

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

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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.

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Glenda Kruss
Project Leader
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- 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