Investing Against Erasure: Indigenous Knowledge Innovation as the Decolonial Imperative for Redressing Neo-colonial Epistemicide and Securing Multipolar Futures[1].

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Introduction

Greetings, good colleagues of our national system of innovation and comrades in seeking to progressively and creatively destroy the constraints on our, and our continents, future endogenous development. I am grateful to the National Science and Technology Forum and its partners in organising this Indigenous Knowledge-Based Technology Innovation Investment Summit for affording me the opportunity to share some thoughts on the question of why Invest in the IK-Based Technology Innovation Sector. I have titled my intervention as follows: Investing Against Erasure: Indigenous Knowledge Innovation as the Decolonial Imperative for Redressing Neo-colonial Epistemicide and Securing Multipolar Futures.

My intervention will comprise three parts. First, and albeit briefly, we will consider several salient elements of our contemporary conjuncture, with the objective of drawing our collective attention to the advent of multipolar world systems and the shifting dynamics they entail. Second, we will examine some of our national challenges regarding progress towards reconstructing and developing our post-Apartheid national system of innovation, paying particular attention to the incorporation of indigenous knowledge. In the third and concluding section, we will raise a number of potential opportunities for expanding indigenous knowledge-based technological innovation. The overarching objective is to harness such innovation for transforming our socio-economic circumstances and contributing meaningfully to improving the quality of life for all people in our country, our continent, and our wider world.

Our contemporary conjuncture remains deeply mired in a state of polycrises, as the longstanding hegemony within world systems is increasingly challenged by rival states. Through careful and deliberate investments in their respective productive capacities and capabilities, these states have developed their national systems of innovation to the verge of achieving genuine technological sovereignty. As a

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consequence, they now increasingly dominate key scientometric data fields, signalling a significant realignment in the global distribution of knowledge and economic power.

At the core of realising the Africa that we all want, need, and demand is the urgent and active redressing of the systematic and structural epistemicide that originated in our colonial past of expropriation. This epistemic violence was subsequently reinforced during our violent insertion into imperialist global chains of exploitation, and it continues to be reproduced through the unequal exchanges that characterise contemporary neo-colonialism. Addressing this historical and ongoing injustice is therefore not merely a matter of redress but a fundamental precondition for genuine transformation.

Section One: Elements of our Contemporary Conjuncture

Our current world systems are in a state of profound turmoil, lurching from one crisis to a succession of polycrises. This volatile behaviour and its far-reaching impacts should not be regarded as unexpected, for they are direct consequences of the prevailing iniquitous global political economy, the deeply uneven international division of labour, and the existing balance of class forces. Before we turn to an analysis of our socio-economic dynamics, it is imperative that we first note the deepening of our ecological precarities, which increasingly threaten the very foundations of human civilisation.

The United Nations Environment Programme, in its recently published Global Environment Outlook 7, predicts "… a permanent crossing of the 1.5°C threshold in the early 2030s, heading toward 2°C by 2040 without immediate action" (UNEP, 2025). GEO-7 offers further evidence-supported assessments that include the following four aspects:

- The rate of global warming is likely to be higher than the central estimates of previous IPCC projections, increasing the risk of irreversibly passing several climate tipping points within the next few decades. These include major shifts in ocean circulation, accelerated ice sheet loss, widespread permafrost thaw, forest die-back, and collapse of coral reef ecosystems.
- One million of an estimated eight million species are threatened with extinction, some within decades. The populations of many more species are in decline, and their genetic diversity is being significantly eroded.
- Between 20 and 40 per cent of land area was estimated to be degraded in 2022. Between 2015 and 2019, at least 100 million hectares (the size of

Ethiopia or Colombia) of fertile and productive land were degraded annually worldwide.
- Annual solid waste currently exceeds 2 billion tonnes and, given current trends, is projected to increase to 3.8 billion tons by 2050 (UNEP, 2025).

This grim environmental forecast is indicative of the repeated failures of the preceding 30 Conferences of the Parties to the United Nations Framework Convention on Climate Change, as we head towards its 31st iteration scheduled for Antalya in Türkiye later this year. The data is also consistent with the assessments of the Stockholm Resilience Centre, a collaboration between Stockholm University and the Beijer Institute of Ecological Economics of the Royal Swedish Academy of Sciences. According to the Stockholm Resilience Centre, we have already breached seven of the nine planetary boundaries, thereby endangering the capacity of the Earth to sustain those systems that underpin life as we know it. By crossing these planetary boundaries, we are increasing the risk of cascading nonlinear effects across interconnected social, ecological, and economic systems. That is precisely what being in a state of polycrises means, and this understanding affords us the opportunity to turn to some empirical details of the social and economic system dynamics at play in our contemporary conjuncture.

