

Extension and small holder agriculture

Key issues from a review of the literature

First draft: 16th June 2008

**Sustainable
Development
Specialists**

Boyce Williams
David Mayson
Rick de Satgé
Shelley Epstein
Thembinkosi Semwayo

Contents

Background to the research enquiry	3
Improving support to smallholders.....	3
Key questions	4
Focusing on extension.....	4
A short history of extension and farmer support in South Africa.....	5
Historical measures to strengthen the white commercial farming sector.....	5
Historical measures to regulate production and land use in the Reserves and the homelands.....	6
The homeland era.....	6
The transition.....	8
New agricultural policy.....	9
Rethinking the two agricultures thesis	10
The need for a new narrative.....	11
Training extension staff.....	12
Assessing extension effectiveness	13
Developing an appropriate extension approach	14
Norms and standards for agricultural extension and advisory services.....	14
The state of the extension service.....	15
Extension job differentiation.....	15
Extension staff employed per province	15
Qualification assessment.....	16
Gender and qualification.....	16
In service training.....	16
Extension demographics.....	17
Projected extension: farmer ratios.....	17
The extension recovery plan	17
Extension support to land reform.....	18
Urban areas.....	19
Former Homeland and Act 9 areas	20
Eastern Cape.....	20
Free State	20
Kwazulu-Natal.....	20
Limpopo.....	21
Mpumalanga.....	21
North West	21
Western Cape.....	22
Northern Cape.....	22
International extension approaches	22
Key issues and conclusions	25
References	26

Background to the research enquiry

The Office of the President is devising a suite of second economy strategies to complement a sweeping government-led anti-poverty strategy. One of the opportunities that have been identified is the agricultural sector, in particular the fostering of a larger number of smallholder agriculturalists. Land reform provides opportunities to address one of the constraints on smallholder production – access to productive land – but to date has not done so, in part because of inappropriate planning and delivery processes and inadequate post-settlement support.

The purpose of the research and strategy development project led by the Programme for Land and Agrarian Studies (PLAAS) in co-operation with several other institutions is to help identify the key elements of an implementable programme to support the smallholder sector. The research component focuses on identifying successful South African smallholders active in different settings, and examines the personal, contextual and institutional factors that contribute to their success.

Improving support to smallholders

Clearly for support measures to be effectively targeted there needs to be some consensus on how to characterise smallholder agricultural producers and identify the different settings in which they can be found.

There are no immediate definitions in common usage in South Africa. Elsewhere in the region definitions relate to the amount of land cultivated by the farmer. In Zambia small holder farmers are defined as those marginal and sub marginal farm households that own or/and cultivate less than 2.0 hectare of land. (Chipokolo, 2006). However in South Africa smallholders can be found in urban and peri-urban settings, on municipal commonage and in rural areas including the former homelands.

Over the years there have been a number of initiatives, many co-ercive, few genuinely supportive to strengthen the smallholder sector. The design of support measures tends to veer between two extremes:

- The temptation to identify the single constraint that must be addressed in order for smallholders to flourish and thrive, e.g. land or credit, which result in a search for 'silver bullet' policy interventions.
- The supposition that any programme aiming to support smallholders must be 'holistic', by which is usually meant that it must provide all types of support simultaneously on the premise that the absence of any one of them will lead to the programme's failure. (Programme for Land and Agrarian Studies, 2008)

Historically there was often an implicit supposition that support for smallholder agriculturalists would enable them to derive their core livelihood from agricultural production and make the transition to fulltime farming. However in most cases household agricultural activities represent just one, (often small) element within a more diversified set of household livelihood strategies – an

element which as it increases in scale may carry a correspondingly higher level of economic and social risk for the smallholder.

The design of an implementable programme to support smallholder agriculture has to steer between analysis that prioritises single constraints which usually results in interventions that are inadequate, and the development of ambitious integrated and holistic solutions which may be unaffordable or which can serve very few people. (Programme for Land and Agrarian Studies, 2008) Hence our focus is on identifying core factors, which if addressed can create a more enabling environment for more productive and innovative smallholder agriculture located within a broader context of improved household livelihood security and reduced vulnerability and risk.

Key questions

Clearly the overarching research question must address the contribution that the support of smallholder agriculture can make to poverty reduction. Although there is a widespread call for increasing investment in small holder agriculture as a “pathway out of poverty” there is debate as to how effective this will be.

A 2006 OECD review argued that “it is clear that the potential of agriculture and agricultural (land) reform itself to reduce poverty is limited. The long-term solution to poverty reduction requires involving a greater part of the rural poor in economic activities generating sufficient income. The main potential to reduce rural poverty and inequity lies in the development of overall frameworks providing social security, education and training as well as health care, and in developing adequate infrastructures in rural areas”(Organisation for Economic Co-operation and Development, 2006)

However DFID has argued that at the macro-economic level, growth in agriculture has been consistently shown to be more beneficial to the poor than growth in other sectors. There is an important caveat here that increased productivity (as opposed to increased production) is the key to greater impact on poverty. “Broad-based growth and diversification do not happen when agricultural output increases simply by using additional land or labour. Instead, greater value must be added to the land and labour used, i.e. agricultural productivity increases.” (DFID, 2004)

In the African context it has been asserted that “each 1% increase in agricultural productivity in Africa reduces poverty by 0.6%. Thus, a smallholder-led growth strategy has the potential to make a very significant impact on food security and poverty reduction.” (Forum for Agricultural Research in Africa, 2007) This has been echoed in South Africa where it has been argued that there is “a strong case for agriculture’s role in reducing poverty...Evidence from other countries shows that, with the necessary support, smallholder agriculture can contribute significantly to poverty alleviation by raising agricultural productivity and rural incomes.”. (Machethe, 2004)

Focusing on extension

This brief review of the literature sets out to:

- understand the changing role of extension in supporting smallholder agriculturalists and provide a brief history of extension and farmer support;
- examine the changing approaches to extension and the development of new extension frameworks in South Africa and internationally;

- highlight the current status quo in relation to the training and orientation of extension staff;
- For the purposes of this brief review we will be asking:
- How does the history of extension delivery in South Africa shape current approaches to the current provision of extension support?
 - How have extension services been affected by the deregulation of agriculture?
 - How effective has extension been to date in supporting land reform beneficiaries, promoting urban agriculture and providing services in the former homeland areas?
 - What can the international and southern African experience tell us about the most appropriate approaches to providing extension support?
 - What should be the role of extension support in growing an increasing number of successful smallholder agriculturalists and people who engage in agricultural activities as part of their livelihood strategies?

A short history of extension and farmer support in South Africa

South African has long been characterised as having two agricultures – which is as we discuss below is a somewhat problematic conceptualisation. The roots of the “two agricultures” thesis originates in the instruments used by the South African State to support white commercial farmers on the one hand and measures to regulate agricultural production and land-use management in the former reserves and homeland areas on the other.

