

**SUPPORTING THE SELECTION AND DESIGN
OF ECONOMIC INSTRUMENTS TO
INCENTIVISE IMPROVED NATURAL
RESOURCES MANAGEMENT IN TARGET
AREAS OF THE UMZIMVUBU CATCHMENT**

**By: Fonda Lewis and
Kevan Zunckel**



**Institute of
Natural Resources**
Institute of Natural Resources NPC

**INR Report No:
483/14**

SUPPORTING THE SELECTION AND DESIGN OF ECONOMIC INSTRUMENTS TO INCENTIVISE IMPROVED NATURAL RESOURCES MANAGEMENT IN TARGET AREAS OF THE UMZIMVUBU CATCHMENT

May 2014



Prepared by

Institute of Natural Resources NPC

Fonda Lewis (Institute of Natural Resources)

and

Kevan Zunckel (Zunckel Ecological and Environmental Services)

Funded by

**CRITICAL ECOSYSTEM
PARTNERSHIP FUND**

Through the Wildlands Conservation Trust

Institute of Natural Resources NPC
P O Box 100396, Scottsville, 3209, South Africa
Tel: 033 346 0796
Email: flewis@inr.org.za

Contents

1	BACKGROUND AND RATIONALE TO EXPLORING ECONOMIC INCENTIVES FOR INTERVENTIONS IN THE UMZIMVUBU CATCHMENT	4
2	INTRODUCTION TO ECONOMIC TOOLS AND INCENTIVES	4
3	PROJECT APPROACH	6
4	PROJECT ACTIVITIES	8
4.1	Stakeholder workshops.....	8
4.2	Applying the DST	8
4.3	Applying the DeMax.....	9
5	RESULTS OF THE SELECTION AND DESIGN WORKSHOPS.....	11
5.1	Identification of environmental priorities and interventions	11
5.2	Application of Decision Support Tool in the Umzimvubu Catchment	13
5.2.1	<i>Interventions and incentives for improved rangeland management.....</i>	13
5.2.2	<i>Interventions and incentives for alien plant control</i>	14
5.2.3	<i>Summary of the results of DST Phase</i>	16
5.3	Application of the Design Matrix to evaluate local design requirements for economic instruments in the Umzimvubu Catchment.....	16
5.3.1	<i>Designing environmental subsidies as incentives for eco-rangers and alien plant clearing.....</i>	16
5.3.2	<i>Designing non-compliance charges as incentives for improved livestock management.. ..</i>	18
6	OUTCOMES OF THE SELECTION AND DESIGN OF ECONOMIC TOOLS AND INCENTIVES FOR THE UPPER UMZIMVUBU CATCHMENT	19
6.1.1	<i>Outcomes of the DST and DeMax processes.....</i>	19
6.1.2	<i>Outcomes of the stakeholder engagement process.....</i>	21
	Annexure 1.....	22
	Annexure 2.....	25
	Annexure 3.....	31
	Annexure 4.....	39

List of Figures

Figure 1: An outline of the overall approach applied to select and design economic instruments 7

List of Tables

Table 1: Summary of priority environmental challenges and interventions identified for the Upper Umzimvubu Catchment	12
Table 2: Summary scores highlighted by decision support tool for economic instruments to improve rangeland condition through livestock management.....	13
Table 3: Instruments highlighted by decision support tool for incentives to improve rangeland condition through livestock management.....	14
Table 4: Summary scores highlighted by the decision support tool for economic instruments to improve rangeland condition through control of alien invasive plants.....	15
Table 5: Instruments highlighted by decision support tool for incentives to improve alien plant control to combat alien plant infestation (wattle and black locust) in upper catchment (impact to water and biodiversity)	15
Table 6: Summary of the economic Instruments highlighted through the DST	16
Table 7: Incentives for improved rangeland management through grazing controls and alien invasive plant control.....	20

Acronyms

CEPF	Critical Ecosystem Partnership Fund
CPA	Communal Property Association
CSA	Conservation South Africa
DEA	Department of Environmental Affairs
DeMax	Design matrix
DST	Decision Support Tool
DWA	Department of Water Affairs
ERS	Environment and Rural Solutions
INR	Institute of Natural Resources
INRM	Integrated Natural Resources Management
NGO	Non-Governmental Organisation
NPC	Non Profit Company
PSC	Project Steering Committee
UCPP	Umzimvubu Catchment Partnership Programme
VEA	Voluntary Environmental Agreements

ACKNOWLEDGEMENTS

The input and support of the stakeholders of the Umzimvubu Catchment Partnership Programme is gratefully acknowledged, and in particular the contribution of Nicky McLeod and Sissie Matela (Environmental and Rural Solutions), and Sinegugu Zukulu (Conservation South Africa).

The support of Roelie Kloppers and Mark Gerard of the Wildlands Conservation Trust is also gratefully acknowledged, as well as the funding from the Critical Ecosystem Partnership Fund.

The Economic Instruments Decision Support Tool and Design Matrix disseminated and applied in this project were developed through the Project: AFROMAISON Africa at a meso-scale: adaptive and integrated tools and strategies for natural resource management www.afromaison.net (prepared under contract from the European Commission / FP7 Collaborative project / grant agreement n° 266379).



1 BACKGROUND AND RATIONALE TO EXPLORING ECONOMIC INCENTIVES FOR INTERVENTIONS IN THE UMZIMVUBU CATCHMENT

The Critical Ecosystems Partnership Fund (CEPF) is funding initiatives in the Umzimvubu Catchment (implemented by Conservation South Africa and Environment and Rural Solution) that aim to address strategic environmental management challenges in this critically important Biodiversity Hotspot. The initiatives include the identification and implementation of a range of biodiversity conservation and sustainable land management interventions that address environmental priorities within the local socio-economic context:

- Conservation South Africa (CSA) is working in the upper catchment of the Umzimvubu River Basin in the Eastern Cape Province. CSA is coordinating government, traditional authorities, Non-Governmental Organisations (NGOs), businesses and civil society in order to create a formally recognized Water Management Forum; improving knowledge of ecosystem values, restoration techniques, and climate vulnerability; promoting institutional alignment for formalizing and coordinating communal and commercial stewardship efforts outside the protected areas within the Umzimvubu Watershed; and establishing baseline monitoring information on the ecology, and social and economic development of the region.
- Environmental and Rural Solutions (ERS) is working in 13,000 hectares of the upper Umzimvubu River, one of the last free-flowing rivers in the eastern part of South Africa. ERS is working in and around the Ongeluksnek Provincial Nature Reserve, clearing invasive plants for rangeland restoration, improving trails and wildlife viewing opportunities for tourists, and is also attempting to create formal payment for ecosystem services agreements between the residents of the area and the downstream beneficiaries of the watershed.

The aim of this project, implemented by the Institute of Natural Resources (INR), funded by CEPF, is to support the identification of appropriate economic instruments to create incentives to support the implementation of priority environmental management interventions in the Umzimvubu Catchment. Economic tools and incentives can help to socio-economically embed these CEPF funded environmental management initiatives and their conservation objectives into the broader social and economic landscape. Contextualising these interventions through locally relevant incentives means that the environmental initiatives are "embedded" in the social institutions and the local economy. Therefore the relations between the communities and the systems through which the interventions are implemented take place within existing social relations. This helps to contextualise the interventions and enhance this local relevance, which is vital to ensure that the market and other socio-economic forces do not override the conservation objectives of the projects.

2 INTRODUCTION TO ECONOMIC TOOLS AND INCENTIVES

An economic instrument can generally be defined as any instrument that aims to influence the way people use natural resources and manage the environment. This is achieved by changing the extent to which people feel or experience the cost associated with the use of resources, or the consequences of their decisions about how to manage or protect the environment. An economic instrument, or a combination of instruments, provides financial and other incentives so that users of

natural resources pay for the social costs of that use, or benefit from the sustainable management of the resource and environment. Economic instruments therefore aim to provide incentives that will induce a change in the behaviour of people to improve the way they use and manage environment and natural resources. However, an economic instrument will only be effective if it is correctly matched to the environment and context in which it is going to be applied.

The effectiveness of an economic instrument in providing a meaningful incentive for improved environmental management is not only determined by the value of the benefit (incentive) it generates, but also it can also be affected by, for example:

- the extent to which the instrument matches or complements the social, political and economic contexts;
- the extent to which the instrument incentivises an intervention that corresponds with the environmental challenge;
- the extent to which the incentive is recognised as meaningful or worthwhile by the target agents or institutions whose behaviour or management approach needs to change;
- its cost-effectiveness;
- its administrative feasibility of implementation;
- equity, flexibility and transparency; and
- its consistency with other development objectives.

It is therefore important that a conscious selection process is undertaken to ensure that the economic instrument is a good fit to the context. Poor 'context-instrument' matching could result in the selection of an ineffective instrument that does not result in the desired behaviour / management change by the target agents or institutions, or may even act as a perverse incentive and result in a change contrary to the desired response.

A Decision Support Tool (DST) and a Design Matrix (DeMax) have been developed by the Institute of Natural Resources NPC¹ (INR) to assist the process of context-instrument matching, and to support the selection of the economic instrument(s) that will have the greatest potential to provide effective incentives for interventions that result in improved environmental management.

