

Capital accumulation, social reproduction and social struggle: rethinking the function of spatial planning and land use

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Abstract

This purpose of this paper is to understand the historical impact on urban land usage of ecological, economic and political factors in order to conceptualise strategic ideas for transforming urban land usage currently and in the future to enable social equity, promote the efficient use of resources and sustain the ecologies within which cities and towns are embedded. The paper analyses the historical data through a triangular matrix of capital accumulation, state reproduction and planning strategies and popular movements pressurizing to benefit from demanded land usages. Capital accumulation is viewed as a process through which wealth produced by labour accrues both to owners of capital and managers in the form of unearned value. This insight is particularly important in the current phase of global capitalism, in which financialisation is a dominant form of economic activity and impacts also on the way spaces are planned and used in urban areas for economic gain. Given the contradiction between an exponentially growing economy and finite resources, I take into account limits to growth and incorporate ecological economics' insights into classical political economy analyses.

Key words: spatial planning, land use, capital accumulation, social reproduction, ecology

Résumé

Ce but de cet article est de comprendre l'impact historique sur l'utilisation des terres urbaines de facteurs écologiques, économiques et politiques afin de conceptualiser des idées stratégiques pour transformer l'utilisation des terres urbaines actuellement et dans l'avenir pour permettre l'équité sociale, promouvoir l'utilisation efficace des ressources et soutenir les écologies dans lequel villes et villages sont intégrés. Le document analyse les données historiques à travers une matrice triangulaire de l'accumulation du capital, la reproduction de l'État et des stratégies de planification et de mouvements populaires de pressurisation de bénéficier des usages des terres réclamées. L'accumulation de capital est considérée comme un processus par lequel la richesse produite par le travail revient à la fois pour les propriétaires et les gestionnaires de capitaux sous la forme de la valeur non acquises. Cette idée est particulièrement important dans la phase actuelle du capitalisme mondial, dans lequel la financiarisation est une forme dominante de

l'activité économique et les impacts aussi sur la façon espaces sont prévus et utilisé dans les zones urbaines pour un gain économique. Compte tenu de la contradiction entre une économie en croissance exponentielle et de ressources limitées, je prends en compte les limites de la croissance et intégrer les perspectives de l'économie écologique en analyse l'économie politique
Mots clés: aménagement du territoire, l'utilisation des terres, l'accumulation de capital, la reproduction sociale, l'écologie

'Those who cannot remember the past are doomed to repeat it'.¹

Introduction

The status of the spatial planning profession strongly influences the planning of land usage in our cities: the Spatial Planning and Land Use Management Act (SPLUMA) (RSA 16/2013) requires municipalities to develop Spatial Development Frameworks (SDFs) that define where and for what purpose land will be developed. Linked to the SDFs is 'spatial targeting', the idea that public investments in infrastructure in specific identified spaces will 'crowd in' household settlement, and private investment will follow, which ascribes to spatial planning the power to bring about access for citizens to services, facilities, employment and livelihood opportunities. Too often spatial planners assumes that bad outcomes are simply a reflection of problematic planning, but planning and planners do not stand above society and its network of conflicting political and economic interests. The options of how land is to be used are limited by factors external to planning: macro-economic trends that reinforce jobless growth as well as the need to maximise resource efficiency and conserve an increasingly threatened ecology (Department of Environmental Affairs, 2011: 10). Planning as a disciplined technique functions within a larger context where the influence of political and economic factors often undermines the best intentions of planners. This paper rethinks the current dominant technicist assumptions about the role of planning and its impact on space and land usage in order to lay a political economy basis for understanding historical spatial planning and urban land use strategies, and for proposing political and economic approaches to address spatial marginalisation and economic disempowerment of the majority of citizens in our cities.

Rethinking these phenomena requires understanding the political-economy of spatial planning and urban land usage, a different conceptual starting point to the current dominant neo-liberal way of seeing urban economic development, which confines itself to describing verifiable facts and eschews searching for theories to explain the underlying causes of phenomena.

¹ Santayana (1998: 284)

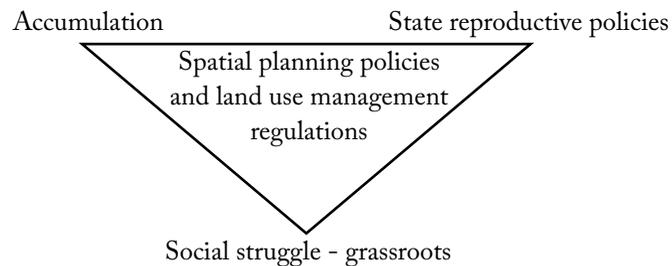
Spatial reproduction, capital accumulation and social struggle

To analyse economic and political structures as outcomes of the practices of historical agents, rather than as essential givens, requires specific concepts of what constitutes the economic and the political and their interrelationship.

'Facts' about the economy and the state are socially constructed through asymmetrical power relations between classes, genders, and ethnic and other social groups (Anthonissen, 2015: 5). These social relations of domination-subordination made settler colonialists dominant vis-a-vis indigenous people (Terreblanche, 2005: 6) and underlie the creation and reproduction of urban land use patterns.

Spatial planning and land usage forms are the outcomes past social struggles where grassroots actors and planning officials organised and formulated different narratives and exerted differential power. Knowing this history (Anthonissen, 2015: 5) and imagining a utopia, unencumbered by present-day restrictions (Turner, 1978: 11) can help understand how to reconstruct policies, and economic and spatial structures to enable employment in clean manufacturing located within sustainable socially equitable cities.

These struggles were framed by the interests underlying processes of *capital accumulation*², articulated with state *social reproduction* policies and practices³. The following is a graphic representation of the theoretical framework for understanding the historically changing spatial policies and land use management practices.



