

Innovation for Poverty Alleviation– a case study.

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Summary

If 'innovation' means creating, changing or renewing processes, products or ways of doing things to be more effective, then innovation requires reflection and knowledge-sharing to develop best practices – particularly if the aim is to alleviate poverty.

A three-day conference for the stakeholders involved in the Department of Science and Technology's (DST) Technology for Sustainable Livelihoods projects was held from 23 to 25 May 2012 at the Roodevallei Hotel and Conference Centre, Roodeplaas, Gauteng. The purpose of this conference was to create a platform for dialogue and knowledge-sharing for the stakeholders of 21 projects that are implemented by five knowledge partners and to extract lessons with policy implications. The lessons from innovation for poverty alleviation projects are important for future projects and policies.

This conference was not only a science and technology exercise – it was a developmental one aimed at finding solutions and contributing to future industries through identifying and dealing with the range of existing challenges.

The conference took the form of five sessions focussed on categories into which the projects were grouped. These sessions were:

- Biological Stock and Genetics;
- Agronomic Practices;
- Farm Processing of Indigenous Essential Oil Plants;
- Farmer-processor Value Chains;
- Geographic Clustering

In varying degrees, there was evidence of community involvement and empowerment; skills transfer and infrastructure establishment. However, challenges were also identified and recommendations to overcome these are discussed below.

Thus, the purpose of the engagement was for project leaders and project beneficiaries to share experiences and come up with new ideas, innovative methods and approaches – to develop a 'toolbox' of appropriate approaches and business models, since what works in one context may not work in another.

Introductions

The Innovation for Poverty Alleviation Programme is a partnership between the DST and the EU that entails the transfer of €30 million to the DST over the period from 2008 to 2013. These are untargeted funds for the support of the DST's poverty

alleviation initiatives. The programme is implemented through the EU's Sector Budget Support (SBS) initiative.

The DST's Technology for Sustainable Livelihoods projects form part of the Innovation for Poverty Alleviation Programme that aims to support the interventions that contribute to the DST's policy and strategy of using science and technology solutions for reducing poverty through job creation; small, medium and micro-enterprise development; economic growth and improvement of the quality of life. DST/SBS-funded projects are implemented by five implementing partners, namely the Agricultural Research Council; the Council for Scientific and Industrial Research; Stellenbosch University; MINTEK; Vaal University of Technology and SASOL-ChemCity.

Projects are funded for three years and the stakeholder conference was held in year two of implementation. Each of the five sessions lasted for three hours and consisted of four consecutive 20-minute presentations, followed by questions, and four simultaneous group discussions. Each group discussion was facilitated by a DST staff member, who appointed a scribe and presenter from the group. The scribes made notes on a flipchart during the group discussions. The facilitator then opened a plenary session during which the four group presenters presented summaries of the outcomes of their group discussions. The discussions focused on four aspects: Positive comments; suggestions for improvement; inter-linkages and possible wider development and impact

Recommendations

Common themes emerged during the conference from which recommendations flow:

1. **Legislative issues** were mentioned by a number of project leaders. In implementing projects, there are a number of legal frameworks to comply with. For example, obtaining authorisation for environmental issues such as water use licences or ploughing certificates can be extremely costly, time-consuming and complex. The communities themselves cannot navigate through these compliance processes. The DST could potentially assist to alleviate challenges with legislative compliance through negotiations with other government departments and local authorities. Ideally alternative mechanisms should be found to support these kinds of projects without violating the intention of the legislation. Therefore, as part of project deliverables, implementing agencies should develop guidelines based on the knowledge acquired in a particular location that will guide other applicants (wanting to do social development) through the environmental authorisation application processes.

