FINAL

AN INVENTORY OF CURRENT ECOSYSTEM SERVICE PAYMENTS, MARKETS, AND CAPACITY BUILDING IN SOUTH AFRICA

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Purpose

The purpose of this document is to introduce a method for conducting country-level inventories of ecosystem service payment, market, and capacity building activities. These inventories are structured to document existing deals, programs, policies, capacity building initiatives, gaps and potentials. The ecosystem service transactions that are covered should include both monetary and non-monetary exchanges. Overall, the inventory is structured around a series of matrices that include key elements for robust ecosystem service payments, markets, and capacity building efforts.

The overall goal of the inventory is to "take stock" of the current status of ecosystem service payments, markets and capacity. The resulting reports will provide baseline data that can inform planning, prioritizing, and developing strategies that will expand payments and markets related to ecosystem services.

As you fill out the matrices and complete the inventory, please remember that it is designed to be an iterative process. If there are questions for which there is no available data, simply write "NA" (not available). This approach will both provide a "snapshot" of what is currently known to exist and offer an important first step in beginning to understand the full in-country picture related to ecosystem service payments, markets, and capacity.

If you have any questions about these materials, please do not hesitate to contact Sara Scherr, Director, Ecosystem Services Program, Forest Trends (sscherr@forest-trends.org) or Sissel Waage, Consultant, Forest Trends (sisselwaage@hotmail.com).

Background

Ecosystems provide a wide range of services from clean water through carbon sequestration and biological diversity. People and companies rely on these services—for raw material inputs, production processes, and climate stability. At present, however, many of these ecosystem services are either undervalued or have no financial value at all. As day-to day decisions often focus on immediate financial returns, ecosystem structures and functions are being fundamentally undercut.[1]

[1] For more information, please see: Daily, Gretchen C. *Nature's Services: Societal Dependence on Natural Ecosystems*. Washington, DC: Island Press, 1997; Millennium Ecosystem Assessment Board. 2005. "Living Beyond Our Means: Natural Assets and Human Well-Being." Geneva, Switzerland: The United Nations Environment Program.

Concern is resulting in innovation. Markets are emerging for ecosystem services in countries around the world. For example, formal, multi-million dollar markets now exist in greenhouse gases, wetlands, water pollution, and even in endangered species. And systems of payment are being established for specific services provided by ecosystems.[2]

Current ecosystem services payments include both monetary and non-monetary transactions (such as deals related to shifting property rights) between an individual (or a group of people) who provides services ("sellers") and an individual (or a group) who pays for maintenance of these services. The key characteristic of these buyer/seller transactions is that the focus is on maintaining a flow of a specified ecological "service," such as retaining clean water, biodiversity, and carbon sequestration capabilities. In order to ensure that the ecological service is indeed maintained—as buyers expect for their money—the transactions require regular, independent verification of sellers' actions and effects on the resources. In sum, the key attributes of ecosystem service payments and markets are that sellers (a) maintain specific ecological structures and functions, and (b) remain accountable to independent verifiers that the "service" being paid for is indeed being delivered.

Major Ecosystem Services

- *Purification of air and water*
- *Regulation of water flow*
- *Detoxification and decomposition of wastes*
- *Generation and renewal of soil and soil fertility*
- *Pollination of crops and natural vegetation*
- *Control of agricultural pests*
- *Dispersal of seeds and translocation of nutrients*
- *Maintenance of biodiversity*
- *Partial climatic stabilization*
- *Moderation of temperature extremes*
- *Wind breaks*
- *Support for diverse human cultures*
- *Aesthetic beauty and landscape enrichment*

Source: Daily, Gretchen. 1997. Nature's Services. *Washinaton D.C., USA: Island Press.*

It is important to note that the definition of payments for ecosystem services does not include transactions in which money exchanges hands but there is no associated requirement that the recipient of funds actively takes particular natural resource management actions. For example, if a community were to allow a conservation organization to use and manage their historical common property for wildlife protection and revenue sharing, it would not necessarily be a payment for ecosystem service. In this case, the community is not specifically taking action (and/or foregoing other practices) to maintain a particular set of ecosystem services. Rather, the case of wildlife protection and conservation undertaken by an outside group that pays a community is simply a separate kind of transaction.

(For further information on payments for ecosystem services, please see: http://www.ecosystemmarketplace.com/)

[2] For more information, please see: http://www.ecosystemmarketplace.com/

The four broad types of ecosystem service payments can be categorized into:

(1) *public payment schemes* to private land and forest owners to maintain or enhance ecosystem services;
(2) *open trading between buyers and sellers under a regulatory cap or floor* on the level of ecosystem services to be provided;
(3) *self-organized private deals* in which individual beneficiaries of ecosystem services contract directly with providers of those services; and
(4) *eco-labeling of products* that assures buyers that production processes involved have a neutral or positive effect on ecosystem services.

The focus of this country-level inventory work will be primarily on the first three categories, only briefly touching on eco-labeling.

A few examples of biodiversity and water market payments are offered in Table 1 and 2.

Table 1: Types of Payments for Biodiversity Protection[3]

Purchase of High-Value Habitat
▪ Private land acquisition (purchase by private buyers or NGOs explicitly for biodiversity conservation) ▪ Public land acquisition (purchase by government agency explicitly for biodiversity conservation)
Payment for Access to Species or Habitat
▪ Bioprospecting rights (rights to collect, test and use genetic material from a designated area) ▪ Research permits (right to collect specimens, take measurements in area) ▪ Hunting, fishing or gathering permits for wild species ▪ Ecotourism use (rights to enter area, observe wildlife, camp or hike)
Payment for Biodiversity-Conserving Management
▪ Conservation easements (owner paid to use and manage defined piece of land only for conservation purposes; restrictions are usually in perpetuity and transferable upon sale of the land) ▪ Conservation land lease (owner paid to use and manage defined piece of land for conservation purposes, for defined period of time) ▪ Conservation concession (public forest agency is paid to maintain a defined area under conservation uses only; comparable to a forest logging concession) ▪ Community concession in public protected areas (individuals or communities are allocated use rights to a defined area of forest or grassland, in return for commitment to protect the area from practices that harm biodiversity) ▪ Management contracts for habitat or species conservation on private farms, forests, grazing lands (contract that details biodiversity management activities, and payments linked to the achievement of specified objectives)
Tradable Rights under Cap & Trade Regulations
▪ Tradable wetland mitigation credits (credits from wetland conservation or restoration that can be used to offset obligations of developers to maintain a minimum area of natural wetlands in a defined region) ▪ Tradable development rights (rights allocated to develop only a limited total area of natural habitat within a defined region) ▪ Tradable biodiversity credits (credits representing areas of biodiversity protection or enhancement, that can be purchased by developers to ensure they meet a minimum standard of biodiversity protection)
Support Biodiversity-Conserving Businesses
▪ Business shares in enterprises that manage for biodiversity conservation ▪ Biodiversity-friendly products (eco-labeling)

[3] Source: Scherr, Sara, Andy White, and Arvind Khare with contributions from Mira Inbar and Augusta Molar. 2004. "For Services Rendered: The Current Status and Future Potential of Markets for the Ecosystem Services Provided by Tropical Forests." Yokohama, Japan: International Tropical Timber Organization (pages 30-31).

Table 2: Examples of Water Market Payments[4]

Name of Case Study	Water-related ecological service provided	Supplier	Buyer	Instruments	Intended impacts on forests	Payment
Self Organized Private Deals						
France: Perrier Vittel's Payments for Water Quality	Quality drinking water	Upstream dairy farmers and forest landholders	A bottler of natural mineral water	Payments by bottler to upstream landowners for improved agricultural practices and for reforestation of sensitive infiltration zones	Reforestation but little impact because program focuses on agriculture	Vittel pays each farm about US$230 per hectare per year for seven years. The company spent an average of US$155,000 per farm or a total of US$3.8 million
Reforestation but little impact because program focuses on agriculture	Regularity of water flow for hydroelectricity generation	Private upstream owners of forest land	Private hydroelectric utilities, Government of Costa Rica and local NGO	Payments made by utility company via a local NGO to landowners; payments supplemented by government funds	Increased forest cover on private land; expansion of forests through protection and regeneration	Landowners who protect their forests receive $US 45/ha/yr, those who sustainably manage their forests receive $US 70/ha/yr, and those who reforest their land receive $US 116/ha/yr.
Cauca River, Colombia: Associations of Irrigators' Payments	Improvements of base flows and reduction of sedimentation in irrigation canals	Upstream forest landowners	Associations of irrigators; government agencies	Voluntary payments by associations to government agencies to private upstream landowners; purchase by agency of lands	Reforestation, erosion control, springs and waterways protection, and development of watershed communities	Association members voluntarily pay a water use fee of $US 1.5-2/litre on top of an already existing water access fee of $US 0.5/litre. The total investment was over US$ 1.5 billion between 1995-200
Trading Schemes						
United States: Nutrient Trading	Improved water quality	Point source polluters discharging below allowable level; non-point source polluters reducing their pollution	Polluting sources with discharge above allowable level	Trading of marketable nutrient reduction credits among industrial and agricultural polluting sources	Limited impact on forests-mainly the establishment of trees in riparian areas	Incentive payments of $5 to $10 per acre
Australia: Irrigators Financing of Upstream Reforestation	Reduction of water salinity	State Forests of New South Wales	An association of irrigation farmers	Water transpiration credits earned by State Forests for reforestation and sold to irrigators	Large-scale reforestation, including planting of desalination plants, trees and other deep rooted perennial vegetation	Irrigators pay $US 40/ha per year for 10 years to the government agency: State Forests of NSW. Revenues are used by SF to reforest on private and public lands. Private landowners receive an allowance but rights remain within the State Forestry

[4] Source: Scherr, Sara, Andy White, and Arvind Khare with contributions from Mira Inbar and Augusta Molar. 2004. "For Services Rendered: The Current Status and Future Potential of Markets for the Ecosystem Services Provided by Tropical Forests." Yokohama, Japan: International Tropical Timber Organization (pages 30-31).

