

The decline of South Africa's defence industry

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ABSTRACT

The growth of South Africa's apartheid era defence industry was propelled by international isolation following the 1984 UN arms embargo and revealed military technology deficiencies during the border war. Weapons innovation became an imperative, fostering development of frontier technologies and upgrades of legacy platforms that drove expansion in arms exports. However, this golden era was not to last. The 1994 election of the country's first democratic government switched resources from military to human security. The resultant defence-industrial stagnation continues to this day, exacerbated by corruption, unethical sales, and government mismanagement. The industry's survival into the 2020s cannot be assured.

KEYWORDS

South Africa; defence industry; arms exports; corruption; offset

Introduction

The rise of South Africa's defence industry is legend. From modest beginnings, the Republic's competitively priced, high-quality and battle-tested weapons became a global brand. Arms exports increased in the 1980s, but this was not how it was meant to be. The 1977 UN Security Council Resolution 418, which embargoed UN member states from exporting arms to South Africa, was intended to emasculate the South African military, weakening its ability to indiscriminately kill civilians protesting against the apartheid Regime. There were two principal factors that worked against this outcome. Firstly, Pretoria circumvented the worst effects of the embargo by covertly importing skills, technology, components, and machinery from abroad,¹ as well as devising elaborate schemes involving front companies, smuggling networks and deals with "pariah" states, such as Pinochet's Chile, Saddam Hussein's Iraq and Argentina's Junta.² Secondly, South Africa's border conflicts exposed numerous deficiencies in the military equipment used by its armed forces, encouraging domestic defence industry to innovate. Robust defence industrial development lasted only until the cessation of hostilities in 1989. Post-1994, a newly independent South Africa had banished apartheid, and sought instead to elevate the lives of its suppressed black citizenry. Into this brave new world, the goal was development within the broader national aspirations of human security, replacing the traditional emphasis on military security.

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The purpose of this paper, then, is to analyse South Africa's post-independence defence contraction following Pretoria's policy switch from defence to development. The decline of defence; generally, but defence industry, in particular, was caused by a combination of economic, social and political factors. During Nelson Mandela's 1990s Presidency, the focus on human security was associated with heavy budgetary cuts to the armed forces and defence industry. Institutional efforts to overcome the resulting demand deficiency and arrest the decline of South Africa's defence industry (SADI) were structured around three "sustainment" policies: 1) the "Turn of the Century" offset package linked to the controversial arms deal; 2) post-Millennium efforts to foster arms exports; and 3), the contemporary push for international defence industrial partnership. The first two of these policy approaches have been mired in controversy: an offset programme that has been plagued by allegations of corruption, and the desperate pursuit of overseas arms sales that has led to unethical practices, and the infringement of arms control legislation. The "open sores" of these contentious events continue to fester, heightening defence industrial vulnerability. International partnerships have proved less disputatious, but the concern is whether they have acted to dismantle, rather than sustain, the ownership and manufacturing structures of SADI.

Search for military effectiveness drives innovation: 1966–89

Since formation of the Union in 1910 until independence in 1994, South Africa has faced two principal threats.³ There was firstly the inherent internal danger of an uprising from its suppressed local African population. The end of WWII hostilities paved the way for the institutionalisation of apartheid (racial "apartness"). White racist domination had been coined "internal colonisation",⁴ and the Sharpeville massacre in 1960 (followed by Soweto incident in 1976) intensified local and international anger, making internal instability palpably more real. The second threat facing South Africa was more strategic, coming from a land-based pan-African army. This external danger crystallised through the South African border conflict from 1966 onwards. Characterised as the wars of decolonisation, hostilities began in Angola, where South Africa operated as the *de facto* colonial power, deploying its forces against the People's Movement for the Liberation of Angola (MPLA) and People's Armed Forces of Liberation of Angola (FAPLA). Throughout the next two decades, the South African military was engaged in both conventional and asymmetrical warfare against the South West Africa People's Organisation (SWAPO) in Namibia, Mozambique Liberation Front (FRELIMO) in Mozambique, Zimbabwe African National Liberation Army (ZANLA), and counterinsurgency operations in Zambia.

Set against the backdrop of the Cold War, these border conflicts morphed from independence struggles into ideological campaigns, involving the USSR and its client state, Cuba. Indeed, there were reportedly up to 36,000 Cuban regular forces operating in Angola in 1976.⁵ Although the Angolan and Namibian military represented a disorganised ragtag of disparate forces by comparison to the South African Defence Forces (SADF), the latter's military equipment proved inadequate as revealed during the 1975–76 Operation Savannah in Angola. South Africa's vintage armour and artillery were designed for a doctrine focused on internal security rather than conventional warfighting against an enemy equipped with modern Soviet-supplied heavy weapons. Not only was the SADF artillery out-ranged by Cuban/FAPLA 130 mm field howitzers

and 122 mm Katyusha rockets, but its Eland armoured cars were vulnerable to enemy anti-tank defences.⁶

These operational deficiencies, along with the 1977 UN Security Council Resolution 418 embargoing UN member states from exporting arms to South Africa and the 1984 UN Resolution 558 “requesting” all member nations to refrain from procuring South African arms, meant that an indigenous South African defence industrial solution was urgently required.⁷ Pretoria urgently set about expanding the critical defence-industrial infrastructure created in 1968 through the establishment of the Armaments Corporation of South Africa. Better known by its acronym, ARMSCOR, it was the country’s first production and procurement organisation. At its peak in the 1980s, this state-owned corporation owned nine production facilities undertaking final assembly and systems integration of military platforms. Some 130,000 workers were employed both directly and indirectly in domestic arms production.⁸

