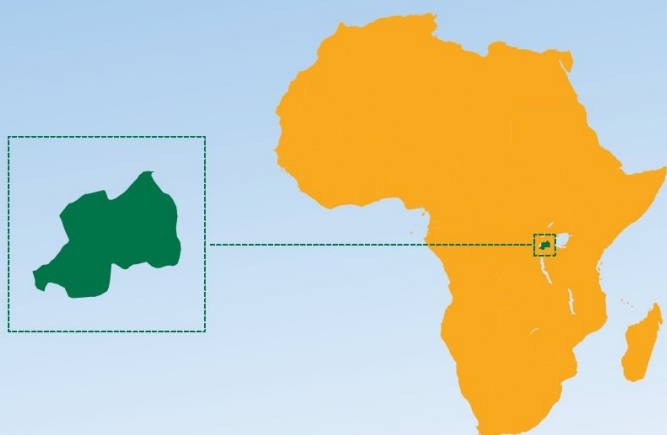




Science, Technology & Innovation Policy Review

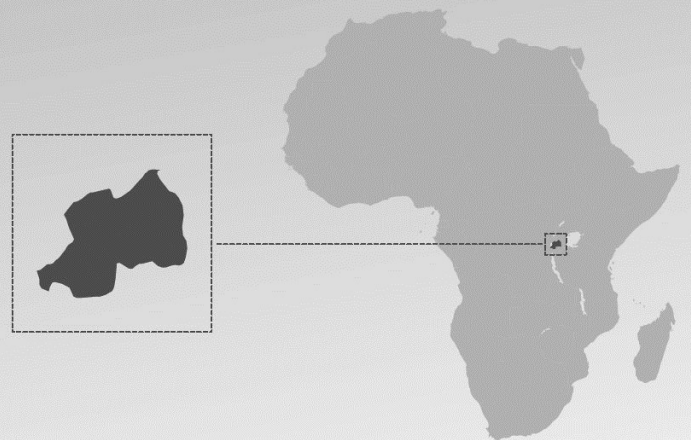
Rwanda





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Preface

The Science, Technology and Innovation Policy (STIP) Reviews prepared by UNCTAD aim to contribute to the development of national capacities in this field in order that national science, technology and innovation plans and programmes make an effective contribution to development strategies and improve the competitiveness of the productive sectors in a global economy in which knowledge is an increasingly important factor. This review is intended to be a tool for learning and reflection. It is an analytical instrument, not a rating mechanism, which examines a set of proposals from an external and neutral perspective.

This publication has three fundamental goals. Its first goal is to offer Rwanda an assessment of the framework conditions and interactions required for a functional national innovation system. The second goal is to draw attention to the main policy challenges for strengthening the national innovation system based on review four sectors: energy, information and communication technologies (ICTs), agriculture and industry. The third goal is to provide recommendations for strengthening policies and propose measures that may improve national technological capacities and encourage innovation.

The review of the science, technology and innovation policies of Rwanda was conducted in response to a request by the Rwanda Ministry of Trade, Industry and East African Community Affairs and with the support of the National Commission of Science and Technology (NCST). The work on the STIP Review of Rwanda was funded by the German Federal Ministry for Economic Cooperation and Development with the German Corporation for International Cooperation acting in an advisory role.

During visits to Rwanda, the UNCTAD team held nearly 50 interviews and meetings with representatives of government agencies, research institutes, universities, chambers of commerce and businesses. An initial draft of this document was presented and discussed at a national workshop held in Kigali on 1 December 2016, with the participation of more than 60 experts and national science, technology and innovation stakeholders. The comments and suggestions made there have been taken into account in the preparation of this review.

This review would not have been possible without the cooperation of the Ministry of Trade, Industry and East African Community and the NCST and, in particular, Honourable Minister François Kanimba and NCST Director Generals Dr. Ignace Gatere and Prof. Manasse Mbonye. A special appreciation is owed to the NCST STIP team. Gratitude is also extended to all participants in the national workshop and to the persons and entities, too numerous to be listed, that generously contributed their comments and ideas.

