Chapter 4
Development Dilemmas of Mega-Project Electricity and Water Consumption

Patrick Bond and Molefi Mafereka ka Ndlovu

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How addicted is the South African elite to pursuit of gargantuan development disasters? The dramatic eviction of the Thabo Mbeki faction of the African National Congress (ANC) first at the Polokwane party conference in December 2007 and then from government in September 2008 may or may not derail unsustainable mega-project development. The man most often identified with grandiose multibillion rand industrial projects, Alec Erwin, resigned as public enterprises minister when Mbkei left office, and was not rehired. The new public enterprises minister was Brigitte Mabandla – who left no fingerprints - and subsequently in May 2009, Barbara Hogan, who began her reign with a threat to privatise parastatals. . For this, she was immediately attacked by labour but within months had followed through by recommitting to generate up to 49% of electricity from privately-financed investment in the Kusile coal-fired power plant. Former water ministers Ronnie Kasrils and Kader Asmal – both responsible for the expansion of the Lesotho Highlands Water Project (LHWP) – were amongst those most visibly alienated from the Jacob Zuma faction, although current water minister Buyelwa Sonjica is understood to be corporate-friendly and her previous term in the same office was uninspired. The rise of trade union and communist influence in the ruling party may also shift public resources towards pro-poor (instead of pro-business) projects. All this remains to be seen, but after a year in office (mid-2000) Zuma himself seems to have kept his vow to business leaders not to alter the existing economic policies. The economic development strategies of Minister Ebrahim Patel and the Industrial Policy Action Plan of Trade and Industry Minister Rob Davies do not fundamentally challenge the prevailing macroeconomic biases, but rather work at the margins to subsidise new industries and even potentially a ‘green economy’.

What is at stake is whether mal-development via mega-project path-dependent waste and corruption remains as common in post-apartheid South Africa as in the past, even at a time when the government claims to be constructing a ‘developmental state’. Electricity and water are two state services facing worsening scarcity yet mega-projects are being built to allow large corporate users and wealthy white people inordinate access. At the Coega complex in Nelson Mandela Metropole (the old Port Elizabeth and Uitenhage), massive amounts of electricity could be consumed in a new smelter to be run by one of the world’s largest minerals/metals companies, Rio Tinto, if new power stations can meet the need and aluminium prices recover from the 2008 crash. Meanwhile in Johannesburg, vast water consumption is feasible because of the LHWP, which will encompass up to six mega-dams, of which two have already been built, including Africa’s tallest. A third may commence early, specifically to provide cooling water for new Eskom coal-fired generators. The water ministry has budgeted tens of billions of rand for other new large dams, including several costing R20 billion that will divert water from poor black farmers to mining houses in Limpopo.

In this chapter we focus on the stories of the Coega and LHWP mega-projects, but the problems are common across the interrelated state-capitalist complex. To these projects, add four other major outlays of dubious 'white elephant' funds: the unnecessarily expensive new and refurbished soccer stadiums for the 2010 World Soccer Cup; the corruption-ridden R43 billion arms deal; conventional nuclear plants (although the development of the pebble bed modular reactor is now shelved) potentially costing hundreds of billions of rand, alongside hundreds of billions more spent on coal-fired power plants (notwithstanding South Africa's vast existing contributions to climate change through energy-related carbon dioxide emissions); the R8 billion King Shaka International airport in Durban (by all accounts unnecessary); and the R25 billion Gautrain fast rail network that will link Johannesburg, Pretoria and the O.R. Tambo airport, but will only be affordable to elite travellers.[1] Regrettably, although critiques have emerged of both electricity- and water-guzzling projects at Coega and in Lesotho, the mixture of red-green, rural-urban, labour-community, feminist and anti-racist political forces required to halt these and pose alternative development strategies is not yet sufficiently potent against the mixture of state and crony capital that are pushing these through, as if motivated by forces far beyond mere elite 'conspiracy', as discussed in the conclusion.

Coega's electricity

Over the past decade, the South African government has begun shovelling what could be South Africa's largest ever industrial subsidies into the Coega Industrial Development Zone (IDZ) and port, located about twenty kilometres from Port Elizabeth within the Nelson Mandela Bay Municipality (NMBM) area. The funding is going not only towards infrastructure backing Coega's potential smelter complex, but also the proposed R40 billion PetroSA refinery. Government proponents say Coega represents sound industrial and development policy, but critics consider the project a 'corporate welfare' giveaway, replete with socially insensitive and eco-destructive features, especially noticeable as renewed attention is being given to climate change.

In his end-of-year 2006 *ANC Today* e-zine message, Mbeki highlighted Coega as a prime example of 'Milestones during the Age of Hope':

> . . . the leading aluminium company, Alcan [subsequently purchased by Rio Tinto], entered into an agreement about the supply of electricity that would make it possible for it to construct a huge aluminium smelter at the new Port of Ngqura/Coega. This was indeed another important piece of good news during 2006, given the sustained campaign that some in our country had conducted to present the new Port of Ngqura/Coega as the outstanding symbol of the failure and folly of our democratic government, led by our movement! (Mbeki 2006)

Coega, if not *the* outstanding symbol, is indeed one of several excellent examples of post-apartheid failure and folly, representing a nexus of crony capitalism, socio-economic underdevelopment and negative environmental and especially climatic effects. The enormous state subsidies flowing into the smelter (in the form of promised electricity priced at the world's cheapest rates) and to other corporate beneficiaries would better be directed to meeting vast unmet social needs in the Eastern Cape.