A key link between state policies and the economy is reproduction of labour power, i.e. the rejuvenation of the physical and mental abilities of people, in order for them to work (Althusser, 1970: 125-128). Reproduction of labour power for mining, manufacturing and agricultural capital happened through the statutory accommodation of workers

² *Accumulation refers to a cycle of processes where money capital is invested in labour power and materials to produce new commodities, which are then exchanged for money – in this process the owners of capital are driven to maximise profits and workers to maximise wages.*

³ *Social reproduction refers to processes like the provision of policing, education, housing, transportation as well as ideological discourses that give meaning to societies, where the state has performed – and continues to perform – historical functions, although social reproduction functions also extend beyond the state to maintain social relations of production.*

in defined spaces and under specific circumstances. Based on Hendler (1986; 2015a; 2015b) urban land use is analysed historically in terms of a periodisation of state policies, capital accumulation and social struggles. The purpose is to demonstrate the interdependence and interlinking of the state, capital accumulation and social struggles in the construction of urban land usages in South Africa (Hendler, 2010: 245-268; Poulantzas, 2000).

Financialisation and neo-liberalism

A key developmental challenge facing all our cities is the high levels of unemployment and the stark separation of living places (dormitories) from working places. The neo-liberal ideology regards the economy as a process where rational individuals compete for scarce resources, and which regulates itself and is therefore best left alone. However, to restructure economic processes and the spaces where they are practised, for job-intensive and green manufacturing, requires that we first understand how western capitalist economies were actually restructured since the late-1980s and 1990s, primarily through investment banking in a process that has been described as financialisation. Key characteristics were the expansion (and proliferation of types) of financial assets relative to real activity, absolute and relative expansion of speculative as opposed to or at the expense of real investment, a shift in the balance of productive to financial imperatives within the private sector, increasing income inequality arising out of financial rewards, consumer-led credit-based booms, penetration of finance into pensions, education, health, and provision of economic and social infrastructure, emergence of a neo-liberal culture of reliance upon markets and private capital and corresponding anti-statism (Ashman *et al*, 2011: 174-176).⁴ One of the impacts of financialisation is deindustrialisation and therefore the loss of productive work opportunities. In contrast the political-economy framework enables us to see socio-political and macro-economic limitations (particularly the unsustainability of credit bubbles) to the progressive realisation of the 'right to the city'⁵, rather than simply facilitating the privatisation and financialisation of the economy, which is often the economic usage to which re-planned and reconstructed urban land is put in these times.

⁴ *Indications are a \$681 trillion global derivatives market, i.e. more than 10 times the value of underlying global GDP of \$66 trillion (Hodgson-Brown, 2010: 192). In South Africa over 150% growth in the construction, finance and trade sectors and just 13% in manufacturing (2000 and 2008) (Bond, 2010: 21), illegal capital flight, exceeding 20% of GDP (2007) and the unbankability of 40% of the population (2011) (Fine, n.d.2: 3; 5). 'Jobless growth' also characterised the GDPs of Nelson Mandela Bay and Mangaung Metropolitan Municipalities (2010) (anecdotal evidence arising from consultancy work for these cities).*

⁵ *The 'right to the city' is an idea and slogan that was first proposed by Lefebvre (1968)*

Ecological economics

The global growth economic model is unsustainable (Swilling 2010: 11). Both neo-liberal ideology and classical political economy fail to consider the 'natural' limits to the supply of resource inputs to economic processes as well as the limited capacity of natural sinks to process the waste outputs from economic processes. Exponential economic and population growth places continuously increasing demand on limited planetary raw materials and resources; at the same time continuously expanding industrial waste is starting to overwhelm the finite ability of the earth's ecology to degrade noxious waste into benign components and to recycle these in the biosphere. Two stark examples of the limits to growth are the peaking of oil production and the inability of the earth's ecological systems to sufficiently sequester carbon from atmospheric carbon dioxide. The underlying depletion of oil supply is reflected in the trend rise in as well volatility of oil prices; oil price changes have a knock on effect on prices throughout the global economy because oil-derived products and by-products form part of all the materials in the production of commodities (Rubin, 2009). Global warming from green house gas emissions reflects the inability of ecosystems to sequester the carbon being spewed into the atmosphere. Globally, 40 per cent of energy use, 17 per cent of fresh water use, 25 per cent of wood harvested and 40 per cent of material use is attributed to the built environment (US Green Building Council, 2008), a direct link between urban land usage, carbon emissions and the ability of ecosystems to sequester carbon dioxide. To incorporate ecological and resource limits it is necessary to adopt the insights of ecological economics (Swilling, n.d. 28), the spatial implication of which is localisation of production and food supply, and densification and compactness of urban form due to the imperative to use resources more efficiently in the transition from non-renewable resources to renewable resources. For example, as oil starts becoming too expensive to sustain production and distribution of affordable food we will need to set aside more local spaces for organic urban agriculture. Similarly, as oil-based road motor transport becomes economically unsustainable, we will have to make the transition to electrified rail public transport and the overall land use management systems of our cities will have to be adjusted to include the requisite public transportation infrastructure.

In the history of urban land development in South Africa, agencies representing different class and ethnic interests contested *where* urban land should be developed and *who* (i.e. government, private industry or the people) should pay for these developments. The history of the planning of urban space and the management of the usage of land in these spaces has been periodised to reflect some of the key social reproduction interventions and their related economic accumulation rhythms.