ARMSCOR and major private sector defence industrial establishments responded to the weapons technology challenge by indigenously developing and producing a broad array of innovative systems. For example, amongst a whole range of adapted and locally developed land systems, there was the RATEL Infantry Fighting Vehicle (IFV). On entering service in 1976 it became only the world’s third IFV.⁹ One of the RATEL’s variants, the ZT3, was armed with the Denel-developed 5,000 m range ZT3 laser-guided anti-tank missile, which proved “devastatingly effective” during the 1987–88 campaign.¹⁰ Moreover, the SADF’s R1 standard rifle had been developed from the Belgian 7,62 FN FAL gun; in turn, the R1 was itself later replaced by the R4, derived from the Israeli Galil rifle.¹¹ The list of innovative land systems includes several other formidable weapon systems: the former British Centurion Main Battle Tank, upgraded via several experimental versions into the formidable 105 mm Olifant tank; the G5 155 mm howitzer, which was crash-developed to outgun Cuban artillery, and described as the “most advanced piece of its era”; the subsequent linked development of the unique 46-ton G6 self-propelled version of the G5, the world’s first long range (75 km) gun, integrated onto a wheeled chassis; a frequency-agile military radio, presenting another world’s first; and the Cheetah C multi-role fighter, Rooivalk attack and Oryx medium helicopters and the Umkhonto surface-to-air missile.¹²

These and other South African technologically-advanced and battle-proven weapon systems drove exponential increases in overseas arms sales. The Republic’s weapons exports grew by a remarkable 300 per cent between 1982 and 1989, with the share of arms exports in total production hitting a high of 20 per cent.¹³ Over the longer period, 1969–1984, arms sales rose from (Rand) R52mn to R1,571mn, registering an annual average real rate of growth of over 13 per cent.¹⁴ Two lessons can be highlighted from this era of South African defence industrial transformation. Firstly, the UN embargoes had clearly failed in their objective of constricting SADF’s development and production activities.¹⁵ Secondly, it was the urgency of securing military effectiveness in the border war that acted as the catalysing agent for indigenous weapons innovation.

Mandela’s transitioning of defence to security: 1990–99

Transition from a garrison-type state engaged in secretive arms procurement to another committed to democratic accountability and multi-party scrutiny began in the late 1980s.

There were several factors driving the movement towards political and economic normality. Firstly, South Africa's de-prioritisation of defence occurred at a time when the Cold War was giving way to a benign global environment. The collapse of the Berlin wall and the implosion of the USSR had sent procurement budgets tumbling. Secondly, the Soviet Union's disappearance and the ending of international ideological warfare meant that super-power rivalry in Southern Africa had also abated. The Namibia and Mozambique conflicts were resolved, and the 1988 Three Powers Accord led to the removal of Cuban forces from Southern Africa. A year later, South African Armed Forces were withdrawn from the border territories, and the imperative of gaining military technology superiority dissolved. Thirdly, the February 1990 release of Nelson Mandela from prison coincided with Pretoria's de-emphasis of its hitherto militaristic foreign policy, encouraging a belated focus on South African socio-economic development. A new dawn reflecting shifting priorities from external threats to internal vulnerabilities had begun.

Ferreira and Liebenberg have termed the 1990s as a decade of transition.¹⁶ Following apartheid's removal, South Africa held its first all-race democratic elections. Mandela was elected President of the new African National Congress (ANC) government, inheriting a country with a legacy of colonial exploitation, deep economic structural problems, racial oppression, high levels of militarisation, culturally embedded violence and global isolation.¹⁷ Partially as a result of these immense threats, South Africa represented fertile ground for pursuing a development-oriented paradigm anchored to the human security goals contained in the 1994 UN Developmental Report. The new government bought heavily into the principle of human security, subscribing to the assumption that the role and utility of military power was expected to decline in international politics in the post-Cold War era.¹⁸ In 1994, the country's armed forces were rebadged as the South African National Defence Forces (SANDF), with a doctrine de-emphasising war-fighting capability and elevating non-offensive defence.¹⁹ In line with the conceptualisation of human security, South Africa's interpretation of security was broadened beyond the military to embrace the political, social and economic dimensions of the new security paradigm.²⁰ After 1994, a series of Government White Papers consolidated this policy approach, including the 1996 Defence White Paper, two Defence Reviews and a Department of International Relations and Cooperation White Paper on South African Participation in Peace-Keeping.²¹

South Africa's push for human security was associated with defence contraction. Between 1989 and 1996, defence expenditure fell by 50 per cent, arms acquisition and R&D declined by 70 per cent apiece, and arms production in total manufacturing output decreased from 7 to 3.2 per cent.²² Moreover, the shift from external conflict to the quelling of internal political violence was associated with a realignment of spending that favoured personnel and operating costs rather than procurement. Postponement and cancellation of armaments projects reduced the size of defence industry, and inevitably suppliers went out of business. Those that survived suffered massive reductions in capacity. Contraction led to the loss of 55,000 defence-industrial jobs between 1989 and 1996, with the decline continuing unabated.²³ The SANDF was also affected by this funding squeeze, suffering downsizing and rationalisation, including the disbanding of military units and contraction of bases. Redundant, obsolete, and surplus military equipment were sold or destroyed, and the country's nuclear weapons programme terminated.

The financial pressures of sustaining expensive military capability in the face of severe austerity and declining economic growth due to domestic recession was an additional causal factor in the ensuing continuous under-funding of SANDF.

