

EMBARGO

The contents of this Report must not be quoted or summarized in the print, broadcast or electronic media before 31 October 2012, 17:00 hours GMT

TECHNOLOGY AND INNOVATION REPORT 2012

Innovation, Technology and South-South Collaboration







TECHNOLOGY AND INNOVATION REPORT 2012

Innovation, Technology and South-South Collaboration





NOTE

The terms country/economy as used in this Report also refer, as appropriate, to territories or areas; the designations employed and the presentation of the material do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. In addition, the designations of country groups are intended solely for statistical or analytical convenience and do not necessarily express a judgment about the stage of development reached by a particular country or area in the development process. The major country groupings used in this Report follow the classification of the United Nations Statistical Office. Details of the classification are provided in Annex I of this Report.

The boundaries and names shown and designations used on the maps presented in this publication do not imply official endorsement or acceptance by the United Nations.

Symbols which may have been used in the tables denote the following:

- Two dots (..) indicate that data are not available or are not separately reported. Rows in tables are omitted in those cases where no data are available for any of the elements in the row.
- A dash (–) indicates that the item is equal to zero or its value is negligible.
- A blank in a table indicates that the item is not applicable, unless otherwise indicated.
- A slash (/) between dates representing years (e.g., 1994/95) indicates a financial year.
- Use of a dash (–) between dates representing years (e.g. 1994–1995) signifies the full period involved, including the beginning and end years.
- Reference to "dollars" (\$) means United States dollars, unless otherwise indicated.
- Details and percentages in tables do not necessarily add to totals because of rounding.

The material contained in this study may be freely quoted with appropriate acknowledgement.

UNITED NATIONS PUBLICATION

UNCTAD/TIR/2012

Sales No. E.12.II.D.13

ISSN 2076-2917

ISBN 978-92-1-112856-7

e-ISBN 978-92-1-055887-7

Copyright © United Nations, 2012

All rights reserved. Printed in Switzerland

PREFACE

PREFACE

There is no doubt about the potential of rapid technological progress to help the world meet the defining challenges of our time. Yet for many individuals in the developing world, access is still a major challenge, hindering their ability to learn

how to use technologies that would improve their lives and promote enterprise development. That challenge is multiplied many times over for national policymakers seeking to use technologies to address energy poverty, food insecurity, environmental threats and job creation.

Bridging the technological divide has become a core concern of the

United Nations. If we are to build on and expand the progress that has been made towards the Millennium Development Goals, the international community will need to find innovative ways of closing this gap.

The increasing capacity of a growing number of countries in the South is a promising dynamic that signals the beginning of a new era in global development.

As more and more developing countries embark on the process of industrial catch-up, South-South cooperation can help to address the technological divide.

The UNCTAD *Technology and Innovation Report 2012* focuses on how South-South collaboration can help address key capacity questions faced by developing countries. The information and analysis contained in this report mark a welcome contribution to the efforts now getting under way to establish a set of Sustainable Development Goals and to outline a post-2015 development agenda.

I encourage governments and development partners to carefully consider the report's recommendations as we consider how best to promote equitable, sustainable and inclusive development for all.

BAN Ki-moon Secretary-General

Ri Moor Ban

United Nations

ACKNOWLEDGEMENTS

This Technology and Innovation Report was prepared by a team led by Padmashree Gehl Sampath (Main author and Chief, Taskforce on the Technology and Innovation Report Series), Abiy Solomon and Bertha Vallejo. It was prepared under the overall guidance and direction of Anne Miroux, Director of UNCTAD's Division on Technology and Logistics.

Inputs were provided by Biswajit Dhar (Director General, Research and Information Allied Systems, New Delhi), Dic Lo (School of Oriental and African Studies, University of London) and Professor Nicholas Vonortas (Georgetown University). The contribution of Mongi Hamdi, Former Head of Science, Technology and ICT branch, UNCTAD is acknowledged.

