

# HABITAT FOR HOUSING IN SOUTH AFRICA

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## Introduction

In 1996, the new Constitution of South Africa included social, political, economic and cultural objectives. Among many, “All apartheid laws and practices shall be set aside,” have attempted to revert historical violations on human rights. Nevertheless, after 20 years of democracy, it is possible to affirm that the laws have impressively changed, guided by what is considered “the most admirable Constitution in the history of the world,” but practices still reproduce much of the apartheid rationale, especially within the urban context.<sup>1</sup>

The consolidation of the Apartheid regime as a way to control and dissuade urbanization during the industrialization process, was based on authoritarian urban planning and enforcement mechanisms to impose where and how people should live and work. South Africa’s democratic transition in 1994 implied the inclusion of 80 percent of the population into citizenship, recognizing social, civic and human rights previously unaddressed. To carry out this regime change, the government of President Nelson Mandela proposed that cities should operate as catalysts of a new social contract, so, in many ways, they became the place to solve inherited social injustices. The political narrative proposed a new urban form characterized by more compact, denser and heterogeneous cities, capable of offering access to agglomeration advantages to every citizen (Turok 2001).

The South African case is of special interest since the design of a whole new urban policy (at national and local levels) had been contemporary to Habitat II and the 2015 Development Agenda, and –indeed- highly influenced by them. As Ivan Turok presents in “Reconciliation or Restructuring? South Africa’s Reconstruction and Development Programme” (1995), the new democratic government expressed clear objectives to eliminate the inequalities and inefficiencies of the inherited space economy and to develop more productive and sustainable cities. The country’s main economic development plan, called the Reconstruction and Development Programme (RDP) had as a goal the social and economic transformation of South Africa’s cities to attack poverty and exclusion. This approach included a more compact, higher density urban form able to support mixed land uses and integrated transport and spatial planning decisions. In this context, the National government implemented the largest housing policy of any democratic modern political system in the history, constructing 3.3-million houses, nearly 20 percent of the current housing stock.<sup>2</sup>

However, as South Africa reaches twenty years of democracy, the contradictions and mismatches between urban policy narrative and actions taken are evident. Narratives are based on progressive constitutional rights, claims for social inclusion and racial integration. But, South African cities remain the most unequal cities in the world: Johannesburg presents a GINI of 0.75,

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<sup>1</sup> Harvard law scholar Cass Sunstein called it “the most admirable Constitution in the history of the world.”

<sup>2</sup> Data source: Buckley, Robert, Kallergis, Achilles and Wainer, Laura. “Addressing the Housing Challenge: Avoiding the Ozymandias Syndrome.” Forthcoming publication May 2015.

Durban 0.72 and Cape Town of 0.67. Disagreements as to what has transpired in the three major cities suggests that the idea of inclusiveness is barely reflected in the lives of most of the non-white population. As Mfaniseni F. Sighlongoyane (2015) points out, planning in post-apartheid era has been a huge disappointment, as it has not been able to deal with the complexity of two main challenges: overcoming inherited spatial structures and managing the rapidly demographic growth. For example, the housing backlog which was about 1.5-million in 1994 has increased to 2.1-million, as the population has grown at a faster rate than urbanization did (Brand and Cohen 2013). As a result, it is not surprising that the most recent National Development Plan (2014) identified upgrading of informal settlements –previously almost inexistent-- as being the country’s foremost infrastructure priority.

This chapter provides an overview of South Africa’s housing policy, which has been the main urban policy at national, state and local levels. It analyzes the influence of the HABITAT II processes, and some insights about how this broader framework has been assimilated at local levels. Specifically, it studies housing policy’s performance through the lens of inequality, jobless growth and climate change variables. Empirical evidence of Johannesburg, Durban and Cape Town will stress the mismatch between narratives and actions, in order to discuss about the effectiveness of normative frameworks towards HABITAT III (2016). The paper suggests that what happens in these cities has much wider relevance. Indeed, these problems assume national significance given the proportionate size of the population and their share on macroeconomic processes.

### **The creation of an urban agenda based on housing rights**

In 1995, President Nelson Mandela wrote the foreword introduction of The Urban Development Strategy named Remaking South Africa's Cities and Towns.

“Urban areas are extremely inequitable and inefficient due to decades of apartheid mismanagement. We need to massively improve the quality of life of our people, through creating jobs and deracialising the cities. By mobilising the resources of urban communities, government and the private sector we can make our cities centres of opportunity for all South Africans, and competitive within the world economy. The success of this will depend on the initiative taken by urban residents to build their local authorities and promote local economic development.”  
(Remaking South Africa's Cities and Towns, 1995,1)

The national Reconstruction Development Programme (RDP), which includes the urban strategy set the government's vision for 2020, determined that cities and towns would be centers of social and economic opportunity and free of racial segregation and gender discrimination through better housing and greater security of tenure to revert spatial inefficiencies, especially the mismatch between residential and work areas. One of the five goals to overcome the Apartheid

city was to integrate the cities and towns, including a special focus on rebuilding townships and reducing commuting distances (Urban Development Strategy of the Government of National Unity 1996, 2-18). South Africa's democratic housing policy discussions started at the National Housing Forum, a multisector convening between 1992 and 1994. Negotiations culminated in a Housing Summit, a Record of Understanding and the Housing White Paper of 1994, framework for legislation --The Housing Act (1997) - and RDP programmes based on secure tenure and basic infrastructure provision.