Historical measures to strengthen the white commercial farming sector

A range of measures benefited some 55,000 white commercial farmers until they started to be phased out in the late 1980s ahead of the deregulation of the agricultural sector. These included:

- Monopoly powers, direct controls over imports and exports, and guaranteed prices and guaranteed markets via the Marketing Acts of 1937 and 1968.
- The 1939 Agricultural Co-operatives Act
- A comprehensive system of support, which was implemented largely by the Department of Agriculture and comprised research and extension, subsidies for a wide range of functions such as soil conservation works, boreholes, housing for farm workers, farm schools, fencing, disaster assistance etc.
- The provision of infrastructure such as electricity, roads, railways, telecommunications and irrigation water through other state departments and agencies (Eskom, Roads Authorities, Spoornet, Telkom, Department of Water Affairs, and Irrigation Boards and Conservation Boards).
- Financial assistance through the Agricultural Credit Board and the Land Bank, with credit provided at subsidised interest rates and on preferential terms to farmers who could not access credit from the commercial banks.
(Sustainable Development Consortium, 2007)

Given this favourable environment agricultural production in South Africa exceeded both population increase and consumption requirements (although large numbers of black South Africans remained too poor to buy adequate food for their families). Between 1980 – 1989 South Africa became self sufficient in all major agricultural commodities. (Singini & van Rooyen, 1995)

Historical measures to regulate production and land use in the Reserves and the homelands

A variety of measures were promulgated most of which served to undermine rural production and land based livelihoods.

In 1929 the Union government established a Native Agricultural and Lands Branch within the Department of Native Affairs. This had a tiny budget and focused on soil conservation and the regulation of livestock numbers.

- In 1936 Land Act created the South African Native Trust which had responsibility for administering African reserve areas. The SANT imposed systems of control over livestock, introduced the division of arable and grazing land and enforced residential planning and soil conservation measures. However most of the state agricultural branch's "attention was directed to the newly acquired white farmlands, with the hope that these tracts could be preserved until resources for development became available".(Butler, Rotberg, & Adams, 1978)
- In 1939 Proclamation 31 enabled officials to declare a 'betterment area' and empowered them to count and cull livestock where they saw fit.
- 1945 Department of Native Affairs published *A New Era for Reclamation* which set out the vision for betterment land use planning and villagisation
- In 1950 the Tomlinson Commission set out to "conduct an exhaustive enquiry into and report on a comprehensive scheme for the rehabilitation of Native areas". It recommended the abolition of communal tenure and allocation of land together with a comprehensive agricultural support programme to enable the creation of a class of 'contented Bantu farmers' able to earn an income of 120 pounds a year. At the same time the Commission recorded that the Reserves could only support 51% of the population recorded in the 1951 census. It proposed culling 55% of the livestock. The Commission calculated that a family would require 52.5 morgen of land to make a gross annual income of 70 pounds.
- The nationalist government rejected Tomlinson Commission recommendations for depopulating the reserves and investing in agricultural development. They opted for increased control measures such as betterment planning while rapidly swelling the already overcrowded homelands with people displaced through forced removals. (de Satge, 1988)

The homeland era

The homeland era which commenced with Transkei's 'independence' in 1976 opened the way for homeland extension services and the development of agricultural development parastatals like TRACOR, AGRIVEN and Agriwane.

Three agencies were involved in setting and implementing agricultural policy in the homelands: homeland government departments, the advisory services branch of the Department of Bantu Administration and Development (BAD), and the Bantu Investment Corporation (BIC). Each of these had a different perspective. Homeland governments set out to provide basic extension services – BAD focused on the implementation of betterment while BIC favoured large scale projects. (Butler et al., 1978).

An assessment of extension services in the run up to homeland era noted that "while 90,000 rich, educated white farmers have 3,000 extension officers (plus enormous injections of easy credit, marketing facilities, and guaranteed prices) 600,000 black farmers have less than 1,000 extension

officers and these hopelessly overstretched men (and their small budgets) have been concentrated on the irrigation schemes." (Lipton, 1972)

The parastatal homeland development approach during the 1970s and early 1980's revolved around centrally managed showcase capital intensive projects. Smallholders or waged employees were settled on these schemes which provided management, inputs, tillage and marketing services. However these schemes largely failed to create independent farmers and many became hugely expensive and inefficient.

The Development Bank of Southern Africa which was established in 1983 introduced the Farmer Support Programme (FSP) as an alternative to the large capital intensive schemes. The FSP focused on small farmers in the homeland areas. The DBSA defined a farmer as anyone who used resources part time or full time to produce agricultural goods. The programme set out to integrate the promotion of agricultural activities with other non farm related rural development activities.

However the overall FSP development objective was the "promotion of structural change away from subsistent agricultural production to commercial production by providing comprehensive agricultural support services and incentives to existing farmers." (Van Rooyen, 1995). After a mid term evaluation this objective was redefined in 1989 to focus on providing farmer access to support services over a wide base. The FSP ran between 1987 and 1993. It focused on the supply of:

- inputs and capital to farmers;
- mechanisation services;
- marketing services;
- extension services, demonstration and research;
- training.

The programme estimated that it reached 55,000 people through 35 FSPs before it was overtaken by the demise of the homelands and their reintegration into the nine provinces emerging from the new democratic dispensation in 1994.

A review of extension, training and research services provided as part of the FSP (Hayward & Botha, 1995) identified a wide range of problems:

- Provision of poor quality extension support in most instances. The low effectiveness of services was not due to lack of field officers but rather to the low quality of their formal education and the lack of appropriate in service training to meet on the job support needs
- No meaningful contact between extension and research given that most research capability remained targeted at the commercial sector
- Extension methods were outdated and had not adapted to changing international extension approaches
- Farmers were encouraged to use inputs at too high a level against their actual achievement pushing many into debt
- Some 40 farmer training centres had been constructed in the former homelands while occupancy rates were 15 – 20%
- Lack of co-ordination between Departments of Agriculture and Agricultural Corporations

In the evaluation of the FSP in 1993 it was noted that FSP strategy in the future might be determined by the demands of a land reform programme. However in the subsequent reorientation of the

DBSA's priorities it appears to have largely abandoned farmer support in favour of building the capacity of local government.

The transition

For a brief period there was a focus on the development of a rural development strategy under the Government of National Unity located within DLA and the RDP office. The Rural Development Strategy proposed that:

“The main strategy is to create a national network of local service centres (LSCs) where a variety of services can be accessed. The LSCs in rural areas will receive subsidisation, and some activities in all LSCs may be subsidised to assist with targeting. Each will have a local control structure, and will need to prove accountability and transparency to maintain its accreditation. The LSCs will mostly assist entrepreneurs in obtaining access to hard skills training, for which they must pay, and will provide on-site 'hand-holding' to developing businesses for sustained periods.” It advocated broadening access to agriculture through the following measures:

- Facilitation of farmer associations amongst previously disadvantaged farmers, and promotion of links to other voluntary associations such as cooperatives and input supply companies;
- Addressing the problems of the agricultural colleges, including reorientation of teaching methods and curriculum development;
- 'Nurturing the land': development of expertise, support and extension methodology around conservation;
- Reorientation training for agricultural training staff, including the development of new management systems, and reorientation of agricultural research;
- Development of a state guarantee scheme for agricultural finance, in place of direct state credit for farmers
- Development of long term human resource development programme;
- Development of simple agricultural materials, including a workbook, concepts, glossary, and index of availability of a wide range of services;
- Development of a Farmer Training Programme, based on short flexible courses;
- A market awareness drive;
- Development of a master plan for technology development;
- Financial assistance pilot projects (Government of South Africa, 1995)

However the Rural Development Strategy never really progressed beyond a think piece and it was largely eclipsed when the RDP office was subsequently closed in March 1996.

For much of the 1990's the provision of farmer support services was largely overtaken by the new institutional priorities of merging all the different homeland departments of agriculture with the agriculture and extension services which had supported white commercial farmers. Most of the new state's energy was expended in establishing a new look National Department and nine new provincial departments.

In this process much of the emphasis was understandably on right sizing and restructuring. Khanya has documented the transition process in the Free State Department of Agriculture and a reading

ten years after the events is a reminder of just how complicated and contested a process this would be. (Khanya, 1998)

The newly created Free State Provincial Department of Agriculture started with 2200 posts it inherited from earlier structures. Around 1800 of these posts were filled. After amalgamation and the transfer of some posts to other departments, an organisation with 1 775 posts was established. A 'right-sizing plan' from September 1996 approved a structure with 1 281 posts for the Department.