Significant turbulence was caused by governmental efforts to downsize and restructure defence industry in line with a continued deterioration in defence spending. As a consequence, the SADI became increasingly concentrated, and by the mid-1990s the government-owned Denel and the four largest private sector players accounted for over 90 per cent of South Africa's procurement spending.²⁴ Denel dominated the local defence market, specialising in aerospace, artillery, missiles, and armoured personnel carriers, accounting for close to 50 per cent of sales over the period 1992–96.²⁵ By contrast, private sector companies focused on defence electronics, maritime, and support equipment.

The 1994 repeal of UN Security Council Resolution 558 banning arms exports from the Republic allowed ARMSCOR to expand its global share of arms production from 0.4 per cent to 2 per cent over five years.²⁶ By 1997, nearly all South African defence firms were engaged in overseas arms sales, becoming the second biggest manufactured export, albeit accounting for just one per cent of GDP and manufacturing jobs.²⁷ Arms export success validated product competitiveness, but did little more than keep production lines warm. Fears began to emerge over SADI's survival in the absence of budgetary injections to reverse industrial decline. Yet government efforts to raise demand and arrest the long and tortuous decline of South Africa's once powerful defence economy were undermined by persistent allegations of endemic corruption and regulatory avoidance.

Corrupt and unethical practices accelerate defence industrial decline: 2000–14

Entering the new Millennium, the ANC government was beset with social, economic, and political problems. Dismal economic growth had not reduced the budget deficit, racial inequalities and income disparities had not narrowed and violence and corruption had metastasised throughout the public sector. There was also an emerging crisis of trust in government, with growing unease over the credibility, competence, and contradictory nature of its policies. For example, there was the ANC's amnesia over its pre-1994 political enthusiasm for national socialism; instead, once in power, it aggressively pushed neoliberal economic policies.²⁸ Then, in 1999, the government did an abrupt "u-turn" on its promotion of human security by undertaking the biggest foreign arms procurement programme in South African history. The arms deal was controversial at many levels, but the most fundamental criticism was the acquisition of sophisticated weapon systems, comprising warships, submarines and advanced fighter jets, in the absence of any clearly defined actual or potential threat.²⁹ Reports suggest that the government may have been influenced to procure costly and sophisticated foreign arms because their acquisition was linked to an ambitious offset package of inward investment that carried the potential to reboot the country's declining defence industry.³⁰

The notion of defence offset invariably elicits heated debate, but limited data thwart definitive judgements on its development impact. A major study by Erikssen on the European defence industrial base offers inconclusive evidence as to whether offset

exerts a positive or negative impact.³¹ Two edited books, one by Martin, and the other by Brauer and Dunne, offer a contrasting diversity of views on the contribution of offset to local development.³² At the heart of the offset debate is that the two principal stakeholders possess competing objectives: the obligor pursues profit maximisation, while the obligee pursues growth and development, and these two goals are invariably irreconcilable.

For some analysts, the result of this goal divergence is that offset distorts efficient resource allocation, is anti-competitive, trade diverting and welfare reducing.³³ For instance, one of the principal modalities of defence offset is licensed production, yet this is held to add cost compared to off-the-shelf procurement. The offset premium occurs because of additional requirements, such as training and tooling-up, and the extra costs are inevitably loaded into the price of the primary defence contract. The offset premium typically averages between 5 and 10 per cent of the defence contract value,³⁴ but can reach as much as 30 per cent.³⁵ It is contended that this premium or offset “over-cost” does not buy general economic development, does not buy new and sustainable work, and except for limited specific cases, does not result in appreciable technology transfer.³⁶

Further, there is sparse evidence to suggest that job creation, a principal policy objective of offset, actually happens. For example, British, US and French offset programmes were expected to create 75,000 local jobs in Saudi Arabia, but in the event only sourced some 300 mostly unskilled jobs.³⁷ Similarly, Malaysia’s procurements involving American, British, Russian, Italian, French, and Turkish offset programmes created just 100 local jobs.³⁸ Offset is also argued to be prone to corrupt practices.³⁹ Yet, it is unclear how serious the problem is once the distinction is made between actual versus potential corruption.⁴⁰

While there exists a small body of literature advocating the industrial and technological benefits of offset, it is fair to state that most studies adopt a sceptical position, leading to suspicions that negative assessments are pre-programmed even when offset investments produce net benefits for a country.⁴¹ Offset-induced technology transfer may generate a number of benefits, such as obviating the arms purchasing state from incurring the costs of expensive R&D, and providing an efficient mechanism for accessing technology compared to straightforward purchase.⁴² Yet, while offset may not create substantial numbers of local jobs, empirical evidence suggests that it does act to maintain existing jobs, as well as cultivating pockets of advanced industrial development, including composite production in Indonesia⁴³ and Malaysia,⁴⁴ it has led to production of helicopter systems in Turkey,⁴⁵ and aircraft manufacturing in China.⁴⁶ Overall, then, offsets may create net economic benefits,⁴⁷ including potentially beneficial impacts on exports, supply chains; and to a lesser extent, indigenous R&D.⁴⁸ Moreover, long-term partnerships are a possible, though not guaranteed, outcome.⁴⁹

Defence offset: “Voodoo” economics to arrest the decline?

South Africa’s arms deal represented a remarkable *volte face* from the earlier 1980s low-cost procurement strategy, and subsequent 1990s austerity (when SANDF had to cancel or postpone many of its procurement projects). Moreover, the choice of highly sophisticated fighters and corvettes raised fears of possible corruption.⁵⁰ To sweeten the deal,

and persuade a reluctant public as to its merits, the acquisitions were tied to obligatory reciprocal commitments (offsets) that would “magically” generate investment around four times the value of payments to the overseas defence contractors. The offset projects were expected directly to stimulate demand, expenditure, and jobs in the country’s ailing defence economy.