The role of government in these payments and markets can vary greatly. It covers a spectrum that includes roles such as:

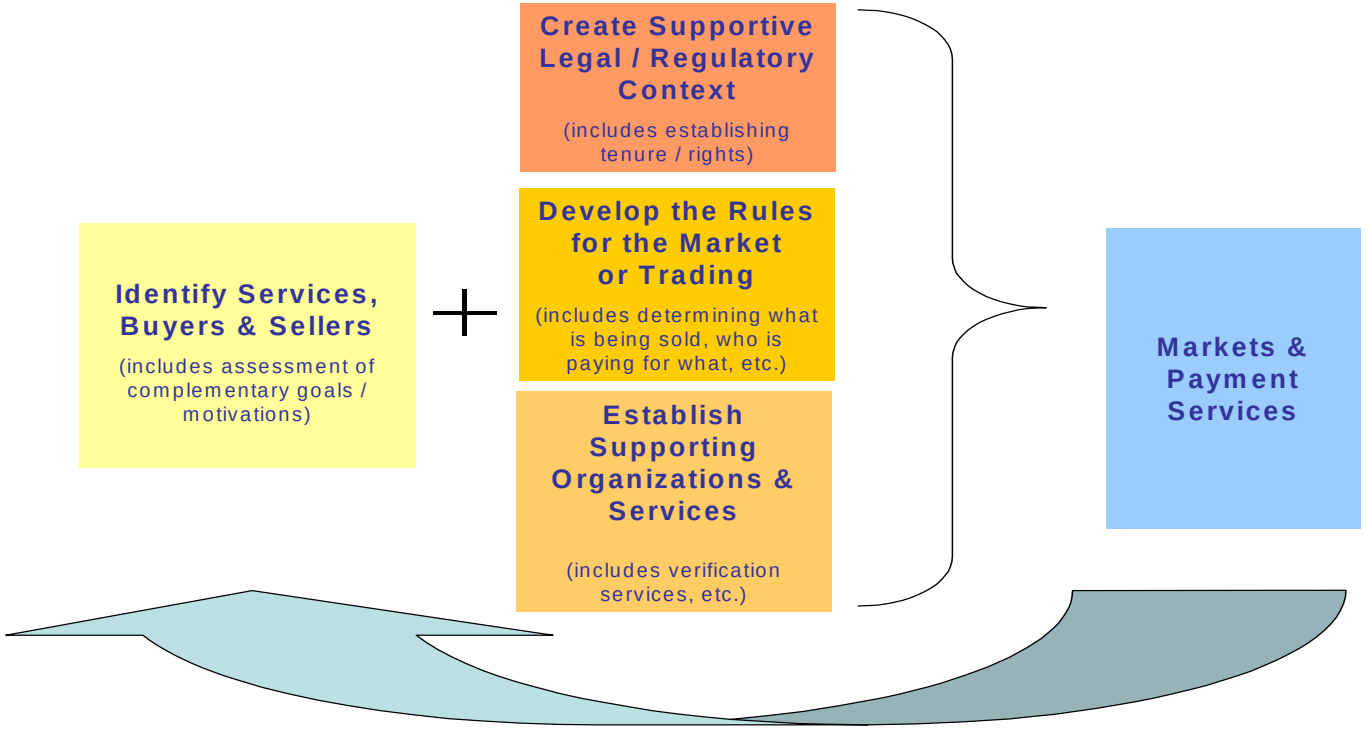
- government managing transactions;
- government serving as an intermediary between buyers and sellers (which could include assisting with transactions or simply providing training);
- government overseeing contracts;
- government "making the market" by setting up a cap and trade system, and
- no government involvement—other than overall legal sanction—as payments may focus on informal agreements.

The variance in government involvement is significant. And the range of options for how to become involved in payments and markets for ecosystem services equally broad. The opportunity to begin to understand what can be done—in particular places and communities around the world.

Inventory Approach

The method for conducting a country-level inventory is organized around a series of specific steps that relate to both the phases and components essential to establishing payments and markets for ecosystem services. (Figures 1, 2, and 3 illustrate the essential phases, types of markets, and component parts of these markets.)

Figure 1: The Phases for Ecosystem Services Payment and Market Creation



Adapted from Brand, David. 2002. "Investing in the Environmental Services of Australian Forests," in S. Pagiola, J. Bishop, and N. Landell-Mills (editors). *Selling Forest Environmental Services: Market-Based Mechanisms for Conservation and Development.* London, U.K.: Earthscan Publications.

Figure 2: Primary Types of Ecosystem Service Markets

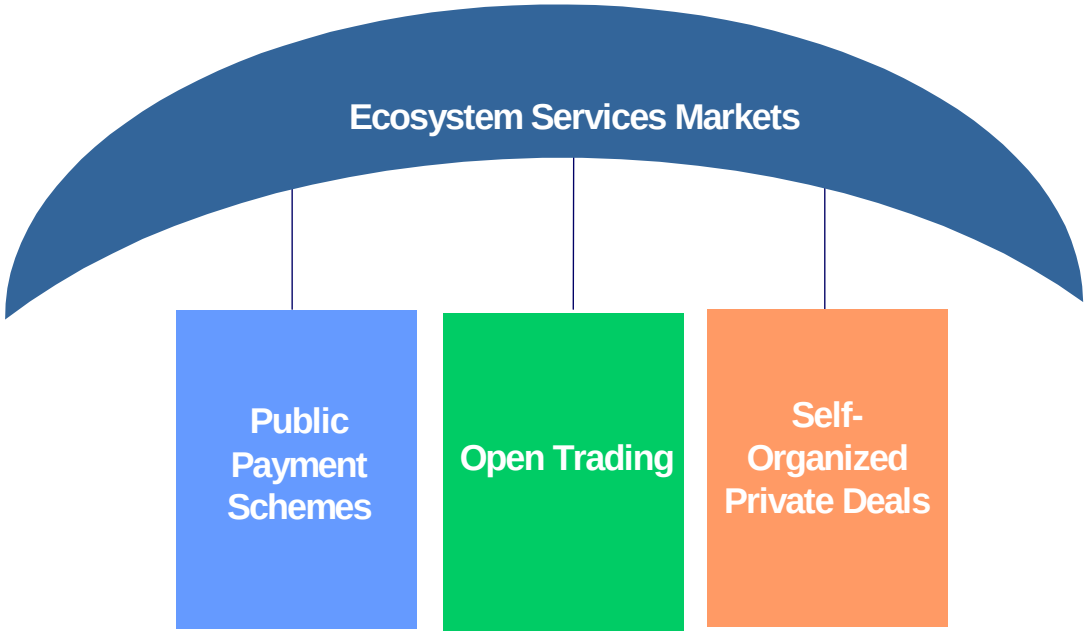
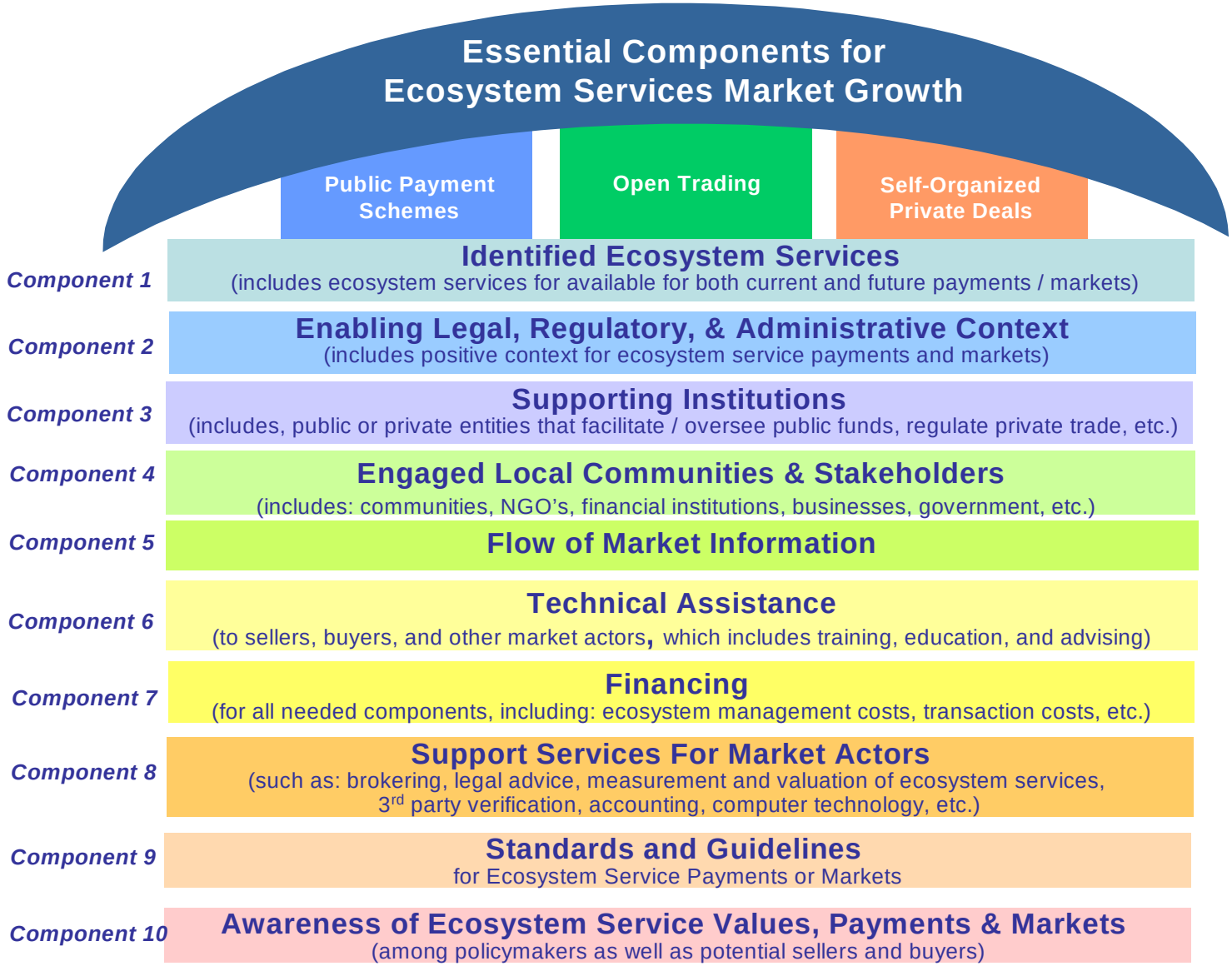


