



Creating a space for 'Payment for Watershed/ Ecosystem Services' to emerge



Maura Talbot

School of Public Leadership & Development
Stellenbosch University
South Africa

Maura.talbot@gmail.com



RHODES UNIVERSITY
Where leaders learn





Payments for Ecosystem Services (PES)

- PES are rewards schemes that facilitate a shift to sustainable agric., conservation and restoration land uses
- Water users pay or reward farmers to restore or conserve their land to increase water supply
- This payment theoretically covers the opportunity costs of the farmers and makes it financially feasible for them to make the shift
- In SA, PES advocated by conservation agencies



PES for Thicket

There are two potential opportunities for PES in thicket areas:

1. **Carbon payments** for spekboom revegetation
2. **Water payments** for spekboom revegetation, clearing invasive alien plants, wetland rehab and fire management

I will focus on the potential water payments in this talk



Watershed Payment Schemes

- Usually conceived as payment for ‘water’ – payment linked to delivery of water.
- Three reasons why this is not yet feasible in SA
 1. No control of water use - so can't guarantee delivery
 2. Additional water belongs to the State, not the land holders or water users. DWA would have to issue additional water allocations and allow sale
 3. DWA won't do that unless it is beneficial for achieving its water allocation reform goals



Potential Clash of Priorities

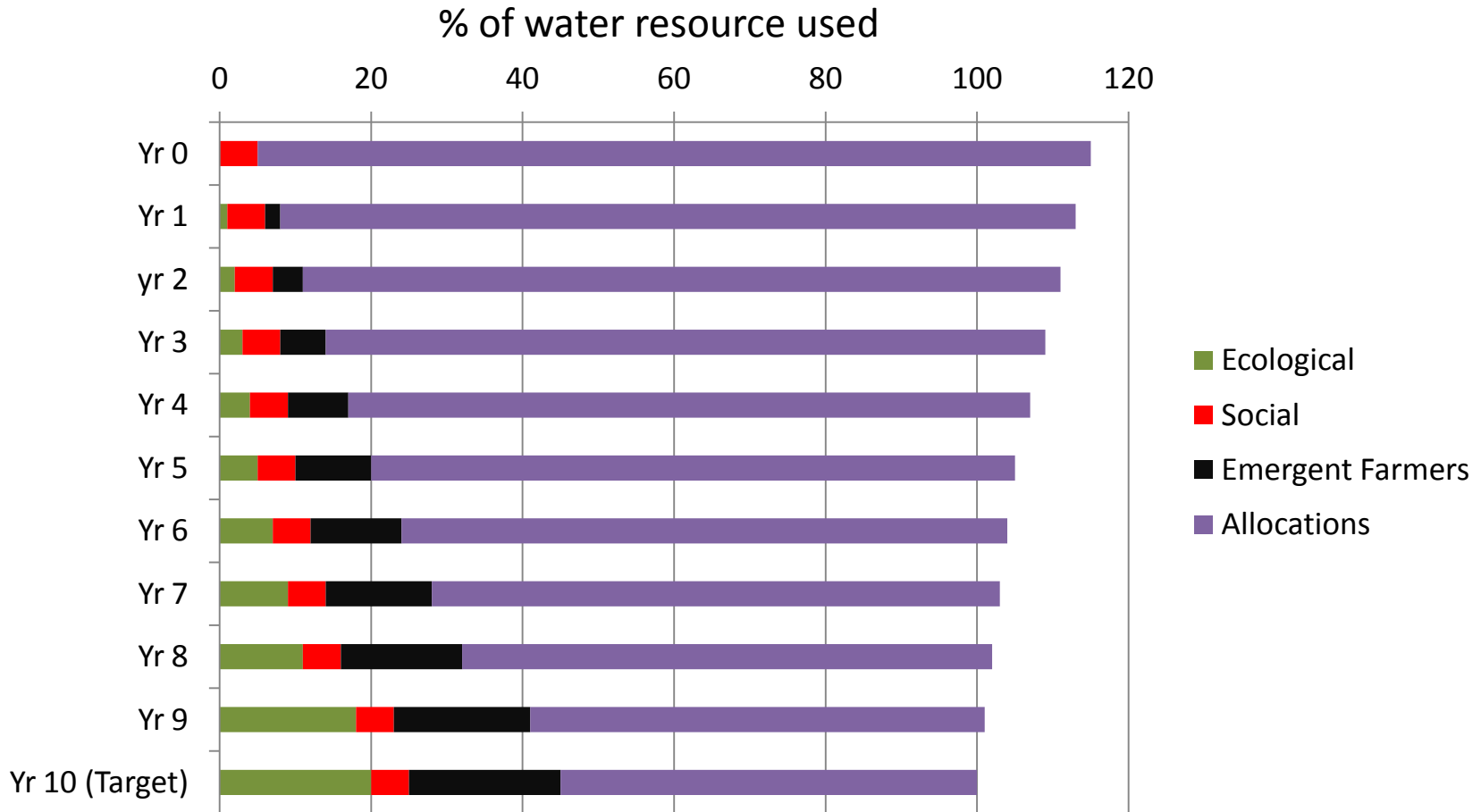
- PES – reward scheme for land holders – potentially based on allocation of additional water permits
- DWA priority in stressed catchments is to reduce and redistribute existing water permits
 - To ecological reserve
 - To new water users (esp. urban and industrial)
 - To historically excluded persons



