



---

# Universities and Regional Development: Lessons from the OECD Regional Assessment of the Free State, South Africa

Samuel Fongwa\*, Lochner Marais\*\* and Doreen Atkinson\*\*\*

---

## Abstract

For the past few decades, the debate surrounding the ‘third mission’ of universities in South Africa has been dominated by the notion of university-community engagement. At the same time, the notion of regional development has come under the spotlight internationally. Drawing on existing literature on the relationship between universities, knowledge, the economy and community engagement, this paper scrutinises the OECD review of university-regional engagement in the Free State province in order to identify key lessons. Our contention is that, because the notion of regional engagement has become a central part of university management, assessment and even rankings, it should be viewed as an integral part of a university’s core activities of teaching and research, rather than as a separate third mission. Furthermore, findings reveal that a university’s engagement with its region also depends on regional assets and structures to support such processes.

**Key words:** Higher education; universities; regional engagement; knowledge economy; OECD review; Free State; South Africa.

---

\* Post-doctoral fellow, Centre for Higher Education and Capabilities Research, University of the Free State. Email: FongwaSN@ufs.ac.za

\*\* Professor in Development Studies, Centre for Development Support, University of the Free State. Email: MaraisJGL@ufs.ac.za

\*\*\* Professor in Development Studies, Centre for Development Support, University of the Free State. Email: Karoo@intekom.co.za

## Résumé

Au cours des quelques dernières décennies, le débat autour de la « troisième mission » des universités en Afrique du Sud a été dominé par la notion de l'engagement université-communauté. En même temps, la notion de développement régional est venue internationalement au devant de la scène. Tirant partie de la littérature existante sur la relation entre les universités, le savoir, l'économie et l'engagement communautaire, cet article passe à la loupe la revue université-engagement régional de l'OCDE dans la province de Free State pour identifier des leçons clés. Notre assertion est que, parce que la notion d'engagement régional est devenu une partie essentielle de la gestion, de l'évaluation et même de classement des universités, il devrait être vu en tant que partie intégrale des activités centrales d'enseignement et de recherche, plutôt que comme une troisième mission séparée. En outre, les constatations révèlent que l'engagement d'une université avec sa région dépend aussi des actifs et structures régionaux pour appuyer des tels processus.

**Mots clés :** enseignement supérieur ; universités ; engagement régional ; économie de la connaissance ; revue de l'OCDE ; Free State ; Afrique du Sud.

## Introduction

The third-mission role of universities has been the subject of much debate and scholarly research over the past few decades. Common themes discussed over the years include volunteerism, service learning, university outreach, experiential learning, consultancy, knowledge and technology transfer, innovation, and university-community engagement (Molas-Gallart and Castro-Martinex 2007). More recently, these debates have been broadened by a focus on the critical role of knowledge in regional development and the role of universities and other institutions as knowledge generators and agents in the development process (Dubina et al. 2011; European Commission, 2013). The literature gives attention to the importance of knowledge and innovation in sustained national and regional transformation and development (Altbach 2008; Bellini et al. 2012).

Furthermore, a variety of third mission concepts, theories and branches of study have emerged, to enhance the understanding of the relationship between universities and the social and economic improvement of their local and extended regions. These include notions such as the triple-helix concept (Etzkowitz and Leydesdorff 1998), university engagement (Chatterton and Goddard 2000; OECD 2001; 2007a), constructive advantage (Cooke and

Leydesdorff 2006), knowledge transfer (Siegel & Phan, 2005; Siegel et al., 2003), innovative milieus (Aydalot 1986; Ratti et al. 1997), national and regional systems of innovation (Freeman 1995; Lundvall 1992; Amin and Thrift 1994) and the learning-region concept (Florida 1995; Hassink 2005). At the same time, regional engagement has also become an integral part of some university ranking systems (van Vught et al. 2010). The OECD has played a major role in advocating a third mission role of universities, emphasising the importance of universities in promoting regional and local development. The OECD has embarked on a number of assessments to analyse this using output variables such as research publications, human capital development and strategic appraisal of how universities in the cities or semi-urban regions contribute to regional development.

This paper uses findings from one such review of a South African university to draw key lessons for the role of universities in regional development. Based on the review findings, this paper teases out key findings and potential lessons for university engagement in regional development through human capital and skills development, knowledge and technology transfer, business innovation, social and cultural development and regional engagement strategies aimed at adequate capacity development. The paper has four main sections. The next section provides a concise theoretical framework of the role of universities in regional development. The third section presents a quick overview of the discourse within the South African context. Section 4 focuses on the OECD assessment process within the Free State Province of South Africa. Besides offering an overview of the province, the OECD review process and the main findings, it further generates potential lessons for development in the university-regional interface. Section 5 reflects on the potential implications of the lessons.

### **Universities in Regional Development**

The university of today, irrespective of its history, size and orientation (entrepreneurial or traditional; technical or research-oriented), faces the challenge of being relevant to both its immediate and its extended society, while not neglecting its two core functions of research and teaching (Castells 2001; Cloete *et al.* 2011). To an increasing degree, the present-day university is thus moving from an ideological position to one that is more instrumental or utilitarian, and from a focus on knowledge creation to a growing interest in knowledge application and meeting day-to-day needs (Martin and Etzkowitz 2000). The drive to be relevant to external stakeholders has resulted in new theoretical and practical implications for the work being done by the university. Under the broad umbrella of the 'third mission', new forms of engagement (such as

philanthropic endeavours, social responsiveness, community engagement and entrepreneurship) have emerged across the globe – this depending on the type of university or its mission, the local context and the availability of resources (Dempsey 2010). More recently, the notion of regional engagement has emphasised the importance of knowledge creation to benefit the regions in which universities are located or of providing the human capital for specific regions. Thus, the emphasis is on using the two existing core functions of the university to benefit specific regions, rather than having a separate third mission.