The DST aims to assist the process of context-instrument matching, and to support the selection of the economic instrument(s) that will have the greatest potential to provide effective incentives for interventions that result in improved environmental management. Fourteen economic instruments are included in this DST. While there are many other types of economic instruments, the 14 included were selected on the basis of their relevance to the environmental management objectives in developing countries. The 14 instruments included in the DST are:

- a) Property rights based instruments
 - i. Ownership Rights
 - ii. Use Rights
- b) Price based instruments
 - iii. Tradable Permits and Quotas

¹ The DST and DeMax have been developed by the INR, as is part of a consortium on the European Union FP7 funded Afromaison Project. Details of this project, and the DST and the DeMax, can be found on www.afromaison.net

- iv. User Charges
- v. Pollution Charges
- vi. Performance Bonds
- vii. Tax Differentiation
- viii. Payment for Ecosystem Services
- ix. Environmental Subsidies
- c) Legal, voluntary and information based instruments
 - x. Legal Liability
 - xi. Non-Compliance Charges
 - xii. Voluntary Environmental Agreements
 - xiii. Environmental Certification
 - xiv. Eco-Labeling

The DeMax is applied to inform (i) the assessment of the local potential to implement a selected economic instrument in a given context, (ii) key design considerations for the application of an economic instrument in a specific context, (iii) the evaluation of the likely impact and sustainability of the economic instrument in that context, and (iv) highlight potential flaws or barriers to the implementation of the selected economic instrument.

The objective of this CEPF funded project is to apply the DST and DeMax developed by the INR to support the selection of economic instruments that will have the greatest potential to create meaningful incentives to promote improved natural resource management in target areas in the Umgeni and Umzimvubu Catchments.

3 PROJECT APPROACH

This project, to support the exploring of economic tools and incentives in the Umzimvubu Catchment, was initiated through engagement and consultation with the CSA and ERS project teams, to introduce the concept of economic tools and incentives and present the Decision Support Tool (DST) and Design Matrix (DeMax). With the support of CSA and ERS, key stakeholders² were then engaged and invited to participate in workshops to run the DST and DeMax, to explore and identify the most suitable economic instruments to create meaningful incentives to support the environmental management and conservation initiatives in the local context. The platform used to engage these key stakeholders was the Umzimvubu Catchment Partnership Programme (UCPP). This Forum comprises of 43 partners who aim to conserve the full extent of the Umzimvubu River System through the sustainable restoration and maintenance of the catchment area in a manner that supports economic development and job creation for local people to enhance the benefits from ecosystem goods and services to people and nature. The engagement of these stakeholders through this project had dual objectives:

- To harness the local knowledge and expertise that has been developed by these stakeholders over many years during the course of their work in the area, as input into the

² A range of stakeholders interested in addressing environmental management in the upper Umzimvubu Catchment participated in this process including for example MDTP, SAVEACT, traditional leadership from local communities, environmental and development NGOs (for example EWT and LIMA), Provincial Departments of Water Affairs, Local Government, as well as community tourism stakeholders.

running of the DST and DeMax. While tools such as the DST and DeMax have the potential to highlight economic instruments that have the potential to create local meaningful incentives, the process requires the input of local stakeholders and experts who can evaluate and compare the instruments highlighted by the process, to decide which instruments to carry forward. This expert and local knowledge of stakeholders provides an "informed filter" that can refine the list of economic instruments and their local design for implementation.

- To share information about the opportunities that economic tools and incentives offer to socio-economically embed the conservation initiatives being implemented through the UCPF, and to develop the capacity of these partners to apply the DST and DeMax in future as required.

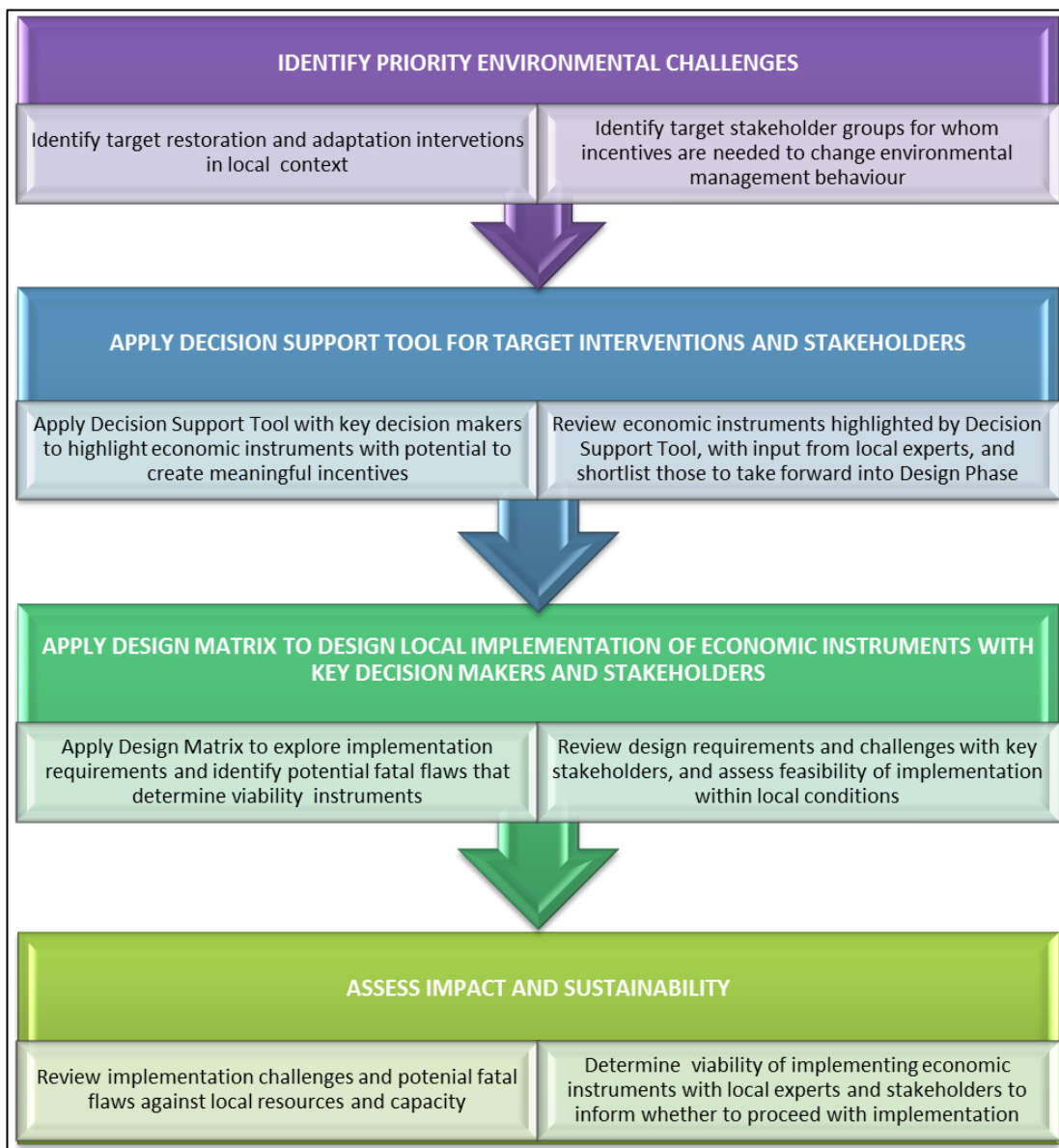


Figure 1: An outline of the overall approach applied to select and design economic instruments

4 PROJECT ACTIVITIES

4.1 Stakeholder workshops

A series of activities were conducted during the course of the two project workshops:

- **First workshop (held on 11 March 2014 in Matatielle) included:**
 - Introducing and defining the types and objectives of economic instruments (see Annexure 1)
 - Introducing the DST and DeMax (see Annexure 1)
 - Identifying the focus area within the Umzimvubu Catchment to be used as the pilot area for the selection of priority interventions and economic incentives
 - Identifying key environmental challenges and selecting the priority interventions for which economic incentives would be explored in the pilot project.
 - Applying the DST for the selected priorities selected by the stakeholders
 - Closure with general discussion about the strengths and opportunities of applying economic instruments to create incentives, and potential risks and limitations

The outcomes of this first workshop were circulated to the participants in preparation for the second workshop.

- **Second workshop (held in 24 March in Matatielle) included:**
 - Recap of the definitions of the types and objectives of economic instruments, and the outcomes of running the DST in the first workshop
 - Running the DeMax for the selected economic instruments highlighted by the DST
 - Review and general discussion of barriers and constraints to the implementation of the selected economic instruments highlighted through the outcomes of the DeMax process
 - Discussion on the clustering and stacking of economic instruments across the short, medium and long term, into a strategy to address a collection of priority interventions and environmental challenges

The outcomes of the second workshop were also circulated to the workshop participants.

4.2 Applying the DST

The DST uses four sets of criteria to explore and then highlight economic instruments that would likely provide the most meaningful incentives for the implementation of management or rehabilitation actions / interventions in a particular context:

- Environmental criteria describe the objectives / priorities for the environmental interventions that are to be incentivised by the economic instruments. They also describe the context / conditions of the environment in which the management action or intervention is to be applied
- Social criteria refer to the social context, describing the socio-economic profile and characteristics of the communities and agents that would be involved in implementing the economic instrument.

- Market criteria relate to the market conditions in the environment within which the instrument will be applied. They also address the market for, or in which, environmental goods and services are traded.
- Governance criteria relate to the institutional arrangement and structures, and their effectiveness in coordinating or controlling activity in society and in the environment.

The DST has four steps to help decision makers to "walk through" the set of selection criteria that will help to evaluate the relevance of the economic instruments in a local context:

- **Step 1:** Select the management or rehabilitation action requiring incentives to encourage implementation: The environmental challenge and the associated restoration / adaptation interventions for which the incentive is required first need to be identified. The stakeholders whose behaviour needs to be changed for the implementation of this intervention also need to be identified.
- **Step 2:** Apply evaluation criteria: This DST applies a scoring and ranking process for assessing the suitability of economic instruments against a series of criteria.
- **Step 3:** Score instruments likely to offer most meaningful incentives. The DST is programmed with points reflecting relative effectiveness of economic instruments under different conditions. The points have been set on the basis of a review of the application potential of the instrument internationally. The combination of responses by the user to the questions relating to the criteria (i.e. the yes / no answers to local objectives / conditions in the local context) determines the score calculated for each instrument. The score for each economic instrument is automatically calculated by the DST for each category, and then as a summary across all four categories. No weighting is applied in the calculations of the scores across the ecological, social, market and governance categories as the un-weighted score provides the user the opportunity to weight one or more of the categories more heavily than the others if needed for a specific context. The scoring system is designed so that instruments can be compared to each other, and the suitability of an instrument can be assessed relative to the scores of other instruments.
- **Step 4:** Review information sheets to gain more information on how instruments work and cases where they have been applied. Information sheets for all the instruments are included in the DST. The information sheets provide an overview of the instrument, as well as examples of case studies in which the instrument has been applied around the world. The user then completes the DST process by reviewing the information sheets for the instruments that scored highest and, on the basis of the review, decide whether to take the instrument forward into the design phase.