Unsurprisingly, South Africa’s pre-existing 1996 offset policy (or using the official terminology – National Industrial Participation Programme - NIPP), became a microcosm of the scepticism affecting the subject’s wider empirical analysis. NIPP’s mission was to “leverage economic benefits and support the development of South African industry ...”⁵¹ In order to achieve this goal, NIPP sought to cultivate international industrial partnerships to promote local development through a raft of economic mechanisms, including technology transfer, enhanced value-added content, exports to new markets, R&D collaboration, and job creation. In 1996, a new Defence Industrial Participation (DIP) programme was launched and managed by ARMSCOR.⁵² Commercial industrial participation investments would span diverse sectors, including automotive components, telecommunications, stainless steel and specialty steel plants, mining equipment, gold jewellery, plastics, timber, mohair jerseys, high quality textiles, and medical products, including prophylactics aimed at containing the spread of HIV in a country riven by AIDS. Indeed, the latter project offered an example of how the authorities viewed offset as a “force for good”.⁵³

The 1998 *Defence Review* approved the new arms procurement package, as well as its unusual funding method, involving budgetary rebalancing of cost-savings from military personnel reductions.⁵⁴ A shortlist of products and prospective suppliers was identified, as shown below in Table 1. The eventual arms deal, designated the Strategic Defence Procurement Package (SDPP), was worth over R29bn (US\$5bn), with a planned operational span of some 30 years.⁵⁵ The headline value of just under R30bn was not universally accepted, with counter-estimates that procurement costs would eventually escalate to R53bn once exchange rate fluctuations and the cost of financing were taken into consideration.⁵⁶ The linked offset obligations borne by the suppliers involved contractual industrial participation commitments that were estimated at around R110bn, but as with the cost of the arms deal, this figure was disputed; there being concerns that it included estimated and unpredictable export sales derived from investments, as well as “hoped for” regional secondary benefits through Broad-Based Black Economic Empowerment (BBBEE) companies.⁵⁷ Eventually, government officials produced a more conservative R70bn offset value.⁵⁸ Notwithstanding these disagreements, the government maintained its position on job creation, arguing that the defence and commercial offset projects would generate more than 65,000 permanent jobs.⁵⁹

Table 1. Major armaments acquisitions under SDPP.

Equipment	Country of Origin	Quantity	Planned Date of Delivery
MEKO A200SAN missile corvette	Germany	4	2003–05
Type-209 Mod-1400 submarine	Germany	3	2005–07
A109 light utility helicopter	Italy	30	2003–05
Hawk-100 Mark-120 lead-in fighter trainer	UK	24	2005
Super Lynx shipborne helicopter	UK	4	2005–06
Gripen-D dual-seat multi-role fighter	Sweden/UK	9	2006–08
Gripen-C single-seat multi-role fighter	Sweden/UK	19	2009–11

Source: Various sources, including government and press reports, as well as the *SIPRI Arms Transfers Database*.

As with disputes over the development impact of offset in general, disagreements persist over the benefits of South Africa's offset package. It was once memorably described both as "voodoo economics" and a "monstrous political fraud".⁶⁰ More specifically, there are those who argued the package was ill conceived, representing an enormous waste of resources that yielded little in the form of positive returns.⁶¹ Furthermore, job creation was nowhere near the government's promised target of 65,000, with the lower range of estimates falling between 26,000⁶² and just 12,000.⁶³ The cost per job created through IP was estimated to be 20 times higher than the average for the local defence industry;⁶⁴ the cost escalating due to Rand and interest rate fluctuations, and the payment period more than doubling from eight to 18 years.⁶⁵ South Africa's experience suggests that promised economic investment and job creation effects generated through offset are largely chimeric.⁶⁶

There is a contrasting view that offset promoted considerable economic benefits. For example, Haines argues that offset contributed to industrial diversification, and DIP up to 2012 had generated over 220 projects, accounting for 80 per cent of overall NIPP obligations.⁶⁷ DIP projects acted to showcase South African defence capabilities that created longer-term opportunities, including the forging of alliances with original equipment manufacturers (OEMs). This is evidenced by a recent study that concluded DIP projects had contributed substantial "economic" benefits, including the retention of over 59,000 jobs, the promotion of like-for-like technology transfer, enhanced export opportunity through access to OEM international supply chains, and via numerous long-term partnering arrangements, these offset programmes had significantly strengthened industrial and technological sustainability.⁶⁸ Indeed, a 2014 report sponsored by SADI argued that the DIP linked to the Strategic Defence Procurement Package was a lifeline that supported parts of industry from the catastrophic funding decline that began in 1989.⁶⁹ In its 2015–16 Annual Report, ARMSCOR announced that just one of the eight DIPs was still active.⁷⁰

The 2019 comments of a former ARMSCOR official appear to lend further qualified weight to the observation that South Africa's offset programme had contributed positive value to the local defence economy:

The principal thrust of the DIP was to contribute to the sustainment of "existing" companies through work packages, export sales, technology transfer and investment. For most beneficiaries, offset value represented a small percentage of their total business portfolio ... [but] ... given that SANDF contracts were never sufficient on their own to ensure viability, offset did play a significant role in influencing survival during extremely tough trading conditions. Sustainability, however, was not a metric employed by either the offset authority or the obligors. No methodologies evolved to measure sustainability, especially as the beneficiaries predated the obligation.⁷¹

