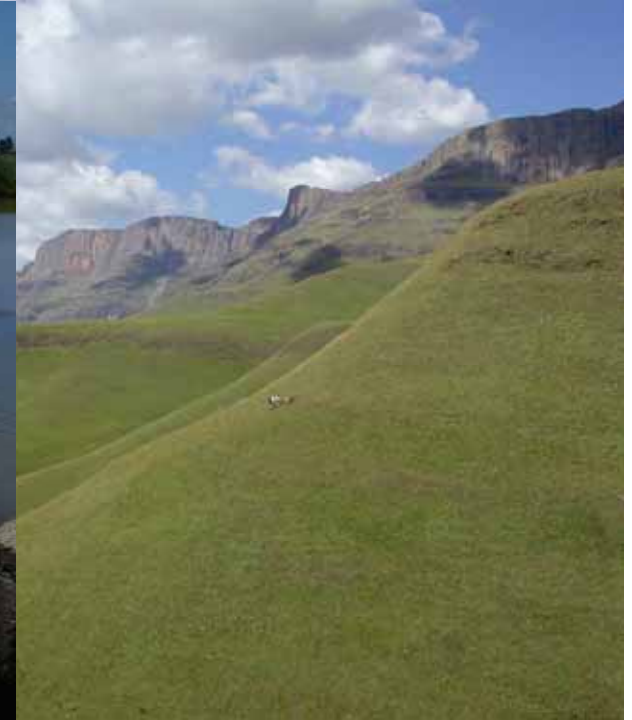


Making markets work for people & the environment:

**Combating poverty and environmental degradation on a single budget
while delivering real services to real people**

James Blignaut, Christo Marais, Guy Preston, Kate Philip, Mathieu Rouget,
Myles Mander, Jane Turpie, Lozelle du Plessis, Thami Klassen, and Norma Tregurtha





START WITH THE END IN MIND:

Conclusion

*More and more, the **complementary factor in short supply** is remaining **natural capital**, not manmade capital as it used to be. For example, populations of fish, not fishing boats, limit fish catch worldwide. **Economic logic says to invest in the limiting factor.** **That logic has not changed, but the identity of the limiting factor has.***

(Herman Daly)





Contemplate this in 36 months
from now



30 September 2011

GOVERNMENT GENERATES 75 000 NEW JOBS IN RURAL AREAS – onto 150 000!!

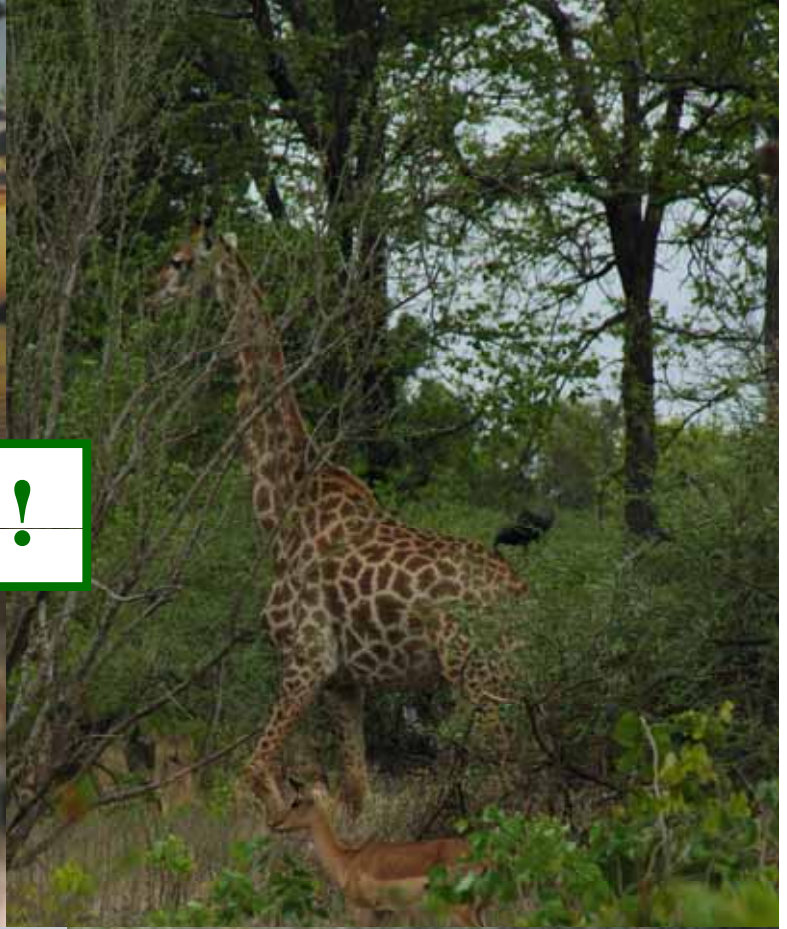
Yesterday, the saw the creation of the 75 000th rural job in the last 3 years by the government, the Minister of Trade and Industry announced. Mrs Thandi Gumede, community representative of the Umkhombe community in the KZN Drakensberg, accepted a contract from the Minister to supply watershed services, and carbon sequestration to Ecosystems Services Inc, a public private partnership, buying these services from the

communities and selling on to water utilities, DWAF and the mining industry. Mrs Gumede, and the cooperative members, will see the 2.5 fold increase in the family earning when changing from conventional cattle farming in these grasslands, to a cattle and ecosystem services farming system. The Chamber of Mines were delighted have local carbon sequestration suppliers offset their carbon emissions, reported Mr Jakes Nzo.