The symbiotic and dynamic relationship between the economy (capital accumulation rhythms) and the spatial planning policies and land use regulations (functioning to

reproduce social relations of production and social relations generally), develops historically through five periods: the period before 1913, the period between the 1913 Land Act and the commencement of apartheid, the period from 1948 to the 1976 Soweto Revolt, the period of apartheid reformism from 1976 to 1994 and finally the first 21 years of post-apartheid democracy. Within each period the planning of urban space and the designated uses ascribed to different parts of urban land, are analysed in terms of the logic of economic accumulation rhythms, associated planning and land use regulations as well as popular resistance to these, within a context of resource limits as well as the limits on natural sinks recycling industrial pollutants and sequestering carbon.

Historical interweaving of accumulation, reproduction strategies and struggles

Capital Accumulation/ Relations of Production	Social Reproduction through planning and land usage	Social Struggle against dominant land use regulations
Pre-1913: Creating the Basis for Segregation		
Agricultural land privatised, labour tenants pushed off this land resulting in a reserve army of labour migrating to towns. Basis for industrialisation created with establishment of the mining industry. Given relatively high capital costs of deep level mining profitability demanded that wages be constrained. Whites formed land-owning, capital-owning and managerial classes	Pass laws and segregated housing (in segregated locations) first introduced in the countryside (later including Cape Town and Port Elizabeth) and functioned to control the movement of labour for the agricultural and commercial sectors. Labour requirement of the mining industry met through compounds, which provided a total environment to control worker resistance, theft and the spread of disease (Callinicos, n.d; Davenport, 1971; Dederling, 2012; Home, 2000; Van Aswegen, 1970: 26–27).	The principal forms of resistance were through squatting – which was against the dominant regulations – and the strikes and other forms of resistance adopted by mine workers against the brutalising controls implemented in the compounds. White mine workers had craft unions that defended their interests
1913 to 1948 The 'Segregation Period'		
Close collaboration between agricultural and gold mining industries and the state (Terreblanche, 2005: 248–249). The Electricity Supply Commission (Eskom) was established in 1923 and the Iron and Steel Corporation (Iskor) in 1928, to produce relatively cheap, coal-fired electricity for mineral-based industries and an iron and steel smelting facility for exporting. There partnership between state and private capital, and a core set of activities around mining and energy, consolidated a "minerals-energy complex" (MEC) Fine (n.d.: 1).	Provisions to segregate the white and black working classes' urban living places, justified on the basis that blacks were temporary sojourners in 'white man's land' (Terreblanche, 2005: 255). Local authority structures set in place to fund – and control – housing developments for workers by local authorities (Calderwood, 1953). Key legislation enabled greater control over the reproduction of the labour power of the black workforce: municipalities could destroy and replan existing areas (Mabin and Smit, 1997: 200–202) as segregated townships, control land use, density, building size and position; the right of land tenure was withdrawn (Wilkinson, 1998: 217), and the right of accommodation in urban townships was linked to employment. Tension in these policies from manufacturing that required a settled urban workforce (Terreblanche, 2005: 279).	Resistance to segregation and controls led by SA Native National Congress (later the ANC), the Industrial and Commercial Workers Union (ICU), the Communist Party as the Confederation of Non-European Trade Unions (CNETU) during the 1930s. The African Mine Workers Union led a famous mine workers strike in 1946, which was suppressed when Smuts ordered the army to drive these workers to the coal face at bayonet point.

Capital Accumulation/ Relations of Production	Social Reproduction through planning and land usage	Social Struggle against dominant land use regulations
1948 to 1979 Apartheid and tightening of controls		
<p>The MEC regime of accumulation continued under apartheid. Industrial decentralisation strategy – driven by infrastructure and incentives (Todes, 2013: 9) – created accumulation opportunities on homeland borders near to labour supply. Long boom in white property market (Chipkin, 2008: 104–129), decentralised commercial centres, (Beavon, 2000: 3), as financial institutions and insurance companies invested surpluses into shopping malls,¹ while property developers diluted traditional role of architects in planning and initiating developments (Chipkin, 2008: 136). 1973 and 1979 global oil crises led to a drop in oil and fuel supply for Western economies, a significant rise in oil prices that fed an inflationary spiral and relative SA economic stagnation (Terreblanche, 2005: 337–340).</p>	<p>Planning urban space and managing land use in segregated townships to control movement of black labour, to build economy only on labour with permanent residential rights (Hindson, 1983, 1985; Posel, 1984, 1985), then a switch to an entirely migrant labour force (Posel, 1984: 6, 15, 23). Anti-squatting policies stopped autonomous community action (Wilkinson, 1981). The state, provided for transportation of workers according to industry needs, got industry to pay for reproduction of labour power costs through the Bantu Services Levy Act. Beer and liquor monopoly sales inside townships in white areas were run by local authorities – later central government administration boards – contributed significantly to meeting the cost of infrastructure and services. Later these funds redirected to newly constructed homeland townships. (Davenport and Hunt, 1975). Spatial planning (the Mentz Committee Reports, the Natural Resources Development Council and the 1975 National Physical Development Plan) (South Africa Union 1955: 4, quoted in Hender, 1992: 41; Mabin and Smit, 1997: 205–206; Fair, 1975), public financial mechanisms and administrative controls, achieved land allocation and management objectives. Housing welfare subsidies provided for some – but not all (Parnell, 1987: 134) – poorer whites and home ownership subsidies for white suburbanites.</p>	<p>Stagflation was the macro-economic context within which increasing labour and community organisation resistance emerged against the imposition of apartheid spatial plans, labour controls and land use management regulations. Key tipping points were the 1973 Durban Strikes, the 1976 Soweto Uprising and the generalised labour and community movements that in the late-1970s emerged in the aftermath of the Soweto Uprising.</p>

