

Mobilising private sector investment into eco-system services

Roundtable held on
14 June 2012

Development Dialogues

“ The entire economy depends on the supply of eco-system services. Without climate change amelioration and flood attenuation, without the goods and services produced by eco-systems, we cannot have water, and without water we are dead. ”

Prof James Blignaut





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Published by

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“How do we convince the private sector to invest in eco-system services as a means of reducing risk and increasing competitiveness?”

Participant

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“ A pilot project is needed to demonstrate the extent of under-investment in watershed services and convince the private sector to invest.

Participant



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1. Introduction

The Government of South Africa, through the Department of Environmental Affairs (DEA), has announced an R800m Green Fund. This allocation represents the initial resources available for disbursement. The DEA has appointed the Development Bank of Southern Africa (DBSA) as the implementing agent.

The Green Fund aims to provide catalytic finance for investment in green initiatives that will support South Africa's transition to a green economy, i.e. the transition to a low carbon, resource efficient and climate resilient development path delivering high impact economic, environmental and social benefits.

An important area for investment potential for the Green Fund is natural resource management, including eco-system goods and services. Water is the most critical natural resource, and conservation has a huge job creation potential in the country's poorest areas.

This Roundtable was convened to explore the key issues and was led through a presentation by Prof Blignaut, an independent consultant and professor of Economics at the University of Pretoria, who presented a study, commissioned by the DBSA, on mobilising private sector Investment into eco-system services.

2. The Issues

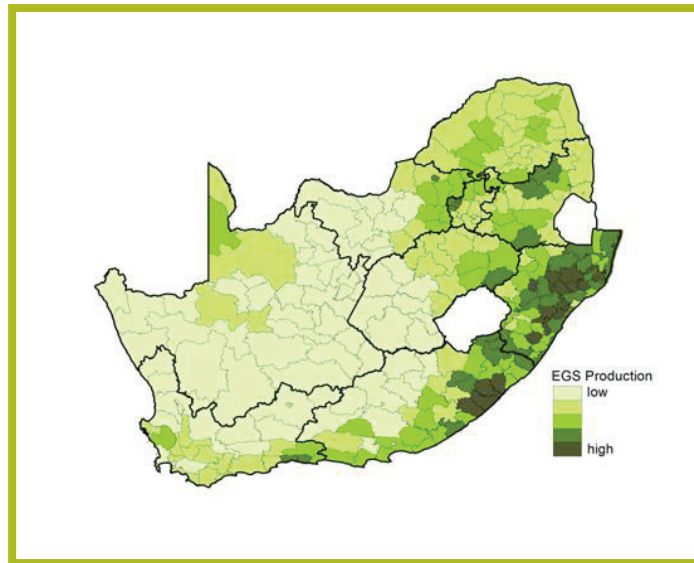
2.1 Problem statement

Eco-system Goods and Services (EGS) provide carbon sequestration, flood attenuation, water provisioning and soil stabilisation. Natural resource and eco-system management was initially considered only as a conservation measure and not as an issue of social welfare and economic importance. The economic and social value of managing and maintaining natural resources has been recognised only in the past twenty years as demonstrated in numerous studies.

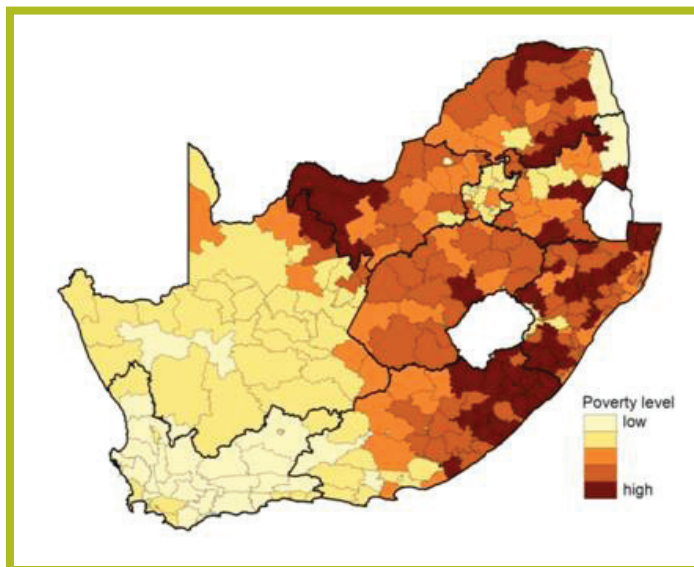
The map of the EGS 'factories' of South Africa below, shows the distribution of EGS and the municipalities in which these are produced. The municipalities with a high incidence of EGS are also the areas where poverty is the deepest.