The Second United Nations Conference on Human Settlements (Habitat II Istanbul), endorsed important changes in the approach to human settlements, acknowledging the need for managing urbanization processes, rather than preventing them. The 2015 Habitat Agenda influenced the design of the new South African housing policy. For instance, the RDP normative frameworks on housing started corresponding with the International Covenant on Economic, Social and Cultural Rights (1966). Adequate housing was measured by legal security of tenure, the availability of services; materials, facilities and infrastructure; affordability; habitability; accessibility; location and cultural adequacy (The UN Committee on Economic, Cultural and Social Rights, 1991). Also, in legislative terms, the South African Housing Act (1997) quotes paragraph 61 of the Habitat Agenda, which states that housing policy and programmes should ensure: non-discriminatory access; security of tenure and equal access to all; accessibility and affordability, and monitoring and evaluation of homelessness and inadequate housing (UN HABITAT, Report of The United Nations Conference on Human Settlements Habitat II, 1996).

Furthermore, contemporary to the Habitat II conference in 1996, there was a significant change in the approach to housing policy, from a narrative of subsidized schemes to 'sustainable affordability'. In the Istanbul conference, the Homeless People's Federation (HPF) captured the attention of international organizations, such as UNDP and the World Bank. Their 'sustainable housing' approach was based on progressive improvements mutual- and self-help construction and access to credit and demanded the participation of international sector regarding funding and know-how. They were also supported by the public national sector who was concerned about the feasibility of eternal subsidy schemes. Thus, in 1998, a multi-sectorial agreement ended in the formation of the People's Housing Partnership Trust. This programme encouraged individuals and communities in their efforts to fulfill their own housing needs and who wish to enhance the subsidies they receive from government by assisting them in accessing land, services and technical assistance (Kihato 2015). Other actions on the accomplishment of the Habitat Agenda were the creation of the National Housing Finance Corporation, which developed loan schemes and risk-sharing mechanisms, and the Land Redistribution Program and the National Housing Code (2000), to set out the policy principles and standards, among others.

During a plenary of the United Nations General Assembly in 2001, the Minister of Housing Sankie Mthembi-Mahanyele exposed the country's commitment embodied in the Reconstruction

and Development Programme, stressing the importance of the housing policy as a key factor of poverty alleviation, clearly influenced by UN-Habitat.

“We are concentrating our efforts on bridging gaps and planning our housing programme in such a way that it responds to a dynamic housing environment, especially the strategic needs of our main target group: the poor. (...) In this regard, we are examining the sustainability of the current housing subsidy programme such that it can continue to contribute towards meeting the housing needs of the poor thus contributing towards poverty alleviation. The housing subsidy programme targets poverty by: (1) empowering the poor to participate in the economy by giving them shelter which they can utilise for economic purposes, like small enterprise bases; (2) empowering small and emerging contractors by awarding housing construction contracts on an affirmative procurement basis; (3) empowering women through the People's Housing Process (PHP) to acquire skills to provide their own housing and to participate in the construction sector; and (4) generating employment, because our housing construction projects promote the employment of local communities and the use of local material suppliers.”

However, as Robina Goodlad notes (1996), the expansion of citizenship and the macroeconomic context presented mismatches between socio-economic rights and conservative monetary and fiscal policies. Even when Section 26 of the Constitution of the Republic of South Africa states that everyone has the right to have "access to adequate housing," ensuring constitutional rights was still limited by 2004. After 10 years of democracy, the Department of Housing admitted that its interventions had not addressed the inequalities and inefficiencies of apartheid's geography, so they presented a restructuration of the national housing policy (Kihato 2015). The Department of Provincial and Local Government published then “Breaking New Ground: A Comprehensive Plan for the Development of Sustainable Human Settlements,” a revised policy framework with a stronger focus on an holistic urban approach to housing including sustainability, the role of local governments and slum upgrading processes (Tissington 2011). “Breaking New Ground (...)” pushed towards the accomplishment of UN's MDG Target 11 by 2014. In concordance with the Cities Alliance narrative, the new policy set the guides to replace slums with new standardized subsidy housing (Cross 2006).

Ultimately, the country is involved in the design of the National Development Plan 2030. Still to be seen how Habitat III will influence the design of the new national urban agenda and third generation housing policy. In order to analyze the consequences of the last 20 years of policy implementation, the following sections examine the impacts of housing policy through the lens of inequality in Cape Town, jobless growth in Johannesburg and climate change in Durban.