Up to the 16th and 17th century, early universities tried to shield themselves from enlightenment ideas. Though participating in some form of societal activities like training of priest and training teachers, the immaculate university species ideology dominated the purpose of the university (Martin and Etzkowitz, 2000). Perkins (2006:173), commenting on the university of the time, holds that ‘their role was limited to training priests and a few civil servants’. However, with more demands being placed on HEIs, Napoleon abolished the *ancien régime* of the French universities and instituted the *grandes écoles*, which had a more professional orientation (Altbach 2008:8). Wilhelm von Humboldt later followed up on this when he established the initial form of the modern university in Germany in 1810, one that was not only committed to bringing research to the centre of academic work, but also to linking knowledge to applied science and national development.

In America, the 19th century witnessed the emergence of a new form of university that engaged with societal needs. This was set in motion by the passing of the Morrill Act of 1862, and the establishment in 1890 of land grant universities/colleges of agriculture (McDowell 2003). This policy was supported by funding allocations from the state government through the allocation of state land and other support. The American concept of engagement, according to Graubard (1997 in McDowell 2003), ushered in a unique approach, not only because of the innovative idea it introduced, but more so because of the ‘service’ concept that gave a novel meaning to state universities aimed at assisting society in ways hitherto unknown (McDowell 2003:33). Land-grant universities, which have been established worldwide since the latter part of the 19th century, have been widely acclaimed as a revolutionary form of engagement that demonstrates the potential of universities to enhance social and economic development (Thelin 2004).

More recent examples of the role of universities in the development of their external regions or communities have been observed with notions of the entrepreneurial university (Clark 1998) and the establishment of regional universities, especially with Nordic nations like Norway playing a catalytic role in breaking regional lock-ins (Benneworth et al. 2006:19; Benneworth

and Hospers 2008; Coenen 2007; OECD 2008). Empirical studies in both developed and developing nations indicate the role of universities in national, regional and local development through different forms of engagement with stakeholders and communities at local, regional and even national levels. (Bridges 2007; OECD 2007b; Wangenge-Ouma and Fongwa 2012). In the new economy, the knowledge economy, the role of universities has even been amplified.

The OECD which has emerged as a major player in promoting the role of universities in development has advocated a more regional dimension of universities in enhancing its relevance to social and economic transformation. While concepts such as third mission and community engagement could cover a broad spectrum of activities (See Kruss et al. 2012) in terms of context and approach, the OECD advocates a more regional emphasis where knowledge and partnership with local stakeholders form a core of the mission and vision of the university and its core functions. According to it:

To be able to play their regional role, HEIs must do more than simply educate and research – they must engage with others in their regions, provide opportunities for lifelong learning and contribute to the development of knowledge-intensive jobs which will enable graduates to find local employment and remain in their communities. This has implications for all aspects of these institutions' activities – teaching, research and service to the community and for the policy and regulatory framework in which they operate (OECD 2007a:11).

Cloete et al. (2011:21) make a similar observation and use empirical data from eight African countries as they argue for better alignment between the core functions of higher education systems and the national development plans of the respective countries. Despite an increasing awareness of the role of knowledge in national and regional development, none of the countries (except Mauritius) seems to align knowledge and academic endeavour with the development trajectory of a country. Although South Africa assigns importance to research related to development at the national level, Cloete and colleagues detect a lack of coordinated effort to link university missions and functions with national and regional development objectives (Cloete et al. 2011:127). This results in a concomitant lack of an institutionalised notion of the role of the university in development.

Using the OECD approach to assessing the link between the university (policy and practice) to development priorities, this paper focuses on the role of a case study university in the regional development of South Africa. This

aims to situate the work of the university in the development of a defined geographical context around which the university is situated. Based on this approach, a potential challenge relates to the conceptualisation and delineation of the concept of region. Chatterton and Goddard (2000:478) observe that 'regions are emerging and are being defined ...' while Cooke and Leydesdorff (2006:6) have a more practical take on the concept, arguing that the administrative boundary becomes of primary importance. However, for this paper we apply the OECD's (2001:24) conceptualisation of a region as 'a territory or level of authority in between the local and the national level'. Hence this paper focuses on the role of the UFS in the development of the Free State province within the South African context. The next section provides an overview of university community engagement literature with a focus on regional development aspects.

### **University Engagement and Regional / Local Development in South Africa**

Third-mission discourse in South Africa seems to be the subject of continual debate with increasing arguments for the lack of clear policy guidelines and conceptual clarity (Council on Higher Education 2010). While the higher education system has a very successful set of performance indicators such as student throughput, research outputs and even research commercialisation and patenting, very little coordination has been attempted in terms of linking some of these outputs with the university's contribution to local, regional or national development. Moreover, the role of universities in development has only recently been highlighted in South African academic literature (Muller 2010) and it features mostly within the context of higher education studies, rather than within the context of regional or local economic development studies. The Council on Higher Education's review of community engagement in the South African higher education environment summarises the situation in the following words:

Universities are involved in many activities structured around research, teaching and outreach that entail engagement with a wide range of communities, but these activities are uncoordinated and are the result of individual, rather than of strategically planned, systematic endeavours (Council on Higher Education 2010:iii).

The above observation seems valid, despite the fact that in the early years of the new political dispensation, the 1997 White Paper on Higher Education set the stage for a more responsive and engaging university system (Lazarus

et al. 2008). Two of the three pillars of the White Paper are responsiveness and partnerships with stakeholders. However, these principles have not been enshrined in a clear community engagement policy or in a framework for higher education institutions<sup>1</sup> (Hall 2010).

Muller (2010) suggests that the meaning of the term ‘community engagement’ has changed considerably over the past four decades, depending on the context. He identifies four phases of university-community engagement in South Africa: engagement with the struggle (1980s), engagement in service to the community (mid-1990s), engagement with Mode Two Knowledge and society relations (early 2000s), and engagement with development (mid-2000s). The first phase is summarised in the following words:

At its best it attempted to connect an intellectual project to a socio-political project, and it attempted to bridge these by helping to bring powerful knowledge to bear on political policy and strategy (Muller 2010:73).