However DPSA observed that this was still too many and that the numbers would need to fall to around 700. At the same time there were serious shortages reported with respect to management and technical staff together with an inherited complement of some 500 supernumerary staff for which there was no budget.

One of the results of the transition process was that farmer support now became the preserve of the National and provincial Departments of Agriculture.

New agricultural policy

In the 1995 White Paper on Agriculture defined a farmer, irrespective of his/her race, gender or scale of production, as a land user who engages productively in agriculture, either on a full-time or on part-time basis and regardless of whether agriculture forms the principal source of income.

It critiqued the conventional transfer of technology approach to extension and argued for a holistic system. In the conventional transfer of technology systems the extension worker passes on scientific information to the farmer. This approach has the limitation that the imparted information may not be relevant to the farmers' conditions, or may only partially address farmers' needs. In a holistic system, researchers, extension workers and farmers are partners seeking solutions to problems facing farmers. This envisaged that "researchers would spend more time in the farmers' field, and liaise with farmers far more often than in the conventional model" and acknowledge that that "farmers already have useful knowledge, especially of their own conditions and constraints." It also called for recognition of the "greater vulnerability of resource-poor farmers to risk." The White Paper called for a significant, rapid reorientation of research from commercial agriculture, to a new focus on "basic research in the context of resource-poor farmers". (Department of Agriculture, 1995)

It noted that "previously, the Government had two parallel extension services—one for commercial agriculture and another in the self-governing territories. Extension and training have not really been effective in the self-governing territories for a number of reasons, including an attempt to model extension services on the system used in commercial farming, and inadequate training and support for extension officers." (Ibid)

It called for an integrated extension service and a new model of participatory extension, in which the extension worker is trained to act as a facilitator to replace the present transfer-of-technology model. It argued that "a well-integrated retraining and reorientation programme needs to be formulated if the capacity of small-scale farming is to be enhanced through appropriate support services." (Ibid)

The white paper highlighted the need for gendered policy and extension services and the need for food security amongst South Africa's rapidly urbanising population.

Rethinking the two agricultures thesis

Given South Africa's history it is not surprising that a dominant narrative emerged which proposes that there are 'two agricultures' in South Africa. However this narrative homogenises a much more complex reality as it groups large scale capital and management intensive commercial agriculture and contrasts it with low input smallholder and subsistence systems. We argue that this rendering has lost much of its explanatory power as it presents the extremes at either end of a production continuum, but overlooks the diversity of the agricultural systems, subsectors and scales of production which lie between. It also fails to take into account upstream input, supply and service opportunities and downstream processing and value adding opportunities associated with agriculture.

Over the last 20 years, there has been accelerating deregulation and liberalisation of the agricultural sector. In 2002 StatsSA reported that there were 45 818 active commercial farming units in South Africa which reflected a decrease of 12 162 farming units since the 1993 census. Distribution of income is highly skewed between these units. Currently 20% percent of commercial farms produce 80% of the total value of production. Of the total of 45 818 farming units only 2 330 had an annual income of more than R4 million, while 23 428 had an annual income of less than R300 000. Within the 2330 high earning units there are 8 agribusiness companies with a turnover of more than a billion rand a year.(Hall, 2007)

Overall the sector has undergone rapid restructuring. Between 1988 and 1998 employment on farms declined by 20% - a loss of 140,000 regular jobs.(Simbi & Aliber, 2000) During this period it has been argued that the shedding of permanent workers was "in large measure being driven by 'non-economic considerations.' Retrenchments and evictions were driven more by concerns in the agricultural sector about land reform and impacts of future legislation".(Simbi & Aliber, 2000: 4)

However subsequently it appears that market conditions and a mounting cost/price squeeze have contributed to further job shedding. Changes in land use from agriculture to game farming and private reserves have also contributed to job shedding while overall casualisation of the labour force has increased from 33% - 49% between 1996 – 2002. The number of paid workers employed by the formal agricultural sector decreased by 152 445 (13.9 percent) between 1993 (1 093 265) and 2002 (940 820). The commercial agricultural sector paid R6 216 million in salaries and wages for the year to February 2002. This represents 11.7 percent of the gross farming income generated by the agricultural sector in that financial year, and 13.8 percent of total expenditure for the same period. (Statistics South Africa, 2005)

However it is important to note that these trends are not uniform throughout the sector. For example wine industry has been transformed from a domestically focused sector into a rapidly expanding export industry. While the rest of the agricultural sector has shed large numbers of jobs, employment in the wine industry has stayed largely constant and has even expanded. (Tregurtha, 2005) However consistent with trends across the sector the nature of employment has changed with the increasing use of labour bureau's and the increasing casualisation of labour.

The value of policy transfers to South African agricultural producers, as measured by the OECD Producer Support Estimate (PSE), equalled 5% of gross farm receipts on average in 2000–03 compared to 31% in the European Union. (Organisation for Economic Co-operation and Development, 2006) In 2001 state spending on agriculture amounted to 2.5 billion – a decline of 45% from 1998. (Vink & Kirsten, 2003)

While in South Africa government support for agriculture has been substantially reduced, farmers in the European Union and the United States have benefited from increased state support. There has been a 15% rise in agricultural subsidies to producers in the developed world between the late 1980s and 2004, while South Africa's general economic tariffs were reduced from 28% to 7.1%. (Ambert & Hornby, 2006) The average import tariff level was lowered by one-third between 1994 and 1999. (Organisation for Economic Co-operation and Development, 2006)

In 2005, the Chairman of the South African Agricultural Machinery Association noted that South Africa was able to impose a 72% import tariff on wheat and 50% on maize in terms of prevailing World Trade Organisation (WTO) tariff and trade agreements. However South African tariffs for these crops were pitched at 2% and 13% respectively. (South African Agricultural Machinery Association, 2005)

High input farming systems, rapidly escalating fuel, fertiliser and input prices, exacerbated by dramatically reduced state support for agriculture have combined to force out many smaller producers and narrow the margins for those who remain outside the 20% top set.

These factors also make life very difficult for new entrants to agriculture and land reform beneficiaries, let alone those who remain largely invisible in small holder and survivalist sectors which are found “in a wide range of locations, including “deep rural” areas of the former homelands, in townships and cities, and on commercial farms, and consists mainly of production of staple foods for household consumption. Relatively few products find their way into local or other markets. Production may take place in gardens, demarcated fields or on open rangelands. It is highly differentiated by race, class and gender, with large numbers of very poor black women producing purely for household consumption and a small “élite”, mainly men, producing on a much greater scale. Many smallholders would not consider themselves to be “farmers” in the conventional sense. Few records of production and trade are kept by either producers or external agencies, and the value and volume of smallholder production that appears in the literature is probably only a fraction of the actual output”. (Cousins & Lahiff, 2005)

The need for a new narrative

With the deregulation of agriculture, the complexity of the South African agricultural economy and the insertion of a land reform programme there is a need for a new narrative which engages more effectively with the new social, economic and political landscape as well as the mounting ecological challenges facing the different domains within the agricultural sector.