Replying to a critique in the Durban newspaper *The Mercury*, 28 December 2006, Coega Development Corporation chief executive, Ongama Mtimka, unwittingly supported the main line of criticism: 'Cynthia Carroll's comment that Coega has the best infrastructure she has seen throughout the world affirms the competitiveness of the Coega Industrial Development Zone relative to its global counterparts.' A few weeks earlier, Carroll, as president and chief executive of Alcan Primary Metal, had negotiated a cut-price electricity deal on behalf of the Canadian metals firm's proposed smelter. She was soon thereafter made chief executive officer of Anglo American, showing that the infamous 'minerals-energy complex' (Fine and Rustomjee 1996) - linking South African mining capital, the parastatal Eskom and the Department of Trade and Industry - had internationalised and dropped its apparently patriarchal face.

However, the cheap electricity arrangement was still widely ridiculed, especially as shortages loomed. As columnist Rob Rose complained at the time:

> If Coega is the local equivalent of a ghost town, it is one with a peculiar twist: government built it for R7.5 billion with no inhabitants, threw open the doors and not even a car guard pitched up . . . Given the energy needs for the smelter, it might be the best thing if it were scrapped. After all, Alcan is being cut a special deal for the massive 1 350 MW of power it needs, through a bargain price with Eskom under the (bizarrely titled) 'development electricity pricing programme'. Aluminium smelters are particularly energy intensive, and 1 350 MW is enough to run a city and equal to nearly 4% of South Africa's entire 37 000 MW capacity. But Eskom, being Eskom, is keeping the exact price it has given Alcan a secret. Earthlife Africa reasonably says the danger is that Eskom may be subsidising a project that will create fewer than 1 000 fulltime jobs . . . It is also thought that most of the aluminium produced by Alcan at Coega will be shunted into the export market, rather than being beneficiated in this country. In the 1950s, aluminium was dubbed 'congealed electricity' given the large amount of power needed to produce the metal. Effectively, you could then argue that government is simply allowing Alcan to 'export electricity' at a time when we won't exactly be overflowing with spare capacity (*Business Day*, 4 June 2007).

Regrettably, aside from a few Port Elizabeth and Johannesburg environmentalists and the Rhodes University Public Service Accountability Monitor, progressive activists have not addressed the other vast giveaways associated with Coega. Port Elizabeth trade union and community movements were signatories to the NMBM's 'Growth and Development Summit Agreement' (2007), which pronounced – as an 'economic vision' – that 'Nelson Mandela Bay is a world-class, well-diversified and integrated competitive global economy [*sic*] that prides itself on the ability of its excellent business environment to create a sustainable livelihood for its inhabitants'. The summit's first commitment was to 'speed up service delivery of basic services' and in particular, 'to address homelessness and eliminate informal settlements in Nelson Mandela Bay'. How genuine was the municipality's commitment? Tellingly, within a week, Melekile Hani, a municipal housing project manager, was suspended because he informed Walmer residents that the NMBM council had sold prime land to the Walmer Country Club instead of allocating it for housing construction: 'I am a housing project manager in Walmer, so I cannot lie to the people. The council prioritised golf at the expense of residents' (South African Press Association [SAPA], Port Elizabeth, 12 April 2007).

In spite of obvious conflicts of interest over Coega, such as who benefits from subsidised electricity, the 'Growth and Development Summit Agreement' explicitly supports corporate welfare:

> The provision of world class economic infrastructure is a priority of the NMBM as this will encourage investment, retain existing industry and act as a catalyst for economic growth . . . The NMBM commits itself to working together in partnership with the CDC [Coega Development Corporation] to promote the Coega IDZ as a preferred investment destination. The NMBM commits itself to lobbying government together with the CDC to ensure that adequate services, infrastructure and facilities are available to investors in the Coega IDZ (NMBM 2007).

In addition to tailor-made infrastructure, including a R1 billion elite housing estate and a 20-metre deep port, the main attraction of Coega was to be ultra-cheap energy. Yet at the same time it was becoming clear that mismanagement of Eskom in the course of its corporatisation had left the company with inadequate investments and regular load-shedding (power supply failures) in early 2008. The US corporation AES was meant to start building a major private power plant in Port Elizabeth to augment Eskom's supplies, but soon after hopes were raised, AES retracted its commitment there and in Durban as well.