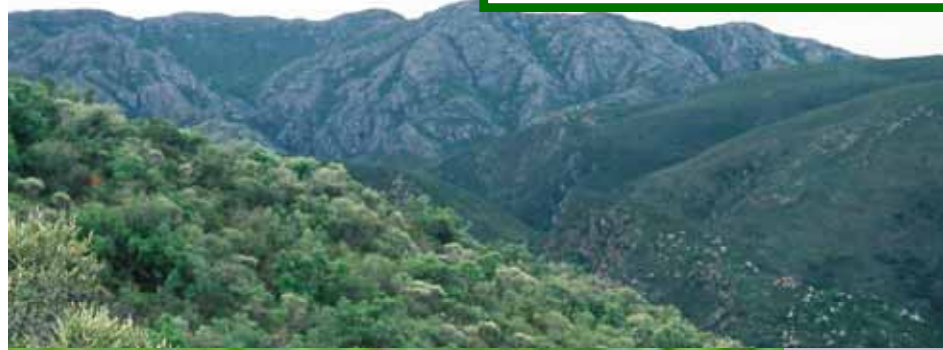
. . . Far-fetched?

Now consider the following . . .





Nature is priceless !!!



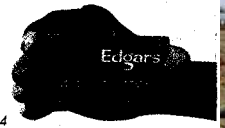
But valuable!

BUSINESS REPORT

www.businessreport.co.za

SOUTH AFRICA'S NATIONAL FINANCIAL DAILY

THURSDAY, JULY 13 2006



▲ All Share	21 591.7	+ 323.7	▼ Rand/Dollar \$	7.1030	- 0.0107	▲ Gold (London pm)	650.0	+ 19.25
▲ Top40	19 834.2	+ 314.6	▼ Rand/Pound £	13.0177	- 0.0886	▲ Platinum	1258.0	+ 26.0
▼ Dow Jones (7pm)	11 043.4	- 91.3	▼ Rand/Euro €	9.0151	- 0.0613	▲ Oil (August Brent)	74.1	+ 0.4
▲ FTSE-100	5860.6	+ 3.3	Prime Rate	11.0	Unch			

SHOWING ITS CARDS
Edgars praised for debtors book disclosure

Half of SA survives on R20 a day

THABANG MOKOPANELE household expenditure of R839 billion, according to the Reserve Bank's 2004 household expenditure survey. Those households in rural areas and 990 000 in urban areas were unable to meet their daily food needs. Music systems, 106 187 had electric hotplates, 101 241 had refrigerators and 80 464 had DVD players. Being subsidised by the government a year, while 80 percent of houses had been electrified since 1993. Relatively common, particularly for poorer households. Sixteen percent of all households



So what does nature do?

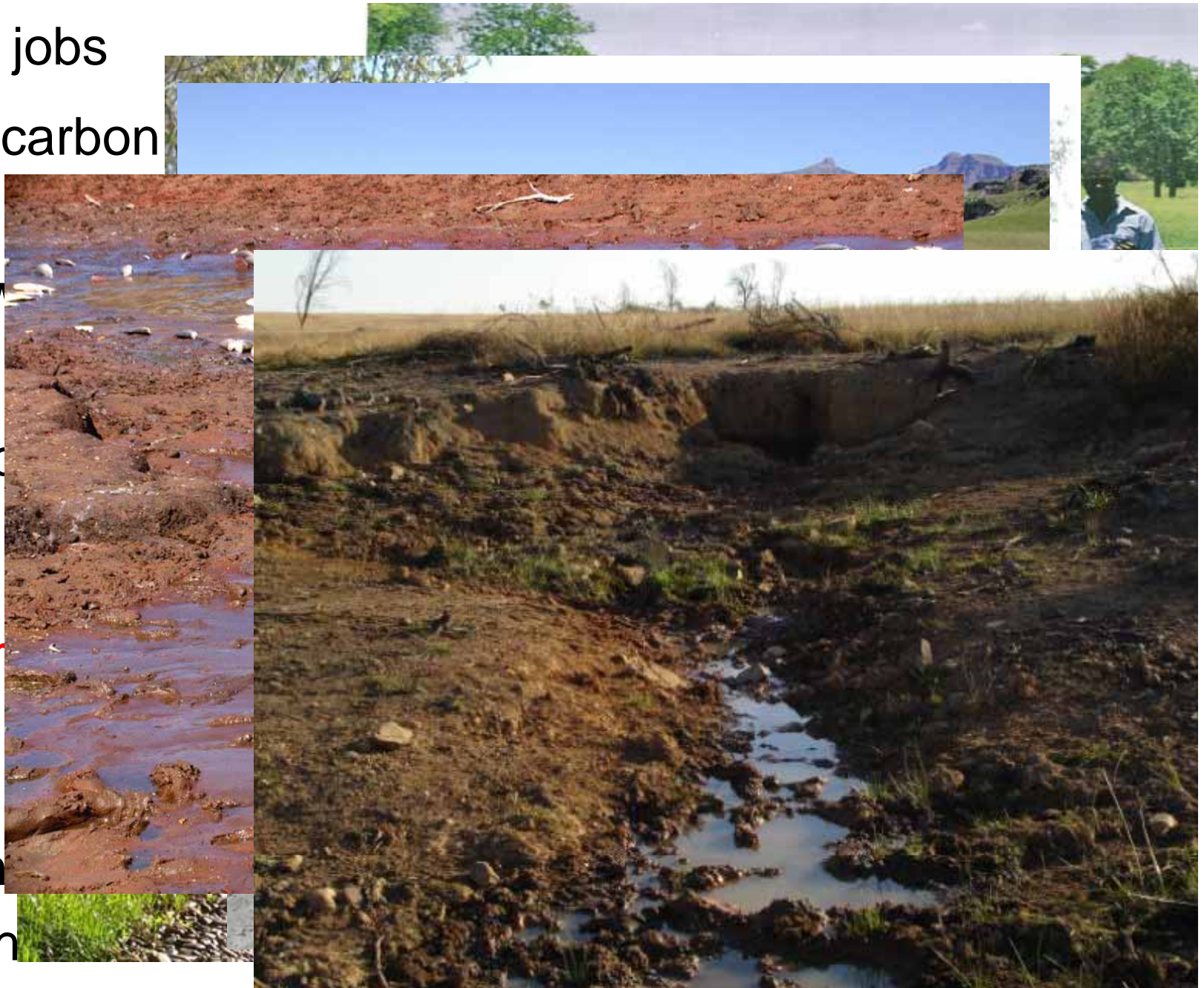
- It provides jobs
- It absorbs carbon
- It provides
- It purifies water
- It provides
- It offers recreation
- It protects

