

# IS SOUTH AFRICA OPERATING IN A SAFE AND JUST SPACE?

Using the doughnut model to explore environmental sustainability and social justice

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The world has entered an era of unprecedented environmental change and social inequality. South Africa is no exception having suffered unique challenges following decades of injustice under apartheid. The future of South Africa depends on the country's ability to end social deprivation and manage environmental stress, enabling its people to live in a space where it is both safe and just for humanity to exist.

This paper uses Oxfam's 'doughnut model' to describe the multi-dimensional nature of poverty and environmental change, providing a snapshot of South Africa's current position against the suggested set of domains and indicators. It reveals that a significant proportion of South Africans are living below the social floor, while the country has already crossed its safe environmental boundaries for climate change, freshwater use, biodiversity loss and marine harvesting.

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# EXECUTIVE SUMMARY

The world faces twin challenges: delivering a decent standard of living for everyone, while living within our environmental limits. These two interwoven concerns are depicted by Oxfam's 'doughnut model', which provides a visual representation of a space between an environmental ceiling (the outer edge of the doughnut) and a social foundation (the inner edge), where it is environmentally safe and socially just for humanity to exist.

Oxfam's new paper – 'Is South Africa Operating in a Safe and Just Space?' – applies this concept to South Africa in order to assess the country's performance across a range of environmental and social domains. It identifies where policy interventions are most needed to help develop a 'safe and just' society and economy.

## Background

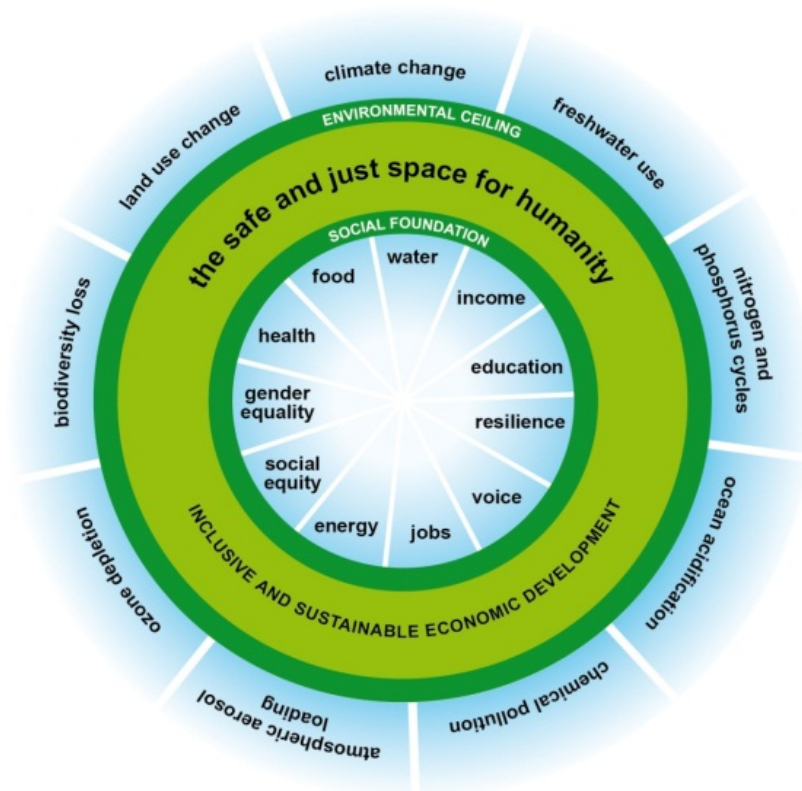
The original doughnut model, developed by Kate Raworth, former Oxfam senior researcher, focused on a global perspective (Raworth, 2012). This incorporated earlier work from a team of leading earth system scientists including Johan Rockström, Will Steffen, the Stockholm Resilience Centre (SRC) and the Stockholm Environmental Institute (SEI), who identified a range of environmental domains that are critical for the continued safe operation of the planet (Rockström et al, 2009). In their paper 'Planetary Boundaries: Exploring the Safe Operating Space for Humanity', they highlighted the risk of crossing critical thresholds in the Earth's biophysical processes and sought to identify planetary boundaries, or tipping points, beyond which vital Earth systems would become unpredictable and/or unsafe.

Though not without its critics, the planetary boundary approach has been used by the UN and the European Commission, and by many civil society organisations. In 2013, the SRC and SEI sought to develop a methodology to apply this approach at a national level, using Sweden as an example (SRC and SEI, 2013). In 2015, the planetary boundaries were updated by Steffen et al (2015).