Figure 3: Essential Components for Establishing Ecosystem Services Payments and Markets



Each of the essential components—delineated in figure 3—translates into a step in an inventory of current efforts related to ecosystem service payments and markets. Specifically, the steps for conducting a country-level inventory include:

	INVENTORY ACTIVITIES	**RATIONALE**
Step 1*	Identify Ecosystem Service Payments, Markets, and Mechanisms Currently Operating In-Country	Draws out who buys, who sells, project location, etc. Provides an inventory of payments for ecosystem services.
Step 2	Review Country-Level Legal, Regulatory, & Administrative Context for Ecosystem Service Payments	Focuses on national laws, regulations, and administrative rules that enable or impede sales of specific ecosystem services, including specifics on private property rights and community rights to interact in deal discussions. Highlights existing government agencies that are relevant to ecosystem service sales and deals.
Step 3*	Document Existence of and Need for Supporting Institutions	Provides for an understanding of what institutional support currently exists—in public, private, or quasi-autonomous non-governmental sectors—and what is needed.
Step 4*	Assess Local Involvement in Payments for Ecosystem Services	Considers the basis for community interactions with ecosystem service payments as both sellers and buyers (with as much information as possible).
Step 5	Examine Market Information Flow	Examines a few core parameters related to flow of information about ecosystem service markets in-country.
Step 6	List Available Technical Assistance	Explores availability of technical assistance for launching new ecosystem service payments / markets in-country (includes technical assistance for buyers, sellers, intermediaries, policymakers).
Step 7	Identify all Potential Sources of Financing	Documents availability of capital for launching new projects.
Step 8A*	Detail Project-by-Project Support Services for Market Actors	Specifies what projects are using what support services.
Step 8B	Document Nationally-Available Support Services for Market Actors	Lists in-country availability of support services for ecosystem services project, payment, and market establishment (with as much specificity as possible).
Step 9	List Standards and Guidelines	Lists current standards and guidelines relevant to ecosystem service payments and markets.
Step 10	Assess Awareness of Ecosystem Service Values, Payments and Markets	Describes level of awareness related to ecosystem service values, payments and markets.

* means that these steps request project-specific information.

Worksheets

The following cover sheet and matrices structure a country-level inventory according to each of the phases and essential elements depicted in Figures 1 and 2. *In conducting the inventory, please complete each element / step.*

Upon completion of the country assessments, the worksheets will summarize the current status of ecosystem service payments and markets.

COVER PAGE:

Country: South Africa

Period Inventory Undertaken:
Begun: 19 July 2005
Completed: 08 September 2005

Name of Person Completing Inventory:
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Note:

As you complete the following worksheets, please keep notes on your thoughts regarding a SWOT analysis (strengths, weaknesses, opportunities and threats) relevant to the context for payments for ecosystem services. This information will be requested in one of the appendices. Most of the issue will arise in the course of completing the worksheets and it will be useful to keep running notes for yourself.

STEP 1:

IDENTIFY ECOSYSTEM SERVICE PAYMENTS, MARKETS, AND MECHANISMS CURRENTLY OPERATING IN COUNTRY
(Please also include projects where deals have been concluded, even if payments have not yet been made)

CURRENT ECOSYSTEM SERVICE PAYMENT OR MARKET *List specific in-country ecosystem service projects under each of the categories below.*	**WHO IS THE BUYER?** *List name(s) of both key contact people and government agencies, companies, etc.*	**WHO IS THE SELLER?** *List both name(s) of people and/or community organizations*	**(A) WHERE IS THE PROJECT LOCATED?** **(B) HOW MUCH AREA INVOLVED IN AGREED DEAL (HECTARES)?** *Include name of village and/or province*	**(A) HOW IS THE DEAL STRUCTURED?** *Is the deal:* *(A) A gov't payment?* *(B) A private deal?* *(C) open trading?* **(B) WHAT CONSERVATION MANAGEMENT PRACTICES REQUIRED?**	**HOW DO PAYMENTS FLOW FROM THE BUYER TO THE SELLER?** *Provide a brief explanation.*	**WHAT ARE THE ROLES OF THE INSTITUTIONS ENGAGED IN PAYMENT SCHEME?** *List all institutions involved (including intermediaries) and briefly explain roles.*	**DATE DEAL AGREED?** *List date contract or agreement signed.*	**CURRENT STATUS?** *State if in operation, in planning phase, etc., and whether payments made.*
Carbon								
Carbon Project 1:	Industries with high emissions, International demanders of carbon offsets	Sekhukhune rural households	Sekukhunelaand, Mpumalanga Province	A) A private deal B) Land rehabilitation through the planting of trees to stop soil erosion,	Direct payments for labour	Implementing institution is Environmental Offset Investments	To be decided	Planning Phase, No payment made yet
Carbon Project 2:	Not identified, potential sales to international industry (European)	Local Baviaanskloof Patensie Community	Baviaansklo of, Eastern Cape	A) A private deal but Government is funding the intial assessment B) Planting indigenous trees	Government (Department of Water Affairs and Forestry) acts as an intermediary	Department of Water Affairs and Forestry → Gamtoos Irrigation Board → Intermediary consultant → Community suppliers	Project ongoing, no deal signed	Planning phase, pilot for national learning (Poverty alleviation and rural upliftment project)
Carbon Project 3:	Department of Environmental Affairs and	Collectives as transaction costs are too	a) Across the Western and Eastern	(A) Not identified (B) Maintenance and possible rehabilitation	Not identified	Land user → Collective → Broker → Client	Ongoing negotiations	Planning phase, pilot

	Tourism (DEAT)	high for individual land owners. Gamtoos Irrigation Board and Stateleville	Cape provinces, subtropical thicket biome (b) Total area is 105 454 km2, however no deal has been set up yet. 30% of sub tropical thicket biome in RSA	of the vegetation (as developed in the conservation management plan)		(over the counter trade)		implementation for research and development
Carbon project 4:	Department of Environmental Affairs and Tourism (DEAT)	Collectives as transaction costs are too high for individual land owners. Port St Johns land owners	Port St Johns, Eastern Cape	A) Government payment B) Rehabilitation of riparian vegetation C) Rehabilitation of coastal dunes	Direct payments for labour	Implementing institution is Environmental Offset Investments	Started Nov 2004	On going
Carbon Project 5:	Department of Environmental Affairs and Tourism (DEAT)	Collectives as transaction costs are too high for individual land owners. Giyani communal land owners	Letaba Valley, Mpumalanga	A) Government payment B) Rehabilitation of riparian vegetation	Direct payments for labour	Implementing institution is Environmental Offset Investments	Started Nov 2005	On going
Biodiversity								
Biodiversity Project 1:	Potential identified: Government, Tourism sector	Potato farmers	Western Province	Government payment	To be decided	To be decided	To be decided	Scoping and Planning
Biodiversity Project 2:	Unidentified (Key biodiversity services need to	Local farmers	Little Karoo	To be decided	To be decided	To be decided	To be decided	Scoping and Planning

	be identified and valued first)							
Biodiversity Project 3:	Conservation sector, tourism sector	Communities surrounding the Kruger National Park	Kruger National Park	To be decided	To be decided	To be decided	To be decided	Scoping and Planning
Water								
Water Project 1:	FOSKOR, PMC, Commercial Game Farmers, Commercial irrigation agriculture Farmers	Legalamedtsi Nature Reserve, Community grazing cattle, x community, Rural farmers, Commercial farmers	Ga-Selati River, Olifants Catchment, South Africa	A) A series of private deals B) Conservation management practices include: removal of unproductive avocado trees; stopping grazing in the sponges; removal of alien invasive plants from riparian zones; and lining of earth irrigation channels	Direct payments will flow from the buyers to the sellers, for example: commercial farmers will provide training on good farm practices to rural farmers; Mines and industry will provide piping for earth channels	Providers: provision of services Buyers: provision of payments (cash and kind) Intermediary: Not identified at this stage	To be decided	Planning, No payment made yet
Water Project 2:	Sandton Bird Club	Mondi / Sappi Forestry	Sabie River, Sabie-Sand Catchment, South Africa	A) A private deal B) Protection of riparian vegetation and natural forest	Direct payments	Sandton Bird Club - Buyer Sappi - Supplier of forest protection with payments to local communities	To be decided	Planning, No payment made yet
Water Project 3:	Commercial Game Farmers for Tourism	Local communities	Sabie River, Sabie-Sand Catchment, South Africa	A) A private deal B) Improved rural irrigation agricultural practices	Direct payments	To be decided	To be decided	Planning, No payment made yet
Water Project 4:	Urban water users	Local communities	Sabie River, Sabie-Sand Catchment, South Africa	A) A private deal B) Improved land management alongside the rive and improved sanitation practices to reduce pollution levels in the river water	Direct payments	To be decided	To be decided	Planning, No payment made yet
Water Project 5:	Various water users across South Africa	The Maluti-Drakensberg communities	Maluti-Drakensburg , Kwa-zulu	A private deal and a Government payment	The project is investigating the feasibility of	To be decided	To be decided	Planning, No payment