Capital Accumulation/ Relations of Production	Social Reproduction through planning and land usage	Social Struggle against dominant land use regulations
1979 to 1994 Revolt and Reform		
<p>Financial capital grew to a larger portion of the GDP, concomitant with the deregulation of the economy. New, peripheral urban residential areas and industrial parks were developed. The 1982 Regional Industrial Decentralisation Programme incentivised labour-intensive industries in homeland areas and resulted in some 55 industrial development points in places such as Atlantis, Richards Bay, Isithebe, Rosslyn, Newcastle, Ladysmith, Butterworth, Dimbaza and Botshabelo. Between 1982 and 1987, some 147 000 jobs were created (compared to only 200 000 in the previous 21 years). Employment growth in these peripheral areas was much faster than in the cities, as labour-intensive jobs, particularly in the clothing industry, moved out (Todes, 2013: 10–11). This was also in part because companies were able to secure relatively cheap and disorganised (docile) labour at a time of 'stagflation' in the global economy.</p>	<p>Faced with intensified resistance and economic problems state and capital reformed apartheid reproduction mechanisms by: introducing a private housing market, reforming the labour market, removing restrictions (including trading restrictions), on urban residential rights of a minority of residents (in line with recommendations from Wiehahn² and the Riekert Commissions³) and selectively upgrading township infrastructure. 1986: pass laws and township regulations abolished. Late-1970s: the state tried to win the 'hearts and minds' (ideological reproduction) of township residents by upgrading infrastructure of selected (mainly Witwatersrand) urban townships (SAIRR, 1983: 291; Hender, 1986: 95), to return stability. Overall geopolitical reproduction strategy increased fragmentation and urban industrial sprawl, resulting in a separation of work and living opportunities, and long travel times and high transport costs for urban residents (i.e. contradictory reproduction of labour power impacts).</p>	<p>June 1976 uprising triggered opposition to stringent apartheid controls over land usage. Resistance undermined functioning of local government and municipal services. Central government declared a state of emergency. Army occupied most major townships. Community organisations assumed functions of local government. Civic associations conceptualise (and sometimes implemented) institutional structures, like community development trusts and community land trusts (e.g. in Tamboville, Wattville and Alexander), housing associations and housing cooperatives (e.g. Seven Buildings Project in Hillbrow).⁴</p>

Capital Accumulation/ Relations of Production	Social Reproduction through planning and land usage	Social Struggle against dominant land use regulations
1994 to 2015 The new dispensation		
<p>High unemployment and inequality have persisted. (Fine, n.d.) – MEC corporates not committed to economic and social restructuring to expand local economy, rather promoting non-value-adding black economic empowerment through financialisation and investing heavily in offshore financial assets.⁵ SA economy constrained by integration of global trade and financial flows, huge imbalances between the US, China and Japan, and the 2007/2008 global financial crisis (Mohammed, 2011: 15-16), triggered by oil supply depletion. Volatility likely to continue until we wean our economies off oil and other non-renewable fossil fuels (Rubin, 2009: 207-242). Current financial bubble and oil depletion will reproduce economic volatility and stagnation, making private car transport as well as food more expensive (both dependent on oil and petrochemical intermediate-product inputs). There is a need for transportation and food alternatives: in the Johannesburg 42 per cent of households can be classified as 'food insecure' (Camaren and Swilling, 2011: 21; Frayne et al., 2009: 1; DGE, 2010: 12) while the road motorised transport sector consumes 78 per cent of liquid fuels in the country (Association for the Study of Peak Oil, 2013: 78).</p>	<p>Apartheid spatial planning and land use management social reproduction regulations removed, to enable effective and efficient urban land markets.⁶ New regulations and public funding interventions: social grants to cushion the harsh effects of persistent unemployment (and preserve social peace); free housing on cheap (peripheral) land and some further rights for informal settlement dwellers to limit the exposure to homelessness – these functions reproduce the reserve army of labour, given the extent of unemployment. Universal access to free elementary and secondary education and the public health care system perform reproduction of labour power functions unevenly – curricula are often misaligned with industry needs, the schooling system often lacks the discipline to instill into someone to become a productive worker and the debacle around the provision of anti-retrovirals for HIV-positive people (under President Mbeki) resulted in the deaths of hundreds of thousands of people.</p>	<p>Socio-economic marginalisation drove ever-increasing occurrences of social protests across the country between 2004 and 2008 when there were 34 610 incidents (mainly in Gauteng and KwaZuluNatal, followed by the Eastern Cape) (Alexander, 2010: 26, referring to South African Police Services' Incident Registration Information System and Vally, 2009). A further 1 027 protest actions took place between January 2009 and June 2010 (Hirsh, 2010: 4). In early 2014 there was an average of 6 protests per working day in Gauteng (Elisev, 2014). Services provided since 1994 have been geographically uneven, poorly managed and maintained while councilors have capitalised on accumulation through privatisation, with ANC power struggles and police violence being contributory factors (Alexander, 2010: 31-38).</p> <p>Protests are both spontaneous and organised. The Informal Settlements Network (ISN) and Abahlali baseMjondolo, are two independent shack dwellers' movements (Hendler, 2014; Birkinshaw, 2008). The Anti Privatisation Forum (APF), the Landless Peoples Movement (LPM) and the Soweto Electricity Crisis Committee (SECC) are activist, campaigning against privatisation of municipal utilities (Ngwane and Vilakazi, n.d.: 15). Resistance to environmental degradation and exploitation of fossil fuel resources emerged through the Treasure Karoo Action Group and the South Durban Community Environmental Alliance (SDCEA) (South Durban Community Environmental Alliance, 2011: 120). The xenophobic (or afrophobic) attacks of 2008 are viewed as displaced anger at social exclusion and marginalisation (Glaser, 2008: 53-64; Gelb, 2008: 79-92; Silverman and Zack, 2008: 147-160), within an exclusivist conception of citizenship founded on indigeneity and a conception of the state as technical expert and manager of development (as opposed to peoples-driven development) (Neocosmos, 2006: 5-10).</p>

Within the above historical framework we can now locate specific state spatial reproduction functions in the form of laws and regulations relating to urban land rights, land ownership and environmental conservation. The following section narrates the impact of these factors on class/ethnic segregation, the range of housing types built, the development and underdevelopment of different areas, population densities, and sprawling versus compact infrastructure for development. In each historical period the comparative per capita personal incomes for the different ethnic groups are also given to illustrate the levels of income disparities that mirrored the broader social power imbalances and spatial morphologies.

