of the condominium model and is viewed both as a right and as a duty of citizenship — a way of helping to find solutions for the common interest within the block. Participation also is viewed as a process of negotiation among interested parties, aimed at reducing costs, mobilising resources and stimulating community actions, including monitoring of jointly owned resources such as the condominium sewerage. The condominium model has been adopted by a number of countries in Latin America, and holds very good promise for achieving the MDGs' target in many urban areas in the developing world, both large and small.

Bangladesh: Community-led total sanitation

The methodology of Community-Led Total Sanitation (CLTS) by rural communities was pioneered in Bangladesh in 2000. In the CLTS process, community members take decisions on the following:

- mapping their households and where they defecate;
- analysing pathways of contamination through dirt;
- putting a stop to open defecation; and
- evolving their own systems of monitoring and penalties for default.

A social ratchet effect evidently sustains total sanitation once it has been established through such a process. There are no standard designs. An explosion of innovative low-cost models designed by community engineers has taken place. The Water and Sanitation Program of the World Bank has been supporting and promoting CLTS in South and South-East Asia. By mid-2004, CLTS had spread to well over 2,000 communities in Bangladesh, to several hundred in India, Cambodia, Indonesia, Mongolia, Nepal, Uganda and Zambia. The impact has seen a dramatic drop in diarrhoea.

India: Sulabh sanitation movement

The Sulabh International Social Service Organisation approach has two innovative components, namely modifications of an existing low-cost technology, and institutional and social programmes that combine sanitation objectives with social reform. The technology is the pour-flush system, which Sulabh popularised in India in 1970. A key aspect of Sulabh's programme is that the public toilet systems are accompanied by facilities for bathing and doing laundry. Their public toilets are staffed by an attendant 24 hours a day. Powdered soap is supplied for hand washing, bathing and laundry. Free services are offered to children, the disabled and the poor. The introduction of the Sulabh programme might not have been so successful if not for the inclusion of public awareness and community participation in the goal of improving sanitation. Technical training is also provided to enable local people to construct more latrines themselves. In rural areas, latrine-builders are also trained in hand pump repair, brick-laying, social forestry and biogas production. Sulabh's work was initiated and has been concentrated mostly in India, and it has recently expanded its activities to other countries, such as Afghanistan.

Conclusion

The issues of water supply, sanitation and environmental protection are major problems confronting developing countries. The magnitude of the

problem becomes bigger and bigger as the populations of these countries increase. Consequently, outbreaks of water-borne diseases are bound to occur very frequently. For countries that had a high proportion of people without access in the baseline year 1990, the task is much greater than for countries that already had high coverage levels. Table 1 shows the countries that have made rapid progress in sanitation between 1990 and 2006.

As discussed, some progress has been made to improve water supply and sanitation in most developing countries. However, more needs to be done if the MDGs are to be achieved. In order to assist in achieving this dream, a range of mechanisms have been put in place to share the experience from successful programmes in developing countries. Some of the mechanisms are captured under the following:

WaterAid / World Bank

Organisations like WaterAid or the World Bank, which are working on water and sanitation in many developing countries around the world, are already playing a strong role in promoting the spread of promising technological, institutional and financial innovations.

The UN

The UN system as a whole also plays a key role in this effort. Such entities as United Nations Children's Fund (UNICEF), the World Health Organisation (WHO), United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), UN-HABITAT and United nations Education, Scientific and Cultural Organisation (UNESCO) work to promote the sharing of knowledge and information on water and sanitation among countries in the South, complemented by UNDP's Special Unit for South-South Cooperation.

Water and Sanitation

The Water and Sanitation Programme (WSP) is an international partnership of the world's leading development agencies concerned with improving sector policies, practices and capacities, and alleviating poverty by helping the poor gain sustained access to water and sanitation services. Administered by the World Bank, WSP has led or supported many of the advances made in the sector, and actively promotes the translation of guiding principles agreed upon at major international conferences into improved policies and programmes. It provides targeted support to national and local governments, local communities and their support organisations.

Water Supply and Sanitation Collaborative Council (WSSCC)

The WSSCC accelerates the achievement of sustainable water, sanitation and waste management services to all people (with special attention to the poor) by enhancing collaboration among developing countries and external support agencies, and through concerted action programmes. The Council's secretariat in Geneva acts as the organisational and knowledge hub for Council activities, while national and regional co-coordinators serve as a bridge between the Council and its members in a particular region and/or country, and as a means for extending the Council's contacts with people.

