EDUCATION RESEARCH REPORT

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FOREWORD & ACKNOWLEDGEMENTS

The Oppenheimer Memorial Trust (OMT) was established in 1958 by Harry Oppenheimer as a memorial to his late father, Sir Ernest Oppenheimer.

The original Trust deed states the following:
" ... *making payments for the benefit of any institution in the advancement of science or art or of an educational, charitable or ecclesiastical nature, the operations whereof are in the interest of the public...*"

Broadly speaking, the Trust has always supported education, civil society organisations and arts & culture. Investing in individuals to realise their full potential through education has been at the heart of the organisation.

Over the past 65 years OMT has endeavoured to be relevant to the current context, contributing to the ever-changing needs at hand. With this in mind, and against the backdrop of the COVID-19 pandemic, OMT went through its own metamorphosis.

With a change of executive leadership and Mary Slack and Nicky Oppenheimer retiring from the Board, having collectively served for 91 years, and the next generation of Oppenheimers - Jonathan and Rebecca Oppenheimer - taking the helm, the Trust embarked on an exciting journey of change in 2021.

While COVID-19 pressed the pause button on life as we knew it, it created the space for OMT to review and reflect on the past 20 years, to take stock of the present situation in South Africa and its education sectors, and look to the future to better understand the trends and drivers that could shape the future and the type of contexts OMT could be operating in.

To this end the family and Board embarked on the 'Past, Present and Future' journey to build a generational strategy.

Reflecting on this two year process I am filled with awe at the depth and breadth of excellent South Africans who are deeply invested and committed to the future of South Africa – be it in government, academia, civil society, philanthropy or the private sector.

Some of our brightest minds, young and old, are tackling the complexity of our education system from all angles, refusing to give up in the face of the enormity and urgency of the challenges that need to be overcome.

The sector certainly does have a deep understanding of the challenges and the requisite skills to overcome them. Opportunities abound for philanthropy and the private sector to get involved to help shift the system, and to change the trajectory of millions of children who are currently subjected to a poor and unequal education system.

It will require all stakeholders across the eco-system and education value chain to take action, be open minded, tackle challenges in new and interesting ways, collaborate and work collectively to bring about the systemic change our education sector so desperately requires.

Whilst this research was scoped and conducted to help guide our own decision making, we felt that some of the key findings emerging from the process could be interesting and useful to others.

It is with this intention of sharing that we compiled this education-focused research report.

A note of thanks

I want to say a heartfelt thank you to all the organisations and individuals, including the Oppenheimer family, OMT Board members and staff, who supported us in completing the research and strategy development process.

These organisations and individuals assisted us by providing guidance on the desktop research, generously giving their time and input in our interviews and workshops, and in responding to surveys. This work, and our ability to decide on our way forward with clear intent, would not have been possible without their engagement and assistance.

In particular, a special thanks to Dr Geci Karuri-Sebina and Koffi Kouakou for guiding us through a fascinating foresight and scenario planning process, which built our understanding of the trends and drivers shaping South Africa, and how these might influence the future context in which OMT might operate. Many of the trends and drivers identified have influenced our strategic way forward.

To the Nova Economics team – Kay Walsh, Peter Searle, and Rachel Theron – who led and conducted the extensive analyses of the education sectors we

support, highlighting the challenges and pointing us to the opportunities where OMT might be best placed to participate. They have been in the detail of every interview, survey design and execution of workshops, hackathons and sprints conducted. They pointed out the silver lining when confronted with doom and gloom from our research findings, and in doing so honed our strategy. Thank you for staying the course and producing this report.

To Abdullah Veracia and his team for designing the multi-stakeholder hackathons and sprints, and bringing their effervesecent energy and skill into the room, creating space for every voice to be heard.

Thank you to Bill Rowlston for proofreading the report and literally dotting the i's and crossing the t's.

Finally, Haidee Nel of Indigo Works for leading the brand strategy development, resulting in a refreshed future-forward brand identity and values that speak to our brand essence. Thank you for waving your magic design wand over this report and bringing our brand to life in a way that beautifully underpins our new strategic direction.

Tracey
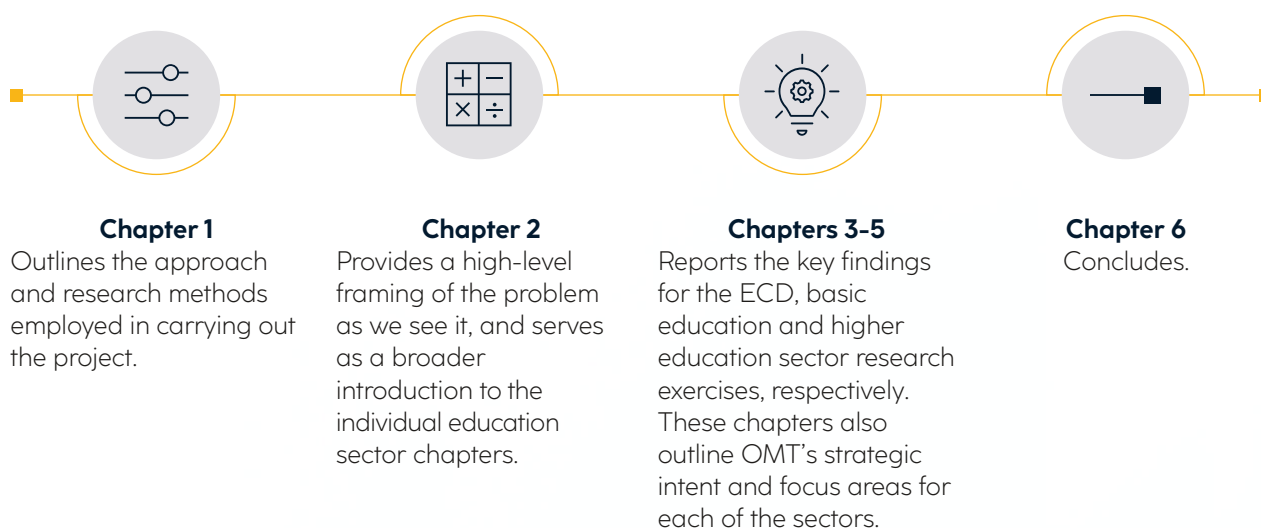
Tracey Webster
CEO

1 August 2023

INTRODUCTION

To help inform OMT's decision making as part of its strategic review, we conducted research across the various sectors supported by the Trust.

This report focuses on the three sectors of education in which OMT disburses funds, namely:
- early childhood development (ECD),
- basic education (schooling), and
- higher education.

South Africa's education sectors are vast and complex and, as such, the report does not provide a detailed account of their current state. It is rather a summary of some of the key challenges and associated opportunities for philanthropy that we found and considered when deciding on OMT's strategic way forward.

The report is organised as follows:

Chapter 1
Outlines the approach and research methods employed in carrying out the project.

Chapter 2
Provides a high-level framing of the problem as we see it, and serves as a broader introduction to the individual education sector chapters.

Chapters 3-5
Reports the key findings for the ECD, basic education and higher education sector research exercises, respectively. These chapters also outline OMT's strategic intent and focus areas for each of the sectors.

Chapter 6
Concludes.

APPROACH & METHODOLOGY

OMT's comprehensive strategic review began in May 2021 and comprised three phases.

Phase 1 | Sector **Phase 2 | Strategic** **Phase 3 | Opportunity**
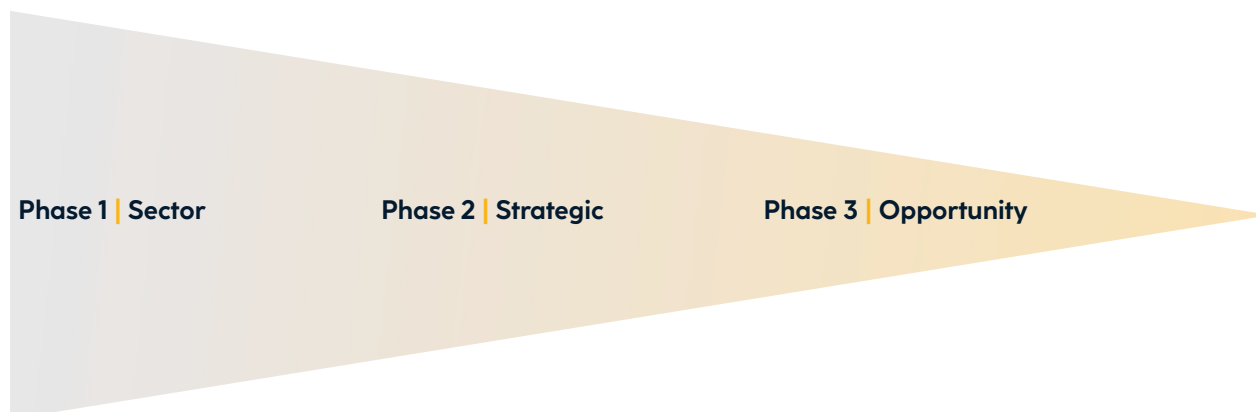
We started the process by going very wide in our research, but narrowed the focus as strategic choices were made along the way. The scope of each phase of the project, and the research methods employed, are outlined in the sub-sections below.

Phase 1 | Sector research | Understanding the challenges facing each tier of the education system and identifying opportunities for intervention

The first phase of the project saw us embark on an extensive research exercise with the broad aim of identifying the key challenges facing each of the three main tiers of the education system – early childhood development, basic education and higher education – and identifying areas where philanthropies like OMT might be well-positioned to intervene and contribute to addressing these challenges.

66	Pieces of academic and grey literature reviewed	67	Survey respondents form NPOs across the sectors	71	Interviews with remarkable people
of which **16**	were for the ECD and youth sectors	of which **27**	were for the ECD and youth sectors	of which **24**	were for the ECD and youth sectors
of which **24**	were for the basic education sector	of which **40**	were for the basic education sector	of which **20**	were for the basic education sector
of which **26**	were for the higher education sector			of which **27**	were for the higher education sector

Desktop research

We began Phase 1 by conducting desktop research into each of the sectors, reviewing some of the relevant local and international literature (including academic papers, public policy, regulation and strategy, and media articles).

The aim of this was to understand the key challenges facing the sectors that OMT supports by unpacking their driving factors, and what could possibly be done to solve them or mitigate their impacts.

As part of the desktop research, we also conducted a stakeholder mapping exercise to identify organisations to survey and individuals to interview in this first phase of the research.

NGO surveys

The NGO surveys were administered with leading non-profits in ECD and basic education, to source perspectives from experienced practitioners regarding the realities on the ground, as well as their experiences of, and learnings from, the COVID-19 pandemic. In addition, we used these surveys to build a greater understanding of the role that philanthropies like OMT should play in supporting their non-profit grantees outside of conventional funding.

Interviews

The many semi-structured interviews with experts from academia, philanthropic peers, government bodies and non-profits were primarily used to unpack the nuances behind the challenges identified in the desktop research but, more importantly, to begin identifying the areas where we might have the greatest impact.

Desktop research   NGO surveys*

Mapping and understanding of sector players' challenges, driving factors and solution areas

Interviews

Deeper understanding of challenges and possible opportunity areas for OMT

*Only conducted for ECD and basic education sectors

Looking into the past and into the future

While not directly part of the research into the current state of the three tiers of the education system, during Phase 1 we also undertook a high-level review of what OMT had accomplished over the past 20 years and reflected on the lessons we could learn from our experience.

In addition we spent some time at the outset of the project considering what the future might hold for South Africa.

The methods employed in this process were both quantitative and qualitative. They included a survey of internal stakeholders, as well as the use of strategic foresight methods such as environmental scanning based on the PESTELV (political, economic, social, technological, environmental, legal, and values) framework, and the use of futures triangles.

These methodologies were underpinned by a soft systems approach which assumes there are multiple stakeholders, relationships, and dynamics that need to be understood as part of a system.

Ultimately this data collection and analysis led to the development of a trends and drivers report which outlined the key forces that could shape South African society in the medium- to long-term.

With this understanding, a scenario planning workshop was then conducted with a diverse group of stakeholders to develop four possible scenarios for the country. Each of these scenarios sought to address the question: *'What will life be like for the average 16-year-old female living in Berea in 2040?'*

The trends and drivers report helped shape our thinking regarding the strategic choices made in the second phase of the project, and the scenario planning exercise provided us with a broad lens through which we could consider the implementation of our chosen strategy.

Phase 2 | Strategic choices | Working with the Board to define our strategic intent

In Phase 2 of the project we worked with the OMT Board to define the strategic intent of the Trust and identify our focus areas for each education sector. This was carried out in three steps:

Step 1 |

We held internal workshops to review and distil the key findings and insights from research conducted in the first phase of the project for each sector.

Step 2 |

We held a further workshop to evaluate each opportunity against a set of criteria, before taking recommendations to the Board. These criteria are outlined in chapters 3 to 5 of this report.

Step 3 |

We then held a two-day strategy workshop with the Board in February 2022, where we presented and discussed our findings and recommendations, and agreed on the way forward.

Phase 3 | Opportunity refinement | Further research to guide our strategy's implementation

By the end of the second phase of the project we had defined the strategic intent and broader focus areas for each of the education portfolios.

The purpose of research in Phase 3 was then to establish how we would go about executing that intent in those focus areas.

- For the ECD portfolio the objective was to explore how philanthropies like OMT might help address ECD personnel shortages by empowering youth to take advantage of employment and entrepreneurial opportunities in the sector.

- For the basic education portfolio the objective was to gain a deeper understanding of the challengess in the initial teacher education (ITE) landscape, and how we might be able to contribute to addressing them. Of particular interest was unpacking new teacher quality- and quantity-related opportunities in the context of the upcoming wave of teacher retirements.
- For the higher education portfolio the objective was to examine how the Trust might best contribute to preserving and strengthening research excellence in South Africa.

Research methods

For each of our three education portfolios we followed a very consultative process, which consisted of a combination of interviews, hackathons, sprints and focus groups.

	Interviews	Hackathons	Sprints	Focus groups
Higher education	10	1	4	2
Basic education	19	1	3	-
Early childhood & youth development	31	2	-	-

Explanations of, and the manner in which we used these methods for each of the education portfolios is outlined in their respective chapters following.

Charting the way forward with the Board

At the beginning of 2023 we reconvened with the OMT Board to reflect on our engagements and learnings from the previous year, and agree on the way forward for the Trust regarding our ECD and youth, basic education, and higher education portfolios.

Our vision is to propel
South Africa towards
equity and excellence
by influencing systemic
change.

FRAMING THE PROBLEM

Arguably the most significant challenges facing South Africa are the extreme level of income inequality, and persistent and structurally high rates of poverty and unemployment.

Not only is the present situation hugely unjust, it is also untenable. If left unresolved it is set to continue ripping at the fabric of our society and undermining the stability of the country.

Profoundly unequal access to quality education lies at the heart of South Africa's extreme and persistent levels of inequality. It has been nearly three decades since South Africa celebrated the advent of its

constitutional democracy, but the intentionally inequitable education system inherited from the apartheid era remains largely intact.

The system, historically split on racial and spatial lines but now also on wealth and class, sees the schools that predominantly served white learners remaining mostly functional.

While this functional portion is now more racially integrated, most of the public schools that formerly served, and still serve, predominantly black learners, continue to perform extremely poorly.[1]
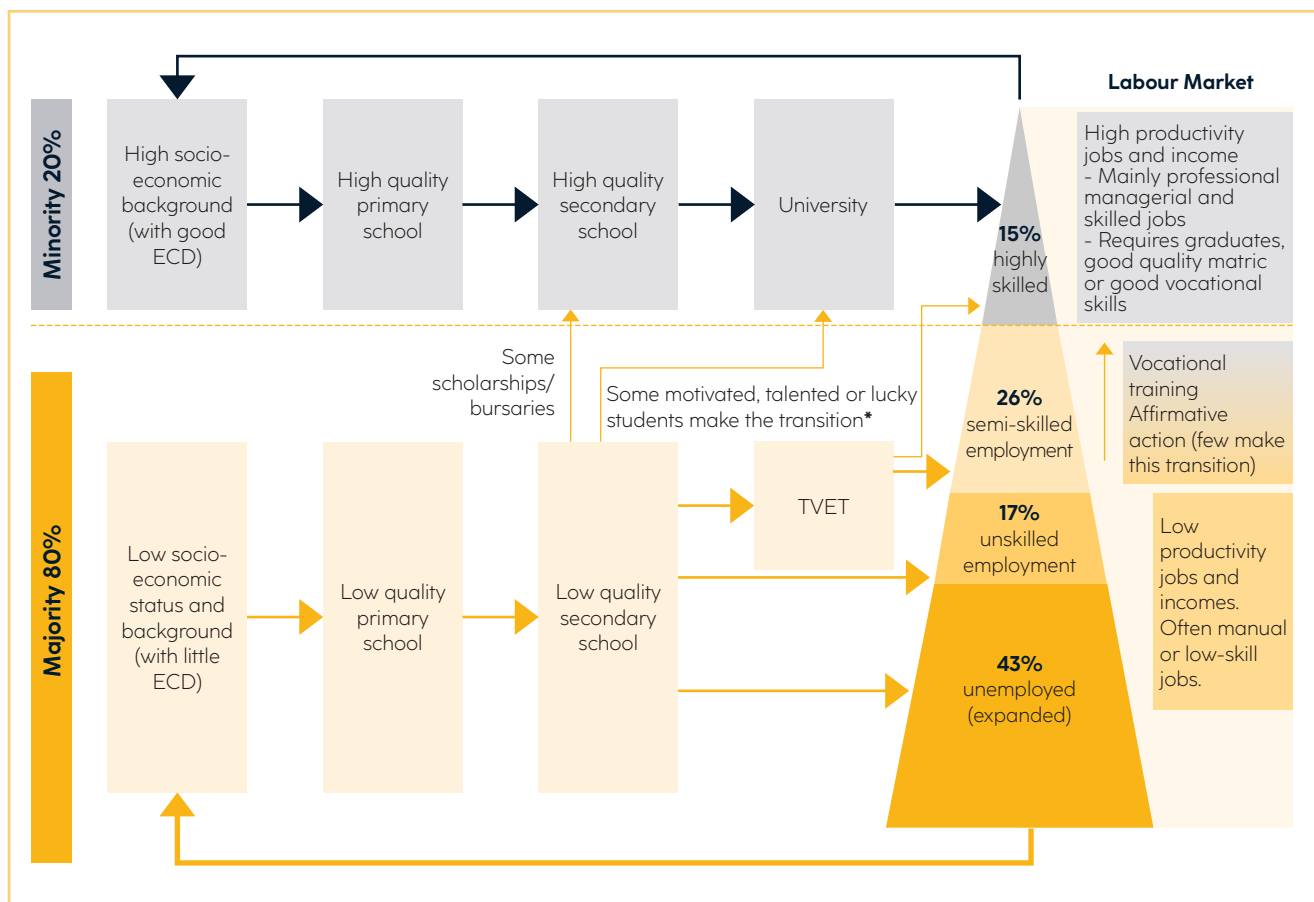
The inter-generational cycle of education and income inequality

1. Spaull (2015)
* Situation has changed under new NSFAS dispensation.

The inter-generational cycle of education and income inequality

It is widely acknowledged that "the labour market is at the heart of inequality, and central to labour market inequality is the quality of education."[2]

The figure above, adapted from Spaull (2015),[3] illustrates how large disparities in access to quality education become entrenched, and how the current system effectively acts as a poverty trap.

South Africa's minority of 'haves' (roughly 20% of the population) can give their children access to good quality ECD and basic education, setting them up for better learning and higher earning possibilities as part of the highly-skilled portion of the labour force.

Their children's children in turn are generally able to access the same or greater levels of opportunity in future, simply because of their elevated socio-economic status.

On the other side of the coin, the majority of 'have nots' (roughly 80% of the population) have limited access to quality ECD programmes for their children, or none at all.

As a result, most children enter the schooling system with learning backlogs. They progress through low-quality primary and high schools, in which the learning discrepancies between them and their wealthier peers are exacerbated.

Significant numbers drop out of the system or graduate without the requisite skills to either access functional institutions in post-school training, and/or earn a wage that enables social mobility and improved outcomes for their own children. And so the unjust cycle perpetuates itself across generations.

A large burden on South Africa's universities

The poorly performing schooling system, coupled with a post-school education and training (PSET) system that has not been appropriately designed to meet the skills development needs of the economy, places an enormous burden on our universities.

Students poorly prepared for higher education

Many of the learners who complete their schooling and manage to secure a place at a university find they are ill-prepared for the demands of tertiary education because of the learning deficits they carried through school.

"Perhaps the most significant challenge facing South African universities is that the basic education system is dysfunctional. The problem is of course that all the issues that arise in schools end up at the universities. And so, universities spend an inordinate amount of time and money trying to address the challenges that are rooted in poor schooling."[4]

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2. (Van der Berg et al., 2011)
3. The labour market statistics have also been updated with 2022Q4

Quarterly Labour Force Survey data from Stats SA.
4. Professor Ahmed Bawa in discussion with the authors, 15 October 2021.

A PSET system not designed to meet the skills development needs of the economy

The National Development Plan (NDP) envisaged that post-school training in South Africa move closer to the type of dual-vocational education system for which countries like Germany and Switzerland are renowned.

This offers learners different pathways for high-quality post-school education as a route to employment instead of attending university.

The Department of Higher Education and Training's 2013 White Paper for Post-School Education and Training and the National Development Plan (NDP) both outline the critical role that South Africa's Technical and Vocational Education Training (TVET) colleges are expected to play in preparing the country's youth for entry into the labour market. That is, to "bridge the gap between education and work".[5]

Whilst there is a small group of TVET colleges that perform well, on average the poor relevance and quality of programmes, disappointing rates of qualification, poor employment prospects, and the low earnings of TVET graduates provide ample motivation for South Africa's school leavers to rather seek out a university degree.

This has placed, and continues to place, a large share of the responsibility for preparing South Africa's youth for employment on South Africa's universities, which further stretches their thinning financial, personnel and infrastructural resources.

Shifts in public funding towards student fees, while increasing access for low-income students, is also placing downward pressure on core subsidies to universities and their budgets for research and development.

This undermines one of the main roles of our research-focused universities, which is to generate knowledge and act as a source of innovation and solutions to many of the issues plaguing our society and the environment.

As a country we must strive to redress past inequalities in access to quality education from birth through to the post-school system, be it in a university or other college. We must also do this with a renewed sense of urgency.

If we are to make meaningful progress we have to strengthen the foundations of the system and invest in more equitable access to quality ECD and basic education. This will be necessary to break the cycles of poverty, unemployment, and inequality that have become so deeply entrenched.

Whilst we recognise that efforts to improve education must be accompanied by a package of broader macro and micro-economic policy reforms that will remove constraints to economic growth and create jobs, if we do not increase the effectiveness of our education system from ECD through PSET, we are certain to remain trapped in this low-level equilibrium.

At the same time we must ensure that our universities do not become overburdened with problems inherited from the dysfunctional schooling system.

This includes ensuring that our leading research-focused institutions are able to fulfil their knowledge generation role and act as a catalyst for innovation in the broader economy.

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5. (Rogan and Papier, 2020)
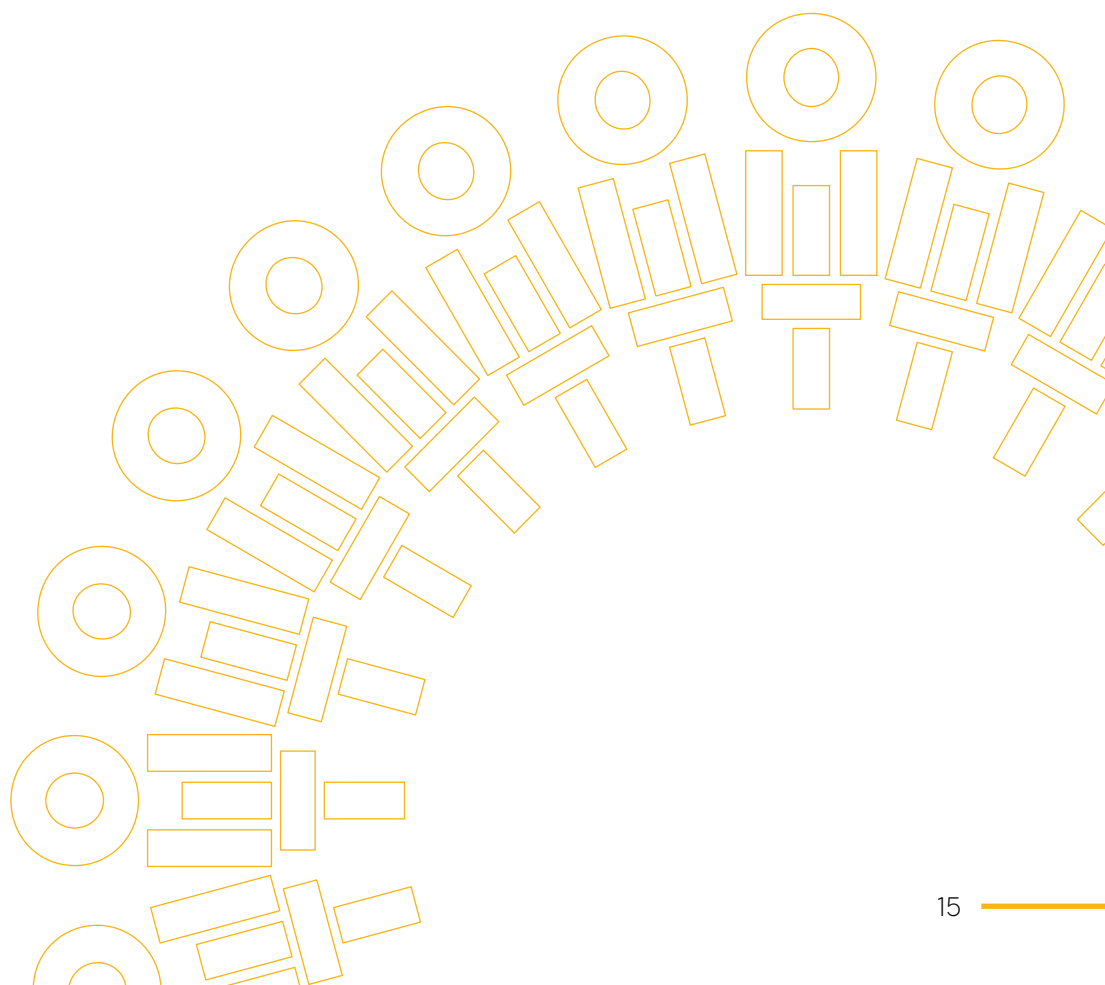
CHAPTER 3 | EARLY CHILDHOOD DEVELOPMENT

BILL GATES

"The first five years have so much to do with how the next 80 turn out."
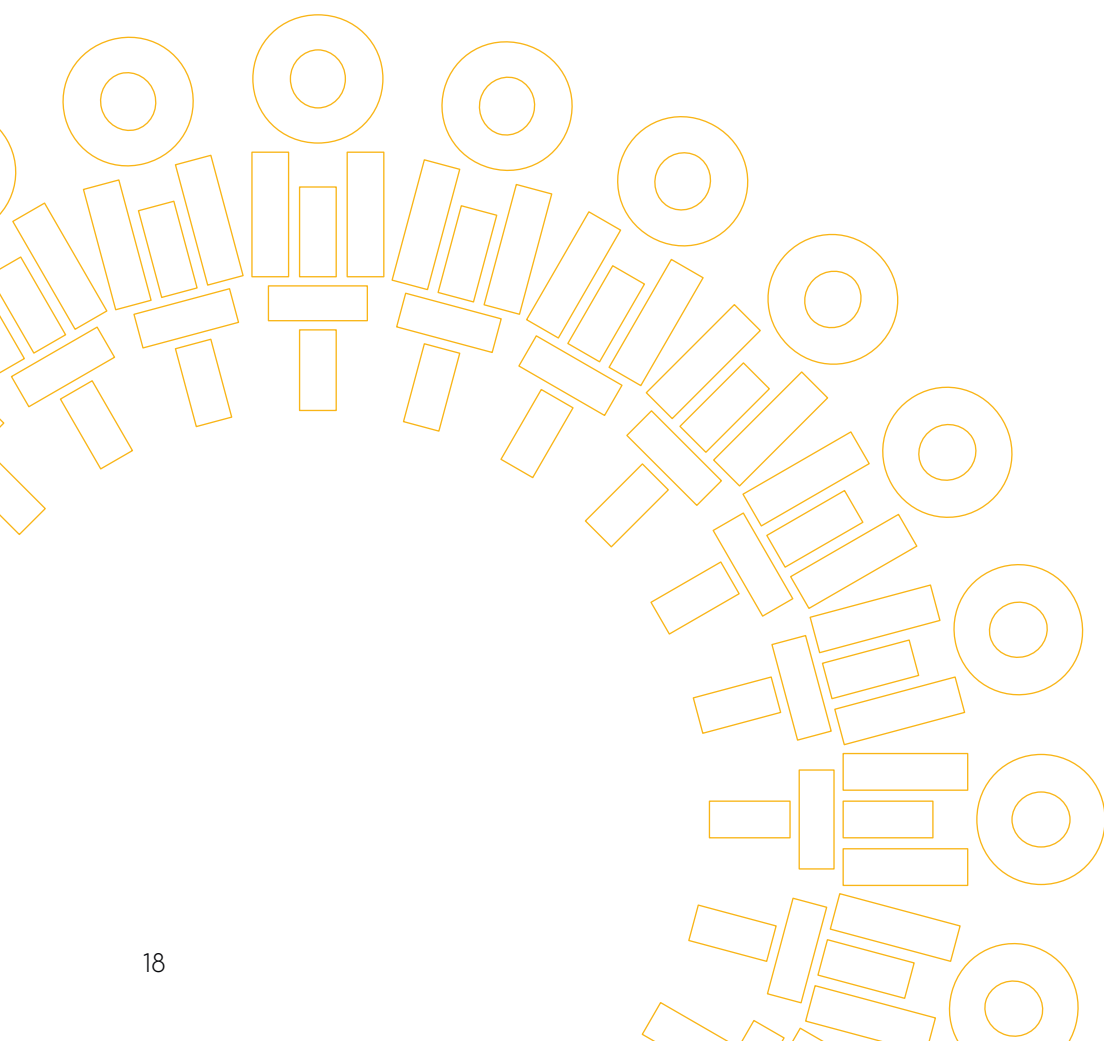
GLOSSARY

CWP	Community Work Programme
DBE	Department of Basic Education
DHET	Department of Higher Education and Training
DoH	Department of Health
DSD	Department of Social Development
ECD	Early childhood development
ECE	Early childhood education
ELOM	Early Learning Outcome Measure
ELP	Early learning programmes
EPWP	Expanded Public Works Programme
ETDP SETA	Education, Training and Development Practices Sector Education and Training Authority
GDP	Gross domestic product
HEI	Higher education institution
HR	Human resource
IDC	Industrial Development Corporation
NGO	Non-governmental organisation
NYDA	National Youth Development Agency
OMT	Oppenheimer Memorial Trust
PEP	Public employment programme
PES	Presidential Employment Stimulus
PYEI	Presidential Youth Employment Initiative
RTO	Resource and Training Organisation
SEF	Social Employment Fund
SIP	Strategic implementing partner
SMME	Small, micro and medium enterprise
TVET	Technical and vocational education and training
YES	Youth Employment Service

PHASE 1 | RESEARCH FINDINGS

Summary findings | Desktop research into the current state of Early Childhood Development

Early Childhood Development (ECD) is defined in the Children's Act as "the process of children developing their emotional, cognitive, sensory, spiritual, moral, physical, social and communication capabilities from birth to school-going age"[1].

During the first few years of a child's life, vital cognitive and socio-emotional skills start to form, which contribute significantly to future success.