4.3 Applying the DeMax

After applying the DST to select economic instruments which may provide meaningful incentives, the local implementation needs and opportunities of the economic instruments highlighted and selected during the selection phase were explored by each of the case studies via the DeMax tool. The DeMax comprises of a series of criteria that aim to inform:

- The assessment of the local potential to implement a selected economic instrument in a given context.
- Key design considerations for the application of an economic instrument in a specific context.
- Evaluation of the likely impact and sustainability of the economic instrument in that context.
- Highlight potential flaws or barriers to the implementation of the selected economic instrument.

The DeMax prompts users to analyse and determine if a series of condition criteria are likely to be met, and evaluate the relevance of the criteria to the context. These criteria address two aspects of implementation, namely (i) the potential impacts of the economic instrument on the local context, and (ii) the influence of the local context on the effectiveness of the economic instrument. The DeMax criteria are classified into four categories, which resemble the criteria used in the DST:

- **Social:** Criteria relating to influence from and impacts to the socio-economy and culture of the target groups / community who would implement the management intervention, and who may derive benefit from the incentive. These criteria also consider secondary impacts to surrounding groups or communities.
- **Ecological:** Criteria exploring direct and secondary impacts (positive or negative) accruing from the incentives generated by the economic instrument. It also addresses the potential for unintended impacts to other natural resources or interventions in the target area, or neighbouring areas.
- **Market:** Criteria concerning the influence of and impacts to markets and economic opportunities, both locally and in the broader economy.
- **Governance:** Criteria addressing policy and the influence of governance structures, institutional arrangements and capacity in supporting or hindering the implementation of the economic instrument.

A fifth category of "Other Issues" includes criteria that aim to encourage retrospective consideration of overarching issues that could inform the implementation of the instrument, but which do not affect the overall cumulative score or recommendation from the DeMax.

The user has the opportunity to weight the contribution of scores for each criterion to the overall score to reflect the local priorities and conditions. Once all the condition criteria have been rated, a cumulative score is calculated to provide a guide on whether or not the conditions for effectively implementing the incentive can be met in the local context. The results are classified into three categories of further action:

- Proceed with minor caution and attention to aspects of implementation design.
- Proceed with caution and attention to likely requirements for significant modification to instrument or receiving environment.
- Do not proceed as the instrument is unlikely to match context and create meaningful incentives.

Critical issues relating to the condition criteria raised by the stakeholders participating in the DeMax process are captured into the DeMax template. These critical issues may relate to anticipated problems that might limit local implementation of the instrument, or to conditions that might be

required to create an enabling environment for effective implementation of the instrument. Issues that are considered critical or potential fatal flaws to the implementation of the instrument are flagged, and the summarised list of flagged issues can then be used to guide the revisions that would be required to effectively implement the incentive.

If a solution to these critical flagged issues and potential barriers cannot be found (for example, a modification to aspects of the instrument, or an intervention in the local socio-political environment), then it is unlikely that the instrument will be effective. An alternative economic instrument or mechanism would then need to be explored.

The outcome of the DeMax is therefore twofold as it provides:

- An approach to evaluate the potential effectiveness and sustainability of an economic instrument under specific local conditions.
- A process to highlight flaws or barriers to the implementation of the selected economic instrument in a specific local context that would need to be addressed in the design of the instrument, or the system to implement the instrument, if it is to be effective and sustainable.

5 RESULTS OF THE SELECTION AND DESIGN WORKSHOPS

5.1 Identification of environmental priorities and interventions

The UCPP stakeholders decided that, for the purpose of this project, the focus would be specifically on the Upper Umzimvubu Catchment, rather than the Catchment system as a whole. This would make the task more focussed and the stakeholders could expend the tools to other areas within the Catchment at a later stage.

Table 1 outlines the priority interventions for the target area, which for this exercise was selected to be the Upper Umzimvubu Catchment. These priorities and interventions were selected based on the local knowledge and expertise of the UCPP. From this list, the degradation of rangelands was selected as the priority environmental challenge, and instruments to create incentives for interventions to address alien plant control and improved livestock management were identified as the target for this project (highlighted in bold in Table 1). The stakeholder forum agreed that it could look to apply the DST and DeMax for other priority interventions at a later stage.

Table 1: Summary of priority environmental challenges and interventions identified for the Upper Umzimvubu Catchment

ISSUE / PROBLEM	DRIVERS	SUB- DRIVERS	INTERVENTIONS	
Degradation of rangeland	Wattle and 'Black Locust' infestation across the upper catchment		Alien plant control Restore grasslands to increase resilience to infestation	
	Mismanagement of rangelands due to lack of adequate livestock control		Improved rangeland / grazing management system	
	Soil erosion (dongas) due to over grazing of rangelands	Mismanagement of rangelands (lack of adequate livestock control)		Improved livestock management (rotational grazing/resting)
		Lack of rotational grazing due to Stock theft risks		Crime control / reduction of risk of stock theft
		Lack of management plans for livestock control e.g. by traditional authorities		Physical soil erosion structures and controls
	Uncontrolled fires in winter			Fire breaks and fire management plans Fire awareness / capacity building
Wetlands degradation	Cultivation / ploughing of wetlands		Restoration of wetlands	
	Uncontrolled fires (threatening endangered bird species)		Grazing management	
	Overgrazing of wetlands		Fire control	
Loss of biodiversity	Uncontrolled fires (threatening endangered bird species)		Restoration of wetlands	
	Degradation of rangelands		Grazing management	
	Degradation of wetlands			
	Infestation by alien vegetation		Fire control	
Deterioration of water quality	Siltation of water resources	Poor farming practices	Erosion control and improved farming practices by crop farmers Improved infrastructure development / maintenance by authorities	
	Poor maintenance of water treatment works and road infrastructure	Poor road construction and maintenance by authorities (Dept of Transport), and poor maintenance of waste water treatment works / inadequate infrastructure	Infrastructure development and maintenance	
	Catchment degradation / rangeland degradation		Improvement of basal cover	
Deforestation / cutting of indigenous trees / proteas	Cutting firewood		Controlled access and management of firewood and timber harvesting	
	Illegal harvesting of yellow woods		Enforcement of permits / restriction of illegal commercial harvesting	
	Illegal harvesting of proteas for firewood		Controlled access and management of firewood	
	Overharvesting of medicinal plants		Controlled access and management of medicinal plant harvesting	

5.2 Application of Decision Support Tool in the Umzimvubu Catchment

5.2.1 Interventions and incentives for improved rangeland management

In understanding the key drivers of the current challenges relating to rangeland degradation and poor livestock management practices, the following local issues were highlighted:

- There are a number of reasons why people are currently managing their livestock as they are, which is resulting in the environmental degradation, for example:
 - Threat of stock theft which reduces the potential for rotational grazing particularly of more distant areas
 - Overstocking on certain popular or high value grazing areas
 - The number of livestock that are kept is driven by the opportunity that livestock offer as an investment / banking
 - High numbers of livestock versus poor quality and resulting on low price
 - The influence of culture - keeping a high number of livestock as a reflection of wealth / status
 - The lack of rangers / herders to implement a grazing management system
 - Competition among livestock owners over high value grazing areas and lack of cooperation between livestock owners

It is therefore recognised that there is a need for incentives to bring about a change in the current grazing management practices and to incentivise livestock owners to implement a sustainable grazing management system. The DST was then run with this understanding of the context and drivers in mind and the comparative scores for the 14 economic instruments were calculated (Table 2). Nine economic instruments were selected by the UCPP as having potential to be applied to create incentives for improved livestock grazing management (Table 3).

Table 2: Summary scores highlighted by decision support tool for economic instruments to improve rangeland condition through livestock management

Instrument	Ecological Criteria	Social criteria	Market Criteria	Governance Criteria	Overall Score
Property rights based instruments					
Ownership rights	52	30	35	12	32
Use rights	47	30	35	12	31
Price based instruments					
Tradable perm its	52	30	31	16	32
User charges	48	26	29	8	28
Pollution charges	40	26	28	8	28
Performance Bonds	52	26	28	8	28
Tax differentiation	47	18	28	-	31
Payment for Ecosystem Services	55	24	33	43	39
Environmental subsidies	45	30	31	8	28
Legal, voluntary and information based instruments					
Legal Liability	47		31	17	31
Non-compliance charges	40	26	32	8	26
Voluntary Environmental Agreements	55	22	31	20	32
Environmental Certification	58	22	26	37	36

Labelling	35	22	22	37	29
-----------	----	----	----	----	----

Table 3: Instruments highlighted by decision support tool for incentives to improve rangeland condition through livestock management

Instrument	Proceed To Design Phase	Notes on Stakeholder discussions
Payment for Ecosystem Services (PES)	Yes	Only in the long term but could put building blocks in place
Voluntary Environmental agreements (VEA)	Yes	
Environmental certification	Yes	
Tradable permits and quotas	Yes	Maybe in long term on new land allocations?
Strengthening ownership rights	Maybe	On new areas of land but look to strengthen use rights on existing land first?
Strengthening use rights	Yes	
Legal liability	No	Currently no resources or suitable enforcement systems
Non-compliance charges	Maybe	Only if linked as penalty with use rights
Environmental subsidies	Yes	

Debate and discussions among the stakeholders resulted in the exclusion of legal liability as a locally appropriate instrument, and the remaining 8 instruments were taken forward into the Design phase.