Global Water Partnership (GWP)

The GWP is the major global multi-stakeholder entity which supports developing countries in improving the sustainable development and management of their water resources, with a special focus on Integrated Water Resources Management. Established in 1996 by the World Bank, the Swedish International Development Agency and UNDP, and now funded by a range of international development assistance agencies, it is operated as a network of global, regional and country-level partnerships supported by a small Secretariat based in Stockholm and guided by a Technical Committee.

World Water Council (WWC)

The WWC promotes awareness, builds political commitment and triggers action on critical water issues. It holds World Water Forums as platforms where water community actors and policymakers from all regions explore solutions that can achieve water security. These and other mechanisms will go a long way towards securing the cooperation needed to meet the demand for implementation assistance to achieve the MDGs on water and sanitation.

Partners for Water and Sanitation (PAWS)

PAWS was launched in 2001 in the UK. It was prompted by the British government's call for increased cooperation between government, industry and civil society to provide sustainable solutions for Africa's water and sanitation crisis. The emphasis of the initiative is on capacity building in corporate, institutional, financial and technical areas of water and sanitation in peri-urban and secondary cities. So far, PAWS has been working with municipalities and water service providers in South Africa, Nigeria and Uganda.

Notes and References

1 JM Kenoyer, *Indus Cities, Towns and Villages. Ancient Cities of the Indus Valley Civilisation.* Islamabad: American Institute of Pakistan Studies, 1998 p 65.

2 JM Bennett & CW Hollister, *Medieval Europe: A Short History,* New York: McGraw-Hill, 326. ISBN 0072955155. OCLC 56615921, 2006, p 326.

3 J Kelly, *The Great Mortality, An Intimate History of the Black Death, the Most Devastating Plague of All Time,* HarperCollins Publisher Inc., New York, NY. ISBN 0-06-000692-7, 2005 p 295.

4 WHO/UNICEF, *Global Assessment of Water Supply and Sanitation Report 2000.* Geneva: WHO/UNICEF.

5 *Ibid.*

6 *Ibid.*

7 B Cohen, 'Urbanisation in developing countries: Current trends, future projections and key challenges for sustainability,' *Technology in Society 28*, 2006, pp 63–80.

8 R Lenton, A Wright & K Lewis, *Health, dignity and development: what will it take?* United Nations Millennium Project, Task Force on Water and Sanitation, 2005, London and Sterling, VA, Earthscan.

9 G Hutton & L Haller, *Evaluation of the non-health costs and benefits of water and sanitation improvements at global level.* Geneva, World Health Organisation, 2004, (WHO/SDE/WSH/04.04).

10 C Fonseca & R Cardone, *Analysis of cost estimates and funding available for achieving the Millennium Development Goals Targets for water and sanitation,* Leicestershire, Loughborough University, WELL Resource Centre for Water, Sanitation and Environmental Health, (WELL Briefing Note, accessed: http://www.irc.nl/content/download/15378/202251/file/Overview_Cost_Estimates_MDG.pdf), 2004.

11 WHO/UNICEF, 2000.

12 Overseas Development Institute (ODI), *From Plan to Action: Water Supply and Sanitation for the Poor in Africa,* 2004, accessed: http://www.odi.org.uk.

13 Cohen, 2006, p 63.

14 UN, *World Urbanisation Prospect: the 2003 revision, Data tables and highlights*. New York: United Nations, 2004.

15 UN, Human settlements programme (UN-HABITAT), *The State of the World's Cities 2004/2005: Globalization and Urban Culture,* 2004, Nairobi/London: UN-HABITAT/Earthscan.

16 D Satterthwaite, *Urban poverty: reconsidering its scale and nature,* 2007, IDS Bull 28: pp 9–23.

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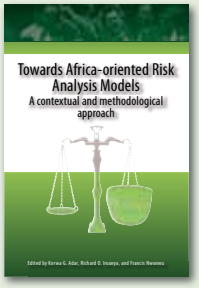

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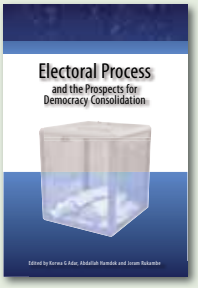

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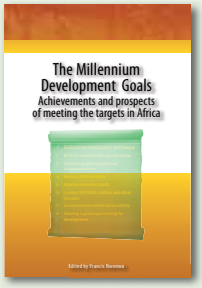

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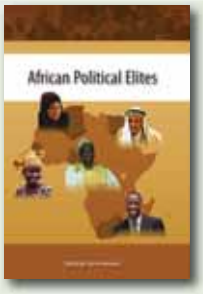

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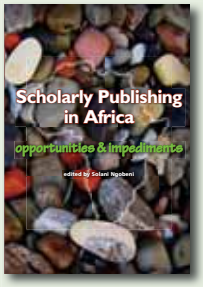

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