

Brittany Bunce, “Using Payments for Environmental Services (PES) to Create Sustainable Livelihoods for Land Reform Beneficiaries”.

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**Using Payments for Environmental Services (PES)
to Create Sustainable Livelihoods for Land Reform
Beneficiaries in South Africa.**

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Abstract

Payments for Environmental Services (PES) have the potential to generate sustainable livelihoods for land reform beneficiaries in South Africa, while also meeting ecological goals. Where land reform can be implemented on environmentally strategic land, PES can ensure redistributed land acts as a productive asset for the poor. This paper uses the Sustainable Livelihoods Framework (SLF) to analyse the livelihood benefits for participants of South Africa’s Working for Water (WFW) PES programme. WFW does not prescribe to the core characteristics of most international PES programmes which engage landowners as providers of environmental services. WFW operates as a part of the Expanded Public Works Programme. The paper argues that there is a need to move away from this current approach to PES in South Africa, since it is neither socially nor ecologically sustainable. While generating numerous short term jobs, the ‘public works model’ does little to address the deeply unequal socioeconomic structures of South African society. The paper proposes adopting a ‘land reform model’ to PES which would engage beneficiaries of South Africa’s land reform programme as providers of environmental services. The paper demonstrates how PES can facilitate land reform by actively supporting tenure security processes and it offers potential policy priorities that can ensure PES provides sustainable livelihoods for the poor.

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Acronyms

ANC	African National Congress
CAPE	Cape Action for People and the Environment
CBNRM	Community Based Natural Resource Management
DBSA	Development Bank of Southern Africa
DEAT	Department of Environmental Affairs and Tourism
DLA	Department of Land Affairs
DRDLR	Department of Rural Development and Land Reform
DWAF	Department of Water Affairs and Forestry
EGS	Environmental Goods and Services
EPWP	Expanded Public Works Programme
ES	Environmental Services
FAO	Food and Agricultural Organisation
IAPs	Invasive Alien Plants
IUCN	International Union for Conservation of Nature
LRP	Land Reform Programme
MEA	Millennium Ecosystem Assessment
PES	Payment for Environmental Services
RSA	Republic of South Africa
SANBI	South African National Biodiversity Institute
SLF	Sustainable Livelihood Framework
WB	World Bank
WFW	Working for Water

1. INTRODUCTION

“Land reform can make a major contribution to the future of the Republic of South Africa, to sustainable livelihoods, and to the broader issue of ecologically sustainable development”.

(Attfield et al. 2004, 418).

1.1 Land Reform: Historical Background and Contemporary Policy Context

Land ownership in South Africa was moulded by its colonial and Apartheid history, which was characterised by violent land dispossession of the majority black population. This has resulted in the inequitable character of land distribution still evident today. The 1913 Native Land Act, which set aside a meagre 13% of the country’s land for its black population, is widely acknowledged as the defining policy which institutionalised the forced removals which continued throughout the 20th century (Beinart, 2001; de Villiers, 2003). The violent nature of dispossession and overpopulation in communal areas are key factors contributing to widespread impoverishment, social ills and environmental degradation in contemporary South Africa. Land reform has thus been one of the principal social policy mechanisms aimed at alleviating poverty and redressing historical inequities (Koch et al., 2001).

The underlying tenets of the land reform programme (LRP) were consolidated during the ‘negotiated settlement’ which preceded the first democratic election in 1994. The African National Congress (ANC) surprisingly entered these pivotal negotiations with no decisive analysis of the agrarian question or a clear vision for the LRP (Bernstein, 1997; de Villiers, 2003). The legal basis for South Africa’s LRP was first laid out in Chapter Two of the ‘South African Constitution, 1996’ in Section 25 of the Bill of Rights (RSA, 1996). The LRP was later formalised in detail in the ‘White Paper on South African Land Policy’ which stipulated a three-pronged strategy to achieve equitable redress of land rights based on land restitution, redistribution and tenure reform (DLA, 1997).

The interests of global capitalism and of the World Bank (WB) in particular, represent another fundamental influence responsible for formulating the LRP (Steyn & Bosch, 1994). The WB’s proposal for a market-based LRP was accepted by the transitory ‘Government of National Unity’. This market driven model of acquisition has in recent years been seen as an impediment to achieving comprehensive land reform and is blamed for the slow pace of reform to date (du Toit et al., 2011; DRDLR, 2011). The Department of Rural Development and Land Reform (DRDLR) published a Green Paper on Land Reform in 2011 which signalled the intent to replace the ‘willing-buyer, willing-seller’, with a policy which allows the state to use its constitutional right to expropriate land with ‘fair

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compensation’. It remains to be seen whether this will be a catalyst for a more comprehensive LRP (DRDLR, 2011; Mdluli, 2012).

The LRP in South Africa suffers from a disjuncture between various competing paradigms. An influential neoliberal framing of land reform, supported by a conservative alliance of government officials, landowners and agricultural lobby groups; supports deracialisation of landownership and the development of a black commercial farming class but opposes transformation of the agrarian system. A pro-poor rhetoric often reflected in ANC manifestos and amongst scholarship favouring a political economy perspective; supports a land reform programme which is placed within a broader agenda of rural development, agrarian transformation and poverty alleviation. The discourse on land reform is fragmented along a continuum between these two extreme positions. In practice these competing paradigmatic positions have produced a number of compromises which have undermined the potential of land reform to reduce poverty (Hebinck & Shakleton, 2011; Lahiff, 2007).

1.2 Historical Context of Biodiversity Conservation: Land ‘De’form

Biodiversity can be defined as:

“...the full variety of life on Earth – from the tiniest plant to the largest animal. Its complexity is measured in terms of variations in: the number of different species, the genetic wealth within each species and the interrelationships between species in ecosystems” (CAPE 2012, 2).

The first designated conservation areas were established in South Africa in the late 19th Century, *allegedly* as a measure to protect wildlife which was sharply in decline or facing extinction. However many ‘protective’ legislations were racially skewed to target the black population, placing restrictions on their fishing and hunting activities while securing these privileges for the white population. “Today, protected areas are still widely looked upon as playgrounds for a privileged elite, and hold little relevance for the majority of South Africa’s people” (Kepe et al. 2003, 8). Between 1966 and 1975 forced removals from conservation areas were pervasive; coinciding with the ‘black spot removals’ associated with Apartheid’s land segregation policy. The association of conservation with forced removals has damaged the legitimacy of conservation among the black population (Fabricius & de Wet 2002, 146). There are numerous examples of displaced communities purposely vandalising, burning and poaching, as an act of defiance against their removal or against limitations placed on their access to natural resources (Barker, 1997; Timmermans, 1999).

Notwithstanding the obvious racist motivations which used the conservation agenda as a ‘sterile, internationally acceptable’ front from which to dispossess black South African’s from their land, forced removals were also motivated by the prominent conservation paradigm at the time. This

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paradigm proclaimed that people were a threat to conservation efforts and should be removed in order to preserve the environment as ‘pristine’ (Fabricius & de Wet, 2002; Hardin, 1968). This notion of the ‘pristine wilderness’ is a western conception which has pervaded the practice of conservation in much of the developing world. However, the very assumption that people undermine biodiversity of natural ecosystems and that nature can only be conserved by excluding people, is highly questionable (Colchester 1994, Pimbert & Pretty 1995). Chatty and Colchester (2002) argue that the exclusionary conservation paradigm ignores the integral role that people’s natural resource management plays in protecting biodiversity. Numerous studies on the African continent have confirmed that loss of biodiversity has actually been a result of the restrictions placed on communities, whose activities were central to stabilizing ecosystems (Adams & McShane, 1992; Botkin, 1990).