All for free

But when it

it costs money

and livelihoods





**So where are these ecosystem services
factories in South Africa?**

Mapping the supply



Ecosystem factories of SA

Carbon sequestration



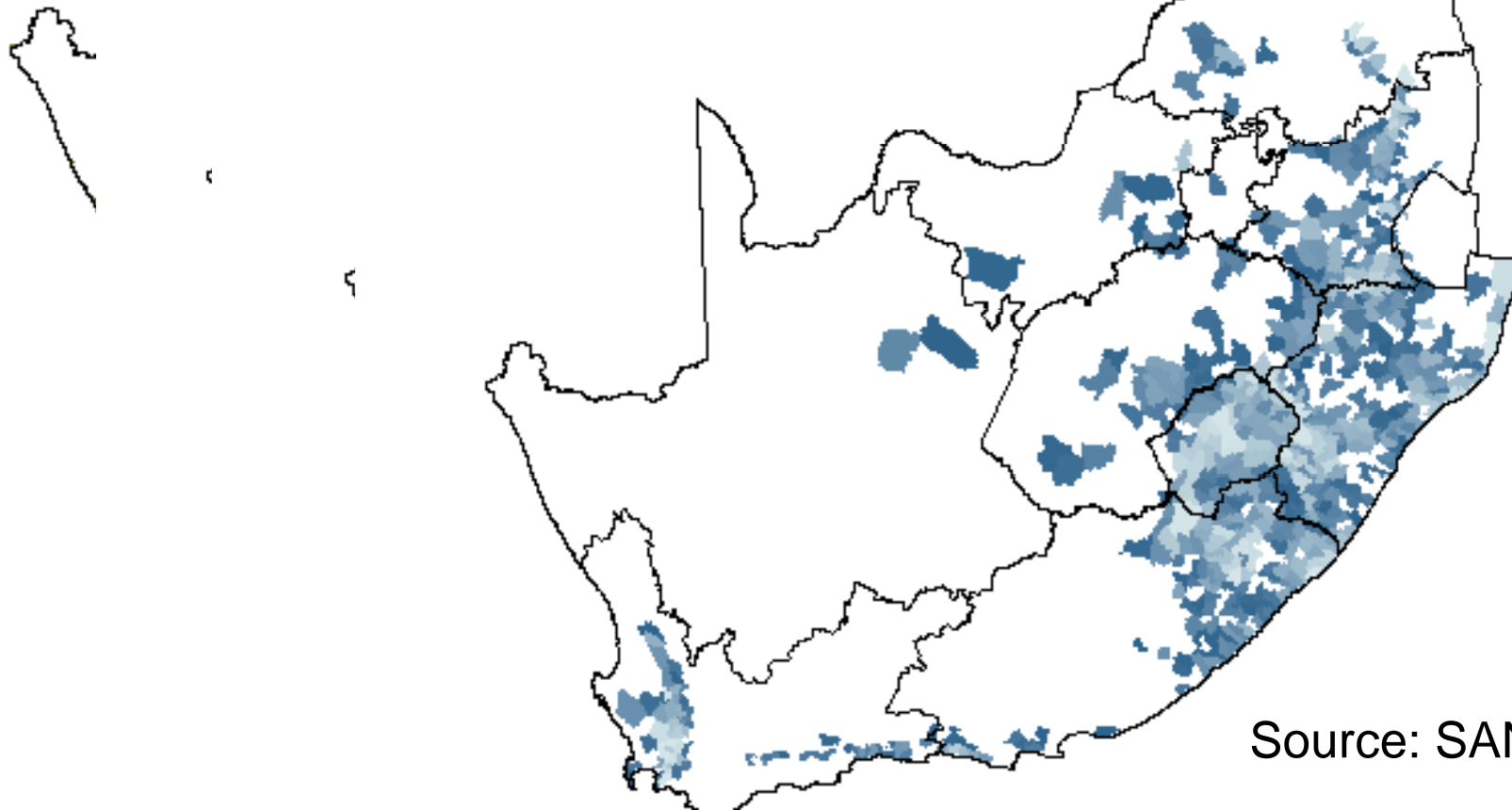
Soil retention



Water flow regulation

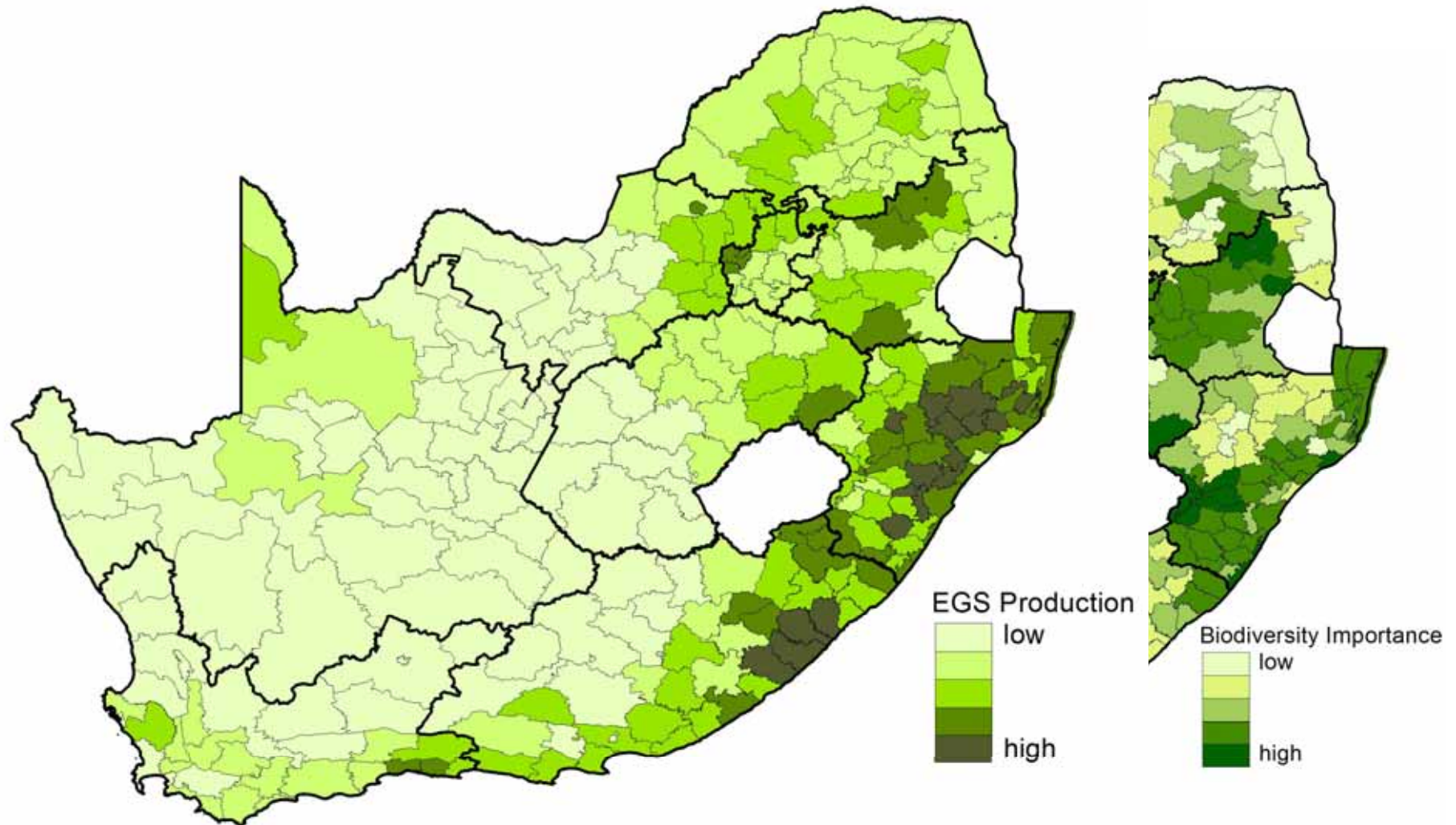


Water supply

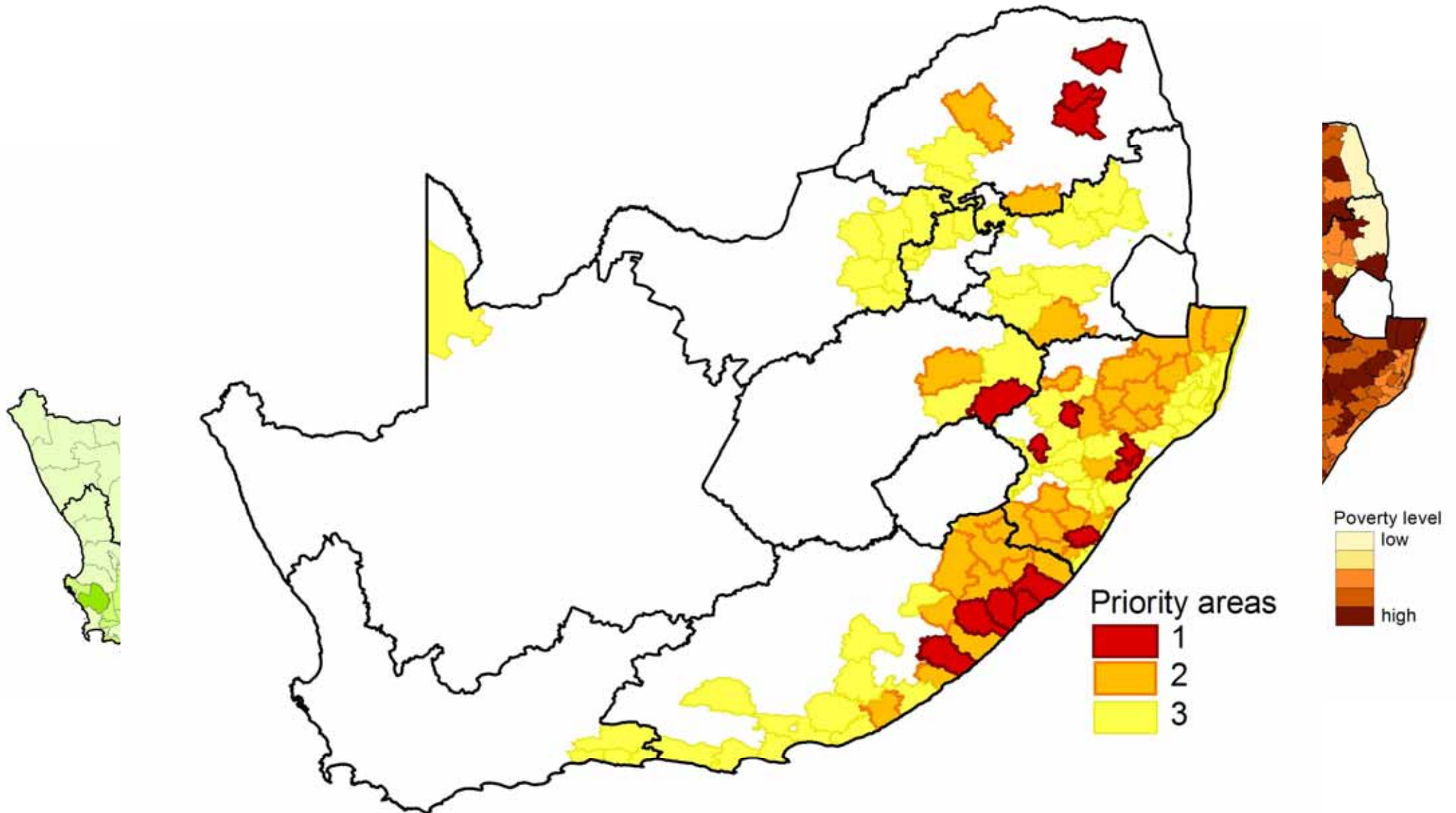


Source: SANBI

Ecosystem service production per municipality & biodiversity importance




High supply of ecosystem services is mainly in poor rural areas!



Where nature works and people play

point is:

- **poor people live where ecosystem production is high**
 - **ecosystem production is high where biodiversity importance is high**
- **people in cities and economic centres need EGS**
 - **people in rural areas can provide EGS**
- **ideal conditions for linking supply and demand**



Thinking green = Thinking money

How big is the market?



Electricity generation using invasive alien plant species and bush encroachment!