Our current world population of human beings is estimated to be 8 billion, 296 million people (UN, 2026). Africa is home to approximately 1 billion, 584 million people, or just over 19.09% of the world population. Our current population in South Africa is believed to be 65.45 million people, a mere 0.79% of the total world population.

According to the International Monetary Fund, the economies of world systems collectively produced approximately R 2,102.895 trillion (Two quadrillion, one hundred and two trillion, eight hundred ninety-five billion) or 126.3 trillion in current US dollars worth of Global Gross Domestic Product in 2025 (IMF, 2026). The regional contribution of Sub-Saharan Africa was a mere US$2.44 trillion, or just 1.9% of the nominal economic output of the world. South Africa was considered to have made the largest single contribution on the continent, accounting for approximately US$479 billion, placing it just ahead of Egypt and Nigeria in 2025 (IMF, 2026).

South Africa' ranking with respect to its comparative status and economic output is however not secure. The African Development Bank (AfDB, 2026) has just released its Industrialisation Index and found that whilst South Africa' economy "remain[ed] a continental powerhouse, … its competitiveness has declined steadily" and that "Morocco has overtaken South Africa as the continent's leading industrial economy,

driven by sustained industrial upgrading, export diversification, and strong industrial policy" (AfDB, 2026). This heralds the ending of South Africa' fifteen-year dominance in the rankings as our continents most industrialised economy (AfDB, 2026). The AfDB further iterated factors that have been consistently identified across our post- and neo-colonial history which is that "Africa's industrial integration is low. Intra-African trade stands at just 14.4 percent of total trade, reflecting weak regional production linkages and fragmented industrial ecosystems" (AfDB, 2026). The AfDB as noted that "Africa accounts for less than two percent of global manufacturing output and just 1.4 percent of manufacturing exports; and manufacturing value-added per capita has fallen below pre-2014 levels" (AfDB, 2026).

At a global level, wealth remained highly concentrated, with "the top 10% owning three-quarters of global wealth, while the bottom half holds only 2%" (WID, 2026). In South Africa, "the richest 10% hold 86% of total wealth, and the top 1% alone holds 55%, while the bottom 50% have negative net wealth at -2.5%" (WID, 2026).

Incomes are disproportionately divided, as "the top 10% of the global population's income-earners earn more than the remaining 90%, while the poorest half of the global population captures less than 10% of the total global income" (WID, 2026). This means that "for roughly 30 million South Africans, average wealth is non-existent as debt outpaces assets" (WID, 2026).

In South Africa, the "top 10% of earners capture 66% of total income, while the bottom 50% receive only 6%" (WID, 2026). The WID also noted that "The income gap between the top 10% and the bottom 50% increased, moving from 103 to 118 between 2014 and 2024" (WID, 2026). This means that the current top 10% of earners now make 118 times what the bottom 50% of the population earned on average. Thus, the WID concludes that "income and wealth are extremely concentrated in South Africa, with persistent disparities and limited change over time" (WID, 2026).

There is little evidence of progressive change in the global distribution of incomes either. The International Trade Union Confederation and Oxfam have recently reported that "top CEO compensation in 2025 grew 20 times faster than average worker pay, with CEO pay rising 54% in real terms since 2019 to an average of US$8.4 million whilst global worker pay, adjusted for inflation, declined by 12% over the same period" (ITUC & Oxfam, 2026). According to that data, an average worker would need to labour for 490 years to earn what a CEO made in a single year. The ITUC and Oxfam data also show that:

- CEO pay at top global corporations rose 11% in 2025; average worker pay rose 0.5%
- Average CEO compensation reached $8.4 million in 2025, up from $5.5 million in 2019
- Global real wages for workers declined 12% between 2019 and 2025
- The top 1% of United States households now control 31.7% of national wealth, the highest since 1989
- S&P 500 CEOs saw median pay jump 25.6% year over year in 2025
- Nearly 1,000 billionaires earned $79 billion in dividends in 2025 (ITUC & Oxfam, 2026)

Our socio-economic determinations and our current ecological plight does not however occur in a vacuum. Our Parliamentary Budget Office acknowledges that "the obscene level of inequality in South Africa creates a very real limit on the economic performance of South Africa. The issue is not just that inequality is associated with lower social cohesion, more instability, conflict and instability but that huge, long-run disparities in distribution of wealth and income, such as those in South Africa, affect the very structure and future potential of the economy" (PBO, 2026).

