

FARMER GUIDE: THE iSCORE CLIMATE-SMART CONSERVATION AND REGENERATIVE AGRICULTURE RATING SYSTEM

iScore: Impact measurement

The food with integrity score, or “iScore”, is a **rapid** environmental and social impact measurement tool that provides information with respect to the extent to which climate-smart, conservation and regenerative agriculture outcomes are achieved.



By farmers; for farmers.

iScore introduction

The *iScore* (tm registration pending) has been developed in response to a farmer and industry identified need for a rapid impact measurement tool regarding the degree of on-farm conservation and regenerative agriculture outcomes. These outcomes are the result of applying a suite of management interventions. The tool does not prescribe a specific land management protocol, but it does provide information on the outcome of the prevailing management regime by considering seven indicators rated according to five scales.

Some of the advantages of the iScore is that it is:

- an online rapid assessment with in-field verification and ground trothing, thus combining the best electronic systems can offer without neglecting the important human interface;
- broad-based by covering aspects such as resource availability, the management system, resource use efficiencies and social aspects;
- science-based while being context relevant;
- non-discriminatory with respect to the location of the farming operation and the size and/or type thereof while providing a rating for every participating farmer in accordance with one of the five rating scales as applicable; and
- affordable, accessible, replicable and scalable.

By making a deliberate effort to be both rapid and broad-based, the iScore makes provision for topics such as biodiversity, and water and greenhouse gas emissions, yet it neither develops these in detail nor does it require full-scale assessments or any form of accounting.

HEAL THE LAND, HEAL THE PEOPLE

Trustees: HH Meissner | H Smith | F Otto | JF Roode | JN Blignaut

Furthermore, the iScore assists producers in gauging their progress towards and application of climate-smart sustainable and regenerative agriculture principles. This allows for self-assessment by producers, assisting them in acting towards improved land use management where possible and applicable. In addition, the rating system aims to give due recognition and rewards for efforts taken by producers towards the prudent management of their agricultural lands. Concurrently, the system will seek to inform consumers about the degree of sustainability and the regenerative nature of the agricultural practices followed by producers.



An impact measurement tool:

evaluating on-farm practices to encourage farmers on the road of regeneration

Who are we?

Integra Trust (iTrust) is a special-purpose entity established with the explicit aim to advance climate-smart sustainable and regenerative agriculture. iTrust operates in association with ASSET Research and Restore Africa Fund. The principal value statement of iTrust is:

Production, distribution and utilisation of food with integrity that will heal the land and people.

Based on this value-driven statement, the vision of iTrust is:

To improve the environment, economic and social sustainability in South and southern Africa by focussing on food security through the production and distribution of accessible, high-quality, healthy and affordable food produced with integrity using and employing sustainable, regenerative agriculture and restorative services, approaches and practices.

An integral part of the implementation of this vision has been the development and application of the iScore for conservation and regenerative agriculture impact measurement.



Conservation and regenerative agriculture (“CA/RA”)

CA/RA describes farming and grazing practices that, among other benefits, reverse climate change by rebuilding soil organic matter and restoring degraded soil biodiversity – resulting in both carbon drawdown and improving the water cycle.

Farmer benefits of applying CA/RA:

- Improved soil and ecosystem health
- Gradual increased yields (yields of 125% produced on some SA farms)
- Significantly reduced fuel usage
- Increased drought resilience
- Increased economic resilience
- Offtaker and marketing leverage for producing sustainable and healthier food
- On-farm support through our network of farmers and experts
- Possible carbon revenues (enquire today about your farm’s carbon income potential)

Specifically, CA/RA therefore claims to be a holistic land management practice that leverages the power of photosynthesis in plants to close the carbon cycle, and build soil health, crop resilience and nutrient density. Regenerative agriculture improves soil health, primarily through practices that increase soil organic matter. This not only aids in increasing soil biota diversity and health but also increases biodiversity both above and below the soil surface, while increasing both water holding capacity and sequestering carbon at greater depths; thus, drawing down climate-damaging levels of atmospheric carbon dioxide and improving the soil structure to reverse civilisation-threatening human-caused soil loss. CA/RA highlights the damaging effects to soil of tillage, applications of agricultural chemicals and salt-based fertilisers, and carbon mining. CA/RA aims to reverse this paradigm to build for the future.