Fabricius and de Wet (2002) found that in almost all cases where protected areas were returned through land restitution in South Africa, there have been net gains for biodiversity. There is now a growing movement within the conservation field which rejects the exclusionary approach of the traditional conservation paradigm. This alternative paradigm views ecosystems as dynamic and sees humans as important actors in maintaining them (Checkland, 1981; IUCN, 1994; Pretty et al., 1994). This new approach is epitomised by the ‘community-based natural resource management’ (CBNRM) approach. In CBNRM communities and conservationists are seen as equal partners in the management of natural resources and local livelihood activities are prioritised (Brownlie & Wynberg, 2001). The participation discourse, so dominant in the development field, has thus submerged itself firmly into the CBNRM approach to conservation, resulting in a convergence of the two formerly distinct fields of development and conservation (Chatty & Colchester, 2002; McCabe et al., 1992).

A number of restitution claims since 1994 have been focused on conservation areas. This has ignited polarised positions between the land sector on the one hand, and the conservation sector on the other, who increasingly come into conflict over land reform projects (Geisler & Letsoalo, 2000; Kepe et al., 2003). The Bill of Rights obliges the state to ensure that both environmental and land reform objectives are realised (RSA, 1996). The ‘White Paper on the Conservation and Sustainable Use of South Africa’s Biological Diversity, 1997’ (DEAT, 1997), is also significant because it overtly employs a number of social objectives within conservation goals. This paper argues that PES is a particularly promising avenue which ensures both environmental and livelihood goals are met on environmentally significant land.

1.3 Introducing Payment for Environmental Services (PES)

The terms ‘ecosystem services’ and ‘environmental services’ are often used interchangeably in the literature. Ecosystem services are defined by the MEA as “the benefits people obtain from ecosystems” (2003, 3). The definitional discrepancy between ecosystem services and environmental services is that the latter refers “to the subset of ecosystem services characterised by externalities” (FAO 2007, 6). Externalities refer to the inadvertent consequences of specific activities like agricultural production, which may result in outputs which are negative for ecosystems, such as loss of soil fertility. Environmental services (ES) therefore focus on restoring a healthy balance to ecosystems (Ajayi et al., 2012; Coase, 1960).

‘Payment for Environmental Services’ (PES) can be defined as:

“A voluntary, conditional transaction where at least one buyer pays at least one seller for maintaining or adopting sustainable land management practices that favour the provision of a well-defined environmental service” (Wunder 2005, 3).

However, the majority of PES schemes in developing countries do not comply with all of these conditions. Payments are especially unlikely to be voluntary (Muradian et al., 2010). Definitions of PES which assume that payments are made directly by ES users overlook the fact that states (or other intermediaries) often pay for these services on behalf of users (FAO, 2007). In South Africa where income deprivation is widespread, it may not be as easy or ethical to link buyer and seller directly in a PES market (Buscher, 2012).

PES programmes are generally focused on four ES: watershed protection, conservation of biodiversity, carbon sequestration and protecting the environment for aesthetic reasons. (Grieg-Gran et al., 2005; FAO, 2007). *Watershed services* involve upstream landowners maintaining the health of water supplies for downstream water users. This may include restoring wetlands and clearing invasive alien plants (IAPs) which deplete water sources at unsustainable rates (Turpie et al., 2008). *Conserving biodiversity* maintains the balance of ecosystems, provides resilience to shocks, and protects natural evolutionary processes. Biodiversity conservation services can be provided by landowners who leave areas rich in biodiversity uncultivated, restore indigenous species and remove IAPs (Landell-Mills, 2002).

Carbon sequestration programmes aim to reduce greenhouse gases through planting trees which have a natural capacity to soak up carbon emissions. In South Africa, spekboom (*Portulacaria afra*) has illustrated a remarkable capability for sequestering carbon and thus programmes in the country focus

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on planting and restoring this indigenous specie (Mills & Cowling, 2006). The last ES involves *preserving the natural beauty of the environment for aesthetic reasons* and ecotourism is often used to provide this service (Fabricius & de Wet, 2002; Kepe et al., 2003).

1.4 Research Question

This paper will investigate the following research question:

“How can PES be integrated into the land reform process to make livelihoods more sustainable?”

PES programmes in South Africa are unique because the vast majority of them are run through the ‘Expanded Public Works Programme’ (EPWP), which contracts the landless poor to provide ES (Blignaut et al., 2008). While this approach has succeeded in providing short term employment to a number of marginalised poor, this paper will argue that the ‘public works model’ to PES is not sustainable and does not address the deep socioeconomic inequalities inherent in South African society. This paper will explore whether combining land reform and PES projects can address inequality and provide livelihoods which are more socially and ecologically sustainable.

1.5 Methodology and Structure

This research topic brings together a number of interlinking themes. The paper draws on a wealth of international literature, as well as literature focusing on the South African context. Themes such as land reform, sustainable livelihoods, biodiversity conservation and PES will be explored in order to answer the research question. The available literature will be examined through a specific conceptual lens - the Sustainable Livelihoods Framework (SLF) - which provides a relevant policy focus that simultaneously prioritises social and ecological goals.

The *Literature Review* scrutinises the poverty reducing potential of land reform, biodiversity conservation and PES and introduces the conceptual framework. The *Case Study* looks at the achievements of PES in South Africa by focusing on the ‘Working for Water’ (WFW) programme, which will be evaluated using the SLF. The *Conclusion* then provides policy prescriptions which can ensure PES is successful in reconciling conservation and livelihood goals. This paper’s ‘added value’ is in suggesting that the government’s PES programmes be implemented in combination with land reform in order to create sustainable livelihoods and address inequality.

2. LITERATURE REVIEW

2.1 Land Reform as a Poverty Reducing Strategy

International studies promote land reform on the basis of its assumed ability to reduce poverty and income inequality. Much of the literature is however pragmatic in acknowledging that benefits often occur over long periods and are contingent on comprehensive post-settlement support (Hall, 2007). A WB study in the 1990's, illustrated a correlation between strong economic growth and more equal distribution of land and thus provided quantitative evidence to the emotive discourse for land justice (Binswanger et al., 1995; Deininger, 2006). In asserting that, “land reform can make a significant contribution to the alleviation of poverty and injustices caused by past apartheid policies” (DLA 1997, 14), the ‘White Paper on South African Land Reform’ prescribes to the almost universal agreement of land reform’s capacity to reduce poverty.

With an increasing number of land reform projects failing to deliver improved livelihoods for beneficiaries, there is a growing discourse criticising land reform in South Africa. Lahiff (2011), asserts that “the case for land reform as a means of reducing poverty is weak at best and, in terms of historical experience, dependent on specific social, economic and political conditions” (p.58). Many authors assert that the lack of empirical studies in South Africa which document the livelihood benefits derived from land reform projects, make it hard to prove a causal link between land reform and poverty reduction (Chimhowu, 2006; Hall, 2007; Lahiff, 2011). However, factors which are repeatedly said to undermine land reform’s poverty reducing potential in South Africa include:

- A lack of post-settlement (De Villiers, 2003; Lahiff, 2011).
- Failure to incorporate land reform into a broader strategy for rural development and agrarian change (De Villiers, 2003; Lahiff & Cousins, 2005).
- Land reform has failed to respond adequately to deagrarianisation which has transformed the livelihood strategies of rural people (Bryceson, 2000; Ellis, 2000; Mabhena, 2012).
- The poor are not being targeted as beneficiaries because policy supports the emergence of a black commercial farming class rather than redistributing land to poor smallholders (Chimhowu, 2006; du Toit et al., 2011; Jacobs, 2003; Lahiff, 2011).
- Restrictions are placed on the use of redistributed land for household subsistence as well as commercial pursuits (Hall, 2007).
- A lack of coordination between relevant government departments, as well as with and between NGOs (du Toit et al., 2011; Hall, 2007).