According to the PBO, "Those with more wealth and a larger share of national income have options regarding where and how they choose to consume, save and invest. They are usually more integrated in global communities and markets and often consume and invest in a similar manner to these global elites. While most South African elites may be fiercely patriotic, they have been diversifying their investment portfolios to include more foreign assets" (PBO, 2026).

The PBO concludes that "… inequality has created a path-dependence that for historical reasons has limited the level of industrial diversification and development of productive services sectors in South Africa. It has also created large obstacles to investment by non-elites into small and medium enterprises and may be one of several reasons for the relatively small size of the South African informal sector" (PBO, 2026).

Our ecological precarities, combined with the persistence of an iniquitous global political economy, form the root causes of our levels of inequality and global stress. A key role in reproducing these unfair conditions is played by transnational corporations. A recent study by Arindam Das showed that "multinational enterprises, which contribute to nearly half of global GDP, internalise knowledge of planetary boundaries and take action within the organization or externally with investors, industry bodies, and policymakers, found that, despite warnings from scientists

about breaching planetary boundaries, multinationals, at best, follow an incremental approach to sustainability initiatives that collectively fail to drive positive global change. This well-entrenched practice remains unquestioned by external stakeholders, such as regulators, investors, and lenders" (Das, 2026).

In our contemporary conjuncture, the split between the global minority, or the 'golden billion', who mainly occupy the countries of the group of seven highly industrialised economies and their representation across their collective think-tank, the OECD and their military wing, NATO, and the growing confidence and assertiveness of the world majority which is still often referred to as the global South, is stark and rapidly increasing. The G7 economies accounted for approximately 44% of nominal global GDP, whilst the BRICS countries had reached 29% in 2025 (IMF, 2026). However, utilising purchasing power parity, which adjusts for living costs and local purchasing power, the BRICS were estimated to have captured 41% of global GDP, whilst the G7 share was reduced to approximately 21% (IMF, 2026). Another critically important fact realised last year was that "… trade conducted by BRICS countries without using the U.S. dollar surpassed $1 trillion by the end of 2025" (IMF, 2026).

These statistical nuances are indicative of the pathways ahead, as the BRICS, notwithstanding their inherent internal contradictions, have significantly advanced multipolarity and opened prospects beyond the hegemony of the collective West in the interest of the world majority. From this potentially optimistic trajectory of our contemporary conjuncture, let us now turn to the progress achieved in our mobilisation of indigenous knowledge for innovation.

Section Two: Progress on Incorporating Indigenous Knowledge in our National System of Innovation

The previous Minister of Science and Technology, Mosibudi Mangena, launched our country's Indigenous Knowledge System policy framework in 2004 and noted that the third post-Apartheid government of South Africa had "… great expectations that the adoption of this policy will lead to substantial improvements in the lives of many citizens and their living conditions" (RSA, 2004). The Deputy Minister, Derek Hanekom, acknowledged that it was an "… underlying fact that indigenous knowledge has always been and continues to be the primary factor in the survival and welfare of the majority of South Africans" and argued that the IKS policy would "… respond positively to a rapidly changing environment, and through which indigenous and local communities and individuals can share equitably in the social and economic opportunities of South Africa" (RSA, 2004). The then Director

General, Rob Adam, specified “three key deliverables” which he identified as: first, the recordal system for indigenous knowledge; second, an intellectual property system that reflects IKS; and third, the appropriate positioning of indigenous knowledge-based businesses within small business development (RSA, 2014).

It would take approximately 15 years before the IKS Policy Framework was translated into legislation with the proclamation of the Protection, Promotion, Development and Management of Indigenous Knowledge Act in 2019 (RSA, 2019). The Act sought five key objectives: first, to protect indigenous knowledge from unauthorised use and misuse; second, to promote public awareness and broader application of indigenous knowledge; third, to develop the capacity of indigenous communities to protect their intellectual and cultural assets; fourth, to regulate the equitable distribution of financial and commercial benefits; and fifth, to encourage the use of indigenous knowledge to develop new, culturally relevant products and services (RSA, 2019).