The second phase was largely influenced by land-grant ideals and American volunteerism, and service learning became a core activity during this time period (Muller 2010). Bunting and Cloete (2007) add that community engagement, as incorporated in the 1997 White Paper, was seen as a form of redress. The third phase emphasised applied knowledge (Mode Two Knowledge) that was relevant to industry, but the notions of locality and community were lost to a large degree. Arguably, while the Mode Two discourse takes cognisance of the role of networks and communities of practice, its conceptualisation does not include adequate reference to a physical regional or local context in the application of knowledge. Mode Two Knowledge application assumed its implementation across geographic boundaries. Thus, in accordance with this line of thinking, while universities began to think and learn from business in their core business of knowledge production, the regional context and/or role of universities remained abstract, and frequently out of touch with the immediate physical surroundings.

The fourth phase – ‘engagement with development’ – attempts to bring university research and teaching into line with regional development needs (Muller 2010), although critics have warned against the simplistic use of phrases such as ‘problem-orientated research’ and ‘relevance’ when this notion of universities and development is being discussed. Cooper (2009) argues that national innovation systems (which he views as broader than the ‘triple-helix model’) require highly effective research-based and research-led universities. The OECD echoes this argument by its conceptualisation of regional engagement

as ‘a strategy developed by the university in collaboration with the regional and local stakeholders’. Thus, both Cooper (2009) and the OECD advocate true engagement, as opposed to *ad hoc*, opportunistic and geographically circumscribed engagement with a minimal or no focus on developing synergies (see Puukka et al. 2012:189). While the Department of Higher Education and Training (DHET), in its 2013 White Paper, has recognised community engagement in its diverse forms, little effort has been made in terms of conscious strategies to integrate and clearly delineate the third mission as a core business of universities (RSA 2013) in national and regional development. This lack of conceptual clarity and measurement in respect of the third mission of a university remains a grey area, leaving the way open for diverse forms of interpretation of the relationship between universities and their regions. From findings at a South African university, Cloete et al. (2011:129) observe that ‘at neither national nor institutional level was there agreement about the role of the university in development’ and that there was surprisingly little support among university leadership for a knowledge-economy approach to national and regional development.

### **The Free State Province in Context**

Among the nine provinces that constitute the Republic of South Africa, the Free State Province (FS) is centrally situated, sharing boundaries with six other provinces and also with the Kingdom of Lesotho, and is landlocked. The province is populated by about 2.9 million people. In comparison with the other provinces, the FS had the highest levels of unemployment (Stats SA 2012) between the third quarter of 2011 and the end of 2012, partly owing to the major decline in the mining and agricultural sectors (Marais 2013). The Free State Growth and Development Strategy (Free State Provincial Government 2012) observes that the decline of the primary sector coincides with high levels of unemployment in the unskilled and poorly-skilled population groupings (mainly in agriculture and mining). Despite this decline, the province continues to boast a strong, though dwindling agricultural capacity, as a result of which it came to be commonly known as South Africa’s ‘bread basket’. With the poorly-skilled experiencing more difficulty in finding jobs in other sectors, Marais and Pelsler (2006) estimate that approximately 230, 000 people left commercial farms in the Free State between 1991 and 2001. The mining sector also shed more than 150, 000 jobs between 1990 and 2011.

As far as education is concerned, the province continues to struggle with low levels of education attainment and success. Of the total population aged fifteen years and above, more than 69 per cent have a qualification lower than a Matric.<sup>2</sup> Only 23 per cent have Grade 12 certificates (Matric), while a



meagre 8 per cent have a tertiary qualification of any kind. The South African 2011 Census Report indicates that these trends have persisted. The Free State Province continues to display low educational levels, in that more than 20 per cent of those aged fifteen and above have a qualification lower than Grade 7 (Stats SA 2012).

Furthermore, the province suffers from significantly low levels of advanced research, with no major research institutions other than the two universities: University of the Free State and the Central University of Technology. The low industrial base (Nel et al. 2006) and high levels of dependence on primary-sector employment also contribute to a high rate of 'brain drain'. The main campuses of both universities are situated in the Mangaung municipality, less than 10 kilometres away from each other. The low matric attainment, coupled with the fact that South African students prefer to study in the larger metropolitan cities, has limited the HE enrolment at the two provincial universities. Table 1, which compares different provinces in terms of higher education indicators suggest that the province is not among the high performers in terms of knowledge base and knowledge production. Owing to the low industrial base of the province, graduates most often have to move to the more industrially endowed provinces in search of greener pastures. This further weakens the knowledge base of the province.

The above trend is observed in a Human Sciences Research Council report that says, 'a characteristic of the South African higher education sector is the concentration of resources and doctoral students in a small number of universities' (SAaccess 2010:33). At the time of the report, five of the 23 public universities (Cape Town, Witwatersrand, KwaZulu-Natal, Pretoria and Stellenbosch) between them accounted for more than 65 per cent of the total university research and development expenditure and for more than 50 per cent of researchers and 56 per cent of the total number of doctoral students. Because its universities do not rank among the said five top universities, the Free State Province has a relatively weak innovation and knowledge base along with a weak industrial base.

**Table 1:** Comparative Analysis of South Africa's Knowledge Economy by Selected Provinces (2007)

	HE enrol- ments (headcount)	Graduates (headcount)	Permanent staff (academic / research)	% of total South African university research and develop- ment <b>funding**</b>	Regional contri- bution to national GDP (%)
<b>Eastern Cape</b>	67 881	12 476	1 814	6.45	7.7
Free State	39 446	7 749	1 026	4.67	5.5
<b>Gauteng*</b>	186 971	39 236	4 267	33.55	33.7
KwaZulu-Natal	85 861	17 075	2 392	14.48	15.8
<b>Western Cape</b>	96 641	23 707	3 077	29.42	14.1

**Source:** DoE, 2010; HSRC, 2008; Statistics South Africa, 2011; \*. Data exclude students from the University of South Africa in that most of them are not based in Gauteng Province.