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- Land reform projects have not taken the HIV/AIDS pandemic into account and so have failed to promote livelihood strategies that will ensure households can withstand the shocks of mortality and chronic morbidity (Hall, 2007).
- Strategic partnerships and contracts between land beneficiaries and conservation/government agencies often derive inferior benefits for landowners (Fabricius & de Wet, 2002; Kepe et al., 1999).

It is clear that land reform on its own will not necessarily reduce poverty. If people are to escape chronic poverty in South Africa a comprehensive approach is needed which does not end with land reform but rather supports land reform beneficiaries in building diverse and robust livelihood strategies. Unfortunately, the current trajectory of land reform policy in South Africa does not seem to be conducive to poverty alleviation.

2.2 Biodiversity Conservation and Poverty

“It is widely accepted that biodiversity loss and poverty are linked problems and that conservation and poverty reduction should be tackled together” (Adams et al. 2010, 18).

Recognition of the adverse effects of conservation on local livelihoods has resulted in a sharper focus on poverty reduction within the conservation agenda and discourse (Adams et al., 2010). However, attempts to combine social and environmental goals in approaches such as CBNRM, are subjected to sharp debate in the literature with no consensus over the success of the approach. Despite the concerns around combining socioeconomic and environmental goals, an influential position maintains that it is possible to create ‘pro-poor conservation’ strategies (IUCN, 2002). It seems however, that ‘win-win’ solutions have largely remained elusive. The relationship between biodiversity conservation and poverty is dependent on the specific context of interaction and therefore cannot be reduced to a single causal factor (Rangarajan & Shahabuddin, 2006). A more pragmatic position accepts that a number of institutional and ecological conditions are necessary to ensure comprehensive success but that in most cases trade-offs will be necessary between goals (Hulme & Murphee, 2001).

There is a tendency to oversimplify complex concepts like poverty and biodiversity in the literature, which leads to crude understandings which lack the nuance required for effective policy intervention. Agrawal and Redford (2010) advise that these two concepts should maintain their complex definitions so that policy recognises that it may not be able to alleviate all forms of poverty or all threats to biodiversity. As this paper later illustrates, the SLF is a multidimensional understanding of poverty and can therefore illuminate more clearly which of the poor’s assets can be enhanced through biodiversity conservation and PES in particular. Committing oneself to understanding the complex

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interactions which result in positive achievements for both concepts, will likely illuminate numerous variables and institutional conditions which contribute to improvements e.g. political climate, educational context and demographic change (Agrawal & Redford, 2010)

Despite limited success in achieving poverty alleviation through conservation programmes, Adams et al. (2010) emphasis that “it is premature to abandon attempts to combine conservation and development. The elimination of poverty and the preservation of biodiversity are two distinct objectives. Each may be driven by different moral agendas, but there is considerable overlap in practice” (p. 24).

2.3 Achieving Pro-Poor PES

Both pro-poor and anti-poor mechanisms can be identified in global case studies of PES programmes. There is considerable support for PES due to the expectation that it has the potential to provide ‘win-win’ outcomes for both poverty alleviation and environmental conservation (Muradian et al., 2010). Where the link between environmental degradation and poverty are explicit PES is likely to contribute to poverty alleviation. However, PES programmes could also exacerbate poverty if the external costs of PES are unfairly shouldered by the poor through reduced agricultural wages and job opportunities or increased food and water prices (FAO, 2007).

‘Spatial targeting’ for PES programmes significantly reduces the absolute percentage of poor who can participate in PES since not all land can provide ES. However studies have illustrated that environmentally strategic land often coincides with high levels of poverty due to the remote and underserved nature of these areas (Blignaut et al., 2008; Sunderlin et al., 2007; Wunder, 2010). Therefore PES may provide an essential ‘life line’ in areas that render few income generating opportunities. The international literature on PES stresses that one of the most important conditions for accessing PES is that the poor own land (Muradian et al., 2010; Pagiola & Platais, 2007; Wunder, 2010). This is a primary condition that South Africa has overlooked since PES providers are largely landless workers (Talbot, 2012). As will become clear later, this ‘public works approach’ to PES does not create sustainable livelihoods.

Critics of PES are concerned about the sustainability of PES as a livelihood strategy because it may entail forgoing other strategies such as subsistence farming. For smallholders, engaging in PES may directly compromise their food security (Muradian et al., 2010; Southgate et al., 2007). It is essential to evaluate the opportunity costs of the poor who participate in PES. However, in most cases it was found that participation in PES schemes presented relatively low opportunity costs for the poor (Costa & Zeller, 2003; Wunder, 2010). Another criticism of PES emphasises that by providing economic

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incentives one may ‘crowd out’ intrinsic motivation to protect the environment. Proponents of this theory therefore warn against the detrimental effects of using price incentives (McCauley, 2010; Frey & Oberholzer-Gee, 1997; Titmuss, 1970).

2.3.1 Is Pro-Poor PES Efficient?

PES cannot be relevant as a poverty alleviating strategy if it is only concerned with efficiency; it needs to consider equity concerns as well (Pagiola et al., 2005). However, this being said, for PES to provide a sustainable solution to poverty alleviation, it is essential that poor ES providers are relatively efficient. The WB (2008) warns that participation of the poor in PES has been limited due to the challenge of establishing competent monitoring systems and the high transaction costs involved. Purchasing from a number of poor smallholders compared to interacting with only a few large landowners, poses considerable limitations on efficient provision by poor providers (Smith & Scherr, 2002; Wunder & Alban, 2007).

There are specific creative interventions which can solve the high transaction cost conundrum faced by poor providers. If all ES providers in a specific province or region join together in a cooperative it can reduce the transaction costs as well as the administrative burden faced by ES buyers (Smith & Scherr, 2002). An attractive additional benefit of this approach is that by organising together, ES providers can optimise their bargaining power and thus ensure their interests are prioritised (Tacconi et al., 2010; Wunder, 2010).

2.3.2 Is PES Neoliberal Conservation?

PES conjures intense debate in the literature. There are positions expressed along the continuum between those who assert PES reduces nature’s inherent value by prescribing to ‘commodity fetishism’ (Kosoy & Corbera, 2010) and ‘neoliberal conservation’ (Buscher, 2012), and on the other extreme, those who praise PES for its ability to provide ‘win-win’ outcomes for environmental and social goals (Blignaut et al., 2010; Pagiola & Platais, 2007; Wunder, 2010). Buscher (2012) stresses that PES fits neatly within a neoliberal conservation paradigm, which is “the paradoxical idea that capitalist markets are the answer to their own ecological contradictions” (p.29). In this view PES is seen as the natural evolution of conservation, to fit within the neoliberal political economy of South Africa (Bond, 2000). Diederichs and Mander (2004) take a more pragmatic approach and appeal for the need to directly link human interest with environmental conservation in order to ensure conservation remains on the political agenda.

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Buscher (2007) claims that PES is only upheld due to the powerful vested interests of the WB and the broader ‘PES epistemic community’ and not for any development benefits. Buscher’s (2007) position is not necessarily pragmatic or pro-poor. It hardly seems socially just to necessitate poor communities to forgo certain landuse practices and incur opportunity costs without compensating them. This paper argues that in the case of PES the employment of market mechanisms can be pro-poor (if targeted correctly) and is the most pragmatic solution to the ecological challenge posed by environmental degradation.

2.3.4 Why Should We Pay for ES?

In most cases, markets do not develop naturally for ES and nor do they reflect its high value for society (Landell-Mills, 2002; Swallow et al., 2009).

The FAO (2007) asserts that:

“The most important source of ecosystem degradation, is the perception that many of nature’s services are free- in the sense that no one owns them or is rewarded for them” (p.5).