South Africa's NIP and DIP policies endure. In 2019, there are a multiplicity of obligors, including Germany, the US, Switzerland, Japan, UK, France, Canada, Netherlands, Italy, Russia, Spain, Sweden, China, and Finland, with projects spanning the aerospace, defence, oil and gas, rail, marine, and bus sectors.⁷² Aerosud remains the flagship offset partner to numerous tier one foreign defence contractors, including capital, technology transfer, and work orders on the BAES Typhoon fighter programme, engine suppressors and armoured seats for AgustaWestland military helicopters and internal assemblies for Boeing commercial aircraft.⁷³ Contemporary NIPP and DIP projects

are argued to be far removed from stereo-typical low value metal-bashing activities. For example, MAN Ferrostaal invested in high performance integrated circuits (for a while representing the only micro-chip manufacturing capacity in Africa); CISCO, in partnership with the local Department of Trade and Industry (dti), invested in an ICT R&D Centre; and Huawei invested in a joint software innovation Centre.⁷⁴

The debate over the economic positives and negatives of South Africa's offset package is separate from a parallel controversy focused on governance of the arms procurement deal and linked offset programme. Rumours of corruption, implicating ruling ANC politicians and their associates, began to emerge after the 1999 arms deal announcement.⁷⁵ The initial epicentre of the controversy was the use of "multiplier" credits, even though these are widely employed by other countries to incentivise investment in strategic sectors of the economy. Obligors benefit from multipliers by gaining offset credit values representing a multiple of the actual investment value. However, in the South African context, multipliers were criticised because the inflated offset credit values appeared to grossly exaggerate Pretoria's estimates of actual programme benefits. In an attempt to rebut the criticisms, the government launched a 2001 probe that quickly adjudged the offset framework to be sound and in conformity with best practice.⁷⁶ Yet, while the probe's findings highlighted a lack of government duplicity, it did little to stem the allegations of impropriety.

In the early 2000s, there were allegations of corruption by French and South African companies over their supply of a combat management system to the Navy.⁷⁷ Then, in July 2003, there were revelations that a local aviation company allegedly received bribes from a British supplier,⁷⁸ with "dirty" money held to have influenced negotiations over the award of the Hawk-Gripen contract.⁷⁹ Germany was also embroiled in the bribery scandal, with one of its suppliers alleged to have bribed former South African defence officials over the navy's corvette deal.⁸⁰ Then, in the late 2000s, South Africa's Parliamentary Standing Committee on Public Accounts (SCOPA) published a Report calling for a full judicial inquiry to investigate SDPP graft allegations. This led to the 2011 establishment of the Arms Procurement Commission (more commonly known as the Seriti Commission of Inquiry, named after its chairperson, Judge Willie Seriti) to investigate the arms deal.

In early 2014, South Africa's Trade and Industry Minister submitted the *Strategic Defence Packages Performance Review Report* to Parliament, together with a final audit report on the defence offset package.⁸¹ The Report documented that a large sample of 40 of the 121 arms deal offset projects had been audited, leading to the discovery that several offset projects had not included obligations for job creation. "In fact, of the 40 business plans audited, only 24 included estimates of the number of jobs to be created" and that the ... offset projects "only generated 26,000 direct jobs in ten years, instead of the 65,000 opportunities promised, indicating that offset had created only 40 per cent of the anticipated offset-derived target".⁸²

In the summer of 2014, the government initiated a study that found nothing inherently wrong with either the civil or defence offset policies, or their implementation. The Report highlighted that DIP investment linked to the acquisition of front-line equipment for the Air Force and Navy under the arms deal had led to "some R15 billion being injected into South African defence companies over the decade following 1999".⁸³ By the time the Seriti Commission concluded its probe, it had cost South African taxpayers over

R113mn, yet the findings published in April 2016 absolved the government, defence industry, and offshore contractors of all allegations of bribery, corruption, and fraud.⁸⁴ The ANC government welcomed the report as a vindication of its position that the arms deal had been negotiated in an honest and contractually compliant manner.

Nonetheless, the Seriti Commission's findings failed to douse the flames of alleged corruption in the arms deal and linked offset programme, and the debate continues unabated. Public unease reached a new nadir in August 2019 when the Pretoria High Court ruled in favour of an application to review and set aside the findings of the Seriti Commission. Civil organisations, such as Right2Know and Corruption Watch, argued that the 2016 findings, firstly, misled the public through selective presentation of evidence, and, secondly, led to exoneration of politicians involved in wrongdoing during the arms deal saga. South Africa's former President Jacob Zuma became embroiled in the escalating scandal when in October 2019 he was ordered to stand trial on corruption charges linked to the arms deal. The charges against Zuma were originally filed a decade previously, but were set aside by the National Prosecuting Authority just before his 2009 presidential election success.⁸⁵

More than 700 criminal charges are pending against Zuma, and form part of a broader network of state-engineered corrupt practices;⁸⁶ the phenomenon becoming known as "state capture". The term was popularised by the former legal ombudsman, Thuli Madonsela, and refers to the wholesale takeover of public institutions by associates of Mr Zuma, often facilitated by international firms. Mass looting of public assets through state capture is estimated to have cost South Africa \$34bn.⁸⁷ Amongst those allegedly capturing large parts of South Africa's levers of power, even extending to influencing the appointment of President Zuma's Cabinet ministers, were the Gupta brothers.⁸⁸ In October 2019, the US Treasury Department imposed sanctions on the Gupta family, describing them as "members of a significant corruption network".⁸⁹ The damage to South Africa's international reputation was grave: in 1966, Transparency International rated the Republic as the least corrupt in Africa, but is now assessed as more corrupt than poorer states such as Rwanda, Namibia, and Senegal.⁹⁰ The result is that public and corporate trust has been undermined, and the global brand of South Africa's defence industry damaged, severely hampering export prospects.