### **The OECD Review of the Free State: OECD Review Process, Key Findings and Lessons Learnt**

The OECD review falls within the broader framework of assessing the regional development role of higher education institutions. The review guidelines are framed along a number of indicators of the higher education system at the national and the regional levels. Through policy and practice, the emphasis is on assessing how higher education at the national and the institutional levels is linked to the development of the city and of the region. Like all such OECD reviews, the Free State Province Review is structured along core guidelines that concentrate on three main aspects. The first part provides a contextual review of the Free State Province within the geographical, socio-economic and political landscape of the country, which aims to provide a better understanding of the city or region in the context of the broader economy, geography and political or governance structures. The second aspect of the review focuses on the higher education system and on how higher education policies at the national and the institutional levels are linked to aspects of national and regional socio-economic development. Thirdly, the review assesses the institutional disposition towards contributing to regional development. This focuses on clear policies towards the region, the engagement culture of the institution and its platforms of engagement with regional stakeholders. The fourth level of assessment interrogates the knowledge interface between the university and the regional stakeholders for social, economic and environmental development through research and innovation, teaching and learning for regional skills development, and regional capacity development towards sustainable engagement. The review concludes with recommendations for better engagement between universities and the region.

The OECD itself initiated the review of the University of the Free State (South Africa) in regional and city development in 2009. Although more than fifty such reviews had been conducted globally, this was the first to be conducted in Africa. The first step of the process entailed the province's completion of a self-evaluation report (Free State Regional Steering Committee, 2010). The second step entailed a pre-review visit to ensure that the self-evaluation report was complete and that specific interviews had been set up. This was followed by a two-day visit to national government departments and research institutions in Pretoria. Next, a range of interviews was conducted with representatives from the two universities in the region, from provincial government, from local governments and from non-governmental organisations. Finally, a review report was released in December 2011.

## **Main Findings from the Review**

### ***Finding One: There is a skills mismatch between university training and the requirements of industry***

The report clearly indicates a skills mismatch between the training provided and the needs of industry, at both regional and national level. The report highlights the lack of skills alignment with skills development in the Free State, which is arguably a national problem as well. The report states that:

There is a mismatch between labour market demand and higher education and training supply that is undermining the Free State's growth and innovation potential, and has resulted in not only high unemployment but also skills shortages (Puukka et al. 2012:19).

Rather than concentrating on the labour needs of the regional market, the universities in the Free State focus largely on the national and international labour markets. In this respect, the OECD report argues that '... the education system needs to become better aligned with the needs of the region, its labour market and population' (Puukka et al. 2012:19). Furthermore, the lack of an adequate vision for graduate employment at the provincial level and the absence of student-tracking mechanisms which could inform curricula are noted in the report as two additional shortcomings.

More specifically, the report emphasises that the 'dire shortage [of] technicians and the low proportion of science and technology graduates from the universities' are critical shortcomings in terms of the required human capital in the region (Puukka et al. 2012:19) – a need that has also been identified by other role-players (Jones 2013:47). As pointed out by ECSA, the report further questions the ability of the existing public work programmes to provide the required skills for the region, given that a narrow focus on specific practical skills and short-term contracts is unlikely to have long-term benefits. Instead, the OECD report suggests placing a stronger emphasis on general competencies and lifelong learning. It also highlights the potential development role to be played by the further education and training sector, but points out, at the same time, that current lifelong learning programmes favour existing graduates and could benefit from opening their doors to non-graduates.

### ***Finding Two: Regional collaboration is limited and needs to be improved***

The second major finding is that there is a very weak level of collaboration between higher education and training institutions and the regional or local development partners. But more importantly, there is a lack of active dynamic

collaboration with small enterprises. As in the case of most South African universities, the Free State universities have actively pursued significant collaboration with large-scale industry across the national territory and beyond. However, this kind of collaboration has not translated into similar relationships with small firms. According to the report, this can be addressed by improving the regional innovation system. This lack of regional collaboration between knowledge-producing institutions and other stakeholders was also identified by the DST at an earlier stage. This resulted in the development of the regional systems of innovation. As a follow-up to this finding, however, the development of the recently established Regional Innovation Forum, an initiative supported nationally by the Department of Science and Technology (DST) to support regional systems of innovation, is a step in the right direction.

***Finding Three: Build knowledge partnerships as opposed to finding external funding***

The third finding is that, in view of the industrial base of the province, and taking cognisance of the level of knowledge demand, the two universities will have to broaden their understanding and conceptualisation of knowledge transfer and innovation in order to accommodate a greater degree of social relevance. The two universities in the Free State province, like many universities in South Africa, are faced with the double challenge of a smaller R&D funding base, and the fact that they are surrounded by communities in dire poverty and need. These communities and regions do not have the same capacity to demand knowledge as that which is encountered in regions in more developed countries; hence, while the global literature advocates knowledge and technology transfer (Siegel and Phan 2005; Urbano and Guerrero 2013), these universities need to reconceptualise knowledge transfer as entailing ‘interventions with low revenue potential, but high potential to yield high societal returns in order to build support among other segments’ (Puukka et al. 2012:32). This would include, among other aspects, focusing on low-tech sectors, as well as social and organisational innovation.

***Finding Four: University-regional engagement requires an appropriate multi-level policy environment***

The OECD review report reveals that an appropriate policy environment can be contextualised at three levels. At the first level, the important criterion is the regional accountability of universities (or the lack thereof). In South Africa, all public universities are funded nationally, which means that there is little or no accountability to the regional government. This is in stark contrast to the land-grant in the USA and at regional universities in Norway, which receive

a fair amount of regional funding and therefore have a responsibility in terms of regional priorities. The South African national funding model may help universities to be more independent, but at the same time it could potentially result in universities aligning themselves exclusively with national priorities (or with no priorities at all). Indeed, the OECD report confirms that universities in South Africa are more likely to associate themselves with national than with regional development needs, because of this funding model.

At the second level, it can be argued that there has not been sufficient theoretical discussion on the regional dimension of the current systems of innovation. Attention needs to be focused on the degree to which the national policy environment allows for regional innovation. In this regard, the OECD report suggests that

Higher education and training policy in South Africa lacks regional dimensions. Regional engagement of universities could be fostered through quality assurance, funding allocation and processes for faculty appointment, promotion and tenure (Puukka et al. 2012:34).