## **Inequality: Cape Town's inherited and current spatial segregation**

South Africa's development trajectory of the last 20 years is characterized by moderate economic growth and increasing inequality, which still has a strong racial component. The economic and social fabric is the result of active racial privileging in state policy. Even without the direct racial interventions in the labor market and spatial segregation, the inherited biases in determining where people should live and work did not allow major improvements in the redistribution mechanisms. Housing policy played a special role on perpetuating these segregation patterns.

Despite a short period of recession which corresponds to the democratic transition, the GDP per capita increased 25 percent during the post-apartheid phase and South Africa is today a significantly richer country. However, South Africa's high aggregate level of income inequality also increased between 1993 and 2008.<sup>3</sup> South Africa's inequality and high poverty levels rise the question whether the evolving character of the post-Apartheid economy and the policy efforts of the democratic government have been able to reverse the heritage and improve human development.

Leibbrandt, Woolard and Finn, Jonathan Argent (2010) studied inequality and poverty trends in South Africa, showing some concerning findings. First, while income poverty has fallen slightly in the aggregate, it persists at high levels for Black African and Colored people. The share of top income decile has increased since 1994, at the expense of all the other deciles, especially the lowest income decile that has now a greater share population and smaller share of income than in 1996. The cumulative share of income of the first five deciles decreased from 8.32% in 1993 to 7.79% in 2008, with drops on real incomes as well. Second, poverty in urban areas has increased. Even if rural poverty is still higher than urban, the pauperization of rural areas and urbanization processes explain why the proportion of rural poor is declining and the urban poor increased by 23% from 1996 to 2008. Third, improvements in non-monetary well-being, for example, access to piped water, electricity and formal housing did not affected de-racialization. As the authors indicate, the net effect of all of these changes is an increase in inequality and poverty since 1994. According to the World Bank, GINI index in South Africa was last measured at 63.14 in 2009, several points higher than in 1994 (59.3).

South African cities' urban structure is still reproducing patterns of segregation and increasing inequality. Black African and Coloured townships are still as racially segregated and their residents live in overcrowded living conditions which are under-served by transportation and infrastructure. In this sense, despite the provision of some 3.3 million heavily subsidized housing units since 1994, at a cost of about \$30 billion, there is now a larger backlog of those seeking housing assistance than there was when the program began (Bradlow, Bolnich and Shearing 2011).

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<sup>3</sup> World Bank Data Base

Housing policy and its implications on persistent spatial inequality must be interpreted from two sides. On the one hand, the implementation of the RDP housing projects, which lock up nonwhite population from the agglomeration benefits. On the other hand, the generation of a new type of urban sprawl driven the private sector which develops exclusive neighborhoods and gated communities in the outskirts of the city. The result is a highly fragmented city, where access to jobs, education and health system is extremely unequal.

According to Cape Town's Spatial Development Framework (2012), housing should compensate these existing imbalances in the distribution of different types of residential development, avoid creating new imbalances, and promote a greater mix of market-driven and subsidized housing developments in as many neighborhoods as possible. It should also increase low-income earners' access to affordable housing that is located close to the city's economic opportunities. The general criteria to be used for the identification of land for subsidized housing should take into account the importance of containing urban sprawl, protect the Urban Edge to contribute to the development of a more compact city, and maximize the use of existing infrastructure and service capacity. It should also, facilitate urban integration, and promote the establishment of viable communities in small parcels rather than large scale developments in areas like the Metro Southeast and Atlantis. Finally, it should support a mutually beneficial mix of social, residential, recreational, commercial and employment opportunities, and promote a relatively even spread of housing opportunities across the growth corridors within the existing footprint of the city (SDF 2012, 72).

During the last years, Cape Town has been experiencing an upsurge in a housing shortage, especially for Black African and Coloured people. According to a 2014 report of the Human Sciences Research Council, the estimated housing backlog in Cape Town is between 360,000 and 400,000 houses, and growing at a rate of 16,000–18,000 units per year.<sup>4</sup> Moreover, 86 percent of Capetonians cannot access to a 50 square meters market-priced unit of R850,000; 74 percent cannot access to what is considered an affordable house valued in R500,000; and 47 percent of the people are officially considered indigent who depend on full housing subsidies and social transfers to maintain the basic conditions of the house.<sup>5</sup> Certainly one of the biggest challenges for Cape Town is to accommodate low-income households along activity corridors and public transport, and how to discourage real estate developments from expanding the city. Turok (2011) shows that Low-income populations are dispersed in relatively dense informal settlements and very low dense public housing projects, both distant from employment areas.

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<sup>4</sup> Mongwe Robert. "Race, Class and Housing in Post-Apartheid Cape Town." Human Sciences Research Council, 2015. <http://www.hsrc.ac.za/en/review/november-/race-class-housing>

<sup>5</sup> Source: 2011 Census Household Income by Sub-place. Affordability and market prices referenced in McGaffin, Rob, Francois Viruly and Mark Massyn. "The Economic and Financial Issues of Developing Higher Density, Affordable Residential Property in the Inner City of Cape Town." 2012 Department of Construction Economics and Management, University of Cape Town. Finn, Arden, Leibbrandt, Murray and Levinsohn James. "Income Mobility in South Africa: Evidence from the First Two Waves of the National Income Dynamics Study." Southern Africa Labour and Development Research Unit, UCT, 2012.