We prefer the concept of a continuum which captures this diversity and which provides the focus for heterogeneous interventions which also capture potential for innovation. Discussions on the future of agriculture increasingly focus on an ‘innovation continuum’ or an ‘agri-innovation chain’ which examines the full range of products and services in the agriculture and food process ranging from

the development of inputs for production, flowing through all aspects of production, and on to processing and marketing to consumption.(Agriculture & Agrifood Canada, 2008; World Bank, 2006)

In between the top end and the micro occasional producers at the other end of the agricultural continuum lies a complex mix of agricultural activity which includes industrial dairy, poultry and feed lots, plantation agriculture, family owned mixed farms, extensive livestock production, participants in outgrower schemes of different kinds, small-scale producers in the growing organic sector etc. Land reform beneficiaries are to be found across this continuum while those producers which operate in the margins in the former homelands and within the townships and informal settlements on the rapidly expanding urban areas remain largely excluded from agricultural support other than through standardised packages intended to enhance household food security.

Training extension staff

One of the components of the RDP was the Broadening Access to Agriculture Thrust (BATAT) which argued for called for the strengthening of both the curriculum and standard of the available training in agriculture and the opening up of agricultural training and opportunities for all. The actual process of developing the agriculture education and training (AET) strategy started in 2002.

The National Education and Training Strategy for Agriculture and Rural Development (Department of Agriculture, 2005a) highlights the multiple and serious challenges which must be overcome before there is a well trained cadre of extension staff in South Africa.

In 2005 the national corps of public extension staff was approximately 2800. The ratio of extension staff to commercial and subsistence farmers was estimated as follows:

Commercial farmers: 1: 21

Subsistence farmers: 1: 857

Combined: 1: 878

The strategy observed that these ratios are not particularly high by global standards and that it was not the numbers of extension staff which was the critical factor but rather their capacity to deliver. The report also highlighted other factors impacting on the effectiveness of extension services including:

- Distance between farmers
- Geographic areas covered by extension workers
- Client literacy
- Level of practical functioning of local farmer groups and associations

With respect to the recruitment of young people for careers in agriculture the strategy noted that agriculture has a negative image as a career choice in the eyes of the youth. It is seen as the "work" of the poor and the elderly and not as something that could be profitable. The strategy noted that Agriculture has been removed from the curriculum at primary school level and that where agriculture is offered at secondary school level (NQF levels 2-4) it delivers poorly.

High schools offering agriculture are often poorly equipped and lack qualified teachers. "Failure rates are high, and there is often a punitive association with studying agriculture in the previously disadvantaged areas of the country." Formal agricultural training and education is very poorly

controlled, both in terms of curriculum content and qualifications of educators, while the informal is to a large extent untested in terms of quality. Unsurprisingly a large number of learners who have diplomas and degrees in agriculture are, for a variety of reasons, unable to find jobs.

Due to low student numbers and other factors, some Colleges of Agriculture are shifting their focus from educating Extension Practitioners to training farmers.

In 2005 there were some eleven (11) Colleges of Agriculture, six (6) Universities of Technology and nine (9) universities offering various tertiary AET programmes that were nationally accredited. Secondary AET is provided by approximately 1500 secondary schools.

Overall much agricultural education and training focuses largely on primary production rather than focusing on farming as a business. The strategy highlighted the crucial need for general agricultural economic skills, as well as those related to agricultural business, farm planning, farm management, enterprise management, marketing, finance, credit and risk management, and human resources management.

The strategy argues for the concept of agricultural extension to be expanded to provide agricultural extension workers with capacity and the skills to assist communities to deal with the effects of rural change, the impact of HIV/AIDS on the rural economic base, and the growing vulnerability of household livelihood systems.

The strategy proposed the creation of a National Agricultural Education and Training Forum as the initial implementation agent. This was launched on 20th November 2006 by the Minister of Agriculture. In 2007 provincial forums were launched in certain provinces including the Western Cape and Eastern Cape. However there is likely to be a long lead time before this initiative gets results.

However a number of initiatives are under way in different provinces often with foreign donor support. In the Eastern Cape farmer support centres are planned which will utilise farmer to farmer extension methods. The Cape Agricultural Programme on Rural Innovations (CAPRI) Programme funded by the Dutch Government which has trained Extension Officers on Social facilitation Skills.

Assessing extension effectiveness

In the period post 1994 the Department of Agriculture was restructured and new provincial Departments of Agriculture were established. Some commentators have argued that “these provincial departments display many of the weaknesses of the former homeland Departments in their inability to maintain support services to farmers,” with the result that most commercial farmers have switched to privately provided services. (Vink & Kirsten, 2003)

It seems that there remain fundamental questions about the appropriate role of extension support. Many extension officers appear to have become project managers “and are spending almost 90% of the time, planning, developing business plans, collecting quotations, receiving equipment, writing status reports, and expenditure reports just to name a few. The question that must be asked, “is this extension’s role?” (Last, 2006). Last also sounds a warning about the inflexibility of project designs

and the fact that project budgets and enterprise sophistication are often mismatched with participant's management and technical capacities.

At the same time new departments lack adequate extension and support services available to assist new farmers. This remains a current problem which was recently acknowledged by the Minister of Agriculture and Land Affairs. She noted that a benchmarked extension profiling study undertaken by ITCA ...exposed that South Africa has approximately one-third of the required number of extension officers to meet its development targets and that 80% of the current extension staff are not adequately trained.

Developing an appropriate extension approach

According to the University of Pretoria who were commissioned by the Department of Agriculture to develop an appropriate approach to extension 63% of farmers judged that their extension worker had no advice of value to offer while 37% percent conceded that they sometimes have information of some value. (Duvel, 2003)

The report recommended that there needed to be dedicated support provided to extension staff which should include the establishment of an Extension Knowledge Information and Research Centre which should be out-sourced to or performed in partnership with existing institutes. It highlighted that "a major problem in the Department of Agriculture is the frequent restructuring, usually with every change in leadership or senior management. This is invariably associated with high costs, delay and interruption of delivery programmes and usually represents mere ad hoc reforms rather than the pursuit of measured, comprehensive and long-term restructuring". (Duvel, 2003: 11)

The report noted that given the low qualification and competence of extension workers, an extensive and structured support programme should be developed and implemented (Duvel, 2003:21) The report also recommended that a national M & E Program should be regarded as "non-negotiable and receive the highest priority". (Ibid)

The report recommended a Participatory Programmed Extension Approach (PPEA) for South Africa consisting of five linked programmes:

- extension planning and projects,
- extension linkage and coordination,
- knowledge and support,
- education and training,
- monitoring and evaluation

Norms and standards for agricultural extension and advisory services

The norms and standards contain two definitions one of Advisory Services and the other of Extension:

- Advisory services assume an actively problem-solving farmer who seeks advice from outside when s/he and the immediate colleagues cannot solve a problem or when outside sources

seem to offer useful ideas. The extension advisor does not visit the farmer to promote one or a few component technologies, but on request.

- Extension is a knowledge and information support function for people engaged in agriculture, and has a broader role than just providing advice (advisory).

In 2005 the Department of Agriculture published norms and standards in a bid to:

- improve access to agriculture support services (information, finance, inputs, regulatory services, technical expertise, markets, etc)
- endow farmers with skills and knowledge for ensuring sustainable resource management;
- facilitate their access to new technologies;
- enhance communication with farmers and farmer organizations, mentors and advisors. (Department of Agriculture, 2005b)

The norms and standards document argues that there is no single extension model or approach suited to all situations in South Africa. It notes that depending on the prevailing conditions technology transfer, participatory approaches and needs based development can all be relevant.

The state of the extension service

A detailed report entitled “The state of extension and advisory service within the agricultural Public Service: A Need for Recovery” (Department of Agriculture, 2008) provides a sober assessment of the state of the nation’s extension services. This report flows from the Extension indaba held earlier in the year. The section below summarises key information from the report.