Distribution of **South Africa’s eco-system goods and services ‘factories’**”



Distribution of poverty in South Africa



The maps illustrate that most of SA’s ecosystem factories are located in economically poor areas¹. This creates a challenge and an opportunity.

1 The United Nations Millennium Ecosystem Assessment found that by 2005, 15 of the 24 key eco-system services that underpin human existence were degraded or used unsustainably, often with negative consequences for the poor: 1.3 billion people live in ecologically fragile environments located mainly in developing countries, half of whom are the rural poor and a large number live in Africa. Furthermore, there is recognition of rapidly deteriorating soils with 65% of all agricultural land in Africa degraded. This results in declining yield growth rates and further urbanisation as a result (Swilling, Africa 2050 – Growth, Resource Productivity and Decoupling, 2011).

The challenge is that eco-system services are largely outside the net of what is considered to be marketable goods, and people in deep poverty are situated largely outside formal labour markets. The opportunity is that one can provide a solution to the other. The entire economy depends on the supply of eco-system services.

Ecosystem services are essential for economic development. It is essential to secure continued delivery of quality ecosystem services through on-going management and restoration where there is degradation. EGS is viewed as natural capital: when they become degraded they must be restored. If this is not done, they cannot deliver the services required and this will impede economic growth. A major factor already impeding economic growth is depletion of water supply from catchments and watersheds.

The key issues are how EGS is valued, managed and used as an essential economic resource and the nature and extent of the private sector's potential contribution to the maintenance of ecosystem services in South Africa.

2.2 Pathways to sustainable development

In considering EGS, there are three pathways to sustainable development: through technological change, in which resource and energy intensity are reduced; through social behavioural change, in which demand for eco-system goods and services (EGS) is reduced and through the restoration of natural capital involving investment in, and replenishment of, natural capital stocks.

The first two pathways, i.e. technological and behavioural change, reduce the demand for EGS but it is only through management and restoration of natural capital that the supply of EGS is replenished and increased.

2.3. Typology of possible markets/payments/compensation mechanisms for ecosystem goods and services

There are four options for possible market, payment or compensation mechanisms for eco-system goods and services. These are:

- Public sector buying services from the public sector where tax money is used to deliver public goods and in which South Africa has a rich history. For example, natural resource management programmes and Working for Water type programmes. (This has built an excellent and world-renowned track record for restoration of natural resources).
- Public sector buying services from the private sector, such as the Land User Incentive programme aimed at unlocking private sector investment for the restoration and maintenance of ecosystem services, in which South Africa has limited experience.
- Private sector buying services from the public sector. This market is weakly developed and largely dominated by activities funded through the water trading account whereby water users pay for integrated catchment management. An example is an agreement in which Blue Ridge mine pays for natural resource management programmes to clear invasive aliens and, in so doing, is able to acquire the required water-use licences.



- Private sector buying services from the private sector, for example, trading of water licences and of carbon which is still very limited in its scope but which has considerable potential.

2.4. Issues and barriers to entry for the private sector in natural resource management

Blignaut's study identified over 2 000 case studies, from which twenty four² studies on Payment for Eco-Services (PES) were selected for detailed assessment. Salient features across these case studies were:

- The market is divided between global services, such as carbon, and local services, such as watershed services.
- Multiple-party participation, such as sellers, buyers, facilitators, monitoring and evaluation institutions, and financiers, is required.
- A clearly formulated or defined institutional framework, with clear roles and responsibilities for all parties and clarity on compensatory mechanisms is essential.
- In some cases, institutions were paid on the basis of project outcomes, such as a ton of carbon; in other cases it was based on labour input by, for example, a community.
- PES markets are constrained, especially in Africa. Barriers to entry include research and institutional capacity, transaction costs and funding, and (lack of) mutual trust among potential parties in transactions.
- Private sector participation considerations are:
 - o The need for a return on investment, whether financial or otherwise.
 - o Compilation of PES feasibility assessments.
 - o Being risk-averse, the private sector is unlikely to become engaged in a new transaction where the terms and conditions have not yet been fully tested.
 - o The development of pilot projects.
 - o The need for assurances and clarity pertaining to the service delivered before investing in the transaction.