			Natal		establishing a National Office for payments to act as an intermediary			made yet
Water Project 6:	Various water users: 1) Bulk water users (domestic and industrial); 2) Agriculture; 3) Forestry	Contractors provide services to Working for Water who sells the service to buyers. 33 thousand people	National, 1.2 million hectares of riparian zone and 11 million hectares of mountain area	A) A government payment B) Removal of alien invasive plant species that are large water users	The water user pays a water service provider such as a Municipality or Water User Association for the service, this is then paid into the National WARMS system (Department of Water Affairs and Forestry Accounting system) acting as central broker, from this the Working for Water programme is paid and they pay the service providers.	Working for Water trains teams to remove alien invasive plant species and thereby improve water supply, it also trains the team leaders to cost the work and develop quotes for buyers, a monitoring programme is also in place for follow up work. Each team acts as an individual unit providing the service and being paid for it.	1998/2000 and is ongoing	Implemented and payments have been made for the past ten years, it is still operational and has an annual income of 13 million ZAR
Water Project 7:	Various land owners	Working for Wetlands	National	A government payment		Working for Wetlands trains teams to provide services that rehabilitate wetlands and wetland functions, it also trains the team leaders to cost the work and develop quotes for buyers, a monitoring		Implemented and payments have and are currently being made

						programme is also in place for follow up work. Each team acts as an individual unit providing the service and being paid for it.		
Other Ecosystem Service Projects								
Fire Project 1	Individual land owners, Fire Protection Association, District and Local Government, Conservation agencies	Working on Fire is a section 21 Company made up of collectives that supply the service	Country wide	A) A government payment or private payment B) Integrated fire management practices	The Buyer (Land owner) pays the Working for Fire programme who acts as an intermediary. Payments are then made to each of the sub contracting teams providing the service	Working for Fire trains teams to provide the services that reduce fire risks in plantations and other areas, it also trains the team leaders to cost the work and develop quotes for buyers, a monitoring programme is also in place for follow up work. Each team acts as an individual unit providing the service and being paid for it.	Ongoing since	Implemented and payments are being made
Bundled services?								
None	None	None	None	None	None	None	None	None

STEP 2:

REVIEW COUNTRY-LEVEL LEGAL, REGULATORY, & ADMINISTRATIVE CONTEXT FOR ECOSYSTEM SERVICE PAYMENTS

(Please focus on specific laws, regulations, and administrative rules that pertain to sales and payments for ecosystem services. More general laws that relate to natural resource management do <u>not</u> have to be listed below.)

	ECOSYSTEM SERVICES			
	Carbon	**Biodiversity**	**Water**	**Other?**
DO NATIONAL LAWS, REGULATIONS, AND ADMINISTRATIVE RULES <u>SUPPORT / HELP WITH</u> SALES OF THIS ECOSYSTEM SERVICE? *(IF YES, PLEASE SPECIFY)*	No legal framework for the sale of carbon itself. However, the rehabilitation projects focused on the planting of natural vegetation would have to adhere to the National Water Act and the National Environmental Management Biodiversity Act, 2004 (No. 10 of 2004) and reforestation or afforestation projects would have to adhere to the following acts: Draft Water Conservation / Demand Management Strategy for the South African Forestry Sector Forest Act, No 72 of 1968 Forest Amendment Act, No 37 of 1971 Forest Amendment Act, No 45 of 1973 Forest Amendment Act, No 36 of 1975 General Regulations under the Forest Act 1968 National Forest Act, No 84 of 1998 National Forest and Fire Laws Amendment Act, No 12 of 2001 National Veld and Forest Fire Act, No 101 of 1998 Wattle Bark Industry Act, 1960 White Paper: Sustainable Forest Development in South Africa,	The National Environmental Management Act aims to balance the impacts of development on the environment and the poor. It recognizes that some environments due to national or international importance are important and require greater protection. So, where the provision of biodiversity services supports these goals the act is unlikely to prevent sales.	Yes, the National Water Act (Act No 36 of 1998) makes provision for the use of economic instruments in water management. It also sets strict guidelines for administrative structures and water regulation but does not prohibit trades in ecosystem services provided that the service does not constitute a water use as defined by the 11 water uses in the Act.	The National Environmental Management Act (NEMA); the National Land Act (NLA); and the Communities Land Act (CLA) all provide guidelines and regulation related to land use and thereby to the provision or sales of environmental services. Although explicit reference and support for environmental service payments if not made.

	March 1997 National Environmental Management Protected Areas Act, 2003 (Act No. 57 of 2003). Forest Act, 1984. National Environmental Management Biodiversity Act, 2004 (No. 10 of 2004). General Regulations under the Forest Act 1968 (No. R.1591).			
DO LAWS, REGULATIONS, AND ADMINISTRATIVE RULES SERVE AS OBSTACLES TO SALES OF THIS ECOSYSTEM SERVICE? *(IF YES, PLEASE SPECIFY)*	They serve as obstacles in terms of creating new carbon sinks as for instance the NWA prohibits afforestation in water scarce areas. The forestry laws would also play a limiting role in the introduction of new forests; however re-vegetation of indigenous plants and trees would be encouraged.	No, not for the provision of biodiversity services through land conservation easements and protection. The NEMA may prohibit development that does not provide for protection and offsets through the EIA process.	Government focus on redress may constrain markets for services as they are seen as an additional burden to buyers. It is unlikely that the National Government will find favor in markets where they do not allow for the participation of the poor and perpetuate inequities.	Yes, potentially depending on how the property rights are defined and what service is identified
DO LANDOWNERS HAVE A CLEAR, LEGAL RIGHT TO SELL ECOSYSTEM SERVICES? *(PLEASE SPECIFY WHAT LAWS RELATE TO THIS ISSUE)*	They serve as obstacles in terms of creating new carbon sinks as for instance the NWA prohibits afforestation in water scarce areas. The forestry laws would also play a limiting role in the introduction of new forests; however re-vegetation of indigenous plants and trees would be encouraged.	No clear laws on this. Provided the land activity required to provide the service does not infringe the National Water Act, the National Environmental Act or the National Land Act, it is unlikely to be prohibited.	No clear laws on this. The services can potentially be sold but the gains in terms of water quality improvements and water supply improvements have to be registered by the Department of Water Affairs and assigned to demanders by them. So there is no guarantee that the buyer paying will get the benefits.	No
DO COMMUNITY ORGANIZATIONS HAVE LEGAL RIGHTS TO: **- SELL?**	It appears that have rights to do so. However in a participatory and non-discriminatory manner among members of the	It appears that have rights to do so. However in a participatory and non-discriminatory manner among members of the organisation and without the consent of	Yes, they have the right to change their land management practices according to the	Potentially, however formal systems are not clearly established

- **TO APPROVE / REJECT DEALS?** *(PLEASE SPECIFY LAWS)*	organisation and without the consent of a majority of the members present at a general meeting of the association. (Communal Property Associations Act, 1996)	a majority of the members present at a general meeting of the association. (Communal Property Association)	communal lands act and the guidelines of the particular ruling chief. They can also choose to approve or reject deals/projects. However, if this land use activity falls under the 11 water uses identified in the water act, they will not have an automatic legal right to provide and sell it.	for all environmental services
ARE THERE GOVERNMENT AGENCIES THAT EXIST TO REGULATE AND MANAGE THE ECOSYSTEM SERVICES (E.G. CARBON OFFICE, EIA OFFICE, ETC.)**?** *(IF SO, PLEASE SPECIFY)*	No	Yes, the Department of Environmental Affairs and Tourism has an EIA office and manages all land use change and development processes. However, there is no specific focus on biodiversity services.	Yes, the Department of Water Affairs and Forestry is responsible for regulating, managing and monitoring all activities related to the provision of water supply and quality as well as the protection of the resource (including riparian zones, aquatic habitat, etc)	N/A
IS THERE ANY INVOLVEMENT OF GOVERNMENT IN DECREASING RISKS ASSOCIATED WITH PAYMENTS FOR ECOSYSTEM SERVICES (E.G. GOV'T BACKED INSURANCE, GUARENTEES, ETC.)**?** *(IF YES, PLEASE SPECIFY)*	Yes, Government funds the Research and Development for payments	No	Yes, through subsidies	N/A
ARE THERE ANY RELEVANT GOVERNMENT STANDARDS / GUIDELINES	The Designated National Authority (DNA) office in the Department of Minerals and	No	Yes, Invasive alien vegetation clearing standards and the	N/A

RELATED TO ECOSYSTEM SERVICES SALES? *(IF YES, PLEASE SPECIFY)*	Energy approve CDM projects once the relevant government departments have approved these and then screen these projects based on three sustainable development criteria.		National Water Act (Act No.36 of 1998)	
ARE ANY ADDITIONAL LAWS, REGULATIONS, OR ADMINISTRATIVE RULES NEEDED TO SUPPORT GROWTH OF ECOSYSTEM SERVICE PAYMENTS / MARKETS? *(IF YES, PLEASE SPECIFY)*	Administrative rules that create links between emissions licencing and the reduction of emissions through the introduction and maintenance of carbon sinks.	No	No	N/A

STEP 3:

DOCUMENT EXISTENCE OF AND NEED FOR SUPPORTING INSTITUTIONS

	ECOSYSTEM SERVICES			
	Carbon	**Biodiversity**	**Water**	**Fire**
ARE THERE ANY INSTITUTIONS THAT SUPPORT / HELP WITH SALES OF THIS ECOSYSTEM SERVICE? *IF YES, PLEASE SPECIFY BY:* - *GOVERNMENT AGENCIES?* - *PRIVATE COMPANIES / CONSULTANCIES?* - *NGOS?* - *QUANGOS?*	Designated National Authority (CDM office) office assists by sending approved projects to potential donors such as foreign embassies and other donors. Carbon credit brokers may provide assistance. Government agencies: Working for Woodlands NGOs: The Wilderness Foundation and Environmental Offsets Investments	No formally assigned institutions have been set up. There are a number of consultancies and research organisations that are involved in action-learning for biodiversity payments.	A formal institution for one specific service - the removal of alien invasive plants is the Working for Water and Wetlands Office managed by the Department of Water Affairs and Forestry. Otherwise there are a number of consultancies and research organisations that are involved in action-learning for watershed protection payments. The Government agencies involved are the National Department of Water Affairs and Forestry and the Working for Water programme	The Working on Fire Office which is linked to the working for water office managed by the Department of Water Affairs and Forestry.
IF ANY, WHAT OTHER INSTITUTIONS ARE NEEDED TO SUPPORT / HELP WITH SALES OF THIS ECOSYSTEM SERVICE? *IF YES, PLEASE SPECIFY BY:* - *GOVERNMENT AGENCIES?* - *PRIVATE*	Institutions that deal with awareness training and skills development in terms of constructing the payment deal. A definition of a woodland needs to be developed for South Africa, the Forestry Act needs to aligned with Kyoto and a woodland strategy developed. Communal land owners and traditional leaders need to be supported and empowered to make trades.	Institutions that provide training support with identifying services, buyers, sellers, value of service, and structuring the deals.	Institutions that provide training support with identifying services, buyers, sellers, value of service, and structuring the deals. Important institutions will be the newly established Catchment Management Agencies	No

COMPANIES / CONSULTANCIES? - *NGOS?* - *QUANGOS?*				

STEP 4:

ASSESS LOCAL INVOLVEMENT IN PAYMENTS FOR ECOSYSTEM SERVICES

CURRENT ECOSYSTEM SERVICE PAYMENT OR MARKET	(A) DOES THE PROJECT SITE HAVE LOCAL ORGANIZATIONS AND PARTICIPATORY DEVELOPMENT PROGRAMS IN PLACE? (B) IF YES, HOW LONG HAVE THEY BEEN IN PLACE? (C) IF YES, HOW ARE THESE ORG'S ENGAGED IN PAYMENTS FOR ECOSYSTEM SERVICES?	HAVE COMMUNITY REPRESENTATIVES BEEN SELECTED AND AUTHORIZED TO NEGOTIATE WITH OUTSIDERS?	DO LOCAL PEOPLE DECIDE HOW INCOMING ECOSYSTEM SERVICES FUNDS WILL BE SPENT? (IF SO, WHAT IS THE PROCESS AND WHO IS INVOLVED?)	ARE LOCAL PEOPLE—INCLUDING WOMEN—PARTICIPATING IN THE ENTIRE PROJECT LIFECYCLE? (INCLUDING, DESIGN, IMPLEMENTATION, MONITORING, AND FINANCIAL BENEFIT ACCRUAL)	ARE THERE ANY EXISTING ANALYSES ON LOCAL BENEFITS FROM PROJECT? (SUCH AS: CONTRIBUTIONS TO: HOUSEHOLD INCOME, LOCAL ORGANIZATIONS, ETC.) (IF YES, PLEASE SPECIFY)	(A) HAS A FINANCIAL ANALYSIS OF THE PROGRAM BEEN CONDUCTED? (B) HAVE ASSESSMENTS BEEN MADE OF RISKS AT A LOCAL LEVEL ASSOCIATED WITH PROJECT? (IF YES, PLEASE SPECIFY)
Carbon						
Carbon Project 1:	Yes	Ongoing development	To be decided	Yes	No	No
Carbon Project 2:	Yes	No	No	Yes	Yes, but data has yet to be processed	A) Yes, in progress B) Yes, Research and Development
Carbon Project 3:	Yes	Since December 2003	No	Yes	Yes, but data has yet to be processed	A) Yes, in progress B) Yes, Research and Development
Carbon Project 4:	Yes	Since November 2004	Yes - it is labour income	Yes	Yes, but data has yet to be processed	A) Yes, in progress B) Yes, Research

						and Development
Carbon project 5:	Yes	Since November 2004	yes - it is labour income	Yes	Yes, but data has yet to be processed	A) Yes, in progress B) Yes, Research and Development
Biodiversity						
Biodiversity Project 1:	Will be identified	Will be identified, still in planning				
Biodiversity Project 2:	Has local participation but have not discussed payments yet	To be decided	To be decided	Yes are involved in the initial planning phase	We are busy collecting this information	Still in the scoping phase
Biodiversity Project 3:	Not yet identified	Not yet identified	To be decided	To be decided	No	No
Water						
Water Project 1:	No	None at this stage, but one central contact will be selected and a forum for managing the river will be established	Still to be planned	Still to be planned, but they will be	Yes, a full livelihoods study has been done on potential benefits and losses through changing land practices	Not yet, but a Cost-Benefit Analysis will be done, once the hydrology study has been completed and a payment review will be carried out
Water Project 2:	No					
Water Project 3:	A) Yes; B) Unknown; C) The communities are responsible for supplying the service	Yes	Yes	Yes	No	No
Water Project 4:	No	No	No	Yes, but have not yet been identified	No	No
Water Project 5:	Yes	Ongoing development	To be decided	Yes	No	No
Water Project 6:	A) Yes; B)Since 1995; C) Private contractors from historically disadvantaged	Yes, but selected through the project manager and have no individual mandate	Yes	Yes	Yes	A) Yes; B) Yes

	communities, Project Steering Committees, Water Management Associations					
Water Project 7:	A) Yes; B)Since 1995; C) Private contractors from historically disadvantaged communities, Project Steering Committees, Water Management Associations	Yes, but selected through the project manager and have no individual mandate	Yes	Yes	Yes	A) Yes; B) Yes
Other Ecosystem Service Projects						
Fire Project 1:	A) Yes; B) Since 2003; C) The Working on Fire programme provides "in kind" infrastructure and management support; Local land owners pay a per hectare rate for services (0,69c to R1ZAR), this amounts to a R150mil-R200mil per annum market	Yes, community representatives have been selected but have not been authorised to negotiate with 'outsiders'	The Working on Fire team decides with input from Black Economic Empowerment representatives	Yes	Yes, Research and Development reports being undertaken	A) Yes; B) Yes, Fire Damage Risks

STEP 5:

EXAMINE MARKET INFORMATION FLOW AND PAYMENT FOR ECOSYSTEM SERVICES EXPERTISE

	ECOSYSTEM SERVICES			
	Carbon	**Biodiversity**	**Water**	**Fire**
HAS A NATIONAL ASSESSMENT OF POTENTIAL, FUTURE SITES FOR ECOSYSTEM SERVICE DEALS BEEN CONDUCTED? *(IF YES, PLEASE PROVIDE DETAILS.)*	No	No	Yes	No
HAS A NATIONAL ASSESSMENT OF BUYERS BEEN CONDUCTED? *(IF YES, PLEASE PROVIDE DETAILS.)*	No, however the DNA office has begun to compile a list of potential buyers or funders as specific projects are approved, no projects related to carbon sinks have been submitted to date.	No	Yes	Yes
IS THERE A PLACE THAT BUYERS AND INVESTORS CAN GO TO / CALL ABOUT ECOSYSTEM SERVICES DEALS & PRICES?	No	No	Yes, Working for Water but this is only for the removal of alien invasive plants. No, for all other watershed protection services	Yes, Working on Fire
ARE THERE TRAINING AND EDUCATION RESOURCES RELATED TO ECOSYSTEM SERVICES AND PAYMENTS?	No	No, limited	Yes	Yes
IS THERE ANY INFORMATION AVAILABLE ON RISKS AND/OR RISK MANAGEMENT ASSOCIATED WITH PAYMENTS FOR	Yes, general information is available on the UNFCCC website	No	No	Yes

ECOSYSTEM SERVICES? (IF SO, WHERE? HOW CAN IT BE OBTAINED?)				
ARE THERE EXPERTS IN ECOSYSTEM SERVICE MONITORING & EVALUATION IN-COUNTRY?	Price Waterhouse Coopers has been earmarked as a designated operational entity for CDMs (6 accredited entities worldwide), but have yet to be accredited.	No	No	Yes

STEP 6:

LIST AVAILABLE TECHNICAL ASSISTANCE
(such as, training, ongoing advising / support, in-service programs, etc.)

	ECOSYSTEM SERVICES			
	Carbon	**Biodiversity**	**Water**	**Fire**
IS THERE ANY CURRENT TECHNICAL ASSISTANCE IN IDENTIFYING AND ESTABLISHING ECOSYSTEM SERVICE PAYMENTS AND MARKETS? (e.g., training, ongoing advising / support, etc.)	No dedicated or specific technical assistance has been identified at a national level. Under the CDM mechanism the project developer is responsible for technical details, however technical assistance can be sought from funders or other institutions. Private and Government specialist support is however available.	Yes, training support through a World Bank funded project, but limited in terms of project lifespan	Yes, for working for wetlands and working for water. Not for other services such as sediment control, maintenance of aquatic habitat, etc	Yes, Working on Fire
IF YES, SPECIFY: ***TYPES OF TECHNICAL ASSISTANCE***	1) Managerial 2) Research 3) Specialist such as ecological assessment	Awareness training and identification of sites. Has a project focus, so not a national review.	Identifying providers, training providers, identifying buyers, negotiating deals, monitoring and evaluation	Identifying providers, training providers, identifying buyers, negotiating deals, monitoring and evaluation
PROVIDERS (CONTACT NAMES & ORGANIZATIONS)	Working for Woodlands - Christo Marais; University of Port Elizabeth - Richard Cowling; SANB - Anthony Mills; Rhodes University - Charlie Shackleton; Stellenbosch University - Tony Knowles; CSIR - Bob Scholes; Fort Hare University - Winston Trollip; University of Cape Town - Jane Turpie; Gamtoos Irrigation Board - Mike Powell	C.A.P.E - Trevor Sandwith	Working for Water - Christo Marais; Other organisations include (Department of Water Affairs and Forestry, Implementing agents, Cape Nature, SANParks, ID Trust, Irrigation Boards); CSIR - Nicola King	Working on Fire - Johan Heiner
WHO PAYS (BUYERS, SELLERS, GOVERNMENT)	Government funds the Research and Development	Donor funding	Government	Government

WHO HAS ACCESS (WHO USES, WHERE, HOW OFTEN, ETC.)	Project specific in terms of how and where information is accessed	Project stakeholders	Everyone has access, national, used as often as is required - web based	Everyone has access, national, used as often as is required - web based

STEP 7:

IDENTIFY ALL POTENTIAL SOURCES OF FINANCING
(such as, loans, grants, subsidies, in-kind payments, etc.)

