



# Opportunities for a green construction sector

The construction sector has been regarded as one of the major drivers of economic growth in Namibia over the past couple of years. The boom is driven by both the public and private sectors. Private investments include the development of new mines such as the Husab Uranium Mine, the B2Gold mine, and the Tschudi copper mine, upgrading of the Tsumeb copper smelter, additional shopping malls across the country, and development of residential areas. At the same time public investment is focussed on infrastructure, in particular transport infrastructure such as road and to a lesser degree railway construction and rehabilitation as well as the expansion of the Walvis Bay harbour and planned investment in additional electricity generating facilities, the Neckartal Dam and the Mass Housing Scheme. These projects have resulted in the construction sector growing by on average 15 per cent between 2010 and 2014 and now contributing four per cent to GDP up from 3.2 per cent in 2010. Construction has emerged as the main contributor to Gross Fixed Capital Formation accounting for 27.7 per cent in 2013 up from 18.1 per cent a year earlier.

The strong performance of the construction sector benefited the labour market.

Employment in the sector increased by 33 per cent between 2012 and 2014 to almost 57,000 employees. Women benefitted slightly more than men from additional jobs as their share of total employment in the sector increased from 7.7 per cent to 7.8 per cent, but the figure indicates that the sector remains firmly in the hands of men. While the sector accounts for eight per cent of all employees, it provides employment for only 1.3 per cent of all employed women compared to 14.2 per cent of all men. The sector serves in particular as an entry point for unskilled and semi-skilled workers and for micro, small and medium-sized enterprises.

The construction sector emerged as the sector with the strongest linkages to the rest of the economy as indicated by its estimated multiplier of 2.5 in 2013 up from 1.9 in 2004. The multiplier implies that for every increase in the construction sector's output by NAD1 the output of the economy as a whole increases by NAD2.50.

The sector has stronger linkages than any other sector in the Namibian economy to the mining, manufacturing and transport sectors. The latter two are NDP4 priority sectors. The multiplier increase is a clear indication that more construction material and services are being sourced locally, which applies in particular to cement that was largely imported a decade earlier.

The environment benefits from the shift to locally available products since transport

distances and hence the carbon footprint of the construction sector are reduced as long as locally available material is used in a sustainable manner. However, much more can be done in this respect. The following brief description focuses on the building and housing sub-sector that has a high potential for greener standards.

## Green Building and Housing

Construction activities impact on the environment in various ways, from the location of construction sites and the direct impact on flora and fauna, to the material used in the construction and the final utilisation of the building. The use of energy in buildings has in particular a strong impact on the environment. Government set a new standard with a Cabinet directive in 2007 that makes Solar Water Heaters (SWH) in new Government buildings and the replacement of existing electric geysers that have reached their lifespan compulsory. However, extending the directive to State-owned Enterprises and applying it



in particular to the Mass Housing Scheme implemented by the National Housing Enterprise would support NamPower's Demand Side Management initiative. In addition the use of fluorescent or LED bulbs would reduce the demand for scarce electricity even further. While increasing upfront costs, these measures would reduce the operational costs of buildings. In 2008, the Government established the Habitat Research & Development Cen-

tre (HRDC) in its current form under the auspices of the Ministry of Urban and Rural Development. One of its objectives is to experiment with alternative and locally available building material such as clay and mud, natural stones, recycled materials including tyres, thatch and reed as well as sand and grass as wall fillings. Different kinds of bricks such as Hydra forms and Kavango bricks reduce the amount of cement used and hence the costs. These alternative materials not only lower the costs of constructing houses, but also the construction time. However, Government hardly makes use of the knowledge and

experience gained at the HRDC and the centre was not involved in the planning Mass Housing Scheme. The establishment of the Green Building Council Namibia in 2012 is another step towards creating awareness of and promoting more sustainable ways of building. So far, the first building that is still under construction has received a four Green Star Rating out of six stars, while the rating

to neighbouring countries' needs as well, should be addressed.

The Government's Mass Housing Scheme, launched at the end of 2013 and aiming at constructing 185,000 houses at an estimated cost of NAD45bn until 2030, offers a great opportunity to try new, more sustainable ways in providing affordable housing for the poor and low-income earners and at the same time set new standards. These include water and electricity efficient buildings by using saving technologies such as SWH and adapting the design of buildings; using alternative and locally available building materials; and considering multi-storey buildings, as opposed to single-stand houses, with playgrounds, sport fields and green public spaces. The planning of new residential areas need to take into account the provision of health, education and other basic facilities, of shopping centres and of advanced public transport in order to reduce transport distances, time and costs and hence support other initiatives such as the Sustainable Urban Transport Master Plan in Windhoek.

While some structures are in place in support of a green construction sector, more could be done. A Green Building Policy and defined standards for buildings would provide the necessary guidance for the public and private sector. Furthermore, while there are a number of laboratories in Namibia that test the strength of building material, they are not yet internationally accredited and neither can they test other characteristics such as fire resistance. There is therefore a need to develop the capacity of and provide the necessary equipment to laboratories and support their international accreditation. The Mass Housing Scheme provides Government with the opportunity to lead by example.



Different materials used for constructing walls at the HRDC

of some existing buildings is under way. The rating includes ten criteria with different weights that vary from 25 per cent for energy efficiency and 14 per cent for water efficiency and reuse to seven per cent for the conservation and restoration of flora and fauna. The criteria also promote the use of reused and recycled building material; an area that offers more opportunities in the construction sector. Some building material is recycled on-site such as bricks and concrete, while other material such as steel is transported to South Africa for recycling. The viability of additional recycling activities in Namibia, with a view

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