The report notes that the “capacity of provinces to deliver quality extension services to farmers varies and to some it is already suffocating”. Extension and advisory services personnel are expected to work with a wide range of clients flowing from subsistence to large scale commercial.

Extension job differentiation

The table below highlights the different extension bands as they are currently conceptualised.

JOB TITLE	MINIMUM REQUIREMENTS	LEVEL OF EMPLOYMENT
Agricultural Community Officer	Standard 10 + in service training in agricultural studies	NGO and Local Government
Agricultural Development Officer	Standard 12- + 3 or more years of post matric agricultural diploma	Social Development/Health/Local government
Agricultural Advisors	B.Tech/Bachelors/Hons in Agriculture	Provincial
Subject Matter Specialist	BSc (Hons) degree in Agriculture	Provincial and National

Extension staff employed per province

The report provides breakdown of employed extension personnel as provided by provinces as at January 2007.

Number of Employed Extension Officials N= 2155

PROVINCE	TOTAL	
	No.	%
Eastern cape	623	28
Free State	40	3
Gauteng	29	1
KwaZulu Natal	360	16
Limpopo	666	30
Mpumalanga	189	9
Northern Cape	23	1
North West	137	6
Western Cape	25	5
TOTAL	2155	100

The largest numbers of extension officials are from Limpopo Province which constitutes 30% of the total followed by Eastern Cape Province at 28% and KwaZulu Natal at 16%. Gauteng Province and Northern Cape Province have the smallest number of appointed extension personnel currently standing at less than 2% of the total pool.

Qualification assessment

Only 427 out of 2155 (20%) have degree or higher qualification. About 1728 out of 2155 (80%) of the extension personnel have a diploma qualification. Overall 8 out of 10 are insufficiently qualified to operate as Agricultural Advisors or Subject Matter Experts.

Only Gauteng and Free State Provinces have a good percentage of officials with degree qualifications and higher. The Eastern Cape and KwaZulu Natal has the lowest percentage of extension officials with degree qualifications and higher.

Gender and qualification

In 6 out of 9 provinces, female extension officials are more educated than their male counterparts. It is only in Free State, Gauteng and Western Cape where male officials are more educated than their female counterparts. The latter can be attributed to the trends in recruitment whereby females have joined the service fairly late compared to their male counterparts.

In service training

According to the report very few extension officials have been exposed to formal skills programmes that are crucial to the delivery of product and services to farmers. Only 204 out of 2155 (9%) had completed training in communication, 238 out of 2155 (11%) had completed project management, 140 out of 2155 (6%) had completed computer training and 143 out of 2155 (7%) had completed training related to people management and empowerment.

Less than 25% of extension staff were exposed to technical training programmes since joining the public service.

Extension demographics

The table below indicates the racial profile of the extension service.

PROVINCES	RACIAL PROFILE				
	Africans	Coloureds	Indians	Whites	Total
	No	No	No	No	
E. Cape	611	0	0	12	623
Free State	55	1	0	14	70
Gauteng	27	0	0	2	29
KZN	358	0	1	1	360
Limpopo	658	0	0	8	666
Mpumalanga	186	0	0	3	189
Northern Cape	7	9	0	7	23
North West	131	0	0	6	137
Western Cape	9	16	0	33	58
Total	2042	26	1	86	2155

In terms of gender, the majority of the officials are males (73%). Only KwaZulu Natal has a 50/50 gender representation followed by Mpumalanga with almost a 60/40 representation. In all other provinces the situation requires immediate attention.

Projected extension: farmer ratios

The projected ratio of extension personnel to farmers based on extrapolated farmer populations

Province	Current No. of extension officials	Suggested number based on different ratios	
		1: 500	1: 250
EC	623	1344	2688
FS	70	52	103
GP	29	19	38
KZN	360	710	1419
LIM	666	1181	2361
MP	189	337	675
NC	23	26	52
NW	137	129	257
WC	58	61	123
TOTAL	2155	3559	7706

Currently the Eastern Cape, KwaZulu Natal, Limpopo and Mpumalanga have the highest shortfall of extension personnel given the number of communal farmers in these provinces as well as projects emerging as the results of the land reform programme through CASP and other initiatives.

The extension recovery plan

In 2008 the Minister of Agriculture and Land Affairs announced a joint Extension Recovery Plan which is to extend over a number of years and for which funding has been approved by National

Treasury for the MTEF period. (Ministry of Agriculture and Land Affairs, 2008:23). This recovery plan is identified as an activity in most provincial budget allocations for agriculture. As yet we have not been able to obtain details of the plan and what is entailed.

The strategic plan for the Department of Agriculture states that in the next 5 years, the DoA will roll out an extension recovery plan, which will result in the skills upgrading of more than 1 000 extension officers. This will be supported by a professional development programme, which will focus on developing high-level skills for the benefit of the entire sector. These will be implemented within the framework of the External Bursary Scheme and Entrepreneurship Programme. The recovery plan will be launched through an extension indaba.

Extension support to land reform

The failure to provide adequate settlement and implementation support which includes extension services has long been recognised as an issue. The evidence from the National Settlement and Implementation Support Strategy for Land and Agrarian Reform in South Africa (Sustainable Development Consortium, 2007) confirmed the low level of support provided on the majority of projects, which given the state of the extension service discussed above should not come as a surprise.

In a review of projects in the North-West province (Kirsten & Machethe, 2005) it was found that Projects received limited advice and support from the PDoA. The Department provided 'advice' to 47% of projects and 'support' to 5%, whilst 49% indicated that they had not received any help from the Department.

A more detailed study of 43 projects revealed a significant decline in land under dryland cultivation year on year. Many projects with irrigation potential had problems with infrastructure that made this asset impossible to utilise. Forty-nine percent of projects were producing no marketable produce. Only 7% indicated that they had standing contracts for the marketing of their produce. The vast majority of project members (72% of projects) have not received any training in marketing matters, while (87%) felt that there is a need for skills development in this area.

In a review of rural restitution projects CASE found that technical assistance on the 179 projects reviewed was totally inadequate and that very often the government officials did not have appropriate skills to provide the necessary technical assistance. (CASE, 2005)

The recently announced Land and Agrarian Reform Programme LARP has the stated intention of providing comprehensive support to land reform beneficiaries to address this deficit. However it remains to be seen how the settlement and implementation support needs can be met given the narrow skills base and overstretched nature of the current farmer support and development services.

There is a growing, even exponential mismatch between land acquisition targets and available capacity to support people once they have acquired land. Currently support is often equated with the provision of infrastructure through CASP as opposed to the day to day technical, institutional economic and natural resource management support that is required. This highlights the warning contained in the SIS strategy that "it can be reasonably forecast that that without urgent and

significant investment in SIS services existing capacity will be overwhelmed, which could place the entire land reform programme at risk”(Sustainable Development Consortium, 2007: xv)

Urban areas

In cities and towns urban agriculture is gaining increasing prominence. In the early 1990's it was estimated that 25 per cent of households in metropolitan Durban were cultivating a garden for subsistence food production and 10% were selling produce. (May & Rogerson, 1995) In Umlazi smallholders have formed the Umlazi Farmers Association (UFA), which has close links, with not only the eThekweni Municipality and the Department of Agriculture. (Smith, Yusuf, Bob, & de Neergaard, 2005)

The City of Cape Town has recently published an urban agriculture policy which focuses on supporting agricultural activities by the poorest of the poor within the urban (built) areas. The policy identifies the roles to be played by the City which include acting as a facilitator to create an enabling environment for urban agricultural development through:

- reducing red tape,
- introducing and exercising appropriate regulations and management systems.
- acting as a catalyst for the provision of land, the construction of infrastructure and earth works.
- Providing production inputs, project management and extension services, in some instances

The policy distinguishes between:

- Home based activities – home dwellers using their back or front yards to grow vegetables and/or to keep animals.
- Community based activities around public facilities, on public open spaces or smaller pieces of unutilized land. It's conducted on a part-time basis as part of a survival strategy and includes both vegetable gardening and animal husbandry.
- Micro farmers involved in urban agricultural activities (both vegetable gardening and animal husbandry) to create an income.
- Small emerging farmers, individuals or groups of people that are or want to be full time farmers. (City of Cape Town, 2007).

