

**RURAL INNOVATION ASSESSMENT TOOL (RIAT)
CONCEPT PAPER SERIES**

**SKILLS DEVELOPMENT IN RURAL AREAS- A BRIEF
REVIEW OF EVIDENCE**

RIAT Concept Paper # 1

Authors: Peter Jacobs and Tim Hart

Institution: HSRC-EPD

Email: pjacobs@hsrc.ac.za; thart@hsrc.ac.za

Date: 31 August 2012

CONTENTS

ACKNOWLEDGEMENTS	2
EXECUTIVE SUMMARY	3
INTRODUCTION	5
1. Background	5
2. Methodology	7
DEFINITIONAL ISSUES.....	9
1. Understanding Ruralness/Rurality in South Africa	9
2. Conceptualising rural development in South Africa	11
3. A note on Rural Skills Development System	13
RURAL SKILLS SUPPLY.....	16
1. Universities.....	16
2. Further Education and Training (FET) facilities	17
RURAL SKILLS DEMAND.....	20
1. Skills Biased Technical Change- industry demand	20
2. Participation in Vocational Training- individual demand.....	21
CURRENT DATA CHALLENGES	24
CONCLUSION - RECOMMENDATIONS FOR FUTURE RESEARCH	26
1. Conclusion.....	26
2. Recommendations for future research.....	26
REFERENCES	28

LIST OF FIGURES

Figure 1: Schematic overview of rural skills development system	14
---	----

ACKNOWLEDGEMENTS

The Department of Science and Technology (DST) has contracted the Human Sciences Research Council (HSRC) to develop and pilot the Rural Innovation Assessment Tool (RIAT) in 4 rural district municipalities. The RIAT aims to enhance the contribution of science and technology interventions to rural development, deepen understanding of the social and institutional dynamics of rural innovations and inform the work of the multi-stakeholder Rural Innovation Partnership. Based on the outcomes of this project, the team must also explore ways to institutionalize RIAT as a self-discovery/learning diagnostic tool for innovators. This is a first in a series of concept papers to stimulate structured conversations among the broadest possible range of interested parties willing to share their feedback on insights emerging from these concept papers. Such constructive engagements should ultimately strengthen the conceptual framework and evidence base for RIAT. Concept papers express the views of the authors and do not necessarily reflect those of any other party.

EXECUTIVE SUMMARY

This paper aims to answer the following two overarching questions. What do we know about rural skills development in South Africa? What are key research challenges (conceptual, policy and methodological) to address as a first step to overcome the country's rural skills shortages and mismatches? It is worth stating at the outset that little is known about rural skills development *per se* as most studies and policies concentrate on the sectoral or occupational distribution of skills rather than their spatial location as such.

Any status report on South Africa's rural skills development must clarify what is meant by 'rural' from the start in light of the country's history of apartheid spatial engineering. The report therefore explores the varied and contested meanings of 'rurality' to contextualize conceptual debates (past and present), evaluate the content of relevant policies and assemble evidence on rural skills supply and demand. Furthermore, this scoping study reports and reflects on comparable global literature where the authors found this as helpful to shed light on available and accessible South African evidence.

Rural is a fluid and flexible concept and bound to be redefined due to shifts in the sector composition of local economies, location specific population densities and politico-legal policies bearing on spatial boundaries. Subdividing rural areas in terms of commercial farming areas and the former homelands or traditional authority areas, a prominent and widespread approach in policy and survey designs, is problematic and confusing because the former is based on an economic definition whereas the latter derives from past politico-legal policies.

A useful conceptual approach to make sense of rural skills development is to think of it in terms of a skills supply and demand system. Within each sector, industry and workplace – whether these are classified as formal or informal- the types and levels of skills demanded and supplied vary.

Rural skills are traditionally associated with workplace and occupational profiles in natural resource-dependent sectors, especially modern and traditional farming systems (or primary agriculture). Agriculture, for example, is modernizing fast and this is evident from its increasing reliance on modern systems of technology development and transfers and innovations. Although traditional agriculture continues to be the mainstay in rural employment in many parts of Africa and Asia, rising shares of non-farm rural employment are rapidly expanding and resulting in a wide variety of occupations (self-employed farmers, artisanal manufacturers, tourism, etc) and skills levels.

The Comprehensive Rural Development Programme (CRDP), launched in 2009, aims to train and mentor identified community members to ensure the latter's gainful entrance into the economy. It

incorrectly envisages rural development as a simple linear process, involving three phases: incubation, entrepreneurial development and the emergence of industrial and financial sectors, initially driven by small, micro and medium enterprises and village markets. With the exception of the training of the rural youth cadre (NARYSEC) to conduct assessments of rural villages, local training and skills development seems to be limited. In terms of the design of this rural youth capacity development scheme, NARYSEC participants must transition into further skills development programmes to enable them to find appropriate jobs in the formal labour market or build their own enterprises.

Several areas for future studies are identified and recommended:

Research is required to reach agreement on how best to conceptualise rural development and the roles of different industries/sectors. Part of this work would entail the identification of the crucial drivers in different sectors in the various regions/provinces and an analysis of the skills required over the medium term. What other sectors, besides agriculture, contribute to rural development, how best can they do this and what skills are required?

A more robust analysis of skills supply and demand in rural areas and specifically for rural development is required.

Assessments across the value chains of various sectors will also assist in establishing the role played by employers and employees in the informal sector and the skills they require.

The diversity of skills demanded by rural dwellers and the purposes for acquiring these skills, need to be investigated more thoroughly. While skills biased technical change reflects industry demands for skilled workers, whether it is resource-based or in services, the determinants of individual demand for and participation in vocational training interventions also require attention given government's commitment to better rural service delivery.

The contribution of informal economic activities and associated skills needs to be thoroughly investigated.

Research must also address the following key data challenges to investigate rural skills development systems.

Quantitative questions limit deeper understandings of current rural skills and education supply, demand and quality.

Sufficient information is not readily available in many cases.

Some sources of education and skills, especially those considered informal are under researched.

Some sectors are over researched.

INTRODUCTION

1. BACKGROUND

A significantly large proportion of South Africa's population (43 %) still live more or less permanently in rural areas and an even larger proportion of this group are poor (71 %) (StatsSA 2003). Rural development is a strategic priority of the 2009-2014 administration and finds expression in Outcome 7, as well as the Government of South Africa's (GSA) plan of action. Outcome 7 specifically relates to the achievement of 'vibrant, equitable and sustainable rural communities and food security for all'. Action Plan 6 focuses on the 'scaling up rural-development programmes including investment in rural areas and the revitalisation of smaller towns'. The Department of Rural Development and Land Reform (DRDLR), established in 2009 for concerted policy attention to bridging rural underdevelopment, has through its Comprehensive Rural Development Programme (CRDP) identified 24 Rural District Municipalities (RDMs) with significant infrastructure backlogs and low levels of human development indicators. While most of these RDMs overlap with the CRDP sites the later are far more numerous. A coherent status of the skills development profile of these areas does not exist, but from the available fragmented evidence most rural areas have severe skills deficits largely inherited from the past. These RDMs are mainly located in South Africa's former homeland regions and it is widely recognized that large-scale public investment would be a necessary, but far from sufficient, intervention to facilitate development in these primarily rural districts. Institutional coordination and community social interactions will be critical elements in a more effective approach to shift these municipalities onto a desirable and long-term development path. District-based Comprehensive Rural Development plans are in the pipeline, informed by assessments of available resources (including attained skills, education and training) in order to harness these to meet the needs of rural communities. Over time, enterprise development and 'village and small town industrialization' would be vital for growth and meeting the targets of Outcome 7.

Education, training and the development of necessary skills would be equally vital to achieving GSA's outcomes and successfully implementing action plans in rural areas. Unfortunately two constraints prevail with respect to rural areas. The primary one is that agriculture is considered the key driver underpinning rural economic development (World Bank 2007). Despite debates about agriculture's actual contribution to rural development it is generally accepted that primary agricultural production plays a significant role in rural economic development by contributing to household food and nutrition security (Aliber and Hart 2009) and generating multiplier effects which stimulate both the rural and national economy (Deininger 2003; Lipton 1976 and 2003). The second constraint stems from the first in that most 'rural research' that focuses on skills, training and education tends to link these to agricultural and farming technical requirements. There are a number of extension studies

that argue that educational ability is the primary problem preventing farmers from effectively adopting new technologies and practices (Fanadzo et al. 2010).