5.2.2 Interventions and incentives for alien plant control

In understanding the key drivers of the current challenges relating to rangeland degradation associated with the need to control alien invasive plants, the following local issues were highlighted:

- Degraded state of rangelands makes them vulnerable to alien plant infestation
 - Lack of motivated farmers to actively manage the rangelands results in lack of control of infestation of alien invasive plants
 - Local farmers don't care about the condition of the environment anymore because they are not driven / motivated to use land sustainably
- Alien invasive plants resulting in:
 - loss of productive land
 - stream flow reduction and un-natural braiding of streams
 - increased soil erosion / decreased basal cover
 - decreased or difficult access to water courses / and other grazing areas because of impenetrable thickets of alien plants access to water by livestock
 - clogging of culverts and associated threats to infrastructure due to flooding
 - criminals are hiding in infested areas such as jungle wattle and this is increasing risks of crime in the area
 - reduction in biodiversity
 - increased fire risk

Stakeholders therefore prioritised the need for interventions and incentives to address the control of invasive alien plants and to restore / clear infested areas. The DST was then run with this

understanding of the context and drivers in mind, and the comparative scores for the 14 economic instruments were calculated (Table 4). 9 economic instruments were selected by the UCPP as having potential to be applied to create incentives for improved alien plant control and restoration (Table 5).

Table 4: Summary scores highlighted by the decision support tool for economic instruments to improve rangeland condition through control of alien invasive plants

Instrument	Ecological Criteria	Social criteria	Market Criteria	Governance Criteria	Overall Score
Property rights based instruments					
Ownership rights	62	30	35	12	35
Use rights	57	30	35	12	33
Price based instruments					
Tradable permits	55	30	31	16	33
User charges	52	26	29	8	29
Pollution charges	40	26	28	8	26
Performance Bonds	55	26	28	8	29
Tax differentiation	62	18	28		36
Payment for Ecosystem Services	70	24	33	43	42
Environmental subsidies	57	30	31	8	31
Legal, voluntary and information based instruments					
Legal Liability	52		31	17	32
Non-compliance charges	48	26	32	8	29
Voluntary Environmental Agreements	67	22	31	20	35
Environmental Certification	75	22	26	37	40
Labelling	38	22	22	37	30

Table 5: Instruments highlighted by decision support tool for incentives to improve alien plant control to combat alien plant infestation (wattle and black locust) in upper catchment (impact to water and biodiversity)

Instrument	Proceed To Design Phase	Notes on Stakeholder discussions
Payment for Ecosystem Services (PES)	Yes	Only in the long term but could put building blocks in place
Environmental certification	Yes	e.g. certification of products produced from clearing
Voluntary Environmental agreements (VEA)	Yes	
Tradable permits and quotas	No	Currently no opportunity to implement this link
Strengthening Ownership right	Yes	
Strengthening Use rights	Yes	
Environmental Subsidies	Yes	
Legal Liability	No	Stakeholders do not currently see opportunity to implement link
Tax differentiation	No	Stakeholders do not currently see opportunity to implement link

Debate and discussions among the stakeholders resulted in the exclusion of legal liability, tax differentiation and tradable permits and quotas as locally appropriate instruments, and thus the remaining 6 instruments were taken forward into the Design phase.

5.2.3 Summary of the results of DST Phase

In consideration of the initial presentation on the opportunities to cluster and stack economic instruments and incentives at the start of the first workshop, and based on local knowledge and expertise of the UCPP stakeholders themselves, it was agreed that 8 economic instruments should be taken forward into the Design Phase (Table 6). These 8 instruments have the potential to create incentives for local resource users and managers to improve the condition of rangelands through the implementation of interventions to address improved grazing management and control of invasive alien plants.

Table 6: Summary of the economic Instruments highlighted through the DST

Instruments for Incentives for improving rangeland condition through livestock management	Instruments for Incentives for alien plant control
PES	PES
VEA	VEA
Certification	Certification
Tradable permits	
Ownership rights	Ownership right
Use rights	Use rights
Environmental subsidies	Environmental subsidies
Non-compliance charge	

5.3 Application of the Design Matrix to evaluate local design requirements for economic instruments in the Umzimvubu Catchment

The UCPP stakeholder forum chose to initially run the DeMax for 2 of the 8 shortlisted economic instruments (Table 6) at the second workshop:

- **Environmental subsidies** – to generate payments to incentivise clearing of alien invasive plants and for herders to implement a controlled livestock grazing system that has been locally developed by the UCPP
- **Non-compliance charges** – to create penalties for livestock owners who fail to support and comply with the improved livestock grazing system that has been locally developed by the UCPP

5.3.1 Designing environmental subsidies as incentives for eco-rangers and alien plant clearing

The DeMax was applied to explore opportunities and constraints to the application of environmental subsidies as incentives for eco-rangers to implement a collective control system for the livestock owned by members of the community. The details of the outcomes of this process are summarised in Annexure 2. The outcomes of the DeMax suggested that environmental subsidies could be locally applied to create meaningful incentives for improved rangeland management through the implementation of an improved grazing system by eco-rangers, and alien plant clearing, but that

there were nevertheless some challenges to local design that would need to be considered in order for the environmental subsidies to create an effective incentive. These challenges, that will need to be considered in the local system to manage and monitor the implementation of economic instruments, include:

- If subsidies are spent wisely they can be used to help alleviate poverty in the short term, but if paid in medium term could create dependency and increase poverty when discontinued. This needs to be considered in the system used to roll out the subsidies.
- Subsidies do not necessarily conflict with local cultural practices, for example:
 - Eco-rangers are reviving traditional ways of *maboella*³ to strengthen cultural values.
 - Because alien plant clearers improve condition of rangelands it does enhance culture value of the rangelands.

But when paying subsidies there is always a risk that you are taking them away from cultural practices and giving them a wage incentive. Therefore need to evolve into a post wage incentive that is still culturally rather than wage based.

- Subsidies can create risk of conflict in a community to a certain extent e.g. when one household want to keep wattle and others want to clear. This highlights the need for and importance of constant liaison and communication to facilitate the process on an ongoing basis.
- Within Umzimvubu, the Project Steering Committee (PSC) selects those that benefit from subsidies on a consultative basis with rest of the community. The community therefore decides who to benefit. There may therefore be some risk of increasing vulnerability of marginalised groups within the community if the PSC does not take this into consideration.
- Subsidies implemented with donor funding are increasing the risk of dependence and are not self-sustaining. Effort needs to be made to find alternative market based or self-sustaining sources to phase out and replace subsidies
- Clearing wattle puts pressure on other fuel wood sources and keeping cattle out of rested areas puts pressure on other grazing areas – this therefore needs to be undertaken as part of an environmental management plan to balance these risks and pressures through wattle management rather than eradication.
- The funding for subsidies from the Department of Water Affairs (DWA) and the Department of Environment Affairs (DEA) is driven as wage replacement and poverty alleviation initiative by national government, and not performance driven environmental interventions - this is causing challenges with dependence, meeting environmental targets and creating dependencies.
- The track record of national government department's shows the roll out of initiatives that tend to generate increasing dependence on wages from subsidies, rather than performance driven environmental interventions. Trends will also indicate that the area of alien plant infestation has increased, due to the lack of follow up clearing. Implementation systems for subsidies need to take this into consideration to ensure they create incentives not disincentives.
- More effective alternatives to the current subsidies system might still involve environmental subsidies but may need to evolve into being paid in a way that is more performance driven and less likely to create dependence (e.g. micro-finance)

³ Managing communal resources collectively

5.3.2 Designing non-compliance charges as incentives for improved livestock management

The DeMax was applied to explore opportunities and constraints to the application of non-compliance charges as incentives for local livestock owners to adhere to an improved grazing management system. The details of the outcomes of this DeMax process are summarised in Annexure 3. The outcomes of this suggested that non-compliance charges could be locally applied, but that there are some challenges to local design that would need to be considered. These include:

- If the grazing management system is effectively implemented with thorough consultation and everyone signs the agreement then there will be collaboration - but if it is developed in a hurry and consultation is rushed without adequate consultation it might result in lack of consensus and people not working together.
- If the system is implemented based on consensus among the livestock owners then it will maintain cohesiveness. This process must be managed in collaboration with the traditional authorities who have the authority within the community.
- May be risks of increasing vulnerability of marginalised groups, for example elderly women (i.e. women headed households) who cannot afford to pay herders. Therefore if external funding for eco-rangers programme runs out they may not be able to ensure that their livestock do not enter rested areas, and may be more at risk of incurring fines (non-compliance charges) which they are least able to afford.
- Could increase be risks of tension with neighbouring communities - if the traditional authorities do not work together (e.g. if neighbouring villages are not in agreement to be part of the grazing management plan - they become a liability by not recognising the areas to be rested). Traditional authorities need to ensure cooperation by all villages for the non-compliance charges to be effectively implemented.
- The scale of the penalty (non-compliance charge) can be locally determined to ensure it is large enough to create a meaningful dis-incentive. It is essential that the non-compliance charge is set at a value that is locally meaningful.
- The laws and regulations already exist for controlling use of the rangelands, therefore implementation of non-compliance charges meet legal and policy requirements. But these need to be effectively implemented - this needs time to consult extensively on these issues to secure buy in and agreement from all stakeholders.
- Traditional authorities and councils currently lack capacity and resources to implement non-compliance charges - some personnel are still there but they do not have capacity or resources to act effectively. Therefore need new structures such as a livestock owners committee (who have interest in rangelands) that can implement the instruments, and only consult traditional authorities when there are problems.
- The track record of local structures to effectively implement rangeland management has been weakened over time because the traditional system has broken down – therefore this needs to be addressed if local structures are going to effectively support implementation of non-compliance charges.