Currently it appears that much of the support for urban agriculture comes from NGOs rather than extension officials located within municipalities or the provincial departments of agriculture.

It has been argued there is a need to develop extension services specifically to advise urban producers as current extension methods are based on rural experiences and does not necessarily apply in the urban context. The urban setting requires technologies that are ecologically friendly, use little space and are highly productive. They need to utilise organic wastes and waste water, need to be combined with other functions (e.g. recreation, landscape management, water storage) and result in safe food. (De Zeeuw, Undated)

Former Homeland and Act 9 areas

A number of initiatives have been targeted at former homeland areas including implementation of an Integrated Household Food Production Programme (HFPP) i.e. Siyavuna (KZN), SiyaZondla (EC), operation Qumithuli (dry land maize cultivation or field crops, New Massive Food Programme (medium to large scale commercial farmers (area greater than 50 ha), Green Revolution, Resis (in Limpopo) etc. together with a mechanisation project to provide such power tillers to small scale farming communities in 60 local municipalities in 21 rural and urban development nodes targeting food security projects. (Government of South Africa, 2006)

Eastern Cape

The Provincial Growth and Development Plan notes that public expenditure on agriculture nationally, and in the Eastern Cape continues to decline. The former Bantustans constitute about 30% of the total surface area of the Province but are home to 67% of the population. They also contain about 45% of the cultivable land. The plan notes that this important resource is still not being utilised effectively to the benefit of the poor in the Province. The plan includes measures to strengthen 'agrarian transformation and household food security' which includes a focus on the growth of the agrarian economy in the former homelands through:

- programmes to promote household food security by expanded smallholder production;
- development of commercial agriculture through optimum use of the highest potential agricultural land in the former homelands;
- a focus on land redistribution and, in the longer term, land tenure reform to release land for poor households and for new commercial farming enterprises. (Provincial Government of the Eastern Cape, 2003: 64)

The plan notes that the Provincial Department of Agriculture will need to be restructured to support the new emphasis on food security which must result in a "refocused and decentralised extension service, a reorganised organisational structure, investment in training, and sufficient funding for core food security programmes." (Ibid) Just how this is to be achieved has yet to be clarified.

Free State

The website of the Free State Department of Agriculture defines extension as "the provision of knowledge and alternative methods to persuade clients to apply new or bettered practices out of their own free will. This includes actions of facilitation within the principles of help to self help, to prepare clients to adapt and be able to handle future problem situations".

The Strategic plan for the Free State Department of Agriculture 2004 – 2007 highlights the lack of capacity of extension officers and identifies a need for training, support and guidance by supervisors and colleagues for extension officers especially with regard to specialised fields of activity.

Kwazulu-Natal

The 2004 – 2009 strategic plan for the Department of Agriculture and Environmental Affairs highlights the goal of "farmer succession – turning emergent farmers into commercial farmers".

The MEC for Agriculture and Environmental Affairs recently highlighted provincial government's agricultural model which "seeks to position the emerging farmer at progressive stages along the

continuum of the value-adding chain...pre-subsistence, subsistence, food security, entrant farmer, commercial farmer and finally the exporter stage". (Government of South Africa, 2008a)

The key focus areas in the Province's 'Agrarian Revolution Programme' include food security, crop massification, the Makhathini integrated plan, technology development, the mushroom programme, livestock production and improved veterinary services combined with "mentoring emerging farmers at the "post settlement" stage of land reform". (ibid)

With respect to the extension services the MEC announced an 'Extension Recovery Programme' that will retrain extension officers "along commodity lines to advance them as commodity agricultural advisors", and the establishment of an electronic monitoring and reporting system for extension. (Ibid)

Limpopo

The Limpopo MEC for Agriculture reported that the province was "still extremely exposed and challenged on the technical planning capacity in engineering, natural resource management, agricultural statistics, agricultural economics and veterinary areas."

The Department appointed 26 Local Agricultural Municipality Managers in February 2006, who were responsible for the planning and integration of agricultural projects within municipal Integrated Development Plans (IDP) and Local Economic Development (LED) processes.

With respect to extension and training support the Province launched the Limpopo Agribusiness Development Academy (LADA), an initiative developed and funded jointly by the Limpopo Department of Agriculture (LDA) and the Flemish government through the Flanders International Cooperation Agency (FICA) to provide the required leverage and support needed to improve the situation of emerging commercial farmers and agro-entrepreneurs. The objective of the Agribusiness academy is to enhance and develop the agri-business skills of farmers and rural agribusiness entrepreneurs (Government of South Africa, 2008b)

Mpumalanga

The MEC for Agriculture in the province reported in 2007 that "after a thorough assessment of the support that we provide to farmers, we realised that the impact of such support on poverty and unemployment is quite minimal. One of the reasons is that we spread our resources, human and financial, extremely far and thin. We have therefore decided to have a focused and integrated approach. It is an approach aimed at fostering the consolidation of resources to achieve maximum impact on poverty and unemployment. Basically, we are arguing that 'the fewer the better'.(Government of South Africa, 2007)

During this current financial year an amount of R9,9 million has been budgeted for the implementation of the Extension and Advisory Recovery Plan. This plan seeks to upgrade the skills and working tools of the extension workers for better service delivery.

North West

No information was located on the plans to retain extension staff in the province, although it can be assumed that an extension recovery plan is also part of the North West budget

Western Cape

In a presentation to an Extension workshop in January 2008 the Head of the Farmer Support and Development in the Western Cape highlighted key challenges with respect to extension provision which included:

- a lack of programmed extension work;
- extension dominated by reactive interventions as opposed to proactive engagement;
- a lack of clear M & E criteria and capacity;
- unfunded vacant posts;
- the shortage of specialised technical knowledge;
- a shortage of business and economics knowledge;
- a lack of soft skills for effective engagement with land reform beneficiaries and emerging farmers;
- a need to develop multi-skilled extension service officers.

Northern Cape

In the 2008/9 budget the Northwest Department of Agriculture has allocated 6.8 million rand for the Extension Recovery plan which will be carried out over three years. A Northern Cape extension indaba is planned for 2008.

International extension approaches

International development and extension discourse has distinguished between the training and visit and transfer of technology models on the one hand with farmer first participatory and farmer led extension approaches on the other.