By early 2010, with BHP Billiton and Anglo American Corporation receiving similar subsidies to what was promised Alcan, the untenability of the arrangement became obvious, The World Bank was called in to lend R39 billion (in US dollars) to expand the country's power grid, mainly through construction of the Medupi coal-fired plant, the world's fourth largest coal generator and hence a major climate threat. More than sixty South African and 130 African continental and international organizations opposed this, on grounds that the two corporations' 'Special Pricing Agreements' dating to apartheid would be continued, while low-income people would not afford the 127 per cent price increases from 2008-2011 that were approved by the national regulator. Although they lost, pressure was sufficiently great from civil society and the parliamentary opposition (especially Independent Democrats and Democratic Alliance) to compel a shift in electricity pricing policy, so the deal offered Alcan at Coega is likely a strategy never to be repeated, given the country's looming electricity shortages.

Alcan had signed a quarter-century power supply agreement with Eskom that was estimated to be less than the fourteen cents per hour that bulk industrial consumers typically pay. South Africa was already the world's cheapest electricity by far. Finally in 2008 it became clear that energy supplies were scarce and the aluminium market began to weaken, so Alcan's employees began to dismantle their operation.

Until the electricity crisis, Coega's site was anticipated to include the smelter, a vast new port (which opened in late 2008), a container terminal, a petrochemical zone with a massive refinery operated by state-owned PetroSA and an IDZ. Public investments of at least R12 billion were planned, including the R2 billion tax break for Alcan, in addition to enormous quantities of cheap land, water and electricity. The new employment anticipated at the port/IDZ would be the most expensive, as measured by capital invested per job, of any in Africa.

Whether or not the aluminium and additional manganese smelters are finally built, the environmental costs of the Coega projects in water consumption, air pollution, electricity usage and marine impacts will be immense. The infrastructure under construction is unprecedented in Africa and dwarfs any basic needs development infrastructure that could serve the deprived citizens of the Nelson Mandela Metropole and across the province of the Eastern Cape.

Reports of conflicts of interest for key decision-makers cloud the Coega project's image of good governance. Adding to the controversy is the fact that Coega was initially meant to be a way in which European industrial firms involved in arms sales to South Africa could make 'offset' investments that would create jobs, so government could justify to the public its corruption-ridden $6 billion weapons purchase. There are significant social costs as well. Several hundred families were displaced to build Coega's infrastructure and those that live in the area will bear the brunt of the environmental toll. The opportunity costs of Coega include as many as 10 000 jobs lost in economic sectors, which either must close or cannot expand, including the existing salt works, mariculture (systematic marine cultivation of plants or animals), fisheries, agriculture and ecotourism, as shown in Table 4.1.

Table 4.1: Direct and opportunity costs of the Coega IDZ and harbour

Sector	**Income losses (R million/year)**	**Employment losses (Number of jobs)**
Salt production	20	136
Mariculture	116	875
Fisheries	not estimated	not estimated
Agriculture	510	7 500
Ecotourism	60	975
Total	706	9 486+

Source: Bond (2002)
Note: Impacts on agricultural production are long term and therefore of a different nature to the other job losses

At the time, community and environmental activists pointed to far better alternatives for employment creation and socio-economic progress if resources were used in different ways. The Mandela Metropole Sustainability Coalition proposed an alternative economic development scenario prioritising basic needs infrastructure investment throughout the Eastern Cape and, at Coega, state-supported ecotourism and black-owned small-scale agriculture and mariculture. Subseqently, civil society became increasingly active against the environmental threats, peaking with protests in 2007.

But that may change if Coega's proposed Petro SA dirty oil refinery is built, potentially costing R70 billion. If it does go ahead in spite of the long distances associated with transport of the oil, the refinery will be a major factor in climate change debates at a time when South Africa's carbon dioxide emissions are already running approximately twenty times higher than even the United States on a per capita income basis. Ironically, just as the ink was drying on Eskom's electricity giveaway to Alcan, then environmental minister, Martinus van Schalkwyk, returned triumphant from the November 2006 climate change treaty negotiations in Nairobi, claiming that 'South Africa achieved most of its key objectives'. Those objectives included promoting clean development mechanism (CDM) investments as mandated by the Kyoto Protocol's endorsement of carbon trading, which may factor into Coega's finances at some stage.

By investing in Third World CDM projects that allegedly reduce emissions, Northern polluters can buy the right to continue their emissions at present levels. Because Alcan promised to use relatively energy-efficient technologies in its proposed Coega smelter, the market-oriented US organisation, Environmental Defense, suggested that the project be considered worthy of CDM investments by large international polluters, which would permit them to continue present rates of emissions. In promoting these kinds of investments, Van Schalkwyk bragged that the South African government was sending 'a clear signal to carbon markets of our common resolve to secure the future of the Kyoto regime'.

However, there are vast problems with the new emissions trading system (see, for example, Bond, Dada and Erion 2008) and projects such as Coega show why this market should not be expanded in ways that generate new ecological problems without making a dent in overall emissions. University of Cape Town Environmental Studies Professor Richard Fuggle – one of the country's most respected environmentalists – attacked the expected increase in carbon dioxide emissions due to Coega (at the time the Alcan smelter seemed on track) in his retirement speech. According to Fuggle:

> It is rather pathetic that Van Schalkwyk has expounded the virtues of South Africa's 13 small projects to garner carbon credits under the Kyoto Protocol's CDM, but has not expressed dismay at Eskom selling 1 360 megawatts a year of coal-derived electricity to a foreign aluminium company. We already have one of the world's highest rates of carbon emissions per dollar of GDP. Adding the carbon that will be emitted to supply power to this single factory will make us number one on this dubious league table (*Cape Times*, 6 December 2006).