6 OUTCOMES OF THE SELECTION AND DESIGN OF ECONOMIC TOOLS AND INCENTIVES FOR THE UPPER UMZIMVUBU CATCHMENT

6.1.1 Outcomes of the DST and DeMax processes

While the DST has the potential to highlight economic instruments that theoretically have the potential to create local meaningful incentives, the process also requires the input of local stakeholders and experts who can evaluate and compare the instruments highlighted by the process, to decide which instruments to carry forward into the Design Phase. The fact that an instrument scores relatively well does not mean that it is locally suited to provide a meaningful incentive. This expert and local knowledge of stakeholders provides an 'informed filter' that can refine the list of economic instruments selected for the design phase.

The role of communities and stakeholders is therefore to provide local knowledge and insights into the system as it currently operates: the resource base; current land use; local practices and perceptions; pressures; and potential conflicts. They are also able to provide historical context: understanding of the genesis and evolution of current problems; and knowledge of previous management success and failures. The role of scientific and technical experts is to provide advice on technologies and approaches not currently used in the area; identify links and interdependencies that may not be obvious at the local level; and provide predictive capacity based on experience in other areas. The DST helps to raise awareness about the range and types of economic instruments that do exist beyond the potentially limited knowledge of local resource users and managers, facilitating the selection of economic instruments that can implicitly contribute to a robust Integrated Natural Resources Management (INRM) strategy.

Discussions following the DST and DeMax processes highlighted a number of opportunities to cluster interventions for improved rangeland management in the Upper Umzimvubu Catchment and to create meaningful incentives for the implementation of these interventions through a process of clustering and stacking a range of economic instruments over time. Table 7 summarises the preliminary plan developed by the end of the second UCPP stakeholder workshop that provides an overview of a draft strategy that could be developed further to guide the application of locally effective economic instruments to incentivise the uptake of priority interventions to address local environmental challenges.

Table 7: Incentives for improved rangeland management through grazing controls and alien invasive plant control

SHORT TERM	NOTES
<p>Improved grazing management system - Incentives for communities to agree to and implement rotation grazing / resting and zonation</p> <ul style="list-style-type: none"> - Adoption and implementation of the improved grazing management system developed through the UCPP triggers the introduction of environmental subsidies (1) paid through a new performance and non-dependence driven system (e.g. micro-finance / saving scheme) - Subsidies (2) still used to pay eco-rangers in the short term (next two years) to get system going - Livestock owners who do not comply with resting / grazing system are fined through a non-compliance charge (3) - Subsidies (3) paid to continue alien plant clearing in the short term <p>Strengthening Ownership rights (4) in combination with Voluntary environmental agreement (5) (e.g. Stewardship agreement) implemented as incentives in association with transfer of title deed for church land to Communal Property Association (CPA) if communities agree to improved grazing management system</p> <ul style="list-style-type: none"> - then grazing management plan implemented through a combination of non-compliance changes and the Voluntary Environmental Agreement (VEA) used to incentives improved grazing management 	<p>System also needs to be implemented at a high level with support of traditional authorities</p> <ul style="list-style-type: none"> - operate and enforce across neighbouring communities so neighbouring communities do not come and graze areas being rested by one community - Innovative subsidies system to reduce dependency by for example incorporating with Save Act <i>stockvel</i> system as a longer term more sustainable system <ul style="list-style-type: none"> - Also explore potential to secure source of start-up funding for a subsidy that could be implemented in the form of micro-finance? - Join with basic financial education through collaborative programme with Save Act? <p>- Start measuring environmental and social baselines to provide evidence of impact of interventions to use as motivation for securing willing buyers in medium to long term (e.g. for PES)</p>
MEDIUM TERM	Notes
<ul style="list-style-type: none"> - Implement tradable permits and quotas (6) as part of the rotational grazing system when new land areas are transferred to community in combination with user charges (7) and non-compliance charges (3) 	
<ul style="list-style-type: none"> - Linking red meat farmers to the market as incentive (Market creation) and Labelling (8) because traceable vaccinations - Labelling (8), and potentially Certification (9) in the longer term, of products from alien plant clearing (e.g. charcoal) to create market to sustain incentives for alien plant control to replace subsidies 	<ul style="list-style-type: none"> -Providing vaccination programme to make sure animals are traceable for market -Eco-Labelling and certification enhances markets for products from alien plant control that can be used to provide sustainable source of funding for incentives)
LONG TERM	Notes
<p>Payment for ecosystem service (10) implemented as integrated incentive for multiple interventions</p>	<p>Set up monitoring and evaluation of impacts of interventions immediately</p> <ul style="list-style-type: none"> - generate evidence of benefits / impact - use evidence to establish PES and secure willing buyers in long term

6.1.2 Outcomes of the stakeholder engagement process

Applying the DST and DeMax was a time consuming for stakeholders. However, the outcomes of the systematic selection and design process highlighted many critical design considerations and constraints at the local level. The process also helps to identify potential fatal flaws that could preclude the implementation of an otherwise popular economic instrument. Despite the time consuming nature of the DST and DeMax, it provides an opportunity to establish a platform for stakeholder consultation and interaction.

In many ways the greatest value of the process was not in the selection and local design of specific economic instruments, but rather in the stakeholder engagement process which resulted in extensive debate and discussion that was facilitated through the process between the stakeholders involved and affected by environmental management in the target areas. This discussion helped facilitate a move towards a greater understanding of the environmental challenges, drivers and priorities across the Upper Umzimvubu Catchment, which lead to more common ground between stakeholders and their collective initiatives.

Finally, the project approach was designed to equip and empower the participating stakeholders with the capacity to independently apply the DST and DeMax Tools in future as required (see Annexure 4). The Tools are freely available and can be accessed via the Afromaison website⁴. The UCPP stakeholders are therefore in a position to repeat the process any number of times in order to explore, select and design economic instruments and incentives for interventions to address the extended range of environmental priorities identified through the course of their work, currently and in future.

⁴ http://afromaison.net/index.php?option=com_content&view=article&id=72&Itemid=184 for DST and http://afromaison.net/index.php?option=com_content&view=article&id=85&Itemid=185 for DeMax

Annexure 1
PowerPoint Presentation
INTRODUCTION TO ECONOMIC TOOLS AND INCENTIVES

OVERVIEW OF ECONOMIC INSTRUMENTS

- Instruments to create incentives for interventions for improved environmental management
- Definition may be
 - Narrow – link direct and proportional benefits associated with behaviour change
 - Broad – economically uncertain or indirect links
- Incentives may be:
 - Carrot (rewards)
 - Stick (penalties)



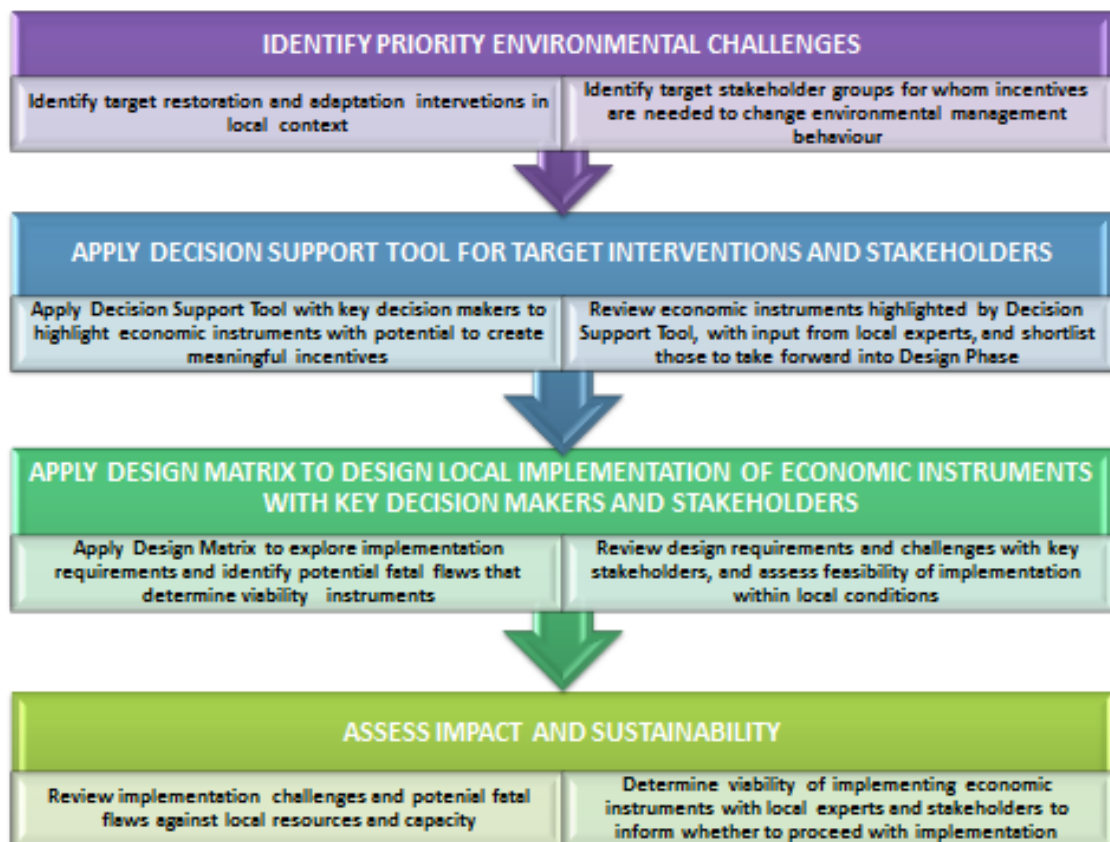
EFFECTIVENESS OF ECONOMIC INSTRUMENTS

- Effectiveness = context matching
 - Extent to which instrument matches social, environmental, political and economic context
 - Extent to which instrument is recognised as an incentive by agents whose behaviour you want to change
 - Cost-effectiveness
 - Administrative feasibility
 - Equity
 - Consistency with other development objectives
 - flexibility and transparency