Patterson (2004) points out that there is still an overemphasis on agriculture in rural school education facilities; although for various social, political and economic reasons agriculture is far from locally accepted as a route out of poverty. It seems that the idea that rural development involves far more than economic pathways that are shaped by agricultural practices and inputs is seriously overlooked, as are the contributions of various professions and skills outside of those directly related to agriculture. As elaborated below, the increasing technologically oriented farming systems demand higher-level skills and, judging from global trends, this will become more accentuated in future according to the 2008 World Development Report (World Bank 2007). The South African government is committed to rural service delivery, entrenched in both the ISRDS and the CRDP, which represents a commendable welfarist perspective. However, this commitment to targeted rural service delivery, ranging from bricks-and-mortar infrastructure to social services, requires fresh thinking about rural skill demands for service delivery.

Other industries exist in rural areas such as as mining and minerals, forestry (sawmills), crafts, tourism and hospitality, clothing and textiles, and retail. The geographic location and intensity of these industries is diversely spread across the various rural areas. However, like agriculture their secondary downstream value adding activities may well be located in urban and peri-urban areas. Furthermore, as with agriculture, these industries are represented at various scales and with diverse degrees of sustainability and levels of formalisation, demanding access to a variety of skills¹.

Despite the focus on agriculture in rural development, recent research suggests that specific skills and the subsequent presence of significant professionals are required in rural areas but are in short supply (Erasmus and Breier 2009). For example, Malleon (2009), Breier (2009b), Wildschut and Mgqolozana (2009), Godfrey (2009), Hall (2004), Ndandani (2001), Potgieter (2004), Roodt and Patterson (2009), Ried et al. (2011), Mda (2009) and Todes (2009) respectively indicate that the professionals such as social workers, medical doctors, nurses, legal professionals, ICT professionals, educators and town planners are in relatively critical short supply in the larger and more rural provinces – Northern Cape, Eastern Cape, Mpumalanga, North West, KwaZulu-Natal and Limpopo – although this does depend on the profession being examined. Two interrelated factors appear to play a significant role in this situation. First, and quite simply, for many professions there are not enough professionals or posts available in rural areas. Second, many professionals are drawn to the urban areas (in South Africa or abroad) where conditions of employment and services are better, in

¹ As Padarath et al. 2003 (cited in Breier 2009b:124) report, there are approximately 200 000 traditional healers in South Africa who are said to be consulted by 80% of the population before or perhaps instead of consulting biomedical health professionals. The Traditional Health Practitioners Act No. 35 of 2004 made provisions for establishing an interim council and for the registration and training of traditional health practitioners so that some can make referrals to biomedical health professionals where such intervention is required.

contrast to rural areas. Together these two factors bring about a general shortage of skills supply for rural areas. For whichever reason the lack of access to and availability of professionals such as doctors, nurses, social workers, lawyers, educators and town planners poses a serious threat to any attempts to promote economic and social growth and meeting government's ambitious service delivery target- especially state funded social services such as healthcare and education in the most seriously affected of these rural areas.

While the study by Erasmus and Breier (2009) attempted to unpack the skills shortages within various professions (rather than specifically in urban or rural areas), the study by Kraak (2009b) notes the importance of the informal sector in job creation in various industries and in the economy as a whole. While not focusing on rural areas in particular, recent studies have identified the significance of the informal sector to the clothing and textile (Morris and Reed 2009), energy (Lomey and McNamara 2009), transport (Havenga 2009), agro-processing (Pieterse 2009), forestry, wood and pulping (Pogue 2009) and the creative industries (Joffe and Newton 2009). There is a need to better understand and improve the linkages between the informal and formal sectors. Kraak (2009b:350) rightly argues that a coherent and longer-term government strategy is required to increase job opportunities in low-skills activities and to reduce the vulnerability of low-skilled workers to low wages, insecure employment, poor conditions and ultimately unemployment. Like agriculture, other industries exist across a spectrum of scales (large and small, formal and informal) with a range of purposes.

Despite the obvious contributions of studies focusing on industries and the importance of considering the different sources and demands for skills in the informal and formal sectors, it is probably equally meaningful, more ambitious and far more complex to consider the skills demands and supply shortages for specific geographic areas - rural areas is the brief in this particular instance. With this in mind the paper attempts to review and synthesise some of the existing research on skills demand and supply in rural areas.

2. METHODOLOGY

This preliminary scoping study of the state of the existing research on skills development in rural areas adopted an iterative approach to identifying and reviewing relevant qualitative and quantitative literature and policy data. It focused on English-language publications published between 1994 and 2012. The search was conducted in March 2012 and searched a number of databases in order to identify peer-reviewed, published and grey literature pertaining to the topic. Firstly the EBSCO Academic Search Complete and Africa Wide Information databases, along with the SABINET SA ePUBLICATIONS database were searched for reviewed journal articles. Secondly, the HSRC Research Outputs Database, linked to the HSRC Press website was used to identify peer reviewed and grey literature produced by the HSRC. Thirdly, the Quantec and SAIRR databases were

searched for further material. Key words included in the searches were: South Africa; Rural, Rural areas, Rural planning, Rural poverty; skills, education and training; employment, labour, and the labour market; rural skills, non-farm rural employment and rural innovation. This basically covers 4 areas considered crucial to the purposes of this paper (Country, Rural, Skills, and Labour)². A number of studies were identified through this process as relevant to the current study. Many of these studies referenced a range of sources, some of which were consulted to compile this initial document. While a search of unpublished papers and theses was undertaken for the Universities of Pretoria, Witwatersrand and Johannesburg few were identified that have particular relevance to the current study. Given the constraints of time and space, unpublished literature from the universities and other science councils was not consulted at this time.

² Agriculture and farming were excluded as keywords as it was felt that their inclusion would make the search too narrow and exclude other labour demand sectors in rural areas, such as mining and minerals, forestry (sawmills), crafts, tourism, clothing and textiles.

DEFINITIONAL ISSUES

1. UNDERSTANDING RURALNESS/RURILITY IN SOUTH AFRICA

In South Africa there is no formal or accepted definition of rural that clearly distinguishes it from urban areas. In an attempt to overcome this situation policy makers and researchers often rely upon identifying characteristics that assist in distinguishing rural and urban areas. The 1997 Rural Development Framework for South Africa (Government of South Africa 1997: 1) defines rural areas as:

‘... sparsely populated areas in which people farm or depend on natural resources³, including the villages and small towns that are dispersed through these areas. In addition they include the large settlements in former homelands, created by the apartheid removals, which depend for their survival on migratory labour and remittances’.

Although never adopted as an official definition many government departments appear to use this as a working definition, largely because it coincides strongly with the conditions that affected rural dwellers prior to 1994. Such a definition distinguishes rural areas from urban by emphasising the density of population and settlement patterns, the livelihoods and resources available, and the history of rural areas. Two primary types of rural areas appear to exist in terms of this definition: commercial farming areas and the former homelands or traditional authority areas (Goldman and Reynolds 2007). This is a confusing form of classification because the one category is based on an economic definition and the other on historical politico-legal definitions!

The *commercial farming* areas cover much of South Africa outside of the metropolitan areas and are characterised by large-scale commercial farming units interspersed with small towns, villages and in some districts small pockets of the former homelands. Goldman and Reynolds (2007) indicate that the rapid population increase in the small rural towns after 1994 is a consequence of the inward migration of former and transitory farmworkers and their families. This pattern of inward migration to these small rural towns has also been a consequence of the attraction of access to housing and other services provided by the Reconstruction and Development Programme (RDP). However, economic and employment prospects in these towns are few and have not increased in proportion to the population increase (ibid.).

The *former homelands* are a result of South Africa’s legacy of *apartheid* (separate development) policies. As a result these areas are often displaced and overpopulated semi-urban settlements,

³ Although not explicitly emphasised in this definition, it is assumed that natural resources primarily include those necessary for farming (crop and livestock) as opposed to mining.

which has undermined their historical and current economic base (Goldman and Reynolds 2007). Here many households attempt to survive through a combination of seasonal and sometimes intermittent production on household food plots and communal land, remittances from urban migrants, state pensions, local piece-work and informal sector activities (see Aliber 2005; Aliber and Hart 2009; McAllister 2001).

According to the 2001 Census of Statistics South Africa (StatsSA 2003), 43% of South Africa's population lived in a rural area, which was defined as any area that was not classified as urban and followed the distinction between commercial farms and tribal areas (another term for the former homelands based on their imposed 'traditional' style of leadership) (StatsSA 2004). Census 2001 suggested that the provinces with the highest rural populations were respectively Limpopo (87%), Eastern Cape (61%), North-West and Mpumalanga (58%) and KwaZulu-Natal (54%). StatsSA (2004) has attempted to consider settlement classification as a means of addressing the obstacles posed by a lack of definition and identifies four key types of settlement in South Africa:

- i. Formal urban areas;
- ii. Informal urban areas;
- iii. Commercial farms; and
- iv. Tribal or traditional authority areas of the former homelands and rural informal settlements.