What do Coega backers say to this kind of critique? In 2002, as trade and industry minister, Erwin labeled these concerns (in Bond, 2002) a 'poorly prepared polemic designed to support your obvious opposition to this project. I would not make the above remarks if the document had any real merit. We have held a number of discussions with responsible environmental groups and will work with them very closely' (*Eastern Province Herald*, 1 February 2002).[2] In 2006, Mtimka addressed corruption allegations by the Public Service Accountability Monitor:

> The argument that 'public law and participation processes associated with the port and IDZ development have been unsatisfactory' is factually incorrect and is defamatory with respect to the character of the CDC. All due processes pertaining to the rollout of the project and investments were followed . . . There is no evidence of conflict of interest for key decision-makers which

> 'clouds the project's governance'. This statement is malicious and undermines the integrity of the CDC based on unfounded allegations.

The allegations are indeed serious. They include a conflict of interest of a key decision-maker, Achilles Limbouris, the operations manager of infrastructure development at CDC. Investigations led to his (apparently justified) firing by CDC only two weeks before Mtimka's 2006 rebuttal appeared in *The Mercury*. Limbouris had 'been in contact with a tenderer, Scribante Construction (Pty) Ltd . . . who had tendered for an R85 million construction contract . . . [and leaked] sensitive and confidential CDC information . . . to the external environment'.[3]

The problem is apparently far deeper and involves offsets associated with the notorious arms deal, which permitted offset deals for the German submarine maker Ferrostaal for promised – though never materialised – Coega investments (Crawford-Browne 2007). The Public Service Accountability Monitor became concerned when, according to director Colm Allan: 'the Coega Project had effectively collapsed due to the withdrawal of Billiton as its anchor tenant'. What resurrected Coega was then defence minister Joe Modise's

> irregular agreement with the German submarine consortium on 13 June 1999 to purchase 3 submarines at a cost of R4.5bn in return for Ferrostaal's promise to construct a steel mill worth R6 billion at Coega . . . [Shortly afterwards, upon his retirement] Modise bought shares in and was appointed the chairperson of a company which has been awarded contracts to conduct work on the Coega project (Allan 2001).

According to Allan, although Modise died soon afterwards, other officials appeared to be milking the project, including Mafika Mkwanazi (then Transnet deputy managing director), Saki Macozoma (then Transnet managing director) and the chair of the CDC board, Moss Ngoasheng (formerly Mbeki's chief economic advisor):

> CDC is a private company which is issuing contracts to be met out of taxpayers' money. Yet, because it is a private company, the financial statements of the CDC cannot be audited by the Auditor General's office. Nor does the CDC have to comply with the strict financial reporting requirements set out in the Public Finance Management Act.

In opposition to Coega, local activists including Earthlife Africa, Nimble, The Zwartkops Trust, Valley Bushveld Affected Parties and citrus farmers wrote an article in 2007 describing many other environmental problems raised by Coega:

> Faced with increasing public concern and protest, the CDC has gone to great lengths in recent adverts in the local media to try to discredit the opponents of the Coega smelters, and some of the other highly polluting and toxic industries the CDC is trying to attract, such as the ferro-manganese smelter, the oil refinery and the chlorine plant.
>
> The people of Port Elizabeth need to ask themselves whether, in light of global warming, the pollution of our air and water, and its effects on people's

> health and in consideration of the billions of rand needed for the construction of new power plants, the provision of subsidies for the smelter, the job losses in other industries that can either not expand or exist due to the smelter's proximity, are worth the 1 000 jobs created by Alcan. Of these at least 300 will only be available to highly skilled professionals, probably many from overseas.
>
> In light of the fact that each job created at the smelter is estimated to be costing about R5 million and considering the massive impact the smelters will have on our environment and the air we breathe, the answer to this should be easy.
>
> We reject the condescending manner with which CDC staff, including marketing and communications head Vuyelwa Qinga-Vika, are treating protesters. Those who have voiced their opposition to the smelters have been denounced as egotistical half-wits who are more concerned about clean air than the plight of the poor and fools that cannot distinguish fact from fiction, silly enough to believe the reports by leading scientists and politicians on global warming . . .
>
> We sincerely hope that the South African government will have a change of heart and reconsider the impact the proposed Coega smelters will have on South Africa's environment and therefore its citizens (*The Herald Online*, 15 June).