Unethical arms exports worsen reputational damage

Reputational damage matters, because since independence South Africa's overseas defence sales have been desperately needed to shore-up the collapse in local defence spending. Although the offset programme did infuse demand into the local defence economy, the effects were limited, translating into localised endeavours rather than a broader re-energising of the country's ailing defence industrial base. SADI's malaise has thus continued uninterrupted. The government had no appetite for increased defence spending, so inevitably policy attention was re-oriented from internal to "external" sourcing of demand. Yet, efforts to foster overseas arms sales have been negatively impacted by a series of "improper" arms export deals.

The problems began during the earlier embargo era, and related to export deals to combatant states involved in the Falklands and Persian Gulf Wars.⁹¹ There was therefore an urgent need to reinvent South Africa's tainted global image, and Pretoria began this

task in 1994 by seeking to persuade the international community that post-apartheid South Africa was a “responsible stakeholder”. A National Conventional Arms Control Committee (NCACC) was established to serve as a government watchdog in the approval of defence-related exports. The NCACC symbolised Pretoria’s commitment to tightening arms export controls and preventing South African weapons winding up in the hands of governments that violate human rights, engage in civil wars, or pursue aggression against other countries.

However, in the late 1990s there were further breeches in South Africa’s self-imposed arms export controls. These included arms sales to Rwanda that contravened a UN embargo concerning states in civil conflict.⁹² In July 1997, the South African government sought to further to tighten export controls and promote even greater levels of transparency by introducing new regulations stipulating maximum public disclosure of all arms sales and transfers to other countries. However, this did not stem the unrelenting criticism of South Africa’s arms exports. For instance, a 2000 report revealed that South African arms had been sold to Algeria, Angola, Colombia, the Republic of Congo (Brazzaville), India, Namibia, Pakistan, Rwanda, and Uganda throwing into doubt yet again the robustness of Pretoria’s arms export control regime.⁹³ There were also allegations that South Africa was selling arms to the “questionable” Libya regime, eventually confirmed by the NCACC in 2011.⁹⁴

The NCACC did its best to change the culture of compliance “avoidance”. However, in 2009 the opposition party criticised South Africa’s arms export control regime, arguing that it allowed “dodgy deals” to be pursued with questionable regimes, such as Iran, Libya, and Syria.⁹⁵ Compounding the government’s problems, in 2012 the opposition called on the NCACC to probe allegations of a sanctions-busting deal to supply helicopter parts to Iran via a network of front companies.⁹⁶

The robustness of the NCACC arms export control regime was further questioned in October 2018, after press disclosures suggesting that South African arms were fuelling Yemen’s conflict.⁹⁷ In response, the government suspended arms exports to Saudi Arabia and the United Arab Emirates (UAE), the major combatants in the Yemeni conflict. With export authorisations stalled since May 2019, the suspension will seriously impact SADI. According to the 2016 and 2017 NCACC Reports, South Africa supplied heavy artillery guns, assault rifles, ammunition, armoured vehicles, surveillance and military technology to Saudi Arabia and the UAE, amounting to more than R3bn.⁹⁸ In 2018, around a third (R1.5bn) of South Africa’s defence exports were shipped to these two countries, being the principal customers of more than half Rheinmetall Denel Munitions’ (RDM) exports to the Middle East.⁹⁹

From defence industrial sovereignty to international engagement

Persistent revelations concerning South Africa’s infringement of national and international strategic export control regulations have emerged against the backdrop of slackening international demand for South African arms exports. Overseas demand declined dramatically by 35 per cent between 2009–13 and 2014–18, while its share of global major arms exports flat-lined below 0.5 per cent across 2009–18.¹⁰⁰ In 2017, arms exports reached R11bn exceeding by a wide margin SANDF’s R7bn local acquisition budget,¹⁰¹ and demonstrating clearly the collapse in domestic spending. Relatively

speaking, South Africa is now small fry in the arms market, ranked a lowly 22nd across 2014–18, below Australia, Belarus, and Czechia.¹⁰² Adding to the sector's vulnerability, its demand structure is overly concentrated on the Middle East, as the principal regional customer. Moreover, a country's arms exports normally exhibit a lower value than its defence spending, not the reverse. However, South Africa's arms export-procurement ratio (R11bn exports against R7bn procurement) in 2017 was an atypical 1.57. The comparatively low procurement spending will erode the potential to evolve "dynamic" comparative advantages and undermine the pursuit of long-run defence industrial sustainability.

In the face of continuous defence funding shortfalls, and persistent questions over the probity and transparency of decision-making, Pretoria has now introduced policies to stimulate both "internal and external" demand via the 2017 defence industrial strategy.¹⁰³ The seeds for this revised strategic framework were sown long ago in the Government of National Unity's *Defence Review* in 2003. Policies were introduced to promote competition, co-operation, and affordability, and explicitly acknowledged that self-sufficiency was no longer the primary criterion of defence industrial policy. Instead, the government decided to pursue what it termed "limited self-sufficiency" in pre-determined key technology fields. Moreover, Pretoria highlighted that procurement preference should be accorded to local suppliers (51 per cent owned by South Africans), especially with respect to identified sovereign capabilities.¹⁰⁴ The goal was to seek opportunities as high up the value-added manufacturing platform/systems chain as possible, and partnerships with foreign companies were to be encouraged. Formal abandonment of complete self-sufficiency would necessarily mean greater international defence industrial engagement, especially through international co-operation. The approach would require South African firms positioning themselves as specialised contractors, or sub-suppliers to major international defence companies, not an easy task given that funding shortfalls had forced companies to reduce their defence-industrial footprint. Nevertheless, development and production costs were slashed, sales of local defence companies to overseas interests robustly pursued and international technology-sharing aggressively promoted.