	Preliminary estimate of total utilisable biomass: t	Biomass per year over 15 years: t	Installed capacity: MW	Electricity generated at 75% op. time: MWh	Value of electricity at 65c/kWh: Rmill	Value of carbon sales at R100/tCO2 Rmill	Total value Rmill
Eastern Cape	22,713,750	1,514,250	144	946,406	615	95	710
Free State	2,532,856	168,857	16	105,536	69	11	79
Gauteng	355,418	23,695	2	14,809	10	1	11
KwaZulu-Natal	7,056,731	470,449	45	294,030	191	29	221
Mpumalanga	13,462,610	897,507	85	560,942	365	56	421
North-West	22,538,617	1,502,574	143	939,109	610	94	704
Northern Cape	19,822,231	1,321,482	126	825,926	537	83	619
Limpopo	19,717,087	1,314,472	125	821,545	534	82	616
Western Cape	5,393,102	359,540	24	224,713	146	22	168
TOTAL	113,592,402	7,572,827	720	4,733,017	3,076	473	3,550



Creating 42,000 -- 50,000 person years per year for 15 years

Water from trees!!

Water Management Area	Shortfall in 2000	Current losses due to invasive alien trees	Potential future losses due to invasive alien trees	Economic value of water currently lost, in Rmill, for various values	Potential future loss in the economic value of the water, in Rmill, for various values
	Million m ³	Million m ³	Million m ³	R14/m ³	R6.9/m ³
Limpopo	23	18 (78)	63 (63)	88	435
Levuhu/Letaba	36	11 (31)	63 (63)	76	462
Olifants	194	69 (89)	63 (63)	97	476
Inkomati	258	19 (37)	63 (63)	69	338
Thukela	102	19 (37)	63 (63)	67	331
Mvoti-Umzimkulu	102	19 (37)	420 (174)	176	869
Lower Orange	102	19 (37)	88 (978)	11	55
Gouritz	102	23 (37)	79 (125)	32	159
Olifants-Doring	102	5 (14)	52 (149)	7	35
Berg	5	19 (380)	66 (1320)	27	131
Total	967	376 (39)	1,395 (144)	526	2,594
					1,953
					9,626

With the jobs and the effort paid for by the electricity generation effort

Energy provision in rural areas using cattle manure!



310,000 rural households in SA have the technical capacity to generate energy from cow dung in biogas digesters.

They can be energy independent.

- They can save R325m per year in energy cost, or
- Generate R1,2 billion in value as LPG replacement.
- Generating 45 000 person years in job opportunities.

