



Zambia

SCIENCE,
TECHNOLOGY
& INNOVATION

POLICY REVIEW





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Note

The following symbols have been used in the tables:

- Two dots (..) indicate that data are not available or not separately reported. Rows in tables have been omitted in those cases where no data are available for any of the elements in the row.
- A hyphen (-) indicates that the item is equal to zero or its value is negligible.
- A slash (/) between dates representing years – for example 2018/19 indicates a financial year.
- Use of an en dash (–) between dates representing years (for example: 2008–2010) signifies the full period involved, including the beginning and end years.
- Reference to “dollars” (\$) means United States dollars, unless otherwise indicated.
- Annual rates of growth or change, unless otherwise stated, refer to annual compound rates.
- Details and percentages in tables may not necessarily add to totals because of rounding.

Preliminary remarks

This Science, Technology and Innovation (STI) Policy Review was prepared by UNCTAD at the request of the Ministry of Higher Education of Zambia.

As the focal point in the United Nations system for the integrated treatment of trade and interrelated issues of finance, technology, investment and sustainable development, UNCTAD supports member States in these areas through a combination of consensus-building, policy analysis and technical cooperation. Within this framework, the objective of this Review is to contribute to the development of national capacities for design and implementation of science, technology and innovation policies, plans and programmes. Such activities aim to improve the competitiveness of firms and industries in a global economy in which knowledge is an increasingly important factor. They also target the Sustainable Development Goals (SDGs) to secure a more inclusive and sustainable development path, in the understanding that science, technology and innovation are critical means of implementation of the Agenda for Sustainable Development embodied by the SDGs. This review is intended to be a tool for learning and reflection. It is not a rating mechanism but an analytical instrument which examines key elements of the national innovation system from a neutral perspective.

The Review has three fundamental goals. Its first goal is to offer Zambia an assessment of activities and institutions that make up its innovation ecosystem. The second goal is to draw attention to important socio-economic development questions for Zambia. Special attention has been placed on four such questions: gender, food, mining and digital transformation. The third goal is to provide recommendations for strengthening STI policy and propose measures that may improve national technological capacities and encourage innovation.

During UNCTAD's missions to Zambia in 2019 and 2020, the STI Policy Review team held interviews and meetings with more than seventy representatives of government agencies, research institutes, universities, chambers of commerce and businesses. The Review has been informed by quantitative data acquired from national and international sources.

This review would not have been possible without the cooperation of the Ministry of Higher Education and, in particular, Honourable Minister Dr. Brian Mushimba and Permanent Secretary Kayula Siame. A special appreciation is owed to the Ministry's Science, Technology and Innovation department. Since the draft of this review was completed in July 2021, the ministerial oversight of STI matters has been entrusted to the new Ministry of Technology and Science, where the Department of Science, Technology and Innovation was re-established.

The finalization of this review took place during both an election year and the Covid-19 crisis. These events curtailed opportunities to review and exchange perspectives at various phases of the drafting process. As a result, the descriptions and assessments in this review are strictly those of the UNCTAD staff experts and consultants. Notwithstanding, there is a high level of confidence that expressed views largely coincide with the perspectives of policymakers, experts and partners in Zambia, who have been gracious with their time and support during the UNCTAD missions and follow-up discussion, including during the 2020 and 2021 sessions of the UN Commission on Science and Technology for Development.

While national partners, counterparts and experts in Zambia have advised on its content, they may not necessarily concur with the entirety of the Science, Technology and Innovation Policy Review's analysis and recommendations. The data cited in the Review is established by UNCTAD research staff. The assessments, opinions and conclusions expressed in this document are entirely those of the UNCTAD secretariat.

Abbreviations

CEO	Chief executive officer	NRSC	National Remote Sensing Centre
CFU	Conservation Farming Unit	NSI	National system of innovation
DC	Direct current	NSTC	National Science and Technology Council
EXIM	Export-import	NTBC	National Technology Business Council
FDI	Foreign direct investment	PACRA	Patents and Companies Registration Agency
FISP	Farmer Input Support Programme	PPP	Purchasing power parity
GCF	Green Climate Fund	R&D	Research and development
GDP	Gross domestic product	SDG	Sustainable Development Goals
GII	Global Innovation Index	SHS	Solar home systems
HDI	Human Development Index	SME	Small- and medium-sized enterprise
HEA	Higher Education Authority	STEM	Science, technology, engineering and mathematics
ICT	Information and communication technologies	STI	Science, technology and innovation
IDC	Industrial Development Corporation	TBDF	Technology Business Development Fund
IMF	International Monetary Fund	TVET	Technical and vocational education and training
IoT	Internet of things	TVETA	Technical Education, Vocational and Entrepreneurship Training Authority
IP	Intellectual property	UN	United Nations
IPRs	Intellectual property rights	UNCDF	United Nations Capital Development Fund
MCTI	Ministry of Commerce Trade and Industry	UNCTAD	United Nations Conference on Trade and Development
MDG	Millennium Development Goals	UNDP	United Nations Development Programme
MMMD	Ministry of Mines and Minerals Development	UNESCO	United Nations Educational, Scientific and Cultural Organization
MOH	Ministry of Health	USAID	United States Agency for International Development
MoHE	Ministry of Higher Education	WIPO	World Intellectual Property Organization
NAPSA	National Pension Scheme Authority	ZaAS	Zambia Academy of Sciences
NCSR	National Council for Scientific Research	ZaBS	Zambia Bureau of Standards
NDP	National Development Plan	ZARI	Zambian Agricultural Research Institute
NISIR	National Institute for Scientific and Industrial Research	ZICTA	Zambia Information and Communications Technology Authority
		ZMW	Zambian Kwacha

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