CATEGORIES OF INSTRUMENTS

- Rights based instruments
 - use and ownership rights)
- Price based instruments
 - Market creation (e.g. tradable quotas, permits and shares)
 - Fiscal instruments (e.g. tax differentiation)
 - Charge systems (e.g. user charges, pollution charges)
 - Financial instruments (subsidies, PES, micro-finance)
- Legal, voluntary and information based instruments
 - voluntary environmental agreements, environmental certification
 - Information based (e.g. labelling)



INSTRUMENTS-CONTEXT MATCHING

➤ Decision Support Tool

- Assist the process of context-instrument matching
- Support the selection of the economic instrument(s) that will have the greatest potential to provide effective incentives
- 14 economic instruments included



INSTRUMENTS-CONTEXT MATCHING

➤ Design Matrix

- Assessment of the local potential to implement a selected economic instrument in a given context
- key design considerations for the application of an economic instrument in a specific context
- evaluation of the likely impact and sustainability of the economic instrument in that context
- highlight potential flaws or barriers to the implementation of the selected economic instrument



Annexure 2

Summary of the outcomes of DeMax highlighting local design considerations for the implementation of environmental subsidies as incentives for eco-rangers and alien plant clearing

DATE & STAKEHOLDER GROUP PARTICIPATING IN PROCESS: TARGET INTERVENTION: ENVIRONMENTAL CHALLENGE THAT THE INSTRUMENT IS BEING DESIGNED FOR:	24 March UCPP SUBSIDIES FOR ECO-RANGERS AND ALIEN PLANT CLEARING <i>Rangeland degradation (overgrazing and alien plant infestation)</i>			
CRITERIA FOR LOCAL DESIGN OF IMPLEMENTATION OF ECONOMIC INSTRUMENT	CUMULATIVE SCORE	RECOMMENDATION FROM CUMULATIVE SCORE:		FLAG CRITICAL ISSUES
	65%	<i>Proceed with caution and attention to likely requirements for significant modification to instrument or receiving environment</i>		
1. SOCIAL CRITERIA	Occurrence of Condition <i>Select options from drop-down menus below</i>	Criteria Significance Weighting	Notes on critical issues to consider during design and implementation in local context	FLAG?
OVERALL WEIGHTING OF THE SOCIAL CRITERIA RELATIVE TO ECOLOGICAL, MARKET AND GOVERNANCE:		*****		Reasoning for this weighting:
1.1. The instrument has the potential to distribute the benefits (i.e. financial or non-financial benefits generated through the instrument) in a fair and equitable way to the resource/land users whose behaviour is being changed through the instrument	Likely	Above Average	Representatives from each of 7 communities - PSC decide who most deserving homesteads in terms of unemployment are - communities decide on candidates. Not necessarily equitable distribution but done in a transparent and fair way therefore supported by communities	
1.2. Implementing the instrument <u>will not</u> compromise (i.e. take away from) existing resource/land rights and ownership of resource dependent user groups/communities	Likely will not compromise	Above Average	Villages demarcate what they want protected/kept and what they want cleared so may reduce resource access but done on a consensual basis	
1.3. Implementing the instrument will help to alleviate poverty and reduce vulnerability of livelihoods of the target communities/resource users	Unsure	Above Average	If subsidies areas spent wisely they can be used to help alleviate poverty in the short term, but if paid in medium term could create dependency and increase poverty when discontinued	1
1.4. The instrument will maintains / strengthen the cultural values within community whose resource use management practices are being targeted (there is little risk of taking eroding or conflicting with local cultural values)	Unsure	Above Average	Eco rangers are reviving traditional ways of maboella so strengthens cultural values. Because alien plant clearers improve condition of rangelands it does enhance cultural. But	1

		when paying subsidies there is always a risk that you are taking them away from cultural practices and giving them a wage incentive. Need to evolve into a post wage incentive that is still culturally based rather than wage based	
1.5. There is likely to be collaboration between resource user / community groups in order to implement necessary changes (e.g. instrument targets cohesive groups with history of working together)	Likely	Above Average	Only likely to be collaboration when subsidy paid is mutually beneficial for all parties - i.e. those getting subsidy and those benefit from the resource such as firewood that is being cleared. But risk that rest of community leaves all the work up to those benefitting from subsidy
1.6. The instrument will help to build or maintain cohesiveness within and between resource / land users (i.e. little risk of increasing conflict/division among user groups)	Unsure	Above Average	Can create risk of conflict in community to a certain extent e.g. when one household want to keep wattle and others want to clear - highlights the need for and importance of constant liaison and communication to facilitate the process on ongoing basis
1.7. The instrument creates opportunities to benefit and uplift marginalised/vulnerable groups within the community (e.g. women/youth) or has no risk of increasing vulnerability in marginalised groups	Likely	Above Average	PSC selects those that benefit from subsidies on a consultative basis with rest of the community. The community therefore decides who to benefit. Some risk of increasing vulnerability of marginalised groups but process is decided by community
1.8. The instrument could also generate benefits (financial or non-financial) for neighbouring communities and can help to strengthen neighbour relations (no risk of creating tensions)	Likely	Average	<i>Benefit for neighbouring communities would be experienced through improved rangeland condition and associated ecosystem services</i>
1.9. The instrument will lead to independence of target groups through establishing self-sustaining sources of benefits and avoids dependence on donor funding (e.g. links to performance based benefits)	Definitely Not	Above Average	<i>Subsidies implemented with donor funding are increasing risk of dependence and not self - sustaining. Effort need to be made to find alternative market based of self-sustaining sources to phase out and replace subsidies</i>
1.10. Channels of engagement exist within target communities for fostering communication and conflict resolution if required	Most Definitely	Above Average	<i>Traditional authority and PSC provide effective channels for communication</i>

2. ECOLOGICAL CRITERIA		Occurrence of Condition <i>Select options from drop-down menus below</i>	Criteria Significance Weighting	Notes on critical issues to consider during design and implementation in local context	FLAG?
OVERALL WEIGHTING OF ECOLOGICAL CRITERIA RELATIVE TO SOCIAL, MARKET AND GOVERNANCE:			« « « «	Reasoning for this weighting:	
2.1. The instrument <u>will not</u> increase risk of creating new / compound environmental pressures on other resources or ecosystems (local or distant areas)		Likely will increase	Above Average	Clearing wattle puts pressure on other fuel wood sources and keeping cattle out of rested areas puts pressure on other grazing areas - but needs to be undertaken as part of a environmental management plan to balance this	1
2.2. The instrument will not create impacts that could compromise the integrity / effectiveness of other ecological management interventions (e.g. being implemented by other groups)		Definitely Not	Above Average		
2.3. The instrument can contribute to wider integrated ecological management objectives in the area		Likely	Average		
2.4. The instrument has the potential to enhance the ecological condition in adjacent areas, for example promoting land management compatibility and ecological connectivity (e.g. strengthens habitat connectivity across landscapes, enhances ecosystem function that is also important to downstream environments)		Likely	Above Average	EG clearing alien plants impacts positively on neighbouring areas and reducing erosion on rangelands reduces siltation in rivers downstream	
2.5. The ecological impacts resulting from the management interventions introduced through the instrument can be measured, monitored and quantified to confirm location and scale of impact (e.g. the change in the condition of ecosystem functioning, levels of erosion, levels of pollution etc.)		Most Definitely	Average	systems already being implemented to monitor	
3. MARKET CRITERIA		Occurrence of Condition <i>Select options from drop-down menus below</i>	Criteria Significance Weighting	Notes on critical issues to consider during design and implementation in local context	FLAG?
OVERALL WEIGHTING OF MARKET CRITERIA RELATIVE TO SOCIAL, ECOLOGICAL AND GOVERNANCE:			« « « « «	Reasoning for this weighting:	
3.1. The instrument <u>will not</u> fore-close on other economic/market-based opportunities that create benefits	3.1.1. Local scale	Definitely will not fore-close	Average	in fact creates new market opportunities (not fore-closing opportunities) for example sale of products such as charcoal from cleared wattle and agri-tourism	

	3.1.2. Regional/District/Meso scale	Definitely will not fore-close	Average		
	3.1.3. National scale	Definitely will not fore-close	Average		
3.2. The instrument has potential to create additional economic/ market-based options for local stakeholders (i.e. stacking the benefits)		Most Definitely	Above Average	e.g. charcoal from wattle	
3.3. The impact of the intervention on the local economic market are compatible with economic and market activities in neighbouring areas		Most Definitely	Average		
3.4. There is sufficient interest and demand among investors/backers/ participants to provide benefits/funding for incentives that target changes in environmental management (e.g. there are willing buyers for ecosystem services)		Unsure	Above Average	Investor may be there - but have not been identified to date	
3.5. The scale of benefits and incentives are large enough to create meaningful incentives to change behaviour (i.e. either a single or multiple markets/investors that collectively will provide the meaningful incentives to change behaviour)		Most Definitely	Above Average	scale of subsidies of meaningful because it is already changing behaviour (using incentive of minimum wage)	
3.6. The instrument can function in existing market structure and does not require new regulations, policies, or market dynamics (e.g. can function in informal markets)		Most Definitely	Average	already subsidies being applied in existing market structures	
4. GOVERNANCE CRITERIA		Occurrence of Condition Select options from drop-down menu below	Criteria Significance Weighting	Notes on critical issues to consider during design and implementation in local context	FLAG?
OVERALL WEIGHTING OF GOVERNANCE CRITERIA RELATIVE TO SOCIAL, ECOLOGICAL AND MARKET			*****	Reasoning for this weighting: Governance systems are central to effective implementation	
4.1. The intervention meets legal and policy requirements at all levels of government and does not conflict with existing legislation or regulations in the local context		Most Definitely	Average		
4.2. There <u>will not</u> be opposition from other government agencies or stakeholders that would inhibit the implementation of the instrument and distribution of benefits (i.e. there are no groups with nested interests that would oppose the implementation of instrument)		Definitely will not be opposition	Average		
4.3. There are existing National Level structures and mechanisms that would be able to meet the conditions needed for the implementation of the instrument, if yes -		Institutions exist and can be used	Above Average	Much of the funding for subsidies comes directly from national level structures such as DEA and DWA	
4.3.1. Do they have adequate / relevant implementing power to support the instrument		Yes			