Historical Impact of Urban Land Usage on Space and Society

Reproduction Factor	Ethnic/class integration/ segregation,	Range of housing types,	Developed/underdeveloped areas	Low versus high population densities,	Sprawling versus compact infrastructure	Per capita personal Incomes by racial group (in constant 1995 Rands) ⁷
Pre-1913: Creating the basis for segregation						
Urban land Rights:	Segregated town locations and employer accommodation first introduced and squatting prohibited (but happened anyhow).	Mainly self-erected informal structures in segregated locations and barracks in the mining compounds, while formal brick and mortar accommodation and mansions were erected for the nouveau-riche.	The land and property owning classes emerged in new residential towns and cities while workers and people of colour generally were accommodated separately in less developed areas	Population densities were generally much lower in the areas of the land owning and managerial classes, than for the working classes and people of colour	There was little if any segregated living areas for workers and people of colour, who were displaced from the centre of towns, creating the precedent for future sprawling mass dormitory townships	
Land Ownership:	Emerging white entrepreneurs were the main land owners (Butt, 1984; Chipkin, 2008). Small white farmers lost their land through recessions and were forced into wage labour on the mines, and rented accommodation.	White workers did not live under the brutalising controls that workers of colour faced, mainly in the compounds of the mines.	Working class areas were generally underdeveloped in comparison with the residential areas of the nouveau riche			
Environmental Impact:	The living environments of the nouveau riche were generally better serviced than areas for the working classes and people of colour, who sometimes endured severely degraded living environments and were exposed to health hazards.	Workers and people of colour housed themselves in informal structures in segregated areas while mine employees were housed in compounds. In the white suburban areas mine magnates and the nouveau riche lived in large spacious homes and mansions.	Being relatively expensive, the deep-level mining industry was always looking to cut costs. As a result, the quality of life in the emerging working class living places was neglected, and toxic waste output and acid mine drainage added pollutants to the local ecosystems.			

Reproduction Factor	Ethnic/class integration/segregation,	Range of housing types,	Developed/underdeveloped areas	Low versus high population densities,	Sprawling versus compact infrastructure	Per capita personal Incomes by racial group (in constant 1995 Rands) ⁷
1913-1948 – the 'segregation period'						
Urban land Rights:	Statutory and funding requirements for future segregation practices were completed, and the process of segregating the white working class from the broader proletariat commenced.	Many black workers housed themselves (often in informal structures) within segregated 'locations' close to where they worked (Hendler, 1986: 67).	There emerged a distinction between the 'civilised and upgraded (white) areas and the underdeveloped 'native' areas.	The low density of suburban housing persisted in this period, while densities in mixed inner city neighbourhoods and peripheral segregated areas remained higher largely due to smaller plots and sometimes overcrowded informal structures.	Provision was made for clearing slums and installing infrastructure in new segregated townships – peripheralisation implied a form of infrastructure that encouraged relatively low density sprawling dormitory townships,	1917: Whites: R9 369 Coloureds: R2 061 Asians: R2 075 Africans: R849 1936: Whites: R13 773 Coloureds: R2 151 Asians: R3 185 Africans: R1 048 1946: Whites: R 18 820 Coloureds: R3 068 Asians: R 4 238 Africans: R1 671
Land Ownership and Development:	Ownership of land by people of colour severely restricted or (in the case of Africans) continuously undermined in terms of the principle of temporary sojournership.	Local government rental subsidies were provided for white workers (Parnell, 1987: preface; 129-137). Some capital was also funneled for formal housing for people regarded as 'Indian' and 'coloured'.	White areas were developed philanthropically as part of a crusade to 'save white workers for civilisation' (Garden Cities, 1972: 11-12; 17; Citizens Housing League, 1979; Die Stedelijke Behuisingbond, 1970). This stood in stark contrast with areas where people of colour lived.			
Environmental Impact:	White living/commercial areas, well served with water, sanitation and electrical reticulation while black areas relied on coal/wood stoves for cooking and warmth. Poor sanitation at times posed a general public health hazard.	Differential housing types manifested in white areas. Some formal housing was built in segregated townships, while most accommodation remained either informal or mining compounds. Limited construction of some formal housing for poorer sections of the white working classes.	More nature conservation areas/game parks declared for whites. 'Homelands' and 'black' urban centres suffered severe environmental degradation (Sowman et al., 1995: 3). One consequence was the influenza epidemic in the 1920s, claiming the lives of 500 000 Africans (Morris 1981: 15-16).			