Creating PES markets should therefore be treated with urgency since ecosystem degradation can be irreversible and the negative effects will burden future generations inequitably (MEA, 2010). An important tenet of the argument for PES is that landowners need to be compensated for the opportunity costs involved in foregoing alternative land use strategies (Grieg-Gran et al., 2005). Alternative approaches to promoting ES such as endorsing sound environmental practices as the ‘right thing to do’ or actively regulating land management through laws and penalties, ignore the opportunity costs involved for landowners and are thus unsuccessful (WB, 2008).

2.4 Conceptual Framework: The Sustainable Livelihoods Framework (SLF)

The SLF provides for a holistic understanding of poverty that does not reduce it to income deprivation but rather acknowledges the importance of social deprivation (Rakodi, 2002; Shaffer, 2001). A livelihood can be defined as “the capabilities, assets (including both material and social resources) and activities required for a means of living” (Chambers & Conway 1992, 7). Livelihoods are said to be sustainable if they can recover from shocks and stresses such as seasonal unemployment, droughts, famine and political instability, while not compromising the natural resource system for future generations (Chambers & Conway, 1992). The framework divides the tangible (material) and intangible (social) assets people make use of in their livelihood strategies into five different forms of capital: financial (loans and money), natural (land and water), physical (assets and infrastructure),

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human (skills and education) and social capital (networks and relationships) (Carney, 1998; Hall, 2007).

SLF also recognises the importance of context by including into its analysis the external institutional and organisational structures and processes which mediate different forms of ‘capital’ (Landell-Mills & Porras, 2002; Cousins & Scoones, 2010). Land tenure policies for example, are an ‘institution’ which affects natural capital such as land (Scoones, 1998). The SLF is commended for its empowering approach because it emphasises the agency, capabilities and assets of the poor and promotes them as the principal foundation on which development projects should build (Rakodi, 2002).

The framework recognises that people have varied and multiple livelihood strategies. This is particularly useful in analysing rural livelihoods in contemporary South Africa where a process of deagrarianisation has been occurring over a long period; meaning that few rural people rely exclusively on agriculture and farm-based activities (Bryceson, 2000; Ellis, 2000; Mabhena, 2012; Murray, 2001). Policy should therefore support a diverse variety of livelihood strategies which should not rely exclusively on agriculture or PES for that matter.

This paper acknowledges the limitations of this framework, such as its inadequate cognisance of power relations and its inability to illuminate fully the conflicting interests between and within communities and households (Murray, 2002; Scoones 2009). The SLF’s assumption that the poor’s assets can be incrementally increased without tackling structural inequities prevalent in class, race or gender relations is also problematic (O’Laughlin, 2004). The SLF could also potentially have utilitarian applications whereby the most vulnerable poor are ignored by policy which only targets households which have assets upon which development programmes can build (Frediani, 2010; Rakodi, 2002).

An increased emphasis on the ‘institutional structures’ which mediate people’s livelihood portfolios can go some way in addressing the shortcomings of the SLF (Scoones, 2009). Structural inequities can be addressed by using PES schemes to consolidate land rights. Table 2.1 uses the SLF to analyse the potential benefits and risks of implementing a ‘land reform model’ to PES.

Table 2.1 Addressing PES and Land Reform in Tandem: Potential Livelihood Impacts

	Potential Benefits	Potential Risks
Natural Capital	<ul style="list-style-type: none"> Value of land increases due to increased value of natural assets 	<ul style="list-style-type: none"> Opportunity costs of relinquished land-use: harvesting, hunting or

	<ul style="list-style-type: none"> • Positive externalities of PES: clean water, soil quality, reduced pollution. 	agricultural activities.
Social Capital	<ul style="list-style-type: none"> • Increased community organisation and networking due to 'bundling' PES providers to reduce transaction costs. • Improved networking of community with government and donors. • Restoration of cultural heritage to land. • Tenure security. 	<ul style="list-style-type: none"> • Corrosion of community networks due to increased inequality. • Commodification of nature and exposure to commercial markets erodes local value system. • Increased competition for land displaces poor with informal property rights.
Physical Capital	<ul style="list-style-type: none"> • Development of rural infrastructure: transport, health care, schools, marketing, communication, research. 	<ul style="list-style-type: none"> • Infrastructure such as roads may be dismantled to make way for ES.
Human Capital	<ul style="list-style-type: none"> • Training programmes for PES providers: project and natural resource management; entrepreneurial and negotiation skills. • Improvements in health: a result of investments in healthcare; clean water supply; and increased income. 	<ul style="list-style-type: none"> • Education and skills development for PES providers is limited due to being allocated relatively menial jobs. • Skills acquired are not easily transferable to diversify income activities. • The health of the poor may decline if they are prevented from collecting medicinal plants.
Financial Capital	<ul style="list-style-type: none"> • Increased income from PES. • Higher income if landowners are allowed to use land for small-scale agriculture, ecotourism, fuel wood and/or timber. • Diversification of income strategies improve vulnerability context. 	<ul style="list-style-type: none"> • Income loss as a result of increased restrictions on land use. • Long term PES contracts impose restrictions on flexibility of livelihood strategies therefore reducing capability to respond to shocks.

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Sources: Grieg-Gran et al., 2005 and Landell-Mills & Porras, 2002 with own modifications.

The SLF has been influential among international development donors as a way of conceptualising their policies on land reform (DFID, 2002). Adopting the SLF helps shift the emphasis away from natural capital, towards a focus on other forms of capital needed to generate sustainable livelihoods. Hall (2007) believes that the SLF “constitutes a relevant basis for developing indicators of livelihood impacts – something which is now urgently needed for the land reform programme” (p.3).

There are a number of competing analytical paradigms which influence South African land reform policy. The most common frameworks include neoclassical economics, livelihoods approaches, new institutional economics, Marxism and radical political economy perspectives (Cousins & Scoones, 2010). Currently, the neoclassical perspective, which most often yields neoliberal policy prescriptions, dominates land reform policy (Greenberg, 2004; Lahiff, 2011). Under this paradigm the ‘viability measurement’ is conceptualised as economic efficiency; which is conflated with economic profit and high-productivity of large commercial farms. This interpretation leaves little room for alternative approaches such as generating sustainable livelihoods through smallholder ownership (Cousins & Scoones, 2010). This paper argues that the conceptual framework from which land reform is evaluated needs to shift from the present neoclassical form to the SLF. This will ensure that the objectives of land reform are not merely efficiency and de-racialisation of land ownership but also prioritising sustainable livelihoods for the rural poor.

Table 2.2: *Shifting South African Land Reform Policy: From a Neoclassical Framework to the Sustainable Livelihoods Framework.*

	Neoclassical Framework	Sustainable Livelihoods Framework
<u>Primary Focus:</u>	Efficient land markets which are not distorted by excessive state interference.	Land reform can reduce poverty by securing access to productive assets which can generate sustainable livelihoods for the rural poor.
<u>Central Concepts:</u>	Factors of production (labour, land and capital) should operate efficiently.	The rural poor rely on diverse livelihood strategies in the face of deagrarianisation.
<u>Implication for Policy:</u>	Market-based land reform. Emphasis on individual title to facilitate access to credit and encourage investment in land.	State subsidies should target poor beneficiaries. Promotion of smallholder ownership which is more sustainable and labour absorbing. Focus on rural development and poverty reduction.

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<u>Land Reform Beneficiaries Are:</u>	The most capable and productive farmers. Emphasis on ‘economies of scale’ therefore large commercial farmers are most efficient.	The rural poor who rely on multiple livelihoods; small farmers; and the unemployed.
<u>Indicators of ‘Viability’:</u>	Efficient production; profits on investment; commercial viability and potential to scale up productivity of land.	Land reform should reduce rural poverty; contribute to sustainable livelihoods; and address structural inequalities embedded in the institutional context.
<u>Crucial Questions:</u>	Does redistributed land produce efficiently and provide profitable returns on land, labour and capital?	Do land reform beneficiaries have access to multiple livelihood strategies to reduce their vulnerability to shocks and stresses?

