



# EFFECTIVE ENVIRONMENT IMPROVEMENT INTERVENTIONS (2E2I)

Presentation to the 13<sup>th</sup> National Biodiversity Planning Forum, Theme:  
Foundations for biodiversity assessments, 7–10 June 2016, the Wilderness Hotel,  
Wilderness, Western Cape



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# Presentation Overview

- Background
- An **introduction** to the proposed Effective Environment Improvement Intervention (2E2I) system
- Approved **way forward**
- **Relevance** to the 13<sup>th</sup> National Biodiversity Planning Forum
- **Request** to Forum participants



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# Background

- The DEA undertook a participatory process to develop an **Environmental Offsetting Discussion Document** from mid-2014 to early 2015.
- The purpose of this initiative was to **encourage discussion and debate** on this potentially important environmental impact management tool
- Unfortunately, the process did little to bring **very polarised views on offsetting** closer together
- However, the process revealed that, although there was little, if any, consensus on offsetting, there was complete **consensus on the desired outcome of offsets**, namely, the implementation of interventions that resulted in a net positive environmental impact.



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# Background (Cont.)

- With this recognition, on 21 September 2015, the DEA's 4D Management approved the initiation of the development of a system dealing with "...the fully supported [offsetting] 'outcome' not one of the contested 'means'"
- In response, an initial 'straw dog' system description was compiled and circulated to affected line functions within DEA and then presented to the DEA's 3D, Minister's 3D and 4D meetings on 19, 21 January and 1 February 2016 respectively.
- The proposed "Effective Environmental Improvement Intervention" or 2E2I system for the recognition and monitoring of significant environmental improvement projects was well received by DEA's Minister and management and also received a positive response from the 2016 Mintech Workshop and the subsequent 11 March 2016 MINMEC meeting and all 11 subsequent Mintech Working Group Meetings.



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# The 2E2I Content

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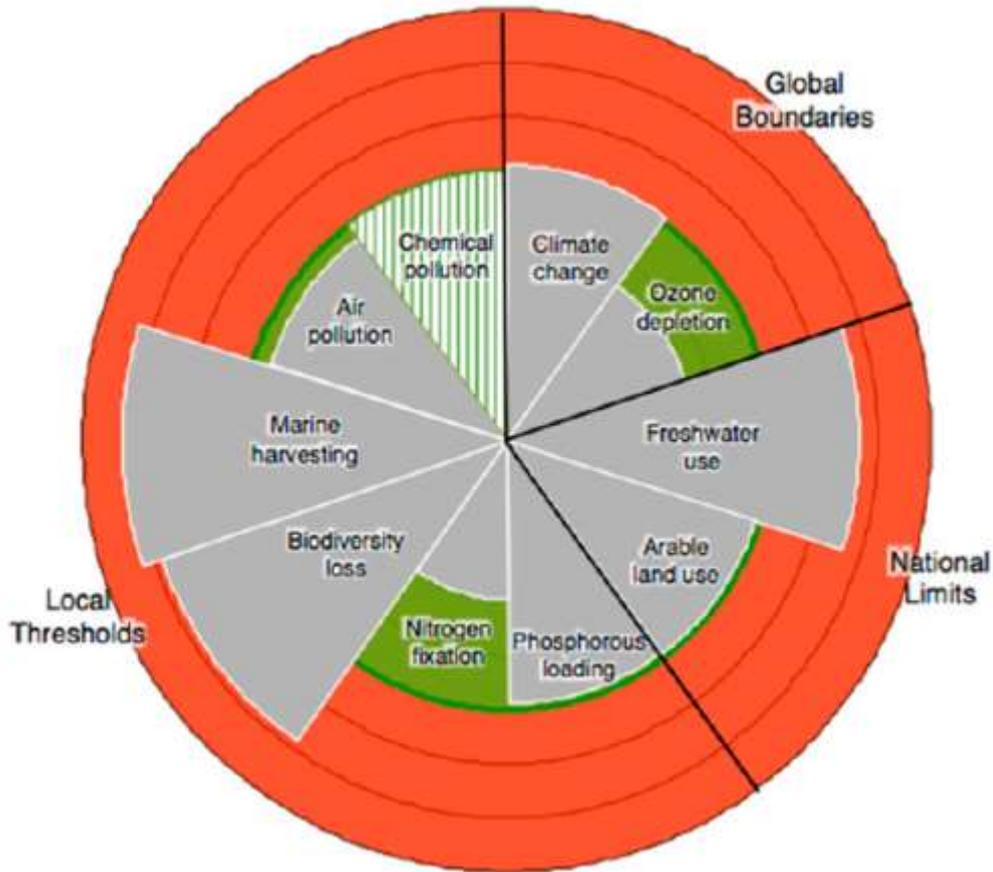