2. **Human capital development** and some related challenges were highlighted. A clear understanding of whether project beneficiaries are project labourers or shareholders is needed. Also, human capital development should be an integral part of each project and the skills level of project members should be assessed and built upon. Thus a skills audit and a training plan for all projects are needed and the necessary funding for training should be provided.
3. **Exit strategies - commercialising** DST-funded projects requires appropriate business entities to be established. It is not a straightforward process; there are various forms of businesses with different registration and financial requirements, governance and tax implications. Understanding of business principles, community interests, and the fact that community profiles differ greatly across the country also factor into decisions about appropriate exit strategies. There is no single simple solution to this problem. For each project, we need to ask what the critical success factors are for commercialisation. The need exists to investigate different strategies and commercial models. The changeover process from demonstration and validation to a fully sustainable commercial entity that runs on economies of scale and efficiencies is a huge step, which does not happen overnight. Doing an early cost analysis or cost benefit evaluation will not produce useful solutions, since communities typically have backlogs in terms of infrastructure, skills etc. The exit strategy is a very careful process, and one cannot begin the process of exiting prior to conclusively assessing the technical feasibility and the financial viability of the projects. Furthermore, in some cases a commercial partner's involvement could address challenges such as investment capital and market needs. From the range of existing DST-funded projects, a toolbox of exit strategies should be developed. This will provide knowledge, evidence and learning to enable the DST to inform and influence technology choices to transform rural and social economic development and government planning.
4. **Linkages between various implementing partners** will achieve a 'trans-disciplinary' approach. For example, SASOL-ChemCity has entrepreneurial experience and could assist with business analyses. All organisations involved have experience to share with others. More business analyses of the projects should take place and the results should be utilised in the business models. How to conduct business analysis is often a challenge, since most project implementers are scientists and not business managers. Project leaders should interact and going forward it would be beneficial to form smaller working groups consisting of related projects. Making use of the conference proceedings, which include project details (i.e. all the project presentations) and contact details of project leaders, implementing agencies are able to form such working groups. In some cases the DST would play a facilitation role.
5. **Value chains** must be clarified from the outset of projects. The value chain involves commercial cultivation, processing, formulation, marketing and skills

transfer. By forging links across the value chain, a wider impact could be achieved. When assessing which projects to fund in future, the DST should encourage implementing agencies to consider how greater value can be added on site at projects or within South Africa.

6. **Impact assessment** requires clearer outputs and measures. The costs and benefits should be assessed as well; one should ask questions on whether the value of the activities engaged in are commensurate with the resources invested. For example, it is important to ask what the input costs are for high-value crops, since although there may be high-value output and income, these should still justify the input costs. It must be ascertained whether the model developed through the project will be economically sustainable if implemented elsewhere by others. All the projects need to be economically sustainable (meaning the income generated annually should exceed the annual costs) before exit; otherwise the beneficiaries will be no better off than they were prior to the creation of the projects. Also, while the creation of jobs and new businesses can easily be measured; impacts such as social upliftment; food security; rural economic development and community health improvements are more complex to measure. The DST should facilitate engagement with knowledge partners and formulate how the social impact of DST-funded projects will be measured.
7. **Better economies of scale** could mean progression from small-scale farming to something reflecting a bigger vision. There is a need to investigate the most cost-effective way of achieving sustainability. Alternatively, the economy of scale may not lie with individual projects but with the cooperatives in some or other form. Thus, there is a need to conduct an initial pre-feasibility or market viability study before projects are initiated.
8. **Understanding of social/cultural dynamics** is important. Projects involve not only science and technology but people as well. Thus, there is a need for psychologists, anthropologists and/or sociologists to be involved, as many of the issues are social and/or cultural ones. The DST should encourage implementing partners to link up with academic departments at universities to use project locations/communities as areas for research, for example by compiling community socio-economic and cultural profiles. This will not necessarily affect the project budget, as academic departments have their own research funding and their research will contribute to a greater initiative (i.e. the DST-funded technology and skills transfer project) and so be more meaningful than merely developing community profiles in arbitrarily selected areas.
9. **Information sharing** – the challenges discussed above suggest the need for a centralised information source with the necessary supporting mechanisms for the public and/or other departments to access the knowledge, evidence and learning. This could be done by posting information on existing DST-funded

systems such as the National Recordal System for Indigenous Knowledge or the Integrated Planning and Development Management (IPDM) Tool.

The main text

The complete version of [proceedings](#) of the stakeholders' conference are available on CD and be accessed from the DST Communications Department.

Lessons learned

1. The legislation, particularly the various environmental authorisations should be accessible, cost-effective and quickly dealt with. Where national and provincial legislation or procedures create confusion and/or delays, the DST should engage other departments to streamline the process and user-friendly guidelines should be developed.
2. Human capital development can be achieved by building skills and capacities in the rural areas where projects are located.
3. A number of business models, with the associated legal, tax and administrative requirements, should be explored for various contexts of projects-turned-businesses.
4. Impact assessment methodologies should be developed and agreed upon.
5. Project implementation should include an understanding of the socio-economic and cultural realities of the project location.
6. Knowledge, evidence and learning generated through DST: Technology of Sustainable Livelihoods-funded projects should be shared by integrating the information into existing information sources or creating a publicly accessible information source.

Conclusion

The feedback from stakeholders indicated that the conference had achieved the objectives of sharing knowledge and experience, creating networks and inter-project links and extracting lessons that have policy implications.