An ad hoc expert group meeting was organized in Geneva to peer review the initial draft of the Report. The comments and suggestions provided by the following experts at the meeting are gratefully acknowledged: Carlos Eduardo Fernandez da Silveira (Director of Studies on Innovation and Sectoral Policies, Regulation and Infrastructure Department IPEA, Brazil), Dic Lo (Senior lecturer in Economics at the School of Oriental and African Studies, University of London), Emmanuel Nnadozie (Director, United Nations Economic Commission for Africa, Addis Ababa), J.R. Bangera (President, Federation of Karnataka Chambers of Commerce and Industry), Kevin McCarthy (Policy Coordinator, DG Development and Cooperation – Europe-Aid, European Commission), Banji Oyeyinka (Director, UN-HABITAT), Ken Shadlen (Political Scientist, Department of International Development, London School of Economics), Alfredo Saad-Filho (UNCTAD) and Kiyoshi Adachi (UNCTAD). Comments were also received from Carlos Correa (Director, Centre for Law and Economics, University of Buenos Aires, and Advisor, South Centre), Richard Kozul-Wright (UNCTAD) and Torbjorn Fredriksson (UNCTAD).

Research assistance was provided by João Paulo Cavalcante. The report was edited by Praveen Bhalla. Nathalie Loriot was responsible for formatting and Sophie Combette designed the layout.

CONTENTS

	Note	
	Preface	
	Acknowledgements	
	Contents	
	List of abbreviations Overview	
	Overview	XIII
CHA	PTER I THE IMPORTANCE OF THE SOUTH	3
A.	BACKGROUND	3
B.	SOUTH-SOUTH COOPERATION: KEY ARGUMENTS	6
	Growing South-South trade and its implications	
	South-South investment as a driver of development	
_	THE IMPORTANT ROLE OF THE SOUTH IN TECHNOLOGICAL LEARNING AND INNOVATION	
C.	The South as a complement to the North for technology and innovation	
	Overcoming challenges and divergent interests	
	Overcoming challenges and divergent interests	
	a. Emerging countries	
	b. Technological collaboration	
	c. Technology transfer	
	d. Innovation capacity	
D.	ORGANIZATION OF THE REPORT	16
СНА	PTER II THE EMERGING LANDSCAPE OF TECHNOLOGY AND INNOVATION	
	EXCHANGE IN THE SOUTH	21
Α.	INTRODUCTION	21
	INCREASE IN IMPORTS OF CAPITAL GOODS FROM THE SOUTH	
υ.	Growing technological intensity of imports and participation in production networks	
	South-South FDI and technology flows	
	a. Outward FDI from developing countries	
	b. Sectoral composition of South-South FDI outflows	
C.	IMPLICATIONS OF ONGOING SOUTH-SOUTH EXCHANGE FOR TECHNOLOGY AND INNOVATION	
	CAPACITY	35
	Growing technological divergence in the South	36
	a. Capital goods imports of developing countries and LDCs	
	b. R&D trends in emerging countries	
	c. Licensing and patenting trends	
	2. The leading importers, exporters and innovators in the South	
	Manufacturing productivity and technological progress	
	b. Participation in GPNs and technological learning	
	3. The rise of developing-country TNCs	
	a. A regional perspective on developing-country mergers and acquisitionsb. Sectoral composition of cross-border mergers and acquisitions	
_	·	
D.	CHAPTER SUMMARY	42

