



SYNTHESIS REPORT MARCH 2021

EXECUTIVE SUMMARY

Biodiversity Human Capital Development Strategy Mid-Term Review 2020-2021

Commissioned by The Lewis Foundation and The
South African National Biodiversity Institute (SANBI)

Review Team:

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EXECUTIVE SUMMARY

Purpose and Process followed for the Review

The national Biodiversity Human Capital Development Strategy (2010-2030) aims to drive a systemic approach to developing skills for biodiversity, in pursuit of *'a socially equitable and suitably skilled workforce of biodiversity leaders, professionals and technicians to optimally implement the sector's expanding and increasingly complex mandate'*¹.

This vision is being pursued through four strategic goals, viz.

- To increase the number of talented black South Africans *attracted* to working in the sector
- To improve the *quality, levels and relevance*² of skills for the sector
- To improve the *retention and effective deployment* of suitable individuals in the sector
- To create *enabling macro-conditions* for skills planning, development and evaluation.

The Biodiversity Human Capital Development Strategy (BHCDS) is a response to Strategic Objective 2 of the National Biodiversity Framework (2007), which called for a national strategy to address transformation and scarce skills, and remains a priority in *South Africa's Second National Biodiversity Strategy and Action Plan 2015-2025* (DEA, 2015). Its development was initiated by the South African National Biodiversity Institute (SANBI) with a core funder, the Lewis Foundation (www.thelewisfoundation.co.za), and several implementation leads and partners in the broadly defined biodiversity sector. In 2019 a group of sector organisations proposed a mid-term review for the implementation of the BHCDS and set up a steering committee for the review. The Terms of Reference were compiled by the steering committee in September 2019, following which a call was put out for a team to undertake the review. The Environmental Learning Research Centre (ELRC) at Rhodes University submitted a proposal in response to the call, which was accepted. The review was undertaken during 2020-2021 using a strategy evaluation methodology approved by the steering committee, and both primary and secondary data. Methods consisted of key stakeholder interviews, a broader employer survey, analysis of skills supply and financial data, a stakeholder analysis, and case studies of implementation programmes. Several existing evaluations were utilised including two GreenMatter evaluation reports. The review aims to inform the further implementation of the strategy in the next 10 years, and to renew and expand connections with biodiversity organisations, by obtaining stakeholder input and participation. Hence the review outcomes will be discussed and the recommendations further developed with stakeholders at a Mini Environmental Skills Summit in March 2021, with a view to shaping both future priorities, and potentially revising implementation structures.

There are a number of caveats to the review. Firstly, the review process encountered diverse views on some aspects of implementation, which had to be presented in a balanced manner. It was also difficult to find and present all potentially relevant details in a process and report of manageable length. To address these limitations, the report used the best available information, but also takes the form of a report-and-respond instrument, which creates space for stakeholders to write into the report, to provide consenting or dissenting views and further details where relevant. These additions will be

¹ *A Human Capital Development Strategy for the Biodiversity Sector 2010-2030*, SANBI and the Lewis Foundation, 2010, p.52.

taken into account in the finalisation of the report following the Environmental Skills Summit, which will also include the Summit outcomes.

The Executive Summary provides a high-level view into findings aligned to the seven strategic objectives of the Biodiversity Human Capital Development Strategy, and recommendations. For a 'one-glance' overview of implementing agencies, the stakeholder map is included in the Executive Summary. Readers are referred to the report and appendices for details and elaboration.

Findings

Overall Finding: More is needed and gaps exist

The implementation of the BHCDS involved a significant amount of activity and inputs, was generally aligned with the strategic objectives and principles of the strategy, and achieved significant outcomes. However, stakeholders were of a view that *not enough* had been achieved, that scarce skills and transformation challenges remain, and that (for the most part) the BHCDS was still relevant for achieving them. The implementation architecture had both strengths and weaknesses, but implementation had been held back by inadequate monitoring and evaluation; principal-agency disconnects; the absence of a steering committee and advisory group; and too few sector-wide events to optimise synergies, maintain momentum over the 10-year period, and grow the level of participation from a wider range of partners.

Specific findings are presented below in a high level 'dashboard' format, in which *Green* indicates *Well achieved*; *Orange* indicates *Somewhat achieved*; and *Red* indicates *Not adequately achieved*.