Source: Cousins & Scoones, (2010) with own modifications.

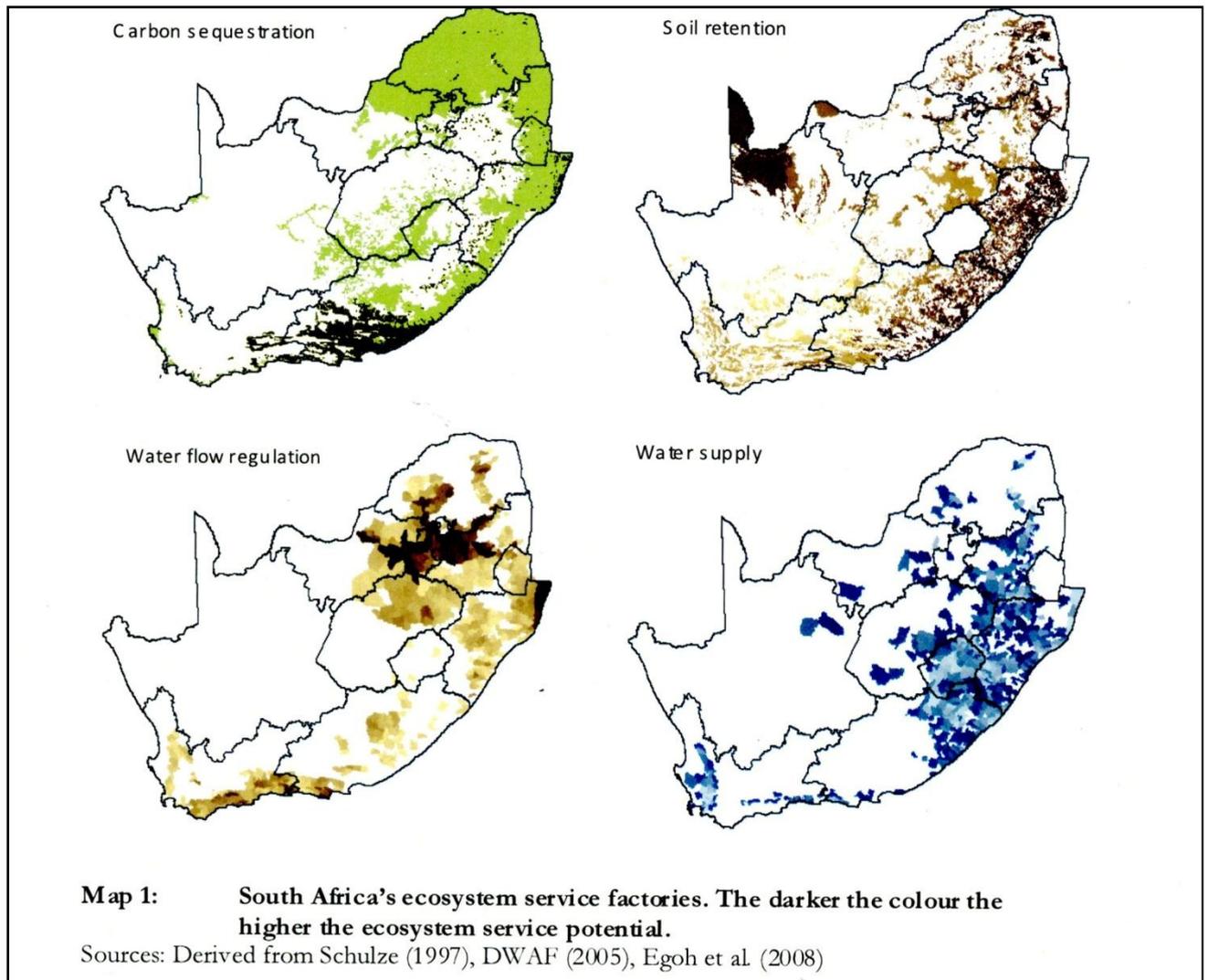
3. CASE STUDY AND DISCUSSION

3.1 Ecological Analysis of South Africa

South Africa encompasses a region with a rich abundance of biodiversity, a vast proportion of which lies outside its designated ‘conservation protected areas’ (Turpie et al., 2008). The country is classified as a ‘semi-arid’ region and suffers from acute water scarcity (Egoh et al., 2008). Turpie et al., (2008) stress that “water availability is predicted to be the single greatest and most urgent development constraint facing South Africa” (p.789). The wide acknowledgement that water shortages exacerbate disease, poverty and hunger in the developing world, (Ashton & Haasbroek, 2002; Falkenmark, 1994) has made securing water supplies a top priority for the government. The scarcity of water in South Africa has stimulated the creation of markets where services such as conserving riparian zones, catchment areas and wetlands have become valuable and thus tradable services (Turpie et al., 2008).

Other integral ES in South Africa, for which markets can be created include: carbon sequestration, soil retention and biodiversity conservation (Blignaut et al., 2008; Egoh et al., 2008). Map 3.1 below illustrates the geographical distribution of four ES. It demarcates ‘ecosystem service hotspots’ which are priority areas where large proportions of a specific service are located (Egoh et al., 2008). This ‘spatial mapping tool’, is a popular method for recording ecosystems which are high in biodiversity. This tool also helps project planners take costs into account when deciding which areas to target for PES schemes (OECD, 2010).

Map 3.1 Distribution of Four Ecosystem Services: Determining Priority Areas for PES



Source: Blignaut et al. (2008)

3.2 Measuring ES

It is necessary to have measurements and indicators in order to establish a payment scheme for ES. Measuring ES is however a unstable process because it is difficult to compartmentalise one service from others on which it depends (Kosoy & Corbera, 2010). Carbon has a standard measurement in tCO₂e (tonnes of carbon dioxide equivalent) which has enabled the creation of a 'carbon economy' where emission reductions can be traded in international markets (Bäckstrand & Lövbrand, 2006; Bumpus, 2010; Hepburn, 2009). However, biodiversity has no standardised metric and measuring water-increases is complex and expensive. The volatility of many ES measurements means that trade-offs are required between efficiency concerns and overall development objectives (OECD, 2010). Talbot (2012) comments that: "The payments in most PES schemes internationally are based on inputs (i.e. the number of hectares cleared or conserved). This is because the adoption of particular