CHA	PTI	ER III ASSESSING ONGOING SOUTH-SOUTH TECHNOLOGICAL COLLABORATION: EXAMPLES AND POLITICAL INITIATIVES	. 47
Δ	INI-	FRODUCTION	47
В.		FER-FIRM TECHNOLOGICAL COLLABORATION	
	1.	Pharmaceuticals and health care.	
		 a. Uganda: Joint venture between Quality Chemicals (Uganda) and Cipla Pharmaceuticals (India) b. Ethiopia: SEAA – a joint venture with Chinese firms 	
		c. Egypt: VACSERA – a joint venture with Dongbao (China)	
	2	Renewable energy technologies	
		Summing up	
_		BLIC SECTOR TECHNOLOGICAL COLLABORATION	
C.		BLIC SECTOR TECHNOLOGICAL COLLABORATION	
	١.	a. Embrapa	
		b. Oswaldo Cruz Foundation	
		c. SENAL	
	2.	India	
		a. India-Pan Africa e-Network Technical Collaboration and Knowledge Sharing	
		b. India's collaboration on human genome sequencing	
		c. India's collaboration on RETs development	55
	3.	China	55
		a. Chinese-Angolan ICT infrastructure development collaboration	56
		b. Lighten up Africa Project: an example of collaboration between China, 10 African countries and UNIDO	
	4.	Mexico	56
		Programme for strengthening capacities for the development of technological projects in aquaculture	
		b. Development of biosecurity protocol in laboratories, greenhouses and fields with genetically modi organisms in Peru	fied 58
		c. Course in non-destructive practices	
	5.	Saudi Arabia	58
D.		AJOR GOVERNMENT INITIATIVES FOR SOUTH-SOUTH TECHNOLOGICAL COLLABORATION	
	1.	Recent major intergovernmental initiatives	
		a. BRICS summits	
		b. The India-Brazil-South Africa Dialogue Forum	
	_	c. The Istanbul Plan of Action and the Turkish Initiative	
	2.	3	
		a. Africai. Africa's Science and Technology Consolidated Plan of Action	
		ii. African Economic Community	
		iii. Technological collaboration in the Economic Community of West African States and	
		the Southern African Development Community	
		b. Asia	
		i. The Association of Southeast Asian Nationsc. Latin America and the Caribbean	
	0		
	3.	Interregional cooperation	
		b. Programmes of international organizations to support South-South technological	04
		collaboration	64

CONTENTS

E.	IMPACTS OF ONGOING ACTIVITIES ON TECHNOLOGY AND INNOVATION CAPACITY	65
F.	CHAPTER SUMMARY	66
ΉΔ	PTER IV HOW CAN THE SOUTH PROVIDE A NEW IMPETUS FOR BUILDING INNOVATIVE CAPACITY?	73
A.	INTRODUCTION	73
В.	PRINCIPLE 1: INTEGRATING THE TECHNOLOGICAL NEEDS OF DEVELOPING COUNTRIES INTO	
	SOUTH-SOUTH EXCHANGES	75
	1. Building absorptive capacities to tap into South-South trade and global production networks	76
	2. Targeting internal and external constraints on building capabilities	78
	a. Internal constraints on building capabilities	
	i. Inadequate investments in technological learning	
	ii. Weak support to local enterprisesiii. Weak institutional linkages	
	iv. Inadequate domestic resources to create a supportive environment for innovation	80
	b. External constraints on learning and building capabilities	
C.	PRINCIPLE 2: SHARING EXPERIENCES IN BUILDING INNOVATION CAPABILITIES THROUGH	
	PROACTIVE POLICIES	
	General policy insights from country-level experiences	
	2. Specific policy strategies and policy linkages to promote innovation-led growth	
	a. The role of the State in promoting technological learning	
	b. Appropriate technologies for technological catch-up	
	i. India-Uganda collaboration: Quality Chemicals (Uganda) and Cipla Pharmaceuticals (India)	
	ii. Technological collaboration in Bangladesh's pharmaceutical sector	
	iii. Linking innovation policies to broader industrial policy	87
D.	PRINCIPLE 3: PROMOTING LEARNING THROUGH ALLIANCES AND TECHNOLOGY TRANSFER	87
	Promoting strategic alliances for overall technological growth	88
	2. Technology transfer and developing countries	89
E.	PRINCIPLE 4: MAKING DEVELOPING-COUNTRY FDI MORE TECHNOLOGY ORIENTED	91
F.		
	TECHNOLOGICAL CHALLENGES	91
G.	LEVERAGING THE SOUTH FOR TECHNOLOGY AND INNOVATION: POLICY INCENTIVES AND	

预览已结束, 完整报告链接和二维码如下:

https://www.yunbaogao.cn/report/index/report?reportId=5_9788