Carbon sequestration potential through restoration and land use management

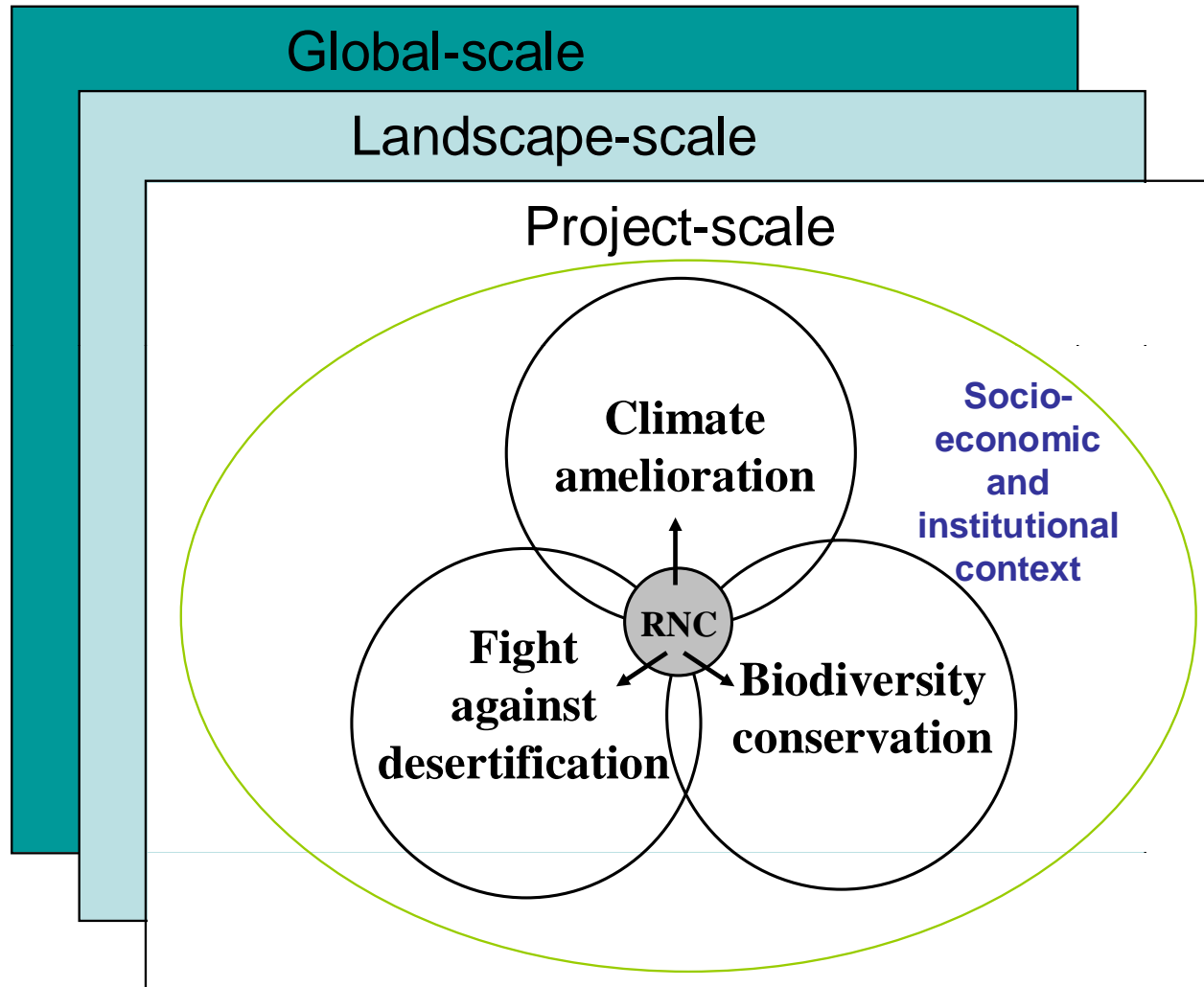
	Degraded	Natural	Total rest. cost	Rest: Jobs	Mngm cost	Mngm: Jobs	CO2 seq
	Ha	Ha	Rmill	Person years	Rmill	Person years	Rmil
Eastern Cape	1,211,183	14,202,949	12,112	403,728	1,079	35,966	1,508
Free State	185,698	9,204,346	1,857	61,899	657	21,910	356
Gauteng	11,473	969,158	115	3,824	69	2,288	118
Kwa-ZuluNatal	830,713	6,008,777	8,307	276,904	479	15,959	1,493
Limpopo	1,333,933	9,182,926	13,339	444,644	736	24,539	2,433
Mpumulanga	142,105	5,333,435	1,421	47,368	383	12,776	641
Northern Cape	653,919	35,548,505	6,539	217,973	2,534	84,472	1,067
North West	789,150	7,117,220	7,892	263,050	553	18,448	764
Western Cape	120,746	10,282,432	1,207	40,249	728	24,274	598
Total	5,278,920	97,849,748	52,789	1,759,640	7,219	240,634	8,978

The value of ecosystem: A summary

	Market size: Rmillion/year	Number of person years
Energy: Biomass gassification	3,550	42,000 – 50,000
Energy: Biogas: LPG replacement	1,182	45,000
Energy: Biogas: Fuelwood replacement	325	31,000
Water: At current levels of infestation	526 – 2,594	The same as for biomass
Water: At future levels of infestation	1,953 – 9,626	
Carbon	8,978	240,634