Reproduction Factor	Ethnic/class integration/segregation,	Range of housing types,	Developed/underdeveloped areas	Low versus high population densities,	Sprawling versus compact infrastructure	Per capita personal Incomes by racial group (in constant 1995 Rands) ⁷
1948-1979 Apartheid and tightening of controls						
Urban land Rights:	Stringent application of urban segregation through group areas, cleaning up black spots, etc. African residents categorised as migrants or with urban residential rights.	Rental of matchbox houses, main urban tenure for Africans. 30 year leasehold, 1950s to 1968, reintroduced in 1975; 1968 to 1975 'right to occupy' family housing restricted to homeland conurbations (Morris, 1981: 49, quoted in Hendler, 1986: 81; SAIRR, 1977: 187, quoted in Hendler 1986: 87).	Townships, initially constructed on new infrastructure, deteriorated from the late 1960s as infrastructure left unmaintained. By contrast suburbanisation in white areas on basis of modern electrical, sanitation and water infrastructure.	Proliferation of low density urban forms, including segregated black (urban and homeland) living places and suburbanisation, decentralised shopping centres in areas prescribed for whites.	Suburbanisation as well as decentralisation meant a form of infrastructure that facilitated growing urban sprawl.	1960: Whites: R22 389 Coloureds: R3 568 Asians: R3 828 Africans: R1 815 1970: Whites: R32 799 Coloureds: R5 684 Asians: R6 630 Africans: R2 246
Land Ownership and Development:	Ownership rights severely restricted for Africans in urban areas but reintroduced for 'urban insiders' during the mid-1970s.	By 1968: five tenancies in public housing; site and building permits; occupation certificates/residential permits (from municipality); lodger's permits (renting from households); and, hostel permits (renting hostel beds). In homeland conurbations: a deed of grant from the traditional authorities (Hendler, 1993: 396-397).	Privately owned land could be – and often was – expropriated for segregated township development. The government micro-managed the movement and accommodation of the urban workforce (and redirected development funding) on state-owned land in both white areas and homelands.			
Environmental Impact:	Significant atmospheric pollution of African townships – they lacked electricity. Expert/elitist environmental planning started emerging in the 1970s (Sowman et al., 1995: 50-55).	Segregated townships constructed in a grid of rows of matchbox houses, housing Africans moved from informal settlements and decaying inner city neighbourhoods. Initially resembled cleaner living environments but deteriorate during the 1970s when the emphasis shifted to homeland towns.	Expanding white property market environmentally clean, built on infrastructure and cheap Eskom electricity as well as sanitary and water reticulation. However toxicity from mines was noticed already in the 1960s. ⁸			

Reproduction Factor	Ethnic/class integration/segregation,	Range of housing types,	Developed/underdeveloped areas	Low versus high population densities,	Sprawling versus compact infrastructure	Per capita personal Incomes by racial group (in constant 1995 Rands) ⁷
1979-1994 revolt and reform						
Urban land Rights:	Control over movement eased for Africans with urban rights but tightened up for migrant (contract) workers	Affordable private developer housing for urban insiders. Sold state units, some of which upgraded, entered housing market. Informal structures grew in the backyards and in free-standing settlements.	Distinction between developed white and underdeveloped township areas persisted, although certain townships were upgraded in response to social upliftings.	There was an increase in informal settlements, which translated into higher population densities than in the suburbs but still relatively low densities by other third world country standards.	The increasing extent of informal settlement contributed to an already sprawling urban residential land environment	1980: Whites: R34 655 Coloureds: R6 623 Asians: R8 821 Africans: R2 931
Land Ownership and Development:	Segregation persisted after abolition of pass laws, Group Areas and other racially-based land statutes. Affordability became the criterion of access. Increase in squatting (informal settlements) closer to urban centres.	Homeownership: 1978: 30-year upgraded to 99-year lease, with building societies loans; 1984: lease title transfer perpetual, convertible to freehold, registrable in Deeds office (SA/TVBC citizens); selling of 350 000 state units (Hendler, 1986: 95-96; Hendler, 1993: 78; SAIRR, 1984: 270); and, 1987: developers acquire stands in townships (Urban Foundation, 1987, quoted in Hendler, 1993: 393-394)	With the development of a housing market segregated housing classes soon appeared within existing underdeveloped townships with a smaller elite section comprising the new homeownership class.			
Environmental Impact:	(1987): per capita carbon emissions (whites): 9 tons compared to US; 5 tons, globally; 1 ton. Respiratory diseases townships from coal stoves (Durning, 1990: 8-13). 1980s: environmental impact assessments (EIAs) on the agenda (Sowman et al., 1995).	The differentiation of housing types (and classes) in still segregated townships, combined with the upgrading of certain townships, contributed to an improved environment through fully reticulated serviced housing, in some of these areas	Environmental impact regulations (requiring environmental impact assessments at all stages of the planning of development projects) were incorporated into the spatial planning regime of Integrated Environmental Management (IEM) (Sowman et al., 1995: 50-55).			