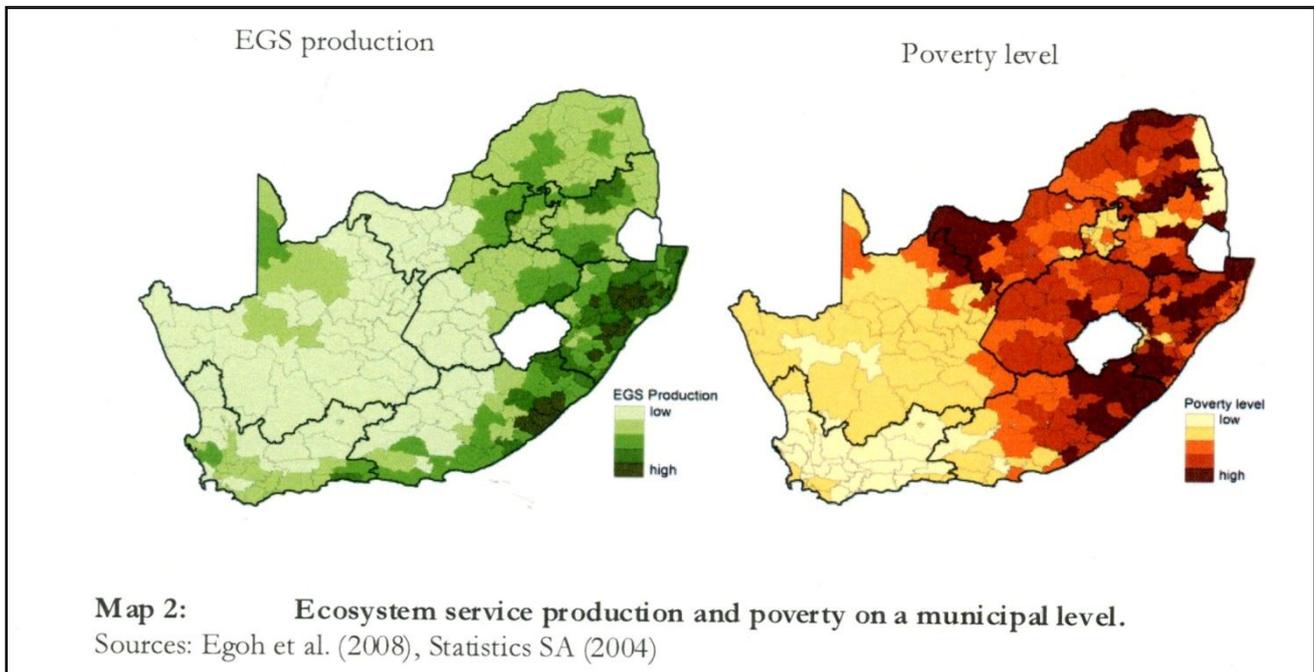
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land use practices is easier and cheaper to monitor than the volume and quality of water or carbon supplied” (p.24). The approach described by Talbot (2012) would also be fairer on PES producers since factors out of their control (like droughts) may compromise ES output.

3.3 Spatial Overlap of Poverty and ES

South African data that maps the distribution of poverty with the distribution of Environmental Goods and Services (EGS) or ES illustrates a spatial overlap (Blignaut et al., 2008). This means that if South Africa prioritises these regions, it is possible for PES schemes to simultaneously meet conservation and poverty goals. Map 3.2 illustrates the potential of ‘EGS production’ when four ES (carbon sequestration, soil retention, water supply and water flow regulation) are combined. The data is based on a poverty line for households whose annual income is below R4800 (GBP375). ‘High poverty’ refers to instances where over forty per cent of households live below the poverty line in any given municipality (Blignaut et al., 2008).

Map 3.2 Prioritising Regions Where EGS Production and High Poverty Levels Overlap Source:



Blignaut et al. (2008)

3.4 PES Potential in South Africa

Blignaut et al.’s (2008) assessment of the viability of establishing a nationwide PES scheme, illustrates the considerable potential of PES in South Africa. The market value of ES was estimated to

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be between R16, 514 (GBP 1300) million and R26, 255 (GBP 2067) million per annum and has the potential to generate between 442 634 and 472 634 jobs per year. Based on their analysis of where high levels of poverty coincide with ecosystems which have high productive potential (Map 3.2), the provinces of Eastern Cape, Limpopo, Mpumalanga and KwaZulu-Natal should be considered priority zones. The demand for ES is spatially separated from the supply side of ES as the former is located in South Africa’s wealthier cities and the latter in poor rural areas. The purchasers of ES would be urban users in South Africa’s wealthier cities, intermediaries (NGOs, private sector and government) and industrialised countries, (purchasing carbon offsets). It is envisioned that providers of ES will be poor rural communities and thus PES markets would be pro-poor in as far as the market exchange involves a transfer from relatively rich users to poor PES providers (Blignaut et al., 2008).

3.5 Existing PES Schemes in South Africa: The ‘Working for’ Programmes

In South Africa the creation of PES markets is still at the formative stages of design and implementation. There are a number of PES programmes in operation around the country however this paper will focus on the most prominent and extensive government led ‘Working for’ programmes: Working for Wetlands, Woodlands, Fire and Water. *Working for Wetlands* focuses on the restoration of wetlands in order to protect ecosystems; generate clean water supplies; protect against floods; provide water for agriculture; and conserve medicinal plants (DWAF, 2008; Ferraro, 2009; Talbot, 2012). *Working for Woodlands* is a carbon sequestration programme based on research findings which illustrate the potential of ‘spekboom’ to sequester large volumes of carbon (Mills & Cowling, 2006; Talbot, 2012). *Working on Fire* trains people in disadvantaged communities to prevent wildfires and thus protects human settlements and natural ecosystems (DWAF, 2008; Talbot, 2012).

Working for Water (WFW) will be analysed in depth below since it is the oldest and most extensive programme. However, many of the conclusions drawn from WFW can be applied to the rest of the programmes since they are operated on similar principles. What is unique about all the ‘Working for’ programmes is that unlike most international PES programmes which engage landowners as providers of ES, they operate as part of the Expanded Public Works Programme (EPWP) (Talbot, 2012; Turpie et al., 2008). This paper questions whether this ‘public works model’ is in fact contributing to sustainable livelihoods and addressing inequality in South Africa.

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3.5.1 Working for Water

WFW was established in 1995 in response to the critical danger posed to the country’s water resources by IAPs. The programme was embraced by the newly elected ANC government as an innovative response to both job creation and water security (Talbot, 2012). WFW is above all justified as a poverty alleviation programme. It runs as part of the EPWP and is governed by a strict affirmative action protocol. It focuses on recruiting unemployed and unskilled youth, women, the disabled and people who are HIV positive. WFW employs between 24,000 and 32, 000 people annually of which around 52% are women (Ferraro, 2009; Turpie et al., 2008). WFW provides labourers with ES related skills training and also runs programmes on life-skills, health and HIV/AIDS awareness. Contracted labourers are provided with two year contracts through the IAP removal programme. Small contractors are also encouraged to bid for WFW contracts to restore water catchments but are obliged to honour WFW’s recruitment protocol (Ferraro, 2009; Talbot, 2012).

The programme has a strong focus on sustainability and maximising its potential to add value to other industries by selling cleared IAPs for ‘eco-friendly’ fuel-wood, furniture and charcoal (Milton et al, 2003). WFW has extended to facilitate a number of additional projects which stimulate further job opportunities, although on a more conservative scale. One such project uses cleared IAPs as timber from which low cost ‘eco-coffins’ are produced. The project was a response to the country’s HIV/AIDS pandemic and seeks to relieve poor households from the burden of exorbitant funeral costs by providing affordable coffins (Woodworth, 2006).

Along with the social achievements of the project, it is also deemed a success on ecological grounds. It is now the largest PES programme operating in South Africa and has succeeded in clearing over one million hectares of IAPs. In the first ten years of the programme’s inception, clearing occurred predominantly on state-owned land, much of which was designated conservation area. However more recently, over 66% of WFW’s clearing activities occur outside state-owned land (Turpie et al., 2008; Woodworth, 2006). IAPs are estimated to absorb over 7% of the country’s water resources as well as posing a threat to biodiversity and increasing chances for fires and floods (Ferraro, 2009). Cullis et al. (2007) estimated that annual water loss from IAPS in key catchment areas was as much as 695 million cubic metres. Estimates of the increase in stream flow as a result of WFW’s clearing programme are around 250 million cubic metres per annum (Turpie & Blignaut, 2005).

WFW operates as a public agency within the political orbit of the Department of Water Affairs and Forestry (DWAF). WFW receives the most comprehensive support of any natural resource based public works programme in the country, with a budget of over R500 (GBP 38) million per annum.