2 A definition for PES that has become fairly well accepted has been put forward by Sven Wunder (Payments for Ecosystem Services Getting Started: A Primer May 2008 The Katoomba Group, and UNEP p3) in which he explains that a payment for environmental services scheme is:

1. a voluntary transaction in which
2. a well-defined environmental service (ES), or a form of land use likely to secure that service
3. is bought by at least one ES buyer
4. from a minimum of one ES provider
5. if and only if the provider continues to supply that service (conditionality).

There is a need to remove uncertainties by demonstrating and showcasing how projects can be implemented, and provide a pathway for the private sector to follow.

2.5. Creating a PES market

The economic value of EGS can only be fully realised if it is captured through a transaction or a market or by some or other agreement. The challenge in creating a market is how to realise the demonstrated value for the private sector.

The study undertook a market survey which was sent to forty eight entities, of which thirty two were in the private sector, only four of which responded. Company officials indicated they were reluctant to commit to answers which might be construed as the company's position and while the company might not have a formal position on the matter. The following responses were made to questions in the survey:

In relation to the potential areas a Green Fund could support, the issues identified were: institutional support (assist in the market-making process and facilitate transactions); research and development support (such as pre-feasibility and feasibility studies, and the facilitation of agreements), financial support (for PES developers, especially during initial stages of the transaction; incentivise and unlock private sector engagement and investment in PES); and funding the initial project development stages of identified projects which do not have clear lead agents from the outset.

Those surveyed believed that the role of a Green Fund would be to unlock projects, through research and development, institutional support, and incentivising private sector engagement. Further roles would be to act as an intermediary and a transaction broker or to reduce overheads and remove barriers to entry. There was a view that the Fund should not be applied to administrative expenses such as meetings and facilitators, or long term operational expenses such as labour, equipment and transport to finance on-going activities such as fire management and land-use management protection.

In terms of the kind of projects the Fund should consider most respondents believed the Green Fund should target a wide range of projects, including some which may not be considered "bankable". These would involve projects in which the delivery of ecosystem goods and services had low benefit: cost ratios, but which had other benefits, such as major job creation potential and long-term resource management. The Fund could be used to initiate markets with the implementation of pilot projects, such as for a government department to become water and carbon neutral, and to demonstrate a PES-related project in practice. It could offer a facility for providing loans with favourable terms to promote restoration and the development of PES. It could also support restoration-related, once-off expenses, such as the clearing of invasive alien plants and donga rehabilitation.

2.6. The need for pilot projects

The need for a range of pilot projects emerged as the dominant theme as very little is known in South Africa about the science of managing ecosystems. Such projects are required to demonstrate the economic value of natural resource management and to create private sector confidence in this form of investment.

There are at least fourteen existing natural resource management projects in various stages of



completion which point to the potential of PES development. Pilot projects that will demonstrate the value chain and engage the private sector and other stakeholders should be supported.

Issues that need to be piloted include:

- o targeting of specific services such as water, biodiversity or carbon;
- o identifying the nature of contracts for establishing a market through negotiation with landowners/users and other interested and affected parties;
- o the use of the services of public and private sector, PES-developing agents to finance the market-making process;
- o the nature of support services such as specialists for legal and marketing services;
- o support to the private sector through loans, to enable the development of PES initiatives.

In addition research should be conducted to identify additional PES projects. Project progress should be monitored and evaluated to enable development of a larger-scale template.

An example of the range of issues that needs to be understood is illustrated through this example of water. A number of participants felt that water pricing does not fully factor in eco-system management costs and therefore does not accurately reflect the true cost of water. A participant described this as a 'massive market failure' that has 'become the elephant in the room'.