Changes within these processes, driven by human activity, are already causing severe adverse impacts on weather systems, as well as our ability to produce food and the availability of fresh water. The boundaries for planetary loss of biodiversity and the nitrogen cycle have already been breached, while the climate change boundary is dangerously close to being breached. The updated report from Steffen et al. shows that the safe limit has also now been breached in regards to the phosphorus cycle.<sup>1</sup>

Raworth's work combined this 'environmental ceiling' with a proposed 'social foundation' below which it was 'unjust' for people to fall. The combination of environmental ceiling and social foundation is presented diagrammatically in what has become known as the 'Oxfam doughnut model' (Figure 1).

**Figure 1: Oxfam’s Global Doughnut**



The discussion paper downscales the global doughnut model by assessing the extent to which conditions in South Africa exist below the environmental ceiling and above the social foundation (see Cole et al, 2014). It uses 22 indicators to describe environmental and socio-economic systems, while highlighting the interdependent nature of those systems and identifying where people and the environment face unacceptable and dangerous stresses.

This national doughnut report has been produced in order to help shape South Africa’s development pathway by informing policy making through the delivery of strategic information on environmental and social problems, identifying key causal factors, monitoring the effects of policy responses and raising public awareness.

The South African report firstly identifies the social and environmental domains used for the national doughnut and goes on to examine performance within the respective domains. It then explores some policy implications that flow from this analysis.

## **Developing a social foundation**

South Africa faces the ‘triple challenge’ of poverty, inequality and unemployment. It has one of the highest official unemployment rates in the world (25 percent) and is one of the most unequal countries, with a Gini coefficient of 0.69 (Department of Performance Management and Evaluation, 2013). The wealthiest 4 percent of households receive 32 percent of total income while 66 percent of households receive only 21 percent of all income (Visagie, 2013). Over half of South Africans live below the national poverty line and more than 10 percent live in extreme poverty, on less than \$1.25 per day. The hopes of 54 million people depend on South Africa’s ability to address such injustices and end social deprivation.

The 'social foundation' developed for South Africa consists of energy, water, sanitation, housing, education, health care, voice, jobs, income, household goods, food security and safety.

A significant proportion of people are living below a decent social foundation as defined by the selected domains and thresholds. This is particularly true in the areas of jobs, safety and income, the latter two of which have seen deteriorations since 1994.

The South African government has an ambitious target of 5.4 percent growth in gross domestic product (GDP) and 11 million new jobs by 2030. However, the achievement of that GDP growth will ring hollow if significant numbers of people are left below the social foundation. Growth for its own sake is insufficient – it must be good-quality growth that works for the poorest people first and foremost and significantly reduces inequalities.

Table 1 in the full report shows how the situation across these domains has changed between 1994 and 2012.

## **An environmental ceiling**

Just as the social deprivations listed above constrain the lives of so many citizens, severe environmental stresses are widespread as fresh water and food supplies are under pressure, air quality is in many places damaging health and carbon emissions breach safe levels and add to the pressure of climate change. The poorest citizens are often those least likely to contribute to such environmental stresses as, for example, 24 percent of the population have no access to electricity. However, they are most likely to feel the negative impacts, as food prices mean that 23 percent cannot afford an adequate diet.

The environmental domains developed for the South African doughnut are climate change, ozone depletion, freshwater use, arable land use, biodiversity loss, marine harvesting, phosphorous and nitrogen cycles, air pollution and chemical pollution. The domains developed by Rockström et al. were used as a starting point, but were adapted to reflect various selection criteria, including an assessment as to whether they reflected the key social concerns in South Africa.

The country has crossed its safe environmental boundaries for climate change, freshwater use, biodiversity loss and marine harvesting and is within 10 percent of crossing the boundaries for arable land use, phosphorous loading and air pollution.