The inconsistency between the SDF proposals and what is actually happening regarding public housing efforts is reflected on the city's government largest low-income housing project in Pelican Park, a neighborhood located 23 kilometers from the city center. According to official data on the City's Webpage, by the end of June 2014, 607 houses had already been handed over at the Pelican Park development. The project includes 2,024 totally subsidized homes (Breaking New Ground programme), 760 starter homes (Gap Housing programme) selling for R320,000 (us\$32,000), and 360 higher value homes (bonded) valued from R480,000 to R700,000 (us\$48,000 – us\$ 70,000). It is expected that the remaining 1,400 State-subsidized houses would have been handed over by December 2016. The total cost of this development is approximately R700-million, and which includes State and private investment. Pelican Park would also include two schools, a clinic and shops for low-income families.<sup>6</sup>

Official optimism has been overshadowed by a report published in 2013 by the African Urban Research Initiative of the African Centre for Cities at the University of Cape Town.<sup>7</sup> The report, written by Christy Zinn, illustrates the experience of a family recently moved into their new state-subsidized house in Pelican Park from an informal settlement in Ottery. According to the author, the project has proven for many residents to be further away from work, schools, employment opportunities and shops than in their previous living situations, usually in densely populated informal areas. Certainly, this housing policy does not match the SDF, on the contrary, the City is buying up land outside the urban edge for the expansion of Pheasantkraal, and supporting developments such as Wescape. Indeed, the City is actively discouraging the private sector from doing a similar thing, which is indicative of double standards.

From the private sector perspective, the Wescape project, located 25 kilometers from the city center and which compromises the decision of controlling the urban sprawl and social intergration. Wescape is a proposal for a satellite city to be built between Melkbosstrand and Atlantis on the north-western area. The 140-billion Rand (us\$ 14-billion) project involves 200,000 houses, 415 schools, 370 public service facilities and 15 sports complexes to be built over the next 15 years. The project, aims to allocate 800,000 people by 2036. Wescape certainly does not contribute to rebalance Cape Town's low density and social fragmentation. It is mainly focused on lower income groups – those earning between R4,000 and R6,000 (us\$ 400 and us\$600) a month, but according to the last 2011 Census, more than half of the city's population generate incomes below that range.<sup>8</sup> Wescape is the city's largest urban development project to date and

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<sup>6</sup> Data from "Hundreds of houses handed over in Pelican Park," on City government Webpage <https://www.capetown.gov.za/en/Pages/HundredshouseshandedoveralreadyPelican-Park.aspx>

<sup>7</sup> Extracted from <http://www.urbanafrica.net/urban-voices/pelican-park-cape-towns-housing-shame/>

<sup>8</sup> Source: 2011 Census Household Income by Sub-place. Affordability and market prices referenced in McGaffin, Rob, Francois Viruly and Mark Massyn. "The Economic and Financial Issues of Developing Higher Density, Affordable Residential Property in the Inner City of Cape Town." 2012 Department of Construction Economics and Management, University of Cape Town. Finn, Arden, Leibbrandt, Murray and Levinsohn James. "Income Mobility



the first mega-housing development since Mitchells Plain was established in the early 1970s, under the Apartheid planning rationale.<sup>9</sup>

The Wescape development was supported by the city's political leadership but opposed by residents, academics, experts and non-government groups led by the Greater Cape Town Civic Alliance to Public Protector. Worldwide renowned professors from the City and Regional Planning Programme of the University of Cape Town, such as David Dewar, Vanessa Watson, Nancy Odendaal, Tania Katzschner and Tanja Winkler have outlined the reasons why Wescape is detrimental to the city's development. Their reports state that the project will be a burden to Cape Town taxpayers due the unaffordable costs in infrastructure and will almost certainly worsen the position of the poor. In an open letter to the political supporters of the project, Premier Helen Zille, Anton Bredell and Mayor Patricia de Lille, the academics urged not to grant the application, comparing Wescape to apartheid projects such as Mitchells Plain, Khayelitsha.<sup>10</sup>

This local scenario is a reflection of a national trend. Lemanski (2009) explains that the national housing subsidy scheme is failing to meet demand, because of the persistent quantitative backlogs and the quality of the housing that the public sector delivers. According to the author, although backyard shacks pre-date the subsidy system, the characteristics of the housing policy itself create a new supply of backyard space because the beneficiaries are cash-poor. Moreover, Lemanski argues that South Africa's informal backyard dwellings is a by-product of formal housing policies which also strength the social and racial segregation created by apartheid. In this sense, Kihato (2015) shows that by the late 1990s, scholars and urban practitioners began to question the quantitative emphasis on the delivery of "bricks and mortar" over other holistic urban approaches. Specifically, the location of the subsidized homes that perpetuated a 'ghettoization' of the poor was one of the biggest concerns. In this sense, post-apartheid's housing policy created unviable and dysfunctional urban settlements that systematically marginalized Black African and Coloured poor urban dwellers.