Currently, South African higher education policies neither articulate a demand nor offer incentives for universities to participate in regional engagement. This is compounded by the fact that governments at the sub-national (provincial) and local levels remain reticent with regard to the initiation of such demands and incentive structures (Puukka et al. 2012:180). While numerous policies for research and innovation have been put in place (DACST 1996; DST 2007), albeit with a national-level focus, recent studies (Pinherio et al. 2012; Kaplan 2008) demonstrate that there is a relatively weak link between knowledge production, on the one hand, and innovation policies relating to development planning, on the other.

At the third level, the degree to which decentralised planning is permitted and taken seriously has an influence on the role of universities in regional development. In this respect, the OECD report notes that much more could be done to ensure appropriate regional planning:

While South Africa has made progress in developing place-based policies, the regional development policies and regional economic agenda remain highly defined and implemented in a top-down fashion, leaving limited leeway for regional initiatives and capacity building (Puukka et al. 2012:34).

Two points should be made in this respect. First, despite the fact that South Africa has an array of local and regional planning frameworks, the question

is whether these decentralised frameworks are being managed appropriately in order to effectively promote successful regional and local development opportunities. Secondly, it is important that local and regional actors should realise the value of universities as knowledge creators in a changing global and local economy where knowledge is becoming a major factor in production processes. More specifically, the OECD report makes the key point that the absence of a joint long-term vision regarding the role of universities in the region's socio-economic development, coupled with the lack of an integrated development strategy for all educational institutions in the province, hampers the overall development of the Free State.

### **Possible Lessons for Universities in Regional Development**

Based on the above findings, three key lessons in respect of enhancing regional development can be drawn from the relationship between the UFS and its regional stakeholders. These lessons are evident at three levels. The first level engages with the broader policy environment informing national development and the higher education system. The second level relates to establishing a balance between global relevance and regional engagement. The third dimension argues for the contextual profiling of a region's absorptive capacity and points to the need for a strong demand-supply approach.

#### ***Lesson One: Regional collaboration – the regional role of universities should be conceptualised within the broader development policy***

The OECD report highlights the fact that higher education cannot be viewed in isolation from primary, secondary and further educational endeavours in the region. A regional approach that is inclusive of all the different educational and development needs and that emphasises collaboration between institutions is central to ensuring a well-functioning education system and promoting regional development. These notions of integration and collaboration are articulated in the OECD report in the following words:

Challenges in the higher education and training sector and economic development are linked to the underperforming school system and a massive school failure. Long term collaborative efforts are needed to improve the quality and learning outcomes of the education system (Puukka et al. 2012:17).

The presence of partnerships between academics and their region not only enhances the quality of research, but also potentially informs the curriculum and increases the quality of graduates (Favish & McMillan 2009:175; Kruss

et al. 2012). As argued in terms of the learning region concept (Hassink 2005; OECD 2001), these partnerships could consist of formal and/or informal networks involving institutions, the regional government, industry and social actors. The OECD's analysis reveals that the level of collaboration in the Free State Province remains weak. Cooperation between the Central University of Technology and the University of the Free State in terms of technology transfers, commercialisation and entrepreneurship remains limited, reflecting the inability of top management to establish effective links (Puukka et al. 2012:157 – 158). The Commission of the European Communities postulates that:

... it is not simply the presence of units of research and technological development infrastructure but the degree of interaction between them which is the most significant factor in local (regional) innovation. The quality of the linkage and the presence of local synergy is (*sic*) the key element. Therefore a system or network approach provides the best basis for understanding and promoting regional research and technological development-based innovation (Commission of the European Communities, 1988 in Morgan 1997:S152).

The report also underscores the importance of collaboration between the various educational institutions in the Free State and recommends that a portion of the national allocation to universities be based on collaborative efforts in the region. While weak collaboration between the two universities can be addressed at different levels of policy, one of the approaches followed has entailed the initiation of the regional innovation forum, with support provided by the DST. Referring to the participation of one of the regional universities, the coordinator of the forum comments as follows:

When we started they were on the back foot with many questions [indicating suspicion on their part] and we had to draw close to them, meet with them in a neutral venue and answer most of their questions. And you can see, mistrust [was] broken down slowly and trust [was] being built. And then you realise communication is only 20% verbal and 80% non-verbal. Trust is not something that is written on paper. It will have to be built (RIF Coordinator 2013).

Whilst not explicit about the developmental role of universities, the National Development Plan provides a compelling case for positioning universities as key players in efforts to advance social justice in South Africa and address global challenges in partnership with other sectors of society, particularly the



most vulnerable sections of our society. The absence, therefore of a policy enabling environment from all sectors of the society, including higher education, science and technology, and economic development will limit the potential of higher education institutions in national and regional development

***Lesson Two: Regionalisation is not the antithesis of internationalisation***

University debates surrounding regionalism are often criticised for being inward-looking and anti-international. However, the OECD report suggests that instead of focusing on this false dichotomy between regionalisation and internationalisation, one should consider the positive relationship between the two. More specifically, the report recommends

... stronger efforts to internationalise the region, through talent attraction and development programmes supporting key areas of development of the Free State, integration of international students and faculty in the academic and social life of their universities and the region by training them to become ‘ambassadors for the Free State (Puukka et al. 2012:25).

Thus, internationalisation might comprise a way to address the skills shortage and ensure global recognition for the region. It is also important to note that the OECD report considers improved research outputs and internationalisation to be two important prerequisites for regional engagement. This notion that an active research environment will lead, in most cases, to regional/local engagement is also mentioned by Muller (2010:85) who states that:

The most active researchers are likely to be the ones that are engaged in the public domain in one or the other way. If academics are not engaged, it may well be that they are not research active either. In which case, university transformation should start here, not with intensified calls for engagement.