Potential Technical Solution

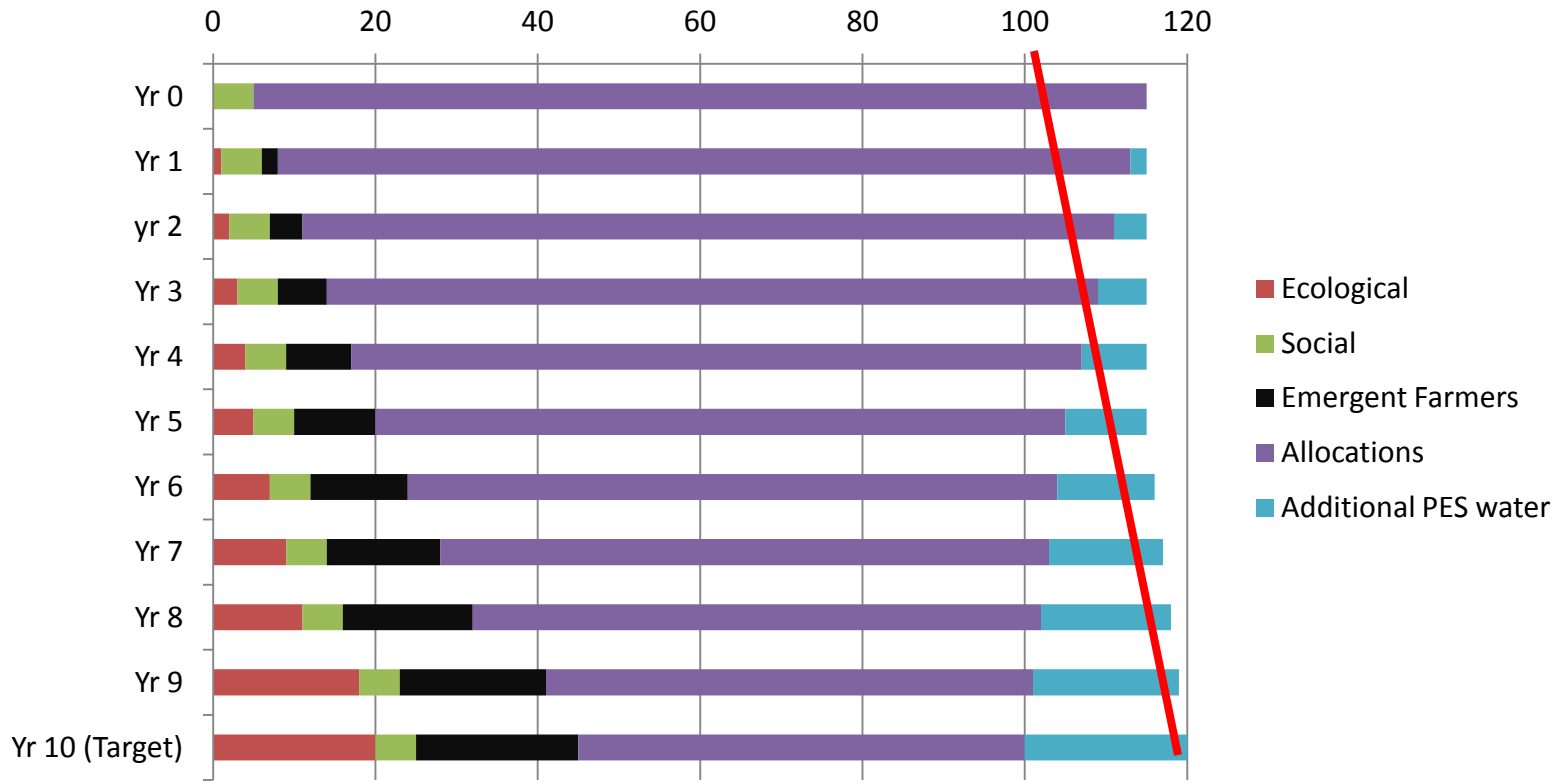
- Could potentially use a **Cap and Trade market mechanism** to achieve DWA's goals and create an incentive for water users to invest in restoration in order to maintain or get additional water allocations.
- Such a scheme would need to be tailored to each catchment, form part of a Catchment Management Plan & be implemented by the local water governance institutions
- Scheme will increase the cost of water for water users, but it can also be designed to ensure that this cost burden is not shouldered by the poor