Delays in cognitive and overall development before schooling (children from birth to five years old) can have long-lasting, negative impacts on children, their families, and society at large.

It is much more difficult and expensive to make up for these developmental delays later in life. The first 1 000 days – from conception to two years – is a particularly sensitive period in child development.[2]

The benefits of investing in ECD are well documented, especially through the work of James Heckman, who showed that interventions in ECD yield greater returns to the individual than human capital development interventions at any other stage.[3]

As Bill Gates put it: **"The first five years have so much to do with how the next 80 turn out."**

The high rate of return of investing in ECD extends beyond the benefits to the individual, as there are also significant social and economic benefits. These benefits include improved education outcomes, reduced health care costs, reduced crime rates, and increased productivity and earnings in adulthood.

Heckman's research shows that ECD investment can yield a return of 7 to 10% per annum.[4] Others have argued that there is a triple impact investment case for ECD, as it addresses caregivers' childcare

Heckman Curve
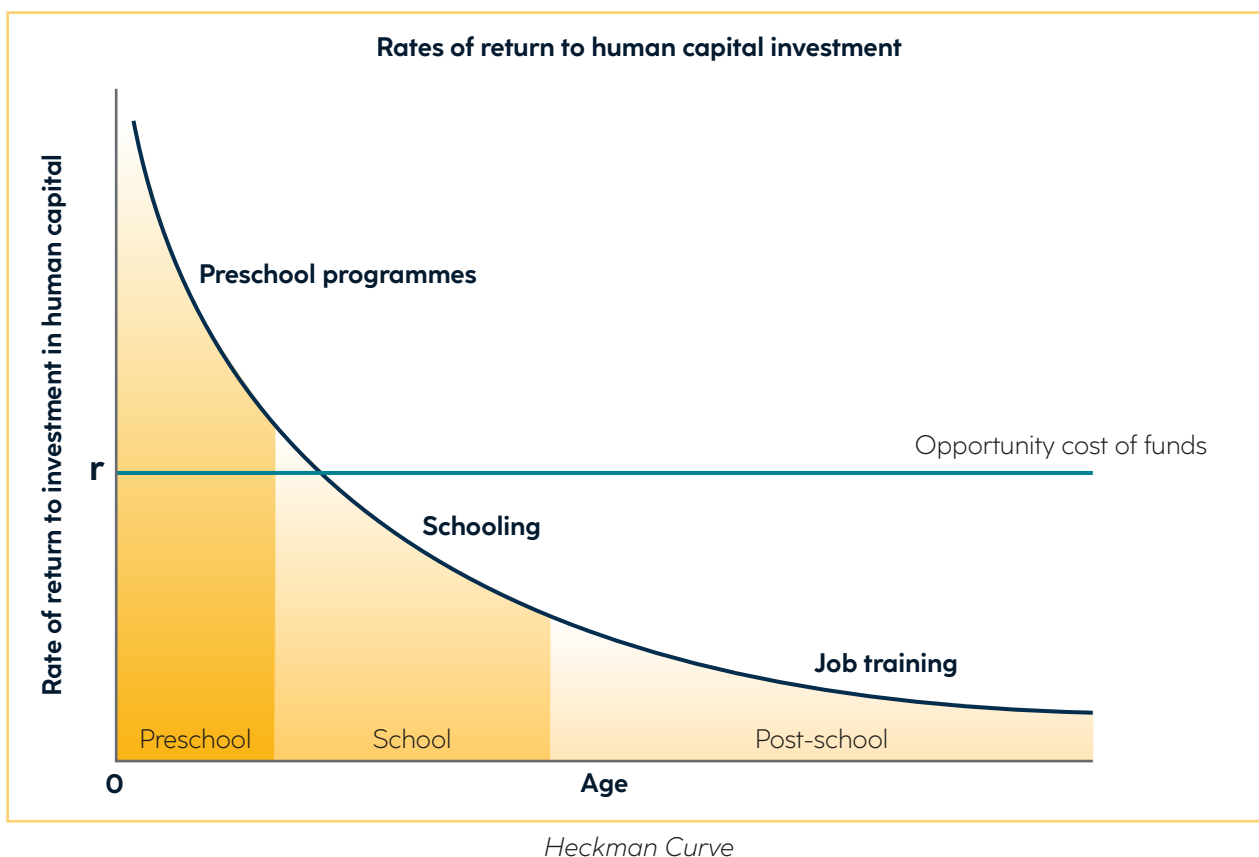
1. (RSA, Children's Act, 2005)
2. (NPC, 2012)
3. (Heckman, 2013)
4. (Heckman, 2013)
5. (Harambee Youth Employment Accelerator and the International Development Research Centre Canada, 2022)
6. (Van der Gaag and Putcha, 2015) cited in Ashley-Cooper, Van Niekerk, and Atmore, 2019)
7. (Hartinger et al., 2017, cited in Ashley-Cooper et al., 2019)

needs, provides for the developmental needs of young children, and creates employment, especially for women[5].

There is a growing body of evidence showing that access to quality ECD programmes plays a critical role in offsetting inequalities and equalising opportunities by "protecting children against the effects of poverty, poor nutrition, inadequate health care and lack of education."[6]

Poverty is especially harmful to children in their early years, as it often prohibits a caregiver from engaging sufficiently with their children. These caregivers are also "less likely to send their children to centre-based early childhood programmes."[7]

Appropriate provisioning of ECD and associated interventions is therefore critical, especially for a country like South Africa, which is characterised by vast socio-economic inequalities.

Despite ECD's importance, South Africa is a long way from achieving universal access to ECD programmes. It has been estimated that only 35% of children from birth to five years old in South Africa have access to childhood care and education services.[8]

Access is lower for poorer families, where it is estimated that only 20% of nought- to 4-year-olds from the poorest 40% of households have access to these services. In the case of children with disabilities, reliable data is simply not available.[9]

There has been some improvement in ECD access over the past few years, most notably the increase of five- to six-year-olds enrolled in grade R from 40% in 2001 to over 90% currently.[10]

Merely attending an ECD programme or facility, does not, however, ensure that children are provided with an appropriately stimulating environment or care. Many centres in under-resourced communities have been reported to function more as baby-sitting facilities, not providing the requisite levels of stimulation.[11]

The Thrive by Five Index results tell us that only 35% of children aged four and five attending early learning programmes (ELPs) are on track in both growth and early learning, and 55% of children are not able to do the tasks expected of them at this age.[12]

As a consequence, most of our children enter the schooling system with gaps that need to be closed as quickly as possible lest they be resigned to lower learning trajectories.

Universal access to quality ECD is non-negotiable for South Africa. Arguably it presents "the single greatest opportunity to reduce structural inequality in South Africa."[13]

While there is a National Development Plan goal for universal access to ECD by 2030, we are a long way from achieving it. There is much work to be done.

Summary findings | Desktop research into the key challenges, their driving factors, and possible solutions

Reflecting on the above picture of low and unequal levels of access to ECD, the question of what the central causes are and what can be done about them naturally arises. Through our desktop research, we identified four key challenge areas that create the current state and prevent improvements. In this section we briefly describe each of these challenge areas, and present several of their prominent driving factors. We also list possible solutions to the challenge areas that emerged from the literature.

CAVEAT
Given that OMT's primary focus is on education, our research mostly focused on challenges and opportunities in ECD in the post-1000 days period – the early childhood education (ECE) component of ECD. The findings summarised in this section are not exhaustive, but are intended to highlight the key issues that we considered when discussing philanthropic opportunities with sector experts, and in our internal brainstorming sessions. The possible solutions outlined in the sub-sections below serve to summarise for the reader what we found in the literature we reviewed. They do not constitute our opinion on the appropriateness or viability of a potential solution. In addition, and as with the challenges we documented, they are certainly not exhaustive.

8. (Brooks, Kotze, Almeleh, and Senona, 2022)
9. (Berry, Biersteker, Dawes, Lake, and Smith, 2013)
10. (NPC, 2012)
11. (Berry et al., 2013)
12. (Giese et al., 2022)
13. (Brooks, Mohamed, Almeleh, and Maharaj, 2022)

Challenge area 1 | Inadequate funding

The provision of ECD programmes in South Africa is constrained by a funding environment that is wholly inadequate.

Delivered mostly by the non-profit sector, ECD programmes are generally funded through a mix of fees paid by caregivers and subsidies provided by the state.

According to the 2021 ECD Census, 69% of early learning programmes (ELPs[14]) reported that caregiver fees are their primary income source, with only 27% depending primarily on the per child subsidy from government.[15] There are several issues with both of these funding sources.

Caregiver fees

South Africa's high income inequality, and generally low family income levels, means that there is high variability in what the different quintiles of ECD programmes are able to charge caregivers.

According to 2018 data, more than half of households did not pay any fees for their children from birth to six years to attend education institutions, while about 7% of households paid more than R1 000 per child per month.[16]

With inadequate public funding to address shortfalls (discussed below), the dependence on caregiver fees strongly influences the availability, quality, and sustainability of ECD programmes for South Africa's poorest households.

The government subsidy and funding levels

For those ECD programmes able to successfully navigate a complicated formal registration process, the means-tested subsidy from government averages R17 per child per day.

This subsidy intended for low-income families is insufficient for ECD programmes to adequately cover food, salaries, infrastructure, and other key costs. A subsidy of around R32 would be more in line with what is required.[17]

Taken together, the low levels of government funding and high dependence of ECD programmes on variable caregiver fees severely limit their "ability to employ and retain suitably effective staff, purchase materials, and provide facilities and infrastructure."[18]

While the scaling up of ECD services will require more than just additional funding, the funding challenge is the primary constraint to achieving universal access.

Fiscal allocations to early learning are simply inadequate for the country to achieve universal access. South Africa spends a significant amount (around 20%) of its national budget on education.

However, only 1-2% of the education budget is allocated to early learning.[19] In 2018 government expenditure on this portion of ECD was estimated to be R3.5 billion.[20]

To highlight how distorted government spending priorities have been, the bailout of South African Airways in the same year was R5 billion.[21]

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14. The 2021 ECD Census states that ELPs are also commonly referred to as pre-schools, creches, educare centres, day mothers or playgroups. They include care facilities and ECD programmes (both registered and unregistered). The ECD Census does not include Grade R programmes in their classification of ELPs.
15. (DBE, ECD Census 2021)
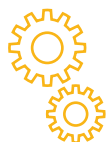16. (Statistics South Africa, 2020, p. 39)
17. (Brooks et al., 2022b)
18. (Biersteker et al., 2016, cited in Ashley-Cooper et al., 2019)
19. (Berry et al., 2013)
20. (Ilifa Labantwana and Kago Ya Bana, 2018)
21. (National Treasury, 2020)

Key driving factors

We found that the main driving factors behind inadequate funding for ECD could be split into 1) socio-political drivers, 2) economic drivers, and 3) bureaucratic drivers.

Socio-political drivers

Lack of political will or commitment to support ECD

Although high-ranking officials, including the President, have acknowledged the importance of ECD, several commentators point to there being insufficient political will to make the difficult decisions needed to increase government funding.[22]

ECD not sufficiently valued across society

For various reasons, ECD's value and importance are not recognised sufficiently across South African society. This limits the extent to which a voting public demands greater funding for the sector.

Economic drivers

A slow-growth environment putting government finances under pressure

With South Africa's low economic growth over the past 10 to 15 years, and a rising public debt burden, government spending has been constrained.

High unemployment, poverty, and inequality

As outlined above, many families simply cannot afford to pay for these critical services due to high rates of unemployment, poverty, and inequality.

Bureaucratic drivers

A cumbersome registration process[23]

Unreasonable expectations are placed on ECD programmes in order to be legally registered. This is a significant impediment to ECD programmes accessing the subsidy and enhancing their sustainability.

As a result, a large percentage (42%) of South Africa's ECD centres are not registered with the DSD[24] and less than 13% of children aged nought to five in quintiles one to three indirectly receive the ECD subsidy.[25]

Possible solutions to improve the funding environment, or mitigate the impact of inadequate funding

Invest in evidence-based budget advocacy

1

Making the investment case for ECD services, generating evidence on trends and performance of public expenditure, and identifying the constraints to ECD policy implementation and outcomes.[26]

2

Developing financing strategies and costing models to show government how the universal access funding gap can be closed in a reasonable timeframe.[27,28]

3

Backing public awareness campaigns to raise ECD's profile and generate societal support for increased funding to the sector, whether it be from public or private sources.

Crowd-in more public and private funding through innovative financing mechanisms

Expanding the number and scale of programmes that make use of outcomes-based financing mechanisms, such as social and development impact bonds. This holds potential to crowd-in more public and other donor funds for the ECD sector.[29]

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22. This is discussed in greater detail in challenge area 3 below.
23. (Atmore, Van Niekerk, and Ashley-Cooper, 2012)
24. (DBE, ECD Census 2021)
25. (DBE, ECD Census 2021)
26. (Chai and Nieto, 2019)
27. (Ilifa Labantwana and Kago Ya Bana, 2018)
28. (Brooks et al., 2022b)
29. (Government Outcomes Lab, University of Oxford, 2022)

Challenge area 2 | Human resource constraints

South Africa's ECD sector suffers from significant human resource constraints from both a quantity and skills level perspectives.

Staff shortages

Gaps exist in the number of personnel filling key roles in ECD centres and programmes, namely teachers/ practitioners, managers, professionals, technicians, and clerical support workers.

Teacher-child ratios are particularly impacted by current staff shortages, with one in every four ECD centres being overcrowded.[30]

Despite minor improvements in the ratios, the 2021 ECD Census results are mostly on par with previous estimates, indicating that teacher-child ratios and overcrowded centres remain a challenge.[31]

It has been estimated that an additional 210 000 early learning practitioners and 200 000 support workers are needed to ensure universal access to early learning in the birth to four age group.[32]

ECD services depend on staff from the health, education, and social development sectors.

Understaffed government departments (on national, provincial and local levels) also contribute to the lack of adequate oversight and support, which constrains the quality of ECD programme delivery.[33]

Skills and qualifications shortages

Not only does the ECD sector suffer from shortages in the number of personnel, but large proportions of individuals in the sector lack the qualifications, training and/or skills required to support effective delivery.

While qualifications of practitioners have improved, close to half of the teaching staff working in the ECD sector are not trained and qualified at the desired level (this excludes non-accredited skills programmes).[34]

Qualifications contribute to quality but it is important to recognise that qualification training is "not enough to produce effective ECD practices" and that "teachers require practical hands-on training, on-site support by external ECD experts in the field, and fair working conditions as well."[35]

There is also a shortage of sufficiently skilled individuals able to run ECD programmes from a business or entrepreneurial point of view.[36]

30. (Kotze, 2015)
31. (DBE, ECD Census 2021)
32. (Biersteker, 2015, cited in Ilifa Labantwana and Kago Ya Bana, 2018)
33. (Berry et al., 2013)

34. (DBE, ECD Census 2021)
35. (Biersteker, 2017, cited in Ashley-Cooper et al., 2019)
36. (Harambee Youth Employment Accelerator and the International Development Research Centre Canada, 2022)

Key driving factors

Poor remuneration levels

Salaries in ECD are very low. Data from the 2021 ECD Census indicates that 90% of practitioners are currently earning less than minimum wage (R4 020 per month).[37]

This hinders the sector's ability to attract and retain the quantity of skilled, passionate people that it needs. There is little to no financial incentive for practitioners to upgrade their skills and qualifications, given the poor remuneration they receive.

Absence of clear career paths

Despite the significant efforts to train ECD practitioners, the sector has been constrained by the absence of a "career path framework providing for progression linked to qualifications."[38]

This further impacts the sector's ability to attract and retain skilled personnel.

Funding for skills development programmes is insufficient

The ECD Policy (2015) and the ECD Policy on Minimum Requirements for Programmes Leading to Qualifications for ECD Educators (2017) are seeking to address the ECD qualifications gap, but funding remains a key issue.

Philanthropy supports this space extensively, but it cannot fill all the gaps.

Possible solutions to reduce human resource constraints, or mitigate their impacts

1
Improving remuneration and conditions of service
Without addressing ECD worker pay levels in particular, and showing clearer career pathways, it will be very challenging to attract more people to the sector and reduce churn in the labour market.

2
Leverage Public Employment Programmes (PEPs) and other pots of private funding to train and place individuals in key ECD roles
Large programmes in the ECD sector have shown how the Community Work Programme (CWP) and Expanded Public Works Programme (EPWP) and other pots of funding can be used to train and support first level ECD workers.[39]

3
Use existing human resources to increase the reach of out-of-centre programmes
A range of home- and community-based workers for different sectors can reach young children and their families. If their training were to include a core package of ECD guidance (such as child stimulation tips and tools for caregivers), they could prove to be an even more valuable human resource for young children.[40]

4
Develop and implement a comprehensive ECD training system and expand training
South Africa needs a comprehensive ECD training system in which there is a professional body of skilled trainers and lecturers who can not only increase the size of the ECD workforce, but also support the diversity of skill sets needed to deliver on the different modes of ECD delivery (home care stimulation and community-based provision, for example).[41]

37. (Brooks et al., 2022b)
38. (Berry et al., 2013)
39. (Ilifa Labantwana and Kago Ya Bana, 2018)
40. (Berry et al., 2013)
41. (ETDP SETA, Early Childhood Development Sector Skills Plan, 2018)

Interested in the world around us, we approach each new challenge and each new opportunity with curiosity. We welcome the hard questions that push our thinking. We seek out the weird ideas, the outrageous ones that defy ordinary.

Challenge area 3 | Inadequate Early Childhood Development centre infrastructure

Many ECD centres operate with inadequate infrastructure. Even though the great majority (86%) of ECD programmes are housed in conventional dwellings, such as brick or block buildings with tile or zinc roofs,[42] many programmes do not have adequate toilets, are not connected to mains electricity, or do not have a supply of clean water either inside or outside the building.[43]

Brooks et al., (2021) point out that because process quality is the primary driver of improved child outcomes (that is, the quality of staff-child interactions and developmental activities) and not structural quality (physical setting, for example), the impact of infrastructure on developmental outcomes is not as direct.

It is, however, important and "obviously essential that infrastructure is able to provide a safe and conducive space to support process quality."[44]

Unfortunately there has been little progress regarding ECD centre infrastructure over the past several years.

According to the ECD Audit of 2014, one in five ECD centres were battling with inadequate drinking water supply, one in four had inadequate electricity supply and one in four were struggling with inadequate ablution facilities.[45]

The 2021 ECD Census produced similar results, showing that electrification and sanitation have largely not improved.[46]

In addition to infrastructure, many centres face shortages of learning and teaching support materials, hindering their ability implement quality early learning practices.

Key driving factors

Difficulties with registration and accessing the government subsidy

Only registered ECD programmes are eligible for a state per-child-per-day subsidy. However, the registration process is onerous and places unrealistic expectations on ECD programmes. Something of a catch-22 exists in the registration process regarding infrastructure.

Unregistered sites normally cannot meet the full criteria for registration, with the main reason being inadequate infrastructure, and without being fully registered they do not have funding to try to put that infrastructure in place.

A lack of funding for infrastructure and start-up costs generally hampers the establishment of ECD programmes, especially in poor communities where caregivers cannot afford to pay fees.[47]

The subsidy is insufficient to help centres address infrastructure shortfalls

Overcoming the hurdle of registration and receiving the subsidy is still not sufficient to ensure that adequate infrastructure and other learning materials can be put in place and maintained.

The R17 per child per day from the Department of Social Development (DSD) is not sufficient for even registered centres to ensure they have adequate infrastructure, as more than 80% of ECD centre income is typically spent on salaries and food.[48]

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42. The other 14% of programmes are housed in informal settings, such as shacks, containers and prefab dwellings, or "traditional" dwellings, such as dwellings with mortar or mud walls.
43. (DBE, ECD Census 2021)
44. (Brooks et al., 2022b)
45. Adequate water supply is defined as any water supply from a tap, either inside the centre or on site. Adequate electricity supply is defined as

being connected to the electricity mains. Adequate toilets are defined as flushing toilets, either connected to the sewerage system or a septic tank, chemical toilets, and potties.
46. (DBE, ECD Census 2021)
47. (ETDP SETA, Early Childhood Development Sector Skills Plan, 2018)
48. (DSD ECD Audit 2013/14, cited in ETDP SETA, Early Childhood Development Sector Skills Plan, 2018)

Limited to no state obligation to provide ECD infrastructure in poorer communities

The fact that infrastructure costs need to be funded from an inadequate subsidy in poorer communities speaks to a bigger problem. This is that there is no legal obligation or assumption of responsibility by the government to provide or fund infrastructure development for ECD centres.[49] While ECD infrastructure development could be funded by local government through the Municipal Infrastructure Grant, without a legal obligation to provide such infrastructure in areas of greatest need, competing demands for basic services mean that this support to ECD centres is generally not prioritised.[50]

Possible solutions to address inadequate ECD centre infrastructure

1
Streamlining the ECD center registration process
Work needs to be done to streamline or simplify the ECD centre registration process. Several organisations are working on certain elements of the process and advocating for improvements.

Some progress has been made with the dropping of the requirement that ECD centres must have non-profit registration status to be eligible for the subsidy.

However, the process remains cumbersome, and there is more that can be done to simplify it.

2
Assisting centres with the registration process
It will take time for the registration process to be improved. ECD centres and programmes still need assistance from knowledgeable organisations in navigating and completing the process.

3
Increasing funding for ECD centre (and Grade R classroom) infrastructure, including learning and teaching support materials
As discussed in the section on inadequate funding (Challenge area 1), fiscal allocations to ECD need to increase if basic levels of infrastructure and delivery are to be enabled.

Within basic education, where most Grade R learners are currently enrolled, funding will also need to be made available for additional classrooms, with play areas separated from older children, small toilets, and sufficient indoor play space.[51]

4
Making use of other sources of public funding
ECD infrastructure development could be funded by local government through the Municipal Infrastructure Grant.

However, as noted, this is challenging, given the many competing demands for basic services and, crucially, because local government is not obligated by law to develop ECD infrastructure.[52]

5
Making better use of existing infrastructure
Better use can be made of available infrastructure such as clinics, libraries, churches and Thusong centres, as these can provide multiple points for delivery of different services for young children.[53]

Cost-efficient ways of delivering infrastructure can be used, like upgrading existing centres and using community- and home-based spaces, rather than building new centres.[54]

49. (Berry et al., 2013)
50. (Biersteker et al., 2012)
51. (Centre for Education Policy Development (2008), cited in Berry et al., 2013)
52. (ETDP SETA, Early Childhood Development Sector Skills Plan, 2018)
53. (ETDP SETA, Early Childhood Development Sector Skills Plan, 2018)
54. (Brooks et al., 2022b)

Challenge area 4 | Poor governmental coordination and monitoring

The National Integrated ECD Policy states that the absence of effective coordination and monitoring is a key impediment to the provision of ECD services in South Africa. The impact of this is generally seen in certain elements of the Essential Package of ECD services not being delivered in an integrated manner, or not being delivered at all.[55] In addition, poor coordination and monitoring can lead to duplication of effort and costs across government departments.

Key driving factors

Coordination-related driving factors

Lack of clear accountability
ECD is a multi-dimensional process, and so ECD responsibilities and mandates are distributed across government departments: health and nutrition (Department of Health), stimulation and early learning (Department of Basic Education), and social and income support (Department of Social Development).[56] There has been a lack of clear accountability for ECD delivery across these departments, as well as with local government.

Ineffectual institutional arrangements
The relevant government departments all have ECD policies and programmes in place. However, there has been limited policy and programme alignment across these departments, as there is no overall structure ensuring coherence.[57]

Monitoring-related driving factors

Low levels of human resource capacity
In addition to a "coordination vacuum", effective quality assurance of the ECD delivery is constrained by low levels of human resource capacity across the departments responsible for ECD delivery.[58]

A focus on monitoring compliance and not quality
Amongst the departments responsible for monitoring, there is argued to be an inappropriate focus on financial compliance rather than on quality.[59]

Lack of up-to-date and accurate data
Stakeholders in the ECD sector have historically operated in the absence of up-to-date and reliable data concerning basic elements such as the number and distribution of ECD centres across the country and the number of children they serve.[60] Data on the state of early learning outcomes (the readiness of our children for school) is also not sufficiently widespread.

A note is needed here before we list possible solutions that emerged from the literature to address coordination and monitoring challenges.

The government's decision to migrate the management of ECD centres from the DSD to the DBE has been met mostly with enthusiasm.

While the DBE's implementation track record has been questioned, it is hoped the function shift will lead to clearer lines of accountability and better coordination of ECD services.

If increased public funds are ever to flow to the sector, it is imperative that the systems for planning, coordinating, and monitoring (amongst others) are in place to effectively handle the increase in funds for ECD service delivery.[61]

55. The Essential Package specifies five components that are considered critical for children in their early years: (1) Nutritional Support, (2) Primary Level Maternal and Child Health Interventions, (3) Social Services, (4) Support for Primary Caregivers and (5) Stimulation for Early Learning. (Ilifa Labantwana, 2014).
56. (Foulis, 2014)
57. (Foulis, 2014)
58. (Foulis, 2014)
59. (Foulis, 2014)
60. (Ashley-Cooper et al., 2019)
61. (Brooks et al., 2022b)

Possible solutions to mitigate the impacts of poor governmental coordination and monitoring

There are many possible solutions to mitigate the impacts of poor governmental coordination and monitoring and / or to improve this challenge area altogether. However, we found that two possible solutions were noted more frequently than others.

1

Possible coordination-related solutions

Establishing an ECD agency

The National Integrated ECD Policy recommends establishing a national multi-sectoral ECD coordination mechanism.

However, several experts in the ECD sector go further and argue for the establishment of an ECD agency.

Several countries have made good progress with ECD delivery via a central agency driving the main national programmes that fall across different departments and sectors.[62]

2

Possible monitoring-related solutions

Developing and implementing a national M&E framework and ECD index

Investment should be made into data sourcing and management systems within the context of a national ECD monitoring and evaluation framework.

Within this framework an ECD index to track children's progress, and outcomes should also be implemented on a wider scale.

An example of such an index is the Early Learning Outcome Measure (ELOM), which was used for the Thrive by Five Index.
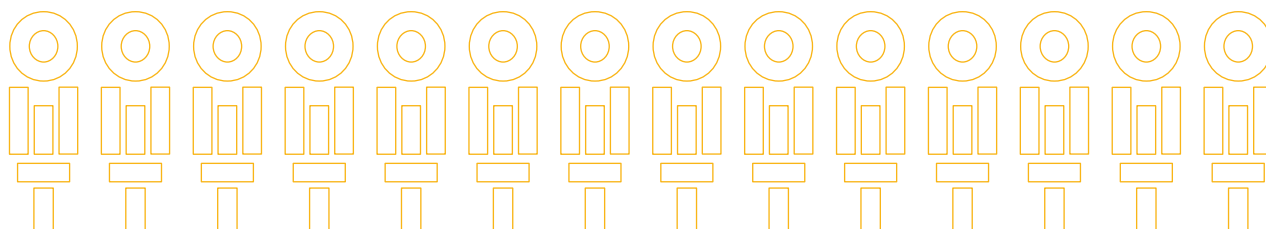
62. (Ilifa Labantwana and Kago Ya Bana, 2018)

Summary findings | NGO surveys

We received a total of 27 responses from the 37 organisations that received requests to complete our ECD NGO survey. Of these, 16 were OMT grantees, comprising mostly of resource and training organisations (RTOs), and 11 were non-grantees, comprising mostly of RTOs, several ECD programmes, and an ELP social franchise. This section briefly highlights the most notable areas of consensus regarding the sector's challenges and the levers that should be pulled to improve ECD in South Africa.

Notable areas of consensus

The challenges listed by the respondents were in line with those identified in the desktop research.

Many of these relate to insufficient or ineffective government support, human resource challenges (concerns on career progression, an unqualified ECD practitioner workforce, and difficulty attracting new practitioners to the sector, for example) and the low societal recognition of the importance of ECD.

Two elements stood out in the responses in terms of levers or opportunities to improve ECD. These were:
1) Improving political will and government support for the sector, and
2) Improving remuneration of ECD workers.

Many respondents also stated that the ECD sector would improve dramatically if there was more support for parent-and-child programmes, which regained attention and proved very important during the COVID-19 pandemic.

Many respondents were optimistic or hopeful that the function shift from Department of Social Development to Department of Basic Education will have a positive impact on ECD through standardisation, formalisation, and increased focus on educational outcomes.

However, concerns were raised regarding the human resources strategy, and if and how ECD workers would be remunerated.
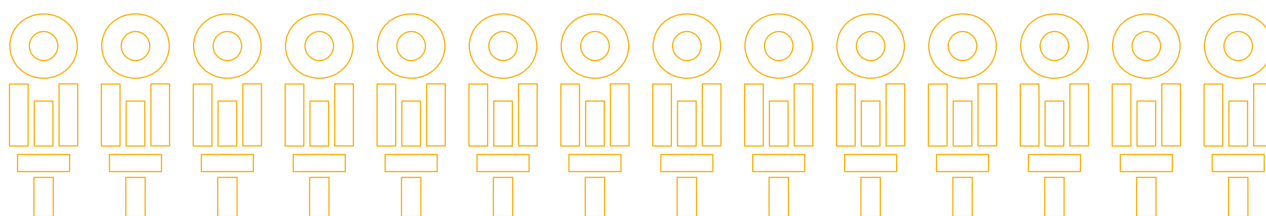
Summary findings | Subject matter expert interviews

We conducted a total of 24 interviews with ECD subject matter experts during Phase 1 of the project. This group was made up of academics, peer philanthropic organisations, government officials, and leaders of NGOs.

The primary objectives of the interviews were to unpack the nuances behind the many challenges facing the ECD sector and, more importantly, to identify potential opportunity areas for OMT and philanthropy in general.

It goes without saying that there is almost no end to the number of opportunity areas where philanthropy can have a meaningful impact in ECD.

This sub-section serves to summarise several of the opportunity areas that we regarded as the most promising for consideration by the Trust.

These are mostly interrelated areas that will involve elements of both advocacy and capacity building.

Opportunity area 1 | Catalysing more government funding for the Early Childhood Development sector

One of the most agreed-upon notions was that more government funding needs to be catalysed for the ECD sector.

While private philanthropic and CSI funding has added considerable value and plugged some gaps, it is a drop in the ocean relative to what is needed to move South Africa towards universal access.

Rather than only funding programmes and interventions in the sector directly, it was argued that using resources to unlock more funding from the government offers possibly the highest return on philanthropic investment in ECD.

Philanthropy can play a role in finding and supporting the most promising means to increase such funding. This is of course a complex and difficult task, but some of the potential areas discussed below could include philanthropy:

1. Supporting the work that is underway to develop new financing models for the ECD sector. Philanthropy can help fund the research needed to guide their development and refinement, as well as supporting efforts advocating for their adoption among key decision makers.

2. Backing campaigns and movements that are advocating for much-needed sector reforms, including increased public funding. Interviewees shared some enthusiasm about more recent advocacy work in the ECD sector, such as the Real Reform for ECD campaign. Interviewees were encouraged by how the sector rallied together during the COVID-19 pandemic. It was hoped that such experiences would provide impetus for more coordinated and sustained advocacy efforts, and for the voice of the ECD worker to be heard to a far greater extent.

3. Improving the structuring and accessibility of funding provided through public employment programmes (PEPs), skills development agencies, and SMME funding for the sector.

4. Designing and investing in results-based financing instruments that can crowd-in more government funding. While there is some concern about the design of such instruments for the ECD sector, several interviewees spoke positively about the recent experience of the first social impact bond in the ECD sector in South Africa. There is clearly potential to do more in this space.