Finding 1: Biodiversity as a study and work choice has been promoted to young black South Africans and access into higher education studies has significantly increased

Strategic Objective 1 of the BHCDS addresses the promotion of the sector among young people and skills system leaders in order to attract and give skilled black South Africans access into biodiversity organisations.

Strategic Intent: Promote the biodiversity sector <i>as a sector with a strong vision of transformation and opportunities for fulfilling work that contributes to the national development agenda</i> , among the following groups ...	
Black South African school leavers, students and graduates	Fundisa for Change programme engaging teachers and teacher educators; GreenMatter Fellowships; Imvelisi Enviropreneurs project; NRF and CATHSSETA bursaries; WWF and other internships; university & schools career guidance (WWF, SANBI and DEFF along with others and links into DHET's NCAP) engaging young black South Africans; Groen Sebenza involving 47 partners and nearly 800 placements of unemployed youth. HEMIS data show increase in black students in biodiversity related fields, entering & graduating with Masters and PhD degrees - albeit not (only) attributed to the BHCDS.

Key decision-makers including leaders in the national skills development system	SETAs are funding green skills research but this is not translating into consistent, adequate funding for the development of such skills; DHET gave recognition to sustainable development in teacher education but funding teachers to upskill for biodiversity remains <i>ad hoc</i> and piecemeal. More favourable meta-conditions are needed. Little engagement from SANBI Mainstreaming Biodiversity, IPBES and other science-led activities with BHCDS implementation.
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This information is available in the following sections of the review report:

Section 6.2 (Strategic Goal 1 Outcomes and Impacts); Section 5.3.1 (*Fundisa for Change* Programme case study) and Section 5.3.2 (*Groen Sebenza* and WWF Internships case study).

Some transformation issues remain, as reflected in (e.g.): interviews with black graduates; the *South African Journal of Science* paper declaring that black students are not interested in wildlife related studies, causing indignation among black scientists; and more limited support in the GreenMatter Fellowship for students from historically black universities.

Finding 2: Up-skilling of existing employees and changing organisational cultures have received some but limited attention as workplaces struggle to provide appropriate training

SO2 (Up-skilling) Strategic Intent: Extend existing capacity	
Improve the skills of those already in the workplace, and underqualified or under-skilled in a manner that contributes to social equity, a sense of belonging and pride in the sector	Mentoring capacity of organisations has improved, with mentors' training and resources produced and distributed, as part of the HRD Network, <i>Groen Sebenza</i> and other sector initiatives.
	GreenMatter Fellowship funded upskilling programmes and built a strong sense of pride and belonging as reflected in beneficiary interviews, but on a small scale. Leadership upskilling started but not continued on a significant scale.
	HRD Network to improve capacity of organisations to upskill staff was not continued or reconceptualised after limited successes in first three years; workplaces struggle to identify or find and fund appropriate training for staff; the employer survey shows that disconnects between organisational strategy and HR functions remain.

This information is available in Sections 6.3 to 6.5 (employer survey data); Section 5.3.2 (*Groen Sebenza* and WWF Internships case study) and Section 5.3.3 (Human Resources Development (HRD) Network case study).

The BHCDS implementation partners placed more emphasis on new entrants into the sector, as opposed to building the capacity of existing staff and current or future organisational leaders. This needs to be reconsidered given the need for existing staff to build up organisations to a point where they can increase the number of positions for new entrants into the sector.

Finding 3: Organisations' ability to retain and deploy skilled staff was not significantly addressed in the first 10 years of implementation, which emphasized new entrants; while engagement with the national skills planning system has had limited success

SO3 (Retention) Strategic Intent: Extend existing capacity through improved retention and effective deployment of suitably skilled people in the sector through ...	
organisational design & development ...	No initiatives to improve organisational development and design capacity, other than the HRD Network, which addressed this in a very limited manner before terminating.
... skills planning	National Environmental Skills Planning Forum, National Environmental Skills Summit and the Green Skills Programme engaged DHET and SETAs to improve the national system for biodiversity skills planning; outcomes have been limited and Summits have not continued on the same scale as in 2011, when they were evaluated as a strong mechanism to improve environmental skills planning. Labour market intelligence improvement by DHET has not yet born fruit and engagement with the biodiversity sector from the designated agency (DPRU at UCT) was limited to one study (Driver et al).
... human resource development processes	HRD Network to improve capacity of organisations to upskill staff was not continued or reconceptualised after limited successes in the first three years; workplaces struggle to identify or find and fund appropriate training for staff with the employer survey showing that disconnects between organisational strategy and HR functions remain in place.