However, rather than removing politico-legal determinants to spatial settlement, these are reinforced as the classification of rural areas is based on the RDF of 1997.

As Goldman and Reynolds (2007) point out, the absence of an acceptable definition of urban and rural in South Africa remains problematic. While the shift by researchers this century to focus on metropolitan areas and district municipalities is an attempt to overcome the barriers resulting from a lack of an acceptable and agreeable definition of rural and clearly distinguishing it from urban, it has proved obstructive. In practice what occurs is that most municipalities, including large metropolitan areas such as eThekweni (Greater Durban) and secondary cities, for example Mangaung (in Bloemfontein), comprise of significant rural areas, although the share of the population in these areas may be small (ibid.). The dividing lines between city, peri-urban, large town, small town, farm and deep rural areas are very blurred. This lack of clarity tends to disadvantage the people in some of South Africa's most impoverished areas.

The introduction of the Integrated Sustainable Development Programme (ISRDP) in 2001 is a good example of the confusion that occurs even in so called 'accepted rural areas' when the district and local municipalities are used as proxies for rural. The ISRDP identified 13 rural nodes (11 district municipalities and 2 local municipalities) across South Africa. However these nodes included local municipalities with large towns, such as the Chris Hani District Municipality node in the Eastern Cape, which combines farming districts of the former Cape Provincial Administration, parts of the former homelands of the Ciskei and Transkei and the large town of Queenstown. The ISRDP nodes also include local municipalities that are considered to be 'deep' or 'very rural' in the sense that they are

located in very remote areas, often with minimal infrastructure and services – both public and private. As Gopaul (2006: 20, 21) argues these municipalities are further characterised by low levels of employment, poor housing, low wages and a low state of living. ISRDP examples include the Gasegonyana, Gamagara and Moshaweng local municipalities in the Kgalagadi ISRDP node in the North West and Northern Cape, and Ugu in the Eastern Cape. South Africa now has 24 so-called Rural District Municipalities that largely overlap with or incorporate virtually all the former IRSDP nodes. However, they exclude many of the CRDP sites, indicating that some of South Africa's poorest rural areas do not fall within the prioritised RDMs!

Essentially, the ability to define an area as rural or urban remains problematic but the examples above provide some general characteristics that are important in defining rural areas. These include distances from metropolitan areas and other large towns, population density, extent of service delivery, the type, quantity and quality of livelihoods, resources and infrastructure, and importantly in South Africa their history, which involved the influence of politico-legal policies in shaping spatial localities and economic hubs.

2. CONCEPTUALISING RURAL DEVELOPMENT POLICY IN SOUTH AFRICA

As noted in the introduction, the significance of rural development has come to the fore in South African politics and national development debates since April 2009. While this recognition of, interest in and promotion of rural development is warranted given the upheavals and discordant practices of rural development in the past, there remain some concerns. Above we noted the constraints with respect to identifying and distinguishing rural areas from their urban counterparts and the complexity of this in South Africa, with its legacy of segregation, forced removals and dumping of large numbers of people into marginal remote areas in the former homelands. However, our concerns run deeper with respect to the current conceptualisation of rural development in South Africa.

Since April 2009 rural development has been nationally manifested in the Comprehensive Rural Development Programme (CRDP). A key thrust of the programme's framework is heavily dependent on the integration of fairly simplistic notions of agrarian change, rural development and land reform as outlined in the CRDP conceptual document (DRDLR 2009):

- Broad-based agrarian transformation involves increasing and improving all types and scale of agricultural production; the optimal and sustainable use of natural resources; the adoption of locally appropriate and sustainable technologies; improving food security; and improving the quality of life of each rural household. Undoubtedly this notion views agriculture as the crucial driver, if not the only one, despite local and global shifts in primary agriculture in recent years, which include consolidating farming units and downsizing of the agricultural labour force, often accompanied by increased capitalisation and the use of capital intensive technologies.

- Strategically, improved rural development is understood as the improvement of economic and social infrastructure, along with increased quantity and quality of public amenities and facilities. This is necessarily complemented with improved institutional infrastructure. Here the main thrust is almost exclusively the establishment of largely social public infrastructure (e.g. clinics, libraries, ICT centres, all-weather roads, recreation facilities, sanitation, water infrastructure, and housing).
- The 'improved land reform programme' remains focused on restitution processes, redistribution and the reform of land tenure arrangements. However, despite the recent Green Paper in 2011, nothing strikingly new is in the pipeline.

The integration of these three strategies is assumed to bring about rural development – a concept that is never clearly defined in the CRDP documentation (or others that refer to it) and one which inadvertently ignores the spectrum of rural change and livelihoods brought about as much by the local need to survive, as by the desire of rural inhabitants to appear 'modern' in their actions and tastes, like their urban counterparts, in an era of globalisation and mass consumerism. Moving beyond these strategies the CRDP is premised on three consecutive phases:

- Phase I, or the incubator stage of the programme, in which meeting basic human needs is the primary driver;
- Phase II is the entrepreneurial development stage, whereby relatively large-scale infrastructure development is the crucial driver;
- Phase III is the stage of the emergence of industrial and financial sectors, initially driven by small, micro and medium enterprises and village markets. (DRDLR 2010: 3).

Job creation is central to this three-pronged strategy and phased programme of rural development. Para-development specialists or Community Development Workers (CDWs) at village level are considered crucial to this job creation. Their role is to train and mentor identified community members to ensure the latter's gainful entrance into the economy. With the exception of the training of rural youth through the **National Rural Youth Services Corps (NARYSEC)** to conduct assessments of rural villages, local post-school training and skills development seems to be limited. In terms of the design of this rural youth capacity development scheme, NARYSEC participants must transition into further skills development programmes to enable them to find appropriate jobs in the formal labour market or build their own enterprises. A recent study of eight CRDP sites noted that often external contractors and labour are used and thus workplace skills are not consistently transferred to local residents in rural areas (Hart et al. 2010b). The same study was critical of public sector supported local economic activities, implying that civil servants often lacked the capacity to guide local development activities, especially those requiring entrepreneurial skills. A further consequence of this lack of capacity is the inability to consider the practical integration of local economic activities into the broader district and provincial economies and that of the country as a whole (ibid.).

Policy makers and public servants consider the CRDP to be vastly different from previous government initiatives in rural areas because they claim it to be iterative, resting on lessons learned through proactive and participatory community-based planning, and supported by means of intergovernmental cooperation. The intention is that early lessons and experience at the initial eight pilot sites will be extended to 160 sites by 2014 (DRDLR 2009). Such rapid expansion is itself worrying and problematic as by mid-2010 there were approximately 22 areas (typically villages or wards) in which the CRDP had been initiated or was being planned and there appeared to be very little learning taking place (Hart et al. 2010b).

3. A NOTE ON RURAL SKILLS DEVELOPMENT SYSTEMS

Rural skills are traditionally associated with workplace and occupational profiles in natural resource-dependent sectors (World Bank 2007; Kraak 2009a). Across developing countries these sectors continue to undergo accelerated and unavoidable changes as the global economy becomes more tightly integrated. Changing rural-urban migration dynamics and rising levels in agricultural productivity, for example, continue to restructure the skills profiles in rural areas (World Bank 2007; Wiggins and Deshingkar 2007). Even though rural population growth is projected to decline, it is important to know what kinds of jobs this declining labour force will find in rural areas. The 2008 World Development Report focused on agricultural development and underscored the trend for rural skills development interventions to be better adapted and responsive to the new demands of the agricultural sector. Agriculture is modernizing fast, it noted, and this is evident from its increasing reliance on modern systems of technology development, transfers and innovations. Although traditional agriculture continues to be the mainstay in rural employment in many parts of Africa and Asia, rising shares of non-farm rural employment are rapidly expanding and resulting in a wide variety of occupations (self-employed farmers, artisanal manufacturers, tourism, etc) and skills levels (Wiggins and Deshingkar 2007).

It is against the backdrop of these structural dynamics that contemporary and future rural skills development ought to be examined. Rural skills development forms an integral part of a broader system, which includes economic, social and political factors (Buchanan et al. 2010; Borat and Jacobs 2010; Kraak 2009a; Kelly and Lewis 2003; Rupasingha et al. 2000) and deserves to be conceptualised as such.