Denel, in particular, sought to integrate itself into the global OEM supply chains of Leonardo, Alenia Aeronautica, BAE Systems, Dassault, Gulfstream, Lockheed Martin, Rolls-Royce, Saffron, and Saab.¹⁰⁵ Saab, for example, had supported Denel Aerospace (DAe) to develop ground-based air defence systems solutions in the integration of the Swedish firm's Giraffe AMD surveillance radar with Denel's Umkhonto surface-to-air missile.¹⁰⁶ Also, Airbus Defence and Space has partnered with DAe in the production of components for the A400M military airlift programme.¹⁰⁷ South Africa's pursuit of partnerships with major foreign defence contractors has continued until the present time. For example, Paramount has recently agreed a number of overseas partnerships, including working with Italy's Leonardo Sp to develop jointly weapons and aircraft for the African market, increasing production in Kazakhstan of armoured vehicles and unmanned aerial vehicles, and teaming up with Singapore's ST Engineering to market a line of armoured vehicles internationally.¹⁰⁸

To supplement this corporate endeavour, Pretoria launched a "defence diplomacy" campaign in 2017 to engage in high-level defence co-operation. A factor in Pretoria's favour when playing the diplomacy card is South Africa's non-aligned status. The defence-diplomacy approach began primarily via interactions with non-Western

powers. For instance, there is an incipient strategic partnership between ARMSCOR and Moscow's state arms export corporation, Rosoboronexport, aimed at positioning South Africa as a continental maintenance, repair, and overhaul hub for African militaries operating Soviet/Russian-built equipment.¹⁰⁹ In parallel, there are projects directed towards combining Russian and South African systems in military weapons destined for export markets. An example of this business model is the integration of South African produced multi-sensor warning systems in the Royal Malaysian Air Force's Russian-built Sukhoi Su-30MKM Flanker-H multi-role fighter jets.¹¹⁰ Another Russian client state, India, has also been targeted. As part of South Africa's so-called "Outward Selling Mission", local defence companies will be paired with Indian enterprises possessing similar product structures to exploit development synergies in small and medium calibre ammunition, unmanned aerial vehicles, robotics and artificial intelligence.¹¹¹

South Africa also plans to consolidate and expand major defence-industrial partnerships with high- and middle-income emerging states in the Middle East and African regions. A good example here is the Autumn 2018 mooted collaboration between South African and Saudi defence companies. Riyadh is the world's third-largest defence spender, and as part of its ambitious Vision 2030 strategy, is seeking partnerships to develop its domestic defence industry with the goal of localising half its military spending by 2030. Driven by this strategy, Saudi Arabia's Military Industries (SAMI) Corporation, the kingdom's principal defence company, has entered into discussions with major South African firms, not only to invest in the Republic but also to engage in "reverse" investment in the Kingdom, including the opening of a munitions factory in Al-Kharj.¹¹²

As evidence of Saudi Arabia's commitment, SAMI reportedly made a \$1bn bid for a broad partnership with Denel, including acquisition of a minority stake in a joint venture with Germany's South African company, Rheinmetall Denel Munition (RDM).¹¹³ The deal faltered due to Rheinmetall's reluctance to dilute its 51 per cent equity share in RDM; indeed, it harbours the opposite intent of raising its share to over 80 per cent.¹¹⁴ There is also the suggestion that Rheinmetall viewed the South Africa-Saudi joint venture proposal as a means of avoiding Germany's rigorous export laws forbidding arms sales to Saudi Arabia.¹¹⁵ SAMI subsequently signed a collaborative defence agreement with South Africa's Paramount Group as part of its broader partnering efforts to promote Saudi Arabian defence industrialisation.¹¹⁶

The loss of the Saudi deal has left Denel perilously vulnerable. It remains South Africa's biggest defence-industrial player, accounting for around 50 per cent of the country's defence output, but it is a troubled company. Employment has fallen from over 15,000 in 1992 to around only 5,000 in 2017.¹¹⁷ Presently drained of liquidity, it is faced with a R3bn debt on principal and interest payments.¹¹⁸ For the past decade, Denel has hovered between profit and loss, presently surviving only because of government financial assistance.¹¹⁹ To make matters worse, the company is implicated in the Gupta corruption allegations.

To succeed, South Africa's ambitious arms export initiatives will need to overcome several major challenges. In July 2013, the senior quality auditor of Rheinmetall Denel Munitions (RDM) claimed that the company was in "extreme chaos" due to inadequately addressing problems relating to product quality.¹²⁰ South Africa has also recently been criticised for losing its technological edge. In October 2017, a spokesperson for the South African defence firm, Paramount, stated that local defence industry had effected

little real technological breakthroughs in recent years and that most companies were selling 15–20 year old technology.¹²¹ Development of innovative weapons technologies, the *forte* of ARMSCOR during the embargo era, has stalled, principally because the SANDF lacks the funds to order new equipment or to support R&D.¹²² Finally, dramatic contraction of the domestic defence market has meant that exporters must somehow convince foreign clients to buy South African equipment no longer procured by SANDF.