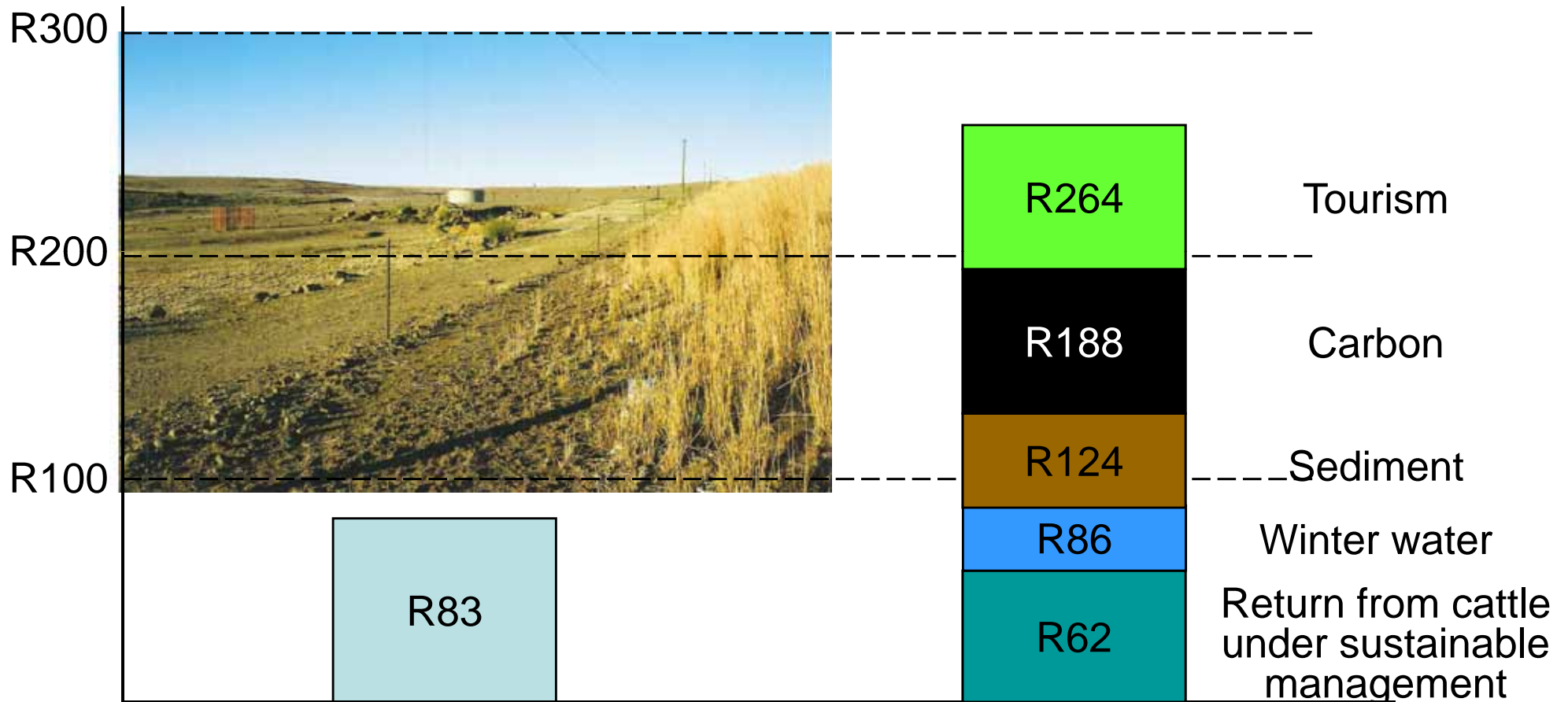
Bundling

One, or a handful of interventions, can produce a string of benefits



The Ukhombe case

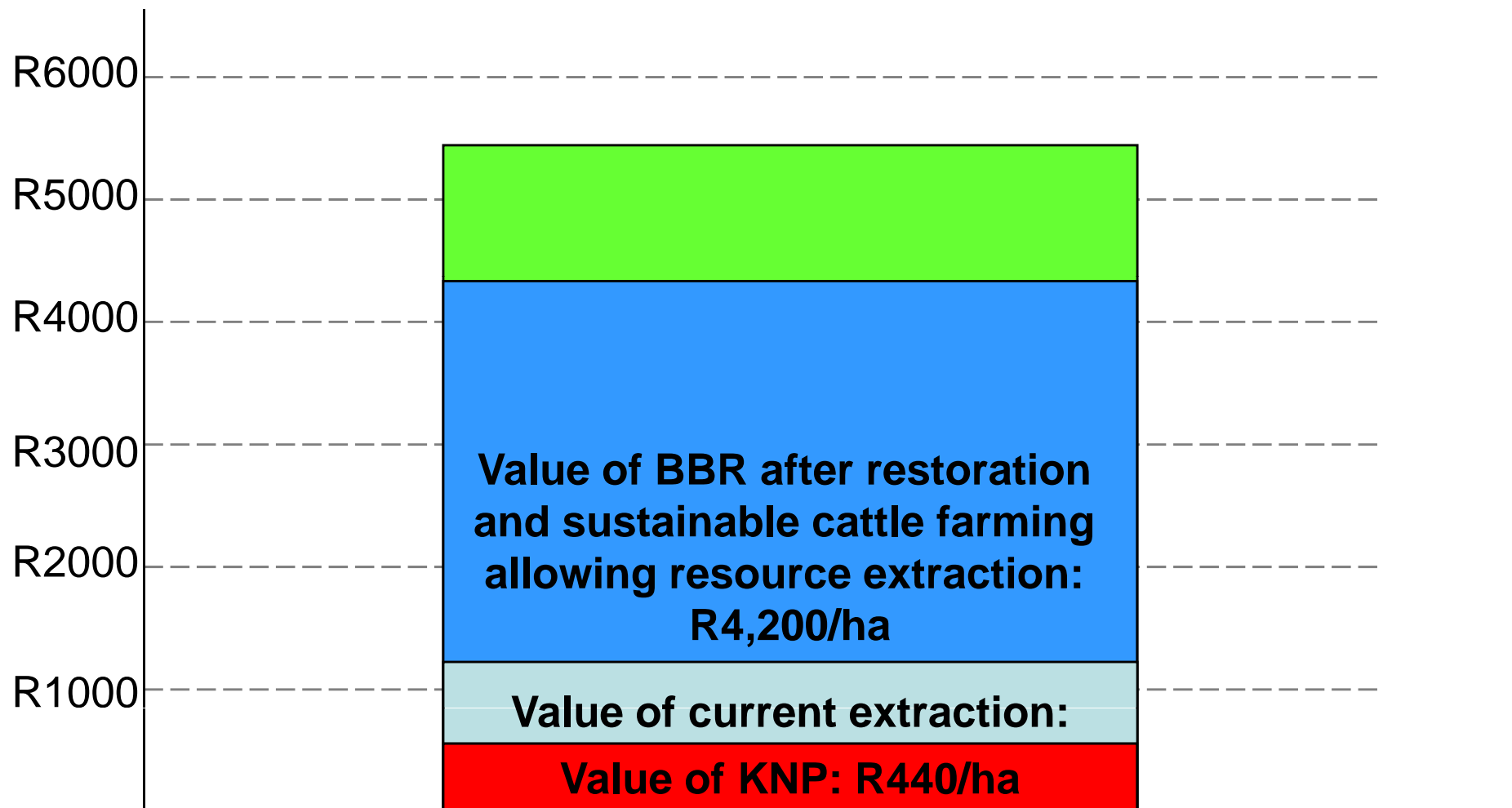
The value of one hectare (profits)