# Key findings: The South African doughnut model

Figure 2: The South African doughnut

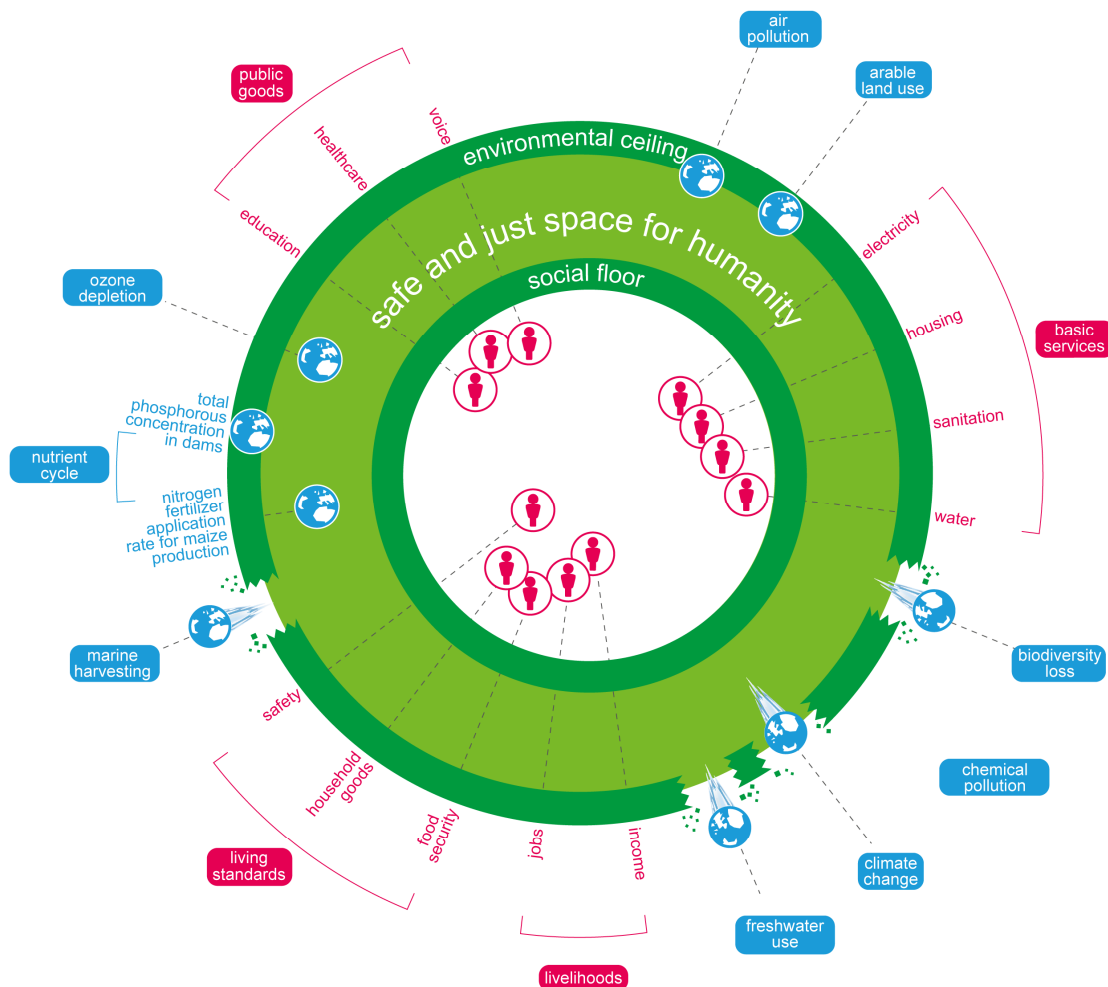


Figure 2 combines South Africa’s social and environmental performance, highlighting key environmental and social factors that need to be addressed if a more just and sustainable socio-economic model is to be developed.

Development must give due regard to the environmental limits highlighted here, as the services provided by the country’s natural resources are under increasing threat. Urbanisation, population growth and industrial developments create stresses on freshwater supplies, land productivity, the seas and air quality. All of this is happening within the context of global climate change, which adds to local and global stresses on food and freshwater supplies.

It is also clear that, while GDP growth in South Africa may be able to help lift the living standards of some its people, the benefits of development must be directed to the poorest and most excluded in society if the deprivations shown above are to be tackled. Thus, for growth to be safe and just, it is fundamental that it simultaneously tackles environmental stress and inequality.

Key policy focus areas have been identified for each of the domains of the social foundation and environmental ceiling, while specific recommendations are listed below. In addition, three cross-cutting areas are highlighted: good governance, spatial development planning and green jobs.

**Good governance:** South Africa has a highly respected progressive Constitution and all the institutional elements to ensure good governance, but governance failings at local through to national levels have been highlighted by recent audits (Auditor-General, South Africa, 2014). These must be addressed if the other factors of sustainable development are to be effectively implemented.