Notwithstanding the long incubation of policy processes, it is heartening to read of the institutional adoption of indigenous knowledges and their promotion across our national system of innovation. The Director General of our Department of Science, Technology, and Innovation argued that the “Indigenous Knowledge Systems Policy remains the cornerstone of government's approach to affirming African cultural values in the face of globalisation, strengthening the contribution of indigenous knowledge to social and economic development in South Africa, and interfacing IKS with other knowledge systems” (Cele, 2025). The positive sentiments also find expression in sectoral strategies as evidenced in recognition that indigenous knowledge underpinned the Bio-economy Strategy which is a national initiative to promote bio-innovation and use it for economic growth and social development (RSA, 2014). This integration has resulted in significant advances in agriculture, health care and bio-based industry.

At a national system of innovation level, the STI Decadal Plan cites the 2019 White Paper to argue in favour of a more inclusive perspective which “… encapsulates a broader view of actors, forms of innovation and the spatial footprint of innovation. It means supporting communities and civil society to innovate, embracing a more diverse knowledge system (including indigenous knowledge systems and addressing the “decolonisation of knowledge”), and using innovation to improve service delivery, government decision making, educational outcomes and broadband access” (RSA, 2024). The STI Decadal Plan recognises that South Africa is “Endowed with unique megadiversity and rich indigenous knowledge (IK) related to medicinal plants, SA is well positioned to develop a sustainable and complementary IK-based health system” (RSA, 2024). The STI Decadal Plan also acknowledges that “Research funding will be

extended to disciplines of competence not covered in the NRF Act, e.g. indigenous knowledge systems" and inserts a long-term intervention to "Increase the value-add of RDI expertise to the recording, protection and utilisation of indigenous knowledge to the benefit of both the knowledge holders and society" (RSA, 2024). Besides listing performance indicators such as "Percentage of RDI expertise, research studies and recommendations on IKS implemented" the DSTI also established an ambitious target of ensuring the "90% patents on indigenous knowledge registered in the Intellectual Property database" (RSA, 2024).

Besides these national opportunities, the Thirty-ninth Ordinary Session of the African Union adopted a number of draft annexes to the Protocol of the Agreement Establishing the African Continental Free Trade Area on Intellectual Property Rights, which includes an Annex on Traditional Knowledge, Traditional Cultural Expressions and Genetic Resources in February 2026. This legal instrument of the African Union seeks to establish unified continental standards that protect and commercialise African indigenous assets. It is imperative that we contribute to the finalisation of this framework and utilise it to further incentivise investments in indigenous knowledge research, development, science, technology, and enterprise.

Concluding Section: Investing against Erasure.

In summary, this intervention has sought to navigate the complex and interlocking dimensions of our contemporary conjuncture, with a specific focus on the imperative of integrating indigenous knowledge into South Africa's national system of innovation. The analysis began by situating our current moment within a deepening state of polycrises, characterised by the erosion of longstanding global hegemony, the rise of multipolarity, and the emergence of rival states achieving near technological sovereignty as evidenced by their growing dominance of scientometric data fields.

Craig Stephens, in a recent article in the Canadian Veterinary Journal has warned that "The word polycrisis was not created to serve as a catchall to describe the growing number of existential threats all species face such as climate change, habitat destruction, biodiversity loss, pandemics, changes in governance norms, growing pollution threats, the misinformation epidemic, failure of multilateralism, and more. Rather, it calls attention to how individual crises that make up a polycrisis interact and affect each other, intensifying their individual impacts and giving rise to new collective threats. Attacking each crisis in isolation is no longer sufficient, because today's crises cannot be fully understood or addressed in isolation from one another" (Stephens, 2026).

The intersecting crises of ecological precarity, extreme inequality, and the ongoing reproduction of colonial epistemicide demand more than incremental or symbolic gestures. Addressing the systematic erasure of indigenous knowledge systems is not a peripheral concern but a fundamental precondition for genuine transformation. The multipolar shift in global political economy, while fraught with contradictions, opens strategic space for the Global South, and Africa in particular, to assert alternative development pathways rooted in local knowledges, cultural assets, and innovation capabilities. The challenge before this Summit, therefore, is to move decisively from policy frameworks and legislative instruments to tangible, community-centred, and equitably governed indigenous knowledge-based technological innovation. Only by doing so can we begin to redress historical injustices, transform our socio-economic circumstances, and meaningfully improve the quality of life for all people in South Africa, across our continent, and throughout our shared world.

I thank you for your attention, and I trust that the evidence presented here will sharpen the deliberations in your commissions and, ultimately, compel a decisive increase in investments in indigenous knowledge innovation as the non-negotiable decolonial imperative for redressing neo-colonial epistemicide and securing genuinely multipolar futures.

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