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# 2E2I Introduction



A national barometer for the environmental stress component of sustainable development in South Africa.

The green areas represent the safe and just space, beyond which is excessive environmental stress.

The gray wedges measure the national status for each dimension compared to its boundary as a percentage (0% at the centre, 100% at the boundary).

Striped wedges show indicators still to be determined.

The black dividing lines delineate the three types of environmental boundaries

Cole, M.J., Bailey, R.M. & New, M.G. (2014). Tracking sustainable development with a national barometer for South Africa using a downscaled “safe and just space” framework. *Proceedings of the National Academy of Sciences of the United States of America (PNAS)*, [www.pnas.org/cgi/doi/10.1073/pnas.1400985111](http://www.pnas.org/cgi/doi/10.1073/pnas.1400985111).



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# Direction from the NDP 2030

“...developments that have serious environmental or social effects need to be offset by support for improvements in related areas...”

- Taking this direction from the NDP 2030, the **2E2I focusses** on the **NDP 2030's environmental 'improvements'** contemplated above.



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# Problem Statement

“poor, ineffective, misdirected, non-sustainable, grossly inefficient and/or misguided projects that are branded as environmental improvement projects

may be

stalling, disincentivising, challenging, undermining, maligning and/or generally reducing the potential large-scale rollout of effective environmental improvement interventions”.



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# 2E2I Definition

- The 2E2I system description defines an Effective Environmental Improvement Intervention as a discrete, intentional and recognised intervention that has the measurable and sustainable improvement of degraded natural environments or environmental media as its principle objective.
- For the purposes of the 2E2I system –
  - A “discrete and intentional intervention” means the implementation of a set of defined tasks that would not have otherwise been undertaken.
  - “Recognised” means that the intervention has been formally evaluated, approved and registered as a 2E2I.
  - “Measurable improvement” means a broadly recognised and significant improved quality or ecological state measured against an established base state.



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# 2E2I Definition (Cont.)

- This system description defines an Effective Environmental Improvement Intervention as a discrete, intentional and recognised intervention that has the measurable and sustainable improvement of degraded natural environments or environmental media as its principle objective.
- For the purposes of 2E2I –
  - “Sustainable” means that the intervention includes measures to ensure that measured improvements are sustained for, at least, 25 years (or such period as may be determined by a panel of experts from time to time) after the improvements, or agreed improvement milestones, are first achieved.
  - “Natural environments” include natural aquatic, terrestrial and marine ecosystems, public open space and rangeland and other agricultural land, i.e. all areas other than built-up areas.
  - “Environmental media” include ambient air, fresh and salt water and soil.
  - “Principle objective” means the overall desired outcome of the intervention, notwithstanding any other desirable co-benefits.



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# Desired 2E2I Co-benefits

- Job creation and improved employment opportunities;
- Improved public health and well-being;
- Reduced poverty and deprivation;
- Rural development and improved rural livelihoods;
- Improved supply of ecological goods and services;
- Carbon sequestration;
- Improved resilience to the impacts of climate change;
- Expansion of the conservation estate;
- Private sector investments for the public good;
- Improved water quality and quantity (where water is not already the principle objective);
- Improved livestock farming productivity;
- Improved skills, expertise, knowledge and experience in the field of environmental rehabilitation and restoration;
- New and innovative approaches to environmental rehabilitation and restoration.