Opportunity area 2 | Increasing societal awareness of the importance of Early Childhood Development

The South African public was argued to be generally unaware of a) the importance of ECD for our children and the success of our country, and b) the extent to which this importance has been overlooked (or ignored) by the those in a position to drive improvements.

Philanthropy can help educate the South African public, and most importantly parents, around just how critical ECD is and what they should be demanding in terms of public provision of ECD services.

Multi-channel awareness campaigns are possibly a promising avenue to drive this. We need parents that

know what their children need, and who will fulfil their roles to the best of their ability.

But we also require parents to put pressure on government to fulfil its role in ensuring all children receive access to quality ECD programmes.

The same holds true for the entire basic education (schooling) system. The average South African parent should be very angry about the current state of education-related service delivery, and should be mobilised to put pressure on our political parties.

This is possibly our best hope to increase political will for ECD and basic education.

Opportunity area 3 | Capacitating Early Childhood Development sector bodies for strengthened advocacy, convening and collaboration

Several interviewees highlighted the need to invest in the capacity of sector bodies and networks to carry out their important work.

Specifically, in building the capacity of their own member organisations, convening members to collaborate and align on issues facing the sector, and to give voice to the most pressing issues in relevant government structures.

The voice of the ECD practitioner is not sufficiently heard, and this also needs to be addressed by sector bodies.

Sector bodies are said to be constrained by their reliance on voluntary, unpaid members fulfilling key roles, whilst carrying responsibilities for their own organisations.

Philanthropy can assist by funding more part- and full-time positions in these bodies and networks. This is particularly important for advocacy efforts, given the discussions in opportunity areas 1 and 2 above.

Opportunity area 4 | Supporting the function shift from the Department of Social Development to the Department of Basic Education

The migration of responsibility for ECD centres from the DSD to the DBE, announced in President Cyril Ramaphosa's 2019 State of the Nation Address, is one of the most significant developments for the ECD sector in recent years.

Our desktop research, NGO surveys and discussions with many of our interviewees revealed that there is optimism about the function shift.

This is because many rightly believe that it presents the sector with many opportunities to enable changes and improvements that were not possible before.

There are also many valid concerns amongst NGOs and other stakeholders around how the shift will be managed, and the appropriateness of some of the policies and plans.[63]

While it is important for civil society to hold the government (notably the DBE) accountable for the leadership and coordination of the National Integrated ECD Policy, several interviewees noted

that there could be a role for philanthropies, NGOs, and sector experts to play in supporting the government during the transition.

The DBE (both at national level and in provincial offices) has some excellent individuals, but is said to be short-staffed.

As a stop gap, philanthropy can support by funding the secondment of experienced personnel to departments to ensure critical pieces of work are completed timeously.

Such actions could also create avenues for civil society to keep abreast of developments, and give voice to the concerns shared by many working in the sector.[64]

In addition to secondment, philanthropy can fund organisations to work alongside those in government positions to think through and enact key elements of the transition.

63. This includes contentious elements such as the provision that children in the Grade RR (4-5 year old) age group be moved to a school environment, and the associated risk that play-based pedagogical approaches will suffer at the expense of formalisation of the curriculum. The extent to which ECD workers in various modalities of programme delivery will be supported in the transition, especially if Grade RR is moved from ECD centres to schools, is also an area of considerable concern.

64. A view that came up often was that the voice of the ECD practitioner has largely been missing in the ECD space, especially in the discussions with the government on the function shift. This includes the discussions on the proposed increase of the minimum qualifications for ECD practitioners and the timing thereof.

Opportunity area 5 | Supporting Resource and Training Organisation sustainability

South Africa's ECD Resource and Training Organisations (RTOs) have played a critical role in the sector through training tens of thousands of in-service practitioners in ECD, and providing regular on-site support and mentoring.

They possess invaluable assets such as their on-the-ground experience, networks and associated social capital.

In a funding-constrained environment, they need to be supported to help professionalise the sector by equipping practitioners with the skills they need to run quality ECD programmes.

Philanthropy can assist the sustainability of these organisations by funding them directly, or by assisting them to access far larger pools of government funding, such as those residing in public employment programmes, the ETDP SETA and others.

Philanthropy can also assist these organisations by facilitating connections and fostering partnerships with TVETs and other higher education institutions (HEIs). TVETs and HEIs are expected to play a growing role in training ECD practitioners, but their programmes require strengthening. RTOs, with their experience, could support this.

However, funding will need to be unlocked at a DHET level to support such partnerships and, in turn, RTO sustainability.

Opportunity area 6 | Improving public employment programmes in Early Chilhood Development

Several interviewees had experience in working with public employment programmes, such as the EPWP and CWP, to train and place unemployed youth in various roles in ECD centres.

They were generally excited about the potential of such programmes to provide at least some temporary support to ECD centres, and expose young persons to the sector and the possibility of a career in the sector.

It was put forward that philanthropy could get behind initiatives seeking to do this at a larger scale. However, it was noted that there are several issues with how PEPs function in the ECD sector, and work would need to be done to further improve how they meet the HR needs of ECD.

This area is discussed in greater detail in our findings from Phase 3.

PHASE 2 | STRATEGIC CHOICES

Approach

Phase 2 of the project, while the shortest in duration, brought us to a very important point in our strategy development process – deciding and aligning on our strategic intent and focus areas. This was carried out in three steps:

Step 1 | Findings review and opportunities discussion

The team gathered for a two-day internal workshop to achieve two main objectives:
1. To review all the findings and insights from Phase 1 of the project, and
2. Unpack the many potential opportunity areas in which OMT could participate.

Step 2 | Opportunity prioritisation and selection

To narrow the focus before taking recommendations to the Board, a further opportunity prioritisation and selection workshop was conducted. This centred around us evaluating each opportunity against a set of criteria. At a high-level, these related to each opportunity areas in terms of their:
1. **Scalability and impact** – the potential to support the achievement of outcomes at a systemic level or impact at a sufficiently large scale.
2. **Coverage** – the extent to which other philanthropies, funders and/or government bodies are already trying to address the issue in question.
3. **Suitability and alignment** – whether the proposed initiative, and associated role, would be well-suited to a philanthropic organisation like OMT, given its existing expertise and knowledge base.
4. **Complexity** – simply put, the extent to which the issue is difficult to solve.
5. **Funding and other resource requirements** – the extent and nature of the likely financial and personnel resources needed to support the opportunity.

Step 3 | Strategy offsite with the Board

We held a two-day strategy offsite with the Board in February 2022, where we presented and discussed our findings and recommendations, and agreed on the way forward.

Outcomes for the Early Chilhood Development portfolio

While we were conducting research into the sectors that OMT supports, we were also unpacking the challenges and opportunities in the youth development landscape, as OMT had funded several organisations in this space.

In our reflections on the findings and insights from Phase 1, we therefore viewed many of the challenges across ECD, basic education, higher education, social justice, and arts and culture through the lenses of South Africa's youth. This proved particularly important for the decisions regarding OMT's ECD portfolio.

South Africa's youth face many challenges "across multiple dimensions of deprivation."[65] The greatest challenge facing this group, however, relates to the poor and uncertain job prospects that impact on their agency and ability to improve their socio-economic realities.

Our youth unemployment rate (for those between the ages of 15 and 34) hovers around the 60% mark, one of the highest rates in the world.

65. (Smith, De Lannoy, and Rosa, 2020)

A note on South Africa's youth and youth unemployment

The most notable causes of South Africa's high youth unemployment rates are best viewed through the lenses of supply, demand, and intermediary challenges in the labour market.

On the supply side, significant skills mismatches can be found. The historic growth patterns and current structure of South Africa's economy show considerable demand for higher-level skills.

This stands in contrast to approximately 500 000 young people that enter the labour market each year who are not equipped with many basic skills that should have been developed in them during their time in school.

On the demand side, South Africa's GDP growth rate has averaged 0.7% in real terms over the past decade, constraining job creation. Thus, while we can try to improve skills supply, there "remains a need to understand how to shift outcomes on the demand side."[66]

Several challenges also exist regarding intermediation – how the labour market operates to match work seekers with available jobs.

The most significant of these for disadvantaged youth relate to geographical isolation, the high costs of work seeking, and their limited productive social capital.

A lack of easily accessible information and guidance to help them navigate pathways from school to the world of work also constrains their ability to find meaningful employment.

Many young people who are lucky enough to find opportunities often land up in dead ends, and are unable to gain a foothold in the economy.

Considering this reality, and the fact that one of the main challenges facing the ECD sector is its vast shortage of skilled human resources, led us to ask the question: what if we could try to kill two birds with one stone, and find ways to assist in solving these challenges simultaneously?

While we were certainly not the first to ask this question, the potential for impact in both spaces was very appealing.

And so, the recommendation was made to the Board that OMT's ECD portfolio should focus on addressing the sector's personnel shortages by empowering South Africa's youth.

Deciding on an area in which to invest limited resources in a focused manner is incredibly challenging when faced with so much need and so many worthy areas for potential support.

However, we ultimately selected this area because the investment case extends beyond ensuring that we develop our children in the early years – it presents a massive opportunity to employ youth, and particularly women, in the care economy.

The youth lens could also allow us to play into some of the energy the government is putting into reducing youth unemployment, and to facilitate connections between NGOs operating in ECD and the youth development space.

There are risks in striving for two goals, and they will need to be managed closely

Our decision to strive towards two goals at the same time – access to quality ECD for children, and employment for young people – is expected to bring with it several risks. The most significant of these is that these goals could at times be competing rather than complementary. It will be critical for us, and any partners we work with, to manage this risk, and not let ECD access and its quality be compromised at the expense of youth employment outcomes.

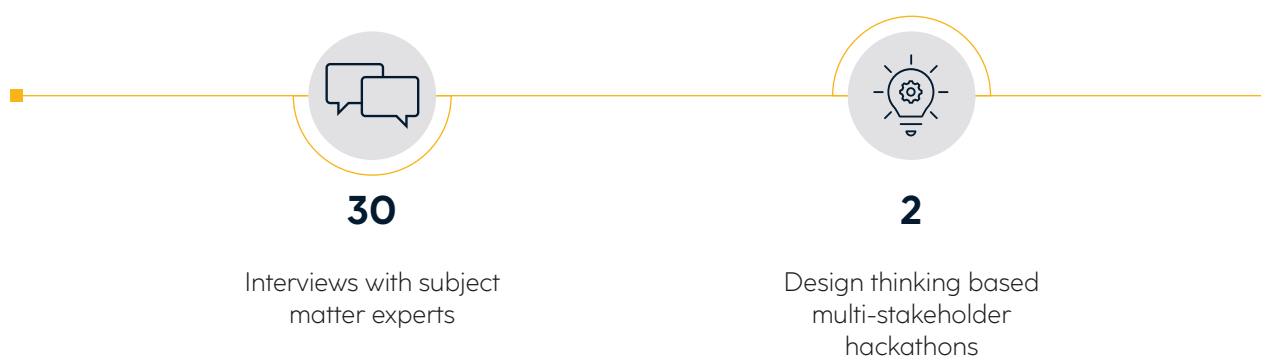66. (De Lannoy, Graham, Patel, and Leibbrandt, 2018)

PHASE 3 | OPPORTUNITY REFINEMENT

The first two phases of the project enabled us to arrive at a clearer strategic intent for OMT's ECD portfolio. What was not clear at the end of the second phase was how we would maximise our effectiveness within the new ECD and youth employment focus area. In Phase 3, we therefore sought to understand how OMT could best contribute to this area. To achieve this, a deeper dive was needed and undertaken.

Opportunity refinement research methodology

30

Interviews with subject matter experts

2

Design thinking based multi-stakeholder hackathons

We employed two research methods in our deep dive into the ECD and youth employment focus area. These are summarised in the figure above.

Interviews
The team conducted 30 semi-structured interviews with knowledgeable individuals representing various stakeholder groups in the ECD and youth development sectors.

These were used to gather perspectives regarding the challenges in these respective spaces in preparation for multi-stakeholder hackathons.

Hackathons
We wanted to think about problems from a systemic perspective, so our first hackathon brought together about 40 participants from various stakeholder groups in the ECD system, including government departments, public funding and skills development agencies, non-profit organisations, youth accelerators, and philanthropy.

Some of the topics we tackled over the two days included: 1) how best philanthropy can unlock public funding for training and placing youth in ECD; 2) children's needs to thrive in early childhood and the challenges to deliver on these needs in different contexts, that is in rural, urban, and peri-urban settings; 3) the opportunities for youth to participate and potentially solve some of the identified challenges; 4) the biggest funding and other role gaps that philanthropy can fill to promote inclusion of youth and the sustainability of the ECD enterprises.

Our second hackathon included ECD sector stakeholders and participants from youth accelerators, entrepreneurship training organisations, as well as young entrepreneurs.

It sought to take the thinking further by exploring and modelling additional business and entrepreneurial opportunities for youth in the broader ECD ecosystem. Participants were required to work collaboratively to build out and present these opportunities on a business model canvas.

Phase 3 findings | Opportunity areas for philanthropy to drive youth employment in Early Childhood Development

All the insights gathered from our engagements, as well as supplementary reading along the way, were used to build our understanding of the 'youth in ECD' space.

The section below summarises our high-level findings regarding some of the key philanthropic opportunities, before we conclude with OMT's strategic way forward.

While the opportunities to support youth employment in ECD hold considerable potential, they are not without their challenges and risks of which philanthropies like OMT need to be aware.

The discussions outlined below therefore consider the challenges and risks in conjunction with the rationale for each opportunity area. The discussions do not include recommendations regarding implementation to any meaningful extent.

The reason for this is that, in many cases, there are too many potential implementation possibilities, or that additional work is needed for the possibilities to be made clearer.

As was the case with the opportunity areas from phase 1 above, the below is by no means exhaustive – there are many more areas in the youth in ECD space where philanthropy can have a significant impact.

It is intended to outline some of the promising opportunities for philanthropy that we found. We have grouped these opportunities into two areas:
1) youth-specific areas; and
2) general sector areas (to support the growth of an enabling environment).

Youth-specific areas

Opportunity area 1 | Unlocking public funding to train and place youth

Public employment programmes

Significant levels of public funds are being allocated to address unemployment through public employment programmes (PEPs), such as the Expanded Public Works Programme (EPWP), the Community Work Programme (CWP), the Jobs Fund, and the recently introduced Social Employment Fund (SEF) that originated from the Presidential Employment Stimulus (PES).

These programmes are already used in the ECD sector but, through them, more funding can be unlocked for youth to be trained and placed in ECD programmes.

At a minimum they offer exposure and the beginning of a pathway into a career in ECD, be it as a teacher/practitioner, support worker or eventually an ECD enterprise owner.

We found that philanthropy can possibly assist in the following ways:
1. Assisting small and large implementing organisations (such as RTOs, ELP social

franchises, sector bodies, and youth accelerators) with the connections, resources, and expertise they need to develop collaborative programmes and funding proposals.
2. Providing additional top-up or matched funding contributions for the core operating costs of the implementing organisations that are not covered by PEP funding, since this mostly only covers youth stipends and training costs. Such collaboration between public and private funders can help ensure that the implementing partners are better resourced.

The use of PEPs to pathway youth into the ECD sector, while holding promise, is not without its challenges. We find it useful to plot these challenges along the journey of young people being sourced and selected, trained and placed, and (hopefully) retained in the ECD sector.

Work will need to be done by philanthropic organisations and their partners to address these challenges.

Sourcing and selecting	Training and placing	Retaining

Sourcing and selecting young people

A common criticism of the PEPs has been that the implementing partners that are responsible for the training and placing of youth are not sufficiently involved in the candidate recruitment and selection processes.

This therefore precludes the PEPs from ensuring that they receive suitable candidates from an attribute and motivational perspectives.

Not selecting the right candidates can also lead to higher participant attrition both during and after the programme.

While an employment creation lens can be valuable, there is so much more to the challenge – it is about finding young people with potential passion for teaching and working with children.

The SEF and IDC have done good work to address this by allowing their strategic implementing partners (SIPs) who create the work programmes to select and hire the participants themselves.

The other PEPs could learn from organisations that have developed robust selection processes, such as the youth accelerators, social franchises and RTOs. Many of these also make use of valuable technology platforms like SA Youth to source suitable candidates.

Training and placing

With PEPs not being designed specifically for the ECD sector, the training and placement of young people through these programmes is often not of the appropriate duration and scope to ensure they are effective in their ECD roles.

Work needs to be done to advocate for the structuring and funding of the PEPs in ECD to be more in line with the needs of the sector.

Retaining

The retention of PEP participants in the ECD sector is very low. The low levels of remuneration for ECD workers, and the fact that there are simply not enough adequately paying, sustainable jobs to absorb those completing the PEPs, are the central reasons for this.

We also learned that many of the participants who were able to find post-programme permanent positions end up earning less than they did while on the PEP. This encourages participants to seek out PEP contract renewals rather than finding permanent employment.

A side note: Striking a balance between new entrants and existing ECD workers

There is tension in the sector around providing opportunities to youth, often with higher pay when on PEPs relative to the many existing ECD workers.

The latter have been committed to the sector for years, despite being untrained, unsupported and underearning. There are those in the ECD sector that believe it is better to support the existing workforce before focusing on youth opportunities.

It also stands to reason that, if the existing workforce were better supported and remunerated, youth would see potential employment and a career in ECD in a far more positive light. A balance therefore needs to be struck in supporting existing workers and new, younger entrants.[67]

Other pots of funding creating employment

In addition to the PEPs there are other pots of public funding available to equip youth for opportunities in the ECD sector. Examples of these include ETDP-SETA, Small Enterprise Finance Agency (SEFA), the Presidential Youth Employment Initiative, and NYDA funding.

Philanthropy can assist ECD organisations to access this funding in the same fashion as described for the PEPs above.[68]

As far as career pathing is concerned, for those participants wanting to transition from an ECD practitioner to a grade R or foundation phase teacher, ETDP-SETA funding can support the required skills development.

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67. Some programmes funded by the SEF have sought such balanced by opting to support existing, largely unpaid ECD practitioners with stipends while providing financial support and training to youth interns.

68. A brief list of these funding sources, including links to more information, is provided in the appendix.

Opportunity area 2 | Funding training and placement of youth directly

Philanthropy can fund organisations such as RTOs, social franchises and youth accelerators directly, so they can focus on the sourcing, selecting, training, and mentoring of youth entering the ECD workforce. This can be for positions as early learning assistants, practitioners, or other additional workers.

However, as in the case of placing youth into the sector through PEPs, it must be ensured that these young persons are a good fit for the sector.

We have learned that there is exciting potential for partnerships amongst different types of organisations in carrying out such work.

For example, youth accelerators conducting the sourcing and selection with tried and trusted, tech-enabled processes, and experienced RTOs and social franchises delivering the capacity building and on-site support to participants.

Philanthropy can also fund the skills development and qualifications for youth already in the ECD workforce, thereby ensuring that the quality of practitioners does not only increase by training new practitioners, but also by increasing the skills of existing practitioners.

Opportunity area 3 | Backing youth to start and run early learning programmes

The areas discussed above have focused on driving youth employment to help address ECD HR constraints. However, there is a great opportunity to support youth from the point of view of entrepreneurship.

South Africa needs more sustainable, quality ELPs, especially serving the poorest quintiles where ECD access is low.

Several organisations are testing innovative micro-enterprise models that, if successful, could become the bedrock of a functioning ECD sector.[69]

When increased levels of funding begin to flow from the fiscus,[70] the sector needs to be ready with sustainable business models to rapidly increase access to quality ECD.

Philanthropy can support these organisations to work with micro-entrepreneurs to trial and scale models that increase not only access, but also quality (measured by the number of children that are school ready by the age of five).

The entrepreneurs starting and running these ELPs can be young persons who have been exposed to

ECD and decide that they are willing to take the plunge.

Whether it is a young person starting and running the ELP or not, creating more sustainable micro-enterprises can pave the way for further employment opportunities in ECD for young people.

In a highly constrained funding environment, along with the many other challenges that poor communities face, creating and sustaining ELPs is a monumental task.

However, if the sector can establish what models are effective and scalable in different settings, South Africa's children will be much better for it. This is even more true if the government is brought along for the learning journey around what is possible from supporting micro-enterprises.

With the on-going function shift, we believe it is the right time to try, test, fail, try again and ultimately share the learnings with the broader ecosystem and government.

Opportunity area 4 | Empowering youth to create businesses that provide ecosystem goods and services

There is also potential for youth to establish not only ELPs but also enterprises that provide shared goods and services to ECD programmes, such as food, transport, cleaning, bookkeeping, registration and first aid training.

Philanthropy can assist organisations to support youth in establishing and maintaining businesses that provide these goods and services. Philanthropy can also assist new businesses to access private and public funds that are available for start-ups.

However, additional work is needed to unpack the most viable opportunities within ECD ecosystems, and the possible models of support towards making them sustainable.

Given the low levels of access to quality ECD programmes, the establishiment of sustainable ELPs should take priority from a philanthropy point of view. Msore sustainable ELPs are needed if adjacent business opportunities and their viability and sustainability are to grow alongside.

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69. Examples of such organisations include Grow ECD and SmartStart who are employing a social franchise approach.
70. We believe this is a when, and not an if, but it will require a vast effort

from multiple players in the ECD space to advocate for increased levels of funding. It is also crucial to work alongside government to show how that funding can best be structured and distributed to the sector.

We collaborate. We share our knowledge openly and freely. And we listen with the intention to learn. We constantly learn. We never assume we know it all. In the spirit of generosity, we are always ready to reciprocate.

General sector areas | Supporting the growth of an enabling environment

If South Africa's youth are to be attracted to working in the ECD sector there needs to be sustainable and adequately paying employment and entrepreneurial opportunities.

For those sustainable opportunities to exist and grow there needs to be an enabling environment.

Although we entered Phase 3 of the project with a lens on unpacking the challenges and opportunities for youth in ECD, the reality is that work needs to be done to address various systemic impediments to the health of the ECD sector in general.

Without key reforms in the sector it will be close to impossible to rapidly increase access to quality ECD through the creation and sustaining of more employment and entrepreneurial opportunities.

Philanthropy can and should play a role in driving these reforms and other enabling initiatives.

There is a long list of much-needed reforms and enabling initiatives that philanthropy can get behind. The discussion following covers several of the more prominent areas that emerged in our interview and hackathon engagements.

Opportunity area 1 | Advocating for increased government budget allocations

As noted in the desktop research and interview findings of Phase 1 of our project, government budget allocations to early learning are simply insufficient to support the sustainability and quality of most of our

existing ECD programmes, let alone to achieve universal access. This is a key area for philanthropic support.

Opportunity area 2 | Advocating for policy, legal and regulatory reforms

There are various policy, legal and regulatory reforms that, if implemented, would enable far more ECD programmes to be created, and existing programmes to be improved. Some of the most important reforms are:[71]

1. Simplification of the registration process for ECD providers and affordances for different types of ECD providers to be regulated differently: it should not be a one-size-fits-all approach.
2. All children attending any type of ECD programme should be able to access the early learning subsidy if they need it.
3. Revising and streamlining inappropriate and unreasonable health and safety standards.
4. Providing clarity to ECD providers regarding conditional registration provisions.

5. Improving infrastructure support for ECD providers operating from private homes, and mandating municipalities to provide for and maintain appropriate ECD infrastructure.

Philanthropy can get behind the convening, campaigns, submissions and, if required, litigation to ensure the reforms are implemented.

The hoops that ECD providers are expected to jump through are completely unreasonable, and stand in the way of the progress that the sector needs.

Getting the sector to unite behind shared pain points and their removal has the potential to unlock significant impact.

71. Various key reforms are listed and discussed on the Real Reform For ECD website (https://www.ecdreform.org.za/).

Opportunity area 3 | Elevating the societal profile of Early Childhood Development through social campaigns

It was discussed earlier in this report that the importance of ECD is not sufficiently recognised across South African society.

In addition, the challenges that most ECD workers face in trying to deliver critical ECD services is also not well known.

There is a role for philanthropy to play in broader public awareness campaigns and / or social movements that can, amongst other things:

1. Educate the public on the criticality of ECD and the needs of children if they are to be set up for success at school.

2. Draw attention to the needs of the sector by giving voice to the many ECD workers.
3. Share what impact can be had if one begins a career in ECD.

While policy, legal and regulatory reforms can be addressed by a united ECD sector, South Africa needs more of a groundswell for the centrality of ECD to be recognised and prioritised in the political sphere.

South Africa has good examples of such groundswell, especially during the HIV/AIDS pandemic that brought much awareness, and forced change in government policy and implementation.

Opportunity area 4 | Driving research and data collection to create a data rich environment

Related to the above advocacy and awareness initiatives, philanthropy can invest in research and data collection to help guide advocacy efforts and to inform general evidence-based decision making and policy formulation in the ECD sector.

Data from studies such as the 2021 ECD Census is incredibly valuable for such purposes.

Taking this further to include the widespread measurement and on-going monitoring of child development outcomes, assessment of the impact of interventions and identifying areas for improvement is also much needed.

Exciting initiatives, like the Thrive by Five Index, stand to shed more light on the state of early learning through standardised assessments.

Much good can come from the availability and use of such data to drive awareness and advocacy. This is occurring in increasing measure in key areas in basic education, such as in the state of early grade reading.

The availability and use of this information is a necessary but not sufficient condition to drive positive change, but without strong evidence from which to advocate the change will be much less likely.

THE WAY FORWARD FOR OMT

At the beginning of 2023 the time came for us to consider all that we had learned in our engagements, and to plot the way forward for the Trust regarding its various portfolios. For the ECD portfolio our goal is:

To leverage our funding to unlock support for a sustainable ECD ecosystem, driving awareness of the importance of ECD, attracting youth and building capacity so that every child has access to quality early learning.

We will strive to achieve this goal through the activities outlined in the figure below.

We will strive towards this goal by	**Because we believe that**
Convening ECD stakeholders to promote learning and mobilise resources	By bringing together leaders in the sector, we can create more effective solutions and build momentum for change.
Empowering youth to build and sustain new early learning programme businesses	Access to quality ECD can be driven by funding organisations that provide training and support to young entrepreneurs, and helping them to develop the skills and knowledge necessary to start and run successful ELP businesses.
Unlocking public funding	Assisting ECD implementation partners and accelerators that train youth to access government funding through collaborative programmes means that OMT funding can have a more catalytic impact.
Backing advocacy and awareness initiatives	Promoting the importance of ECD at all levels of society is needed to increase political will and fiscal allocations, while encouraging parents to play an increasingly active role in their children's learning and attendance at ELPs.
Supporting enabling sector reforms and initiatives.	ECD policies and regulations and their implementation, should accommodate the growth needs of the sector, rather than hamper it.

CONCLUSION

As stated in the introduction of this chapter, we believe that universal access to quality ECD is non-negotiable for South Africa.

Without it the entire education system can be expected to continue delivering poor and unequal outcomes that significantly hinder the life chances of millions of our young people.

In our research and strategy development process, we have been confronted by just how much more support is needed for the ECD sector to be able to provide every child what they need and deserve in this critical window of their lives.

It is going to take concerted effort in many complex spheres from a range of different actors if this support is to be provided and universal access achieved.

While we acknowledge that what OMT can offer the ECD sector is a small fraction of what is required, we aim to maximise the impact we can have by not only providing funding but also convening and collaborating with the many amazing organisations and individuals we have interacted with over the past two years. Ultimately, we hope that our support will help advance:

1. The recognition of ECD's importance across society, leading to more children being enrolled in ELPS and being school ready.

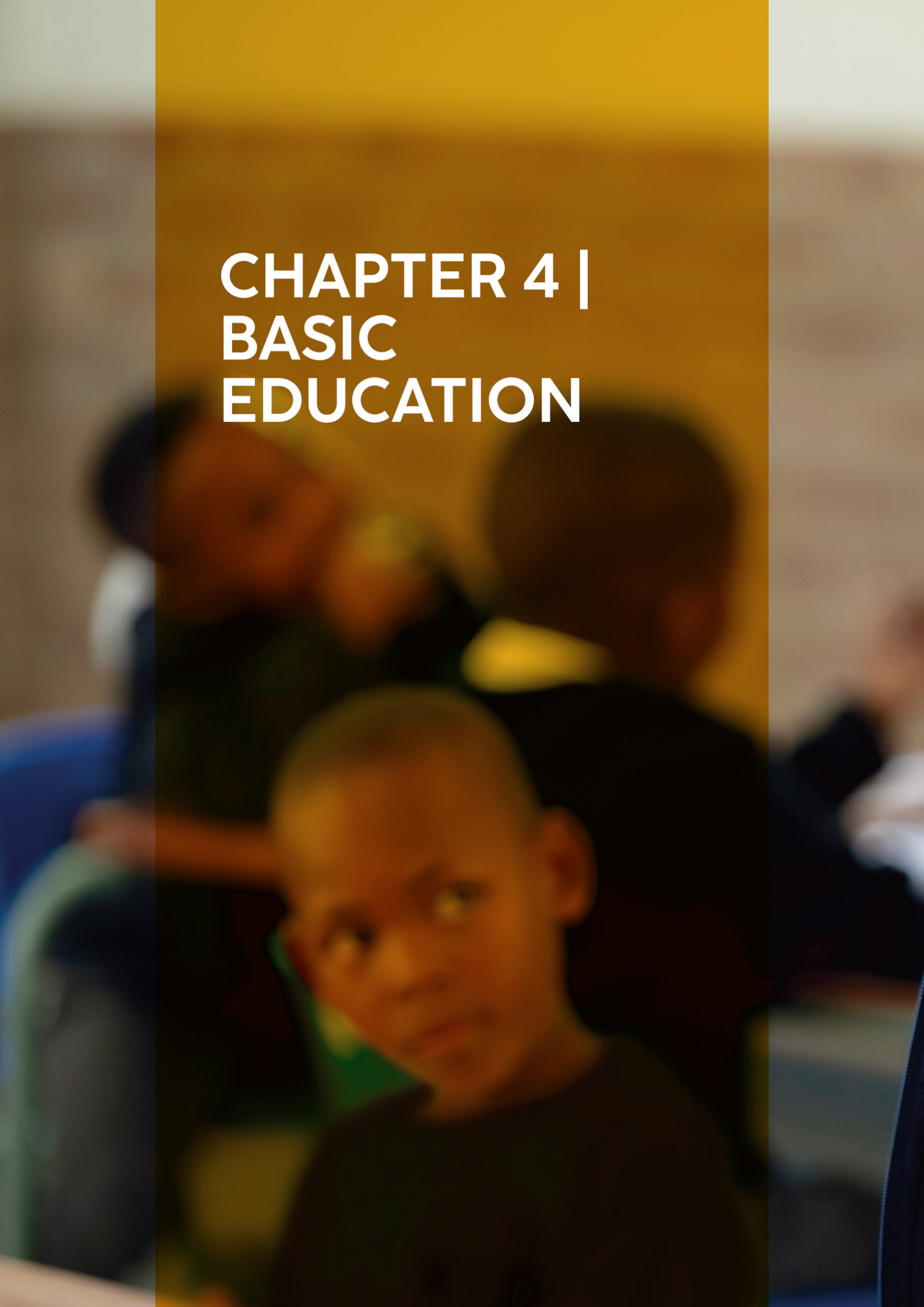2. Substantial increase in funding for the sector that can improve the viability and availability of quality ELPs.

3. The sector's attractiveness to unemployed youth, as running businesses or being employed in ECD roles become more viable with sustainable prospects.