The schematic outline displayed in Figure 1 captures this and illustrates how skills demand and supply might interact across formal and informal sectors and levels of skill⁴. The supply-side of the skills system- right-hand side of figure 1 - includes formal educational institutions- such as schools and various providers of higher education. Providers of education and training function according to

⁴ This idea has been informed by the *skills eco-system* concept which forms the basis of the Buchanan et al. (2010) study for the OECD on understanding skills demand.

well-defined legislation, policies, rules and regulations (norms and standards) irrespective of whether they are privately or publicly funded. A relatively smaller proportion of universities and colleges might be located in rural areas, implying an unequal spatial spread of skills supply institutions in favour of localities with better socio-economic infrastructure and so on. Vocational and on-the-job training schemes add to skills supply but such skills development interventions are often informal and therefore harder to monitor and assess- especially in rural localities.

Skills demand is basically a function of the economic performance and technological requirements of firms, industries or economic sectors. Tertiary and service industries usually demand a larger proportion of high-skill professionals than primary sectors (like farming, mining and fishing). The demand for skills therefore varies across the value chain as the grid in the middle of figure 1 illustrates. To clarify this point, consider the case of skills demand along the agricultural value chain: agro-processing tends to be more skills-intensive than primary agriculture and it is expected that agro-processors will demand relatively more skilled workers. Rural skills demand critically depends on the skill-bias of industries and economic sectors concentrated in these localities. In addition to macro-demand for skills from industries and sectors, it is important to also focus on individual demand for skills training or willingness to enrol skills development programmes. Determinants of individual uptake of vocational training schemes are particularly important for the design of effective state-funded skills development interventions and we reflect on some evidence later in this overview.

Within each sector, industry and workplace – whether these are classified as formal or informal- the types and levels of skills demanded and supplied vary (Buchanan et al. 2010; Kraak 2009a). Figure 1 is a fairly generic and self-explanatory overview but it might be useful to stress two major insights: Firstly, it provides a holistic view of how skills demand and supply sub-systems interact. Secondly, focusing on the rural space does not exclude interactions between rural and non-rural landscapes. On the contrary, it highlights the importance thereof.

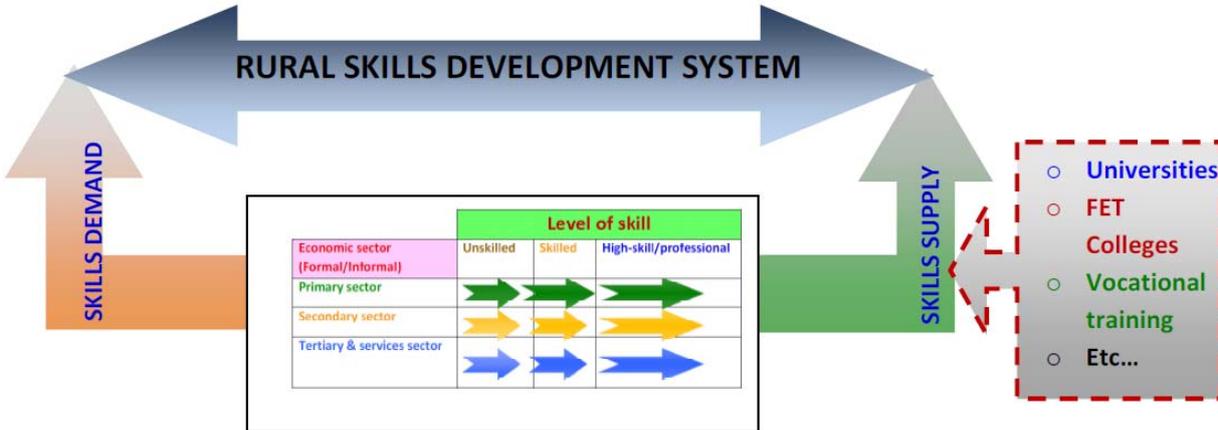
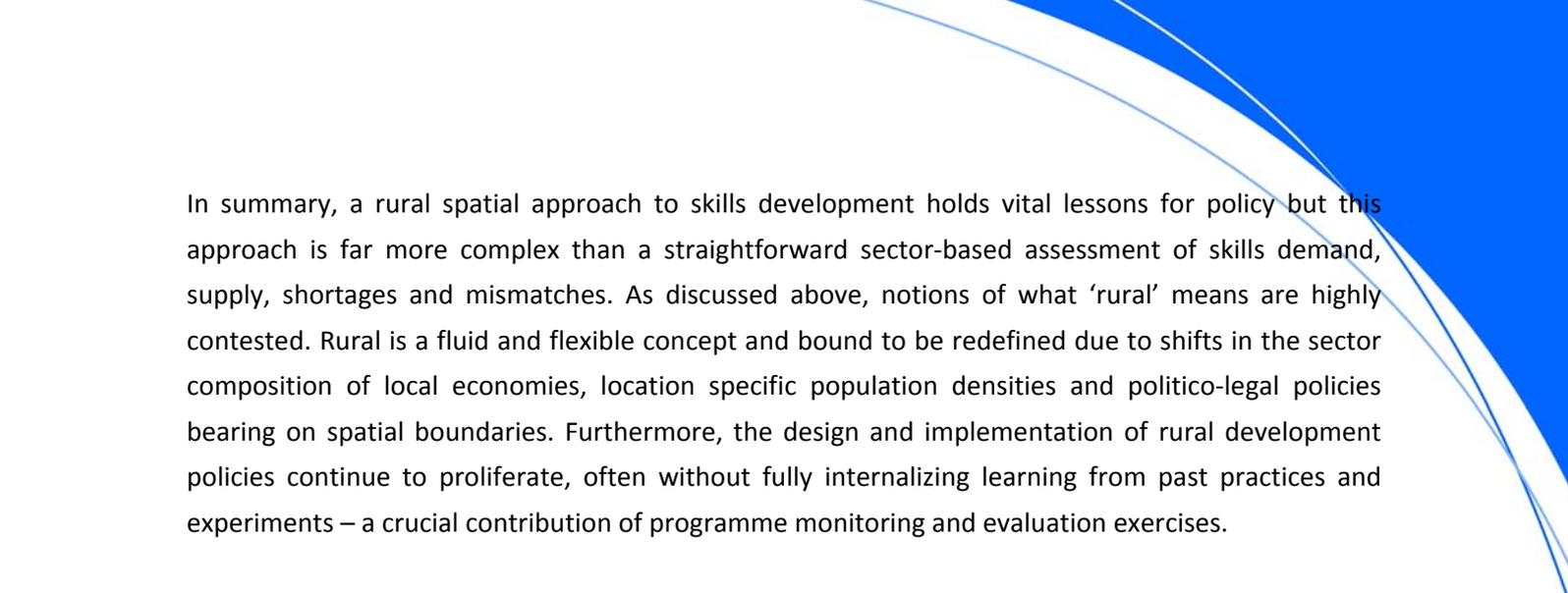


Figure 1: Schematic overview of rural skills development system



In summary, a rural spatial approach to skills development holds vital lessons for policy but this approach is far more complex than a straightforward sector-based assessment of skills demand, supply, shortages and mismatches. As discussed above, notions of what 'rural' means are highly contested. Rural is a fluid and flexible concept and bound to be redefined due to shifts in the sector composition of local economies, location specific population densities and politico-legal policies bearing on spatial boundaries. Furthermore, the design and implementation of rural development policies continue to proliferate, often without fully internalizing learning from past practices and experiments – a crucial contribution of programme monitoring and evaluation exercises.

RURAL SKILLS SUPPLY

The supply of post-schooling or tertiary education in rural areas is challenging and reflects the legacy of apartheid. According to the *Green Paper*, rural areas currently experience an extreme shortage of post-school or higher education facilities and associated expertise (DHET 2012). To address the current shortage the Department of Higher Education and Training (DHET) proposes the establishment of one institution per district offering Further Education and Training (FET) programmes by 2030. Alongside this strategy the DHET also proposes the establishment of Community Education and Training Centres (CETCs) as alternatives to address the specific requirements of out-of-school youth and adults. We start by briefly considering the presence of universities in rural areas and then move on to look at FET facilities.