Thus, it is possible to affirm that the current spatial structure of South African cities, product of inherited and current policy, is at least partially responsible for increased income gaps. On the Gini index of inequality, which measures the gap between the poor, who cannot afford the mobility required in large cities, and middle- and higher-income groups, who are fully mobile and can more easily take advantage of opportunities, South Africa is judged to be the second most unequal country. The South African experience showcases the difficulties associated with using housing subsidies that rely on low land costs to be able to exploit the benefits of cities.

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in South Africa: Evidence from the First Two Waves of the National Income Dynamics Study." Southern Africa Labour and Development Research Unit, UCT, 2012.

<sup>9</sup> Data from Wescape website: <http://wescapelife.co.za/>

<sup>10</sup> Extracted from <http://www.internafrica.org/2013/06/r140bn-wescape-project-doomed.html>

## **Jobless Growth: housing as a poverty trap in Johannesburg**

A recent Mc Kingsey (2015) report on South Africa's economy argues that however the country has achieved remarkable improvements since 1994, a deceleration of the GDP growth to just 1.8 percent since 2008 and a persistent 25 percent of unemployment (52 percent Youth unemployment) are significant constraints to the country's progress. Since 1994, South Africa's performance on job creation has been poor. Macro economic factors, such as the productivity structure and education quality, are reinforced by spatial difficulties that most of the population face regarding access to jobs.

The 2013 report by the Industrial Development Corporation (IDC), showed that the manufacturing sector accounted for 20.9 percent of the country's gross domestic product (GDP) in 1994, but its contribution has declined to a 12 percent. This resulted in the manufacturing sector contributing only 0.5% to the overall growth of the country's GDP from 1994 to 2012. The decline of South Africa's manufacturing segment has had important consequences for the sectoral distribution of employment, while the tertiary sectors such as Government and non-Government services, and finance have increased. Still, overall employment remains at high levels. In 2015 national average reached 25%, around 5million people.<sup>11</sup> Leibbrandt, Woolard and Finn, Jonathan Argent (2010) state argue that rising inequality within the labour market – due both to rising unemployment and rising earnings inequality – is the main driver of South African inequality due the significance of wage income over all other types of income on households distribution.

Macroeconomic variables, de-industrializing trends and lack of access due to spatial fragmentation explain why these national patterns are reflected in employment trends within the urban context. Beall, Crankshaw and Parnell (2000) say that the growth of urban unemployment in the post-apartheid period means that a greater number of people have to survive in the city without a regular formal source of income. In this sense, housing policy plays a special role since it determines not only where and how people live but also which the spatial arrangements that regulate the productive structure are and its potential to generate growth and inclusiveness (Hausmann 2014).

Sectorial policies that focus on housing isolated from the rest of other urban dynamics do not increase poor's opportunities of access to the urban advantage. In South Africa, large scale housing projects on the outskirts of the cities that reproduce homogenous grids without hierarchies, without local centers or mixed uses, do not imply improvements on household's economies. On the contrary, this type of spatial allocation of housing leaves detrimental effects for lower-income households, as it fragments labor markets and thus contribute to the exacerbation of unemployment. Jo Beall, Owen Crankshaw and Susan Parnell (2000) argue that central to the increase in urban poverty and inequality in the post-apartheid cities is the rise in unemployment and informal economies as livelihood survival strategies. In fact, many households reside in slums

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<sup>11</sup> <http://www.tradingeconomics.com/>

is because they value the proximity to employment centers over housing standards. The lower or more unstable a person's income, the more they value accommodation close to income-earning opportunities (Satterthwaite 2011).

Hunter and Posel (2012) study the characteristics of lower-class labor markets to explain why informal dwellers may be willing to trade off upgraded formal housing and relocation for proximity to employment opportunities. The authors demonstrate with statistical data that in 2006 unemployment rates were lower among people living in informal dwellings (43 per cent) than in formal (45 per cent) and traditional (62 per cent) dwellings. Some significant labor- residence patterns across South African cities explain why people may choose to live in informal areas and, therefore, why the latter work as a poverty traps: (1) adults in informal dwellings are more likely to get a job than those living in formal and traditional dwellings; (2) informal dwellers are more likely to be employed in low-skilled occupations than formal ones; (3) informal dwellings earn less per month on average; (4) informal dwellers are more likely than formal dwellers to be in casual or temporary employment.