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WFW receives the majority (80%) of its budget through tax revenues derived from the government’s Poverty Relief Fund (Ferraro, 2009). A significant portion then comes from DWAF’s budget, of which a percentage is gathered from tariffs charged to water users. This latter source of funding is expected to increase as South Africa’s water policies are consolidated and implemented in the future. Marginal funds are also gathered from the private sector, donors and certain municipalities (Talbot, 2012; Turpie et al., 2008).

In the future as water security becomes a more pressing issue we may see the funding system transform from one strongly reliant on government funding to one where ES user and provider are linked more directly in voluntary market agreements (Turpie et al. 2008). There are obvious concerns for how this may affect the poor who will have to pay increased water fees since the levied charge does not distinguish between wealthier and poorer households. However, Turpie et al. (2008) emphasis that the water fees are “superimposed on a stepped pricing system” (p.792) which progressively differentiates between rich and poor.

3.6 Analysing the Sustainability of WFW

Criticisms of the programme can be made on both ecological and social grounds. Critics assert that the ecological goals of the programme have been compromised because priority areas are chosen according to where the need is greatest for the EPWP and not according to ecological priorities (Ferraro, 2009; Le Maitre et al., 2000; Macdonald, 2004). Others however contest this analysis and assert that WFW is an efficient and cost-effective solution to chronic water shortages (Turpie et al., 2008; Marais & Wannenburg, 2008).

“Clearing invasive aliens from riverbanks is about the cheapest water augmentation option you'll find, except stopping leaking pipes and getting people to use less water”

(Marais, cited in Woodworth 2006, 38).

Despite its alleged pro-poor focus, WFW has been criticised for not distributing payments in a timely manner and failing to provide long term employment opportunities for the poor. WFW had hoped that the skills workers learnt during their two year contracts would enable them to set up their own IAP clearing businesses. The programme envisioned that these entrepreneurs could then serve demand from private landowners (Woodworth, 2006). However, this has not materialised and thus the project has failed to build sustainable livelihoods for poor participants.

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Guy Preston, the ‘National Programme Leader’, admits to this shortcoming:

“Perhaps the most poignant example is the failure to create an ‘enabling environment’ for workers and contractors exiting the program. Were disincentives {like fining landowners who fail to clear invasive plants} to be used intelligently, it would be possible to create work opportunities for those who have completed an adequate training and empowerment program within Working for Water.”

(Preston, cited in Woodsworth 2006, 40).

Most privately owned land is required to pay for WFW services. Emerging farmers are prioritised for full subsidies and strategic land with high infestation rates are provided with a partial subsidy (first two clearings are 80% subsidised and the third is 60% subsidised). Additional incentives to clear private land which is not demarcated as a ‘priority zone’ include: providing herbicides and expertise or giving a maximum subsidy of 50% for clearing IAPs (Ferraro, 2009). Clearing IAPs requires several treatments and follow-ups to remove regrowth. However, the WFW PES scheme only covers initial costs of clearing IAPs and a limited number of follow-ups. Landowners are then burdened with the subsequent long term management of clearing without receiving any compensation. There are numerous cases where land has been re-infested by IAPs. This is a result of the failure to provide landowners with incentives to maintain the land and this also means that there is no assurance that the ES will be delivered in the long run (Talbot, 2012; Woodworth, 2006). It is clear that this PES model which relies on contracting poor providers through the EPWP has undermined its sustainability both from a social and ecological point of view.

WFW is aware that sustainability is at risk since no incentives are provided to landowners. WFW is allegedly in the process of establishing a ‘land-user incentive programme’, to ensure long term sustainable land management. This programme is expected to be facilitated through a partnership mechanism either with WFW itself or through NGOs such as ‘Conservation South Africa’. However, at present no comprehensive incentive scheme is in operation and without engaging landowners it is unlikely the programme will be sustainable (personal communication, S. Marais 2012, Conservation South Africa).

Table 3.1 contrasts the potential livelihood benefits of the current ‘public works model’ against a ‘land reform model’ for PES. The ‘land reform model’ would follow the characteristics of most international PES programmes more closely. It would engage land reform beneficiaries rather than contracting people through the EPWP and would thus be more ecologically sustainable by providing incentives for landowners to maintain ES. This model would also generate sustainable livelihoods for

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the rural poor rather than perpetuating informal labour and its associated lack of social security. Land redistribution would also address systemic inequality which the ‘public works model’ fails to address.

Table 3.1: Comparing the Livelihood Benefits of Two PES Models: ‘Public Works Model’ and ‘Land Reform Model’

	Land Reform Model	Public Works Model
Natural Capital	<ul style="list-style-type: none"> • Land ownership provides long term security of access to natural capital. • Value of land increases due to increased value of natural assets. • Positive externalities of PES: clean water, fertile soil, reduced pollution. 	<ul style="list-style-type: none"> • PES doesn’t lead to land ownership or secure access to natural capital. • Positive externalities of healthy ecosystem e.g. clean water, less pollution.
Social Capital	<ul style="list-style-type: none"> • Increased community organisation and networking due to ‘bundling’ PES providers to reduce transaction costs. • Improved networking of community with government and donors. • Restoration of cultural heritage to land. • Tenure security. 	<ul style="list-style-type: none"> • Opportunity to building up community networking during two year contract. • Potential to draw on network for future job opportunities. • PES does not address social marginalisation or cultural estrangement from the land. • PES does not increase tenure security.
Physical Capital	<ul style="list-style-type: none"> • Development of rural infrastructure: transport, health care, schools, marketing, communication, research. 	<ul style="list-style-type: none"> • Development of rural infrastructure in as far as it facilitates the national PES programme. • Short term PES payments are unlikely to be invested in rural infrastructure.
Human Capital	<ul style="list-style-type: none"> • Training programmes: project and natural resource management. • Entrepreneurial and negotiation skills. 	<ul style="list-style-type: none"> • Training Programmes: Natural resource management; skills from <i>potential</i> involvement in additional projects e.g. ‘eco-

	<ul style="list-style-type: none"> • Improvements in health: HIV/AIDS awareness, clean water, increased income and investments in healthcare. 	<ul style="list-style-type: none"> • Unlikely to gain project management or negotiation skills. • Improvements in health: HIV/AIDS awareness, clean water and increased income.
Financial Capital	<ul style="list-style-type: none"> • Increased income from ES sales. • Entrepreneurial skills provide potential to diversify income strategies. • Income from land-based activities: small-scale agriculture, ecotourism, fuel- wood or timber. 	<ul style="list-style-type: none"> • Income from two year contract with EPWP. • <i>Potential</i> additional income from related projects e.g. eco-coffins. • Absence of land rights therefore unable to diversify income with land-based strategies.

Sources: ‘Land Reform Model’ based on Grieg-Gran et al., 2005 and Landell-Mills & Porras, 2002 with own modifications.

4. CONCLUSION AND POLICY PRIORITIES

4.1 Creating Sustainable Livelihoods through PES

This paper has illustrated that the SLF is a useful tool for analysing livelihood benefits derived from PES programmes. The framework’s multidimensional understanding of poverty and acknowledgement that the rural poor have developed diverse livelihood strategies in the face of deagrarianisation, makes it especially relevant to the rural South African context. There are a number of ways that PES in combination with land reform can contribute to all five aspects of capital held by the poor. *Human capital* can be nurtured through training programmes and skills learnt through participation in PES can be replicated in other income-generating activities (Grieg-Gran et al., 2005). *Human capital* benefits derived from the ‘public works model’ are likely to be significantly less pronounced since participants are not empowered to manage PES programme, since they are merely contracted workers. The ‘land reform model’ of PES also provides opportunities to increase *financial capital* through land-based activities and secures long term access to *natural capital*.