ECOSYSTEM SERVICES								
	Carbon					Biodiversity	Water	Fire
WHAT TYPE AND SOURCE OF FINANCING IS AVAILABLE FOR ECOSYSTEM SERVICE PAYMENT / MARKET: - **PROJECT PLANNING?** - **TRANSACTIONS?** - **TECHNICAL ASSISTANCE?** - **BUSINESS PLANNING?** - **OPERATIONS?** - **RISK MANAGEMENT?** - **OTHER?**	Governments could use carbon taxes and subsidies to generate revenue and potentially use this to subsidise the development of emission reduction and/or carbon sequestration schemes. This source of funding can be used for the operation and management of ecosystem services	Loans from the World Bank can include financing or the provision of technical assistance for capacity building and project preparation as well as investment into the implementation of CDM or JI projects. The Development Bank of South Africa also provides funding	Joint Implementation (JI), Clean Development Mechanism (CDM) and Carbon Sequestration	Credits and loans to "green" development (theoretical option?)	Guarantees to "green" development (theoretical option?)	Project funding for research and development (Limited), relatively new field in RSA	Government subsidies and in-kind payments (training, piping for water); Working for Water - Government payments for the provision of necessary capital and start-up operating funds	Private payments
IF YES, SPECIFY FOR EACH AREA OF AVAILABLE FINANCING: ***WHERE / FROM WHOM?***	No info	World Bank: Carbon Investment Fund as part of Global Carbon Initiative (GCI). "Would obtain money from industrialised countries and the private sector" to invest in emission reduction (and	UN Conference on Trade and Development (UNCTAD) & the Earth Council Institute: Carbon Market Programme. Allows for global "market for trading in greenhouse gas emission allowances and	No Information	No Information	No Information	Extensive and varied (to be updated per project)	Financing from individual buyers normally Forestry and Agriculture

		potentially carbon sequestration) in transition (and potentially developing countries.	reduction credits."					
WHAT IS NEEDED TO QUALIFY?	This would be specific to the governmental regulations	No information available	Designated National Authority (located within the Department of Minerals & Energy) evaluates CDM projects in terms of 3 criteria: 1) Project must contribute to economic development; 2) project must contribute to social development; 3) project must conform	No Information	**No Information**	No Information	Application to working for water or wetlands programme	Application to working for fire programme
HOW MUCH? (UPWARD LIMIT TO SUPPORT)	Not identified	No information available	No info	No Information	**No Information**	No Information	To be defined	To be defined
CONTACT INFORMATION	Not identified	* World Bank: Carbon Offset Unit (202) 522-3256. * World Bank: Energy and Environment Strategy: Global Carbon Initiative 1818 H Street, NW Washington, DC 20433 Web: http://www-esd.worldbank.org/cc/ Phone: 202-477-1234 Fax: 202-522-3256 * Carbon Finance B	UNCTAD/Earth Council Carbon Market Programme UNCTAD, Palais des Nations, CH-1211 Geneva 10, Switzerland Tel: +41 (0)22 917 2116 Fax: +41 (0)22 917 0044 Email: cmp@unctad.org Web: http://r0.unctad.org/ghg/ South Af	No Information	**No Information**	No Information	Working for Water	Working on Fire

STEP 8A:

DETAIL PROJECT-BY-PROJECT SUPPORT SERVICES FOR MARKET ACTORS

(including, existence of in-country providers and their availability (e.g., country-wide, capital city only, etc.))

CURRENT ECOSYSTEM SERVICE PAYMENT OR MARKET	FINANCING (Provision of necessary capital / operating funds)	MEASUREMENT (Valuation of ecosystem service)	MONITORING (Regular collection & analysis of data to ensure accountability)	VERIFICATION (Process of review to ensure accuracy of information)	BUSINESS ADVISORY SERVICES (Financial advice, legal services, mediation, technical assistance, marketing support, market information, land title services, water right services, etc.)	REGISTRIES (Collection & configuration of information in a database)	CERTIFICATION (Examination of an ecosystem service or product according to a set of guidelines)	RISK MGNT (Address-ing financial and other risks associated with engaging in PES)	TRAINING & CAPACITY BUILDING (Increasing the pool of people interested in and able to act on PES)
Carbon									
Carbon Project 1:	Poverty alleviation funds	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified
Carbon Project 2:	Funding to still be sourced	Yes, Private consultants	Yes, Private consultants	Yes, Private Consultants	Yes, Private consultants	Yes, Private consultant	Not identified	Yes, Private consultant	Yes, Gamtoos Irrigation Board
Carbon Project 3:	Yes, Development Bank of Southern Africa	Yes, Working for Woodlands	Yes, Working for Woodlands	Yes, Working for Woodlands	GAP	GAP (FSC - Forestry Stewardship Certification to include Carbon)	National Certification Initiative	Working for Woodland funds	Developmen t Bank of Southern Africa
Carbon project 4:	Poverty alleviation funds	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified

Carbon Project 5:	Poverty alleviation funds	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified
Biodiversity									
Biodiversity Project 1:	World Bank funds for initial Research and Development	To be identified	To be identified	To be identified	To be identified	None	None	None	Yes, C.A.P.E
Biodiversity Project 2:	None	SA Government project funding to measure the economic value of the biodiversity services; valuation done by CSIR	None	None	None	None	None	None	None
Biodiversity Project 3:	None	None	None	None	None	None	None	None	None
Water									
Water Project 1:	No specific support services but guidance through project process	Specific to the project, done in the Cost-Benefit Analysis	Project specific monitoring, no ongoing support	Internal project review process exists to ensure objectivity	None	Project specific website with all related information	None	None	Project specific Local and National training workshops
Water Project 2:	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified	Project specific Local and National training workshops
Water Project 3:	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified	Project specific Local and National training workshops
Water Project 4:	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified	Project specific

									Local and National training workshops
Water Project 5:	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified	Not identified
Water Project 6:	Yes, Department of Water Affairs and Forestry through the Working for Water Programme	Yes, Department of Water Affairs and Forestry	Yes, Department of Water Affairs and Forestry and Implementing Agents	Limited, but includes the National Department of Agriculture	Yes, Working for Water and Department of Water Affairs and Forestry	Yes, Department of Water Affairs and Forestry	Yes, National Department of Agriculture	None	Yes, Working for Water Programme; Department of Water Affairs and Forestry; Department of Labour
Water Project 7:	Yes, Department of Water Affairs and Forestry through the Working for Wetlands Programme	Yes, Department of Water Affairs and Forestry	Yes, Department of Water Affairs and Forestry and Implementing Agents	Limited, but includes the National Department of Agriculture	Yes, Working for Wetlands and Department of Water Affairs and Forestry	Yes, Department of Water Affairs and Forestry	Yes, National Department of Agriculture	None	Yes, Working for Wetlands Programme; Department of Water Affairs and Forestry; Department of Labour
Other Ecosystem Service Projects									
Fire Project 1:	Yes, Department of Water Affairs and Forestry - Working on Fire	Yes, Working of Fire - development of KPIs	Yes, Working on Fire	None	Yes, Department of Water Affairs and Forestry - Forest advisory issues, regulation and policy; Working on Fire - business development	Yes, Working on Fire	Yes, Department of Water Affairs and Forestry	Yes, Working on Fire; CSIR - research and development	Yes, Department of Water Affairs and Forestry; Working on Fire; Department of Labour

					, technical assistance				

STEP 8B:

DOCUMENT NATIONALLY-AVAILABLE SUPPORT SERVICES FOR MARKET ACTORS

	ECOSYSTEM SERVICES			
	Carbon	**Biodiversity**	**Water**	**Fire**
WHAT SUPPORT SERVICES ARE CURRENTLY USED IN ECOSYSTEM SERVICE PAYMENTS AND MARKETS? (e.g., brokering, legal advice, 3rd party verification, accounting, computer technology, risk management, measurement, valuation of ecosystem services and indicators, etc.)	CDM: brokering, accounting, legal advice and auditing	None, payments for biodiversity services do not currently exist	Working for Water provides services for all projects related to the removal of alien invasive plant species including support on legal advice, brokering, accounting, measurement and monitoring	Working for Fire provides all the support services for fire protection and prevention
PLEASE LIST SUPPORT SERVICE PROVIDERS & AREAS OF EXPERTISE.	Imbewu Enviro-Legal Specialists - Andrew Gilder (environmental lawyers) Ecosecurities (brokering) Matcap (brokering mostly methane projects) Price Waterhouse Coopers (accounting and auditing in conjunction with experts)	CSIR-Research and Development; C.A.P.E-Research and Training	Department of Water Affairs and Forestry: Working for Water-implementation; CSIR-Research and Development;	Working on Fire - Implementation (brokering, legal advice, 3rd party verification, accounting, computing, risk management, measurement)
WHAT ARE THE MOST USEFUL SUPPORT SERVICES?	Research and Development; Measuring; Monitoring and Verification	Needs identified below	Training and Capacity Building	Training and capacity building; deal brokering; monitoring
ARE THERE SPECIFIC SUPPORT SERVICE-RELATED PROBLEMS / CONSTRAINSTS?	Only above ground carbon is bought and included in analyses	Gaps in all knowledge areas related to Biodiversity Service Payments	Yes, Availability of service providers; poor skills and literacy; Poor access to venture capital and capital equipment	No
WHAT IS NEEDED TO IMPROVE SUPPORT SERVICES?	Research and Development on Bovial and Tropical Forests	Need for assistance in identfying and valuing biodiversity services; identifying buyers and sellers; brokering trades; monitoring; and training	An institutional mandate to specific support providers such as Working for Water	No
ARE ADDITIONAL SUPPORT	Awareness training of CDM	Need for assistance in identifying and	Yes, Monitoring and	No