Find this information in Sections 6.3 to 6.5 (employer survey data); Section 5.3.4 (National Environmental Skills Planning Forum case study) and Section 5.3.3 (Human Resources Development (HRD) Network case study).

Finding 4: Entry into biodiversity study fields and pass rates are improving but may be at risk due to high student load and potentially decreasing capacity for curriculum innovation and quality teaching in universities, with historically black universities receiving less attention.

SO4 (Skills Provision) Strategic Intent: Improve the quality and relevance of training provided by universities and other training providers	
Increase the relevance and quality of educational provisions by a wider range of higher education institutions (HEIs) and other providers ...	While HEI studies were undertaken and working groups established, the NRF and NSTF were engaged and providers expressed interest, no curriculum innovation projects were supported. Historically black universities have participated less than other universities in the GreenMatter Fellowship. The Work-based learning project was not continued despite a good start.
... in a manner that will improve pass rates	HEMIS data reflect a large increase in black students <i>graduating</i> in biodiversity related fields; however there is still a large number

	who enrol but do not graduate, and black women are less likely to advance into PhD studies, which has implications for leadership transformation. The growth in student numbers and simultaneous decrease in HE budgets put quality of education, skills produced, and future pass rates at risk. The Work-based learning project convened partners including the DHET to address the lack of funding for placements (which affect graduation rates of BTech students), but the impact of this initiative was not monitored and it was discontinued.
... and improve entry into the sector	HEMIS data reflect a large increase in black students <i>entering</i> biodiversity related fields of study; while this is part of a general trend, several initiatives address entry and access including the GreenMatter Fellowship; NRF and CATHSSETA bursaries; and careers projects. <i>Fundisa for Change</i> is a highly significant long term Foundation Building programme relevant to this objective.

This information is available in Sections 6.2, 6.3 and 6.5 (Outcomes and Impacts) and Section 5.3.1 (Fundisa for Change case study).

Finding 5: A teacher education system building project is in place with a coordinator, advisory body, support from national government and implementing partners (universities)

SO5 (Skills provision) Contribute to better science, mathematics, literacy and environmental learning in schools	<i>Fundisa for Change</i> has leveraged national and international funding off contributions from the Lewis Foundation and from DEA/DEFF (as part of the Environmental Sector Skills Plan). A coordinator is in place within SANBI, although the project is only part of her duties. Most South African universities have participated in the project which exposes teachers, student teachers, teacher educators and education department officials to training in the biodiversity and broader environmental content in the curriculum, to enable better qualified teachers able to better teach this content. The project has seen sustained activity and outcomes from 2011 through to 2021.
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The success of this initiative is due to strong partnerships within the sector, sustained advocacy by the sector partners themselves, the availability of funding for environment and sustainability education linked to schools, and the partners making use of the alignment between the BHCDs and the DEFF's Environmental Sector Skills Plan (ESSP). This information is available in Section 5.3.1 (*Fundisa for Change* case study).

Finding 6: While the sector has worked hard to promote HCD initiatives, a key limitation in the strategy implementation has been sub-optimal coordination and the complete absence of shared monitoring, evaluation and reporting which also limits promotion potential.

SO6 (Meta-conditions) Strategic Intent: Increase impact through articulation and promotion	
Increase the impact of the collective effort of HCD initiatives relevant to the sector ...	Skills Summits served as significant opportunities to showcase, articulate, join-up and coordinate HCD initiatives but instead of scaling them up and out as recommended after the first evaluations (2011, 2015) they were cut back. Despite a significant funding investment in a coordinating and advocacy mechanism (GreenMatter) sector partners and external evaluators found that GreenMatter remained or became mostly isolated from sector partners and did not optimise its coordinating, convening and advocacy potential. The absence of shared monitoring, evaluation and reporting (a common and critical meta-condition) further weakened this outcome.
... through articulation (connecting initiatives)	Alignment with the ESSP was optimised in the <i>Fundisa for Change</i> programme, but there was only isolated alignment with the Global Change Grand Challenge and other relevant HCD initiatives, contributing to a more limited scale of impact than was desired by all involved.
... and promotion	The GreenMatter brand and website was established and GreenMatter arranged or engaged in a number of promotional activities including Fellowship events. WWF and other partners also promoted initiatives, in particular those giving access to the youth. Skills Summits served as significant opportunities to showcase, articulate, join-up and coordinate HCD initiatives but instead of scaling them up and out as recommended after the first evaluations (2011, 2015) they were cut back. HCD progress was reported at the Biodiversity Research and Evidence Indaba with limited impact. SANBI and partners' efforts at mainstreaming biodiversity (e.g. with the mining sector) are strong positive developments, that have remained somewhat disconnected from the BHCDS. The impact of initiatives was difficult to quantify for promotional purposes in the absence of progress and impact monitoring, evaluation and reporting.