In the same train of thought, Lall et al. (2012) demonstrated that in South Africa people do not always choose to live in a proper house instead than a better located shack which facilitates their access to jobs opportunities. Their comparison between beneficiaries and non-beneficiaries of a housing project in Cape Town, shows that public housing provision did not generate multiplier effects by stimulating complementary private investments in housing maintenance or upgrading. Indeed, there are many cases of subsidy beneficiaries selling their houses—illegally—at significant discounts and moving back to shacks in backyards or informal settlements in order to be closer to economic and social opportunities. As a result, new formal townships and extensions to preexisting ones far from city centers have reinforced a long-standing system whereby the urban poor were pushed farther away from labor sources (Bradlow, Bolnich, and Shearing 2011). According to Philip Harrison & Alison Todes (2014), the number of households living in informal settlements has grown in absolute terms between 1996 and 2011 in most of South African municipalities. Johannesburg experienced an increase of 24%, where the informal residential and productive areas feed each other. Wills (2009) notes that some 24% of the employed in metropolitan areas work in the informal sector.

Based on these studies, it is possible to state that in South Africa, a subsidized house as an asset base, does not always support further wealth accumulation and self-investment over time, and most importantly, a house does not interfere with engagement in the labor market, even if that has been one of the most important poverty policy assumptions in post-apartheid South Africa. Catherine Cross (2006) recalls a HSRC survey in Johannesburg that reflects that poor households which already have housing and services are nevertheless falling out of their formal housing and back into the shacks, demonstrating that housing policy is --at least- not enough to escape from poverty. Johannesburg, the economic hub of the country, also shows 25 percent of unemployment,

and 31.5 percent among youth. Findings from HSRC's 2005 Johannesburg City Strategies results show that smaller urban household sizes are associated with families falling apart as a result of unemployment effects. Many of these households, who are not be able to exist at all without social welfare grants cannot cover the associated costs of a formal house. As Cross indicates, delivery of housing alone is precarious in relation to poverty reduction, since formal housing depends on enough income that lower income families are not able to produce due to the great difficulty in engaging the job market.

The cost of transport and long commuting times prohibit lower-income households from taking full advantage of the large labor markets that exist in the cities. The National Household Travel Survey (2003) conducted by Stats SA found that the average travel time between home and work for commuters making use of public transport is 59 minutes. More than 1.3 million South Africans spend more than two hours a day travelling to and from their places of residence. Specifically in Johannesburg, poorer households spend 20% of their monthly income on transport. According to Astrid Wood (2015), in Johannesburg 40 per cent of the population lives in Soweto, a township located 40 km from inner city. Distance between work and home is large, and access to formal labor sources implies 20% of a current poor household income. In 2009, the city implemented the Ra Vaya Bus Rapid Transport system, the first in Africa. Still, Wood argues that inherited fragmentation and dispersion of residential areas turn the most innovative ideas difficult to implement. On an average day in the country's economic hub, 53% of the trips are made by private vehicles, and 47% by public transport, of which 72% is proto formal minibuses, 14% by rail and 9% by bus (Wood 2015). Minitaxes are today the largest inner city transport sector in all major South African cities (20,000 owners, 200 000 employees and a turnover of more than R16, 5 billion). They offer larger service coverage areas, where formal public transport does not reach, but their labor, safety and environmental conditions are precarious. The Automobile Association of South Africa recorded an annual total of 70 000 minibus taxi crashes, twice the rate of all other passenger vehicles, involving 3 killed persons per day.<sup>12</sup>

Government policy to solve informal settlements have gradually shifted from the conventional approach to upgrading and incremental processes. The most recent National Development Plan (2014) identified upgrading of informal settlements as being the country's foremost infrastructure priority. The national Department of Human Settlements is committed by Outcome Eight of the Presidency Delivery Agreement to the ambitious target of upgrading 400 000 sites in informal settlements by 2015 (Harrison and Todes 2014). However, actions remains slow, with ambivalent attitudes across all spheres of government. The overwhelmingly dominant approach remains subsidized housing at peripheral sites.

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<sup>12</sup> Arrive Alive South Africa <https://www.arrivealive.co.za/Vision-Of-Arrive-Alive>

## Climate Change: Durban's urgent challenges

South Africa's main contribution to climate change is through the use of combustible fuels use in residential and industrial areas. Urban form and building quality is crucial into determining trip patterns, heating systems and water efficiency. Housing policy rarely takes into account these issues and –indeed- tends to reproduce dynamics and behaviors that are extremely inefficient thus detrimental to the natural environment.

Since the United Nations Framework Convention on Climate Change in June 1992, the Kyoto Protocol of December 1997, and the Durban Climate Change Conference in 2011, South Africa has continually made voluntary efforts to mitigate its contribution to climate change. The Climate Support Programme (CSP) is a national initiative part of the International Climate Initiative (ICI) that aims to reduce greenhouse gas emissions that will accelerate the effects of climate change by 34% by 2020 and 42% by 2025.<sup>13</sup> However, in 2011, South Africa was listed number fourteen on the Union of Concerned Scientists ranking of carbon dioxide emissions by country.<sup>14</sup> Its emissions rise approximately 9.42 metric tons of CO<sub>2</sub> per person each year. The country's emissions remains 43% higher than the global average, the second largest emitter of carbon dioxide on the continent, after Libya, with higher per capita emissions than China and eight other developing countries (Mokwena 2009, Stephan 2015). Within this context, in 2014, the South African cabinet approved a study to determine ways to decrease greenhouse gas emissions across industry sectors of energy, transport and waste management, but housing stays systematically away from the discussion.