Points raised by participants included:

- Corporates are reluctant to buy-in to PES because they are already paying a water resource management charge. The fact that this does not fully reflect eco-system resource management costs is a major structural problem that needs to be remedied before demand for PES can be created, and the Green Fund should support this process.
- The water trading account is under-recovering by about 30%, equivalent to a R6 billion under-payment. Rather than increase water tariffs, the private sector should be persuaded to invest in watershed services on the basis that this will minimise water tariffs and increase efficiency of water supply. A pilot project is needed to demonstrate the extent of under-investment in watershed services and convince the private sector to invest.
- The water pricing strategy must accurately quantify the value of services involved in rehabilitation interventions and apportion those costs to users, such as forestry and industry.
- If investment in the water sector is to be encouraged, the costs and benefits need to be demonstrated. To improve watershed services, it is necessary to establish the contribution watershed services make to water security and to economic value. This means establishing the impact of land management practices on the quality and quantity of eco-system services, translating these into their economic consequences, and identifying the institutional arrangements required to unlock investment in the market.
- The economic value of investment in watershed management needs to be accurately determined.

Ownership of the eco-system services also needs to be determined. Watersheds are often situated in whole or in part on communal land, so how will local communities benefit from the value created?

- An advocacy programme needs to be developed to assist buyers and sellers of eco-system services to understand the implications of their involvement in the process.
- The Department of Environmental Affairs' Drylands Fund has been engaging about twenty companies at top executive level to establish what the fund would need to look like to meet their needs and attract their investment. Companies are keen to invest on a project-by-project basis, choosing projects that suit them best and adopting specific projects based on targeted outcomes. Companies need a 'hook' based on their interests.

2.7. Examples of pilot projects

Participants were asked to name existing natural resources management projects that could be developed as pilot or demonstration projects and used to attract private sector investment. A number of participants referred to the list of fourteen existing projects listed in the presentation by Prof Blignaut.

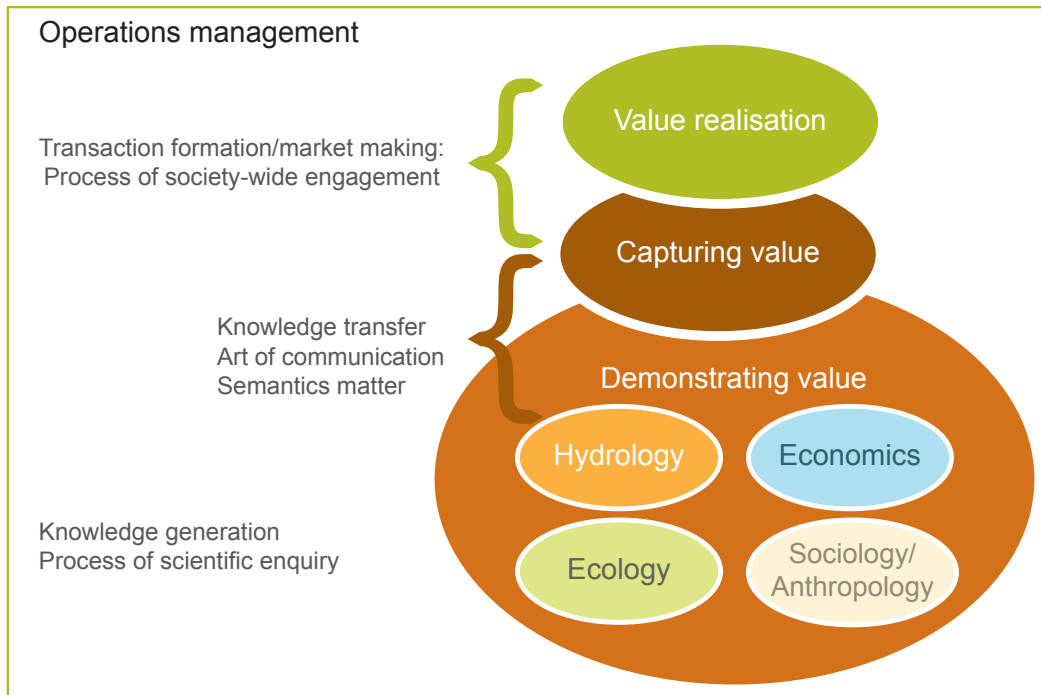
Examples of potential PES projects at various stages of development