1. UNIVERSITIES

Universities are unevenly distributed, with some former homelands having one and other rural areas outside of the former homelands having none. On the other hand, a small and largely urbanised province, such as Gauteng, is represented by at least four academic universities and at least two universities of technology. The result is that large parts of South Africa's rural areas are under-represented in terms of these tertiary institutions. During his 2012 State of the Nation Address President Zuma announced that the government was intent on establishing two new universities; one in the Northern Cape and the other in Mpumalanga, in order to address the present unevenness and access to tertiary education. However, the post-schooling institutions in some of the former homeland rural areas, such as the Universities of Fort Hare, Limpopo, Venda and Walter Sisulu (the old UniTra), remain disadvantaged in terms of human capacity, finances⁵, infrastructure and educational facilities (DHET 2012). This situation suggests that those Universities are severely constrained in providing access to and good undergraduate qualifications for poor rural students. Paterson (2004) has illustrated that high costs inherent to providing practical studies as well as policy practices can result in the 'leaching out' of the practical components of some subjects, such as agriculture, reducing the value of the subsequent qualifications.

Acknowledging these constraints and the fact that the former-white universities do not have the experience or capacity to address the needs of the majority, the improvement of all educational institutions is proposed in the January 2012 DHET *Green Paper for Post-School Education and Training*. The drop-out rates of Africans or their poor academic performance is partially due to the

⁵ Finances are a serious constraint, as these Universities often attract the poorest rural students, which increases the problem of repayment and further undermines the scarcity of funds common to these universities.

lower quality of schooling in rural areas and townships, but also due to the inability of the universities to engage with diversity amongst their student population.

An analysis of the current curricula at rural-based universities needs to be undertaken to determine how the programmes and qualifications currently offered coincide with rural skills demand and the needs of rural people as opposed to the historical emphasis on agriculture.

2. FURTHER EDUCATION AND TRAINING (FET) FACILITIES

The *National Skills Development Strategy 3* (NSDS 3), released in January 2011, aims at improved placement of learners and graduates and puts particular emphasis on skills development in support of the state's rural development goals and objectives. With regard to the emphasis on rural development the NSDS 3 acknowledges that the historical emphasis has been on urban economic development⁶ and intends giving greater focus to the production of skills for rural development (however rural development is conceptualised!). To achieve this there is a need to distinguish between the training of rural people (who largely tend to migrate to urban areas with acquired skills) and the training in or provision of skills to rural people for rural development. NSDS 3 also intends, in collaboration with other departments, to support the various cooperatives that exist in rural and urban areas and to provide them with customised programmes and skills.

The NSDS3 also aligns itself with projects that support the New (economic) Growth Path (NGP), announced during 2010, and its various focus areas and job drivers. Rural development is targeted as one of the specific focus areas for job creation. Policy intentions such as NSDS 3 and the *Green Paper for Post-School Education and Training* base a lot of their strategy and focus on the NGP. The assumption here is that the NGP is the correct and best way to achieve inclusive and sustainable economic growth and that we all have a shared understanding of rural development and how it can be achieved! However, the extensive focus on Agriculture in the NGP as the means of job creation in rural areas is questionable (Turok et al. 2011).

Most learnership qualifications, registered with SAQA, are done through private higher education institutions and Further Education and Training (FET) colleges. A recent study by the HSRC (Hart et al. 2010a) indicated that of the registered private higher education training providers, with agricultural programmes, one third were located in Gauteng and a quarter each in KwaZulu-Natal and the Western Cape with only 3% and 2% respectively in the Eastern Cape and Mpumalanga. The other three provinces had no representation, suggesting that the majority of these colleges are situated in the more urban and peri-urban provinces.

⁶ We would argue that this was done in conjunction with a concerted attempt to undermine the rural areas – for example, the state's introduction of Betterment Planning programme.

Due to the often short-term and contractual nature of providing services on behalf of Sector Education and Training Authorities (SETA's) or the National Skills Fund (NSF), some training providers do not bother to establish even a medium term presence in South Africa's more remote areas and shift from one area to the next as contracts are awarded. As a result of this behaviour, short-term contracts are seen to discourage sustained capacity building in these areas (HDET 2012). This situation effectively undermines rural development, as there is no consistent service provider with established links to opportunities in the local economy that could provide learnerships for students.

The Further Education and Training colleges seem to be more far-reaching in that all nine provinces are represented. The same report indicated that there are:

'275 campuses linked to Public FET colleges and 46 Private FET colleges which offer theoretical instructional offerings, practical instructional offerings, and then also the National Certificate (Vocational) or NC (V) which is a combination of both theoretical and practical offerings' (Hart et al. 2010a: 82).

Despite these figures most enrolments in 2009 tended to occur in the more urban provinces, with the exception of Limpopo, which has the third highest number of enrolments (DHET 2009b). The conditions at many of the FET colleges are considered to be substandard, despite the recapitalisation process that the government implemented from 2006 to 2009 at a number of these colleges (Hart et al. 2010a: 84). The *Green Paper for Post-School Education and Training* proposes that capitalisation needs to be an integral part of financing the FET colleges (HDET 2012).

A recent HSRC study (2008) of the employment and learning pathways of learnership participants indicates that weaknesses in the FET and learnership system include; insufficient practical experience as many FET colleges do not have the necessary facilities, partnerships between the public and private sector are weak or non-existent constraining learners from getting on-the-job training, and the great distances from residence to institution. These and other findings led another HSRC study (Hart et al. 2010a) to conclude that FET colleges needed to be more accessible and that African women undertaking learnerships in rural areas required more support than their male counterparts or those in urban areas.

In the agricultural sector a number of commercial farmer Commodity Organisations and Trusts, representing producers engaged in specific farming activities have undertaken to train their staff and the farm workers on some member farms in skills of various levels. Others, such as the National Wool Growers Association (NWGA) for example, have also extended their training and support to improving the skills of small-scale farmers. A perception is that the private and industry linked FET colleges generally provide more superior and more widely accepted qualifications than most of the public sector FET colleges (Hart et al. 2010a).

In a paper focusing on the provision of adult further or vocational education and training to fishing communities on the West Coast of South Africa, Petersen (2007) argues that neither private nor public provision is adequately serving the rural areas and the informal sector. She concludes that a more cross-sectoral approach, one that considers the disabling policy environment, the focus on neoliberal and formal industry demands for education and skills, and the acknowledgement of the variety and quality of service providers, is required to tackle poverty and equity interests in the provision of post-school education and training.

An HSRC (2005) study attempting to estimate the population and needs of formal and informal enterprises that could be serviced by the THETA (Tourism and Hospitality Education and Training Authority), noted that a significant number of informal tourism and hospitality enterprises existed and that most operators had low skills in comparison to those operators in the formal enterprises. The various skills providers tended to be located in urban areas and the larger towns of South Africa.

Blom (2011) offers a broad overview of South Africa's private post-school skills supply system, dominated by not-for-profit training providers operating in Gauteng, followed by the Western Cape and Kwazulu-Natal. The study adopted a sectoral rather than a spatial approach, thus not allowing for any indication of the rural spread or operations of these training facilities. Notwithstanding this limitation, it is reported that Learning Field 1 (*Agriculture and Nature Conservation*), which correlates strongly with the status of rural skills provision, did not rank among the most popular enrolment areas. Private sector post-school training has expanded following the post-2009 restructuring of the higher education system but, according to Blom (2011), compliance to register with regulatory authorities appears to be poor. This compounds the data limitations that hamper any meaningful impact assessment on skills development at a disaggregated spatial level.

Clearly the supply of skills to rural areas needs a revamp and while the *Green Paper for Post-School Education and Training* (HDET 2012) identifies this need and the government's intention to address this matter, there is also a need to identify the skills that are required and demanded by rural populations and the reasons for the demand of certain skills.

RURAL SKILLS DEMAND

Any coherent and integrated understanding of rural skills development, particularly skills shortages and mismatches, requires an analysis of the skills demand component of this system. This section assembles information on two dimensions of skills demand. Given the dominant focus on changing patterns of the skills needs of enterprises (Bhorat and Jacobs 2010), usually examined with the aid of 'skills biased technical change', we begin with a review of how patterns of skills demanded by 'rural enterprises' have been shifting over time. At the level of individual workers, factors that influence participation in and demand for vocational skills development interventions constitute another vital element in the rural skills demand system.

1. SKILLS BIASED TECHNICAL CHANGE - INDUSTRY DEMAND

Studies on skills demand, without regard for any rural or urban spatial categorization, generally begin with an assessment of the skills needs of enterprises. It therefore derives from the shifts in the external competitiveness, productivity, etc., facing a firm or intra-firm innovations. More commonly, the demand for a skilled workforce flows from a combination of a firm's objectives and competitive pressures. As discussed in Kelly and Lewis (2003) and Buchanan et al. (2010), *Skills Biased Technical Change (SBTC)* has evolved into the dominant framework to investigate and explain the increasing demand for high-skilled labour across workplaces. Tracking the skills levels of employment within a firm over time is the main proxy to measure SBTC. For example, as primary farming systems become increasingly high-tech, through inputs and post-harvest pressures on standards and food safety for instance, farmers will demand more skilled workers (World Bank 2007). Within specific occupations, according to Kelly and Lewis (2003), skills demand might be sub-divided into three stages, namely motor skills, cognitive skills and interactive skills.