Survival through “stabilisation and sustainment”: 2015

There is now a real policy urgency in addressing the defence industry’s plight. The *Defence Review* 2015 warned that a funds-starved SANDF was in a “critical state of decline” and that continued “neglect” of defence capability could impact everything from border security to trade, constraining Pretoria’s continental peacekeeping and diplomatic ambitions.¹²³ Arms export diplomacy is a critically important step, but must form part of a wider coherent defence industrial strategy. The creation of the National Defence Industrial Council (NDIC) in 2017 was aimed at formulating such a strategy to strengthen defence industrial reform. Part of its new approach was the implementation of a “Defence Sector Charter” aimed at black economic empowerment, and a targeted 60 per cent utilisation of locally produced components and products.¹²⁴ In the same year, the long-awaited *Defence Industry Strategy* drafted on behalf of the NDIC emphasised that “a vibrant defence industry remains a crucial component of an effective South African defence capability, providing the country with a defence and security industrial base that must be positioned to ensure attainment of the Defence Review objectives and the pursuit of a Defence Strategic Trajectory”; this so-called trajectory includes the search for strategic independence, sovereign capability in selected areas, optimised equipment and systems, and the supply of cost effective equipment, systems and services to the defence and other security services.¹²⁵

The fear, however, is that such reforms are too little, too late. According to the Strategy document, between 1989–90 and 2016–17 acquisition from local industry fell from R26.2bn to R7bn, R&D from R6.1bn to R850mn, turnover from R31.6bn to R19bn and employment from 130,000 across 3,000 companies to just 15,000 from 120 companies.¹²⁶ Policymakers seeking to reverse defence industrial decline, therefore, face a herculean task. The need to overcome stifling domestic constraints on funding is acknowledged in the Strategy, but it also argues that the only practical option is to “stabilise and sustain” the defence industry (meaning, retaining those defence industry capabilities that are still viable and recovering others deemed essential). Yet, the solution is premised on the assumption that government will provide adequate funding for the defence force to cover operational employment, training and maintenance, as well as acquisition of equipment systems, spares, munitions, and stores, while also envisaging future government funding for R&D to secure the future of both SANDF and SADI. The primary purpose of South Africa’s defence industry, according to the Strategy, is to give the country a measure of strategic independence and freedom of strategic action, but it needs government to focus on developing ... “indigenous industry to avoid subjugating South African interests to those of other states”.¹²⁷

The Strategy posits that the intention is not to recreate the full breadth and depth of capabilities developed during the apartheid era but to ... “focus on areas and sectors of

defence technology and manufacturing that offer real potential to meet the government's policy intent".¹²⁸ This cost-effective approach is in line with the 2003 *Defence Review* directive aimed at limited, but not full self-sufficiency. Yet, over a decade has passed and little has been achieved. The pressure to act has become immediate, and this was made plain in October 2017, when ARMSCOR's CEO warned that persistent DoD cuts have left South Africa's defence industry facing "a very bleak future".¹²⁹ A similar ominous warning was advanced in the NDIC Strategy, stating that ... "failing adequate funding it will not be possible to implement the 'stabilise and sustain' approach, and it will be necessary to go over to a planned shutdown strategy [meaning, a carefully planned and executed retention of some core maintenance, repair and overhaul capability]".¹³⁰

Conclusion

This paper traces the post-1994 decline of South Africa's defence industry after dismantlement of the odious apartheid regime. The political thrust of the then new ANC government was aimed at quickly restructuring and regenerating the country's war economy, focusing instead on human security and the pursuit of a neglected development agenda that would benefit all strata of society. The resultant negative impact on the defence industry was immediate, with companies suffering a mixture of benign policy neglect and draconian cuts to defence funding.

South Africa's policy efforts to overcome defence demand deficiency included defence offset, arms exports and international partnership, but each of these initiatives suffered serious problems. A review of the literature suggests much ambiguity over the impact of the offset package. Similarly, in the South African context, while it is likely that offsets did contribute to raised economic activity, in the short-run the costs were high, and in the long-run the package failed to act as a locomotive of "sustainable" defence industrialisation, creating only pockets of development. South Africa's arms deal was sold on the basis that four times the procurement value would be generated in the form of new offset-related manufacturing investment in South Africa, but the reality was that most of the offset projects exploited existing defence industrial capacity rather than widening and deepening capability.

In sum, then, South Africa's efforts to rekindle defence demand have proved difficult. Offset beneficiaries were provided with subcontract work rather than access to frontier technologies, with the latter remaining the preserve of the offshore defence vendors. Sustainable defence export orders have similarly proved elusive, save to countries involved in conflict or in violation of human rights, in contravention of South African legislation. Finally, without healthy increases in local R&D expenditure, South Africa's defence industry will remain vulnerable to the whims of major global OEMs, especially given the intense competition to access these supply chains from other offset recipient states across the world.

The deterioration of South Africa's defence industrial capability offers lessons to other industrialising nations seeking to promote economic, industrial, and technological development at the same time as investing huge amounts of scarce capital into building-up arms manufacturing capacity. Defence industrial innovation and ensuing export success worked for South Africa during the 25-year border war, but the experience

was a child of its time. Post-1994, defence investment has become increasingly difficult to justify in the absence of a strategic threat. From this perspective, the costly 1989 arms deal made no sense, save for reasons of political legitimacy, diplomatic power, and international prestige. In its aftermath, the South African government and its institutions have faced major criticism over corrupt and unethical defence practices. Investigation and judicial reviews of not just the arms deal, but also its linked offset programme and contemporary arms export activities are ongoing. Yet, irrespective of eventual outcomes, the danger is that continued uncertainty will tarnish South Africa's broader industrial brand.

Given all these difficulties, and the continuing terminal decline of the country's defence industry, the question has to be asked whether the high opportunity cost of defence-related investment in a country racked with economic and social inequalities is viable. At the signing of the arms deal in 1989, it was tortuously difficult for Pretoria to justify the huge diversion of capital and labour resources in the absence of any meaningful strategic threat. Three decades on, the notion that an indigenous defence industrial base is integral to South Africa's national security is even less persuasive.

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