It thus remains important that higher education institutions do not to lose perspective at national level as a result of focusing on global relevance, but that they become more locally engaged while seeking more globally competitiveness (OECD 2007b). Two specific proposals are included in the OECD report. The first proposal comprises a call to enhance research into low-technology innovation, in which the Central University of Technology has some experience (for example, strengthening African clay pots for the tourism market). In a province with a limited skills base, such technological innovation could make a considerable difference. The second key proposal is that a national

match funding for research be made available for projects which first obtain some regional funding.

***Lesson Three: Rethink the idea of commercialisation and knowledge transfer producing a third-stream income***

The Free State has a weak industrial base and minimal regional innovation. Although the province has a stable agricultural base, the OECD report notes that many agricultural products leave the province unprocessed. This is compounded by the geographical distance between the province and the major economic hubs of Gauteng, the Western Cape and KwaZulu-Natal.

In recent years, both universities in the province have emphasised the importance of generating alternative income through knowledge transfer and the commercialisation of knowledge. The University of the Free State has been especially productive in this respect, registering sixteen patents over the past five years. On the other hand, the recommendation in the OECD report takes a different and longer-term view in this respect, stating that the universities should

Broaden the understanding of knowledge transfer, knowledge utilisation and exploitation and place less emphasis on immediate and direct financial return to the university (Puukka et al. 2012:32).

However, commercialisation policies and practices need to consider the regional capacity of the province. Using the notion of absorptive capacity, one of the findings of a recent study of the relationship between academics in the agricultural sector and regional stakeholders (Fongwa 2013) corroborates a finding of previous studies, namely that the capacity of a region to absorb new knowledge relates to the knowledge base of the region. Cohen and Levinthal (1990) conceptualise absorptive capacity as the level of human capital in the region which can facilitate knowledge uptake and application. Schmidt (2005) expounds on this notion by pointing out that knowledge transfer happens at three levels: a) across different sections of the same firm or industry; b) across different firms; and c) between institutions of higher education and industry. A fundamental aspect of the concepts of absorptive capacity and knowledge transfer is the knowledge distance between the transferring and the receiving institutions.

Muller (2010) notes that the current status of regional development is an important factor in relation to the type of regional engagement that would be required. As observed in section five above, the Free State is one of the poorer provinces in South Africa and has a limited industrial and knowledge

base. Although the OECD report is largely silent on the region's ability to absorb knowledge, it is a factor mentioned quite often in the literature (Cohen & Levinthal 1990). An analysis of the Free State Growth and Development Strategy (Free State Provincial Government 2013) shows that the provincial government has a very low expectation in respect of what the two universities could contribute towards the development of the province (Fongwa 2013). The word 'knowledge' appears fewer than ten times in the 81-page document, while the terms 'innovation' and 'university' are both used only once. On the other hand, the word 'skills' appears more than fifty times, suggesting that the provincial government places more emphasis on training through colleges than it does on research, knowledge and the potential contribution of universities. This conspicuous lack of regional demand hampers the level of knowledge transfer or engagement between the university and the region in many ways. Effective knowledge transfer, according to Siegel and Phan (2005), involves willingness both on the part of the producing side (supply) and on the part of the receiving or application side (demand). Similarly, Davenport and Prusak (1998) maintain that knowledge transfer involves two actions, namely transmission – which involves the sending of knowledge to a potential recipient – and the absorptive capacity displayed by that person or group or institution. Bramwell and Wolfe (2008) advocate for the *proximity effect* of firms located in close geographical proximity to one another. For these prerequisites to be achieved there is a need for closer collaboration and for the formation of networks and of trust among the stakeholders (Inkpen and Tsang 2005:158)

## Conclusion

The notion of the third mission of universities has been debated extensively over the past two decades in South Africa. Despite all this debate, there remains a large degree of uncertainty in terms of strategic approaches and conceptual clarity. The notion of university and regional engagement suggests, in the main, that possibly the time has come to let go of 'third-mission' ideas and rather focus on a broader engagement with the region. Such a broader engagement should have a direct impact in terms of requiring academics to improve their research outputs, use their international linkages to ensure regional development and emphasise an appropriate link between what is taught, on the one hand, and how it relates to local labour needs, on the other. Third-mission ideas emphasise the fact that university staff should perform another function. Regional engagement suggests that staff should carry out their two main functions of research and teaching better, and in closer relationship with the immediate environment. This notion seems even more important in Africa and the developing world (as the Free State case study also suggests), where

research outputs, in terms of international benchmarks, seem to be mediocre, while teaching appears to be substantially delinked from the requirements of the labour market. In order to ensure the above, much closer relationships with industry and local employers are required, while there is ample space for funding mechanisms, and possibly also legislation, which could facilitate local partnerships. In addition to the above notes about rethinking regional engagement as opposed to community engagement, a number of key points should in conclusion be made about the future of higher education and regional engagement. Taking into consideration the lessons discussed earlier, it is suggested that a national policy response to regional engagement or to regional development (something that South Africa currently lacks) should be a priority. This might entail incentives to create regional platforms to increase linkages between universities and their respective regions. Such platforms should also improve the region's absorptive capacity by stimulating demand-side initiatives from regional partners.

## Notes

1. HEIs in South Africa are classified into three broad categories: traditional universities, which focus on teaching and research; comprehensive universities with a more vocational dimension; and universities of technology, which are more technology-oriented (Department of Education 2001).
2. Matric is the equivalent of a university entrance qualification.

## References

- Altbach, P., 2008, 'The Complex Roles of Universities in the Period of Globalization. *Higher Education in the World 3: New Challenges and Emerging Roles for Human and Social Development*, GUNI Series on the social commitment of universities, 38. Basingstoke.
- Amin, A., & Thrift, N., 1994, *Globalisation, Institutions and Regional Development in Europe*, Oxford: Oxford University Press.
- Aydalot, P., 1986, *Milieux Innovateurs en Europe*, Paris: GREM.
- Bellini, N., Danson, M., & Halkier, H., 2012, *Regional Development Agencies: The Next Generation*, London: Routledge.
- Benneworth, P., & Hospers, G., 2008, 'The Role of a University in Regional Renewal: The Case of Newcastle', *Northern Economic Review*, Vol. 38, pp. 81-101.
- Benneworth, P., Hospers, G., & Jongbloed, B., 2006, *New Economic Impulses in Old Industrial Regions: The Role of the University of Twente in Regional Renewal*. n.p: Munster: Lit.