The 'green critique' of Coega had reached a high pitch. However, to alter policy decisions and national budgetary allocations, what was needed was a more sustained campaign – joining environmentalists, labour, community and other citizens – for radically new industrial strategies that meet the society's needs, not the world economy's hunger for aluminium or South Africa's for petroleum. Only increased pressure from the citizenry can alter business-as-usual thinking. On 9 May 2007, co-ordinated protests were held against Alcan in Port Elizabeth, Richards Bay and Johannesburg. From Johannesburg, Earthlife Africa also attempted to shed further light on the deals being done at Coega through a Promotion of Access to Information Act request to Eskom about the price of power, conditions of supply and Alcan's potential to sell on unused electricity. The response was 'a complete and utter stonewall in response to legitimate questions concerning South Africa's welfare and long-term energy supply'.[4] Much the same unsatisfactory process can be found in Johannesburg with the LHWP.

Lesotho's water

First conceived in 1954, the LHWP went into effect in 1986, through a treaty signed between South Africa's apartheid government and Lesotho's military regime. One of the central questions associated with the LHWP is whether society can look beyond the immediate question of blatant corruption in the dam's construction and identify a more profound corruption of the San water system, which has led to outbreaks of social unrest, particularly in Phiri, Soweto.

The objective here is to link the production of water, in which multinational corporations profited at the expense of those who paid for overpriced dams that were potentially unnecessary, to the many thousands of Basotho highland residents who were displaced, to the consumption of water (for example, the low-income people in Phiri who were unable to afford water priced five times higher than previously as a result of the first two Lesotho dams, Katse and Mohale).

The Senqu River, which forms Namibia's southern border with South Africa, originates in Lesotho and covers a distance of 1 800 kilometres through South Africa, where it is nowadays called the Gariep River. The river connects with the Atlantic Ocean at Oranjemund and is a major tributary the Vaal River, which conveys nearly 23% of the total surface water of South Africa. The five-dam LHWP would divert about 40% of the water (called 'white gold' by project authorities) in the Senqu River basin to the Vaal River system in Gauteng (Boehm and Hall, 1999).

Water sales from the project are Lesotho's single largest source of foreign exchange and account for 75% of the country's budget. During recent droughts, Lesotho has seen its own crops shrivel as its water was shipped to South Africa. Multiple tributaries in the watershed would be dammed if all dams in the project were completed. Two of the dams, the 180-metre-high Katse (Phase 1A) and the 145-metre-high Mohale (Phase 1B), are now complete. In addition to a total of five proposed dams, the LHWP envisages 200 kilometres of tunnels blasted through the Maluti Mountains and a 72-megawatt hydropower plant that will supply power to Lesotho. The scheme is being managed by the Lesotho Highlands Development Authority (LHDA), which is responsible for resettlement and compensation issues, environmental protection and overall construction management. In South Africa, the project is overseen by the Department of Water Affairs and Forestry (DWAF) through the Trans Caledon Tunnel authority. The Joint Permanent Technical Commission (JPTC) was established to represent both countries.

In late 1997, the end-user for the project's water, Rand Water, revealed that it had done a preliminary study that showed that the need for Mohale Dam could be delayed by eight to twenty years by implementing water-conservation measures. Non-governmental organisations (NGOs) and the World Bank attempted to obtain the study, but neither Rand Water nor DWAF was forthcoming with the information. Despite strong evidence that Mohale Dam could be delayed, the South African and Lesotho governments proceeded with the project one year ahead of schedule.

High up in the Lesotho Highlands, the dam's costs are massive for local residents. No estimates exist as to the number of people who ultimately require physical relocation if all three phases are completed, but the total population affected by Phase 1 approaches 200 000. Of these about three-quarters are residents of downstream communities affected by radically reduced Senqu River flows. Another 30 000 villagers in reservoir catchments basins, though not requiring physical removal, would be adversely affected by loss of winter grazing as well as loss of thatching grass, fuel wood, medicinal plants and other common property resources. Phase 1A affected 133 villages in the Katse and Muela local catchments. As many as 3 357 households, averaging between five and six members, lived within the main Katse impact areas. Approximately one-third lost some arable land to the project with approximately 10% losing all their fields. Loss of at least 3 000 hectares of grazing and other common property resources affected approximately 90% (Boehm and Hall, 1999).

Though the large majority of households were poor by any standard, some were more vulnerable than others. At least 13%, for example, owned no fields and were dependent on sharecropping or loan of arable land, while 20% owned no livestock. The proportion of female-headed households was approximately 30%, with those headed by elderly widows being especially vulnerable. In the main Mohale impact area, an estimated 700 households in 84 villages lost 725 hectares of arable land, with the project reducing grazing land, including the most valuable winter grazing, by approximately 1 635 hectares. Resettlement and compensation plans in the LHWP's rural development programme were characterised by non-delivery, corruption and persistent protest by affected communities.

In 1991, an LHWP review panel, including noted international experts, conceded that 'unnecessary delays have stalled implementation of various [rural development programme] projects for more than a year . . . delays in implementing such components . . . as rural sanitation, village water supply, and construction communities have actually caused worsening living conditions in certain villages'. The panel also referred to 'unwarranted interference, pressure and criticism from individuals and other divisions within LHDA, and from within the Commission, upon the Environment Division', which were having an adverse effect on morale. In April 1995, the same panel reported:

> Once again the panel must reiterate its view that even with implementation of the [rural development programme], it will not be easy to meet the requirements of the LHWP Treaty and LHDA Order. Each potential development option that is ignored, and especially options that deal with arable land, significantly increases the chances of failure.