4. An enabling regulatory environment that ensures more ELPs can be established, registered, and supported.

CHAPTER 4 |
BASIC
EDUCATION

GLOSSARY

ANA	Annual National Assessment
ATEP	Alternative Teacher Education Pathway
BEd	Bachelor of Education
CAPS	Curriculum and Assessment Policy Statement
CHE	Council on Higher Education
CoP	Community of Practice
COSATU	Confederation of South African Trade Unions
CSI	Corporate Social Investment
DBE	Department of Basic Education
DDD	Data Driven Districts
DHET	Department of Higher Education and Training
ECD	Early Childhood Development
EGRS	Early Grade Reading Study
FP	Foundation Phase
HEI	Higher Education Institution
HoD	Head of Department
IP	Intermediate Phase
ITE	Initial Teacher Education
MR-TEQ	Minimum Requirements for Teacher Education Qualifications
NDP	National Development Plan
NGO	Non-Governmental Organisation
NPO	Non-Profit Organisation
NQT	Newly Qualified Teacher
NRF	National Research Foundation
NSFAS	National Student Financial Aid Scheme
OER	Open Education Resource
OTL	Opportunity to Learn
PED	Provincial Education Department
PGCE	Postgraduate Certificate in Education
PIRLS	Progress in International Reading Literacy Study
PrimTEd	Primary Teacher Education project
PSP	Public School Partnerships
PYEI	Presidential Youth Employment Initiative
ReSEP	Research on Socioeconomic Policy
SACE	South African Council for Educators
SACMEQ	Southern and Eastern Africa Consortium for Monitoring Educational Quality
SADTU	South African Democratic Teachers' Union
SA-SAMS	South African School Administration Management System
SIRP	Sesotho and Isizulu Reading Project
SLP	Scripted Lesson Plan
SMT	School Management Team
StatsSA	Statistics South Africa
TCIA	Teacher Choices in Action
TD	Teacher Development
TICZA	Teacher Internship Collaboration South Africa
UNISA	University of South Africa
VVOB	The Flemish Association for Development Cooperation and Technical Assistance
WIL	Work Integrated Learning

PHASE 1 | RESEARCH FINDINGS

Summary findings | Desktop research into the current state of basic education in South Africa

Significant progress has been made since 1994 in increasing access to primary and secondary schooling in South Africa, and there has been some improvement in learning outcomes.

For example, the number of black students graduating from university increased fourfold in the decade after 1994[1], and from 2002 to 2016 the number of black matriculants becoming eligible to study engineering at university increased by one third.[2]

The overall performance of the basic education system, however, remains poor and highly unequal, with the inequality closely matching historical patterns of discrimination and disparity in opportunity.

The system has largely failed to translate substantial budget allocations from the fiscus into improved outcomes. As a result the association between race and educational performance remains strong, and pro-poor initiatives have done little to improve the situation.

Research conducted with assessment data collected between 2007 and 2011 showed that the mathematics knowledge and competence of Grade 3 learners in the bottom four quintiles (80%) of schools was about three grade levels below Grade 3 learners in the top quintile. By Grade 9 the gap in learner performance had widened to five grade levels.[3]

One of the central reasons for this is gap widening from the early years is the poor state of Foundation Phase (Grades 1-3) literacy and numeracy. The 2016 Progress on International Reading Literacy Study (PIRLS) report revealed that only 22% of Grade 4 learners in South Africa could understand the meaning of what they are reading (in any language).[4] The recently released 2021 PIRLS report showed that this has now worsened to 19%.

These overall national statistics conceal stark differences between wealthier and poorer schools. Using data from the 2016 PIRLS, Spaull and Pretorius (2019) found that 71% of Grade 4 learners in the richest 10% of schools could read for meaning, while for the poorest 10% of schools this figure was 11%.[5]

Similarly, in a 2015 study, 84% of Grade 5 learners in independent schools were found to be able to understand basic mathematics, compared to 67% in fee-charging public schools, and 25% in no-fee public schools.[6]

These learning discrepancies from the early grades persist until learners leave school. Van der Berg (2015), analysing data from the Annual National Assessments (ANAs), found that outcome patterns from Grade 4 closely mirrored those of matric, reflecting the "long-lasting disadvantage suffered by students who have fallen behind early in their school careers."

This contributes to sobering pictures. For example, in 2018 the top 200 public high schools achieved more mathematics distinctions than the remaining 6 600 combined.[7] Therefore the importance of early learning, especially for children learning to read for meaning in the Foundation Phase, cannot be stressed enough.

Very little will change in South Africa's basic education system's performance if early grade reading and numeracy outcomes are not dramatically improved.

The extent to which key competencies are not imparted to South Africa's young persons by the basic education system creates challenges in higher levels of education and the labour market.

Of those who are able to complete their schooling and secure a place at a university, many are ill-prepared for the demands of higher education, given the learning deficits they carry from school.

This results in lower throughput rates in the university system. More concerning, it has also seen some universities adjusting "their academic standards downwards."[8]

Regarding the labour market, one of the most critical supply-side challenges driving youth unemployment is the skills mismatch within the economy. Most of South Africa's youth leave the schooling system not equipped with even the most basic of skills (numeracy and literacy) that employers require for entry-level positions.[9]

1. (Van Broekhuizen, 2016, cited in Spaull, 2019)
2. (Van der Berg and Gustafsson, 2019)
3. (Spaull, 2015a)
4. (Spaull and Pretorius, 2019)
5. (Spaull and Pretorius, 2019).
6. (Spaull, 2019)
7. (Spaull, 2019)
8. (Jansen, 2018)
9. Graham, L., Patel, L., Chowa, G., Khan, Z., Masa, R., Mthembu, S., and Williams, L. (2018)

Summary findings | Desktop research into the key challenges, their driving factors, and possible solutions

57

Faced with the above confronting picture, the question of what the central causes are and what can be done about them naturally arises. South Africa's basic education system is vast and complex and so are its challenges.

In undertaking a scan of the system via desktop research, we found two resources especially helpful.

The first is the well-known *Identifying Binding Constraints in Education* report published by the Research on Socio-Economic Policy (ReSEP) unit at the University of Stellenbosch.[10]

This report discusses the findings and implications of an extensive research process into the main factors holding back South Africa's basic education system.

We also found the book *South African Schooling: The Enigma of Inequality* invaluable in our research process.

We consider this book a must-read for any basic education funder, NGO practitioner and government decision maker, as its individual chapters, written by leading academics, cover a wide range of critical topics.

Crucially for us this book's chapters, as well as supplementary reading, helped us gain a greater understanding of each challenge area's driving factors, as well as the possible solutions that could help mitigate the negative impacts of the challenge area.

We could then use this understanding to engage more meaningfully with subject matter experts during the interview process.

To avoid reinventing the wheel we made use of the binding constraints identified by the ReSEP team to form the backbone of our basic education challenge area analyses.

We therefore use their four constraints headers, but we summarise the four high-level findings – that is, regarding the challenge area drivers and potential solutions – that we gathered from our supplementary reading.

CAVEAT
The findings summarised in this section are not exhaustive, but are intended to highlight the key issues that we considered when discussing philanthropic opportunities with sector experts and in our internal brainstorming sessions.

In particular, the possible solutions outlined in the sub-sections following serve only to summarise for the reader what we found in the literature we reviewed. They do not constitute our opinion on the appropriateness or viability of a potential solution. In addition, and as with the challenges we documented, they are by no means exhaustive.
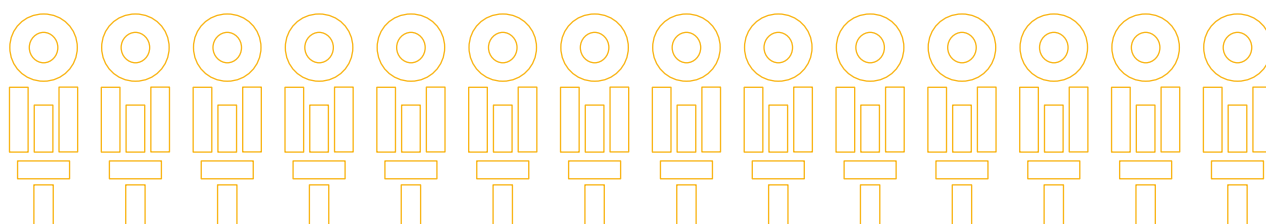
10. VVan der Berg, S., Spaull, N., Wills, G., Gustafsson, M., and Kotzé, J. (2016)

Challenge area 1 | Weak institutional functionality

The provision of quality basic education to many schools is significantly inhibited by unevenness in capacity and performance at district and local government levels, where the bulk of policy implementation occurs.

As a consequence insufficient support is received from circuit managers and subject advisors,

particularly for primary schools, where support is most needed.

Weak management and leadership at school level – among other things ensuring that learners are in class, and teachers are teaching them – limits the extent to which interventions can be implemented and yield results.

Key driving factors

We found that the driving factors behind the weak institutional functionality in South Africa's basic education can be split into provincial, district and school drivers, and school-specific drivers. These are summarised as follows.

Provincial, District and School Drivers

Skills deficits
Weak levels of managerial and leadership skills prevent the provincial education departments (PEDs) and their districts from executing a wide range of administrative responsibilities.[11]

Erosion of accountability
The public sector, and particularly education, suffers from weaknesses in the accountability chain and a "general culture of blame shifting." [12]

Low staff morale
Staff morale in provincial offices, districts and schools has been found to be low.[13]

Union interference
Undue union influence, particularly in the appointment and promotion of officials at all levels, has resulted in officials who are unsuited to key positions underperforming in their roles.[14]

Corruption
Endemic levels of corruption have been found at all levels of certain provincial education departments.[15]

School-Specific Drivers

Uneven spread of school managers
Wealthier schools "consistently have statistically significantly more government paid School Management Team (SMT) members" than poorer schools.[16]

Reductions in the number of HoDs
Between 2012 and 2016 there was a of 7% decline in the number of school HoDs, which added to an existing vacuum in instructional leadership, and contributed to undermining the promotion and incentive system.[17]

Unequal appointment of men over women
Women are less likely to be appointed as HoDs, after controlling for age, race, experience, union affiliation and several other factors.[18]

Weak parent and community involvement
There is an imbalance of power between parents and schools, constraining the former in holding schools accountable.[19]

11. (NPC, 2012, p. 409)
12. (NPC, 2012, p. 55)
13. (NPC, 2012, p. 412)
14. (Van der Berg et al., 2016)
15. (Equal Education, 2016, cited in Jansen, 2019)
16. (Wills, 2019)
17. (Gustafsson, 2017 cited in Wills, 2019)
18. (Gustafsson, 2017)
19. (NPC, 2012, p. 311)
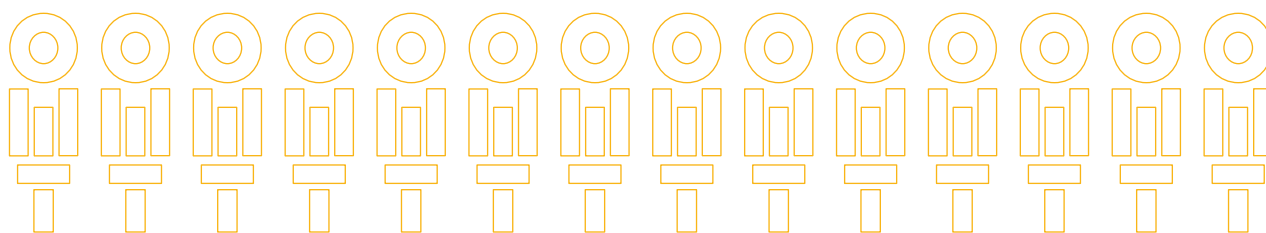
Possible solutions to mitigate the impact of weak institutional functionality

1

Institute mechanisms to ensure that the appointment and promotion of government officials are based purely on observable merit to increase the calibre of provincial, district and school managers.[20]

2

Design and implement skills development programmes for district and provincial education officials, in collaboration with provincial HR offices considering their skills needs assessments.[21]

3

Explore increasing the use of fixed-term contracts for senior officials in provincial education departments (PEDs) to increase accountability,[22] and implement performance contracts for school principals and deputies.[23]

4

Design and implement a results-oriented mutual accountability system between schools and districts to hold districts accountable to schools regarding support provided, and hold schools accountable to districts based on objective school performance indicators.[24]

5

Design and implement a results-oriented mutual accountability system between schools and communities to equip parents with performance indicators for schools and for their children, so they can engage school leadership and teachers better.[25]

6

Develop and implement a system of reliable school performance indicators that can be used for the above mutual accountability systems, and to guide targeted interventions by district officials in schools that require support.[26]
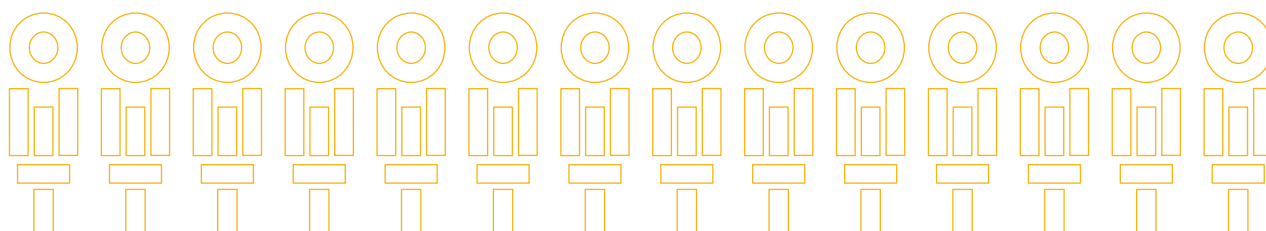
20. (Van der Berg et al., 2016)
21. (NPC, 2012, p. 310)
22. (Van der Berg et al., 2016)

23. (NPC, 2012, p. 311)
24. (NPC, 2012, p. 311)
25. (NPC, 2012, p. 311)

26. (NPC, 2012, p. 311)

Challenge area 2 | Weak teacher knowledge and pedagogical skill

There is a general consensus that the most significant challenge in the basic education system is teachers' lack of subject knowledge and skills to teach learners.

Analysis of SACMEQ 2007 data indicated that around four-fifths of Grade 6 Mathematics learners were taught by teachers who had mathematics subject knowledge below the Grade 6 level.[27]

The similarly high proportion of Grade 4 learners who cannot read for meaning suggests that the majority of teachers, mainly in the least well-resourced schools, lack the basic knowledge and competence to teach learners how to read.

The SACMEQ reading comprehension tests also provide insight into the English language competency of Grade 6 teachers.

These results suggest that only around 55% of South African teachers met the Intermediate Benchmark of PIRLS (which 82% of all grade 4 learners achieved internationally).[28]

Key driving factors

We found that the underlying causes of this challenge can be split into three categories: in-service training related drivers; pre-service training related drivers; and curriculum-related drivers.

In-service training related drivers

Historically poor in-service training
Poor take-up of in-service teacher development (TD) programmes with historical programmes generally failing to make a meaningful, especially in poorer schools.[29]

Limited scalability of effective programmes
More recent TD interventions such as the Early Grade Reading Study (EGRS) have shown positive impacts.[30] However, they come with expensive price tags.[31]

Poor evaluation of in-service programmes
Insufficient quality evaluations have been done on in-service programmes, which limits our understanding of whether programmes yield results, and of what works and why.[32]

Pre-service training-related drivers

Questionable content knowledge standards of BEd degrees
A study of newly qualified teachers (NQTs) from the Foundation and Intermediate Phase BEd courses of five universities found that their subject and pedagogical knowledge were concerningly poor.[33]

Insufficient and varied teaching practice in BEd degrees
There appears to be no common standard for the length of the critical teaching practice component of teaching degrees.[34]

Lack of strong candidates
The education system is not attracting suitably strong candidates to become teachers.[35]

Incorrect subject allocations in schools
NQTs are often allocated to teach subjects for which they were not trained.[36]

Inequalities in teacher knowledge are in a vicious cycle
This is critical to the nature of the challenge in ITE, and is unpacked later in this report.

27. (Venkat and Spaull, 2015, cited in van der Berg et al., 2016)
28. (Taylor, 2019)
29. (Shalem and De Clercq, 2019)

30. (Shalem and De Clercq, 2019)
31. (Jansen, 2019)
32. (Van der Berg et al., 2016)
33. (Deacon, 2016, cited in Taylor, 2019)

34. (Taylor, 2019)
35. (NPC, 2012, p. 306)
36. (Taylor, 2019)

Curriculum-related drivers

Changes in curriculum without corresponding support for educators
The DBE has implemented various curriculum reforms over the past decades with little support to teachers.[37]

Breadth of content in CAPS
There is acknowledgement by the DBE that the current CAPS curriculum may have "too much breadth of content", as well as too many assessment tasks.[38]

Inequalities in the classroom and school
Teachers face significant inequalities in their access to learning and teaching resources, and learners that are "cognitively well-prepared for schooling".[39]

Possible solutions to mitigate the impact of weak teacher content knowledge and pedagogical skill

Solutions related to in-service teacher development

1
Implement reciprocal accountability systems by ensuring that any in-service teacher development programme is executed alongside accountability measures that motivate or incentivise teachers toward outcomes.[40]

2
Ensure programmes are subject-specific, classroom-anchored and sustained, but try to find innovative ways to reduce their costs.[41]

3
Use scripted lesson plans (SLPs) where appropriate but be aware of their limitations, as "powerful knowledge does not develop by following a book."[42]

4
Improve the quality of evaluations of in-service programmes, as too much money has and is being wasted on programmes whose impact and mechanics of change are not clear.[43]

Solutions related to pre-service teacher development

5
Develop strategies and policies to attract the most academically able and highly motivated students into initial teacher education programmes.[44]

6
Improve (significantly) the quality of initial teacher education programmes offered by South Africa's universities.[45] This is the subject of further discussion in our reported findings from Phase 3 of the project.

7
Increase (significantly) the number of NQTs, or recruit more teachers, to reduce current class sizes, particularly in primary schools, and to meet looming teacher supply shortfalls.[46]

8
Lay the groundwork for, and eventually introduce, a credible professional certification for new teachers.[47] This could be based on a standardised teacher 'board-type' exam.

Other supporting solutions areas

9
Implement a reliable system of standardised testing to provide valuable data to guide in- and pre-service teacher training programmes, as well as enabling other targeted learner-based interventions.[48]

37. (Muller and Hoadley, 2019)
38. (Muller and Hoadley, 2019)
39. (Shalem and Hoadley, 2009, cited in Muller and Hoadley, 2019)
40. (Taylor, 2002, cited in Spaull, 2015b)
41. (Shalem and De Clercq, 2019)
42. (Shalem and De Clercq, 2019)
43. (Spaull, 2015b)
44. (Taylor, 2019)
45. (Taylor, 2019)
46. (Van der Berg, Gustafsson, and Burger, 2020)
47. (NPC, 2012, p. 308)
48. (Spaull, 2015b)

Challenge area 3 | Wasted learning time and insufficient opportunity to learn (OTL)

In a five-year study of 58 North West schools, researchers found that teachers did not teach 60% of the lessons they were meant to in the year.[49]

Other studies conducted in South Africa have reported results consistent with this study, and found that less than half the official curriculum is being covered in the year.[50]

Key driving factors

Teacher absenteeism

A 2010 study by the HSRC found that "a conservative, optimistic leave rate of educators in South Africa is between 10% and 12%", equivalent to between 20 and 24 days a year per educator.[51]

Insufficient teaching time even when teachers are in school

The issue may be more capacity than accountability related. Teachers' "lack of confidence" in their content knowledge, poor ability in curriculum planning, and poor time management skills are also related to loss of teaching time.[52]

Home and parental involvement factors

Less learning time in schools is even more problematic for those coming from poor households, because there is "less learning and less support for learning in these homes". The school becomes an even more crucial site for learning where "more time is required for these children to master the curriculum."[53]

Classroom-related factors

Learner OTL is also impacted by low availability of classroom resources such as good print materials, and teacher pedagogy typically being communalised rather than individualised, especially in the teaching of literacy.[54]

No systemic data on curriculum coverage

There are "no ongoing, nationally-representative surveys of classroom practice which measure how this is, or is not, changing over time." This prevents meaningful monitoring and management of curriculum coverage in schools.[55]

49. (Carnoy et al., 2012, cited in Spaull, 2015b)
50. (Van der Berg et al., 2011)
51. (Reddy et al., 2010, p. 84, cited in van der Berg et al., 2016)
52. (Carnoy et al., 2012, cited in Spaull, 2015b)

53. (Hoadley, 2012)
54. (Hoadley, 2012)
55. (Van der Berg et al., 2016)

Possible solutions to mitigate the impact of wasted learning time and insufficient OTL

1

Draw on bureaucratic forms of accountability and use technology-based, data-driven means of measuring and monitoring the attendance of teachers.

2

Increase access to learning resources, such as reading textbooks, and increase the frequency of homework, especially for concept-heavy subjects such as mathematics.[56]

3

Develop and implement a national system that measures OTL, so that we can determine which schools need additional monitoring and support, and if OTL is improving or declining over time.[57]

4

Promote the use of DBE workbooks, where applicable and used in the appropriate manner, as these can increase OTL for learners and provide a means of measuring and monitoring OTL in schools.[58]

5

Reformulate standardised annual national assessments to provide stakeholders with valuable data, especially in the early grades where we know that learning deficits exist. By the end of Grade 12 it is "too late to identify a systemic need for remedial action."[59]

Before concluding this section a note of caution is needed. Solutions to the challenge area of wasted learning time and insufficient OTL need to be cognisant of the root cause of the low OTL.

It is argued by Van der Berg et al., (2016) that it is likely that South Africa's low levels of OTL are caused by both a lack of capacity (that is, teachers lacking subject knowledge and pedagogical skill to teach various areas of the curricula) and a lack of accountability (due to poor monitoring of attendance and teaching by the principal and/or district officials, for example).

Drawing on bureaucratic forms of accountability is appropriate when trying to monitor and enforce elements in education such as teacher presence or textbook deliveries.

However, it is argued that they will work less well when trying to influence more complex elements such as teacher competence, and teaching and learning more broadly. Whether it is 'can't' or 'won't' therefore impacts the solution.[60]

Regardless, in South Africa's case, we find the issue of poor teacher content knowledge and pedagogical skill once again emerging as central driver of poor and unequal learning outcomes.

56. (Van der Berg et al., 2011)
57. (Van der Berg et al., 2016)
58. (Hoadley & Galant 2016, cited in van der Berg et al., 2016)

59. (Van der Berg et al., 2016)
60. (Spaull, 2015b)

Challenge area 4 | Undue union influence

The issue of the influence of teacher unions on the quality of learning outcomes is particularly complex and contentious. It is also arguably the most difficult to resolve, because of the political relationships between the largest union, the South African Democratic Union of Teachers (SADTU), and the African National Congress (ANC).

Independent investigations have gone as far as to suggest that "it is not improbable to say that schooling throughout South Africa is run by SADTU."[61]

This has resulted in many areas of accountability and functionality in basic education being compromised.

Key driving factors

Low level of competition amongst unions in the system

South Africa has a dominant labour union in education (SADTU). The percent of union members who are SADTU members varies across provinces, but it has been recorded above 50% in the North-West, Limpopo, Mpumalanga and the Eastern Cape.[62]

High partisan links

The African National Congress (ANC) is in a ruling alliance with the Confederation of South African Trade Unions (COSATU). SADTU is the largest member of COSATU.[63]

High level of decentralisation of the union in its operations

SADTU is well represented at all levels of the education system through its shop steward model. At the time of publication of the Volmink report, it was found that all Deputy-Directors General in the DBE were members of SADTU.[64]

Possible solutions to mitigate undue union influence

1

Take steps to improve labour relations by following an NDP-recommended approach and invest in the professional development of union leaders and their ability to implement continuous professional development of their own teacher members.

2

However unlikely the outcome, push for the wholesale renegotiation in the relationship between the majority teacher union and the government so that two critical commitments are made, that schools will be run by the government, and teacher concerns will be the domain of the unions.[65]

61. (DBE, 2016, p. 93, cited in Spaull, 2019)
62. (Wills, 2016, cited in van der Berg et al., 2016)
63. (Spaull, 2019)
64. (DBE, 2016, p. 93, cited in Spaull, 2019)
65. (Jansen, 2019)

Summary findings | NGO surveys

We received a total of 40 responses from the 94 organisations that received requests to complete our basic education NGO survey. This section highlights the most notable findings.

Perspectives on key sector challenges and levers to pull

The most pressing challenge cited by NGOs operating in the basic education system was that of poor teacher quality.

High student dropout rates were also flagged as an area of significant concern.

The biggest lever to pull to improve the system that was raised by NGOs was overwhelmingly, and unsurprisingly, to improve teachers' knowledge and skills.

"Teachers should be more prepared for teaching and an improvement in their content knowledge and teaching skills through proper training or interventions that assist teachers with their teaching skills."
Basic Education NGO

Many respondents also felt that ECD and early grade literacy are also promising levers that, if adequately supported by philanthropy, could help solve problems at higher levels of the education system.

Perspectives on the Covid-19 pandemic

Regarding the Covid-19 pandemic, respondents acknowledged the devastating impact on the sector, especially for less resourced schools that were not able to transition to online learning.

However, there was widespread recognition and excitement concerning the innovations and opportunities the pandemic accelerated.

These related primarily to:
1. Online and blended approaches, technologies and resources that can be leveraged to increase access to quality education and support programmes; and

2. Digital communication platforms and the improved ability to engage parents in their children's education.

"I think there is a general sense of appreciation for the affordance of technology to foster efficient services and stay connected with learners and teachers. But the issue now is how to build on the momentum of digital learning and to encourage teachers to continue with blended teaching approaches rather than going back to how it was."
Basic Education NGO

We believe in the individual and their vision, bringing together different thinkers and different opinions. Knowing that a multi-faceted, democratic and inclusive approach is the right one to tackling complex challenges.

Summary findings | Subject matter expert interviews

We conducted a total of 20 interviews with basic education subject matter experts for Phase 1 of the project. This group was made up of academics, peer philanthropic organisations, government officials, and leaders of NGOs.

As noted in the approach and methodology section of this report, the primary aim of these interviews was for us to gain a better understanding of the nuances behind the many challenges facing the basic education system. However, and more importantly,

they were used to identify and unpack promising opportunity areas for OMT and philanthropy in general.

It goes without saying that there is almost no end to the number of opportunity areas where philanthropy can have a meaningful impact in basic education.

This sub-section serves to summarise several of the areas that we regarded as the most promising for consideration by the Trust.

Opportunity area 1 | Improving teacher quality through initial teacher education

Aligning with our findings from the desktop research and surveys, it was widely agreed by the interviewees that the biggest challenge facing basic education in South Africa is the poor quality of teachers serving in the majority of schools.

We learned that historically, most of the resources to improve the situation have been placed in training teachers already in the system through in-service teacher training programmes. For the most part these were said to have been unsuccessful, and when they

have worked, their effect sizes have been small relative the size of the investments.

Pre-service teacher training or initial teacher education (ITE) at South Africa's universities was argued by several interviewees to provide the best lever to try to turn the basic education system around.

However, the quality of university student teacher training is currently concerningly poor. Two matters were found to require urgent attention in this regard:

1

Generally poor standards in university BEd degrees
Many universities were said to be sending very poorly trained teachers to the very schools where we need high quality, motivated teachers.
- The training of student teachers in the teaching of early grade literacy and numeracy needs to be prioritised, given the current dire state and the importance of laying good foundations in these skills for subsequent learning. Within this, a major gap to be addressed is the teaching of early grade reading in African languages.
- UNISA currently trains over half of South Africa's teachers, and therefore has an especially large impact on basic education in South Africa. However, the quality of its degrees (by distance education) and its generally weak institutional functionality were flagged as a significant issues by many stakeholders. The ITE system needs quality distance BEd and PGCE degrees. Either UNISA must improve its offerings or other existing/new competitors should step in and meet this need. South Africa cannot afford to carry on with the current situation.

2

Looming mass teacher retirements
Half of all government employed teachers will retire in the next ten years. It is estimated that if South Africa wants to maintain the current total number of teachers employed and keep stable learner-teacher ratios, the higher education system will need to double the number of teachers it produces by 2030. There is therefore significant urgency regarding this challenge.
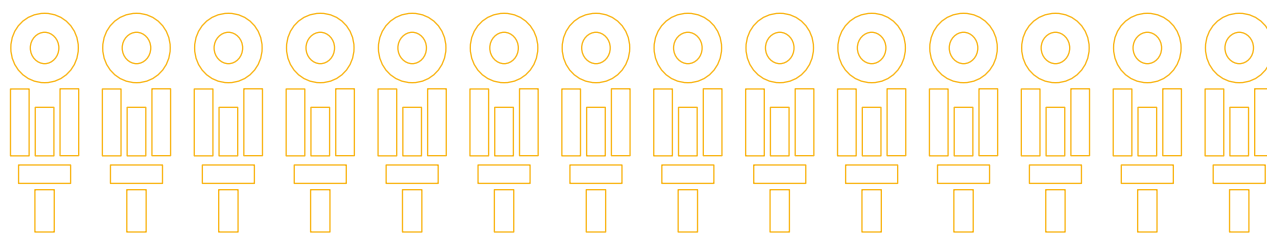
Despite the current state it was found that there are several reasons to be hopeful about this space as a potential area of intervention:

1

The Primary Teacher Education (PrimTEd) project successfully engaged over 300 academics from 24 universities between 2016 and 2020. It developed the knowledge and practice standards (KPSs) for numeracy and literacy teaching in Foundation Phase (FP) and Intermediate Phase (IP) BEd degrees. There are opportunities to support spin-offs from this project so that improved curricula are developed and KPSs are adopted across higher education institutions (HEIs).

2

The Council on Higher Education (CHE) plans to conduct a national review of FP and IP BEd degrees against revised qualification standards within the next one-to-two years.

3

The Post-Graduate Certificate in Education (PGCE) qualification is said to be working well in several universities. It could be used to greater effect in responding to the mass retirements.[66]

4

Significantly increasing the supply of new teachers in response to the upcoming wave of retirements will be a monumental challenge. However, it presents the country with a once in a generation window of opportunity to flood the basic education system with far better prepared teachers that can shift the life chances of millions of South Africans.

66. This qualification, at this stage, is less appropriate for preparing teachers for primary school (especially for the teaching of literacy and numeracy) and more appropriate for preparing teachers for high school.

Opportunity area 2 | Backing alternative models of public schooling delivery

Discussions were held with several interviewees regarding the 'stuckness' of the public schooling system and the large proportion of its schools that are often referred to as dysfunctional. In line with this, various alternative models of public schooling delivery were put forward as a means of "getting around" the current stuck system. The most prominent of those that we encountered are outlined briefly below.

Alternative model 1: Charter-type schools

The Public School Partnerships (PSP) project with its Collaboration Schools and Partnership Schools in the Western Cape and Eastern Cape, respectively, provide a good example of the charter school model piloted in a South African context.

The PSP model represents an approach to public school innovation that brings together government, funders, no-fee schools, and non-profit education support organisations.

The end goal is to provide a learner in a low-income community with an education experience like one would receive in a former Model-C school. We learned that the model holds promise in South Africa where new, robust accountability frameworks are needed in schools and where resources sitting outside the public system can be harnessed to improve school management and teaching.

While this is a promising area (especially if it is proved to the government to be effective and worthy of budget allocations), we also learned that the model appears to be much more successful in new schools. It was reported that this is because new schools provide the school operators with a "fresh start", and do not have constraining legacy cultures and low skill levels among school management and teaching staff.

Alternative model 2: Affordable private schools

Another alternative model of delivery discussed with several interviewees was that of affordable private schooling.

This sub-sector has seen considerable growth over the past decade owing to the demand for better education, especially among South Africa's lower middle class. Models such as that of SPARK schools have been met with excitement, as their cost of delivery is in line with per student allocations of the government (approximately R25,000 per annum, excluding infrastructure).

However, without government subsidies, affordable private schooling will remain a misnomer, as it sits beyond the financial reach of most South African families.

In order to change government policy on this front, providers will need to prove that the model is a viable alternative that also yields results for children from poorer households, where the secondary (home) site of learning is not as supportive as that of a middle-class family.