Housing policy and its implications on climate change have particular relevance for those scholars that relate low density urban form and pollution. Karen Seto et al. (2013) examined the relationship between the scale metropolitan areas and carbon dioxide (CO<sub>2</sub>) emissions. They found that while larger sized cities are not less emissions efficient, future urbanization will pose direct threats to high-value ecosystems. The highest rates of land conversion over the next few decades will likely take place in biodiversity hotspots which were relatively undisturbed by urban development until fifteen years ago (Seto et al., 2012). In addition, the environmental impacts of urban expansion occur through the pressure that is put on land resources rather than through greater CO<sub>2</sub> emissions (Jiang et al., 2013). This pressure on land use in turn results in the loss of vegetation biomass, and is expected to contribute about 5 percent of total emissions from tropical deforestation and land-use change (Seto et al., 2012). Hamlin and Gurran (2008) explain that in South Africa land use and urban expansion play a fundamental role on greenhouse gas mitigation policy. Reducing miles traveled depend on density, mix of land uses, grid design, spatial structure and center hierarchy, and public transport access. However, both private and public sector

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<sup>13</sup> McGrath, Matt. "Warming 'worst Case' Must Be Considered Say Experts." BBC News. N.p., 14 July 2015. Web. 23 July 2015.

<sup>14</sup> "Each Country's Share of CO<sub>2</sub> Emissions." *Union of Concerned Scientists*. N.P., 18 Nov. 2014. Web. 14 Mar. 2015.

contribute to the expansion of cities, the prevalence of private vehicles over public transport and fragmented land uses.

Inefficient urban expansion implies larger anthropic footprints, with more streets, parking spots and roads, increasing the percentage of impervious surface, one of the main causes of water logging and flooding. According to Douglas et al. (2008), precarious urbanization processes in Africa have led to large numbers of poor communities settling and living in floodplains, such as Alexandra in Johannesburg. In Cape Town, 29.5% of the urban footprint is affected by official risk areas, involving 49.3% of the city's population, whose 63% are poor.<sup>15</sup> In Durban, just before the UN climate change conference in 2011, a storm caused flooding that killed 8 people.<sup>16</sup> These storms were recurrent in 2012, where one person died and 10 people were injured, and in 2013, where the entire CBD was under water. Flooding is a key environmental pressure in South Africa which –at the same time- is classified as a water-stressed country. The current urban sprawl patterns project that domestic water consumption is expected to double by 2030 (Ashton and Haasbroek, 2002). Most of the predicted scarcity of water is related to consumption patterns of middle- and upper-income groups, such as swimming pools and gardens, which are responsible for 50% of domestic water consumption (Du Plessis, Irurah and Scholes 2003).<sup>17</sup>

Practices of the domestic building construction sector reveal a strong linkage to primary industries with high energy intensities. Du Plessis, Irurah and Scholes (2003) show that energy and greenhouse gas emissions in construction and construction materials constitutes one of the key industries that more consumes semi-processed outputs from the larger primary and secondary sectors. Using 1993 input–output data and 1995 primary energy data, Irurah (1997) and Irurah and Holm (1999) demonstrated that building construction had the fifth highest energy impact out of the 87 non-energy sectors of the national economy. On the other hand, low-cost initiatives to meet housing backlogs mean that the demand for construction materials will continue to grow in the next 10–20 year despite the stabilization of population. Although low-cost housing contribution to climate change is minimal compared with higher-income residential and commercial activities, the poorer the more affected. The characteristics of low cost housing programmes rationale cannot contemplate higher initial costs that responsive practices demand. As a consequence, greenhouse gas emission reduction from the related industries is likely to increase unless the industries improve on their energy efficiency or the material intensity of construction can be reduced (Seto et al., 2012).

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<sup>15</sup> GIS analysis from Department of City Maps, Cape Town City Government, and the Geomatics Department of the University of Cape Town.

<sup>16</sup> <http://www.news24.com/SouthAfrica/News/8-killed-in-Durban-floods-20111128>  
<http://www.sowetanlive.co.za/news/2013/12/04/heavy-rain-floods-durban-cbd---photos>  
<http://www.iol.co.za/news/south-africa/kwazulu-natal/storm-destroy-homes-floods-roads-1.1377874#.Ve9CDRFViko>

<sup>17</sup> According to the U.S. Western Resource Advocates, a non-profit organization, water consumption is 50 percent higher in suburbs than in cities.