Farmer First approaches became formalised in the late 1980's. In a review of the approach 20 years later it was observed that:

"The farmer first approach argued that much of the problem with conventional agricultural research and extension lies with the processes of generating and transferring technologies, and that much of the solution lies with farmers' own capacities and participation in the research process. Over the past two decades, this perspective has provided a very powerful critique of the conventional organisation and application of agricultural R&D, with its emphasis on transfer of technology models. This critique pointed out that if research develops and transfers technology in a linear fashion to farmers very often these technologies are found to be inappropriate to the social, physical and economic setting in which those farmers have to operate. At the very least such technologies needed complementary organisational, policy and other changes to enable them to be put into productive use." (Ian Scoones, Thompson, & Chambers, 2007)

Over time methods and approaches became more synthesised and learning process approaches developed which combined participatory methods and traditional research tools. This marked the shift from "participation in technology transfer to collaborative science and innovations systems" and resulted in a "creative proliferation of hybrid methods, mixing quantitative and qualitative analysis, and social and biological approaches." (ibid)

In preparation for the Farmer First Revisited workshop at IDS in 2007 a research and extension matrix was developed which highlights the shifting paradigms and approaches and the factors which characterise each

Table 1: Changing approaches to agricultural research and development

	Transfer of technology	Farming systems research	Farmer first, farmer participatory research	People centred innovation and learning
Era	Long history, central since 1960s	Starting in the 1970s and 1980s	From 1990s	2000s
Mental model of activities	Supply through pipeline	Learn through survey	Collaborate in research	Innovation network centred on co-development; involving multi-stakeholder processes and messy partnerships
Farmers seen by scientists as	Progressive adopters, laggards	Objects of study and sources of info	Colleagues	Partners, collaborators, entrepreneurs, innovators: organised group setting the agenda, exerting demand: „the boss”
Scientists as seen by farmers*	Not seen – only saw extension workers	Used our land; asked us questions	Friendly consumers of our time	One of many sources of ideas
Knowledge and disciplines*	Single discipline driven (breeding)	Inter-disciplinary (plus economics)	Inter-disciplinary (more, plus farmer experts)	Extra/trans-disciplinary – holistic, multiple culturally-rooted knowledges
Farmers’ roles	Learn, adopt, conform	Provide information for scientists	Diagnose, experiment, test adapt	Empowered co-generators of knowledge and innovation; negotiators
Scope	Productivity.	Input output relationships	Farm based	Beyond the farm gate – multi-functional agriculture, livelihood/food systems and value chains across multiple scales, from local to global; long time frames
Core elements	Technology packages	Modified packages to overcome constraints	Joint production of knowledge	Social networks of innovators; shared learning and change; politics of demand
Drivers	Supply push from research	Scientists” need to learn about farmers” conditions and needs	Demand pull from farmers	Responsiveness to changing contexts – markets, globalisation, climate change. Organised farmers, power and politics.

	Transfer of technology	Farming systems research	Farmer first, farmer participatory research	People centred innovation and learning
Key changes Sought	Farmer behaviour	Scientists knowledge	Scientist-farmer relationships	Institutional, professional and personal change: opening space for innovation
Intended outcome	Technology transfer and uptake	Technology produced with better fit to farming systems	Co-evolved technology with better fit to livelihood systems	Capacities to innovate, learn and change
Institutions and Politics*	Technology transfer as independent: assumed away	Ignored, black boxed	Acknowledged, but sometimes naïve populism	Central dimensions of change
Sustainability*	Undefined	Important	Explicit	Championed – and multi-dimensional, normative and political
Innovators	Scientists	Scientists adapt packages	Farmers and scientists together	Multiple actors – learning alliances

Source: (Ian Scoones, Thompson, & Chambers, 2008)

The matrix provides a useful reference point for examining South African extension discourse. In many respects this seems to have remained somewhat detached from international learning processes and innovation. However certain groups in South Africa like the Farmer Support Group have been firmly aligned with farmer led approaches critiquing key weaknesses with conventional extension approaches and noting how high farmer to extension worker ratios, limited budgets, scattered farmers result in poor client servicing. Because extension staff are forced to try and cover large areas they often lack local knowledge and are forced to apply generic top down approaches. (Mudhara & Salomon, Undated)

FSG argues that “farmers who know each other, and are often familiar of the nature of the challenge that their neighbour is facing, can more effectively render advice when they know the solution to a problem”. FSG advocates the use of community facilitators/animators who:

- act as conduit for information and technologies (and sometimes, inputs);
- mobilise the community for learning activities and people into groups;
- engage in training activities with the facilitating agent, and provide follow up support;
- work on their own activities and providing demonstrations from their own farm or household. (Ibid)

The international research and extension discourse highlights the dynamic nature of the field from methodological, technical, economic, hazard and risk perspectives. The first wave of farmer first approaches were subsequently criticised for being naïve about relationships of power and scientific and local knowledge. These were reappraised at the Beyond Farmer First workshop in 1992. The Farmer First approach spawned mass of participatory methods including Participatory Research and Gender Analysis, farmer field schools, integrated pest management, institutional learning and change.

However the traditional transfer of technology and training and visit systems continued to survive and was transplanted from Asia to Africa. Often a high degree of institutional inertia has enabled old ideas to continue as the dominant paradigm where it remains in contestation with new approaches to collaborative learning and research captured in the table below.

The table expresses the broad shifts from older ways of thinking to newer ways of conceptualising research, learning and the provision of support.

A shift from	A shift towards
Seeing knowledge generation as a final objective	Seeing it as a means to achieve change; from 'research' to 'innovation'
Research	Innovation
A focus on technology	A focus on people
Mainly reductionist understanding of the parts	A systemic understanding of the relationships between the parts
Mainly 'hard systems analysis' (improving the 'mechanics' of the system)	Soft systems analysis' ('negotiating' the meaning of the 'system' and desirable transformations)
Seeing participation as a matter of 'consulting beneficiaries'	'Facilitating interactive learning between stakeholders', resulting in joint analysis, planning, and hence collective action
Working individually	Working with others in flexible ad-hoc teams and partnerships
Teaching	Learning
Being taught	Learning how to learn
Individual learning	Social learning
An exclusive focus on individual merit and competition in R&D organisations	Collaboration and teamwork within and between organisations
'National agricultural research systems'	'National agricultural innovation systems'

Source: (Daane, 2007)

What seems clear is that these new ways of thinking, new attitudes, and new forms of collaboration between organisations cannot be achieved by conventional training and professional development systems. They require learning process approaches where different institutions and skills are combined into a genuine reflexive practice.

Key issues and conclusions

The evolving paradigms, the changing research and extension agendas, the diverse needs of smallholders in different agricultural subsectors and at relative scales of production contrasts sharply with the current capacity available to address these opportunities and meet urgent needs and demands.

The review of South African extension highlights a system which appears to be a deep, but only partially acknowledged crisis. If we are to develop an implementable plan to boost the small holder

sector practical ways will have to be found to address the many systemic weaknesses highlighted in this brief review.