This information is available in Section 5.3.4 (National Environmental Skills Planning Forum case study); Section 6.5 (Create enabling macro-conditions for skills planning, development and evaluation) and Section 7 (Gaps and Recommendations).

Finding 7: Initiatives are underway to address scarce skills needs but are hampered by a lack of monitoring, evaluation and reporting on biodiversity skills needs.

SO7 (Skills provision) Strategic Intent: Produce scarce and priority skills through targeted higher education guided by ongoing skills needs and gap analyses	
Increase the supply of scarce skills ...	Employers report that there are still skills gaps, including some that existed prior to 2010.
... through targeted higher education in initiatives	Several initiatives address entry and access including the GreenMatter Fellowship; NRF and CATHSSETA bursaries; and careers projects.
... in priority areas identified through ongoing needs analyses	Since a skills gap analysis in 2011, no follow-ups were done to determine whether needs have been addressed and what new needs were identified. SETAs did provide funding for green skills needs analyses, but none had a biodiversity focus.

This information can be found in Section 7 (Gaps and Recommendations).

In addition to the achievements and risks outlined above, the review identified implementation gaps which could improve the level and scale of impact, were they to be addressed. The recommendations below are aimed at addressing these gaps, while maintaining and upscaling the outcomes achieved.

Recommendations

1. Improve coordination capacity through multiple coordination hubs that between them can mobilise the strengths of civil society, government agencies and universities.
2. Improve articulation and synergy across implementation initiatives, through (1) and dedicated monitoring, evaluation, research, communications and convening platforms; strengthen the role of the National Environmental Skills Planning Forum or establish a more suitable platform.
3. Mobilise more sustained and more substantial funding and political support in line with the strategic importance of the sector for employment creation and sustainable development, and the key role of human capacity development in both.
4. Start and fund advocacy processes to engage key role-players and potential implementation partners both inside and outside the 'big five' of biodiversity agencies.