Reproduction Factor	Ethnic/class integration/segregation,	Range of housing types,	Developed/underdeveloped areas	Low versus high population densities,	Sprawling versus compact infrastructure	Per capita personal Incomes by racial group (in constant 1995 Rands) ⁷
1994-2015 The new dispensation						
Urban land Rights:	Urban land rights universally applicable, apartheid restrictions dropped. Economic (employment and affordability) obstacles hinder majority's 'right' to the city, since 2004 prompting protests about inequalities and marginalisation.	Policy objective: centrally located housing, mixed residential/retail/secondary development, and municipalities sold central land, invested proceeds in peripheral RDP housing. Existing property market values expanded while peripherally only basic formal shelter was developed.	Apart from some of the larger and better-known townships - like Soweto - and new areas - like Cornubia (KwaZulu Natal) and Cosmo City (Gauteng) - the old pattern of developed colonial centres and peripheral underdeveloped areas, has persisted.	Government's stated intention has been to facilitate integration and densification of work, living and recreational spaces (i.e. the 1994 Housing White Paper, the 2003 National Spatial Development Perspective [NSDP] and the 2004 Breaking New Ground: A Comprehensive Policy on Sustainable Human Settlement [BNG]), statutory requirements for municipal integrated development plans (IDPs), spatial public-private partnerships (National Department of Human Settlements, n.d.: 2). Densities however remain relatively low and sprawl has persisted	1995: Whites: R34 689 Coloureds: R6 931 Asians: R16 793 Africans: R4 678 Household income distribution (2011): 15,4 % earn more than R15 000 monthly 11,6% earn between R7 501 and R15 000 15,9% earn between R3 501 and R7 500 57,1% earn between R0 and R3 500	
Land Ownership and Development:	Minority from townships moved into gated communities, new township suburbs (e.g. Soweto), new mixed income projects (e.g. Cosmo City in Gauteng and Cornubia in Durban), and upgraded/refurbished buildings for rental (Johannesburg and Pretoria CBDs). Residents unable to afford homeownership/rent excluded.	Suburban housing - 1997 to 2008: prices rose by 389 per cent, compared with Ireland (193 per cent) and the United States (66 per cent) (Bond, 2010: 18), focus on compaction contributing through creating scarcity. 15 per cent of households (above R15 000 income) afford established housing markets (Appendix, household income market (R300,000 and R500,000) despite new financial products. Many informal structures erected (NUSP, n.d.).	High land prices confined BNG housing to peripheral townships. 57 per cent of households are excluded from 'right' to the city, as they earn less than R3501 per month (including social grants) and are on long waiting lists for government housing (Appendix, household income profiles).			
Environmental Impact:	The large-scale provision of electricity has helped to curb the worst atmospheric pollution in previously segregated townships.	Strong biodiversity conservation measures (SANBI, 2014: 17-60), the National Environmental Management Act (NEMA) (No. 107 of 1998) covers pollution control, waste management, environmental authorisations and natural and cultural resources use and conservation. Nevertheless, 57 per cent of river ecosystems and 65 per cent of wetland ecosystems classified as threatened (Driver et al., 2003: 5-6).	Specifications of bioregional plans sometimes not incorporated into municipal IDPs, or sectoral strategies. 10 Examples: in Polokwane, 11 acid mine drainage pollution (affecting West Rand informal settlement communities ¹²), air pollution (oil refineries and burning biomass in Durban South) (South Durban CE, 2011), and the exploration for fracking in the Karoo. 13			

Conclusion: Possibilities and Limits for Municipal Interventions

From the history of planning and land use in South Africa, a number of lessons can be drawn about the potential for, and limitations on, municipalities effecting changes.

Simply removing segregationist land use regulations does not create integrated and sustainable living, working and recreational areas. Large parts of the bigger townships like Soweto may have transformed and suburbanised, while some black people have moved into modern white suburbia. However, much more is needed. An important aspect of urban land use is for urban spaces to be identified symbolically, whether as 'world class cities', 'African cities' or 'working class cities'.

Municipal land use strategies and practices tend to favour private business interests, often at the expense of redistribution. Privatisation of municipal services, the lax regulation of fossil fuel polluting emissions (e.g. in Durban South) and the World Cup stadiums opened new opportunities for private accumulation by local and global interests. In addition, property rates-based funding incentivises escalating property values (benefitting real estate players, particularly banks), encouraging municipalities to sell their non-core land for the highest price rather than to embrace a role as property developer of prime land to create and reproduce quality of life for the working poor and unemployed.

The municipal funding model inhibits a transition to residential solar energy through feed-in tariffs. However, Eskom's current crisis might be a 'burning platform'⁶ that could prompt a change to renewables. At a March 2015 Urban Conference hosted by the SA Cities Network, the Mayor of Tshwane expressed the need for a new municipal funding model that would liberate municipalities from rates-based and trading services funding. However, this will require either transfer payments from national government or a sharing of the taxation of companies operating within municipal jurisdictions.

By the mid-Century there will be unsustainable demand for key material resources as well as rising negative environmental impacts of expanding waste outputs unless there is 'decoupling of this economic growth from escalating resource use' (Hodson, *et al* (2012: 790). Decoupling means reducing the rate at which primary resources are used per unit of economic output and/or increase economic activity while decreasing negative environmental impacts like pollution, CO₂ emissions or the destruction of biodiversity (Hodson, *et al*, 2012: 798). Compact and densified development in a city environment is a precondition for the efficient usage of resources, which also provides an opportunity for decoupling economic growth from escalating resource use (Camaren and Swilling, 2011). By circumscribing the roll out of infrastructure, compaction and densification create a platform for the efficient use (and re-use) of all resources (e.g. water, energy,

⁶ Edgar Schein's burning platform theory is that for people to make a leap from today's platform to the relative unknown, it must be more uncomfortable for them to stay on today's platform than the perceived anxiety created by the change to tomorrow's desired future (Alan, 2010)

forests, wetlands, etc) and thereby extend the time frame of the functioning ecological platform of urban-based societies and economies. Decoupling might open the door for a more fundamental restructuring of the urban form but this is not guaranteed.

The way in which municipalities spatially plan and implement services and land usage is likely to come under more pressure from spontaneous protests, creating pressure for change. In an increasingly volatile environment, municipalities will have an interest in stability. They might resort to repression (e.g. eviction of informal traders and squatters, cutting off water and electricity supplies to defaulters, etc.) but this will secure stability only in the short term, given the underlying macro-economic drivers of protest activity. In the medium to long term, negotiations with representative and organised community groups could lead to agreements with protesting communities and a greater likelihood of stability. The SPLUMA contains the statutory framework for agreements with communities aimed at enhancing their right to the city. Embedded in this framework are principles of spatial justice and spatial sustainability, which justify strategies for improving the working class's access to cities and quality of life. These above principles, together with the principles of financial sustainability, administrative sustainability, efficiency, transparency and public interest, form an overall guide for municipal governance, spatial plans and land-use management that support the development of working-class urban spaces for living, working and recreation. Within the overall framework of the principles enunciated by SPLUMA, the Constitution and the Municipal Finance Management Act, municipalities need to formulate processes and procedures for acquiring, holding, developing and releasing land.⁷