Social capital can be developed by including previously marginalised communities into social networks which preside over PES management (Grieg-Gran et al., 2010). Gong et al. (2010) found that social capital was an integral element in determining the outcome of PES programmes since

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mistrust between PES providers and government (or conservation agencies) can undermine environmental goals. Once again social capital gained through a ‘land reform model’ will be far more robust as networks will be maintained over the long term. This model would stimulate investment in rural infrastructure as a result of the long term guarantee provided by secure tenure and thus gains in *physical capital* will also be more pronounced (Tacconi et al, 2010). Providing secure tenure to PES providers derives considerably more benefits than the ‘public works model’ since it increases the likelihood of accessing credit; provides an incentive to use land sustainably; and encourages investment in land (De Soto, 1993).

It is clear that a ‘land reform model’ provides far more robust and sustainable livelihoods for the poor and will do significantly more to improve their vulnerability context. Muradian et al. (2010) emphasis that within PES literature, issues of political economy, power relations, distributional inequity and social embeddedness are under examined. However, by incorporating land reform into the PES programme one can begin to address these issues rather than reproducing the deeply unequal socioeconomic structures inherent in South African society.

4.2 Using PES to Consolidate Land Rights

The injustice of inequitable land distribution provides potent potential for civil unrest. A large landless population is increasingly voicing its frustrations with the slow progress of land reform; epitomised in social movements such as the *Landless People’s Movement of South Africa* (Greenberg, 2004). Civil unrest and its associated violence have proven disastrous for nature conservation elsewhere on the African continent, Zimbabwe being a prime example (Geisler & Letsoalo, 2000). Therefore the need to hasten the land reform programme is motivated by both ecological and social justice considerations. Ensuring that land reform and biodiversity conservation are synergistic is integral to the long term security of society and therefore policy should address them concurrently. However, to date policy has achieved only minimal success in coordinating these two sectors (Kepe et al., 2003). A sharper focus on coordinating relevant government departments and NGOs is therefore imperative (Hall, 2007).

This paper argues that pro-poor outcomes can be best facilitated, if PES programmes are initiated in combination with a comprehensive land reform programme which prioritises poverty alleviation by targeting the poor as beneficiaries. Caution should be employed however, regarding making ‘formal’ land title a prerequisite of accessing PES since this has the potential to be anti-poor. This is especially relevant in South Africa where informal and customary tenure are widespread (Du Toit et al, 2011; Lahiff, 2011). Implementing a flexible approach in regards to land rights which acknowledges

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informal, customary and collective tenure rights is likely to be a more inclusive and pro-poor approach (Landell-Mills, 2002). However, where rights to land are insecure and people are potentially subjected to evictions as a result of informal tenure, ES buyers (government, private sector, donors and NGOs) could play a positive role in consolidating land rights by actively supporting land tenure security processes (Rosa et al., 2003).

PES can also protect conservation land from ‘land grabs’ that are often justified by land being unused. If land owners can illustrate that the land is economically productive this will protect the land rights of PES providers (Robertson & Wunder, 2005). Some authors warn that PES may result in elite capture and smallholder insecurity where informal property rights are pervasive (Landell-Mills & Porras, 2002). However, experience has illustrated that generally smallholder tenure security has improved through PES schemes and that the economic gains of PES were not significant enough to warrant elite capture (Rosa et al., 2003).

4.3 Making PES Work for the Poor

PES can benefit the poor in two different ways. The first is through indirect benefits such as improved soil fertility and water quality. These benefits only affect poverty in that they avoid impoverishment as a result of environmental degradation. The second form is by providing direct payments for ES and thus increasing the financial capital held by the poor (Sunderlin et al., 2010). According to Sunderlin et al. (2010) PES could potentially play a significant role in poverty alleviation if two conditions are met. The first of these is that the market for PES would need to experience a considerable expansion so that significantly more poor people could participate. The second precondition to ensuring a pro-poor emphasis is that the poor need to be skilled and efficient providers that are able to compete in PES markets. South Africa should thus focus on expanding PES markets while ensuring they prioritise poor participants for ES related skill development programmes.

The cost of establishing PES markets presents a major impediment to the poor’s participation. Government, donors, NGOs and the private sector could assist the poor in overcoming these barriers by financing start-up costs; establishing effective monitoring and evaluation systems; funding baseline studies; facilitating skills development programmes to ensure landowners are efficient ES providers; negotiating partnerships; and establishing cooperatives of PES providers in order to overcome high transaction costs (Wunder, 2010; FAO, 2007).

As the WFW example illustrated, it may be necessary to introduce complementary policies in order to ensure ecological standards are adhered to and this may include penalties for landowners who do not

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comply (Preston, cited in Woodsworth, 2006). Policy measures may include taxation; policy reforms which moderate market distortions; provision of information to stimulate ES; and command-and-control based regulations (FAO, 2007). Talbot (2012) advises a broader ecological financing framework whereby penalties are charged against all economic activities that damage the environment. These funds should then be used to restore the environment through PES. This approach ensures that citizens are not unfairly burdened with a “double inflationary effect” whereby they pay high prices for products that damage the environment, along with paying for ES through tariffs such as water charges. This approach is pro-poor because it ensures that important natural resources such as water can be subsidised by government through penalties imposed on the private sector. Other fiscal incentives include policies such as, offering ‘tax rebates’ for land which is registered as a protected area, and local municipalities in rural areas, can offer reduced property rates if portions of land are reserved for biodiversity conservation (Cummings, 2009; Talbot, 2012).

Ensuring that PES markets are efficient requires effective institutions which not only facilitate monitoring and evaluation, but are also able to ensure that concepts of equity and socio-ecological justice inform access to PES (MA, 2010). The establishment of fully functional ‘Water Catchment Agencies’ is likely to facilitate a PES market for water services by financing restoration activities, coordinating market payments and overseeing the delivery of services. However, these agencies are yet to be fully functional and have not been able to establish the legitimacy required to arbitrate existing conflicts around the distribution of water rights (King et al., 2008; Talbot, 2012). Establishing these agencies as soon as possible and ensuring they focus on creating equitable markets for PES providers should be a national priority.

At present there are plans to establish a national PES programme for South Africa. A series of workshops that were held in June 2011 by SANBI and Conservation International provided a solid basis for the establishment of a national framework for PES. One important proposal to come out of these workshops was the idea of creating a central fund to finance PES. The DBSA would play a key role as administrator along with stakeholders from government, NGOs and the private sector. This would facilitate the establishment of a nation-wide PES market prioritising biodiversity, water and carbon services. It is envisioned that this central PES fund would address many of the shortcomings of the current government ‘public works model’ by incentivising communal and private landowners to maintain restoration which is provided through the EPWP (SANBI, 2011).

This paper aimed to contribute to this discussion around what a national PES programme should prioritise. It is imperative that at this crucial programme design phase, alternative models are considered which can optimise the benefits of PES markets for the poor. This paper suggests that PES

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be implemented in conjunction with the land reform programme to consolidate land rights and ensure long term access to natural capital. It is widely acknowledged that much of state-owned land could be considered for redistribution to the poor, (De Villiers, 2003; Du Toit et al., 2011) and where this land can strategically provide ES there is an opportunity to engage land redistribution beneficiaries as ES providers. Where state-owned land cannot be redistributed the EPWP can continue to provide the landless poor with job opportunities through the ‘Working for’ programmes. PES should also be used to promote tenure security processes on private and communally owned land, as this will produce the most viable livelihoods for the poor (Rosa et al., 2003).

This paper sought to answer the following research question: “How can PES be integrated into the land reform process to make livelihoods more sustainable?” As this paper has demonstrated, the potential of PES is limited by spatial targeting since providers need to be living on environmentally significant land and thus not all land reform beneficiaries can be ES providers. However, where land reform can be implemented on environmentally strategic land, PES provides ample opportunity for achieving conservation goals and building sustainable livelihoods for the poor.

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