Nevertheless, as one interviewee pointed out, the education system is under growing financial pressure, and it can be expected that the government will be increasingly open to alternative means of delivery.

This area is therefore an exciting one for potential support.

Alternative model 3: Online and/or blended-learning schools

Our trends and drivers research, along with the scenario planning exercise, highlighted the importance of teachers being trained to work with technology, and implement more blended approaches in their teaching.

The ability of teachers to take advantage of evolving technology and real-time data on student performance has the potential to reduce the present inequality between well-resourced and poorly-resourced schools.

In addition, we can expect the role of the teacher to change in the next 20 years. It is suggested that mentoring will become more important, and students will become much more independent in their learning processes.

Several interviewees were therefore excited by the possibility of increased use of online and/or blended learning in South African schooling delivery. This has certainly been accelerated by the Covid-19 pandemic. While many practitioners, and even leaders of ed-tech programmes, acknowledged that technology cannot yet fully replace the teacher, online and blended learning approaches can be used to support teachers in under-resourced schools and/or mitigate the impacts of poor teacher quality.

Several local organisations are innovating with different models of online and blended schooling. If successful, some of these could ultimately help reduce the cost and increase the quality of education delivery simultaneously.

There are exciting possibilities for philanthropies to get behind the innovations being tested, find the models that work in different South African contexts, and help scale the models that work best.

Opportunity area 3 | Driving youth employment in the basic education system

Some interviewees spoke of the potential for unemployed youth to be employed in schools as teaching assistants.

When used properly, teaching assistants, especially in quintile 1-3 schools where students are at many different levels of learning, can be a vital resource in helping teachers cover a larger portion of the curriculum, and provide more targeted support to individual learners. In addition, such employment programmes can give unemployed youth much-

needed work experience and exposure to a possible career in education.

The Presidential Youth Employment Initiative (PYEI) of the DBE was a first step towards a large public employment scheme of this nature.

It was acknowledged that there is significant room for improvement in how such an initiative is run, but there is certainly potential for win-win programmes like the PYEI.

Opportunity area 4 | Investing in rights-based approaches

A smaller group of stakeholders argued for the potential of rights-based approaches to pressure government to make resources available for key areas in basic education, or to implement reforms.

However, one interviewee rightly acknowledged the potential limitations of rights-based approaches, and stated that they are only likely to have a significant impact once the average South African parent becomes "fed up" with the status quo. To enable this, parents need, firstly, to recognise how fundamental a

quality education is to their children's future, and secondly, be equipped with the knowledge of their rights and the rights of their children to quality basic education.

Parents of children in the basic education system represent a large voting group and the pressure they can exert can be directed towards many areas. The most prominent of those discussed in the interviews were, naturally, resources to address infrastructure backlogs, as well as early grade literacy.

Opportunity area 5 | Building research capacity

An area that several individuals suggested we, and philanthropy in general, could invest in is the building and maintaining of basic education research capacity, which resides not only in higher education institutions but also in non-profits.

Greater understanding of the context and complexities of what happens in schools and classrooms is needed

for South Africa to craft appropriate policies and programmes that drive improvements.

Another motivating factor for this opportunity area is the cuts in funding to the National Research Foundation (NRF), meaning that research capacity is under threat across the board.

Other interesting insights from the interview process

The interviews with subject matter experts provided us with many other valuable insights not related to any specific challenge or opportunity area.

Private funding from philanthropy and corporate social investment (CSI) is a drop in the ocean

Given the size and scope of the challenges facing basic education it is evident that funding from external sources – CSI and private philanthropic organisations – will not be sufficient to directly address them all.

Estimates indicate that funding from these sources for basic education amounts to just over 1% of annual government spending in the sector.

Two related pieces of advice were shared with OMT in light of this:
1. Try use private philanthropic funds to influence how public money gets spent; and
2. Be strategic and/or catalytic by investing in areas that can have systemic impact over the longer term.

Form productive relationships with government

While it is often difficult to work with government due to capacity deficits, several individuals argued that it is essential to try to use their resources to achieve scale.

This sentiment was echoed by one interviewee who noted that *"a strong public-private partnership with government, done in a respectful way, is essential for success in the future."*

Similarly, we noted that increased collaboration with peer funders is an important means to fast-track organisational learning and take advantage of joint funding opportunities for systemic initiatives.

Gather learning from your investments and share these broadly

Whether you fund localised or systemic initiatives, ensure that you extract as many learnings out of them as possible.

Another objective should always be to share these

learnings with relevant parties *"because the sector needs to know what works, what doesn't, and why."*

This is arguably more important for unsuccessful initiatives than for successful ones.

TAKE ACTION

We are always ready to take action. And have the drive to get things done. We set uncompromising standards and hold ourselves constantly accountable.

PHASE 2 | STRATEGIC CHOICES

Approach

Phase 2 of the project, while the shortest in duration, brought us to a very important point in our strategy development process – deciding and aligning on our strategic intent and focus areas. This was done in three steps.

Step 1 | Findings review and opportunities discussion

The team gathered for a two-day internal workshop to:
1. Review all the findings and insights from Phase 1 of the project; and
2. Unpack the many potential opportunity areas in which OMT could participate.

Step 2 | Opportunity prioritisation and selection

To narrow the focus before taking recommendations to the Board, a further opportunity prioritisation and selection workshop was conducted. This centred around us evaluating each opportunity against a set of criteria. At a high-level, these related to each of the the opportunities in terms of their:
1. **Scalability and impact** – the potential to support the achievement of outcomes at a systemic level or impact at a sufficiently large scale.
2. **Coverage** – the extent to which other philanthropies, funders and/or government bodies are already trying to address the issue in question.

3. **Suitability and alignment** – whether the proposed initiatives, and OMT's associated role, would be well-suited to a philanthropic organisation like OMT, given its existing expertise and knowledge base.
4. **Complexity** – put simply, the extent to which the issue is difficult to solve.
5. **Funding and other resource requirements** – the extent and nature of the likely financial and personnel resources needed to support the opportunity.

Step 3 | Board strategy offsite

We held a two-day strategy offsite with the Board in February 2022, where we presented and discussed our findings and recommendations, and agreed on the way forward.

Outcomes for the Basic Education portfolio

Any philanthropy, NGO leader, academic or government official knows how difficult it is to decide on a strategic focus area when faced with so much need and so many worthy areas for potential investment.

In the end we, and the OMT Board, recognised that the time is right for OMT to get behind initiatives seeking to improve initial teacher education in South Africa. The rationale for selecting this area over many other worthy areas is centred on the following:

1. The upcoming wave of teacher retirements, while being an incredibly large challenge for the sector to respond to, presents a once in a generation opportunity to place over 200 000 better-prepared, future-fit teachers in our schools that can impact generations of learners to come;
2. OMT has a long history of working with South Africa's higher education system, and its knowledge and relationships could be brought to bear with ITE as a strategic focus area for its basic education portfolio.

PHASE 3 | OPPORTUNITY REFINEMENT

Further research to guide our strategy's implementation

The first two phases of the project enabled us to arrive at clearer strategic intent for OMT's basic education portfolio. What was not yet clear at the end of the second phase, however, was exactly how we planned to go about executing that strategic intent. In Phase 3, we therefore sought to investigate the challenges facing initial teacher education in South Africa, and to establish which of these OMT could best address and how.

Phase 3 research approach and methodology

19

Interviews with academics, government officials, philanthropic peers and NGO leaders

1

Design thinking-based multi-stakeholder hackathon

3

Follow-up (deep dive) sprints

To gain a greater understanding of the of the ITE landscape and where and how we could maximise our impact, the team employed three research methods. These are summarised in the figure above.

The team conducted 19 semi-structured interviews with knowledgeable individuals representing various key stakeholder groups. These were used to gather and unpack perspectives regarding the challenges in the ITE landscape in preparation for the one-day, multi-stakeholder hackathon.

The hackathon, underpinned by principles of design thinking, was used as a solutions-focused collaborative exercise. Its primary objective was to establish how philanthropies like OMT might help to rapidly improve the quantity and quality of ITE

graduates, by supporting higher education institutions (HEIs) and internships in both urban and rural schools.

The follow-up sprints, running as two-hour, focus group-based problem-solving sessions, were used to take selected conversations forward that we were not able to complete in the one-day hackathon.

All the information and insights gathered from these consultations and collaborations were used to build on OMT's understanding of the ITE problem domain, and the opportunity areas within that problem domain that philanthropies might want to address. The section below summarises our findings regarding these two areas.

Phase 3 findings | The initial teacher education problem domain

A high-level summary of our research findings regarding the challenges present in initial teacher education in South Africa is illustrated in the figure below.

As was the case with our findings from Phase 1, this is not an exhaustive picture of the current state but captures the key aspects of what we found to be preventing improvements in ITE, particularly from a quality point of view.

From school ...

ITE degrees attract some of the **weakest school leavers** that manage to **gain university entrance.**

Most also lack **motivational suitability** for teaching.

... and back into school ...

They end up training our next generation of learners in dysfunctional school environments.

... to university ...

Student teachers **struggle at university**...

...being taught **unsuitable curricula**...

...by overburdened, **underprepared teacher educators**...

...and receive **inadequate practical teaching experience**.

They do not face **credible assessment** of their **readiness to teach**.

Other constraining factors

Insufficient teacher education research capacity (especially in early grade African language literacy) and an **ageing professoriate**.

School-based ITE programmes such as **internships not benefiting from a supportive policy environment**.

Absence of a reliable, integrated human resource planning system to **match teacher demand and supply** across phases and subjects.

What is present in ITE in South Africa is essentially a vicious cycle that, if left to repeat itself, will continue to deliver poor and inequality-exacerbating learning outcomes from our basic education system. One can start the reading of the cycle at any point. However, for simplicity, we will begin with school students.

From school ...

As noted before in this report, research shows that the majority of children attend poorly functioning primary and high schools where they are exposed to low quality teaching from underprepared and underresourced teachers.

The pool of potential applicants for ITE degrees is naturally weakened by this. It is further impacted by the fact that teaching in South Africa is not a desirable career for many school leavers.

As a result, ITE degrees in South Africa tend to attract some of the weakest university entrants, who lack suitability for teaching not only in terms of skills but also in their motivation for applying for a teaching degree. For example, indications are that just under half of BEd students choose the degree as their first choice.[67]

For most young people teaching is not a calling, but rather an avenue towards stable employment in a country with unsustainably high youth unemployment.

67. (Dison, Shalem, and Langsford, 2019)

... to university ...

While at university, many student teachers struggle due to:
(1) their underpreparedness for tertiary study, and a lack of proficiency in English needed to engage effectively with peers, lecturers and the curriculum;
(2) psychosocial challenges relating to issues such as family and financial pressures, and low self-esteem.

Student teachers are also not furnished with the requisite levels of subject knowledge, and pedagogical knowledge and competence, while completing their university degrees.

Outside of their low level of preparedness for higher learning, the central reasons for this include:
1. Unsuitable ITE degree curricula stemming from:
   (a) a paucity of research and understanding of what and how key areas of competence should be transferred to student teachers, especially in the teaching of early grade numeracy and African language literacy and
   (b) education faculties being too distant from the realities of school teaching, and
   (c) low credit allocations in Foundation and Intermediate Phase degrees for the key areas of literacy and numeracy;

2. Insufficient levels of competence and capacity among university teacher educators, with this being primarily driven by:
   (a) their own low levels of subject and pedagogical knowledge,
   (b) insufficient exposure to and knowledge of 'real' school environments (what they are preparing student teachers for), and
   (c) growing workloads related to increased student teacher enrolments, including student teachers requiring greater levels of support; and
3. Inadequate work integrated learning (WIL)/ 'teacher prac' programmes being run, because many education faculties:
   (a) struggle with placements of students teachers in schools,
   (b) have not been provided with sufficient funding to run effective WIL programmes,
   (c) have historically treated WIL as a tick box exercise, and
   (d) have not invested sufficiently in the relationships with, and support of, schools and teachers to provide constructive learning opportunities and feedback for student teachers.

... and back into school ...

For the NQTs that do find employment in a school,[68] they are reported to be ineffective due to:
(a) limited or no induction taking place in schools, and poor mentorship thereafter,
(b) teaching and learning environments in schools not being conducive, owing to issues such as poor leadership and inadequate infrastructure and resources,
(c) the low quality of training they received at university.

And so the cycle repeats itself, where the next generation of learners are taught by underprepared teachers in challenging school environments.

We recommend that interested readers refer to Taylor, N. (2019). Inequalities in Teacher Knowledge,

in *South African Schooling: The Enigma of Inequality* for a more complete discussion of how inequalities in teacher knowledge and poor schooling are recycled.

An important note is needed here. While we decided that OMT should focus on ITE, valuable work remains to be done in trying to improve the school environments into which NQTs are placed.

This is greatly needed if we are to reduce the reportedly high rates of new teacher attrition, and support these young people to be as effective as possible as they enter this challenging period of a challenging career.

68. Many NQTs struggle to find employment in schools due to issues relating to demand and supply i.e., phase and subject specialisation mismatches with what schools in their areas actually need.

Other constraining factors relating to the initial teacher education environment

We found that there are other challenges that span the entire new teacher development journey, and which prevent improvements in the number of quality teachers the ITE system can produce. These include but are not limited to the following.

1

South Africa currently lacks adequate teacher education research capacity. In addition we have an ageing professoriate. This capacity is critical for our ability to develop and improve curricula, practices, and teacher educators in our universities.

2

Like the basic education system, many of our education faculties are said to be 'stuck'. They do not have enough strong academic leaders willing and able to make the brave decisions needed to drive improvements in ITE degrees.

3

South Africa currently does not have a reliable, integrated human resource planning system to "match teacher demand and supply" and assist in effective policy decision making.

4

School-based ITE programmes (such as internships and other alternative teacher education pathways - ATEPs) show potential as a response to the looming supply crisis. However, they do not benefit from a supportive policy and funding environment to the extent that more traditional pathways into teaching do.[69]

The sector also lacks the knowledge of whether internships are an economically viable and effective means of training greater number of quality teachers for South Africa's basic education system. However, multi-stakeholder collaborations such as Teacher Internship Collaboration South Africa (TICZA) are looking into answering such questions.

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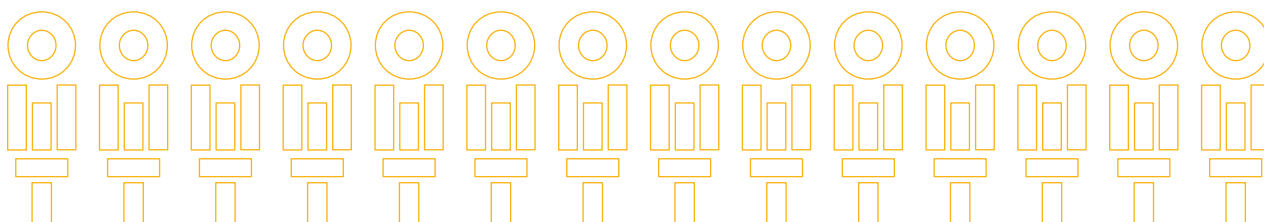
69. Traditional pathways into teaching can be defined as the more typical university-based programmes which are either face-to-face or distance based, include both academic and professional courses, and are interspersed with short periods of supervised teaching practice in schools. Alternative pathways can be defined as programmes that provide school-based teacher education while candidates complete coursework and carry some teaching responsibilities. (Hofmeyr, 2016).

Phase 3 findings | Opportunity areas for philanthropy to improve initial teacher education

Despite the challenges outlined above, there are a number of spheres in which philanthropy can work with other stakeholder groups and start turning the vicious cycle of low teacher quality for the majority of South Africa's schools into a more virtuous one.

In our engagements with stakeholders we identified a range of opportunity areas, which are illustrated in the figure below and elaborated on thereafter.

While many of these are interrelated, for ease of reading we present them as their own discrete areas along the student teacher journey (or ITE value chain).

This starts with the sourcing and selection of candidates, and ends with their placement, induction and mentoring in schools.

As with the challenges, these opportunity areas are not exhaustive. The sub-section serves to outline what we found, and provide a brief rationale for each area of potential intervention.

Opportunities across the student teacher journey

Sourcing and selection	Knowledge training	Practical training	Qualification	Placement and induction

Improving student teacher recruitment	Supporting the development of B.Ed degree qualification standards and finalisation of MR-TEQ	Improving induction
	Developing new ITE curriculum frameworks and curricula	
	Building the knowledge and skills of teacher educators	
	Building teacher education research capacity	
	Improving work integrated learning programmes	
	Wrap-around support and accelerated English proficiency	

Supporting collaboration among ITE system leaders

Scaling school-based ITE programmes

Building a management information system for teacher demand and supply data

Offering PGCE bursaries

Opportunity area 1 | Improving student teacher recruitment

Dropout of student teachers is too high and the time taken to complete teaching degrees is too long. The attrition of new teachers joining the profession is also reported to be concerningly high. Part of this challenge is driven by the fact that South Africa is not attracting the right candidates to the teaching profession.

Most of the conversations held regarding this topic revolved around improving the sector's ability to identify the right person by means of screening for not only aptitude but also passion and personality.

However, considerable work will also be needed in designing and implementing strategies to raise the status of teaching across South African society.

This is an incredibly complex task, with which many governments around the world are currently grappling, as there are many factors that impact the attractiveness or relative attractiveness of teaching as a career.[70]

Opportunity area 2 | Supporting the development of BEd degree qualification standards and finalisation of MR-TEQ

The Council on Higher Education (CHE) plans to conduct a special review of Foundation and Intermediate Phase BEd degrees across all HEIs against a revised set of degree qualification standards.

However, before this can happen, those standards need to be developed by the sector in as collaborative and buy-in-inducing fashion as possible. In addition, the governing framework for teacher education qualifications (The Minimum Requirements for Teacher Education Qualifications – MR-TEQ) needs to be finalised, and that is dependent on the development of the BEd qualification standards.

A sector-wide engagement process is needed for the Foundation and Intermediate Phase BEd degree qualifications standards to be developed and subsequently adopted by the sector.

While the CHE can initiate this process, support is needed for relevant parties (such as Education Deans, DHET, DBE, SACE, and other relevant experts in HEIs) to convene and collaborate in developing the standards and disseminating their implications to the sector.

Support will also be needed for the implementation of the special review.

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70. We recommend readers interested in this topic refer to OECD (2019), Working and Learning Together: Rethinking Human Resource Policies for Schools, OECD Reviews of School Resources, OECD Publishing, Paris, https://doi.org/10.1787/b7aaf050-en.

Opportunity area 3 | Developing new initial teacher education curriculum frameworks and curricula

We cannot hope for improved preparedness of NQTs if we are not preparing them with the right curricula to teach effectively in schools.

The Sesotho and Isizulu Reading Project (SIRP) and Maths4Primary Teachers projects have been leading the way in terms of developing new curriculum frameworks and curricula aligned to the PrimTEd standards.

However, SIRP only covers two African languages, and Maths4Primary Teachers currently only covers the teaching of primary school maths in the first year of BEd degrees.

Going even further in a promising direction has been the development of the English and IsiXhosa bilingual BEd at the University of Fort Hare. This aims to support NQTs to be comfortable teaching in both English and African mother tongue-based bilingual instruction.[71]

There are also the newly-launched and planned projects of English4Primary Teachers, and Africanlanguages4Primary Teachers. Like Maths4Prmary Teachers these ITE interventions are focused on responding to the weak results evident from the standardised assessments of BEd students implemented by the PrimTEd 2.0 (and now 3.0) testing project.

All these projects also involve communities of practice (CoPs) in subject-specific ITE collectives designing, trialing, and researching what to teach and how to better equip our primary school teachers for their critical roles as mathematics and languages educators.

Launching new, cross-institutional curriculum development projects, and expanding existing ones, are also great ways for philanthropy to support the development of young academics (the next generation of teacher education researchers) and build collaboration across the ITE system.

Opportunity area 4 | Building the knowledge and skills of teacher educators

The development of the knowledge and skills of teacher educators to train new teachers was highlighted by many HEI stakeholders as a significant need in the sector.

Too many teacher educators are said to be very far from where they need to be in terms of their own subject knowledge and pedagogy of how to prepare

new teachers for what will be required of them when starting their careers.

Whether on the back of new curriculum development projects or not, philanthropy can fund projects to build the capacity of teacher educators in South Africa's universities.

71. In the context of South Africa and African home languages, we need to be able to ensure that teachers and children are able to work comfortably with both their home language and English at the same time. This is based on the idea that sometimes a teacher needs to focus on teaching with the African home language (e.g., when in the African home language 'classroom'). In the English language classroom, they need to focus on teaching with English. However, in the content classroom, such as Mathematics or Life Skills, in certain contexts, the teacher may need to move between the two languages. We of course need to be clear on how that is scaffolded and supported and what level of mixing or translanguaging is appropriate across the different grades.

Opportunity area 5 | Building teacher education research capacity

There is a foundational element of ITE in South Africa that is in significant need of support. This is teacher education research capacity.

A successful ITE intellectual / knowledge project and the sector's ability to develop quality curricula and quality teacher educators depends on the number and quality of our researchers.

We simply cannot create solutions to our own problems in contextually relevant ways without adequate teacher education research capacity. We are already in short supply of such researchers, and we have an ageing professoriate.

There are a number of ways in which philanthropy could help build and sustain teacher education research capacity:
1. Funding research chairs, post-graduates, sabbaticals and global researcher exchanges.
2. Funding the development of university-school design hubs at universities. It is envisioned that selected universities could have around 20 partner schools in the hub that they work with on various elements of teacher education research.
3. Funding projects that amplify CoPs. As noted above, inter-university projects (such as those developing curricula) not only develop much needed material but also build research capacity in education faculties.

## Opportunity area 6 | Improving work integrated learning

WIL is a key piece in the ITE puzzle, as it is where theory and practice come together.

However, there are many challenges, discussed above, across the design and execution of WIL programmes for South Africa's student teachers. This is true for both under-resourced and well-resourced universities. There are two promising areas where philanthropy can be of assistance:
1. Supporting the establishment of teaching practice school networks (hubs) around universities.

2. Leveraging technology to improve placements in schools and the preparedness of students for their teaching practicals. Regarding the latter, two exciting examples of technology being used to improve WIL in South Africa are the TeachLivE and Teacher Choices in Action (TCIA) platforms, which can both be expanded. TeachLivE makes use of avatars to help students practise and receive feedback in a classroom simulation. The TCIA platform prepares students for the sets of choices that teachers need to make in every lesson they design and teach.

Opportunity area 7 | Wrap-around support and accelerated English proficiency
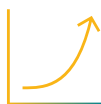
New student teachers enter university and face a range of challenges from the get-go that affect their emotional well-being and chances of success.

These challenges were outlined above and continue to negatively impact throughput rates and completion rates of ITE degrees.

An area that philanthropy can assist with is to help education faculties to improve new students' 'onboarding' into university environments.

This could involve funding in two main areas: (1) wrap-around / psycho-social support; and (2) improving the English proficiency of student teachers as quickly as possible.

Opportunity area 8 | Improving induction

One interviewee remarked that no university can prepare student teachers for what we ultimately throw them into, and that if we are not smarter about how we induct and mentor new teachers, we will continue to have very high attrition rates.

Another interviewee argued that it is not that South Africa completely lacks good teachers in schools where students do their pracs, or where they eventually find employment, it is more that these experienced teachers who receive them have not been trained in effective mentoring methods or teacher education.

In the medium to long-run, an induction should be a mandatory programme for new educators and even

possibly a pre-requisite for SACE registration. However, in the nearer term, progress can be made towards this by supporting the expansion of initiatives such as the induction pilot programme run by the DBE in partnership with VVOB and Inclusive Education SA.

Such a programme, and the associated training of teachers on how to be effective mentors, is a crucial part of not only of induction but also WIL programmes.

There are also opportunities to explore the use of technology to support induction as well as remote mentoring of new teachers.

Opportunity area 9 | Supporting collaboration among initial teacher education system leaders

The progress needed to rapidly improve ITE and its professionalisation requires a national effort. However, the collective thinking, collaboration, planning and possibly even coordinating needed across HEIs, government departments and professional bodies is not taking place.

Philanthropy can support the development and implementation of a collaboration framework/ approach through which leaders in the ITE system can engage to:

(a) think through and discuss key issues affecting the system and how to solve them;
(b) ensure momentum is maintained on critical elements in ITE in responding to both the quantity and quality crises; and
(c) improve the visibility of each others' progress and where additional support or collaboration is needed.

However, such a collaboration needs to emerge from the leaders in the ITE system, and not philanthropy, and should not be a gate keeper or coordinator of funding to institutions and organisations.

Opportunity area 10 | Scaling school-based initial teacher education programmes

One of the key features of the looming teacher supply crisis is that it is temporary. We therefore need responses that allow us to scale up and scale back quickly (among the other potential responses such as postponing teacher retirement and appointing more foreign teachers).

One stakeholder we spoke with reported that South Africa is currently only producing around 2% of its newly qualified teachers through school-based ITE programmes such as internships.

A country that appears to have scaled school-based ITE programmes is England with the Office for National Statistics reporting that over 48% of new teachers qualified through such routes in 2021/22.

With a vastly different education system, South Africa should not aim at such high percentages for a variety of reasons. However, it can be argued that there is considerable potential for growth in school-based pathways into teaching that do not require as much temporary capacity expansion at HEIs.

While TICZA is researching whether internships are an effective and cost-effective means of developing more quality teachers, potential exists to build on the learnings of TICZA's implementing partners, and fund internships or other school-based ITE programmes at a greater scale.

This could provide valuable learnings regarding how such programmes can be used to develop greater numbers of quality new teachers in South Africa.

Opportunity area 11 | Building a management information system for teacher demand and supply data

While the DHET-funded teacher demand and supply work led by the Research on Socio-Economic Policy (ReSEP) unit at Stellenbosch is incredibly important in enabling us to understand the nuances around the data we do have, in the medium- to longer-term the sector needs an integrated source of data.

The solution could involve philanthropy, alongside the DHET and DBE, investing in the design and development of an integrated human resource planning system covering both teacher demand and supply. There are already very valuable large datasets that can be used to good effect. For example, that of the Data Driven Districts (DDD) programme which collects and aggregates school-level data from the South African School Administration and Management System (SA-SAMS), and provides educator and learner information from over 22 000 of South Africa's roughly 25 000 schools.

Opportunity area 12 | Offering PGCE bursaries

NSFAS no longer provides funding for the PGCE qualification. The absence of a functioning student loan market also means the so-called "missing middle" continues to struggle to afford higher education qualifications, and this includes the PGCE.

Many philanthropies and CSI offices fund undergraduate and post-graduate bursaries and scholarships in South Africa. Some of these funds can be directed towards increasing the number and

quality of NQTs by finding PGCE bursaries.

Workable student loan models to assist the missing middle are also desperately needed in higher education in general, but this challenge is too broad in scope for discussion in this chapter. Interested readers can refer to the report's Higher Education chapter for a more detailed discussion on student funding issues.

THE WAY FORWARD FOR OMT

At the beginning of 2023 we reconvened with the OMT Board to reflect on our engagements and learnings from the previous year, and agree on the way forward for the Trust regarding its various portfolios.

Given the wide range of opportunities in ITE, and our intention to maximise our impact, we recognised that we needed to be selective in deciding where to focus our resources. With that in mind, it was felt that we could make our most meaningful contribution by getting behind more innovative models and fresh thinking in addressing the challenge of new teacher development.

For the basic education portfolio, OMT will be guided by the following overarching goal.

To fund innovative initiatives that unlock significant and scalable improvement in foundation phase teaching through new teachers and technology.

We will strive to achieve this goal through the activities outlined in the figure below.

We will strive towards this goal by

Because we believe that

Supporting the effectiveness, viability and growth of school-based initial teacher education

School-based ITE pathways should become more mainstream
- There is significant scope for growth in school-based ITE programmes such as internships as a means of addressing what is a temporary spike in demand for new teachers.
- Using functional schools as the primary site of learning for more of our student teachers can strengthen university-school ties, and better prepare our new teachers for real school environments.

Backing innovations in higher education institutions that can improve the quality, quantity, and retention of new teachers[72]

We cannot have more of the same from the university-based ITE system if improvements are to come about
- There are change-oriented leaders and academics in many of our HEIs who need the freedom to find and test better ways of attracting, preparing, and retaining higher quality teachers in greater numbers.

Exploring the potential of ed-tech programmes to improve learners' foundational literacy and numeracy skills

Even the best foundation phase teachers need assistance
- Foundation phase classes are generally large and contain learners at multiple grade levels of preparation. Even high-quality teachers need help in dealing with such realities.
- Ed-tech tools, especially those enabling self-led learning, hold potential to assist in learner gap closure, and to provide valuable data to teachers.
- There is an urgent need to establish whether literacy and numeracy ed-tech tools are an effective and cost-effective means of addressing our early learning crisis, and help bring what works to millions more children.

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72. We define an innovation to be the introduction of a novel idea, method, or product that brings about positive change and/or enhances existing practices. In an HEI context, an innovation would be the development and implementation of new ways of making inroads into the big problems be they related to attracting, selecting, training, and retaining teachers.

CONCLUSION

As argued in the introduction to this chapter, we believe that very little will change in terms of the basic education system's performance if we do not get the foundations right. Given that most children enter the schooling system with gaps, these foundations include access to quality ECD for every child.

Our country cannot afford to lose yet another generation of learners by not giving them the key capabilities they need to succeed at higher levels of education, and subsequently in the world of work. It was with this in mind that we decided to further refine the focus of our strategy in initial teacher education towards improving the state of early learning.

We must act with urgency – learners in the majority of our schools are falling further behind every day, and the wave of teacher retirements is drawing nearer.

We acknowledge that the resources that we can bring to the basic education sector are a small fraction of what is needed, but we emerge from our strategy development process committed to unlocking as much impact as we can in our chosen areas of support.