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# Who implements 2E2I

- Must have, or have access to: the skills, expertise, knowledge and experience to efficiently and effectively implement the improvement intervention.
- With this, a 2E2I may be implemented by, among others –
  - **Government**, including national departments (e.g. national public works programmes), provinces (e.g. provincial parks and conservation authorities) and municipalities (e.g. parks and recreation);
  - **State Owned Entities** including, but not limited to nature conservation bodies and water utilities;
  - **Academic and research** institutions;
  - **Private sector** including, but not limited to, environmental rehabilitation companies and companies specifically established to implement 2E2I;
  - **Non-Government Organisations (NGOs)** including, but not limited to, broad-based and special interest conservation organisations; and
  - **Community-based Organisations (CBOs)** and cooperatives.



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# 2E2I Recognition

- **Initial Publication** – application submission, capture and publication for comment
- **Evaluation** – expert panel (from a pool of experts)
  - Reject the proposal and provide a clear justification for its decision;
  - Return the proposal with a request for further information; or
  - Recommend approval of the proposal
- **Approval** – DG
- **Registration**



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# Recognition Benefits

- Published and quotable recognition by the national Department of Environmental Affairs;
- Third party evaluation of the project and project progress;
- National profile;
- Potentially improved public interest and support;
- Potentially improved private sector interest and support;
- Potentially improved international interest and support;
- Potentially improved funding opportunities; and
- Recognised contribution to national and global environmental improvement efforts.



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# 2E2I Monitoring, Reporting and Verification

- **2E2I Progress and Success Indicators** – Ever-evolving and improving set of “outcome” indicators to measure true environmental improvements
- **Repeat Photography** – A picture paints a thousand words – before, during and after photographs provide tangible and easily understood impact and progress records
- **Annual Progress Reports** – During intervention implementation
- **Final Project Report** – On completion of intervention
- **Sustainability Reports** – Every two (2) years following the submission and acceptance of the Final Project Report, the 2E2I custodian submit a 2E2I sustainability report for the 25 longevity period. Should the 2E2I be demonstrably well established and maintained a period of up to five (5) years between sustainability reports may be allowed.



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# Institutional and other

- **Existing or Historical Interventions** – Although the 25 year sustainability clock only starts with 2E2I recognition, well documented past interventions can still be registered.
- **Deregistration** – Never removed from 2E2I database, but reflected as a “failed” or “unsuccessful” 2E2I to allow for learning and the avoidance of the replication of poor practise



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# Institutional and other (Cont.)

- **The 2E2I Expert Pool and Panels** – Provide independence and a forum for innovation and up-to-date information sharing on environmental improvement interventions
- **The DEA 2E2I Unit** – A small focussed unit to manage the system
- **The 2E2I Custodian** – the organisation responsible for the maintenance of the improvements
- **Registered interested parties** – Get e-mail heads-up on all projects related to their identified areas of interest



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# 2E2I Valuation

- Although the formal financial value of a 2E2I will be the estimated, and then audited, cost of the intervention, other forms of value-add measurements (return on investment) may be used to calculate the value of individual 2E2Is.
  - Income earned by new job holders;
  - Reductions in public health costs;
  - Expenditure in rural communities;
  - The value of improved supply of ecological goods and services;
  - The value of carbon sequestered;
  - Reduced extreme weather damage costs;
  - Value of conservation estate expansion;
  - Value of private sector investments;
  - Value of foreign currency investments;
  - Value of improved water quality and quantity (where water is not already the principle objective);
  - The value of improved livestock farming productivity; etc.