4.3.2. Do they have adequate relevant implementing capacity and resources	No		<i>The funding for subsidies from DWA and DAE is driven as wage replacement and poverty alleviation initiative by national government, and not performance driven environmental interventions - this is causing challenges with dependence and meeting environmental targets</i>	1
4.3.3. Do they have a proven track record / experience in these activities	No		<i>Track record of national government departments shows roll out of initiatives that generate increasing dependence on wages from subsidies rather than performance driven environmental interventions and area of alien infestation has increased</i>	1
4.4. There are existing District/Regional level institutional and mechanisms that would be able to meet the conditions needed for the implementation of the instrument, if yes - 4.4.1. Do they have adequate / relevant implementing power to support the instrument 4.4.2. Do they have adequate relevant implementing capacity and resources 4.4.3. Do they have a proven track record / experience in these activities	Institutions exist and can be used	Average	<i>Currently talk about switching direct funding from national to local - via district - there are concerns about capacity etc. but this system has not yet been implemented</i>	
	No			
	No			
	No			
4.5. There are existing Local Level structures and mechanisms that would be able to meet the conditions needed for the implementation of the instrument, if yes - 4.5.1. Do they have adequate / relevant implementing power to support the instrument 4.5.2. Do they have adequate relevant implementing capacity and resources 4.5.3. Do they have a proven track record / experience in these activities	Institutions exist and can be used	Above Average	<i>There is the UCPP that is currently implementing subsidies</i>	
	Yes			
	Yes			
	Yes			
<i>List potential implementing agencies at National, Regional and Local Levels that need opt be engaged during the design of the instrument for local implementation (flag potential constraints):</i>				
4.6. There are willing local partners with adequate capacity to assist with implementation and mentorship, if so -	Institutions exist and can be used	Above Average	<i>There is the UCPP that is currently implementing subsidies</i>	

4.6.1. Do they have relevant influence to secure support and participation of local stakeholders	Yes			
4.6.2. Do they have adequate/relevant capacity and skills	Yes			
4.6.3. Have they got relevant implementation experience	Yes			
4.7. There are independent local group(s) that could effectively facilitate the agreements needed between stakeholders and partners (e.g. play the role of independent broker), if yes -	<i>Institutions exist and can be used</i>	<i>Average</i>	<i>There is the UCPP that is currently implementing subsidies</i>	
4.7.1. Do they have necessary influence and independence to secure the trust of all partners	Yes			
4.7.2. Do they have adequate implementing capacity	Yes			
4.7.3. Have they got a proven track record	Yes			
4.8. There are independent monitoring and evaluation mechanisms / instruments that can be integrated into the design and implementation of the instrument to track ecological impacts against which the performance based benefits can be calculated	<i>Institutions exist and can be used</i>	<i>Above Average</i>	<i>Monitoring programmes are already being developed by CSA and EWT</i>	
4.9. If required, there is potential to amend local or national rights/regulations to create an enabling governance environment for the implementation of the instrument	<i>Institutions exist and can be used</i>	<i>Average</i>		
5. OTHER CONSIDERATIONS (do not contribute to cumulative score)	Select Option		Notes on critical issues to consider during design and implementation in local context	FLAG
5.1. Are there alternative opportunities (i.e. other than implementation of the target instrument) to achieve the improved environmental management that would be easier / more cost effective to achieve (i.e. other than implementing an economic instrument)?	<i>Likely</i>		<i>More effective alternative might still involve environmental subsidies but paid in a way that is more performance driven and less likely to create dependence(e.g. micro-finance)</i>	1
5.2. Would the implementation of this economic instrument provide a replicable model for other conservation interventions?	<i>Likely</i>			

Annexure 3

Summary of the outcomes of DeMax highlighting local design considerations for the implementation of non-compliance charges as incentives for implementation of improved grazing systems

DATE & STAKEHOLDER GROUP PARTICIPATING IN PROCESS: TARGET INTERVENTION: ENVIRONMENTAL CHALLENGE THAT THE INSTRUMENT IS BEING DESIGNED FOR:	24 March UCPP NON-COMPLIANCE CHARGES <i>Rangeland degradation (incentivise improved livestock grazing management)</i>			
CRITERIA FOR LOCAL DESIGN OF IMPLEMENTATION OF ECONOMIC INSTRUMENT	CUMULATIVE SCORE	RECOMMENDATION FROM CUMULATIVE SCORE:		FLAG CRITICAL ISSUES
	68%	<i>Proceed with caution and attention to likely requirements for significant modification to instrument or receiving environment</i>		
1. SOCIAL CRITERIA	Occurrence of Condition <i>Select options from drop-down menus below</i>	Criteria Significance Weighting	Notes on critical issues to consider during design and implementation in local context	FLAG?
OVERALL WEIGHTING OF THE SOCIAL CRITERIA RELATIVE TO ECOLOGICAL, MARKET AND GOVERNANCE:		*****	Reasoning for this weighting:	
1.1. The instrument has the potential to distribute the benefits (i.e. financial or non-financial benefits generated through the instrument) in a fair and equitable way to the resource/land users whose behaviour is being changed through the instrument	Most Definitely	Average	Can clearly targeted the owners of those livestock grazed illegally and fine them. But need to consider Mafisa so that a responsible person is clearly designated	
1.2. Implementing the instrument <u>will not</u> compromise (i.e. take away from) existing resource/land rights and ownership of resource dependent user groups/ communities	Definitely will not compromise	Above Average		
1.3. Implementing the instrument will help to alleviate poverty and reduce vulnerability of livelihoods of the target communities/ resource users	Likely	Above Average		
1.4. The instrument will maintains / strengthen the cultural values within community whose resource use management practices are being targeted (there is little risk of taking eroding or conflicting with local cultural values)	Most Definitely	Above Average	This is consistent with traditional practices such as <i>Maboella</i>	

<p>1.5. There is likely to be collaboration between resource user / community groups in order to implement necessary changes (e.g. instrument targets cohesive groups with history of working together)</p>	<p><i>Likely</i></p>	<p>Above Average</p>	<p>If the grazing management system is effectively implemented with thorough consultation and everyone signs the agreement then there will be collaboration - but if developed in a hurry and consultation is rushed without adequate consultation it might result in lack of consensus and people not working together</p>	<p>1</p>
<p>1.6. The instrument will help to build or maintain cohesiveness within and between resource / land users (i.e. little risk of increasing conflict/division among user groups)</p>	<p><i>Likely</i></p>	<p>Above Average</p>	<p>If the system is implemented based on consensus among the livestock owners then it will maintain cohesiveness. This process must be managed in collaboration with the traditional authorities who have the authority within the community.</p>	<p>1</p>
<p>1.7. The instrument creates opportunities to benefit and uplift marginalised/vulnerable groups within the community (e.g. women/youth) or has no risk of increasing vulnerability in marginalised groups</p>	<p><i>Unsure</i></p>	<p>Above Average</p>	<p>May be risks of increasing vulnerability of marginalised groups for example- elderly women cannot afford to pay herders therefore if eco herders funding runs out - they may not be able to make sure their livestock do not enter rested areas, and may be more at risk of incurring fines</p>	<p>1</p>
<p>1.8. The instrument could also generate benefits (financial or non-financial) for neighbouring communities and can help to strengthen neighbour relations (no risk of creating tensions)</p>	<p><i>Unsure</i></p>	<p>Average</p>	<p><i>Could be risks of tension with neighbouring communities - if the traditional authorities do not work together (e.g. if a neighbouring villages are not in agreement to be part of the grazing management plan - they become a liability</i></p>	<p>1</p>

			by not recognising the areas to be rested). Traditional authorities need to ensure cooperation by all villages	
1.9. The instrument will lead to independence of target groups through establishing self-sustaining sources of benefits and avoids dependence on donor funding (e.g. links to performance based benefits)	Likely	Average	Fines paid could be used towards paying herders to maintain a communal herd and implement communal rotational grazing plan. Need system where penalties / fines paid by livestock owners in Lesotho pay penalties to this fund (not to SARS)	
1.10. Channels of engagement exist within target communities for fostering communication and conflict resolution if required	Most Definitely	Above Average	Usually dealt with by traditional authority - this authority is recognised	
2. ECOLOGICAL CRITERIA	Occurrence of Condition Select options from drop-down menus below	Criteria Significance Weighting	Notes on critical issues to consider during design and implementation in local context	FLAG?
OVERALL WEIGHTING OF ECOLOGICAL CRITERIA RELATIVE TO SOCIAL, MARKET AND GOVERNANCE:		*****	Reasoning for this weighting:	
2.1. The instrument <u>will not</u> increase risk of creating new / compound environmental pressures on other resources or ecosystems (local or distant areas)	Definitely will not increase	Average	Because being implemented as part of a grazing management system we will not negatively impact other areas	
2.2. The instrument will not create impacts that could compromise the integrity / effectiveness of other ecological management interventions (e.g. being implemented by other groups)	Most Definitely	Average	Grazing management system integrated other ecological systems e.g. wetlands - there wont negative impact	
2.3. The instrument can contribute to wider integrated ecological management objectives in the area	Most Definitely	Above Average		
2.4. The instrument has the potential to enhance the ecological condition in adjacent areas, for example promoting land management compatibility and ecological connectivity (e.g. strengthens habitat connectivity across landscapes, enhances	Unlikely	Below Average		