We believe we will be able to make our most meaningful contribution by working in collaboration with peer funders, academia, non-profits, and government decision and policy makers to:

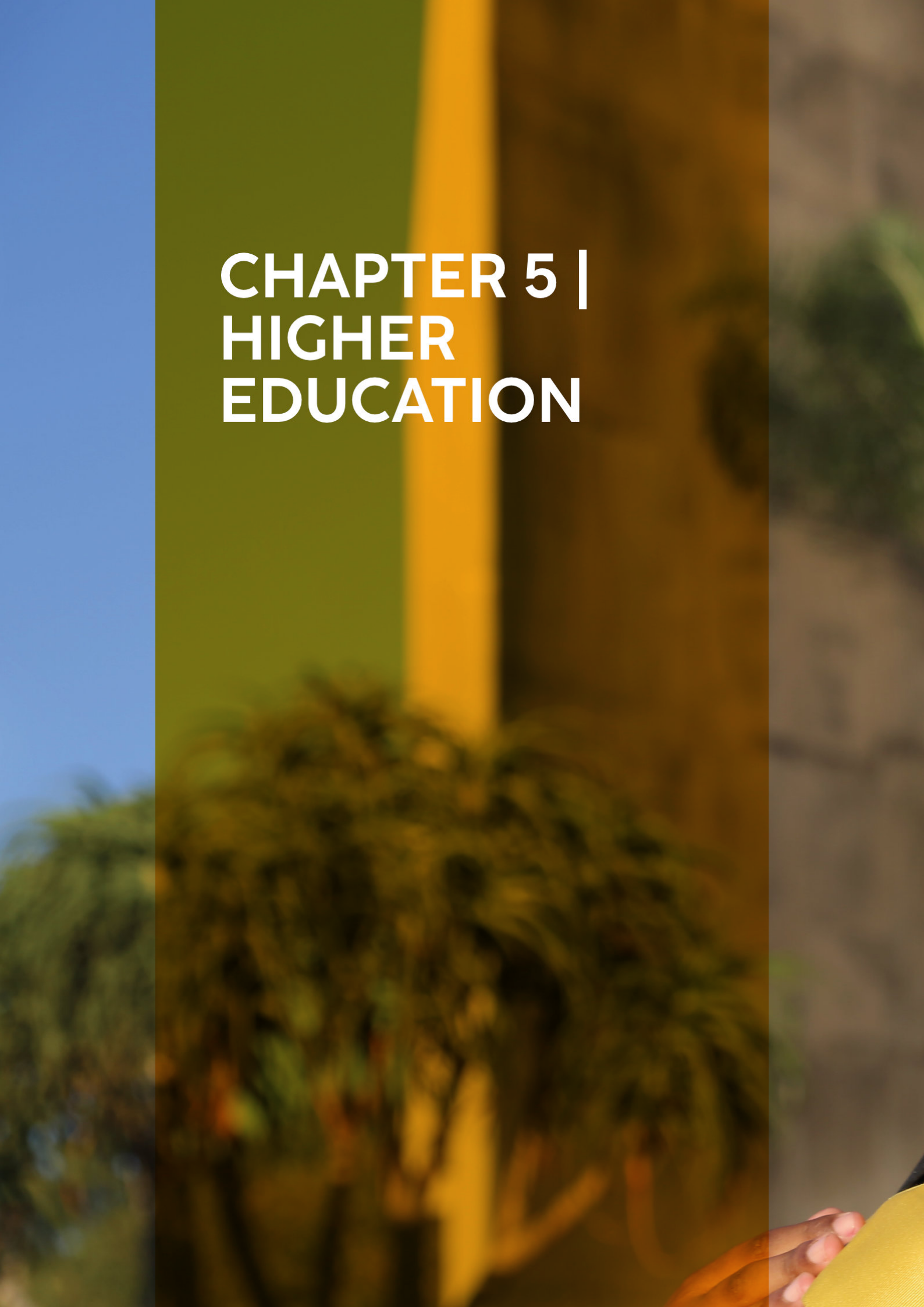1. Increase the number of high-quality new teachers coming through school-based ITE programmes to supplement the university-based ITE system.

2. Support fresh thinking and action in our universities and higher education institutions in general.

3. Understand and further develop the role that technology can play in supporting both Foundation Phase learners and teachers.

CHAPTER 5 | HIGHER EDUCATION

GLOSSARY

CET	Community Education and Training
CHE	Council on Higher Education
CoE	Centres of Excellence
DHET	Department of Higher Education and Training
DSI-NRF	Department of Science and Innovation-National Research Foundation
ERC	European Research Council
FABI	Forestry and Agricultural Biotechnology Institute
FCS	Full Cost of Study
GERD	Gross Expenditure on Research and Development
HHMI	Howard Hughes Medical Institute
IPSS	Institute of Post-School Studies
ISFAP	Ikusasa Student Financial Aid Programme
MANATI	Manati Alternate Student Funding
MTT	Ministerial Task Team
NACI	National Advisory Council on Innovation
NATED	National Accredited Technical Education Diploma
NCV	National Certificate Vocational
NDP	National Development Plan
NSFAS	National Student Financial Aid Scheme
PBO	Public Benefit Organisation
PCS	Partial Cost of Study
PIRLS	Progress on International Reading Literacy Study
R&D	Research and Development
RU	Rhodes University
SADC	Southern African Development Community
SARChI	South African Research Chairs Initiative
TVET	Technical and Vocational Education Training
UCT	University of Cape Town
UFS	University of the Free State
UKRI	United Kingdom Research and Innovation
UKZN	University of Kwa-Zulu Natal
UNISA	University of South Africa
UP	University of Pretoria
USAf	Universities South Africa
WBL	Work-Based Learning
Wits	University of the Witwatersrand

PHASE 1 | RESEARCH FINDINGS

Understanding the challenges facing higher education and opportunities for intervention

South Africa's current economic trajectory – characterised by low growth and rising unemployment – is unsustainable. While there are many factors that contribute to economic prosperity and social well-being, it has long been recognised that the citizens of countries that invest heavily in the advancement of human knowledge and technology are generally far better off than their peers. Such investment is a key ingredient in driving economic growth, enhancing productivity, creating jobs and improving the overall competititiveness of a country.

A core function of universities is to generate knowledge – to produce research and attract brilliant thinkers who will drive innovation and contribute to a stronger economy and society. South Africa's leading universities have historically fulfilled this role, but over the past 10 years a series of events, including student protests and government policy decisions, have put the viability of the entire system at risk.

The root cause of the current financial crisis facing South African universities is that increases in the government funding of universities via the core subsidy have not kept pace with the growth in student enrolments. While state subsidies paid to universities increased between 2004/5 and 2015/16, they fell significantly when adjusted for inflation and growth in enrolments – declining by 21.4% on a real per capita basis per full time equivalent (FTE) student enrolled.[1] Universities responded to the decline in per capita state funding by increasing their tuition fees by more than inflation. As a result, the contribution of tuition fees to South African universities' total income rose from 27% in 2004/5 to 34% in 2015/16.[2]

The rising tuition fees had a particularly adverse impact on students from low-income households, and culminated in widespread student protests between 2015 and 2016, referred to as the #FeesMustFall movement. This resulted in funding and policy changes which meant no fee increase for 2016, and either a reduced or no fee increase for 2017, depending on the student's income bracket.

The financial strain that universities were under in the wake of the government's decision not to increase fees in 2016 and 2017 was then greatly exacerbated by former President Jacob Zuma's announcement in December 2017 that the government would fully subsidise fee-free higher education for poor and working-class students via the National Student Financial Aid Scheme (NSFAS). This went against the advice from the National Treasury, that the President should reconsider. The decision to fully subsidise low-income students also went against the recommendation of the 'Heher Commission' – the very inquiry that was established by the President to investigate the feasibility of fee-free higher education and training. The Commission recommended that government introduce an income-contingent loan model to fund students.[3]

While President Zuma's decision resulted in a dramatic increase in funding for students from low-income households – and was considered a victory by those who had participated in the protests – it has not translated into higher tuition fee revenue for universities. Instead, the diversion of funds has contributed to a decline (in real terms) of public funding for postgraduate students and research, and a levelling out of the core subsidy government provides to universities.

This, combined with restrictive employment practices in some institutions, is putting the well-deserved global reputation of South's leading universities for research and teaching excellence at risk. The OMT believes that, as a result, a substantial investment in research excellence and innovation will be required to put South Africa back on a path to economic prosperity.

The financial crisis facing South Africa's universities is not, however, the only significant challenge they face. In the section that follows we explore some of the key challenges facing higher education, based on the desktop research and a series of interviews we held with subject matter experts in the first phase of the project. The challenge areas discussed were those highlighted during our engagements with stakeholders, and are by no means exhaustive.

OMT is cognisant of the fact that the challenges facing the higher education system are vast and complex. As such, we asked a range of stakeholders in higher education to consider how best OMT might spend its resources on strategic initiatives that could potentially have a meaningful and lasting impact. In the second half of this section we discuss some of the most promising opportunities for intervention.

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1. (Heher et al., 2017)   2. (Heher et al., 2017)   3. (Donnelly et al., 2017)

Challenge area 1 | Most problems in higher education have their roots in the dysfunctional basic education system

One of the fundamental challenges facing South Africa's universities (and higher education institutions more generally) is that the foundation of the education system is exceptionally weak.

Studies conducted over the past two decades have consistently revealed that South African children fall behind the accepted international standards for achievement in basic numeracy and literacy within their first few years of primary school.[4]

The most recent Progress on International Reading Literacy Study (PIRLS) revealed that in 2021 only 19% of South Africa's children in Grade 4 could read for meaning in any language. The study showed South Africa to be the worst performing of the 43 participating countries, and that it is two to five years behind other middle-income countries like Jordan, Egypt, Iran, and Brazil.[5]

The learning deficits that most South African children acquire in their early years of schooling are seldom remedied in later years, and tend to have an increasingly debilitating impact on educational outcomes as they progress through school.[6]

In other words, a child who fails to master basic numeracy and literacy skills in the foundation phase of primary school typically continues to attend school and advance to higher grades, but cannot engage fully with the curriculum, causing them to fall further and further behind. The longer the deficits persist, the more difficult and costly it is to try and remediate them.

South Africa has enjoyed nearly 30 years of democratic rule, but the race-based inequalities in education created under apartheid persist. While the schools that formerly served white learners largely remain functional and are now more racially mixed, the schools that formerly served black learners (and continue to do so) have, for the most part, remained poorly performing.[7]

The dysfunctional schooling system places an enormous burden on universities. Many of the learners who complete their schooling and manage to secure a place at an institution of higher learning find they are ill-prepared for the demands of tertiary education because of the learning deficits they carried through school.

This point was underscored in a conversation with Professor Ahmed Bawa, the then CEO of Universities South Africa (USAF), who noted:

"Perhaps the most significant challenge facing South African universities is that the basic education system is dysfunctional. The problem is, of course, that all the issues that arise in schools end up at the universities. And so, universities spend an inordinate amount of time and money trying to address the challenges that are rooted in poor schooling".[8]

Universities have traditionally drawn most of their students from the ±20% of South African schools that function well. However, in 2018 the then Higher Education and Training Minister Naledi Pandor lowered the minimum university entrance requirements, so that from 2019 it became possible for students that had only obtained a 30% pass in the university's main language of instruction to enrol.

In 2015 the national government also decided to significantly increase NSFAS funding available for students from low-income households.

The combination of lower admission requirements, together with an increase in funding for students from more disadvantaged backgrounds, has meant that universities are accepting a far higher number of matriculants who are poorly equipped to deal with the demands of higher education.

Accepting a higher number of poorly equipped matriculants has resulted in lower throughput rates and higher drop-out rates. Data from the 2012 cohort shows that roughly half of all university students drop out before completing their degrees, and that less than a third (29%) of first-time undergraduate students who began their bachelor's degrees in 2012 graduated within three years (the time it should take most students to complete a degree).[9]

Universities, faced with the growing proportion of students entering university ill prepared, have been forced to take on the burden – which is to try and bridge the gaps from secondary school.[10]

Efforts by universities to address this challenge include the introduction of bridging programmes, pre-university academies in partnership with selected

4. (Spaull and Kotze, 2015)
5. (Mullis, 2023)
6. (Spaull and Kotze, 2015)

7. (Spaull and Kotze, 2015)
8. Professor Ahmed Bawa in discussion with the authors, 15 October 2021.

9. Essop, 2020)
10. Professor Wim de Villiers in discussion with the authors, 12 November 2021

feeder schools, and 'wrap-around' services. These programmes, however, are usually expensive to run, difficult to scale, and have been working to varying degrees of success.

Arguably more concerning is that some or possibly even most universities, faced with the growing numbers of ill-prepared incoming students and in response to government subsidies being based on enrolment and pass rates, have "adjusted their academic standards downwards." As Professor Jonathan Jansen lamented, the decline in academic standards has ultimately meant that "the mediocrity of the public school system has penetrated institutions of higher learning."[11]

Challenge area 2 | The higher education and training system leaves universities with a disproportionately large share of the responsibility for educating school leavers

The National Development Plan (NDP), drafted in 2012, recognised that the South African post-school education and training system had not been appropriately designed to meet the skills development needs of South Africa's youth or the economy.

The NDP argues that the higher education and training system provides neither the quality nor type of education that the majority of school leavers require to become employable.

The current system is too 'top-heavy'. In 2019, almost twice as many students were enrolled in university than in Technical and Vocational Education Training (TVET) and Community Education and Training (CET) colleges.

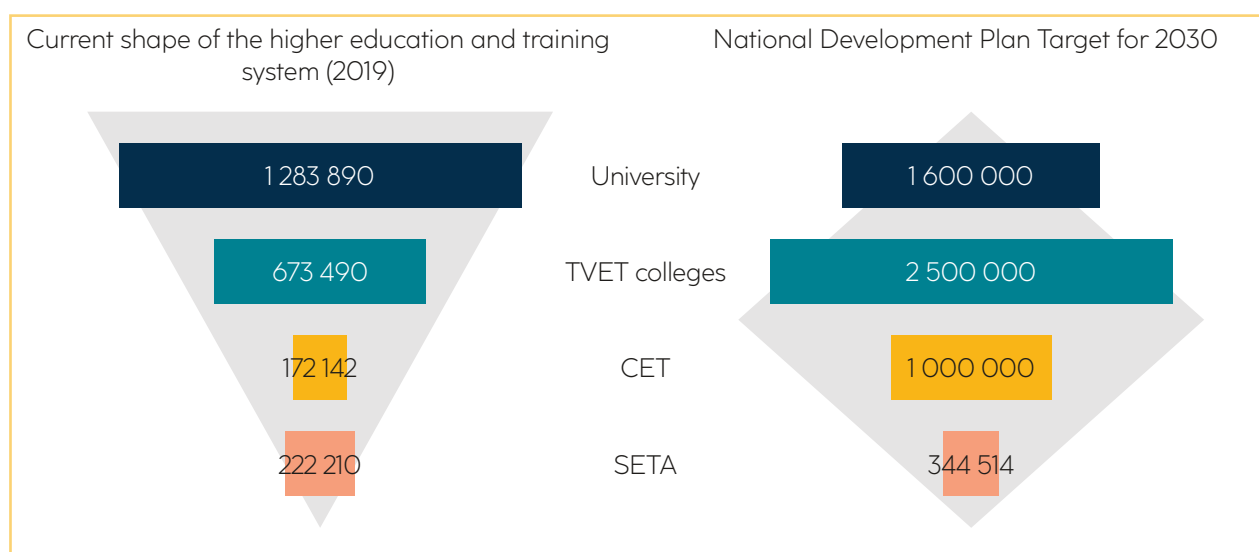The NDP envisaged that post-school training in South Africa should move closer to the type of dual-vocational education system for which countries like Germany and Switzerland are renowned.

This offers learners different pathways for high-quality post-school education. In Germany 50% of school leavers enter dual vocational and educational training programs (VET) as a route into employment instead of attending university.[12]

The NDP recommended that South Africa expand its college system and set a target that by 2030 nearly twice as many school leavers would be enrolled in TVET and CET colleges (Figure 1).

However, it was acknowledged that the quality and relevance of education provided by TVET and CET colleges will need to improve considerably, as the sector suffers from a poor reputation. Several reasons for this are outlined below.

Figure 1 | The shape of the higher education and training system: Current (2019) versus NDP target (2030)

Current shape of the higher education and training system (2019)		National Development Plan Target for 2030
1 283 890	University	1 600 000
673 490	TVET colleges	2 500 000
172 142	CET	1 000 000
222 210	SETA	344 514

Source: OMT analysis based on data from the Department of Higher Education and Training (DHET) Higher Education Management Information System (2021)
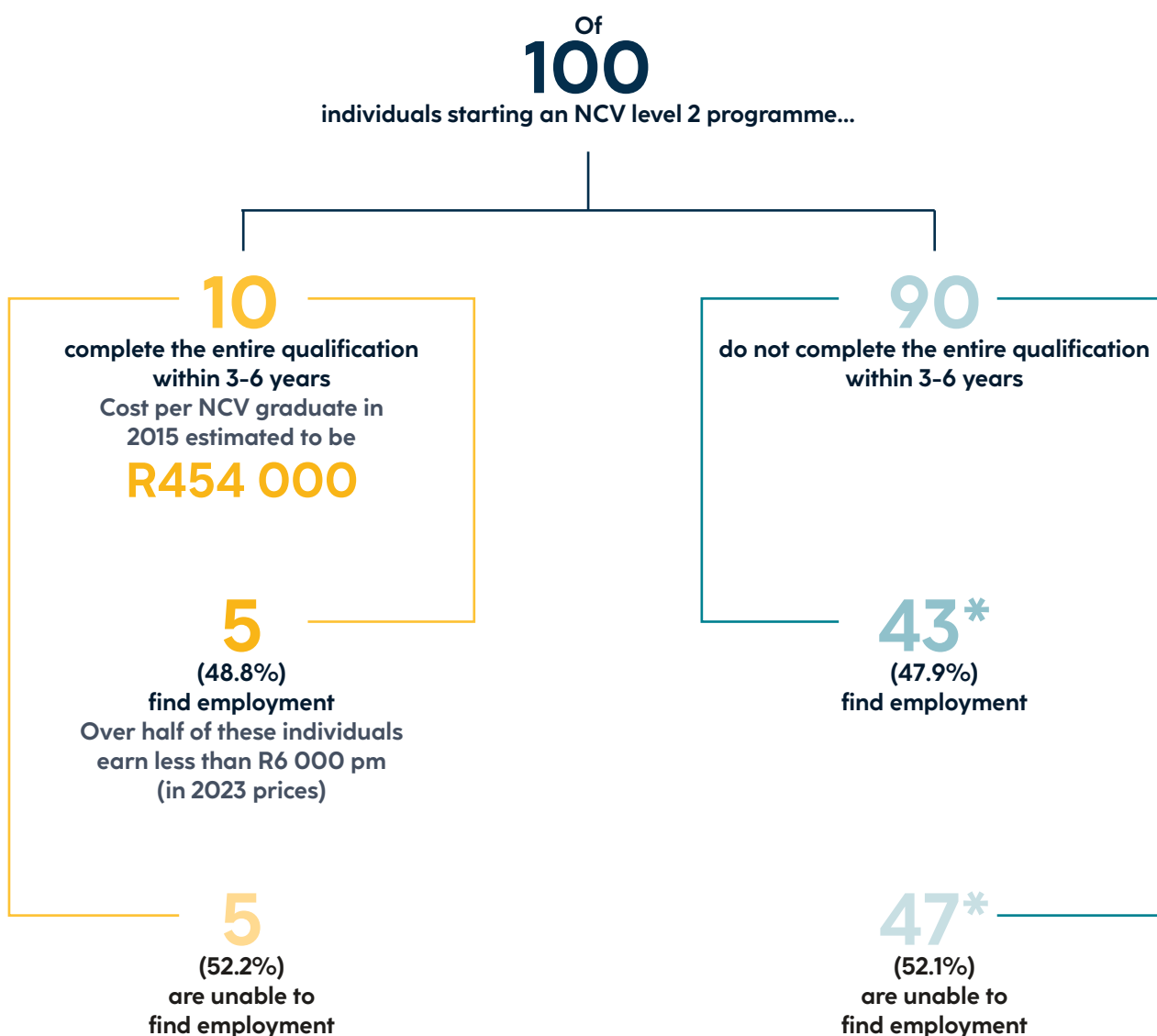
11. (Jansen, 2018)

12. (Niranjan, 2023)

Extremely low throughput rates

While the South African government recognises the importance of TVET education, and has more than doubled its funding of TVET colleges over the past decade, the returns on investment remain incredibly low. Less than 10% of all students enrolled in the National Certificate Vocational (NCV) Level 2 programmes in 2016 completed the qualification (Level 4) within the expected timeframe of three years.[13] Given such throughput rates the cost per NCV graduate in 2015 was estimated to be R454 000.[14]

Of
100
individuals starting an NCV level 2 programme...

10
**complete the entire qualification
within 3-6 years
Cost per NCV graduate in
2015 estimated to be**

R454 000

90
**do not complete the entire qualification
within 3-6 years**

5
**(48.8%)
find employment
Over half of these individuals
earn less than R6 000 pm
(in 2023 prices)**

43*
**(47.9%)
find employment**

5
**(52.2%)
are unable to
find employment**

47*
**(52.1%)
are unable to
find employment**

* Assuming NCV non-completers have the same probability of finding employment as the 15–34-year-old youth labour force.

13. (Khuluvhe et al., 2021; Essop, 2020)
14. (DNA Economics and Mzabalazo Advisory Services, 2016; Khuluvhe et al., 2021)
15. Note: Completers with the following qualifications were included in the sample: 1) NCV Level 4 Engineering Studies, 2) NCV Level 4 Business Studies, and National Accredited Technical Education Diploma (NATED or N courses) which included 3) N3 – Engineering, 4) N6 – Business, and 5) N6 – Engineering

Poor employment prospects

In a recent tracer study Rogan and Papier (2020) sampled over 4 000 completers from all 50 public TVET colleges in South Africa.[15] It was found that between 18 and 30 months post-programme completion, only 40% of the sample were employed, self-employed, or in a work-based learning (WBL) programme.

Over 45% were unemployed under the narrow definition of unemployment. However, a more appropriate measure of labour market outcomes for TVET completers is their unemployment rate by the expanded definition.

For the overall sample this was found to be 52.2%. This is effectively equivalent to the overall expanded-definition unemployment rate in 2019 for youth aged 15-34, which was estimated to be 52.1%.[16]

Skills expert Ken Duncan previously described TVETs in a report as acting as a "gigantic recycling system for secondary school finishers, keeping them occupied for another three to four years until they are re-introduced into the labour market with little new knowledge and skills and thus only slightly better job prospects than they had before".[17]

Low earnings for those able to find employment

For the individuals able to find employment after completing a TVET programme the earnings levels are generally very low. A Swiss-South African Cooperation Initiative-led tracer study in 2016 found that over 50% of NCV completers finding employment were earning less than R3 000 per month.[18]

An Institute of Post-School Studies (IPPS) study in 2017 found similar results for National Accredited Technical Education Diploma (NATED) completers, with 63% of participants earning less than R5 000 per month.[19]

The recent tracer study of Rogan and Papier published in 2020, showed slightly better earnings outcomes for the likes of the N6 Engineering programme.

However, over 60% of NCV Level 4 Business completers, and over 50% of N6 Business and N3 Engineering completers were earning less than R5 000 per month.

While there is still a small group of well-performing TVET colleges, on average the disappointing rates of qualification success, poor employment prospects, and the low earnings of TVET graduates provide ample motivation for South Africa's school leavers to rather seek out a university degree.

This has placed, and continues to place, a large share of the responsibility of preparing South Africa's youth for employment on South Africa's universities, which further stretches their thinning financial, personnel and infrastructural resources.

In our interviews with sector experts we found that the most significant driving factors of the challenges within South Africa's TVET sector are:

i. Students entering the college system mostly come from impoverished backgrounds and have received poor-quality basic education. Like South Africa's universities, TVETs ideally need to provide holistic wrap-around student support and bridging programmes.

ii. Within South Africa's TVET sector there is "little matching of TVET curriculum offerings with the needs of the job market."[20] One of the reasons for the curriculum mismatch with the needs of the economy is the historically poor linkages between businesses and TVET colleges.[21] TVET lecturers also often lack an understanding of the industries for which they are trying to prepare students. They have rarely worked in relevant industries.[22]

However, over the past 10 years TVETs have "increased their partnerships with business" and there have been "significant improvements in the strength and depth of linkages."[23]

More needs to be done by TVET colleges to develop and maintain closer working relationships with employers in their areas.

Closer ties between colleges and employers could lead to the former finding more workplace and learning opportunities for students and lecturers. The colleges could also use these linkages to source industry experts to teach on a part-time or occasional basis.[24]

16. (Statistics South Africa, 2019)
17. (Schirmer et al., 2021)
18. (SSACI, JET, and NBI, 2016)
19. (IPSS, 2017, cited in Khuluvhe et al., 2021)
20. (Department of Education, 1995, cited in De Lannoy et al., 2018)
21. (Schirmer et al., 2021)
22. SSACI leadership team in discussion with authors, 11 October 2021.
23. (Schirmer et al., 2021)
24. (Schirmer et al., 2021)

Challenge area 3 | The financial sustainability of South African universities is under threat

Another key challenge facing South African universities is that the long-term financial sustainability of the university system is under threat. This is due to a combination of the following:

1. **A dramatic increase in funding for students from low-income households via NSFAS** has, unfortunately, not translated into higher tuition fee revenue for universities. The diversion of funds has also led to a levelling out, or even in some cases a decline, of the core subsidy government provides to universities.
2. **Rising student debt levels,** which are partly historical but are also related to limited funding

options available to university students from middle-income households – the missing middle.
3. **A decrease in public funding available for postgraduate students**, particularly for students enrolled in honours degrees and those in post-doctoral studies.
4. **A decline in public funding for research and development at universities**.

We discuss the impact that each of these contributing factors has had on the financial sustainability of the university system in the sub-sections that follow.

The dramatic increase in student financial aid has come at the expense of core funding for universities

The government's contribution to the National Student Financial Aid Scheme (NSFAS) has increased drastically – from R10 billion in 2017 to R49 billion in 2022.

But the increase in student financial aid available via NSFAS has unfortunately not translated into higher tuition fee revenue for universities (Figure 2).

This is partly because NSFAS funding for students enrolled in universities covers tuition fees, accommodation, and student stipend for food, books, and travel.

As such, universities only receive a portion of the total NSFAS expenditure on university students.

We estimate this to be 69% in 2019/20, based on data extracted from the NSFAS annual funding report (Figure 2).

Nevertheless, in 2019/20 it appears that 70% of universities' tuition fee revenue (R21bn of a total of R29bn) came from NSFAS-supported students (Figure 2), while only 36% of the total students enrolled in that year obtained financial aid from the scheme (Figure 3).

This would suggest that universities are struggling to recover tuition fees owed by self-funded students.

Figure 2 | NSFAS funding to university students vs. Total university tuition fee revenue, (Rbn)
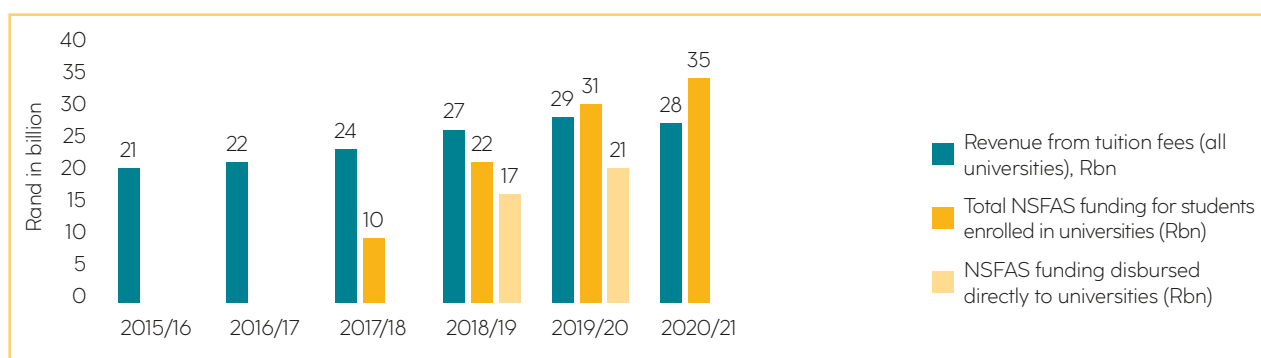
Source: OMT analysis based on data from StatsSA Financial statistics on higher education institutions (2018-2020), data from the National Budget on NSFAS expenditure (2018-2021), and the NSFAS 2021 Programme Funding Status Report

Figure 3 | NSFAS funded students as % of total enrolled in public universities
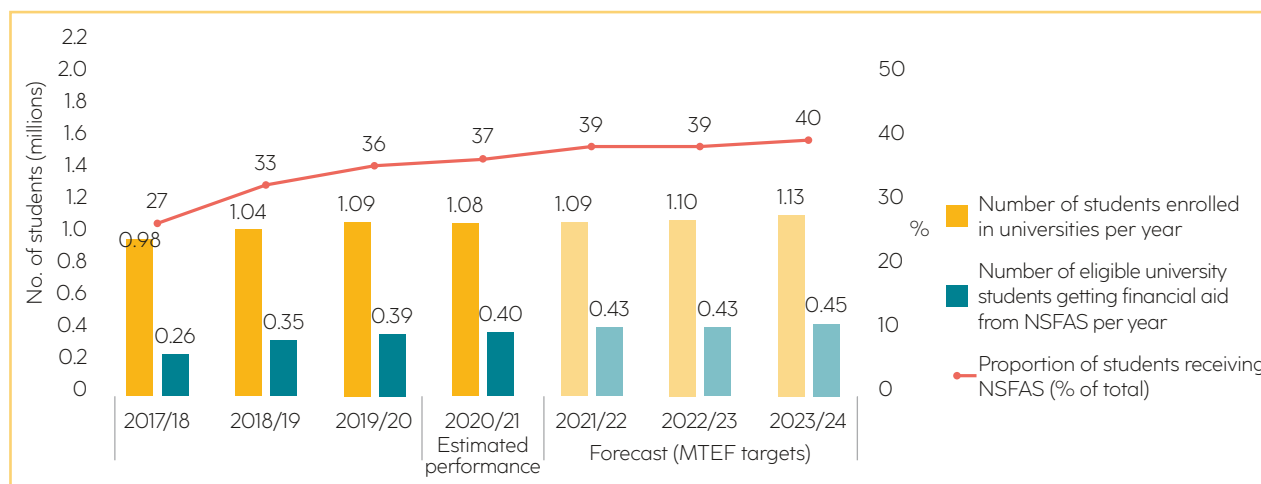
Source: OMT analysis based on data from StatsSA Financial statistics on higher education institutions (2018-2020), data from the National Budget on NSFAS expenditure (2018-2021), and the NSFAS 2021 Programme Funding Status Report

The diversion of funds for tertiary education into student financial aid has also contributed to a levelling out of the core subsidy that universities receive from the government to fund their operations (Figure 4).

At the same time, in July 2021, Higher Education, Science and Innovation Minister Dr Blade Nzimande announced that the government was intending to introduce a framework for the regulation of university fees. The objective would be to ensure that "fees remain affordable".

It could, however, put the financial sustainability of universities at greater risk, as it will remove the autonomy of universities to determine the student fees they require to remain sustainable. As Professor Bawa, then CEO of USAf noted:

"The one very large issue [universities are facing] is around the long-term sustainability of the system. We are seeing a serious kind of flattening out of the subsidy from the government, and that is happening at the same time that government is about to introduce tuition fee regulation. We are also seeing a fairly dramatic decrease in public and private sector funding for research and development.... Whilst the budget for higher education is the fastest growing in the fiscus, this is driven by increases in allocation to NSFAS, while funding for the core activities of universities remains flat."[25]

Figure 4 | Proportion of public funds spent on student financial aid vs. university infrastructure and core funding, 2017 to 2023 (R bn)
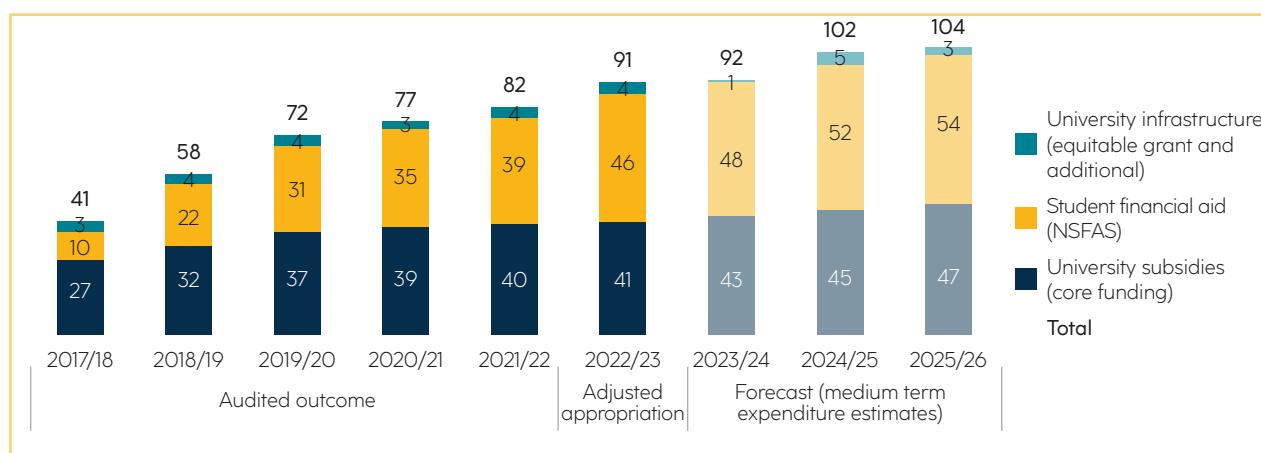
Source: OMT analysis based on data from Vote 17 of the 2020, 2021, 2022 and 2023 National Budgets and Vote 15 of the 2018 National Budget

25. Professor Bawa in discussion with the authors, 15 October 2021.

Mounting student debt and the missing middle

Dr Whitfield Green, the CEO of the Council on Higher Education (CHE), highlighted that the issue of mounting student debt was due to a combination of historical debt owed to universities by students funded on the NSFAS loan scheme before 2018, and the lack of a viable funding model for students from middle-income households.