Hypothetical Cap & Trade Plan



Cap & Trade with PES incentive

% of water resource used





So there is a potential technical solution, but
is it implementable?

Not at this stage.

Need a participatory social learning and
change process



Institutional Developments Needed

- Clarification of water allocations (property rights)
- Creation of Catchment Forums to design and manage the use of water and any incentive schemes
- Agreeable ways to share water resources with those who were previously marginalised
- Empowerment of marginalised to access water and manage their supply systems and uses

Problems / Constraints

- Significant capacity constraints
- Much social and political resistance



Problematic Attitudes & Behaviour

- DWA
 - NRM - WfW
 - Municipalities
 - Registered Water Users
 - Water Engineers (advisors)
- Working & living separately (in silos)
 - Blaming others
 - Suspicion & lack of trust
 - Short term horizons
 - Reactive survival mode
 - Looking to technology for solutions rather than ourselves



Department of Water Affairs

- **Attitudes**

- Farmers are illegally expanding their use of water
- The water users can't be trusted
- DWA (and not water users) must control and manage the use of water

- **Assumptions**

- There is not enough water & water is over-allocated
- Expansion of orchards = increased water use
- Allowing more or larger storage dams for farmers will increase their water allocations and reduce water for PE
- Water yield is more important than base flow
- Water trading benefits the elite at the expense of the poor



Port Elizabeth Municipality

- **Attitudes**

- “Farmers have more than their fair share of water and abuse those rights”
- We will not pay farmers to do what they should be doing – what the law says they must do. The law must be complied with.

- **Blind Spots**

- own wastage of water and luxury uses of water
- Perverse incentive to maximise water use.

- **Assumptions**

- Technology is the answer – dams, desalination, etc.
- Water for domestic use has higher priority than agricultural productive uses.



Commercial Agricultural Water Users

- **Attitudes**

- The government wants to take our water allocations away from us and sees us as the enemy
- The municipality will not pay us for water
- We will suffer the consequences of the incompetence and mismanagement by DWA and the municipalities

- **Assumptions**

- Domestic water users will get priority access to water
- If we change to a WUA then our water security will be compromised when the Municipality runs out of water



Local Municipalities (Rural)

- **Attitudes**
 - Domestic water use is more important and has higher priority access to water than productive uses
 - We can deal with our own problems
 - Central government must help us – entitlement attitude
- **Blind Spots**
 - Own wastage and capacity constraints
 - Perverse incentives to maximise water use
 - Luxury domestic uses of water
- **Assumptions**
 - Farmers are stealing water from us
 - Water belongs to the State so we (as government) can decide who gets water
 - There is a shortage of water - more dams are the solution



Water Engineers

- **Attitudes**
 - Water yield is more important than base flow
 - Restoration will not meet the water needs
 - The solution to the water issues are technical
 - We engineers can solve the water problems
- **Vested Interests**
 - Preference for dams and construction projects that create work for their expertise



NRM - WfW

- **Attitudes**
 - Doing something is better than nothing
 - Do what we can (our best) with the resources we can get
- **Assumptions**
 - Clearing IAP will increase water supply
 - Economics will convince DWA and others to invest in PES and restoration – money talks!



Pervasive Problem

- Endemic insecurity amongst all groups
- Everyone else is blamed for insecurity
- Creates a hunger for power in order to control things and maintain one's security
- Result: “Lawlessness”
 - (in the sense of acting in ways that are inconsiderate of the needs of others and the impact of ones own activities and words on others) (Blignaut, 2013)
- Lawlessness exacerbates the insecurity – vicious cycle



Questions for Discussion

- What are the stumbling blocks and challenges to the changing the system we desire?