South African sector studies that directly or indirectly focus on rural skills demand are: agro-processing (Pieterse 2009), forestry, wood and pulping (Pogue 2009) and the creative industries (Joffe and Newton 2009). Bhorat and Jacobs (2010) conducted an economy-wide analysis of skills demand and found steady declines in the demand for unskilled workers and a significant increase in the demand for highly skilled workers across all sectors and industries indicating a shift towards a knowledge-based economy. They illustrate that structural change and changing production methods in farming resulted in declines in the demand for unskilled labour. Skills demand for top quality rural service delivery, especially in education and healthcare, must also be investigated and elevate the implications for CRDP and similar 'rural development' interventions.

The presence of fewer businesses (quantity) and the constraints on their scope of services (type and demand) in rural areas probably negatively affects the placement of learners in rural learnership programmes and constrains the availability of graduates and diplomats obtaining work experience.

Besides the regular and heavily commodity focused analyses of the agricultural sector by industry groups, such as the Citrus Growers' Association, the Table Grapes Industry, etc., there is no real awareness of the skills demand in rural areas. Within the agricultural sector some of these industry groups are actively identifying skills and labour needs (Hart et al., 2010a). However, what is clear is that the agricultural sector continues to shed jobs and is steadily becoming increasingly mechanised and capital intensive (Turok et al. 2011). While these trends demand more skilled workers they ultimately suggest a smaller workforce in the long-term.

On the international front, Tripp (2001) has argued that the diversity and heterogeneity of rural dwellers means that different groups will require different skills. Using an example from agriculture he indicates that commercially oriented small-scale farmers, engaging or intending to engage in national and global commodity chains will require new technologies and management skills to increase their overall productivity and competitiveness. To use new technologies, these farmers will need to be better-resourced (in terms of education, skills and finances). Other rural residents who consider agriculture as a livelihood safety net will require cost-effective appropriate technologies and skills that improve efficiency and protect the natural resources (e.g. agroecological farming skills). Diversity within other sectors in the rural economy will also need to consider issues of heterogeneity and difference. Using data from the 2009 GHS (General Household Survey) Hart and Aliber (2010) argue that a severe constraint to rural people adopting technologies is the prevalent low-level of formal education attained by rural household-heads, irrespective of gender. Improved formal education in rural areas will be important to enable rural dwellers to adopt and optimally use new technologies.

A review of the CRDP (Hart et al. 2010b) suggests that certain skills may well be in short-supply in some rural areas. Specifically, the report identifies that construction contractors tended to come from outside the rural areas and in some cases used external labour. This might mean that certain construction related skills at various levels are in short supply, the irregular demand is not sufficient to warrant that rural people with these skills remain in the rural areas, or rural people are unaware of or unable to respond to opportunities (i.e. tenders) for providing services as they do not have the requisite skills to complete the technical and detailed service provider application documents.

2. PARTICIPATION IN VOCATIONAL TRAINING - INDIVIDUAL DEMAND

Wiggins and Deshingkar (2007) and the World Bank (2007), among others, argue for more focused attention to vocational training schemes to respond to the needs of farm workers in the industrialized farming sectors. The SENAR programme (Servicio Nacional de Aprendizaje Rural -

National Rural Training Service) in Brazil has been cited as a success story of how public and private providers cooperate in the delivery of effective skills development programmes to rural youth. Nevertheless, many factors determine participation in or demand for rural skills development programmes.

Participation in and uptake of standard and vocational skills development programmes is an important element and indicator of skills demand. This relates to the needs felt among workers to undertake job skills training in an effort to upgrade their current and future performance in a specified occupation. In other words, to climb the occupation ladder, workers demand skills training. In this regard it is crucial to isolate the factors that encourage or discourage participation among individuals in skills development initiatives on offer. Put differently, it enables the identification of the determinants of demand for skills development. What types or kinds of interventions are necessary to encourage individual workers to demand further skills training? How must these training programmes be tailored to effectively meet the demands of participants and industries?

Rasputingha et al. (2000) used human capital theory (HCT) to explore how rural individuals evaluate the costs and (future) returns associated with training in order to decide to enrol in vocational training - based on a survey of 1 200 residents across the rural South of the United States⁷. Unlike traditional HCT which concentrates on economic motives and individual behaviour, they factor in indicators of social and community determinants - norms, social network, etc - in training choices. Determinants controlled for in their model are demographic factors (age, gender, marital status and parental or caregiver responsibilities), job attributes, nature of job tenure (permanent versus part-time), trade union membership and income levels. They collected information on awareness of the skill training and found this to be fairly low. Alongside this, having a new job opportunity post-training was a primary determinant of the decision to enrol in training⁸.

Pressures arising from the increasing prevalence of illnesses, largely stemming from poor conditions in rural areas as well as the HIV and AIDS pandemic, will increase the demand for healthcare professionals, especially in rural areas (ex-homeland regions). Hall (2004) reviewed the demand and supply of nursing and found that the rural *nurse: population ratio* was well below the national average. Nurses in rural areas face an added burden because they are often called upon to take on non-health related administrative tasks, due to lack of skills in other occupations in rural healthcare facilities. This raises the need for better quality disaggregated data on nursing demand and supply as a first step towards better planning of rural healthcare human resource needs. Ried et al. (2011) investigated how the location of training facilities influences where healthcare professionals decide to enrol for training.

⁷ Face-to-face interviews took place in the rural areas of Alabama, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Virginia.

⁸ Adopting a philosophical approach to overcoming SA skills mismatches and shortages, Twalo (2010) advocates the notion of 'education for self-reliance' to overcome attitudinal impediments to skills development.

With the spread of technology in education, demands have increased for in-service skills development among teachers (Potgieter 2004). Through focused and short (two and a half days) workshops, qualified and practicing teachers receive training in technology education and the Technology learning area - *Technology 2005 Project*. In a rural case study, Ndandani (2001) found inadequate training among rural teachers to utilize new information and communication technologies in classrooms despite the priority given to this in curriculum planning:

'All these teachers regard computer literacy as very important in their teaching careers and are eager to attend in-service training that offers basic computer skills. Although Microsoft South Africa's 'Train the trainer' programme has been introduced in some areas in the other provinces, about 95 per cent of the teachers in the sample have not heard of nor participated in the programme. All these teachers expressed their willingness to set aside time for sharing the educational technology skills they would acquire with their classes.' (Ndandani 2001: 386)

Kwake et al. (2006) investigated the extent of ICT use among women in rural KwaZulu-Natal North Coast and explored barriers to rural women's access to and use of ICTs. A brief demographic profile of women included in this case study revealed that the majority of women attained some level of secondary schooling with a few having completed tertiary qualifications. Occupations ranged from small-scale trading, on-farm work, teaching and farming. ICT services were used to further education and training, skills enhancement and occupational information, among other things. Summarising the key insight and implications for skills development, they concluded:

'In order to create a demand-driven ICT consumer community in the rural areas, the hindrances to accessibility must be significantly reduced either before or during the provision of the technology. This necessitates training and skill enhancement initiatives' (2006: 115).

CURRENT DATA CHALLENGES

A number of striking data challenges are evident from this scoping study. Some of these are briefly discussed in this section.

Quantitative questions limit deeper understandings of current rural skills and education supply, demand and quality: Specific assessments of locally available formal education and general skills form part of the current CRDP, which trains the rural youth to survey households using the War on Poverty Questionnaire (Hart et al. 2010b). The 2010 version of this questionnaire asks about formal education attained (Section 2) and the skills possessed by those household members 15 years or older (Section 8). Indicated skills are general in nature, ranging from computer skills to baking, dressmaking, bricklaying and farming skills. However, the quantitative nature of the CRDP assessments prevents any robust understanding of why skills are not obtained (could this be due to a lack of interest, lack of access –lack of finances or the existence of accessible education and training facilities in rural areas?). Furthermore, these CRDP assessments do not tell us whether these skills are of particular relevance to rural dwellers or what contribution such skills can make to rural development – either locally or in a broader more integrated fashion. The skills possessed might be acquired in urban areas or for the purpose of seeking employment in and relocating to urban areas.