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# 2E2I Design Principles

- Simple but not **simplistic**
- Pragmatic not **bureaucratic**
- **Avoid** the curse of **money** (valuing the invaluable, pricing the priceless, etc.)
- Supportive not **regulatory**
- Progressive not **reactive**
- Scientific not **academic**



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# The Way Forward

## 2E2I goes live on 1 April 2017

To this end –

- On-going **outreach activities** aimed at popularising and improving the 2E2I concept
- Phase 1 of **web-based IT system** for applications, reporting and management designed, developed, tested and launched;
- 2E2I Unit **standard operating procedures** developed, documented, tested and implemented;
- Initial set of **standard indicators** described and published; and
- **Example projects** to test the system identified and utilised.



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# Relevance to the 13<sup>th</sup> National Biodiversity Planning Forum

- The Biodiversity Planning Forum provides an opportunity for individuals, agencies and departments involved in spatial biodiversity planning to **share and synthesise valuable lessons from systematic biodiversity planning projects** across South Africa. Much of the biodiversity planning done in South Africa underpins strategic interventions and supports improved environmental decision-making.
- The theme for the 2016 Forum focuses on the **foundational information** on which biodiversity assessments and plans are based. Sessions will **focus on data limitations and potential solutions**, research needs and **novel approaches**.
- With respect to the 2E2I, participants may be particularly interested in its **spatial planning aspects, how 2E2I information gets captured spatially and how this could feed into our biodiversity plans in the future.**



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# Relevance to the 13<sup>th</sup> National Biodiversity Planning Forum (Cont.)

## 2. Intervention Description

The purpose of this section is to provide the 2E2I Unit and the expert panel with sufficient detail on the effective environmental improvement intervention in order for them to establish whether the intervention meets the requirements for 2E2I recognition and registration.

*Intervention type (number in terms of priority with '1' being the highest priority – do not repeat numbers)	Degraded land improvement:	Degraded land rehabilitation:	Degraded land restoration:	
	Degraded indigenous forest/woodland improvement:	Degraded indigenous forest/woodland rehabilitation:	Degraded indigenous forest/woodland restoration:	
	Degraded wetland improvement:	Degraded wetland rehabilitation:	Degraded wetland restoration:	
	Degraded estuary improvement:	Degraded estuary rehabilitation:	Degraded estuary restoration:	
	Degraded stream/river improvement:	Degraded stream/river rehabilitation:	Degraded stream/river restoration:	
	Degraded coastal zone improvement:	Degraded coastal zone rehabilitation:	Degraded coastal zone restoration:	
	Degraded inshore marine improvement:	Degraded inshore marine zone rehabilitation:	Degraded inshore marine restoration:	
	Plant species reintroduction:	Animal species reintroduction:	Threatened species conservation:	
	Air quality improvement:	Freshwater quality improvement:	Marine water quality improvement:	
	Soil quality	Carbon	Soil erosion	

	improvement:	sequestration:	rehabilitation and protection
	Other (score and then describe in less than 10 words):		
*Principle intervention activities in order of improvement significance	1.	[Describe the main intervention activities in no more than 10 words per activity - e.g. invasive species removal, atmospheric emission reduction, tree planting, bio-control introduction, re-vegetation, erosion protection, bio char inoculation, formal protection of land, etc.]	
	2.		
	3.		
	4.		
	5.		
*Base-state (the state of the focus area prior to the intervention) – select the most appropriate	Devastated – no remnants of original natural state present in intervention area		Highly degraded – few, if any, remnants of original natural state
	Degraded – Mostly in original natural state, but in very poor quality		Slightly degraded – All in original natural state, but not in optimal quality
	Threatened – Pristine natural environment that is threatened with degradation		Pristine - Pristine natural environment
	Highly contaminated – An extremely hazardous and harmful polluted environment		Contaminated – Unacceptable levels of pollution
	Description:	[Brief description of the base state in no more than 50 words]	