The same point was reiterated in June 1996: 'Implementation of the [rural development programme] has been deficient to date in terms of LHDA and Commission responsibilities under the 1986 LHDA Order. This is especially true in regard to restoring the living standards of villages, households and individuals more adversely affected by LHWP implementation.'

However, from the outset, the LHWP was founded on rule-breaking. It was first financed in 1986, during the apartheid era, when South Africa was subject to international sanctions. Funding came from the World Bank, the European Investment Bank, the German, British and French bilateral aid agencies, the UK Commonwealth Development Corporation, commercial banks including Banque Nationale de Paris, Dresdner and Hill Samuel and a number of export credit agencies. To avoid the difficulties of international financiers openly aiding the regime, the project's financial advisers – including the World Bank – set up a London-based trust fund through which payments could be laundered.

Subsequent charges of corruption in the LHWP's contracts raised questions about the involvement of the World Bank, which supported LHDA chief executive Masupha Sole, subsequently convicted in a criminal trial that implicated a dozen of the world's largest construction firms. So far, Acres International, a Canadian engineering consulting firm, and Lahmeyer International, a German engineering consulting firm, have been convicted of bribing Sole to give them favorable contracts and – only after intense pressure by the US Senate's foreign relations committee – debarred from the Bank. Sole is currently serving a fifteen-year prison sentence.

LHWP corruption is also felt in hydrological and socio-economic terms. The amounts of money involved in the construction of the first two dams were so vast that the average price of a drop of water consumed in Johannesburg rose by a factor of five.

As even the World Bank conceded, the impact of the higher price of water was disproportionately felt by lower-income people who consumed water in the first consumption block (who suffered a 39% real increase during the late 1990s) and far less by higher-income people consuming far more water in the fourth block (only a 24% increase) (Bond 2002). The price increases were felt most strongly by the black residents of the urban townships southwest of the city of Johannesburg.

The end-use retailer of Lesotho's water is the corporatised city water utility, Johannesburg Water (JW). Using the discourse of sustainable development, JW initiated the connection of all dwellings within the historically black townships onto a pre-paid water system in 2001 in order to reduce water wastage and improve cost recovery. Prior to the installation of the meters, average household consumption of water for most households in Soweto stood at an approximately 67 kilolitres per household per month. The new pre-paid technology aimed at lowering this to 10 kilolitres per household per month (initially this figure was 6) provided free with all additional water to be paid for. As a result, the reduction in household consumption of water translated to an estimated $45 million over five years, allowing JW to recuperate its initiating costs within three years.

Johannesburg communities' resistance to commodified water and the forced installation of the pre-paid water meters has been documented by M. Fiil-Flynn and P. Naidoo (2004) and published by the Public Citizen, Anti-Privatisation Forum, and the Coalition Against Water Privatisation:

> Prepaid water meters have started to have devastating effects on the social fabric of communities. Traditional and cultural practices celebrated in community and collective action and spirit (e.g. funerals and weddings) are slowly being eroded as people can no longer afford to pay for the large amounts of water needed at such occasions. As the relationship of people to water has been individualized by the prepaid meters, unequal relationships amongst residents in Stretford, Extension 4 and between these residents and people from other extensions in Orange Farm have started to develop. For example, neighbours are no longer able to share water and suspicion develops over use of and access to water. The general lack of water necessary for the basic survival of households puts untold pressures on social relations as fights over gaining access to water surface in communities and in households. There are often gendered effects of such pressures e.g. increases in domestic violence . . .
>
> Far from facilitating the delivery of the six kilolitres of free water to residents in Stretford, Extension 4, the prepaid meters are often technically deficient; the amount of six kilolitres is insufficient for the basic needs of the average household. This is borne out by the fact that a significant number of residents seek alternative sources of water or buy water units over and above the six kilolitres of free water. The Water Services Act requires service providers to give reasonable notice if it intends to limit or discontinue water services and the provider must take the ability to pay into account. Prepaid water meters, with or without the access to six kilolitres, clearly violate such provisions.

The French firm Suez was responsible for JW's management from 2001 to 2006 and promoted pre-paid meters worldwide, even though Britain banned them in 1998 as a public health threat. Suez and the Johannesburg Council, pressured by the higher cost of water due to the LHWP, adopted the following strategies:

- impose water prices that soar after a very small, free amount of roughly two toilet flushes per day for eight-member households, so that the next block of consumption becomes unaffordable;
- disconnect people who are too poor to pay for any water beyond the free 6 kilolitres (at their peak, Johannesburg services disconnections reached 20 000 per month during 2002, the Council revealed just prior to the World Summit on Sustainable Development);
- offer the token 'Free Basic Water' on the basis of a household as a unit, rather than the Reconstruction and Development Programme (RDP) recommendation of 50 litres per person per day, thus creating a bias against larger families and those who have backyard shack-dwellers or tenants who also draw upon the per-household supply;
- install low-quality water and sanitation technology to thousands of poor households with the objective of reducing consumption (the technology includes pre-paid water meters, chemical toilets, ventilated improved pit latrines and 'shallow sewage' systems, featuring smaller pipes and lower gradients, no cistern for flushing and the unclogging of faeces by hand when pipes periodically clog); and
- provide differential technology according to class and race (the hardware listed above is only imposed on people in townships and informal settlements, who suffer additional transport and time-wasting costs acquiring meter cards, not in the formerly all-white suburbs where people make direct bank account debit payments to save time and effort) (Bond and Dugard, 2008).