Sufficient information is not readily available in many cases: A study on the tourism and hospitality sector (HSRC 2005) noted that often the information about the number of formal and informal enterprises is inadequate. For this sector, at the time of the study, there were no complete lists of formal enterprises and none at all for informal enterprises. It is quite likely that a similar situation exists across all economic industries that can be found in rural areas. This is most clearly indicated for the informal sector in agriculture where the estimate of smallholder commercial and ‘subsistence’ farmers is repeatedly questioned. Furthermore, it is acknowledged that engagement in these farming activities fluctuates and is dependent on a variety of factors (Aliber and Hart 2009).

Some sources of education and skills, especially those considered informal are under researched: There appears to be a dearth of studies on the role and contribution of indigenous knowledge and skills transfer in rural areas. Hart et al. (2010a and b) note the contribution of indigenous knowledge practices and technologies to rural development in some areas of South Africa. A related study (CD:TRD 2010) goes deeper into the use and provision of indigenous knowledge skills, concluding that indigenous knowledge is in many instances integral to the social, political and economic development of some rural areas and that reinforcement of some practices can improve current standards of living. However, a closer look at indigenous education and skills transfers is necessary to understand how and in what ways indigenous knowledge, education and skills can contribute to rural development.



Some sectors/industries are over researched: Studies focusing on multiple aspects of agriculture and associated skills are in abundance, probably because agriculture is seen as a key economic sector in rural areas. However, an overwhelming focus on agriculture and to some extent tourism, tends to ignore the contributions and skills needs of other industries, including the formal and informal sectors of forestry, mining, fishing and crafts.

CONCLUSION - RECOMMENDATIONS FOR FUTURE RESEARCH

1. CONCLUSION

In conclusion the following points can be made. First, rural is extremely hard to define and there is no single acceptable working definition that is agreed upon amongst civil-servants and the research community. Second, there appears to be a dearth of research on rural skills supply and demand. Historically the focus has been on the supply of agricultural skills, a focus which still prevails to some extent, while the increasing demand by many of the rural population has been for skills that increase mobility and the chances of seeking employment outside of the rural areas. Third, other industries besides agriculture exist in rural areas but the supply and demand for associated skills remain unclear. Fourth, obtaining access to post-school education in rural areas is problematic for a number of reasons including the following: insufficient finances, access to institutions is constrained by the distances that have to be covered, education and training at many of these rural institutions is of a low quality, and the low quality of schooling in rural areas also prevents access to these institutions and can result in poor academic performance and increasing numbers of dropouts. Fifth, while the state would like to encourage rural people to adopt skills that enable them to carry out and support rural development this idea is challenged by the fact that many want to leave the rural areas and also by the lack of clear understanding of what is rural development and how it can be achieved. Currently it still remains couched in agricultural terms! Sixth, while skills biased technical change reflects industry demands for skilled workers, whether it is resource-based or in services, the determinants of individual demand for and participation in vocational training interventions also require attention given government's commitment to better rural service delivery. Investment in rural infrastructure has received more attention than skills development but rural infrastructure does not automatically translate into rural skills development.

2. RECOMMENDATIONS FOR FUTURE RESEARCH

Several areas for future studies are identified in this section:

There is not a large body of literature that focuses on the supply of and demand for skills in rural areas *per se*. Sector studies may refer to rural areas in passing. Agriculture is perhaps the most researched sector in the rural areas. Agricultural studies have tended to focus on agricultural extension, technology adoption and the skills required. However, even in these studies there is very limited focus on the supply and demand for these skills. A more robust analysis of skills supply and demand in rural areas and specifically for rural development is required.

Agriculture is often analysed across the value chain (upstream and downstream from the point of production) in order to identify the different elements and their roles in the agricultural value chain.

A similar approach could be adopted to analysing other economic sectors within rural areas to find out where the skills demand lies or possibly which elements might be more suited to rural locations, if they are currently urban-based suppliers to rural firms. Primarily the interest would be in upstream and downstream needs and skills required, and where these are best located. ICT is one example. Technicians and support services are required in rural areas (although demand may be less than in urban areas) but other ICT components such as infrastructure, hardware and software design, development and supply could be urban, rural or peri-urban based. Analysis of suitability of location is required. For retail supermarkets distribution is centralised and primarily urban based although fresh produce is primarily sourced from the rural areas. This centralisation of distribution may effectively increase the price of fresh food in rural areas due to transport costs. Assessments across the value chains of various sectors will also assist in establishing the role played by employers and employees in the informal sector and the skills they require.

Research is required to reach agreement on how best to conceptualise rural development and the roles of different sectors. Part of this work would entail the identification of the crucial drivers in different sectors in the various regions and provinces and an analysis of the skills required over the medium term. What other sectors, besides agriculture, contribute to rural development, how best can they do this and what skills are required?

The diversity of skills demanded by rural dwellers and the purposes for acquiring these skills, need to be investigated more thoroughly. Different ways to achieving rural development in various locations will require different skills. Similarly, despite the good intentions of the HDET *Green Paper for Post-School Education and Training* to link post-school education to rural development, rural learners may well still want skills that enable them to relocate outside of the rural areas.

The contribution of informal economic activities and associated skills needs to be thoroughly investigated. At present there are too many assumptions. For example the informal market in agricultural produce in rural areas is seemingly underestimated due to various weaknesses associated with implementing national and local surveys.

REFERENCES

- Akoojee, S., Gewer, A. and McGrath, S. 2005. "South Africa: skills development as a tool for social and economic development" in Akoojee, S., Gewer, A. and McGrath, S. (eds) *Vocational education and training in Southern Africa: a comparative study*. Cape Town: HSRC Press.
- Aliber, M. 2005. "Synthesis and Conclusions" in Aliber, M., de Swardt, C., du Toit, A., Mbhele, T. and Mthethwa, T. (eds) *Trends in Policy Challenges in the Rural Economy: Four provincial case studies*. Cape Town: HSRC Press.
- Aliber, M. and Hart, T.G.B. 2009. Should subsistence agriculture be supported as a strategy to address rural food insecurity? *Agrekon*. 48(4): 434-458.
- Bhorat, H. and Jacobs, E. 2010. An overview of the demand for skills for an inclusive growth path. Development Bank of Southern Africa (DBSA). www.dbsa.co.za (Accessed: 19 March 2012)
- Blom, R. 2011. The Size and Shape of Private, Post-School Education and Training Provision in South Africa: A study for the Department of Higher Education and Training, June 2011. Centre for Education Policy Development (CEPD). <http://www.cepd.org.za/?q=content/publications> (Accessed: 19 March 2012)
- Breier, M. 2009a. "Introduction" in Erasmus, J. and Breier, M. (eds) *Skills shortages in South Africa: Case studies of key professions*. Cape Town: HSRC Press.
- Breier, M. 2009b. "Doctors" in Erasmus, J. and Breier, M. (eds) *Skills shortages in South Africa: Case studies of key professions*. Cape Town: HSRC Press.
- Buchanan, J., Scott, L., Yu, S., Schutz, H. and Jakubauskas, M. 2010. *Skills demand and utilisation: an international review of approaches to measurement and policy development*. Organisation for Economic Cooperation and Development (OECD) Local Economic and Employment Development (LEED) Working Papers 2010/04, May. OECD Publishing. <http://dx.doi.org/10.1787/5km8zddfr2jk-en> (Accessed: 12 March 2012)
- Deininger, K. 2003. *Land policies for growth and poverty reduction*. Washington, DC and Oxford: World Bank and Oxford University Press.
- CD:TRD (Chief Directorate: Technology Research and Development). 2010. Audit of the Indigenous Knowledge Systems (IKS) Potential Initiatives in CRDP Sites: Final Report. Pretoria: Department of Rural Development and Land Reform.
- DHET (Department of Higher Education and Training). 2011. *National Skills Development Strategy III*. Pretoria: Department of Higher Education and Training.
- DHET (Department of Higher Education and Training). 2012. *Green Paper for Post-School Education and Training*. Pretoria: Department of Higher Education and Training.
- DRDLR (Department of Rural Development and Land Reform). 2009. *The Comprehensive Rural Development Programme Framework*. Pretoria: Department of Rural Development and Land Reform.
- DRDLR (Department of Rural Development and Land Reform). 2010. *Comprehensive Rural Development Programme South Africa: April 2010*. Pretoria: Department of Rural Development and Land Reform.

DHET (Department of Higher Education and Training). 2009. Further Education and Training Colleges: National Certificate (Vocational) and Report 190/191: Report on the Conduct of National Examinations. Pretoria: DHET.

Earle-Mallessen, N. 2009. "Social Workers" in Erasmus, J. and Breier, M. (eds) *Skills shortages in South Africa: Case studies of key professions*. Cape Town: HSRC Press.