**Spatial development:** Both environmental and social dimensions have important spatial elements. For example, arable land and water resources are concentrated in certain parts of the country and need to be protected against unchecked industrialisation and urbanisation. One of the legacies of apartheid is a high degree of spatial inequality, with the former homelands still experiencing the greatest levels of deprivation. This causes migration between provinces and from rural to urban areas, increasing the pressure on public goods and services in the major cities while leaving behind the most vulnerable people in the most deprived areas. All levels of government are required to create Spatial Development Plans and these provide ideal opportunities to integrate social, economic and environmental aspects of development.

**Green jobs:** An estimated 816,000 'green' jobs could be created in South Africa by 2025 across the areas of natural resource management (biodiversity, water and land), energy generation, energy efficiency and pollution management. The One Million Climate Jobs campaign<sup>2</sup> is already pushing for this to be made a reality, and it must be supported.

## Key recommendations

A wide range of actions and interventions are required, including new ways of undertaking business, developing measures of progress which go beyond GDP, support for community-led change, encouragement of supportive industries, participatory mechanisms of democracy, policies that reduce inequality and governments and companies being accountable to citizens.

The report's key recommendations include the following:

### Governance

- Failings of governance at all levels must be addressed if sustainable development is to be effectively delivered.
- The economic development model in South Africa needs to be re-examined in order to build an economy which fits within the 'safe and just space'.
- National Development Plan (NDP) processes, which pursue GDP growth, must explicitly deliver measures that address the quality and distribution of growth.
- The fight against inequality and hunger must be positioned at the heart of the low-carbon agenda, with economic development assessed against delivery on these goals.
- More coordinated policy development is required at higher planning levels – for example, mining policy should be coordinated with water and food security policies. A National Food Act could hold all parts of government accountable, so that mining concessions are not automatically granted without considering the impacts on local water and food security.
- A greater understanding is needed amongst policy makers of the link between environment and social factors across all departments, not just the Department of Environmental Affairs.
- The National Strategy for Sustainable Development needs to be updated and scaled up to be more effective, and aligned with the NDP.

## **Spatial development**

- Spatial development planning is required to address the apartheid legacy of spatial inequality; this should integrate data at multiple scales and in multiple areas. This is particularly important for managing South Africa's strategic water sources, arable land and mineral resources.
- The Spatial Development Plans required at all levels of government provide a significant opportunity to integrate social and environmental priorities into development planning. The doughnut model could be used to test that all aspects have been covered.

## **Jobs and education**

- Campaigners are calling for one million climate jobs to be created; the potential has been recognised and now needs to be acted upon.
- The government is investing over 20 percent of its annual budget on education, but with poor outcomes. This investment needs to be targeted to ensure that skills are developed that ultimately result in reduced inequality, job creation and poverty alleviation.
- As global and local environmental changes accelerate, it will be critical to have the best possible science, technology, data and monitoring capabilities in order to adapt and make the right decisions. For this reason, investing in technological and scientific education should be a priority.

## **Voice**

- South Africa's social foundation needs to be determined by its citizens, and the voices of the poorest and most vulnerable people need to be heard in national debates. Social attitudes surveys and participation in local planning processes can contribute to making this a reality.
- Further research on inequality in access to, and use of, services, public goods and natural resources is required in South Africa. The extreme inequality evident in incomes is not limited to wages and wealth, but also encompasses the means of obtaining them and a broader quality of life.
- Breaking down the silos between development and environment to create a more holistic picture will enable civil society to call for effective solutions.

## **Leadership**

- South Africa's leadership as a middle-income developing country in international climate change policy and its commitment to a set of goals for action on climate change, which are ambitious by international comparison, need to be matched by delivery on both climate change and poverty reduction.
- South Africa should take a positive and influential leadership role in Africa and globally, through the African Union, the BRICS group, the G20 and UN processes.

South Africa needs to invest in its people and in its natural capital, while respecting global limits. The environment is central to the future prosperity of all South Africans and the country cannot move forward together without bringing along the majority who still live in poverty.

*'If you want to go fast, go alone. If you want to go far, go together.'* African proverb

# NOTES

- 1 A variety of changes have been introduced to the planetary boundaries framework in the updated work by Steffen et al. (2015), op. cit. However, Oxfam's Doughnut Report for South Africa continues to focus on the SRC's 2013 downscaling of the framework to a national level as the most relevant for the objectives of analysing and influencing national impacts.
- 2 See: <http://www.climatejobs.org.za/>

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