The Soweto water war included destruction of JW property in mass protests in 2003 and reversion to the 'bypass' system in which local community plumbers set up new pipes, reducing JW meters to useless 'statues' so as to confuse city officials. The war also included a legal component and moved to the Johannesburg High Court in 2006, where Sowetans challenged the adequacy of 25 litres per person per day as well as pre-payment meter technology. After a victory in the High Court in 2008, a slight reversal in the Supreme Court and a total defeat for residents in the Constitutional Court followed over the subsequent 18 months. Moreover, discussions and planning for Phase 2 of the LHWP began in late 2009.

Conclusion

The big brother approach to development witnessed in both the Coega and LHWP mega-projects stands in contrast to the rhetoric of the RDP and of a mythical 'developmental state' that has allegedly been under construction since 1994 (Freund 2007). In fact, South Africa's development record has been miserable across a variety of fronts, so it is not surprising that mega-projects are only amplified reflections of the power of capital and rich South Africans:

- there was an immediate post-apartheid rise in income inequality, which was slightly tempered after 2001 by increased welfare payments, but which meant the Gini co-efficient soared from below 0.6 in 1994 to 0.72 by 2006 (0.8 if welfare income is excluded) (*Business Day*, 5 March 2008);
- the official unemployment rate doubled (from 16% in 1994 to around 32% by the early 2000s, falling to 26% by the late 2000s – but by counting those who have given up looking for work, the realistic rate is closer to 40%) as a result of imported East Asian goods in relatively labour-intensive sectors (clothing, textiles, footwear, appliances and electronics) and capital-intensive production techniques elsewhere (especially mining and metals);
- the provision of housing to several million people was marred by the facts that the units produced are far smaller than apartheid 'matchboxes', are located further away from jobs and community amenities, are constructed with less durable building materials, come with lower-quality municipal services, and are saddled with higher-priced debt if and when credit is available;
- while free water and electricity are now provided to many low-income people, the overall price has risen dramatically since 1994, leading to millions of people facing disconnections each year when they cannot afford the second block of water consumption;
- the degeneration of the health system, combined with AIDS, has caused a dramatic decline in life expectancy, from 65 at the time of liberation to 52 a decade later;
- with respect to macroeconomic stability, the value of the rand in fact crashed repeatedly (against a basket of trading currencies) by more than one-quarter in 1996, 1998, 2001, 2006 and 2008, the worst record of any major economy;
- South Africa's economy has become much more oriented to profit-taking from financial markets than production of real products, in part because of extremely high real interest rates (after a recent 3.5% spike during the mid-2000s, consumer and housing credit markets are badly strained by serious arrears and defaults);
- the two most successful major sectors from 1994 to 2004 were communications (12.2% growth per year) and finance (7.6%) while labour-intensive sectors such as textiles, footwear and gold mining shrank by 1–5% per year and overall, manufacturing as a percentage of gross domestic product (GDP) also declined;
- the government admits that overall employment growth was -0.2% per year from 1994 to 2004 – but -0.2% is a vast underestimate of the problem;
- the problem of 'capital strike' – large-scale firms' failure to invest – continues, as gross fixed capital formation hovered between 15–17% from 1994–2004, hardly enough to cover wear-and-tear on equipment;
- where corporate profits were reinvested it sought returns from speculative real estate and the Johannesburg Stock Exchange: there was a 50% increase

in share prices during the first half of the 2000s and the property boom which began in 1999 had by 2004 sent house prices up by 200% (US markets rose only by 60% prior to the banking collapse);

- businesses also invested their South African profits, but not mainly in South Africa: dating from the time of political and economic liberalisation, most of the largest Johannesburg Stock Exchange firms shifted their funding flows and even their primary share listings to overseas stock markets;
- the outflow of profits and dividends due these firms is one of two crucial reasons South Africa's current account deficit has soared to amongst the highest in the world (in mid-2008 exceeded only by New Zealand) and is hence a major danger in the event of currency instability (with *The Economist* ranking South Africa as the world's most risky emerging market in February 2009);
- the other cause of the current account deficit is the negative trade balance, which can be blamed upon a vast inflow of imports after trade liberalisation, which export growth could not keep up with; and
- ecological problems have become far worse, according to the government's own commissioned research in the 2006 'Environmental Outlook' report, which according to the leading state official, 'outlined a general decline in the state of the environment'.

What these phenomena represent is a neo-liberal regime that systematically worsens the plight of its people while adopting policies that benefit foreign-based capital, including the formerly locally based white business elite. The challenge is, as ever, properly mixing analysis of structure and struggle, so that beyond descriptive analysis of the sort provided above, we can better determine the underlying dynamics of South African political economy, and in the process, better characterise opportunities for redress and redirection in the interests of society and the environment.