"The issue of student debt is a historical one, but ongoing. And as long as we don't have a viable funding model that addresses the needs of the range of students, the issue of student debt will continue to be a challenge."[26]

Gross student debt increased from R3.23 billion in 2011 to R13.16 billion in 2019. As a percentage, 23% of total fees were uncollected in 2011, and by 2019 this had increased to 39%.[27]

It has been estimated that more than 500 000 South Africans cannot access tertiary education due to a lack of funding.[28] Banks finance students whose parents are creditworthy via student loans, and NSFAS finances students from low-income households via grants.

But there is currently very limited funding available for the missing middle – the students who come from households with a combined annual income of more than R350 000 but whose parents or guardians are unable or unwilling to sign surety for their loans.

Manati estimates the annual funding gap is between R30 billion and R45 billion.[29] It is the missing middle that accumulates student debt, and who are then unable to reregister for university because of outstanding debt. This points to the increasing impoverishment and exclusion of potential university students from the "lower-to-middle-class".[30]

Towards workable student loan models for the missing middle

There are some funders operational in the missing middle market, but not nearly enough to serve the sizable market and need. Two examples are the Ikusasa Student Financial Aid Programme (ISFAP) and Manati Alternate Student Funding (MANATI).

ISFAP was established to assist poor and "missing" middle-income university students in specific high-demand professions (such as lawyers, doctors, actuaries). It is a Public Benefit Organisation (PBO) that raises funds from various sources and donors in the public, private and non-profit sectors. The organisation offers full bursaries, selecting candidates based on financial need and merit.

MANATI offers alternate student funding through low-interest study loans that make further studies possible for most of the students who would otherwise be unable to afford or secure the necessary funding. At the time of our interview with MANATI they were only working with private-sector universities and colleges, but intended to pilot and scale their model to public universities.

In our interview with Shane Perrier from ISFAP he noted that while they are contributing to addressing the funding gap in the higher education space, the problem is far from being solved.

He estimated that before the Covid-19 pandemic, roughly 40% of students who applied to attend university came from households, that could self-fund their studies, approximately 30% were from poor and low-income households and the remaining 30% fell in the missing middle.

His post-pandemic experience is that the number of students who came from households that could fund tertiary education had fallen to 20%, and the missing middle had swelled to approximately 50%.

26.(Mthethwa, 2021)
27.(DHET, 2021, cited in Ouma, 2021)
28.(MANATI, 2021)

29.(MANATI, 2021)
30.(MANATI, 2021)

The South African government has acknowledged that the current model of student funding is unsustainable, and that solutions must be found.

In 2021 Minister Blade Nzimande announced that he had appointed a Ministerial Task Team (MTT) to make proposals for a more sustainable model of providing student financial aid. The MTT submitted its final report on the 22nd of June 2022, while the Minister publicly announced the Task Team's 18 recommendations in October 2022.[31]

Some of the notable recommendations made by the MTT include:

▪ The Government should "work towards a student financial aid model that is comprehensive, providing differentiated support to students from different socio-economic backgrounds, drawing on a range of funding sources."
▪ The comprehensive funding should incorporate loan funding options for students in the missing middle. The ideal model in the MTT's view would be a wholesale lending scheme drawing on a range of sources and managed by an independent entity. This would be a regenerative funding model which allows for funding to be returned on an income-contingent basis with the support of the tax authority.
▪ The regulation of tuition fee increases should be introduced, and would form an important part of the development of a comprehensive funding model.
▪ The government should consider introducing incentives for students who complete their undergraduate degrees in the minimum time to obtain additional funding for honours or advanced diploma qualifications.
▪ Financial aid for postgraduate students must be part of the comprehensive model for student financial aid.

The Minister announced in February 2023 that a proposed funding model is due to be presented to the cabinet for approval.

Decrease in public funding available for postgraduate students

Public funding for postgraduate students is provided by the Department of Science and Innovation-National Research Foundation (DSI-NRF), and is intended to support honours, masters and doctoral candidates to pursue full-time studies at South African public universities.

The NRF is primarily funded by a parliamentary grant (20%) and contract funding received from the Department of Science and Innovation (70%).

The disadvantage of this funding model is that the use of approximately 70% of the NRF's income is determined by the DSI, and ring-fenced for specific uses defined under contracts, such as for research chairs and centres of excellence.

It is only the parliamentary grant of roughly R1 billion that the NRF can use to cover its operational expenditure, directly fund postgraduate students, and spend on other discretionary elements to deliver on its mandate.[32]

Over the past several years the NRF has been experiencing increased financial pressure due to a real decline in its funding from the government since 2017/18 (Figure 5).

In 2017 the then CEO of the NRF, Dr Molapo Qhobela, noted that the NRF was under significant strain due to a 19.1% reduction between 2017/18 and 2018/19 in the allocation of funding for research infrastructure for universities and national research facilities.

He also stated that this would be further exacerbated by decreases in the NRF's main funding sources – the parliamentary grant and contract income – which were expected to decline by 7.3% in real terms in the three years to 2019/20.

The financial position of the NRF deteriorated further in 2020/21 when the government decided to cut NRF funding, as funds were diverted to other areas in response to the Covid-19 pandemic.

Regarding the funding of postgraduates, the CEO of the NRF, Professor Fulufhelo Nelwamondo, noted that funding cuts and the introduction of the new DSI-NRF Postgraduate Funding Policy had resulted in a 50% decrease in the number of students funded by the NRF – from approximately 12 700 students in 2018/19 to just under 6 500 by 2022/23.[33]

31. (Nzimande, 2022)
32. (National Resarch Foundation, 2023)

33. (Naidoo, 2021)

Figure 5 | Trend in NRF funding in real terms, 2013/14 to 2021/22, Rm (2021 prices)
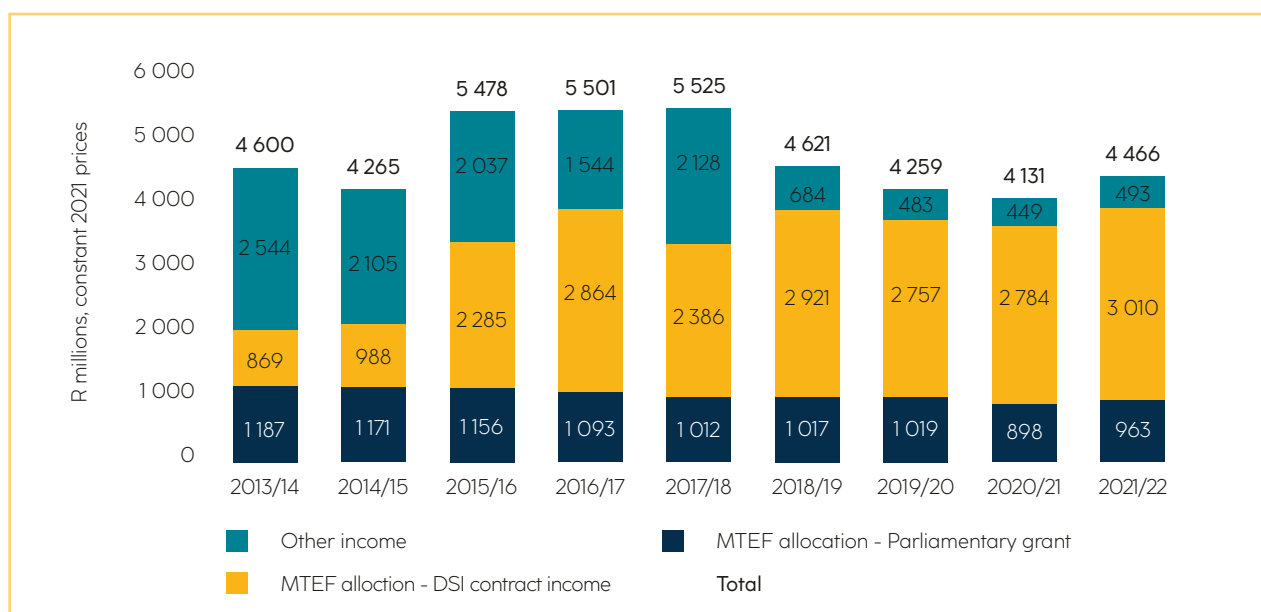
Source: OMT analysis, based on data sourced from NRF annual performance plans 2017/18, 2021/22, 2023/24

Overview of the DSI-NRF Postgraduate Student Funding Policy implemented in 2021

The DSI-NRF Postgraduate Student Funding Policy was introduced to give effect to the Ministerial guidelines that sought to improve equity in the distribution of DSI-NRF Bursaries and Fellowships, based on criteria for age, race, gender, citizenship, and financial need as well as academic achievement.

The net effect has been that far fewer students are funded fully by the NRF and that a greater proportion are from previously disadvantaged groups – black South Africans, and particularly those from low-income households.[34]

The policy stipulates that approximately 86% of all postgraduate funding must be allocated to black South Africans and that at least 55% should be allocated to women. A maximum of 5% can be allocated to international students, including those

from the South African Development Community (SADC.)

The entry age requirement is 28, 30 and 32 years or younger for honours, masters and doctoral studies respectively, in the year of application. Successful applicants will be funded either at Full Cost of Study (FCS) or Partial Cost of Study (PCS).

The FCS funding is only awarded to South African students who are financially needy (combined household family income is less than R350 000 per annum), living with a disability, or who are exceptional academic achievers.

The PCS funding is awarded to international students and South African students who did not meet the criteria for FCS but meet other minimum requirements for NRF funding.
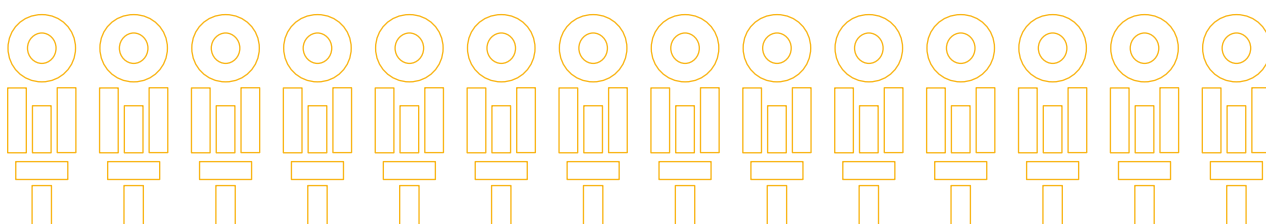
34.(National Research Foundation, 2021)

While there is insufficient funding for postgraduate studies in general, sector experts, including several vice-chancellors, identified that the largest gaps in funding are for post-doctoral studies.

The lack of funding for emerging young researchers for post-doctoral positions, in particular, is constraining South Africa's pipeline to build the academy. It was argued that it will inevitably translate into a shortfall in professors able to teach critical subjects at the university level.

Dr Sizwe Mabizela, Vice-Chancellor of Rhodes University, noted that another large gap in funding

for postgraduate students is for the honours degree.[35] While the NRF does provide funding for honours degrees for South African citizens under the age of 28, it is not sufficient to meet demand.

In addition, students funded by NSFAS for their undergraduate degrees cannot obtain NSFAS funding for their honours degrees.

Given the far higher pass rates in honours degrees and the consequently superior return on investment in funding at this level, potentially promising gains for academia (and young persons' employment prospects) are being missed.

A decline in public funding of research and development at universities

It is widely accepted that one of the core functions of universities is to generate knowledge – to conduct research and act as a catalyst for innovation in the broader economy.[36]

Despite this, there is a growing shortage of public funding for research and development in South African universities due to the trend of decline in funding to and from the NRF.

In early 2022 the NRF's outgoing head of research and innovation, Dr Gansen Pillay, noted the institution's biggest challenge is that its core funding – the parliamentary grant – has remained stagnant in nominal terms and that it continues to shrink in real terms (Figure 5).[37]

Professor Loyiso Nongxa confirmed that under-funding of the NRF was a long-standing problem, and that the parliamentary grant had also remained flat during his tenure on the board of the NRF, which began in 2014 and ended in 2018.[38]

Our own analysis suggests the NRF's parliamentary grant fell from R1 187 million in 2013/14 to R963 million in 2021/22, expressed in 2021 prices (Figure 5).

Given the financial constraints, Dr Pillay cautioned researchers in South Africa that they should not be "over-reliant" on funding from the NRF, noting in an interview with Research Professional News:

"My humble advice is that researchers must apply for funding outside of the NRF and South Africa. One needs to look beyond the NRF."[39]

Some of South Africa's research-intensive universities are making a concerted effort to raise external funding to plug the gap in research budgets and to provide financial support to postgraduate students. Professor de Villiers of Stellenbosch University noted they had some success, and are obtaining support from foundations and research commissions based in Europe.[40]

Speaking more broadly, Professor Zeblon Vilakazi argued that South Africa's under-investment in research is very short-sighted given its wide-ranging benefits.

New research translates into more patents being registered, new policies being developed, and economic growth, entrepreneurship, and start-ups.[41]

It is concerning just how short we are falling in funding for research and development as a country. In its 2008-2018 decadal plan, the then Department of Science and Technology set a target that Gross Expenditure on Research and Development (GERD) would reach 1.5% of GDP. Instead, by 2018 it had declined to just 0.75% of GDP.[42]

35. Dr Sizwe Mabizela in discussion with the authors, 18 October 2021.
36. (Naidoo, 2021)
37. (Nordling, 2022)
38. Professor Loyiso Nongxa in discussion with the authors, 29 October 2021.

39. (Nordling, 2022)
40. Professor de Villiers in discussion with the authors, 12 November 2021.
41. Professor Zeblon Vilakazi in discussion with the authors, 12 November 2021.
42. (Van der Merwe, 2022)

Challenge area 4 | Deep inequalities in the nature and quality of teaching and research provided by South Africa's public universities persist

Another major challenge facing the university system is that, while there is little differentiation in the amount and nature of support the 26 public universities receive from the government, the reality is that deep inequalities persist.

The Extension of University Education Act introduced by the apartheid government in 1959 segregated South African universities by both race and ethnicity. Afrikaans-medium universities - Potchefstroom, Pretoria, Orange Free State and Stellenbosch - had from their foundation restricted admission to white students.

The Act effectively prohibited the established English-medium Universities of Cape Town (UCT), the Witwatersrand (Wits), and Natal, which had previously been open to people of all races, from admitting black students. Black students could be admitted by exception, but only if they obtained the written consent of the Minister of Internal Affairs.

Through the Extension of University Education Act of 1959 and the Fort Hare Transfer Act of 1959, the government created a set of new ethnically segregated universities and colleges for black people – one each for Coloureds, Indians, and Zulus and one for Sotho, Tswana, and Venda students, as well as a medical school for Black students. Fort Hare, formerly Lovedale Mission College, became restricted to Xhosas.[43]

While attempts were made in post-apartheid South Africa to restructure the university system through a series of mergers, the differences have, for the most part, remained firmly entrenched.

As Professor Nongxa noted in a public lecture he gave in 2012,[44] and Professor Jansen describes more recently in a 2018 publication,[45] South Africa's 26 public universities can be classified into three hierarchical tiers that are quite distinct in terms of (i) the calibre of students they attract, (ii) the standard of undergraduate and postgraduate teaching they provide, and (iii) the volume and quality of the research their scholars produce.

Figure 7 | The three tiers of South Africa's public universities
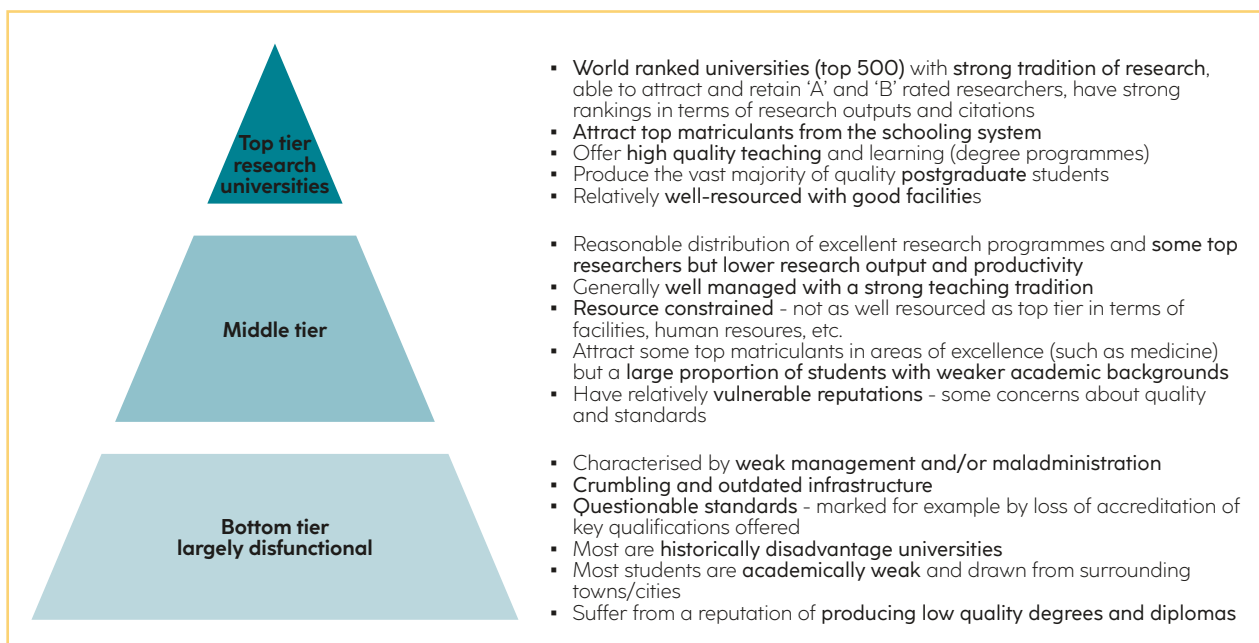
Source: OMT analysis, based on Jansen (2018)

43. (O'Malley, 2023)
44. (Jobbins, 2012)
45. (Jansen, 2018)

In the top tier is the very small group of five or six universities that sector experts we interviewed typically referred to as 'research-intensive'. These universities all have a strong tradition of research and tend to attract the top matriculants, internationally rated academic scholars and excellent teaching staff.

Since university rankings are complex, it is debatable exactly which universities fall in the 'top tier'. The five that have consistently produced the most research are UCT, Stellenbosch University (SU), the University of Pretoria (UP), the University of Kwa-Zulu Natal (UKZN) and Wits. These were all historically 'white universities' and as such were relatively well resourced.

The Department of Higher Education and Training's most recent evaluation of research output reveals these five universities together with the University of Johannesburg (formerly RAU) produced 60% of South Africa's research output in 2021 (measured in publication units). Together with the smaller campuses of Rhodes University (RU) and the University of the Free State (UFS), this group also produced the highest per capita research output in that year.[46]

Below them, in the middle of the system, is the group of universities (some that were formerly Technikons) that have some excellent research programmes and strong teaching traditions and are generally well managed, but compared to the Tier-1 research universities are relatively resource constrained. They attract some top matriculants in areas of excellence but also accept a larger percentage of weaker academic students.

In the bottom tier are several largely dysfunctional universities that may have pockets of good teaching and a handful of rated-academic researchers, but are characterised by weak management, crumbling infrastructure, questionable academic standards, and corruption. This group comprises mainly the historically disadvantaged universities and colleges that have never been well resourced, and were intended by the Extension of University Act of 1959 to be undergraduate teaching institutions and continue to provide limited research activity.

In a discussion we held with Professor Jansen during our study, he remarked that the "Bottom tier tertiary institutions are criminally corrupt and dysfunctional." This group, however, now arguably also includes the University of South Africa (UNISA), South Africa's largest university by enrolment.

One of the major frustrations expressed by vice-chancellors of universities that lie in the top tier is that, while a handful of research-intensive universities produce more than 60% of the academic research output and are responsible for most of the postgraduate training, the Department of Higher Education and Training (DHET) had seemed reluctant to recognise them as a distinct group.

Professor de Villiers, Vice-Chancellor of Stellenbosch University stressed that government must recognise that top-tier universities require significantly greater support in terms of research and postgraduate funding than the other 20 or so universities.[47]

It appears that DHET has heeded the call for greater differentiation in government support provided to universities. On the 8th of August 2022 Minister Blade Nzimande released a draft policy for the recognition of three different South African Higher Education Institutional types – universities, university colleges and higher education colleges.

The draft policy seeks to provide criteria that distinguish institutions based on the range and scope of services they provide and based on governance.[48] The final policy has yet to be gazetted.

46. (Jansen, 2018)
47. Professor de Villiers in discussion with the authors, 12 November 2021.
48. (Ministry of Higher Education Science and Innovation, 2022)

Some South African universities have been rendered dysfunctional by corruption and vested interests

Since we completed the first phase of our research in 2021, the extent to which some universities have fallen prey to corruption and vested interests has become considerably more evident.

On the 8th of January 2023 University of Fort Hare Vice-Chancellor Professor Sakhele Buhlungu's bodyguard, Mboneli Vesele, was shot dead in a suspected assassination attempt. Many believe that Professor Buhlungu was the intended target and that a syndicate of politicians and businesspeople, linked to allegations of widespread corruption at the university, was behind the attack.[49]

In September 2022 Minister Blade Nzimande decided to appoint an independent assessor, Professor Themba Mosia, to investigate the situation at the University of South Africa. UNISA was established just over 150 years ago and is by far the largest university in South Africa by enrolment.

The scope of the investigation included allegations of poor governance, irregularities in financial management and claims of intimidation and bullying.

The report, released on 26 May 2023, recommended that UNISA be placed under administration after the investigation revealed a litany of claims of maladministration, poor leadership, and mismanagement against the council, chaired by Mashukudu Maboa, and the executive management team, led by the principal and Vice-Chancellor, Professor Puleng LenkaBula.

In a recently published book, *Corrupted – a study of chronic dysfunction in South African Universities*, Professor Jansen examines why so many of South Africa's 'bottom-tier' universities have been rendered dysfunctional by corruption.

He notes that at the heart of the problem is that a university in an impoverished community is also a rich concentration of resources around which corrupt staff, students, and those outside of campus all vie for access.

Solutions proposed include the de-politicisation of university councils and the appointment of academics with the capacity to lead vulnerable institutions.

49. (Duba, 2023)

Challenge area 5 | SA Universities are adopting inward-looking employment policies that go against the government's drive to internationalise universities

Another concerning development in South African universities, one that poses a serious threat to research and teaching excellence, is the introduction of employment policies by top-tier institutions that actively discourage the recruitment of foreign academics, including those from neighbouring countries and the rest of Africa.

While the need to prioritise posts for black South Africans to aid transformation is understandable, it is short-sighted for South Africa's leading universities to become inward-looking and close the door to foreign academic talent.

Outside of short-sighted university policies, other bureaucracy also stands in the way. A vice-chancellor of one of these universities bemoaned the fact that there is a huge amount of red tape around hiring foreign academics, despite the obvious benefits to the local academy of being able to attract top-rated international and regional academics and teaching staff. As Professor de Villiers noted:

"I find it deeply frustrating that DHET have a very pro-internationalisation policy and yet, when the rubber hits the road, be it in terms of recruiting foreign academics or post-graduate researchers, we have to deal with the Department of Home Affairs who are not aligned, and it becomes chaotic."[50]

Restrictions placed on the remuneration of academics were also noted as a concern. Some universities have strict salary scales with little to no room for negotiation. As a result, they are unable to offer remuneration packages sufficient to attract a top scholar, despite the tremendous contribution they could make to the local academy.

Overly restrictive employment and remuneration policies will serve to isolate South African universities and make it increasingly difficult for them to sustain academic excellence.

This sentiment was echoed by other experts who noted there was a lack of excellence in certain fields in South Africa, and that universities need to be able to attract the scarce skills needed, even if it is from outside our borders.

They stressed that local students can only benefit from this, and in time the university system may be able to reach a critical mass of excellence in a given area.

50. Professor de Villiers in discussion with the authors, 12 November 2021.

Dedicated to excellence, we seek cutting-edge solutions and tackle problems in new and interesting ways, turning challenges into opportunities.

Opportunities for intervention

As discussed earlier, the objective of the first phase of the project was not only to develop an understanding of the challenges facing higher education institutions, but to also identify the areas in which OMT and other like-minded funders can make a meaningful contribution to addressing them.

As such, we asked a range of stakeholders in higher education to consider how best we might spend our resources on strategic initiatives that could potentially have a catalytic impact.

For example, an intervention that steers public education policy or practice in a better direction, or an initiative that might provide an innovative solution to a seemingly intractable challenge that other like-minded funders might then be encouraged to support.

The opportunity areas/interventions for the higher education sector that were regarded as the most promising for consideration by the Trust were:
1. To fund a strategic research programme to reimagine the university system.
2. To fund an initiative to develop a sustainable funding solution for students in the missing middle.
3. To expand wrap-around support for university students.
4. To assist in building the South African academy by funding young researchers.
5. To safeguard and grow South Africa's concentrations of research excellence.

We discuss the rationale for each of the five areas for intervention that were proposed in the sub-sections that follow. OMT had already decided at this point that it would maintain its focus on university education within the higher education portfolio.

As such, we did not further consider any initiatives proposed by stakeholders to improve the quality of education provided by TVET and CET colleges.

The feedback from stakeholders interviewed was that there is a need and opportunity to improve the quality and relevance of training provided by the colleges.

However, it is believed this opportunity would be better served by private sector firms in relevant industries in partnership with the government.

Opportunity area 1 | Fund a strategic research programme to reimagine the university system

Several stakeholders noted there is a need to completely reimagine the university system in South Africa. It was suggested OMT could play a role in establishing a strategic research initiative or programme to investigate this proposal:

"What we need is some really creative thinking about long-term solutions for a sustainable university system. OMT might be able to support a strategic research programme or a high-level sector diagnostic on these issues, and to learn about what's going on in other parts of the world. While we do some of that already, it is patchy."[51]

Professor de Villiers believes that South Africa could benefit from the establishment of a fully-fledged higher education policy research institute – similar to the Centre for Global Higher Education hosted at the University of Oxford.[52]

Its focus areas could include i) research and planning into the sector's structure, shape, institutional roles, and funding models, and ii) higher education policy and practice that is better designed to serve its intended purpose.

The Council for Higher Education (CHE) as well as Universities South Africa (USAf) have started on some of this but it was said they could benefit from more support in terms of developing a holistic strategy and programme.

Some research relevant to higher education policy is conducted by SciSTIP, which is hosted by the Centre for Research on Evaluation, Science and Technology (CREST) at Stellenbosch University. SciSTIP, however, focuses specifically on research and analysis that contributes to national policy debates on Science, Technology and Innovation policy.

Opportunity area 2 | Aid the development of a sustainable funding solution for students in the missing middle

As discussed in the sub-section on mounting student debt and the missing middle, it is estimated that approximately 500 000 students from lower middle-income households are unable to access NSFAS funding or obtain credit from banks to finance their studies. In addition, increasing levels of outstanding student debt are placing significant strain on universities.

With the funding gap estimated to be between R30 and R45 billion, there is little that philanthropies like OMT can do to bridge the gap – at least not through the direct provision of what would be a limited number of bursaries and scholarships.

It was suggested instead that the Trust could consider supporting a project to develop a sustainable funding solution for students in the missing middle which, in turn, could improve the financial sustainability of South Africa's universities.

It was envisaged that OMT could play a convening role – bringing together key players such as commercial banks and existing public and private sector funders to develop a functioning loan model.

Alternatively, OMT could consider commissioning research into the development of sustainable student financial aid.

After our Phase 1 interviews, and as noted in the section discussing the challenges facing higher education, the South African government has acknowledged that the current model of student funding is unsustainable and that solutions must be found.

Among the recommendations made by the Minsterial Task Team in October 2022 was that the comprehensive student financial aid model should incorporate loan funding options for students in the missing middle, and ideally be regenerative funding underpinned by income-contingent repayments.

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51. Professor Ahmed Bawa in discussion with the authors, 15 October 2021.
52. Professor de Villiers in discussion with the authors, 12 November 2021.

Opportunity area 3 | Expand wrap-around support for university students

The throughput rates of undergraduate students in South African universities are very low.

Less than a third of undergraduate students registered for a three-year degree finish within three years, while only 58% finish within six years.

The return on government funds invested in student financial aid is significantly impacted by these low throughput and completion rates.

The main cause of this is the poor quality of basic education offered by the vast majority of public schools. Many university entrants are simply not prepared for the demands of higher learning.

There is, however, evidence that providing students who come from less advantaged socio-economic backgrounds with 'wrap-around' support can improve throughput and success rates.

A large proportion of students funded by NSFAS will be the first generation in their families to attend university. These students often lack the soft skills and intrinsic knowledge required to succeed at university, and can benefit enormously from thoughtful and proactive support.

Representatives of the bursary organisations we interviewed, including the Umthombo Youth Development Fund, the Rural Education Access Programme, and Careerwise, believe that funding the expansion of successful wrap-around support models should be a priority, as these have the potential to increase the return on the billions of Rands currently being invested via NSFAS.

Opportunity area 4 | Assist in building the South African academy by funding young researchers

Outlined in more detail in the challenge area discussion, cuts to NRF funding, as well as the implementation of the DSI-NRF funding policy, has resulted in the NRF funding 50% fewer students in 2022/23 than it did in 2018/19.

It was therefore argued that philanthropies like OMT should continue their support in building the pipeline of South Africa's academy.

It was further recommended that the Trust should identify the greatest gaps in funding, for example, post-doctoral positions and honours degrees, and continue to award scholarships on a competitive basis to the most academically deserving candidates as it has done successfully in the past.

A high-level assessment of the outcomes of our historic postgraduate funding revealed that approximately 47% of the individuals receiving scholarships from OMT have pursued careers in academia.

While we also intend for scholarship recipients to pursue careers and lead in other spheres of society, the statistic indicates that our funding in this area contributes meaningfully to building the academy.

Opportunity area 5 | To safeguard and grow South Africa's concentrations of research excellence

Given the decline in public funding for R&D, the majority of the stakeholders we interviewed stressed that the current and potential areas of research excellence of South Africa's universities are under threat.

The decline in funding undermines one of the main roles of our research-focused universities, which is to generate knowledge and act as a source of innovation and solutions to many of the issues plaguing our society and the environment.

It was suggested that OMT could play a role in preserving and strengthening knowledge generation through various means, including supporting centres or clusters of excellence, and by fostering greater cross-discipline, faculty and institutional collaboration.

Supporting centres or clusters of excellence

Centres or clusters of excellence are one of the mechanisms used by public research bodies internationally to foster research excellence. Locally, the DSI-NRF has supported several centres of excellence (CoEs) across a range of disciplines and institutions.

Several vice-chancellors and leading researchers recommended that philanthropies like OMT could focus their funding on preserving existing, or establishing new, CoEs to guard against the further erosion of higher education research and teaching capacity.

Other means of building towards a concentration of excellent individual researchers mentioned were to fund research chairs or establish research units with the requisite resources for administrative support and postgraduate students.