SERVICES NEEDED? IF YES, SPECIFY.	and its benefits; Bringing the collective together and management	valuing biodiversity services; identifying buyers and sellers; brokering trades; monitoring; and training	Evaluation (specifically environmental auditing and certification)	

STEP 9:

LIST GOVERNMENTAL & NON-GOVERNMENTAL STANDARDS & GUIDELINES
(specifically in relation to eligibility, performance, equity, environmental impact, reporting requirements, community and public input requirements, public comment, labor regulations, etc.)

	ECOSYSTEM SERVICES			
	Carbon	**Biodiversity**	**Water**	**Fire**
DO ANY STANDARDS AND/OR GUIDELINES EXIST THAT GUIDE ECOSYSTEM SERVICE PAYMENTS AND MARKETS? (IF YES, PLEASE SPECIFY)	The standards/guidelines are specific to the implementation of the carbon sink rather than the payment or market.	Not specific for RSA	Yes, the National Water Act	Yes, Fire control legislation
ARE STANDARDS AND/OR GUIDELINES NEEDED FOR ECOSYSTEM SERVICE PAYMENTS / MARKETS? (IF YES, PLEASE SPECIFY)	Standards or guidelines would be needed in terms of the maintenance of the carbon sink and how the level of the service is determined to ensure the sustainability of the service.	Yes	Yes	No
HAS THE COUNTRY SET SPECIFIC STANDARDS FOR CARBON PROJECTS UNDER THE CDM? (IF YES, PLEASE SPECIFY AND STATE WHO WAS INVOLVED)	Yes, the three sustainable development criteria. The DNA office was involved in setting these specific standards (contact person is Lwazikazi Tyani).	N/A	N/A	N/A

STEP 10:

ASSESS AWARENESS OF ECOSYSTEM SERVICE VALUES, PAYMENTS, AND MARKETS

	ECOSYSTEM SERVICES			
	Carbon	**Biodiversity**	**Water**	**Fire**
WHAT IS THE LEVEL OF AWARENESS OF PES OPPORTUNITIES AMONG - **NATIONAL BUSINESS COMMUNITY?** - **GOVERNMENT AGENCIES?** - **COMMUNITY ORGANIZATIONS?** - **NATIONAL NGOS?** - **INTERNATIONAL NGOS?**	CDM mechanism: Low: National business community & Community organizations Medium: Government agencies & environmental National NGOs High: International NGOs	National business community - low Government agencies - medium Community organisations - low National NGOs - medium to high International NGOs - high	High across all levels except the business community, this is one area that requires focused development around the 'business case' for payments	Limited to the sectors that require fire management and control
WHAT, IF ANY, ARE THE SOURCES OF CURRENT, AVAILABLE INFORMATION ON ECOSYSTEM SERVICE PAYMENTS / MARKETS?	The UNFCCC website: http://unfccc.int/2860.php The DNA webpage: www.dme.gov.za as well as printed brochures from the Designated National Authority office explaining CDM process. They are planning on publishing news bulletins in the near future.	NGO project documentation	Government website, CSIR Project website, posters, booklet and flyers, Project related training events	Government website
IF AVAILABLE INFORMATION, HOW ACCESSIBLE IS IT TO VARIOUS ACTORS? IN WHAT FORMAT DOES IT APPEAR? WHERE IS IT KEPT?	The information is available electronically and printed brochures are available from Designated National Authority office	Still very much focuses on awareness and phone calls to project manager	Can be accessed via the web, direct post, delivered to regions of interest	Can be accessed via the web, directly via telephone
WHO IS CREATING AND	United Nations and the South	NGO project documentation	Government and	Government

DISSEMINATING THIS INFORMATION?	African Designated National Authority office		Research Institute	

REQUIRED ANNEXES

Annex 1. Overall SWOT Analysis (Strengths, Weaknesses, Opportunities, and Threats)

This annex should include an overall assessment of strengths, weaknesses, opportunities, and threats in terms of developing payments for ecosystem services within the country being inventoried.

Annex 2. Country Map with Locations of the Ecosystem Services Payments & Projects

Please also attach a map of the country in which the inventory was conducted that notes the location of the payments for ecosystem services payments and projects. The locations should all be numbered and a separate sheet should be attached with a list of the project numbers with the specific project names and locations (village, province, etc.).

OPTIONAL ANNEXES

Annex 3. Summary of Related Projects

This annex is where related ecosystem service projects should be listed if they do not fall within the formal definition of payments for ecosystem services (as explained at the beginning of this document). For example, related projects could include: CDM energy projects; green energy organizational efforts, and environmental certification initiatives.

Annex 4. Additional Descriptive Information on Projects (as available)

Please include any additional information that describes the projects and initiatives underway. Such information could include project briefs, reports, articles, etc. If attachments are included, please provide a list.