Even more, the quality of the built environment will play a special role on climate change death causes. Debra Roberts and Sean O'Donoghue (2013) explore how housing modifies the temperature–mortality relationship in the Eastern and Western Cape provinces of South Africa. They found that temperature-related mortality was a major contributor to the total deaths in both provinces, that different types of housing protected differently against the effects of high and low temperatures. In terms of housing policy, traditional dwellings is thermally superior to other low-cost options that have notable implications. Their results indicate that only a well- planned housing policy may reduce the future burden of temperature-related mortality. However, heating and cooling systems are hardly integrated in residential public and private developments. In low-cost houses, combustible fuels like coal, paraffin and fuel-wood or waste that are extremely dangerous, are burnt for heating (Du Plessis, Irurah and Scholes 2003).

According to Mokwena (2009) Durban is situated in an ecologically sensitive area. Its resultant vulnerability to climate change threats such as rising sea-levels, storm surges, and flooding, implied an unavoidable approach to mitigation measures to avoid consequences that are likely to be affect productivity and damage to social and physical infrastructure. The links between urban structure, critical environmental areas and housing policy seems evident. Durban's where its urban form not only perpetuates a system where the poorest and most vulnerable live far from jobs and services, but they also live in compromised environmental conditions. Du Plessis, Irurah and Scholes (2003) argue that post-1994 housing programmes perpetuates this pattern and continues to provide low-density housing on the urban periphery for the poor. Roberts and O'Donoghue (2013) explain that approximate 406,611-unit backlog is complemented with a great dissatisfaction of those who already have a formal house. The resultant urban sprawl and the continuation of peri-urban/rural settlement patterns mean that mass transport systems are inefficient and uncompetitive and highly subsidized. This encourages the use of private vehicles and mini-taxis that are CO2 emissions intensive.

These results have relevance to current housing policy but also reinforce the importance of the built environment in mitigating adverse effects of future climate change. Current projections suggest that under climate change conditions, temperatures in Durban are likely to increase by 1.50C–2.50C by 2065 and by 30C–50C by 2100 (Roberts and O'Donoghue 2013). According to Cartwright et al. (2013) projected annual rainfall changes are likely increase in aggregated rainfall by 2065 and sea level rise along the municipality's coastline is already 2.7 centimeters per decade and may accelerate in the future. During 2007, the east coast of South Africa experienced a severe storm that was the result of a combination of a cut-off low pressure system preceded by a series of tropical storms. The resulting damage was extensive along the east coast of South Africa, and in eThekweni Municipality amounted to almost US\$ 12.5 million (Cartwright et al. 2013).

In 2004, Debra Roberts, head of the Environmental Management Department, commissioned an assessment of the projected impacts of climate change in Durban. The results

presented in a 2006 report, *Climatic Future for Durban*, indicated that climate change would make it difficult to achieve the degree of economic stability and development gains advanced in the Integrated Development Plan (CSIR NRE 2006). Since then, the municipality has incorporated climate change actions into long-term city planning, and sectors such as health, water and sanitation, coastal infrastructure, disaster management and biodiversity (Roberts 2008). Durban has implemented the most significant climate policies compared to other South African cities and even other cities in the world, however, the role of the housing sector is still unclear.

## **Conclusions**

This chapter has been motivated by the contrast between South Africa's normative frameworks and the urban reality that thousands of people live every day. The principal objective is to provide insights on the effectiveness of the country's housing policy towards the forthcoming Habitat 3 conference in 2016. Specifically, how Habitat 2 influenced the housing agenda and how that agenda has been implemented during the last 20 years. Empirical data and literature on inequality, growth and climate change indicate that a multi-billion dollar housing program motivated and designed to compensate for many years of extreme discrimination, has not changed inherited racial inequalities. As Leibbrandt et al. (2010) argue, the mix between post-apartheid policies and a growing unregulated private sector is functional to what the authors call the "prototypical model of inequality-perpetuating growth," which is also translated into the built environment.

As Pieterse (2014) notes, the public housing sector has successfully accomplished its own political goals. In quantitative terms, South Africa has one of the largest housing programmes in the world, covering 20% of the total housing stock. This fact questions where the mismatch between the normative frameworks and reality is located. Does it appear between the political commitment and the social contract reflected in the Constitution? Or in between constitutional right to housing and its relevance in the multi sectoral national agenda? Can we find the mismatch between the social rights commitment and the policy design? Or in-between the policy and the implementation? Are there broken contracts at every stage of the process?

In South Africa, any urban question is profoundly political and strongly linked to the concept of social justice. It is, therefore, not surprising that the country's highest infrastructure development priority, according to a much-lauded National Development Plan published in 2014 was "the upgrading of informal settlements" (Saul and Bond, 2014, 188). The policies adopted so far in one of the country's major cities have contributed to creating a national priority that has not been addressed after more than 20 years. Thus, what debates are old and what is new? Many of these discussions are part of an unsolved legacy. Housing policy still promotes the expansion of the footprint which reproduces the Apartheid planning rationale of low density, satellite cities,



and disconnection between jobs and residential areas. As the analyzed trend continue, policy focus on redistribution mechanisms will become increasingly limited in the following decades, such as the foundation for further human and social development.