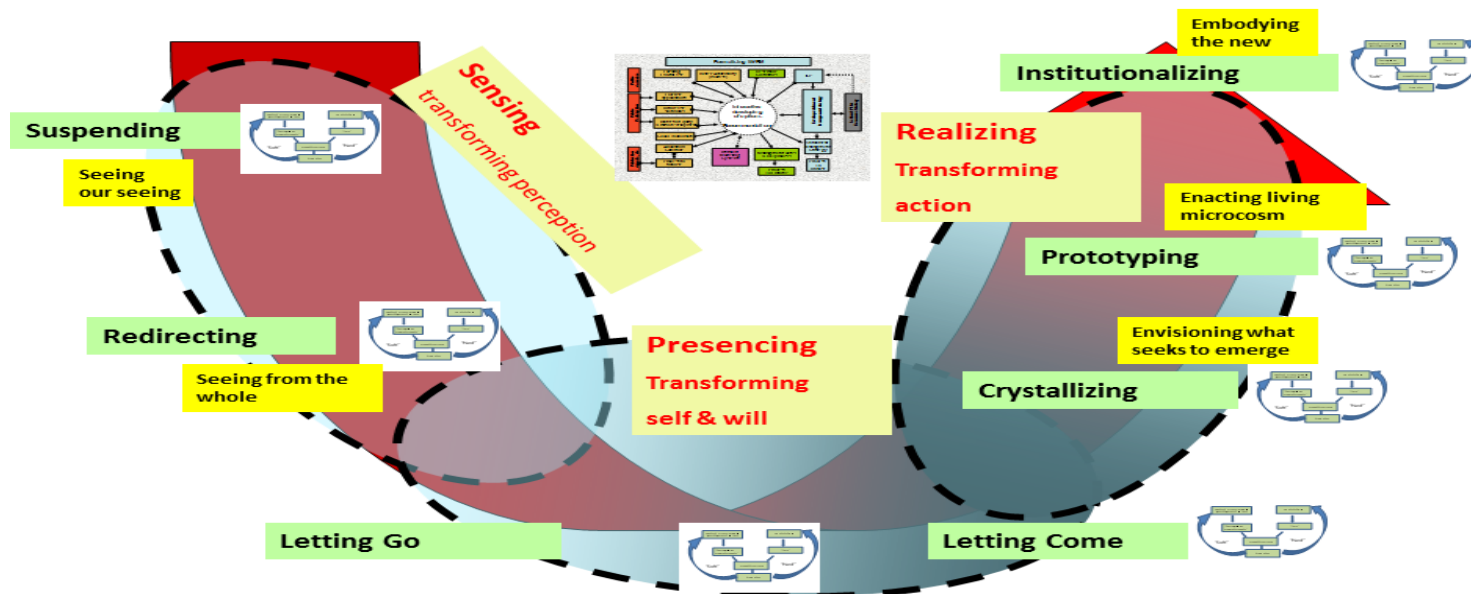
Need for Social Change

- A critical need to break down the barriers and conflicts between interest groups and build mutual understanding and respect
- Need collective interrogation and understanding of the system and its problems
- Need recognition of own contribution to the system and its problems, by all
- Need collaboration between everyone to find & test solutions and implement them

How do we achieve this Social Change?

- Need a facilitated participatory social learning and change process such as the U theory approach adopted by Living Lands

Seven Capacities of the U Movement – The entire U movement arises from seven core capacities and the activities they enable. Each capacity is a gateway to the next activity – the capacity for suspending enables seeing and the capacity for prototyping enables enacting living microcosms – but only as all seven capacities are developed is the movement through the entire process possible.





Complimentary Tools

- In this collective learning process we can also make use of:
 - Participatory agent based modelling
 - Market experiments – role playing games
- to understand the system and pilot interventions



Participatory Agent Based Modelling

- Participatory Agent Based Social Simulation Modelling is a form of **group model building or use**, in which the actors or their agents, who use the model for co-reasoning support and the co-generation of options for decision making and strategic planning, also participate and contribute to the entire modelling process.
- This modelling process serves to **reveal the assumptions and relationships** between the issues that are of relevance to the interested and affected parties.
- Source: Dent 2011



Thank You!

Maura Talbot

Maura.talbot@gmail.com

maura@livinglands.co.za

giz