Erasmus, J. and Breier, M. (eds) 2009. *Skills shortages in South Africa: Case studies of key professions*. Cape Town: HSRC Press.

Fanadzo, M., Chiduzo, C., Mnkeni, P.N.S., van der Stoep, I. and Stevens, J. 2010. Crop production management practices as a cause of low water productivity at Zanyokwe Irrigation Scheme. *Water SA* 36(1):27-36.

Godfrey, S. 2009. "Law Professionals" in Erasmus, J. and Breier, M. (eds) *Skills shortages in South Africa: Case studies of key professions*. Cape Town: HSRC Press.

Goldman, I. and Reynolds, K. 2007. "Rural Local Government in South Africa" in Van Donk, M., Swilling, M., Pieterse, E. and Parnell, S. (eds) *Consolidating Developmental Local Government: Lessons from the South African Experience*. Cape Town: UCT Press.

Gopaul, M. 2006. The significance of rural areas in South Africa for Tourism Development through community participation with special reference to Umgababa, a rural area located in the province of KwaZulu-Natal. Unpublished Master of Arts Thesis. Pretoria: UNISA.

GSA (Government of South Africa). 1997. Rural Development Framework.

Hall, E.M. 2004. Nursing attrition and the work environment in South African health facilities, *DENOSA Curations*, 27 (4):pp28-36

Hart, T. and Aliber M. 2010. The need for an engendered approach to agricultural technology. *AGENDA 84*:75-90.

Hart, T., Roodt, J., Jacobs, P., Aliber, M. and Ngcobo, N. 2010a. The role of women in key economic sectors underpinned by SET: The case of the agricultural and agroprocessing sector. A report on behalf of the Science, Engineering and Technology for Women (SET4W) national advisory committee of the National Council on Innovation (NACI). Unpublished report.

Hart, T., Aliber, M. Letty, B., Msibi, M., Baiphethi, M. and Nxele, Z. 2010b. Audit results on technological initiatives for rural development: Evidence from eight Comprehensive Rural Development Programme pilot sites. A report on behalf of the Chief Directorate Technology Research and Development of the Department of Rural Development and Land Reform. Unpublished report.

Havenga, J. 2009. "Transport" in Kraak, A. (ed.) *Sectors and Skills: the need for policy alignment*. Cape Town: HSRC Press.

HSRC (Human Sciences Research Council). 2008. Employment and Learning Pathways of Learnership Participants in the NSDS Phase II. Pretoria: HSRC Press.

HSRC (Human Sciences Research Council). 2005. The THETA Population: A descriptive study of needs in relation to skills training delivery. A presentation to THETA by the HSRC, Pretoria, 5 February 2005.

Joffe, A. and Newton, M. 2009. "Creative Industries" in Kraak, A. (ed.) *Sectors and Skills: the need for policy alignment*. Cape Town: HSRC Press.

- Kelly, R. and Lewis, P. 2003. *The Changing Pattern of Skill Demand in The Australia Economy*. CLMR Discussion Paper Series 03/2, The Centre for Labour Market Research (CLMR), The University of Western Australia. <http://www.clmr.ecel.uwa.edu.au> (Accessed: 12 March 2012)
- Kraak, A. 2004. *An overview of South African human resources development*. Cape Town: HSRC Press.
- Kraak, A. (ed.) 2009a. *Sectors and Skills: the need for policy alignment*. Cape Town: HSRC Press.
- Kraak, A. 2009b. "Overcoming 'one-size-fits-all' policy making: The need for differentiated skills development policies in a highly uneven economic and labour market landscape" in Kraak, A. (ed.) *Sectors and Skills: the need for policy alignment*. Cape Town: HSRC Press.
- Kwake, A., Ocholla, D.N. and Adigun, M.O. 2006. The feasibility of ICT diffusion and use amongst rural women in South Africa. *SA Journal of Library and Information Sciences*, 72(2):108-118.
- Lipton, M. 1976. *Why poor people stay poor. A study of urban bias in world development*. London: Temple Smith.
- Lipton, M. 1993. Land Reform as Commenced Business: The Evidence Against Stopping. *World Development*, 21(4): 641-57.
- Lomey, J. and McNamara, K. 2009. "Energy" in Kraak, A. (ed.) *Sectors and Skills: the need for policy alignment*. Cape Town: HSRC Press.
- McAllister, P. 2001. *Building the homestead: Agriculture, Labour and Beer in South Africa's Transkei*. African Studies Centre Research Series 16/2001. Leiden: African Studies Centre.
- Mda, T. 2009. "Educators" in Erasmus, J. and Breier, M. (eds) *Skills shortages in South Africa: Case studies of key professions*. Cape Town: HSRC Press.
- Morris, M. and Reed, L. 2009. "Clothing and textiles" in Kraak, A. (ed.) *Sectors and Skills: the need for policy alignment*. Cape Town: HSRC Press.
- Ndandani, M. 2001, Rural schools and educational technology: a case study of rural schools in the Molopo district, Mafikeng. *Development Southern Africa* 18 (3) September, pp 377-393
- Paradith, A., Ntuli, A. and Berthiaume, L. 2003. Human Resources. In Health Systems Trust *South African health review 2003*. Durban: Health Systems Trust. Accessed 10 July 2005, www.hst.org.za
- Paterson, A. 2004. "Agricultural and industrial curricula for South African rural schools: colonial origins and contemporary continuities" in McGrath, S., Badroodien, A., Kraak, A. and Unwin, L. (eds) 2004. *Shifting understandings of skills in South Africa: overcoming the historical imprint of a low skills regime*. Cape Town: HSRC Press.
- Paterson, A. and Arends, F. 2002. The contribution of Agricultural Science to sustainable rural development: evidence from the South African Senior Certificate Examination (SASCE). Paper presented at the Kenton Conference, Gauteng, October 2002.
- Petersen, C. 2007. Educating and training out of poverty? Adult provision and the informal sector in fishing communities, South Africa. *International Journal of Educational Development* 27(4):446-457.
- Pieterse, D. 2009. "Agro-processing" in Kraak, A. (ed.) *Sectors and Skills: the need for policy alignment*. Cape Town: HSRC Press.
- Pogue, T.E. 2009. "Wood, paper and pulp" in Kraak, A. (ed.) *Sectors and Skills: the need for policy alignment*. Cape Town: HSRC Press.

- Potgieter, C. 2004. The impact of the implementation of Technology Education on In-service Teacher Education in South Africa (Impact of Technology Education in RSA), *International Journal of Technology and Design Education* 14, pp205–218
- Reid, S.J., Couper, I.D. and Volmink, J. 2011. Educational factors that influence the urban-rural distribution of health professionals in South Africa: A case-control study. *SAMJ* 101: 1 (January):29-33
- Roodt, J. and Patterson, A. 2009. "ICT professionals and associate professionals" in Erasmus, J. and Breier, M. (eds) *Skills shortages in South Africa: Case studies of key professions*. Cape Town: HSRC Press.
- Rupasingha, A., Ilvento, T. and Freshwater, D. 2000. Demand for Skills Training in the Rural South. Staff Paper 00-02, February. TVA Rural Studies Program, University of Kentucky. www.rural.org/publications/reports.html (Accessed: 19 March 2012)
- StatsSA (Statistics South Africa). 2003. Census 2001: Investigation into appropriate definitions of urban and rural areas for South Africa: Discussion document. Pretoria: Statistics South Africa.
- StatsSA (Statistics South Africa). 2004. Census 2001: concepts and definitions. Pretoria: Statistics South Africa.
- Todes, A. 2009. "City Planners" in Erasmus, J. and Breier, M. (eds) *Skills shortages in South Africa: Case studies of key professions*. Cape Town: HSRC Press.
- Tripp, R. 2001. Agricultural Technology Policies for Rural Development. *Development Policy Review* 19(4): 479-489.
- Turok, I., Jacobs, P., Hart, T., Yousuff Motala, S. Ngandu, S. and Chitiga Mabugu, M. 2011. Comments on the New Growth Path. Unpublished commentary paper. Pretoria: Human Sciences Research Council.
- Wiggins, S. and Deshingkar, P. 2007. Rural employment and migration: In search of decent work. Briefing Paper 27, October. ODI (Overseas Development Institute). www.odi.org.uk (Accessed: 12 March 2012)
- Wildschut, A. and Mgqolozana, T. 2009. "Nurses" in Erasmus, J. and Breier, M. (eds) *Skills shortages in South Africa: Case studies of key professions*. Cape Town: HSRC Press.
- World Bank. 2007. *World Development Report 2008: Agriculture for Development*. Washington: World Bank.