The two case studies of maldevelopment noted here do suggest some generalisable features beyond merely calling out 'neoliberalism' and 'compradorism'. To be sure, putting on offer the world's cheapest electricity to foreign mining capital at Coega and diverting water on the scale being conducted from Lesotho to Johannesburg, both of which will simultaneously *reverse* access to basic electricity and water consumption by poor people (because of much higher prices), do confirm the state's pro-corporate, anti-people, anti-ecological bias. What is crucial, though, is that we explain South Africa's elite transition from racial apartheid to class apartheid in a manner that reveals key forces. The danger is that they are obscured through moralising.

Moralising is too easy, for the corporations that benefit from the outcomes and the construction of the white elephant mega-projects all have addresses, bank accounts, and profit statements, even if they have valiantly attempted to keep backhanders to politicians away from public scrutiny. Likewise, ridiculous statements by decision-makers even as sophisticated as Mbeki can be discerned from official statements and press coverage, and occasionally these are so notorious that they require public prosecution and book-length exposes, as in the case of the Coega-related arms deals (Crawford-Browne 2007) and Lesotho dam construction corruption.

Too rare, however, is a full disclosure that can take us from misplaced, distracting allegations of 'conspiracy theory' to a sense of whether irrational projects like Coega and the LHWP are 'necessary' (versus merely 'contingent'). If the scale of resource misallocation evident in these cases is also repeated with transport (Gautrain and King Shaka airport), sports facilities (most of the new stadia, especially Durban's), and energy capacity expansion (Medupi and Kusile coal-fired plants and forthcoming nuclear generators), and if the transition from the Mbeki to Zuma administrations did not change power balances favourably so as to halt or mitigate these mega-projects, then this kind of developmental state strategy is not a matter of conspiracy theory. Moreover, when even trade unionists endorse Coega (NMBM 2007) and the SA Communist Party (2010) issues a flattering albeit bizarre statement about the 2010 World Cup (as they did about neoliberal GEAR policy in 1996 and the subimperialist NEPAD strategy in 2002) – 'What we have seen has been a developmental state in action, rallying the widest range of South Africans around a common vision and a common task' – then a much deeper revolutionary way of thinking must take precedence, before we can expect social mobilizations to have any meaningful impact.

Frantz Fanon (1963) understood this a half century ago, and his *Wretched of the Earth* contains a chapter, 'Pitfalls of National Consciousness', that assists us in finding the proper mix of structure and agency, e.g. in his consideration of mega-projects:

> Since the bourgeoisie has not the economic means to ensure its domination and to throw a few crumbs to the rest of the country; since, moreover, it is preoccupied with filling its pockets as rapidly as possible but also as prosaically as possible, the country sinks all the more deeply into stagnation. And in order to hide this stagnation and to mask this regression, to reassure itself and to give itself something to boast about, the bourgeoisie can find nothing better to do than to erect grandiose buildings in the capital and to lay out money on what are called prestige expenses. The national bourgeoisie turns its back more and more on the interior and on the real facts of its undeveloped country, and tends to look towards the former mother country and the foreign capitalists who count on its obliging compliance

Just as in most of Africa, construction of these South African megaprojects appears to be, therefore, a 'necessary' (theoretically derived) process associated with crony capitalism, the expansion of state power and the lack of private fixed investment in an otherwise stagnant economy, especially where the black bourgeoisie have few options for new accumulation and must rely upon state subsidies in association with corrupt multinational corporations. Under these circumstances, if it were not Coega or LHWP, or the other dozen or so ill-considered megaprojects, the South African state would have to generate an entirely new set.

What we have seen from the cases of Coega and the LHWP is that the crony capitalist approach is evident in mega-project design and implementation as much as it is in national macroeconomic policies. Likewise, the only logical reaction – so far only a fraction of what is needed – is sustained social, indigenous, political-economic and environmental opposition from civil society.

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Notes

1 In addition to a variety of other white elephant projects, we have seen ineffectual neo-liberal macroeconomics, development disasters, rising unemployment and inequality, an AIDS policy described by many experts as 'genocidal', worsened environmental degradation, unprecedented debt-financed consumer materialism, widespread political corruption, real estate and stock market speculation and alliances with imperial powers – for example, arms sales to the invaders of Iraq and to repressive regimes, failed multilateral trade and financial reforms, aspirant sub-imperialism through the New Partnership for Africa's Development (NEPAD), the government's stifling of democracy in Zimbabwe, Swaziland and Burma and rising state repression at home.

2 Erwin's specific points were considered at length and rejected in Bond (2002, Chapter 2), co-authored with economist Stephen Hosking.

3 Coega Development Corporation (CDC). 2006. 'Coega Manager Dismissed over Misconduct'. Press release, Port Elizabeth, 11 December.

4 Earthlife Africa. 2007. 'Eskom's Secret Deal with Alcan: Refusal to Release Details'. Press release, Johannesburg, 20 February.