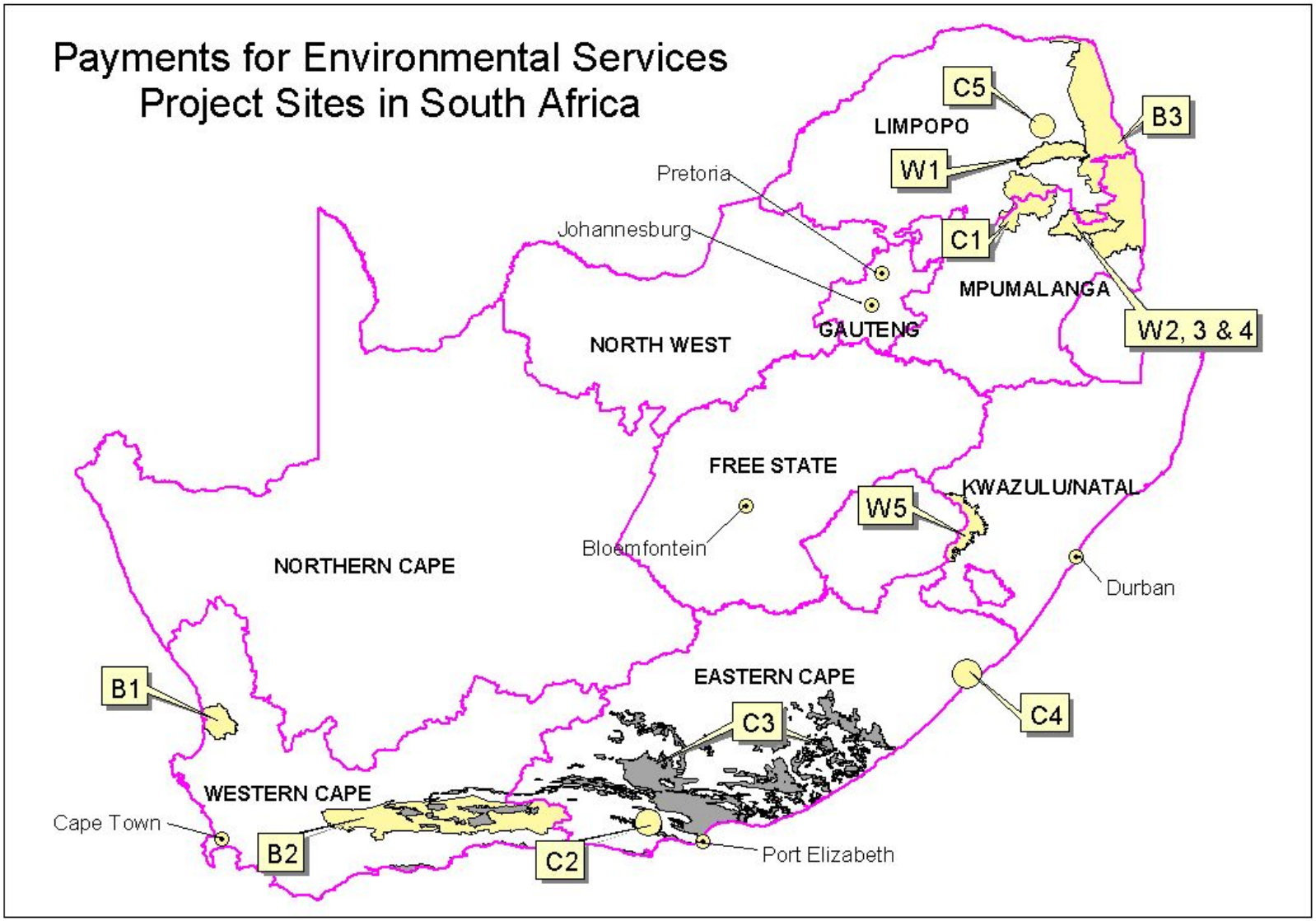
ANNEX 1: A SWOT ANALYSIS OF PAYMENTS FOR ECOSYSTEM SERVICES IN SOUTH AFRICA

	Strengths	Weaknesses	Opportunities	Threats
Carbon	▪ Rural degraded areas need to be rehabilitated and establishing carbon sinks would aid in this process in previously degraded areas. ▪ There is an established science base therefore links between trees and their environmental benefits such as soil erosion and carbon sequestration abilities exist or can be established. ▪ South Africa has a CDM office	▪ Most current CDM projects do not incorporate natural ecosystem processes or services as part of their reduction of GHG emissions. The only way of doing this is through the incorporation of carbon sinks. ▪ Certain indigenous vegetation types may need fire to promote germination this may result in problems in terms of their perceived carbon sequestration capacity.	▪ Institutions such as USAID have wide experience in the implementation of carbon sinks and have related projects in South Africa, PES could be a way of creating a more sustainable project. ▪ There has been research conducted in terms of the carbon sequestration capacity of certain vegetation types that can be used to set up a PES deal. ▪ The payments for carbon sequestration capacity of indigenous vegetation types could play a role in the conservation and rehabilitation of these vegetation types.	▪ The permanence of a carbon sink is a threat to earning carbon credits due to risks such as fire and natural destruction from pests. ▪ The availability of water could play a restricting role in terms of carbon sinks that are considered to be stream flow reduction activities. ▪ The value of timber may be larger than PES thus poorer communities may not have sufficient incentives to maintain the carbon sink.
Biodiversity	▪ Strong focus on biodiversity from a policy and a research and development perspective. ▪ Good knowledge of biodiversity conservation needs and 'hot spots' within the country. ▪ NGOs and Research Institutions are currently engaged in learning more about payments for biodiversity services. ▪ Some funding support is available for capacity, training and research.	▪ Poor understanding of what are biodiversity services. ▪ Limited knowledge network and capacity to implement payments for biodiversity services. ▪ No central institution exists to drive, support or monitor payments for biodiversity. ▪ No central database on information (buyers, sellers, prices, trades) exists. ▪ No formal certification for biodiversity services.	▪ To define payments for biodiversity services. ▪ To identify critical areas of importance, to identify potential buyers and sellers. ▪ To value biodiversity services and define prices. ▪ To raise awareness and build capacity. ▪ To develop institutional support. ▪ To develop policy recommendations for payments. ▪ To conduct analyses of the benefits and the financial trade-offs from biodiversity service payments ▪ Develop an understanding of	▪ Transaction costs too high. ▪ Level of payment required to encourage land conservation or biodiversity protection is too low in relation to the productive value of land. ▪ Government payments will be limited due to resource constraints and development priorities. ▪ Buyers or sellers remain unidentified. ▪ Sabotage by suppliers whom are not included in the benefit stream from payments.

			the risks and risk management associated with biodiversity payments.	
Water	▪ Water is a scarce resource in South Africa, it is over - allocated in many parts of the country and creative 'solutions' to meeting demand are required. ▪ Strong institutions for water management exist and the roll-out of the catchment management agencies may potentially be intermediaries. ▪ The National Water Act (Act No. 36 of 1998) provides for the use of economic instruments in water resource management, it also clearly recognizes that services form part of the management of the resource as a whole and provides for integrated solutions. ▪ Many organizations ranging from government, NGOs, to research institutes have the capacity to provide information relating to services, opportunities and the science behind the land use activities and the water quality or quantity benefits. ▪ Water is high on the agenda. ▪ There are many potential suppliers and buyers of the services.	▪ Institutional support for payments may be limited due to capacity, knowledge and limited resources. ▪ Payments cannot be made for activities that are prohibited in the National Water Act, such as removal of vegetation from the riparian zone or stopping agriculture in the riparian zones. ▪ No formal certification of catchment protection services. ▪ The scale of implementation may make monitoring change difficult and will increase the transaction costs of negotiation. ▪ Community involvement in the negotiation and planning processes is critical for the success of the trades. ▪ The S.A.Governments focus on redress may hinder the development of payments for catchment protection services. ▪ Catchment protection services may perpetuate inequities as it limits the poor's ability to engage in productive water uses where they are required to engage in protection activities. ▪ Land claims create uncertainty. ▪	▪ To identify catchment protection services that may be traded within the context of legal environment for water, land and the environment. ▪ To identify the values associated with different services. ▪ To raise awareness and capacity for dealing with payments for catchment protection services. ▪ To identify buyers and sellers and bring them together. ▪ To set up a central database of information. ▪ To develop capacity. ▪ To quantify and document land use activity changes and water 'savings'. ▪ To develop policy recommendations for payments for catchment protection services.	▪ Insecurity around water rights and the licensing process may make people reluctant to get involved in payments. ▪ Payments will need to be paid as an 'extra' voluntary payment above the current tariffs and the existing catchment management charge (which effectively should be for the management and protection of catchment services). ▪ The legality around activities that impact water resources is very stringent. ▪ The broad definition of water use in the National Water Act may mean that catchment protection services will be included and hence will require authorization for use. ▪
Fire	▪ Fire management is a necessary for the sustainability of many of	▪ Limited opportunity for demanding the service.	▪ Develop from the existing framework in the working on	▪ None

	South Africa's ecosystems. ▪ Institutions are already in place to facilitate trades, support business development, training and capacity building as well as monitor and evaluate.	▪ Limited people with capacity to deliver the service as it requires a high level of skills training.	fire programme. ▪ Develop a national inventory of services, suppliers and buyers. ▪ Make policy recommendations around payments. ▪ Develop certification systems. ▪ Capacity building and awareness training.	

ANNEX 2: MAP DEPICTING THE ECOSYSTEM SERVICE PAYMENT PROJECT SITES IN SOUTH AFRICA



ANNEX 4: ADDITIONAL DESCRIPTIVE PROJECT INFORMATION AND CONTACTS

Ref No	Ref Name	Name of project	Full name of project	Contact person	Email address	Brief description of project	Website	List of docs available
C1	Carbon Project 1	ARISE: Sekhukhune		Roland Mirrilees/James Blignaut	james@jabenzi.co.za	Rehabilitation of the badly eroded Sekhukhuneland	No	Project conception note
C2	Carbon Project 2	STEP		Prof. Richard Cowling	NA	NA	No	Project proposal
C3	Carbon Project 3	The Greater BaviaansKloof Rehabilitation project		Christo Marais, Anthony Mills, Mike Powell,	chris@dwaf.gov.za tonyknowles@gmail.com	Rehabilitation of subtropical thicket for carbon sequestration services	No	No
C4	Carbon Project 4	ARISE: Port St Johns		Roland Mirrilees/James Blignaut	james@jabenzi.co.za	Rehabilitation of coastal dunes and riparian areas: Port St John	No	No
C5	Carbon Project 5	ARISE: Letaba		Roland Mirrilees/James Blignaut	james@jabenzi.co.za	Rehabilitation of riparian areas: Letaba river	No	No
B1	Biodiversity Project 1	C.A.P.E	C.A.P.E Biodiversity Conservation and Sustainable Development Project	Trevor Sandwith	sandwith@capeaction.org.za	Protection of Fynbos in the Cape Region through payments to potato farmers to protect and not plough the land	No	Project aide memoire
B2	Biodiversity Project 2	Little Karoo		Caroline Gelderblom	Cgelder@csir.co.za	Preliminary research aimed at quantifying the nature and value of ecosystem services in this region. This will lead to the development of models and management recommendations which may include payment for ecosystem services	No	Project proposal; minutes; field trip report
B3	Biodiversity Project 3	Kruger National Park	Greater Lowveld Eco-region	Gillian Maree and Jean Nel	Gmaree@csir.co.za	NA	No	Project proposal
W1	Water Project 1	Olifants Catchment - GaSelati River	Payments for catchment protection services and	Nicola King	naking@csir.co.za	Focus on payments for catchment protection services and improved livelihoods in South	Yes, www.csir.co.za/ere/markets_4_watershed_services	Yes, available on the website

			improved livelihoods in South Africa			Africa		
W2	Water Project 2	Sabie Catchment - Sabie River	Payments for catchment protection services and improved livelihoods in South Africa	Nicola King	naking@csir.co.za	Focus on payments for catchment protection services and improved livelihoods in South Africa	Yes, www.csir.co.za/ere/markets_4_watershed_services	Yes, available on the website
W3	Water Project 3	Sabie Catchment - Sabie River	Payments for catchment protection services and improved livelihoods in South Africa	Nicola King	naking@csir.co.za	Focus on payments for catchment protection services and improved livelihoods in South Africa	Yes, www.csir.co.za/ere/markets_4_watershed_services	Yes, available on the website
W4	Water Project 4	Sabie Catchment - Sabie River	Payments for catchment protection services and improved livelihoods in South Africa	Nicola King	naking@csir.co.za	Focus on payments for catchment protection services and improved livelihoods in South Africa	Yes, www.csir.co.za/ere/markets_4_watershed_services	Yes, available on the website
W5	Water Project 5	Maluti-Drakensburg	Developing a framework for watershed payments	James Blignaut	james@jabenzi.co.za	Focus on payments for catchment protection services based on the national demand for water from inter-basin transfers.	No	Project proposal and project report
W6	Water Project 6	Working for Water	Working for Water	Christo Marais	chris@dwaf.gov.za	Focus on removing water thirsty alien invasive plant species along riparian zones and in the headwaters of catchments	Yes, www.dwaf.gov.za/wfw	Yes, available on the website
W7	Water Project 7	Working for Wetlands	Working for Wetlands	Christo Marais	chris@dwaf.gov.za	Focus on the rehabilitation of wetlands	Yes, www.dwfa.gov.za	Yes, available on the website
F1	Fire Project 1	Working for Fire	Working for Fire	Johan Heiner	johan@ffa.co.za	Focus on the provision of fire protection or control	Yes,	Yes, available on the website