ecosystem function that is also important to downstream environments)				
2.5. The ecological impacts resulting from the management interventions introduced through the instrument can be measured, monitored and quantified to confirm location and scale of impact (e.g. the change in the condition of ecosystem functioning, levels of erosion, levels of pollution etc.)	Most Definitely	Average		
3. MARKET CRITERIA	Occurrence of Condition Select options from drop-down menus below	Criteria Significance Weighting	Notes on critical issues to consider during design and implementation in local context	FLAG?
OVERALL WEIGHTING OF MARKET CRITERIA RELATIVE TO SOCIAL, ECOLOGICAL AND GOVERNANCE:		*****	Reasoning for this weighting:	
3.1. The instrument <u>will not</u> fore-close on other economic/market-based opportunities that create benefits	3.1.1. Local scale	Definitely will not fore-close	Above Average	
	3.1.2. Regional/District/Meso scale	Definitely will not fore-close	Above Average	
	3.1.3. National scale	Definitely will not fore-close	Above Average	
3.2. The instrument has potential to create additional economic/ market-based options for local stakeholders (i.e. stacking the benefits)	Most Definitely	Above Average	Improving grazing improved condition of livestock which creates opportunities for increased benefits from sale of livestock or livestock products. And benefits from Agri-tourism	
3.3. The impact of the intervention on the local economic market are compatible with economic and market activities in neighbouring areas	Most Definitely	Average	Improving rangelands improves livestock which is a key economic activity in the area	
3.4. There is sufficient interest and demand among investors/backers/ participants to provide benefits/funding for incentives that target changes in environmental management (e.g. there are willing buyers for ecosystem services)	Not Applicable		Non-compliance charges do not require investors	

3.5. The scale of benefits and/or incentives are large enough to create meaningful incentives to change behaviour (i.e. either a single or multiple markets/investors that collectively will provide the meaningful incentives to change behaviour)	Most Definitely	Above Average	The scale of the penalty can be locally determined to ensure it is large enough to create a meaningful disincentive. It is essential that the non-compliance charge is set at a value that is locally meaningful	1
3.6. The instrument can function in existing market structure and does not require new regulations, policies, or market dynamics (e.g. can function in informal markets)	Most Definitely	Above Average	Fines and penalties are already being implemented through the traditional authority system	
4. GOVERNANCE CRITERIA	Occurrence of Condition Select options from drop-down menu below	Criteria Significance Weighting	Notes on critical issues to consider during design and implementation in local context	FLAG?
OVERALL WEIGHTING OF GOVERNANCE CRITERIA RELATIVE TO SOCIAL, ECOLOGICAL AND GOVERNANCE:		*****	Reasoning for this weighting:	
4.1. The intervention meets legal and policy requirements at all levels of government and does not conflict with existing legislation or regulations in the local context	Likely	Average	The laws and regulations already exist, therefore implementation of non-compliance charges meet legal and policy requirements. But need to be effectively implemented - this needs time to consult extensively on these issues to secure buy in and agreement from all stakeholders	1
4.2. There <u>will not</u> be opposition from other government agencies or stakeholders that would inhibit the implementation of the instrument and distribution of benefits (i.e. there are no groups with nested interests that would oppose the implementation of instrument)	Definitely will not be opposition	Average		
4.3. There are existing National Level structures and mechanisms that would be able to meet the conditions needed for the implementation of the	Not Applicable			

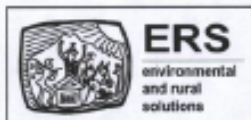
instrument, if yes -	4.3.1. Do they have adequate / relevant implementing power to support the instrument				
	4.3.2. Do they have adequate relevant implementing capacity and resources				
	4.3.3. Do they have a proven track record / experience in these activities				
4.4. There are existing District/Regional level institutional and mechanisms that would be able to meet the conditions needed for the implementation of the instrument, if yes -	Institutions exist and can be used		Average	<i>If penalties are not paid - would need to refer the case to the police and magistrate</i>	
	4.4.1. Do they have adequate / relevant implementing power to support the instrument	Yes			
	4.4.2. Do they have adequate relevant implementing capacity and resources	No			
	4.4.3. Do they have a proven track record / experience in these activities	Yes			
4.5. There are existing Local Level structures and mechanisms that would be able to meet the conditions needed for the implementation of the instrument, if yes -	Institutions exist and can be used		Above Average	<i>Traditional council and authority</i>	
	4.5.1. Do they have adequate / relevant implementing power to support the instrument	Yes			
	4.5.2. Do they have adequate relevant implementing capacity and resources	No		<i>Traditional authorities and councils currently lack capacity and resources to implement non-compliance charges - some personnel are still there but they do not have capacity or resources to act effectively. Therefore need new structures such as livestock owners committee (who have interest in rangelands) that can implement instrument, and then only come to traditional authority when there are problems</i>	1
	4.5.3. Do they have a proven track record / experience in these activities	No		<i>Track record of local structures to effectively implement rangeland</i>	1

				management has been weakened over time because the traditional system has broken down- needs to be addressed if local structures are going to effectively support implementation of non-compliance charges	
<i>List potential implementing agencies at National, Regional and Local Levels that need opt be engaged during the design of the instrument for local implementation (flag potential constraints):</i>					
	<i>Institutions exist and can be used</i>		<i>Above Average</i>	<i>Yes the UCPP</i>	
4.6. There are willing local partners with adequate capacity to assist with implementation and mentorship, if so -	4.6.1. Do they have relevant influence to secure support and participation of local stakeholders	Yes			
	4.6.2. Do they have adequate/relevant capacity and skills	Yes			
	4.6.3. Have they got relevant implementation experience	Yes			
4.7. There are independent local group(s) that could effectively facilitate the agreements needed between stakeholders and partners (e.g. play the role of independent broker), if yes -	<i>Institutions exist and can be used</i>		<i>Above Average</i>		
	4.7.1. Do they have necessary influence and independence to secure the trust of all partners	Yes			
	4.7.2. Do they have adequate implementing capacity	Yes			
	4.7.3. Have they got a proven track record	Yes			
4.8. There are independent monitoring and evaluation mechanisms / instruments that can be integrated into the design and implementation of the instrument to track ecological impacts against which the performance based benefits can be calculated	<i>Institutions exist and can be used</i>		<i>Average</i>	<i>CSA and EWT currently busy developing and implementing monitoring systems (and organisations like Save Act can also assist)</i>	
4.9. If required, there is potential to amend local or national rights/regulations to create an enabling governance environment for the implementation of the instrument	<i>Institutions exist and can be used</i>		<i>Average</i>	<i>CSA is already doing policy work - so the potential does exist if required</i>	
5. OTHER CONSIDERATIONS (do not contribute to cumulative score)	Select Option		Notes on critical issues to consider during design and implementation in local context		FLAG

5.1. Are there alternative opportunities (i.e. other than implementation of the target instrument) to achieve the improved environmental management that would be easier / more cost effective to achieve (i.e. other than implementing an economic instrument)?	<i>Unlikely</i>		
5.2. Would the implementation of this economic instrument provide a replicable model for other conservation interventions?	<i>Most Definitely</i>	<i>This could be rolled out in most areas within and outside the catchment</i>	

Annexure 4

Feedback from UCPP on implementation of the DST and DeMax



P.O. Box 14 / 110 Main Street
Matatiele 4730
South Africa
++ 27 (0) 39 737-4849 (phone) 737-4892 (fax)
sjsile@envirco.co.za or nicky@envirco.co.za
082 953 4857 or 082 782 6067
www.envirco.co.za

"Successfully linking the sustainable development of rural communities and their resource base with the positive aspects of what the 21st century demands and has to offer"

15 April 2014

Ms Fonda Lewis
Institute of Natural Resources
PO Box 100396,
Scottsville, 3209,
South Africa

RE: Workshops on economic incentives toolkit for improved environmental management

Dear Fonda

I write on behalf of ERS, as well as the Umzimvubu Catchment Partnership Programme (UCPP), to express our gratitude for the toolkit introduction process which you facilitated for our members in Matatiele during March this year.

The workshops gave us a very clear concept of and direction for the possibilities for alternative incentives and instruments for improving sustainability within our development interventions in the upper catchment. Most particularly we appreciated the discussion at the second workshop, where we unpacked incentives and possible subsidies for ecorangers and alien plant clearing: this was tremendously thought provoking, especially with the presence of Chief Lebenya in the workshop, who represents the majority of the beneficiary communities in our main target area. This type of meticulous planning and rigorous unpacking of options and outcomes is *critical* to the longer term sustainability of our current and planned interventions in the upper Umzimvubu catchment, and we feel that we have gained a valuable new thinking skill to complement the partnership's efforts in the area.

We are planning to arrange some follow up think-tank sessions based on our implementing experiences, linked with the instrument ideas which your project has introduced, and would really appreciate your further inputs in this discussion if you are amenable. This would involve other partners involved in similar ecosystem-based interventions in the upper catchment grasslands, including Conservation SA, LIMA, EWT, MDTP, the Local Authorities (traditional and municipal), relevant Departments and INR.

Thanks for the feedback and workshop reports, which we are sharing with members who attended, and also making available for those who could not make it. The Department of Water Affairs colleagues who attended the two sessions were particularly impressed, and will make direct contact with you for arrangement of a session for their planning section in East London.

Yours in gratitude and sustainability

Nicky McLeod
ERS Manager, and UCPP Secretariat

Co Founding
member



Members:

L.R.S. Matela (M.Sc Agronomy and Soil Science) & N. McLeod (B.Sc Hons. Environmental and Geographical Science)