References

- Agriculture & Agrifood Canada. (2008). Science and innovation strategy. Retrieved 14 June, 2008, from <http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1183758760632&lang=e>
- Ambert, C., & Hornby, D. (2006). *Restitution of Land Rights, Commonages and LRAD: HIV, AIDS and Integrated Planning Perspective*.
- Butler, J., Rotberg, R. I., & Adams, J. B. (1978). *The Black Homelands of South Africa: The Political and Economic Development of Bophuthatswana and Kwa-Zulu*: University of California Press.
- CASE. (2005). *Assessment of the status quo of settled land restitution claims with a developmental component nationally*: Community Agency for Social Enquiry.
- Chipokolo, C. (2006). Small holder agriculture: Ignored gold mine? PELUM Zambia Policy Brief - Issue No. 1. Retrieved 13 June, 2008, from <http://www.sarpn.org.za/documents/d0001876/index.php>
- City of Cape Town. (2007). Urban agriculture policy for the City of Cape Town. Retrieved 14 June, 2008, from http://www.capetown.gov.za/en/ehd/Documents/EHD_-_Urban_Agricultural_Policy_2007_8102007113120_.pdf
- Cousins, B., & Lahiff, E. (2005). Smallholder Agriculture and Land Reform in South Africa. *IDS Bulletin Vol 36*(No 2).
- Daane, J. (2007). New pathways to build capacity for development oriented agricultural research and innovation. Retrieved 14 June 2008, from <http://www.nuffic.nl/home/news-events/docs/events/kotm/abstracts-and-papers/J.Daane%20New%20pathways%20to%20build%20capacity%20for%20development%20oriented%20agricultural%20research%20and%20innovation.pdf>
- de Satge, R. (1988). Herschel in history. National Land Committee course in land use and livelihoods. PLAAS and Developmental Services.
- De Zeeuw, H. (Undated). Adequate services for sustainable urban agriculture. Retrieved 14 June, 2008, from <http://www.ruaf.org/node/419>
- Department of Agriculture. (1995). *White paper on Agriculture*.
- Department of Agriculture. (2005a). *National Education and Training Strategy for Agriculture and Rural Development in South Africa*.
- Department of Agriculture. (2005b). *Norms and standards for extension and advisory services in agriculture*.
- Department of Agriculture. (2008). *The state of extension and advisory service within the agricultural Public Service: A need for recovery*.
- DFID. (2004). Agriculture, growth and poverty reduction. Retrieved 12 June, 2008, from <http://dfid-agriculture-consultation.nri.org/summaries/wp1.pdf>
- Duvel, G. (2003). *Towards an appropriate Extension Approach for South Africa: Recommendations - Executive Report*: South African Institute for Agricultural Extension.
- Forum for Agricultural Research in Africa. (2007). The challenges of agricultural research and development. Retrieved 13 June, 2008, from <http://e-fara.org/about-us/background/>
- Government of South Africa. (1995). Rural development strategy of the Government of National Unity. Retrieved 14 June, 2008

- Government of South Africa. (2006). Minister for Agriculture and Land Affairs, T Didiza, Budget Vote 2006/07.
- Government of South Africa. (2007). Mpumalanga Department of Agriculture Provincial Budget Vote 2006/07 delivered by MEC Masuku. Retrieved 14 June, 2008, from <http://www.info.gov.za/speeches/2006/06052416151001.htm>
- Government of South Africa. (2008a). 2008/09 Budget Policy Speech, by Mr ME Mthimkhulu, MPL, MEC for Agriculture and Environmental Affairs, KwaZulu-Natal. Retrieved 14 June, 2008, from <http://www.info.gov.za/speeches/2008/08042514151001.htm>
- Government of South Africa. (2008b). Limpopo Department of Agriculture Budget Speech 2008/09, delivered by MEC Dikeledi Magadzi. Retrieved 14 June, 2008, from <http://www.info.gov.za/speeches/2008/08052816451002.htm>
- Hall, R. (2007). *Policy Options 1: Land use and livelihoods in South Africa's land reform*. Paper presented at the Another countryside: Policy options for land and agrarian reform in South Africa.
- Hayward, J., & Botha, C. (1995). Extension, training and research. In R. Singini & J. Van Rooyen (Eds.), *Serving small scale farmers: An evaluation of DBSA's farmer support programmes*. Halfway House: Development Bank of Southern Africa.
- Khanya. (1998). Transformation of the Rural Sector to Serve the Needs of the Rural Poor: An example from Free State, South Africa. Retrieved 14 June 2008, from http://www.khanya-aiddd.org/photo_root/publications/FS%20Transformation%20report%20v4.pdf
- Kirsten, J., & Machehe, C. (2005). *Appraisal of Land Reform Projects in Northwest Province*
- Last, C. (2006). *Addressing rural poverty in South Africa: Extension Services new Role*. Paper presented at the Conference on the role of extension in rural development and poverty alleviation programmes - 9-11 May., Berg en Dal, Kruger National Park, Mpumalanga
- Lipton, M. (1972). The South African Census and the Bantustan Policy. *The World Today XXXVIII*(266).
- Machehe, C. (2004). *Agriculture and poverty in South Africa: Can agriculture reduce poverty?* Paper presented at the Conference on Overcoming Underdevelopment, Pretoria, 28-29 October.
- May, J., & Rogerson, C. (1995). Poverty and sustainable cities in South Africa: The role of urban cultivation. *Habitat International 19*: 165-181.
- Ministry of Agriculture and Land Affairs. (2008). *Land and Agrarian Reform Project - The concept document*.
- Mudhara, M., & Salomon, M. (Undated). Farmer Groups for participatory research and extension: Experiences from KwaZulu Natal. Retrieved 14 June, 2008, from <http://search.sabinet.co.za/agri/images/kwazulu.pdf>
- Organisation for Economic Co-operation and Development. (2006). *Policy brief: Agricultural policy reform in South Africa*.
- Programme for Land and Agrarian Studies. (2008). *Draft proposal to the Presidency for a study of best practice among South African smallholders*.
- Provincial Government of the Eastern Cape. (2003). Provincial Growth and Development Strategy 2004 - 2011. Retrieved 14 June, 2008, from <http://www.ecprov.gov.za/index.php?module=pgdp>
- Scoones, I., Thompson, J., & Chambers, R. (2007). Farmer First - Retrospect and Prospect: Reflections on the Changing Dynamics of Farmer Innovation in Agricultural Research and Development in Preparation for the Farmer First Revisited Workshop. Retrieved 14 June, 2008, from http://www.future-agricultures.org/farmerfirst/files/FFR_Overview_paper.pdf
- Scoones, I., Thompson, J., & Chambers, R. (2008). Farmer First Revisited: Innovation for Agricultural Research and Development - Workshop summary. Retrieved 14 June, 2008, from

http://www.future-agricultures.org/farmerfirst/files/Farmer_First_Revisited_Post_Workshop_Summary_Final.pdf

- Simbi, T., & Aliber, M. (2000). *Agricultural employment crisis in South Africa*: Trade and Industry Policy Secretariat, Working paper 13.
- Singini, R., & van Rooyen, J. (Eds.). (1995). *Serving small scale farmers: An evaluation of the DBSA's farm support programmes*. Halfway House: Development Bank of Southern Africa.
- Smith, P., Yusuf, M., Bob, U., & de Neergaard, A. (2005). Urban farming in the South Durban basin. *UA magazine*
- South African Agricultural Machinery Association. (2005). Chairman's report to the 2005 Annual General Meeting. Retrieved 22 October, 2007, from <http://www.saama.co.za/agm2005/>
- Statistics South Africa. (2005). Census of commercial agriculture 2002: Financial and production statistics. Retrieved 22 October, 2007, from <http://www.statsonline.gov.za/publications/Report-11-02-01/CorrectedReport-11-02-01.pdf>
- Sustainable Development Consortium. (2007). *A Settlement and Implementation Support Strategy for Land and Agrarian Reform in South Africa*. Pretoria: Commission on Restitution of Land Rights.
- Tregurtha, N. (2005). *South Africa's New Agribusiness and Land Reform Policy Regime: A Case Study of the Wine Industry*: William Davidson Institute: University of Michigan.
- Van Rooyen, J. (1995). Overview of DBSA's farmer support programme: 1987-1993. In R. Singini & J. van Rooyen (Eds.), *Serving small scale farmers: An evaluation of the DBSA's farmer support programmes*. Halfway House Development Bank of South Africa.
- Vink, N., & Kirsten, J. (2003). Agriculture in the national economy. In L. Niewoudt & J. Groenewald (Eds.), *The Challenge of Change: Agriculture, Land and the South African Economy*. Pietermaritzburg: University of Natal Press.
- World Bank. (2006). Enhancing Agricultural Innovation: How to Go Beyond the Strengthening of Research Systems. Retrieved 14 June, 2008, from http://siteresources.worldbank.org/INTARD/Resources/Enhancing_Ag_Innovation.pdf