1	Olifants/iNkomati river catchment restoration	Water quality and quantity; disaster management; biodiversity; renewable energy
2	Sand river catchment	Water quality and quantity; disaster management; biodiversity; renewable energy
3	Crocodile west/Groot Marico river	Water quality and quantity; disaster management
4	Lephalale	Renewable energy
5	Upper-uMzimvubu river	Water quality and quantity; Carbon sequestration; Biodiversity; Sediment reduction; Disaster management
6	Upper-uThukela river	Water quality and quantity; Carbon sequestration; Biodiversity; Sediment reduction; Disaster management
7	Upper-Orange river	Water quality and quantity; Carbon sequestration; Biodiversity; Sediment reduction; Disaster management
8	Baviaans river	Water quality and quantity; Carbon sequestration; Disaster management; Renewable energy
9	Kromme river	Water quality and quantity; Carbon sequestration; Disaster management; Renewable energy
10	Berg/Breede river	Water quality and quantity; disaster management; Renewable energy
11	Agulhas plains	Water quality and quantity; disaster management; Renewable energy
12	Beaufort West	Water quality and quantity; disaster management; Renewable energy
13	Sub-tropical thicket restoration	Carbon sequestration; Biodiversity;
14	eThekwini	Carbon sequestration



More specific responses included:

- The Eastern Cape has an estimated 700 000 hectares of heavily degraded thicket and about 600 000 ha of medium degraded thicket, with potential for sequestration of eighty seven million tons of carbon at R80 a ton over forty years, or two million tons/year. Investment of R9,2 billion is needed for thicket restoration.
- The Umzimvubu River catchment is a comprehensive twenty-year restoration programme.



This includes six small areas identified as part of a shorter-term, five-year restoration programme. Pilot projects could be identified from these. Other catchments mentioned were the Oliphants River catchment, which was described as the most stressed in the country, and the Groot Marico catchment, which feeds the Hartebeespoort Dam.

- Two 'low hanging fruit' projects are an initiative in Ethekekwini, where the municipality has bought carbon from a project in which cane lands are being returned to forestry.
- The Kromme catchment system project near Port Elizabeth is running out of water but has major multinationals that urgently need assurances of water supply.

Criteria for success need to be defined before pilot projects can be identified. PES projects are extremely complex and have long term time frames. They involve a range of natural processes and a range of management issues. Little is known about the issues so intensive study and experimentation are required and will need to be well-documented. All these factors need to be considered when piloting, for demonstration, learning and modelling. The entire value chain needs to be better understood.

2.8. Building on the voluntary market

A small, voluntary market in eco-system services investment already exists, an example being SAB and its programme to become water neutral. Companies with voluntary initiatives such as this are mainly multinationals which are responding to international public pressure to improve their natural resource usage. Environmental compliance is therefore a competitive issue for them. South African consumers are not making choices based on issues such as companies' water usage, so there is insufficient local pressure on companies to be more environmentally friendly. Another form of voluntary investment that could be developed is corporate social investment funding. The Working for Water land user incentive is already attracting this type of funding for eco-system restoration projects.

2.9. Priorities

Participants were asked to list the issues they believed should be prioritised. Responses included:

- Make water a national priority; establish a high level forum of all stakeholders; and make responsible management of ecosystem services a priority.
- Increase the Department of Environmental Affairs' budget to R15 billion a year. For every rand it spends, it must attract private sector investment of an additional R2, amounting to expenditure of R45 billion. This could create 230 000 jobs.
- Channel funding to municipalities to establish public-private-partnerships, support training of regulators and provide extension services to farmers.
- Get the message out to society that the use of water and land is a national issue that will affect everyone; that what we take out must be put back; and that unless we do this, degradation of natural resources will impact not only on people now but on future generations.
- Produce evidence that PES works and use this to create a market for investment in eco-system services.
- Implement two existing natural resource management projects as pilot initiatives, learn from the experience, and engage with the private sector based on that experience.
- Move away from purely market mechanisms to a regulatory/market hybrid in which 'we tell people what needs to be done and we make it happen, otherwise we will never get there'.



3. Conclusion

The Roundtable highlighted the importance, complexity, limited knowledge and long term nature and consequences of ecosystem services. Natural resources that need to be managed and conserved, such as watersheds, are in poor rural areas and provide both opportunities and challenges. South Africa has a number of areas that have been identified as critical to security of services, and water emerged as a crucial issue as water scarcity is already constraining economic development.

Public funding is essential to secure and initiate the efforts required to protect ecosystem services by managing natural resources. Public resources alone are insufficient to support effective natural resource management and needs to be augmented by private sector investment.

However, the private sector needs to be assured of a return on its investment in Natural Resource Management, and this can only be done through pilot projects. The Green Fund could remove uncertainties by demonstrating and showcasing how projects can be implemented, and create private sector confidence in this form of investment.