Return from cattle
under conditions of
over grazing

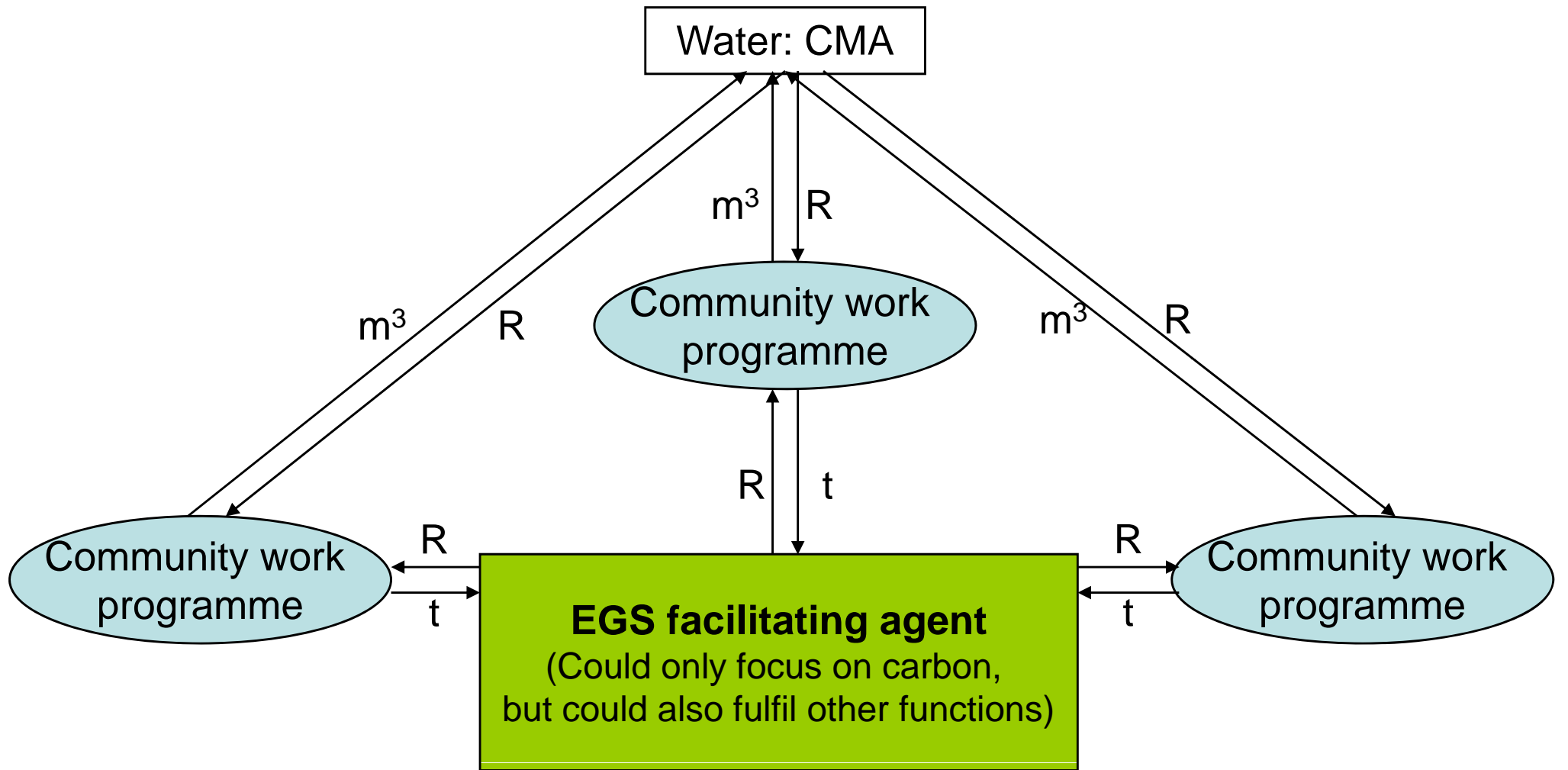
The Bushbuck Ridge case:

The value of 1 hectare based on various land use options





**How to make the market
work for people?**



Conclusion

More and more, the *complexity* of the system is remaining *natural* and is being *exploited* to benefit *only* a few.

Paradigm change!
Investment in natural capital =
an economic development strategy
((conservation =
a nice positive externality))

Towards the Future: Ecn. Dev.



A productive natural environment through
the **restoration and proper management of**
natural capital

Conclusion

Economic practice in which nature matters;
Ecological prudence in which people matter.

Let's answer the call of people & nature . . .





Thank you

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