Fostering greater collaboration in research across disciplines, faculties and institutions

Several of the university vice-chancellors we interviewed suggested that OMT consider funding challenge-driven or multi-disciplinary research programmes as a way of fostering greater collaboration between researchers in different disciplines, faculties, and even institutions.

It is believed that such funding could potentially have a more catalytic impact by helping create the critical mass and scale needed to address systemic issues.

An example of a cross-institutional union and multi-disciplinary approach is the Africa-Europe Cluster of Research Excellence in Sustainable Food Systems (formerly the Centre of Excellence in Food Security), which was established in 2018 with funding from UK Research and Innovation (UKRI), and was led by the University of Pretoria in collaboration with the University of Nairobi and the University of Ghana.

It will now be co-led by the Universities of Pretoria and Bologna. Regarding challenge-driven funding in general, there is excitement about the potential of these collaborations, and focusing them on solving some of the big challenges facing the African continent by giving our leading current and future researchers the "time and freedom to pursue home-grown ideas and solutions."[53]

It was also suggested that philanthropy can assist in preserving research excellence by supporting organisations that advocate against narrow-minded and destructive policies on recruitment and academic pay.

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53. Professor Vilakazi in discussion with the authors, 12 November 2021.

PHASE 2 | STRATEGIC CHOICES

Approach

Phase 2 of the project brought us to a very important point in our strategy development process – deciding on and aligning with the Board on our strategic intent and focus areas. This was carried out in three steps:

Step 1 | Findings review and opportunities

The team gathered for a two-day internal workshop to review the findings and insights from research into the challenges and opportunities in higher education conducted in the first phase of the project.

Step 2 | Opportunity prioritsation and selection

To narrow the focus before making recommendations to the Board, a further opportunity prioritisation and selection workshop was conducted. This centred around us evaluating each opportunity against a set of criteria. At a high level, these related to each opportunity:

1. **Scalability and impact** – the potential to support the achievement of outcomes at a systemic level or impact at a sufficiently large scale.
2. **Coverage** – the extent to which other philanthropies, funders and/or government bodies are already trying to address the issue in question.
3. **Suitability and alignment** – whether the proposed initiatives, and OMT's associated role, would be well-suited to a philanthropic organisation like OMT, given its existing expertise and knowledge base.
4. **Complexity** – put simply, the extent to which the issue is difficult to solve.
5. **Funding and other resource requirements** – the extent and nature of the likely financial and personnel resources needed to support the opportunity.

Step 3 | Strategy offsite with the Board

We held a two-day strategy offsite with the Board in February 2022, where we presented and discussed our findings and recommendations, and agreed on the way forward.

Outcomes for the Higher Education Portfolio

OMT has a long tradition of supporting human and intellectual development to advance scholarship and encourage ideas. In keeping with this tradition the Board agreed that, concerning the Higher Education portfolio, OMT should continue to identify and support exceptional individuals through three main strategic focus areas. An overview and rationale for these decisions taken by the Board for each of the focus areas is provided below.

Focus area 1 | Building and strengthening the South African academy

Decision

To continue providing South Africa's most exceptional academic achievers with the opportunity to pursue masters, PhD, post-doctoral, and sabbatical studies at prestigious local and international universities.

Rationale

The Trust has historically enabled exceptionally talented individuals to further their postgraduate studies at leading universities and pursue academic research. Many of these individuals have gone on to make important contributions to the South African academy and to public life. We will therefore continue this funding in light of this and the sharp decreases in public funding for postgraduate and post-doctoral studies.

Focus area 2 | Preserving and strengthening research excellence

Decision

To conduct further research to establish how OMT might best contribute to preserving and strengthening centres or clusters of research excellence in South Africa.

Rationale

The existing pockets of research excellence in the country need to be preserved, and new ones grown, if South Africa is to drive scientific and technological advancement in support of national competitiveness and socio-economic progress.

Decision

To continue funding the Harry Oppenheimer Fellowship award for outstanding scholars engaged in cutting-edge and globally relevant research.

Rationale

The premier award of the Trust is a critical investment to encourage and acknowledge scholars who are making an outstanding contribution to the advancement of knowledge, research, and teaching.

Focus area 3 | Building the OMT alumni network

Decision

To scope and develop a network for the OMT alumnus.

Rationale

We recognised that OMT was currently not making use of the vast information resources that reside with the postgraduate students and researchers we have supported since our inception in 1958. Many of the alumni are incredibly accomplished, and their knowledge and experience could be harnessed to build a research fraternity that can share ideas and research, and inspire and mentor the next generation.
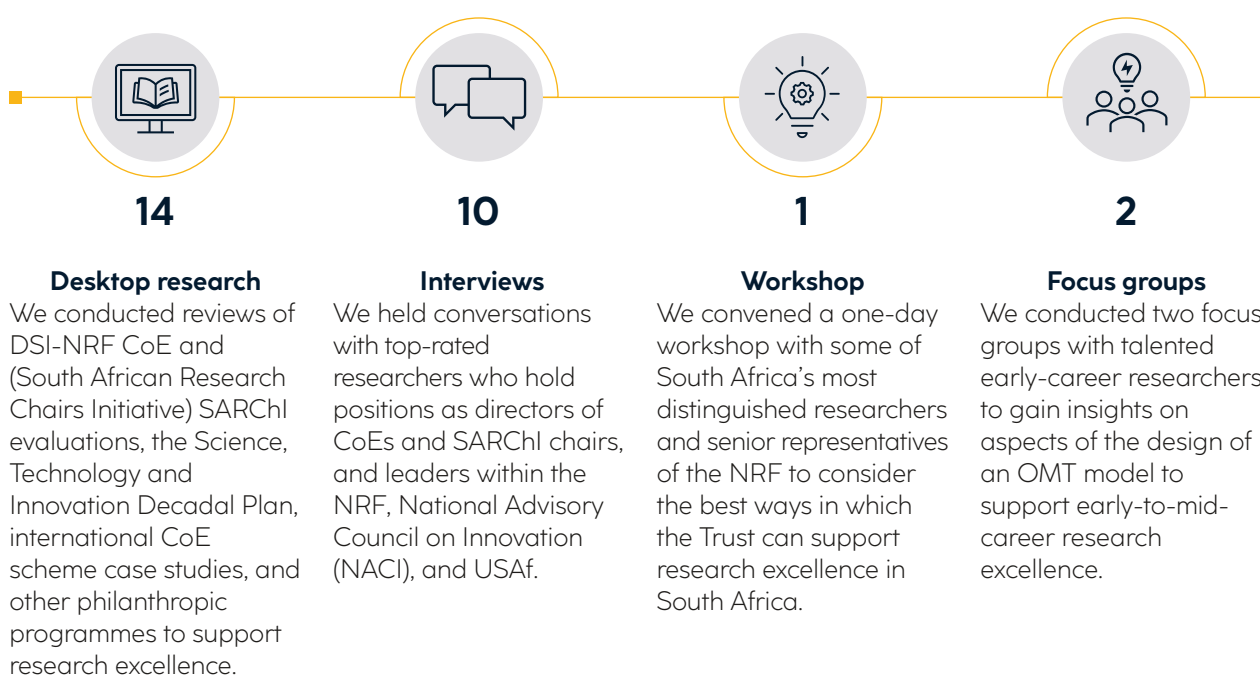
PHASE 3 | OPPORTUNITY REFINEMENT

Further research to guide our strategy's implementation

By the end of the second phase of the project we had defined the strategic intent and focus areas for our different portfolios, including higher education. What was not clear at the end of Phase 2, however, was exactly how we would go about executing that strategic intent. For the higher education portfolio we needed to further investigate the challenges facing research excellence in South Africa to establish which of these OMT could best address and how.

Phase 3 research approach and methodology

We followed a very consultative, four-step process which consisted of:

14	10	1	2
Desktop research	**Interviews**	**Workshop**	**Focus groups**
We conducted reviews of DSI-NRF CoE and (South African Research Chairs Initiative) SARChI evaluations, the Science, Technology and Innovation Decadal Plan, international CoE scheme case studies, and other philanthropic programmes to support research excellence.	We held conversations with top-rated researchers who hold positions as directors of CoEs and SARChI chairs, and leaders within the NRF, National Advisory Council on Innovation (NACI), and USAf.	We convened a one-day workshop with some of South Africa's most distinguished researchers and senior representatives of the NRF to consider the best ways in which the Trust can support research excellence in South Africa.	We conducted two focus groups with talented early-career researchers to gain insights on aspects of the design of an OMT model to support early-to-mid-career research excellence.

In addition to these steps we also conducted four online sprints with OMT alumni. These were used to identify what this group expect to get out of an alumni network, what they could contribute, and the practical steps OMT could take to provide the value they seek.

The section that follows serves to summarise our findings concerning the most notable challenges facing research excellence in South Africa, as well as OMT's way forward.

Phase 3 findings | In pursuit of research excellence | Gathering insights into the key issues the South African research community is facing

In this section we provide a summary of the key insights we obtained during conversations with some of South Africa's top-rated researchers who hold positions as directors of CoEs and SARChi chairs, and leadership of key higher education advisory bodies and funding institutions, including NRF, National Advisory Council on Innovation (NACI) and USAf.

The NRF is drastically under-funded and cannot fulfil its mandate

Consistent with the findings from phase one, researchers interviewed confirmed that the NRF was drastically underfunded, and that the government had cut the budget allocated to researchers and postgraduate students.

Dr Eugene Lottering, the Deputy CEO of the NRF, remarked:

"Based on the number of qualifying students that should be funded by the NRF, we have a funding shortfall of R1.3 to R1.5 billion annually.... we have to turn away thousands of students, which is a travesty." [54]

It was also noted that the NRF would welcome the opportunity to partner with businesses and philanthropies to fund research, as it recognises that it needs to use the limited funding it has to leverage other sources.

Talented early-to-mid career researchers are leaving South Africa, or pursuing careers in the private sector, in part due to the lack of funding opportunities

One of the concerns raised by academic researchers is that South African universities are less and less able to compete for the best students due to a lack of funding, and are losing them to opportunities in the private sector or abroad.

Professor Servaas van der Berg noted there was limited funding available for PhDs, pre-doc and post-doctoral studies but that this type of funding is essential in crafting a pathway for talented individuals into research as a career.[55]

He expressed concern that the high-calibre students they would like to encourage to apply for research posts in the social sciences are being lured to more enticing opportunities in the private sector or abroad.

Researchers based in South Africa are increasingly reliant on the private sector, but funding is often short-term and project-based

In the face of a decrease in public funding for university-based researchers, universities are increasingly reliant on funding from the private sector. Our conversations with leaders of CoEs and other research units revealed that sourcing such funding is critical if their programmes are to continue. However, as valuable as funding from industry can be, we learned that there are several drawbacks.

1. Corporations do not feel hugely incentivised to commit to large-scale, long-term research endeavours that cannot be applied to an issue they are currently facing. As such, non-project core funding is difficult to attract and sustain.

2. It takes a long time for leading research teams to build relationships and trust with the private sector so that the latter provides more consistent, anchoring support. Private sector businesses, of course, need evidence that it is in their best interest to do so. It is especially difficult for researchers involved in basic research to attract this type of backing.

3. Outside of a few exceptions, South African firms do not have particularly strong research agendas. In addition, large multi-nationals operating in South Africa tend to hub their R&D activities in global centres.

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54. Dr Eugene Lottering in discussion with the authors, 24 August 2022.

55. Professor Servaas van der Berg in discussion with the authors, 15 July 2022.

In the face of a decrease in public funding for research, university-based researchers are increasingly reliant on funding from the private sector. Professor Bernard Slippers, Director of the Forestry and Biotechnology Institute (FABI) at the University of Pretoria, noted that raising capital from the private sector was essential, and that without it they would be on a long, slow decline.[56]

The DSI-NRF instruments to support research excellence - SARChI Chairs and CoEs - are effective but have become more restrictive

The main instruments that the DSI-NRF employs to foster research excellence are theChairs of the South African Research Chairs Initiative (SARChI) and Centres of Excellence (CoEs). In our review of their independent evaluations, many of the Chairs and CoEs were found to be working well. Several of the researchers we spoke with, however, stated that several issues had been constraining the effectiveness of these funding mechanisms.

They have become more bureaucratically intensive and restrictive

It was argued that the reporting requirements for CoEs were becoming increasingly onerous. We learned that, in contrast to this trend in South Africa, the Norweigian government had virtually removed the reporting requirements for its CoEs because it recognise that bureaucracy stifles innovation.

While research chairs and CoEs share many common elements, two professors we spoke with stated that they preferred the SARChI Chair to the CoE instrument, as it gives the lead researcher more freedom and flexibility.[57] However, it was found that even the SARChI Chair had become more restrictive.

For example, a concern was raised that Chairs can no longer select their PhDs directly, but have to apply through the NRF. This has decreased the attractiveness of the SARChi Chair.

In addition, it appears that the NRF has adopted a one-size-fits-all model that fails to recognise that each Chair has different needs. For example, an allocation of R1.5m for equipment, that can only be spent on equipment, is not appropriate for social sciences research where the money would be far better spent on funding PhDs and post-docs.

Some of the alternative models that philanthropists have historically supported have proved to be very successful in fostering research excellence

We asked stakeholders if they had come across any other innovative models or instruments (aside from CoEs and research chairs) that funders and, in particular, other philanthropic organisations were successfully employing to drive research excellence.

Professor Slippers of FABI, indicated that he had been looking into the types of research programmes and institutes that philanthropies were funding internationally.

He had found that the world's most successful scientific research institutes usually enjoy a considerable degree of independence. While they are sometimes aligned with universities, they run autonomously and are freed from most of their universities' bureaucracy.[58]

An example provided is that of the Scripps Research Institute, headquartered in California in the United States. It was founded by Ellen Browning Scripps in 1924, and in 2017 was ranked by the Nature Innovation Index as the most influential research institution in the world.[59]

Scripps is a private non-profit entity that, while founded by a philanthropist, now derives a significant proportion of its funding from the government (the National Institute of Health).

It also receives a significant amount of funding from public health foundations and donations from private foundations and individuals. It began as a metabolic clinic and now boasts over 170 laboratories employing 2 100 scientists, technicians, graduate students, and administrative and other staff.

It is the largest private, non-profit biomedical research organisation in the United States and holds over 1 100 patents.

56. Professor Bernard Slippers in discussion with the authors, 19 August 2022.
57. Professor van der Berg in discussion with the authors, 15 July 2022 and Professor Thoko Mayekiso in discussion with the authors,
    23 August 2022.
58. Professor Slippers in discussion with the authors, 19 August 2022.
59. Professor Slippers in discussion with the authors, 19 August 2022.

There is a benefit to inter-institutional collaborations, but they shouldn't be forced

As discussed in our findings from Phase 1, several of the university vice-chancellors we interviewed were excited about the potential of challenge-driven or multi-disciplinary research programmes within and across institutions as a way of fostering greater collaboration.

As much as such collaboration can help create the critical mass and scale needed to address systemic issues (and use limited resources more wisely) we learned that funders should not attempt to force marriages, particularly between institutions.

It is far better if the collaboration comes naturally from the work and the researchers themselves, and is not imposed as an additional restriction on researchers.
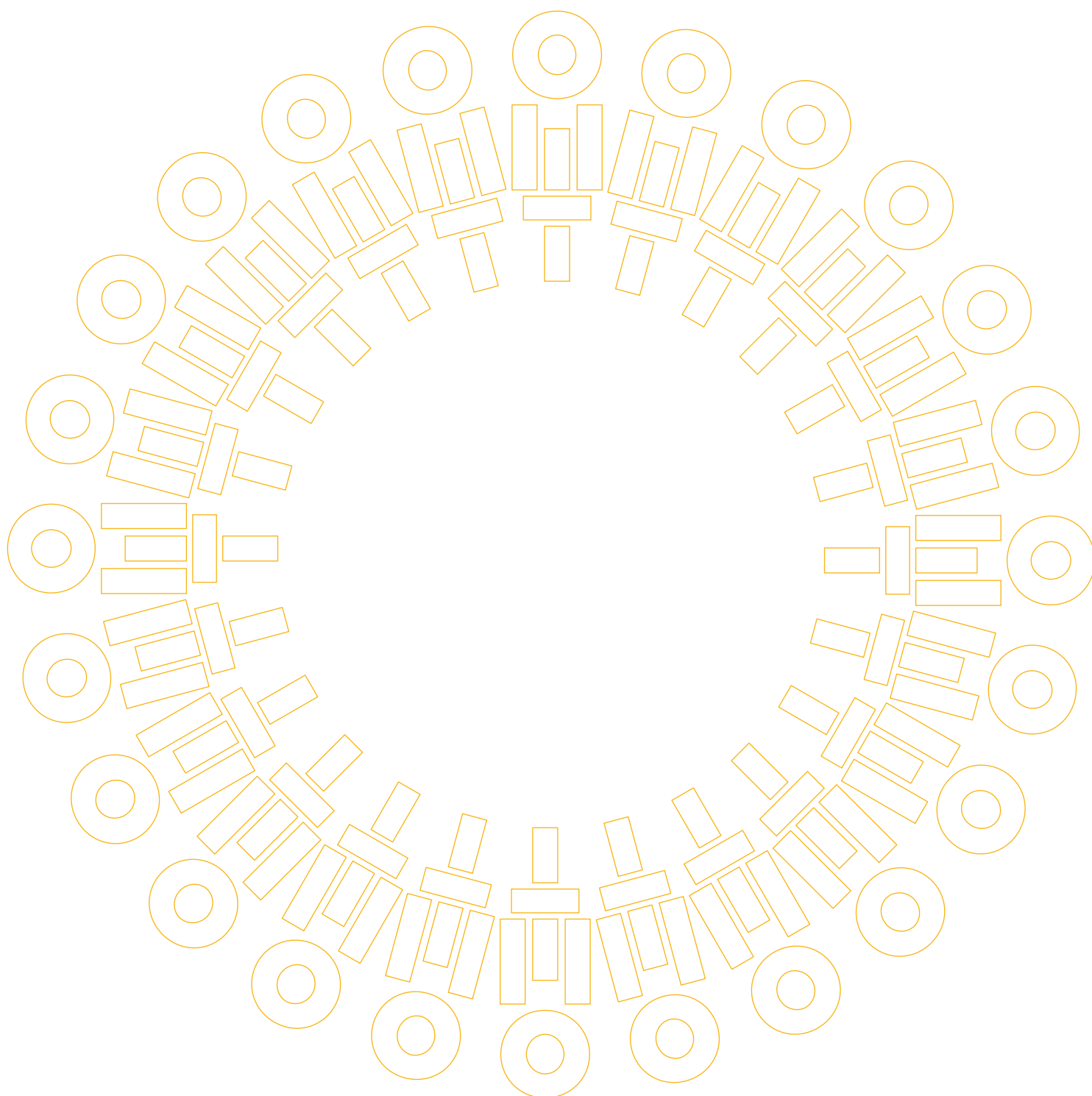
Phase 3 findings | Developing a model to promote research excellence in South Africa

Key insights from the workshop on research excellence

On 1 September 2022 we held a one-day workshop with some of South Africa's most distinguished researchers to consider how the Trust can best support research excellence in South Africa.

This included presentations by Dr Lottering of the NRF, Professors Mike and Brenda Wingfield, the founders of FABI, and Professor Linda Richter, the head of the DSI-NRF Centre of Excellence in Human Development at Wits.

Some of the key takeaways from the workshop discussions were:

- Highly talented early-career researchers – our future stars – are leaving South Africa in increasing numbers because of limited funding and positions. It was suggested that it was in this area that OMT can add the most value.
- In terms of identifying outstanding early-career researchers, the NRF rating system is a good starting point, and top young researchers would typically be rated as Y1 and P. However, not all researchers choose to participate in NRF ratings, and so, other bibliometric indicators should also be used.
- If trying to establish a world-class research unit, a fair degree of institutional autonomy is important. There are promising models of independent

research institutes that have been established with philanthropic funding. For example Scripps Research Institute and the Sainsbury research units. However, the amount of funding required to establish such independent research institutes is significant and would likely require co-funding from several philanthropies.

- South Africa's leading research institutes have been able to capitalise on inherent geographic advantage - be that in terms of our natural resources such as biodiversity and mineral wealth, or human capital such as a concentration of scarce skills.
- A mixed finance model is essential for the financial sustainability of any research unit. Funding provided by philanthropic organisations can and should be used to leverage other sources of funding, such as financial support from the host institution.
- The internationalisation of research units based in South Africa is important. Leading research units must be able to employ outstanding researchers of any nationality. We learned that FABI has attracted students from over 20 countries, and this internationally rich group of students not only benefits the research but is hugely stimulating to the South African students and researchers.
- There must be an unrelenting focus on research excellence at an international level of recognition.

We never give up, no matter how hard the journey. We focus. We persevere and tread where others fear to go. We never settle and we never take no for answer. We are committed to South Africa and the equality and excellence of all its people, driving the systemic change our country needs.

Phase 3 findings | Key insights from selected international philanthropic programmes that seek to promote research excellence and from talented early-career researchers based in South Africa

Following the workshop a decision was made that OMT would narrow its focus on fostering research excellence by developing a model to support exceptionally talented early-to-mid-career researchers. It is around these individuals – our future stars – that we can expect to build South Africa's future concentrations of world-class research capacity.

To inform the development of the model we identified and reviewed the key elements of a few international programmes that had been launched by philanthropies to promote research excellence.

We looked specifically for relatively capital-light models – that is, they could be hosted within an existing public or private research institution, and therefore did not require a significant investment in buildings, facilities and staff. The most notable programmes we reviewed were:

▪ **The Howard Hughes Medical Institute's (HHMI) Investigator Program** which seeks to advance scientific innovation by supporting researchers who break new ground in basic and biomedical research.[60]
▪ **The Markey Scholars Program** which funded talented young scientists with the potential to contribute significantly to biomedical research, and awarded more than $50 million to outstanding young investigators as post-doctorates and junior faculty.[61]

▪ **The Sloan Research Fellowships Program** which seeks to stimulate fundamental research by early-career scientists and scholars of outstanding promise.[62]
▪ **The British Academy/Wolfson Fellowships** which awards grants to support and promote excellence in education, science & medicine, the arts and humanities, and health & disability.[63]

We also looked at the design of some of the grant schemes offered by the European Research Council (ERC), which was established by the European Union in 2007 and is the premier European funding organisation for excellent frontier research. It funds researchers of any nationality and age to run projects based in Europe.[64]

We then conducted two focus groups with a group of ten talented early-career researchers based in South Africa to obtain feedback on the design of key programme components including:

1. Guiding principles
2. Eligibility criteria
3. Selection process and criteria
4. Institutional arrangements

Our most notable findings and observations about supporting exceptional young researchers are as follows.

Guiding principles

A compelling guiding principle from some of the programmes we reviewed was giving the researchers the freedom to set the research agenda and pursue opportunities in their field of research, rather than being led by priorities set by funders or politicians.

The HHMI and ERC follow this investigator-driven approach, which helps to ensure that funds flow into new and promising areas of research with a greater degree of flexibility.

Stated more explicitly, one of the guiding principles of the HHMI is "to support people, not projects",

because they believe it is "individuals who – with creativity, curiosity, and persistence – break through barriers to advance scientific knowledge."

Another principle which resonated with us is that grants be made to act as a catalyst.

For example, the Wolfson Program intends for the funds it disburses to help attract additional funding to areas that may otherwise be under-resourced, and to fill gaps that are left by the increasing scarcity of traditional forms of statutory funding (such as for infrastructure).

60. (Howard Hughes Medical Institute, 2023)
61. (National Research Council, 2006)
62. (Alfred P. Sloan Foundation, 2023)
63. (Wolfson Foundation, 2023)
64. (European Research Council, 2023)

Eligibility criteria

While many funders target researchers at specific stages of their career – early, mid or established – there is no common definition of what constitutes an early or mid-career researcher.

However, we found it is best if this is defined by the programme in terms of years of post-qualification experience, rather than by imposing unnecessarily restrictive age limits.

The ten early-career researchers we spoke to unanimously agreed that it would be unwise to impose an arbitrary age limit on applicants as the NRF currently does. They noted that, while they understand that the gap in funding that OMT wishes to address is for early- to mid-career researchers rather than established ones, imposing age limits unfairly penalises or excludes several groups.

For example, (i) women who often choose to have children in their 20s and 30s and have less time to devote to building academic careers while their children are young, and (ii) people who were in industry before embarking on a PhD or entering academia. It was therefore agreed that using eligibility criteria such as "years of relevant academic experience post qualification" is preferable.

Regarding supporting researchers of any nationality, it was mentioned in the focus groups that, if OMT's new programme can attract outstanding international scholars to come and work in South Africa, it is also to the benefit of South Africa.

Many of our leading research institutes are led by academics of foreign origin, and they have helped to build world-class research capacity in this country.

In general our most successful research units are very diverse, and collaborate extensively with international research communities. A minority felt that some preference should be given to South African citizens, but foreigners should not be excluded.

Selection process and criteria

Research foundations typically select candidates via one of two methods
(i) an open call for application, or
(ii) a formal nomination process.

In general the South African researchers we consulted were in favour of OMT putting out an open call for applications and stipulating basic eligibility criteria.

Some were in favour of asking the research offices of their institutions to nominate candidates, but nominations can be problematic and introduce bias.

Some were in favour of using existing research rankings like the NRF rating to identify or invite potential candidates. However, the programme should not necessarily be limited to those who participate in the NRF rating system.

Institutional arrangements

There is often a trade-off between the independence of the researcher – their freedom to pursue ideas – and the financial and institutional support provided by the host institution.

A balance needs to be struck between the support that the funders and the host institution provide. To help enable this, funders frequently require the host institution to sign an agreement stipulating various elements, such as:

i. The type and nature of support the host institution is expected to provide (for instance, a permanent position and access to required infrastructure and equipment).

ii. Guarantees concerning the minimum amount of time an awardee will be able to spend on research. This usually requires that a portion of non-research responsibilities (such as teaching and administration) are 'bought out' by the funder, allowing the award-holder to focus on their research goals.

iii. The funds being able to be used directly by the awardee rather than being subject to unnecessary levels of university bureaucracy and restrictions.

THE WAY FORWARD FOR OMT

At the beginning of 2023 we reconvened with the OMT Board to reflect on our engagements and learnings from the previous year and agree on the way forward for the Trust regarding its various portfolios.

For the higher education portfolio OMT will be guided by the following overarching goal:

To fund and connect excellent individuals to rebuild and sustain South Africa's academic excellence, and to influence and lead in South African society and beyond

We will strive towards this goal by

Because we believe that

Building and strengthening the South African academy
1. Introducing Honours scholarships in partnership with one of South Africa's new public universities, and
2. Continued support for Masters, PhD, Postdoctoral studies and Sabbatical research

By investing in excellent individuals we can help address critical funding gaps and build a pipeline of talent both within and beyond academia.

Preserving and strengthening research excellence
1. Launching a new programme – the New Frontiers Research Award, and
2. Continued funding of the Harry Oppenheimer Fellowship Award

Our current and future stars need to be recognised and supported with the freedom and flexibility to deliver cutting-edge and internationally significant research. It is around these individuals that we can help uphold and grow South Africa's concentrations of research excellence to deliver work with far-reaching impact.

Building the OMT alumni network
Providing a platform where our alumni can engage with each other

Creating a space for our alumni will:
1. Help unlock the fruitful sharing of ideas, skills and experience, and
2. Showcase success and role models that can inspire the next generation.

Launch of the New Frontiers Research Award

We are particularly excited about the launch of our second research excellence programme - the New Frontiers Research Award.

Programme overview

The programme aims to give exceptionally talented early-to-mid-career researchers, with the ambition to build high-performance research teams, the freedom and flexibility to pursue bold ideas and push the boundaries of knowledge in their fields of study. The competition will be held annually, with the successful applicant receiving a five-year research grant of R1.5 million per annum.

Guiding principles

1. There will be an unambiguous focus on supporting research excellence.
2. OMT will fund exceptional individuals rather than specific projects or institutions – the funding will follow the scholar.
3. The scholar must be able to set the research agenda.

The change we want to see and our long-term aspiration for the programme

OMT hopes that recipients of the New Frontiers Research award will be able to focus on their research without bureaucratic constraints, that they build and lead successful teams that garner international recognition for the ground-breaking research they produce and/or innovative solutions they develop to pressing global or local challenges.

The long-term aspiration for this programme is that it becomes recognised as a successful and efficient model of supporting and growing research excellence in South Africa that could (i) attract funding from other philanthropists and private sector companies with similar values, and/or (ii) be replicated by other funders.

CONCLUSION

OMT recognises that the combination of a steady decline in public funding for universities, postgraduate studies and research, as well as restrictive employment policies, are putting the well-deserved global reputation of South's leading research universities at risk.

This threatens their ability to deliver on one of their main functions, which is to generate knowledge and act as a source of innovation and solutions to many of the environmental and socio-economic challenges we face.

As noted in the introduction to this chapter, OMT believes that a substantial investment in research excellence and innovation will be required to put South Africa back on a path to economic prosperity.

As a country, we cannot afford to continue to lose our most talented students and early-career researchers to more enticing opportunities abroad, because of

the lack of funding available to build a promising career in South Africa.

OMT has had a long tradition of supporting exceptionally talented individuals to further their postgraduate studies at leading universities and to produce academic research of the highest standard.

Building on this strong legacy we have decided to continue to identify and support exceptional individuals through three main strategic focus areas
(i) Building and strengthening the South African Academy
(ii) Preserving and strengthening research excellence
(iii) Building the OMT alumni network.

Within these areas the addition of funding for honours students, the New Frontiers Research Award, and increasing engagement with our alumni are particularly exciting initiatives which we look forward to implementing in the near term.

Imagine a South Africa where children are named for the stars, their potential unleashed and every child thrives by five.

Imagine a country pulsing with opportunity, where youth have possibilities.

Imagine a South Africa unrestrained, a nation leaping forward.

REPORT CONCLUDING REMARKS

In producing this report we have been able to reflect on the challenging and interesting journey we have been on over the past two years, and we recognise that we have been very fortunate in being able to undertake such an initiative.

We would like to thank all the individuals and organisations that helped guide us and provide input into the process. We would also like to thank OMT's Trustees and family members for their participation in the project and making the financial resources available in support of it.

While at many times the findings stemming from the literature reviews, interviews, surveys and workshops have confronted us with stark realities, we emerge

hopeful. This is because we have seen that there are many promising opportunities for philanthropies like us to capitalise on in meaningful ways.

Many of these opportunities, and certainly the ones we have chosen as focus areas, will require many different role players to pull in the same direction. Like the education system itself, the challenges are vast and complex, and no single entity can or should try and solve them alone.

We therefore move into the next stage – implementing our strategy – with a genuine eagerness to collaborate with peer philanthropies, government, non-profits and academics, as we seek solutions to some of the big challenges facing education.

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APPENDIX & REFERENCES

Appendix 1

Table 1 | Public funds available for employment creation and small businesses

Funding source	More information available at
Expanded Public Works Programme (EPWP)	http://www.epwp.gov.za/
Community Work Programme (CWP)	https://www.cogta.gov.za/index.php/community-work-programme/
The Jobs Fund	http://www.jobsfund.org.za/
Presidential Youth Employment Initiative (PYEI)	http://www.jobsfund.org.za/pyei.aspx
Social Employment Fund (SEF)	https://www.idc.co.za/sef/
Education Training and Development Practices Sector Education and Training Authority (ETDP-SETA)	https://www.etdpseta.org.za/etd/
National Youth Development Agency (NYDA)	https://www.nyda.gov.za/
Small Enterprise Finance Agency (SEFA)	https://www.sefa.org.za/
Various Department of Small Business Development (DBSD) Programmes	http://www.dsbd.gov.za/

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