# Relevance to the 13<sup>th</sup> National Biodiversity Planning Forum (Cont.)

5. Intervention Location				
The purpose of this section is to provide the 2E2I Unit and the expert panel with sufficient detail on where the core activities for the effective environmental improvement intervention will take place and with the required information to use GIS to guard against possible 2E2I overlap and duplication.				
*Principle location type (number in terms of priority focus areas with '1' being the highest priority – do not repeat numbers)	Wetland:	<input type="checkbox"/>	Stream or river:	<input type="checkbox"/>
	Estuary:	<input type="checkbox"/>	Coastal dune:	<input type="checkbox"/>
	Savannah:	<input type="checkbox"/>	Succulent Karoo:	<input type="checkbox"/>
	Forest:	<input type="checkbox"/>	Fynbos:	<input type="checkbox"/>
	Albany Thicket:	<input type="checkbox"/>	Grassland:	<input type="checkbox"/>
	Urban (city) :	<input type="checkbox"/>	Urban (town) :	<input type="checkbox"/>
Physical Location	Description:	[Brief description of the physical location – erf numbers, farm or farm portions, communal land, etc.]		
	Nearest town or city:	<input type="text"/>	Local municipalities:	<input type="text"/>
	District municipalities:	<input type="text"/>	Provinces:	<input type="text"/>
*Physical Location geo-reference (polygon coordinates for intervention focus area)	Coordinate 1:	<input type="text"/>		
	Coordinate 2:	<input type="text"/>		
	Coordinate 3:	<input type="text"/>		
	Coordinate 4:	<input type="text"/>		
	Coordinate	<input type="text"/>		



# Relevance to the 13<sup>th</sup> National Biodiversity Planning Forum (Cont.)

- Every 2E2I will be captured on the **department's GIS** and the full information database will be **publically available**
- The 2E2I Unit will confirm spatial information and state using **remote sensing** technology, **site visits** and an analysis of the **repeat photographs**
- The 2E2I Unit will generate **temporal information** around environmental improvements and will provide **reviews** that highlight good practise and less successful interventions
- The 2E2I Unit will **encourage** and **facilitate** the **use of all 2E2I data** by researchers



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# Relevance to the 13<sup>th</sup> National Biodiversity Planning Forum (Cont.)

- In summary, the 2E2I –
  - will provide a **centralised** and easily **accessible** source of **rich, high quality, spatial, temporal, quantitative and qualitative data and information** for individuals, agencies and departments involved in spatial biodiversity planning
  - Deals with a current **data limitation** and provides a **potential solution** that may greatly **enhance research** in the area of environmental rehabilitation and restoration through the application of an extremely **novel approach** to this important emerging sustainable development intervention



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# Request to Forum participants

- With reference to the design principles, please provide **comment and suggestions** on the current versions of the system description and application form by end 2016;
- Please submit **nominations** for the pool of experts by end 2016;
- Please submit examples of possible **indicators** by end 2016;
- Please start **identifying past, current and future projects** for possible 2E2I recognition in 2017; and
- Please **spread the word** now.



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# Request to Forum participants (Cont.)

- **Participate in the LaRSSA 2E2I post-conference workshop** that will be looking at: Possibilities for long-term rehabilitation insights and good practice; Where 2E2I can and cannot be used; Rehabilitation success indicators (International / well-defined indicators; Local focus); Registering interest; and Pool of experts



## THE REHABILITATION BUSINESS CASE

4<sup>th</sup> Annual LaRSSA Conference  
13 – 16 September 2016  
Kimberley, Northern Cape

[www.larssa-conference.co.za](http://www.larssa-conference.co.za)



**POST-CONFERENCE WORKSHOP**

**Friday, 16 September, 2016**

**DEA Effective Environmental Improvement Interventions (2E2I):  
Enhancing Business through Demonstration of Successful Rehabilitation**



R2-D2



C-3PO



2E2I

For further information on 2E2I, or to arrange a more focussed engagement (presentation, discussion, seminar, workshop, etc.) please contact:

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