National partners, counterparts and experts may not necessarily concur with the entirety of the STIP Review's analysis and recommendations while they have advised on its content. 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.

Acknowledgements

The review was prepared as part of the work programme of the Science, Technology and ICT Branch of UNCTAD's Division on Technology and Logistics. The document was produced by UNCTAD economist Dimo Calovski with inputs from expert consultant Jean-Eric Aubert.

The document benefited from comments from Nikola Šahović (UN ECE) and Robert Hamwey (UNCTAD) on chapters dedicated to energy and agriculture respectively.

The manuscript was copy edited externally by Jennifer Gal-Or. Magali Studer designed the cover.

Abbreviations

4G LTE	Fourth generation long-term evolution wireless standard	NAEB	National Agricultural Export Development Board
ACE	Africa Centres of Excellence	NCBS	National Capacity Building Secretariat
ADB	African Development Bank	NCBS	National Capacity Building Secretariat
AIIESEC	International Association of Students in Economic and Commercial Sciences	NCST	National Commission for Science and Technology
BDF	Business Development Fund	NICI	National Information Communication Infrastructure
CAADP	Comprehensive Africa Agriculture Development Programme	NIP	National Industrial Policy of 2011
CIP	Crop Intensification Program	NIRDA	National Industrial Research and Development Agency
CMU	Carnegie Mellon University	NISR	National Institute of Statistics of Rwanda
CO2	Carbon dioxide	NRIF	National Research and Innovation Fund
CPCs	Community Processing Centres	NSI	National system of innovation
CST	College of Science and Technology	ODA	Official Development Assistance
EAC	East African Community	OECD	Organisation for Economic Co-operation and Development
EAPP	Eastern Africa Power Pool	OPEC	Organization of the Petroleum Exporting Countries
EDC	Energy Development Corporation	PSDS	Private Sector Development Strategy
EDPRS	Economic Development and Poverty Reduction Strategy	PSF	Private Sector Federation
EICV4	Integrated Household Living Conditions Survey 4	PSTA	Strategic Plan for the Transformation of Agriculture in Rwanda
EPD	Energy Private Developers	R&D	Research and development
ESSP	Education Sector Strategic Plan	RAB	Rwanda Agriculture Board
EU	European Union	RCA	Rwanda Cooperative Agency
EUC	Energy Utility Corporation	RDB	Rwanda Development Board
FDI	Foreign direct investment	REG	Rwanda Energy Group
FONERWA	Green Fund (National Climate and Environment Fund)	REMA	Rwanda Environment Management Authority
GDP	Gross domestic product	REP	Rwanda Energy Policy
GII	Global Innovation Index	RIEF	Research and Innovation Endowment Fund
HDI	Human Development Index	RIMP	Rwanda Industrial Master Plan 2009-2020
IAESTE	International Association for the Exchange of Students for Technical Experience	RISA	Rwanda Information Society Agency
ICT4RAg	ICT for Rwanda Agriculture Strategy	RSB	Rwanda Standards Board
ICTs	Information and communication technologies	RURA	Rwanda Utilities Regulatory Agency
IEA	International Energy Agency	RWF	Rwandan Franc
ILO	International Labour Organization	SDG(s)	Sustainable Development Goal(s)
INSEAD	Institut Européen d'Administration des Affaires	SMEs	Small and medium-sized enterprises
IP	Intellectual property	SRMP	Smart Rwanda Master Plan
IPCC	Intergovernmental Panel on Climate Change	STEM	Science, technology, engineering and mathematics
IPRCs	Integrated Polytechnic Regional Centres	STI	Science, technology and innovation
KIC	Kigali Innovation City	STIP	Science, Technology and Innovation Policy
KSEZ	Kigali Special Economic Zone	TVET	Technical and Vocational Education
LPG	Liquefied petroleum gas	UNCTAD	UN Conference on Trade and Development

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