WORKING PARTNERSHIPS

HIGHER EDUCATION, INDUSTRY AND INNOVATION

GOVERNMENT INCENTIVISATION OF
HIGHER EDUCATION-INDUSTRY RESEARCH PARTNERSHIPS
IN SOUTH AFRICA

An audit of THRIP and the Innovation Fund

RESEARCH
MONOGRAPH

RESEARCH PROGRAMME ON
HUMAN RESOURCES DEVELOPMENT

Compiled by the Human Resources Development (HRD) Research Programme
Human Sciences Research Council
Executive Director: Dr Andre Kraak

Published by HSRC Publishers
Private Bag X9182, Cape Town, 8000, South Africa
www.hsrcpublishers.ac.za

First published 2003

ISBN 0-7969-2038-9

Cover by FUEL Design

Production by comPress www.compress.co.za

Distributed in South Africa by Blue Weaver Marketing and Distribution,
P.O. Box 30370, Tokai, Cape Town, South Africa, 7966.
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PREFACE

An ideal vision of the role of research partnerships between higher education and industry in a rapidly globalising knowledge economy is becoming prevalent. However, there is a great deal of dissonance between this vision and the realities of research, innovation and development in the South African context, characterised by fragmentation, inequalities and unevenness.

The HSRC's research programme on Human Resources Development has undertaken a project to explore the extent to which the networked practices that are believed to characterise the knowledge economy have indeed begun to penetrate South African higher education and industry. Where networks and partnerships have developed, how have they taken form and shape in the South African context, with specific national policy and economic imperatives? To what extent is there evidence of collaboration in knowledge generation, diffusion and/or application that will ultimately contribute to innovation? In what ways has government succeeded in promoting such partnerships?

What are the kinds of changes and benefits partnerships are bringing about in both higher education and industry?

Three high technology bands have been identified as priorities for developing a National System of Innovation that will improve South Africa's international competitiveness and economic development. The relatively new high technology fields of information and communication technology (ICT), biotechnology and new materials development have been identified as most likely to generate benefits for South Africa. These were selected as the empirical focus for the study. Understanding the conceptions and practices of research partnerships in each of these three fields will inform understanding of responsiveness to high technology needs and innovation in South Africa.

This large-scale, empirical study of necessity is primarily an exploratory one, aiming to open up the field and lay down benchmark descriptions of the partnership and network activity emerging in South African higher education and industry. It does so through a series of audits and mapping exercises, and through a series of case studies.

The study was conceptualised in terms of four distinct but closely inter-related empirical sub-studies or components. Each empirical study will be disseminated in a separate research report.

Component 1 was largely conceptual. It provided an entry point into the conceptual and comparative literature on higher education-industry partnerships, as well as an introduction to the 'state of the art' in each of the three high technology fields in South Africa, to lay a foundation for the entire study.

Component 2, the focus of the present research report, aimed to illuminate government's role in promoting research partnerships by exploring the forms of

government contribution through THRIP and the Innovation Fund, and the extent and nature of resultant partnerships. Data was gathered on industry and higher education beneficiaries, on the nature of co-operation at project level, and selected measures of the outputs of the co-operation. The report shows how partnerships, networks and innovation are developing amongst beneficiaries of government-incentivised funding in general, and in the three high technology fields specifically.

L. Powell Consultancy conducted the audits for Component 2 on behalf of the HSRC, and has written this research report.

Component 3 will focus on the supply side. It aims to map the higher education landscape, in order to investigate the scale and form of research linkages and collaborative practices between higher education institutions and industry in each of the three fields. Given the uneven capacity of higher education institutions and their differential historical legacies, and given different modes of operation of different knowledge fields, it will explore whether partnerships develop and take different forms in different institutional and knowledge contexts.

Component 4 will focus on the demand side, at enterprise level in industrial sectors related to the three high technology fields. In a limited set of cases, we will explore in-depth the dynamics of partnerships, to unpack their multi-linear, contingent and tacit dimensions, as well as consider the impact on enterprise productivity, technological innovation and knowledge production in each of the three fields.

The study has been co-funded by the Carnegie Corporation of New York.

This publication was made possible (in part) by a grant from Carnegie Corporation of New York. The statements made and views expressed are solely the responsibility of the authors.

Glenda Kruss
Project Leader
June 2003

ACKNOWLEDGEMENTS

The compilation of this report would not have been possible without the active partnership of the National Research Foundation, the higher education sector and key players in business and industry. Here special mention needs to be made of:

- L. Powell Consultancy who designed the methodological approach, conducted the research and wrote this report.
- Dr Rocky Skeef of the National Research Foundation, who engaged with the early findings of the study and provided a critical reading of the final report.
- Dr Robin Drennan, Elaine Lemmer and other key staff of THRIP, who engaged closely with the study by commenting on the methodological approach, contributing to the development of the survey instruments used, providing datasets and undertaking a critical reading of the final report.
- Dr Eugene Lottering and Lara Sukhdeo of the Innovation Fund who engaged in the methodological design of the study and provided a critical reading of the final report.
- The higher education beneficiaries of the Innovation Fund who participated in a survey to compile a dataset.
- The industry beneficiaries of THRIP and the Innovation Fund who participated in an industry survey.

ACRONYMS

DACST: Department of Arts, Culture, Science and Technology

DoE: Department of Education

DoL: Department of Labour

DST: Department of Science and Technology (formerly DACST)

DTI: Department of Trade and Industry

FET: Further Education and Training

HAI: Historically Advantaged Institution

HBI: Historically Black Institution

HDI: Historically Disadvantaged Institution

HE: Higher Education

HEI: Higher Education Institution

HRD: Human Resources Development

HSRC: Human Sciences Research Council

HWI: Historically White Institution

HWU: Historically White University

ICT: Information Communication Technology

IDC: Independent Development Corporation

IF: Innovation Fund

IPRs: Intellectual Property Rights

MCDM: Multi Criteria Decision Model

NGOs: Non-governmental Organisations

NRF: National Research Foundation

NSDP: National Skills Development Plan

R&D: Research and Development

S&T: Science and Technology

SAQA: South African Qualifications Authority

SET: Science, Engineering and Technology

SETI: Science, Engineering and Technology Institutions

SMMEs: Small, Medium and Micro Enterprises

SPSS: Statistical Package for the Social Sciences

THRIP: Technology and Human Resources for Industry Programme

TIPTOP: Technology Innovation Programme through the Transfer of People