- Bramwell, A., & Wolfe, D., 2008, 'Universities and Regional Economic Development: The Entrepreneurial University of Waterloo', *Research Policy*, vol. 37, pp. 1175-1187.
- Bridges, D., 2007, 'Higher Education and National Development: Universities and Societies in Transition'. In: D. Bridges, P. Jucevičienė, R. Jucevičius, T. McLaughlin, & J. Stankevičiūtė, eds, *Higher Education and National Development: Universities and Societies in Transition*, London: Routledge, pp. 103-119.
- Bunting, I., & Cloete, N., 2007, *Project on Governing Access to Higher Education Country Report: South Africa*, Cape Town: CHET.
- Carroll, M., & Smith, B. W., 2006, 'Estimating the Economic Impact of Universities: The Case of Bowling Green State University', *Industrial Geographer*, Vol. 3, No. 2, pp. 1-12.
- Castells, M., 2001, 'Universities as Dynamic Systems of Contradictory Functions'. In: J. Muller, N. Cloete, & S. Badat, eds, *Challenges of Globalisation: South African Debates with Manuel Castells*, Cape Town: Maskew Miller Longman, pp. 206-223.
- Chatterton, P., & Goddard, J., 2000, 'The Response of Higher Education Institutions to Regional Needs', *European Journal of Education*, Vol. 35, No. 4, pp. 475-496.
- Clark, B., 1998, *Creating Entrepreneurial Universities: Organizational Pathways of Transformation*, Oxford: Pergamon-IAU Press.
- Clark, B., 2001, 'The Entrepreneurial University: New Foundations for Collegiality, Autonomy and Achievement', *Journal of the Programme on Institutional Management in Higher Education*, Vol. 13, No. 2, pp. 9-24.
- Cloete, N., Bailey, T., Pillay, P., Bunting, I., & Maassen, P., 2011, *Universities and Economic Development in Africa*, Cape Town: CHET.
- Coenen, L., 2007, 'The Role of Universities in the Regional Innovation Systems of the North East of England and Scania, Sweden: Providing Missing Links?' *Environment and Planning C: Government and Policy*, Vol. 25, pp. 803-821.
- Cohen, W., & Levinthal, D., 1990, 'Absorptive Capacity: A New Perspective on Learning and Innovation', *Administrative Science Quarterly*, Vol. 35, 1, pp. 128-152.
- Conceicao, P., Heitor, M., & Oliveira, P., 1998, 'Expectations for the University in the Knowledge-Based Economy: Harnessing Technology for Economic Growth', *Technological Forecasting and Social Change*, Vol. 58, Vol. 3, pp. 203-214.
- Cooke, P., & Leydesdorff, L. 2006, 'Regional Development in the Knowledge-Based Economy: The Construction of Advantage', *Journal of Technology Transfer*, Vol. 31, pp. 5-15.
- Cooper, D., 2009, *The University in National Development: The Role of Use Inspired Research*. Cape Town: HSRC Press.
- Council on Higher Education (CHE), 2010, *Community Engagement in South African Higher Education (Kagisano, 6)*. Pretoria: CHE.
- Davenport, T. H. & Prusak, I., 1998, *Working Knowledge – How Organisations Manage What They Know*. Boston: Harvard Business School Press.

- Dempsey, S., 2010, 'Critiquing Community Engagement', *Management Communication Quarterly*, Vol. 24, pp. 359-390.
- Department of Arts, Culture, Science and Technology (DACST), 1996, *White Paper on Science and Technology: Preparing for the 21st Century*, Pretoria: DACST.
- Department of Science and Technology (DST), 2007, *Innovation towards a Knowledge Economy: Ten Year Plan for South Africa (2008-2018)*, Pretoria: DST.
- Etzkowitz, H., & Leydesdorff, L., 1998, 'The Endless Transition: A "Triple Helix" of University-Industry-Government Relations' *Minerva*, Vol. 36, pp. 203-208.
- European Commission, 2013, *Towards Knowledge-Driven Reindustrialisation*, Luxembourg: European Union.
- Favish, J., & McMillan, J., 2009, 'The University and Social Responsiveness in the Curriculum: A New Form of Scholarship', *London Review of Education*, Vol. 7, Vol. 2, pp. 169-179.
- Florida, R., 1995, 'Towards the Learning Region', *Futures*, Vol. 27, pp. 527-536.
- Fongwa, S., 2010, *The Contribution of Higher Education to Regional Socio-Economic Development: the University of Buea, Cameroon, as a Growth Pole*. Cape Town: Unpublished Master's thesis, University of the Western Cape.
- Fongwa, S., 2013, *Universities in Regional Development: Knowledge Transfer in Less Favoured Regions*. Bloemfontein: Unpublished PhD thesis, University of the Free State.
- Free State Provincial Government, 2012, *Provincial Growth and Development Strategy*. Bloemfontein: Department of the Premier.
- Free State Regional Steering Committee, 2010, *Free State, Self-Valuation Report: OECD Reviews of Higher Education in Regional and City Development*. Bloemfontein: University of the Free State.
- Freeman, C., 1995, 'The "National System of Innovation" in Historical Perspective', *Cambridge Journal of Economics*, Vol. 19, pp. 5-24.
- Hall, M., 2010, 'Community Engagement in South Africa's Higher Education'. In: CHE, *Community Engagement in South Africa's Higher Education*, Pretoria: CHE, pp. 1-52.
- Hart, A., & Northmore, S., 2011, 'Auditing and Evaluating University-Community Engagement: Lesson from a UK Case Study', *Higher Education Quarterly*, Vol. 65, No. 1, pp. 34-58.
- Hassink, R., 2005, 'How to Unlock Regional Economies from Path Dependency? From Learning Regions to Learning Cluster', *European Planning Studies*, Vol. 13, No. 4, pp. 521-535.
- Human Science Research Council (HSRC), 2008, *National Survey of Research and Experimental Development*. Pretoria: HSRC.
- Inkpen, A. C. & Tsang, W. K., 2005, Social Capital, Networks and Knowledge Transfer'. *The Academy of Management Review*, Vol. 30, No. 1, pp. 146-165.