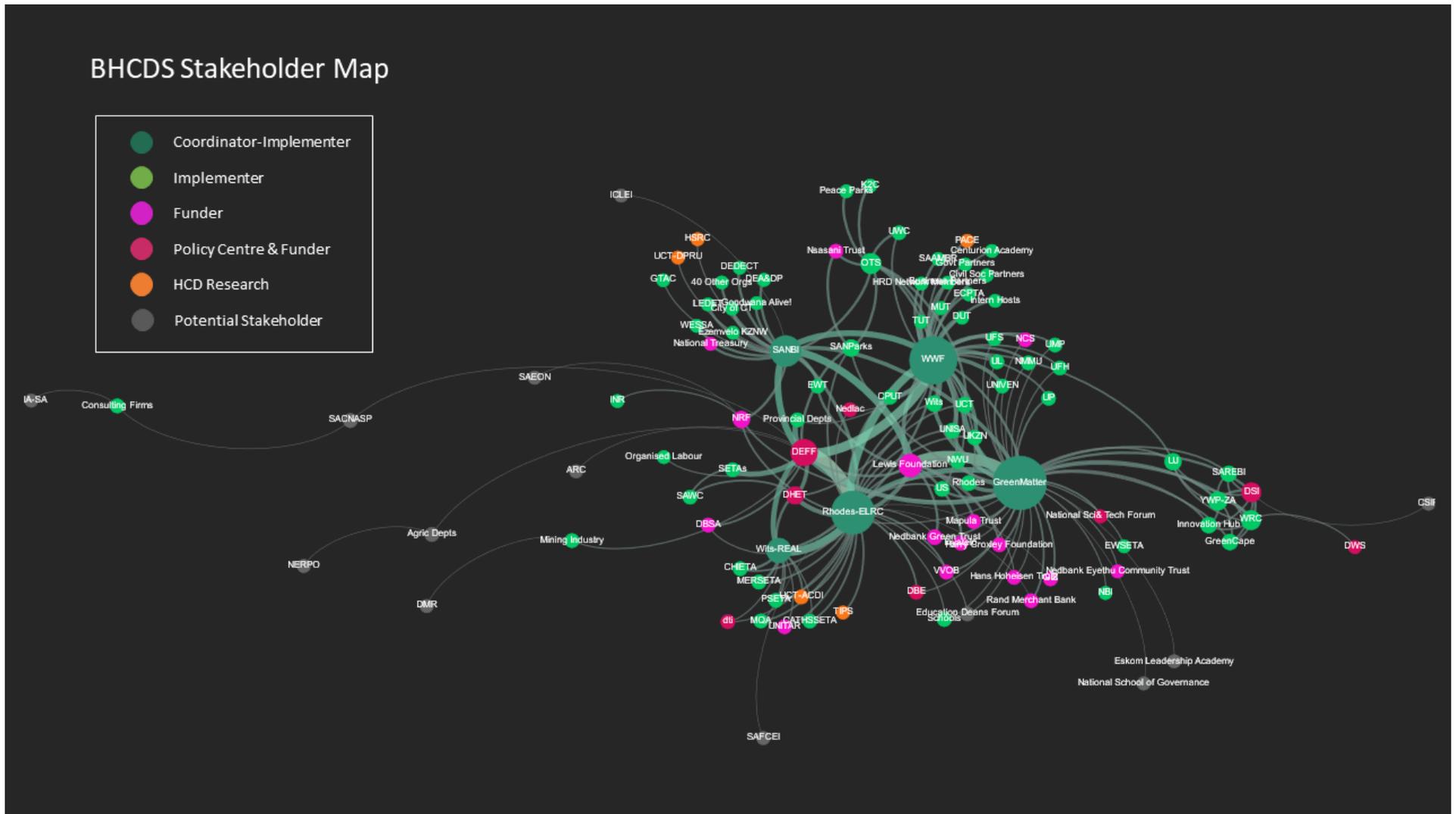
The above could be undertaken through the following actions, to be deliberated with stakeholders:

- For coordination and advocacy, the sector has three well-established mechanisms: conferences, reporting (informed by consistent monitoring) and advisory boards or steering committees. It is recommended that these established mechanisms be used more optimally.
- Fund coordination hubs with clear, realistic and agreed upon deliverables to overcome the principal-agency dilemma. This should include a coordinating hub with responsibility for the National Environmental Skills Summit which should be held annually to start with, following on the March 2021 Mini Skills Summit, in which syndicates or working groups can be established to take the BHCDS remit further.

- Institutionalise a shared monitoring, evaluation and reporting function as a vital coordination and advocacy function; drawing on the existing frameworks developed for the strategy.
- Conduct regular, guided evaluations and tracer studies for strategic and communication purposes (the sector has much to boast about); this function could potentially be situated in another coordination hub.
- Communicate the achievements, remaining capacity challenges and *possibilities* of the sector as part of a renewed BHCD drive for the 2021-2030 period. Draw on key developments like the recently released Dasguptha report³³; the current Decade of Restoration; the launch of Education for Sustainable Development (ESD) 2030; the Global Sustainable Development Goals; the updated Convention on Biological Diversity; and more to create a sense of urgency around the extent to which South Africa is losing its biodiversity, ecological infrastructure and ecosystem services, and a sense of optimism and opportunity around the extent to which biodiversity can contribute to jobs and livelihoods. Use this to leverage more substantial financial, human, and institutional resources and political support.
- Appoint a steering committee for the BHCDS implementation.
- Appoint an advisory board for the BHCDS implementation.

³³ Dasgupta, P. 2021. The Economics of Biodiversity: The Dasgupta Review. Abridged Version. London, HM Treasury. www.gov.uk/official-downloads

APPENDIX E: Stakeholder Map



This stakeholder map was produced using data generated during the review, with the network analysis software Gephi 0.92. Further details are available on request. [Corrections: NCS should be NCC, and the Harry Croxley Foundation should be the Harry Crossley Foundation.]