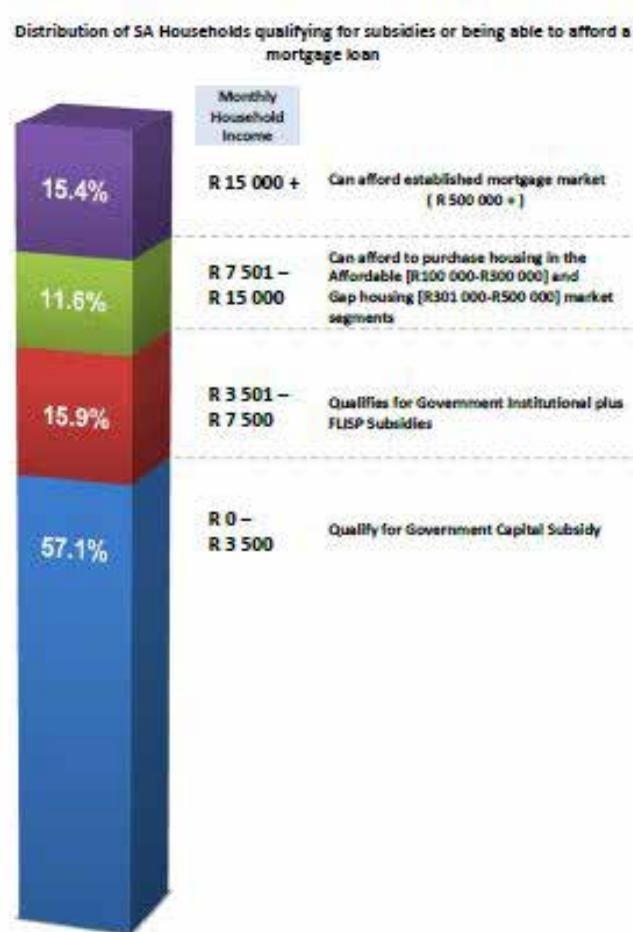
Whether negotiations between municipalities and community representatives take place and develop into a different set of spatial planning and land use practices will depend on the role of progressive senior municipal officials, such the Stellenbosch Municipal Manager who facilitated the memorandum of understanding with the Informal Settlements Network (ISN) for upgrading the Langrug informal settlement (outside Franschoek). The Langrug organisers also developed strong relationships with municipal officials responsible for providing and maintaining services to human settlements and with the planning departments of academic institutions, which helped envision – and plan – a different, connected Langrug in the future.⁸

⁷ These strategies and processes were developed by the author and a colleague as part of a professional service for the Housing Development Agency (HDA) during 2012.

⁸ Hendlar P. 2014. 'Using hindsight to organise better – grassroots service solutions, Cape Times, 30 January.

Appendix

South African households that qualify for housing subsidies or can afford a mortgage loan



SOURCE: StatsSA, Census 2011

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Endnotes

- 1 Cf. Hendler, 2013: Personal communication with Professor Francois Viruly, Property Specialist, March 2013
- 2 On 1 May 1979, the first interim report of the Wiehahn Commission was tabled in Parliament. The Wiehahn Commission was set up by the government after the Durban strikes of 1973 and the Soweto uprisings of 1976 to look at industrial relations system in South Africa.
- 3 The government appointed the Riekert Commission to consider ways of adapting the influx control laws to meet rapidly changing economic and political challenges.
- 4 See Hendler (1993: 378–387) and Hendler and Spiropolous (1991) for a further discussion on the details and contradictions inherent in community participation, residential planning and product delivery.
- 5 Fine (n.d.) refers to illegal capital flight from South Africa as a percentage of GDP rising from 5,4 per cent between 1980 and 1993 to 9,2 per cent between 1994 and 2000. He also notes Treasury reporting that indicates that between 1991 and 2000 there was an overall nett foreign direct investment (FDI) outflow of R386 million per quarter and that the total stock of outward FDI had grown from \$8,7 billion in 1995 to \$28,8 billion in 2004. Fine (n.d.) also aligns the value of unbundling of conglomerates at R80 billion in 1999 with the 1998 raising of the limits of investments abroad by local conglomerates to R50 million per company, and the expansion of the financial sector to 20 per cent of GDP by 2007 and its rate of expansion being twice the rate of GDP.
- 6 Terreblanche (2012: 3, 6, 69) argues that the ANC government was in a relatively weak position in 1994, 'as its sovereignty was fairly seriously restricted by the conditionalities that were made applicable when our economy was integrated into the structure of global capitalism'. Terreblanche adds that through leading ANC figures receiving 'ideological training at American universities and international banks', pressure from Western governments and international institutions (like the

IMF and World Bank) as well as secret negotiations (held at the Development Bank of Southern Africa) the ANC was brought over to the view that neo-liberal globalism and market fundamentalism would be economically advantageous for South Africa – the new governing elite also had definite material interests in participating in this process through being empowered to allocate affirmative action and affirmative procurement contracts.

- 7 Terreblanche, 2005: 393; for 2011 figures see Appendix
- 8 Noseweek. 2013. 'Here comes the poison', 10–13 April 2013, p. 12.
- 9 Transkei/Venda/Bophuthatswana/Ciskei
- 10 Based on consulting services provided to several metropolitan municipalities in terms of the CSP.
- 11 Noseweek. 2015. 'A plague on frogs – and the people of Polokwane – Nature buffs unearth dark secrets of dodgy property deals', 20–23 May 2015.
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