- Jones, G., 2013, 'Engineering: Unblocking the Pipeline', *Financial Mail*, April, pp. 12-17.
- Kaplan, D., 2008, *Science and Technology Policy in South Africa: A Critical Assessment of Part Performances and Proposed Future Directions*. Vienna: Research and Statistics Branch, Working paper 01/2008, United Nations Industrial Development Organization.
- Kruss, G., Haupt, G., Visser, M., & Aphane, M., 2012, *Academic Interaction with Social Partners: Investigating the Contribution of Universities to Economic and Social Development*. Cape Town: HSRC Press.
- Lazarus, J., Erasmus, M., Hendricks, D., Nduna, J., & Slamati, J., 2008, 'Embedding Community Engagement in South African Higher Education', *Education, Citizenship and Social Justice*, Vol. 3, No. 1, pp. 57-83.
- Lundvall, B., 1992, *National Systems of Innovation: Towards a Theory of Innovation and Interactive Learning*. London: Pinter.
- Lundvall, B., 1994, 'The Learning Economy: Challenges to Economic Theory and Policy'. Paper delivered at the EAEPE Conference. Copenhagen.
- Marais, L., 2013, 'The Impact of Mine Downscaling on the Free State Goldfields', *Urban Forum*, Vol. 24, pp. 503-521.
- Marais, L., & Pelsler, A., 2006, 'Voting with Their Feet: Post-Apartheid Population Trends in the Free State', *South African Geographical Journal*, Vol. 88, 1, pp. 19-28.
- Martin, B. R., & Etzkowitz, H., 2000, 'The Origin and Evolution of the University Specie', *VEST*, Vol. 13, No. 3-4, pp. 9-34.
- McDowell, G., 2003, 'Engaged Universities: Lessons from the Land Grant Universities and Extension', *Annals of the American Academy of Political and Social Science*, Vol. 588, pp. 31-50.
- Molas-Gallart, J., & Castro-Martinex, E., 2007, 'Ambiguity and Conflict in the Development of "Third Mission" indicators', *Research Evaluation*, Vol. 16, 4, pp. 321-330.
- Muller, J., 2010, 'Engagements with Engagement: A Response to Martin Hall'. In: CHE, *Community Engagement in South African Higher Education*, Johannesburg: Council of Higher Education, pp. 68-88.
- Nel, E., Rogerson, C., & Marais, L., 2006, 'The Changing Free State Manufacturing Economy', *South African Geographical Journal*, Vol. 88, 1, pp. 48-57.
- Olowu, D., 2012, 'University-Community Engagement in South Africa: Dilemmas in Benchmarking', *South African Review of Sociology*, pp. 89-103.
- Organisation for Economic Cooperation and Development (OECD), 2001, *Cities and Regions in the Learning Economy*. Paris: OECD.
- Organisation for Economic Cooperation and Development (OECD), 2007a, *Globalisation and Regional Economies: Can OECD Regions Compete in Global Industries?* Paris: OECD.

- Organisation for Economic Cooperation and Development (OECD), 2007b, *Higher Education and Regions: Globally Competitive, Locally Engaged*. Paris: OECD.
- Organisation for Economic Cooperation and Development (OECD), 2008, *OECD Reviews of Innovation Policy: Norway*. Paris: OECD.
- Pinherio, R., Ouma, W., & Pillay, P., 2013, 'The Dynamics of University Transformation: A Case Study in the Eastern Cape Province of South Africa', *Journal of Higher Education in Africa*, Vol. 10 No. 1, pp. 95-120.
- Powell, W., & Snellman, K., 2004, 'The Knowledge Economy' *Annual Review of Sociology*, Vol. 30, pp. 199-220.
- Puukka, J., Dubarle, P., McKiernan, H., Reddy, J., & Wade, P., 2012, *The Free State, South Africa (Higher Education and Regional and City Development)*, Paris: OECD.
- Ratti, R., Bramanti, A., & Gordon, R., 1997, *The Dynamics of Innovative Regions. The GREMI-approach*. Aldershot: Ashgate.
- Republic of South Africa (RSA), 2010, *Higher Education Management Information System (HEMIS)*, Pretoria: Department of Higher Education and Training.
- Republic of South Africa (RSA), 2013, *White Paper for Post-School Education and Training. Building an Expanded, Effective and Integrated Post-School System*, Pretoria: Department of Higher Education and Training.
- Schmidt, H., 1995, 'Small Shoemakers and Fordist Giants: Tale of a Super Cluster', *World Development*, Vol. 23, pp. 9-28.
- Siegel, D., & Phan, P., 2005. 'Analysing the Effectiveness of University Technology Transfer: Implications for Entrepreneurship Education'. In G. Liebcap, *Advances in the Study of Entrepreneurship, Innovation and Economic Growth*, Amsterdam: Elsevier, pp. 1-38.
- Siegel, D. S., Waldman, D. A. & Link, A. N., 2003, 'Assessing the Impact of Organisation Practices on the Productivity of University Technology Transfer Offices: An Exploratory Study', *Research Policy*, Vol. 32, No.1, pp. 27-48.
- Stats SA. 2012, *Census 2011 data*, Pretoria: Stats SA.
- Theelin, J. 2004, *A History of American Higher Education*, Baltimore: The Johns Hopkins University Press.
- Urbano, D., & Guerrero, M., 2013, 'Entrepreneurial Universities: Socioeconomic Impacts of Academic Entrepreneurship in a European Region', *Economic Development Quarterly*, pp. 40-55.
- Van Vught, F., Kaiser, F., File, J., Gaethgens, C., Peter, R., & Westerheijden, D., 2010, *The European Classification of Higher Education Institutions*. Brussels: European Commission.