CA/RA allows for the healing of the land over time through minimum soil disturbance, increased biodiversity, and the support and maintenance of a living root system while protecting the soil and multi-species integration. The basic principles of CA/RA are as follows:



This healing has a positive impact on the wellbeing and livelihoods of people. In short, it is about the production of food with integrity. A food production system which heals both the land and the people.

iScore rating system: Detailed overview

To advance the widespread adoption of CA/RA, the iScore impact measurement tool was developed for the evaluation of on-farm practices to encourage farmers on the road of regeneration. The iScore is a rating system that provides information pertaining to the extent to which a farm, or production unit,

applies climate-smart conservation and regenerative agriculture principles.¹ The iScore is therefore a measure of the degree to which regenerative production practices are applied on a farm and not a direct measurement of the quality or standard of the produce. It is our conviction that changing to regenerative agriculture best practices will increase the quality of food produced over time, while also restoring and protecting the soil, biodiversity, and the nutrient, carbon and hydrological cycles, among others. Special features of the iScore are the following:

1. It is an inclusive rather than an exclusive rating system. This implies that every participating producer, irrespective of the type of farming practice applied or the duration thereof, will receive an iScore rating according to the iScore levels.
2. It allows participating producers to set their own goals regarding the desired level they wish to reach, and which actions should be taken to reach that goal.
3. The scoring system also takes into consideration the unique features of the different agro-ecological zones by internalising climate, soil types and the availability of water of the specific region. This allows for assessing the production unit's iScore relative to, or within the context of, its local environment, while also comparing it outside of its own geographic region.
4. It is currently developed for extensive livestock farming and dryland crop production. An extension to include irrigation and intensive production is planned.
5. There are five iScore rating levels commencing with Brown, or participation mode, growing to Green which indicates a transition phase, to Blue, which is mid-level and indicates a system in which most "leaks" regarding soil, nutrients, water and expenses have been stopped. The two higher rating systems are denoted as Silver, a progressive stage, and onto Gold, when the production unit regenerates life, broadly defined.



To determine the specific rating of a farm, production unit or land parcel, there are seven indicators linked to specific measurements designed for either **grain crops** or **livestock**. Each of the seven indicators are linked to seven outcomes which are organised in four clusters. These clusters and outcomes are listed in the following table.

¹ When referring to regenerative agriculture henceforth it is used in an inclusive sense to include all measures that could be taken that are labelled climate-smart conservation and regenerative agriculture, or sustainable agriculture, or sustainable land use management, or any other comparable term.

Clusters	Outcomes	
	Grain crop production	Livestock production
Resource availability	Erosion control efficiency	Resource availability
	Biomass production efficiency	Biomass production efficiency
Management system	Biodiversity	Biodiversity
Outcomes	Water use efficiency	Water use efficiency
	Land use efficiency	Land use efficiency
	Input use efficiency	Greenhouse gas emission efficiency
Care about the future	Capacity-building and mentorship	Capacity-building and mentorship

The two different iScore rating systems are explained in more detail in the following two tables.


iSCORE: EXTENSIVE GRAZING SYSTEMS


Cluster	Outcome	Indicator
Resource availability	Resource availability	The percentage of the cost of external feedstock relative to gross income
	Biomass production efficiency	The biomass index of the participant expressed as a ratio to a district and industry-specific norm
Management system	Biodiversity promotion	The degree to which rotational/planned grazing is applied
Outcome	Water use efficiency	The blue and green water use relative to the production value expressed as a ratio to a district and industry-specific norm
	Land use efficiency	The on-farm carrying rate in terms of LSU/ha, normalised with the biomass availability, expressed as a ratio to a district and industry-specific norm
	Greenhouse gas emission efficiency	The GHG emissions relative to the production value by the participant expressed as a ratio to a district and industry-specific norm
Care about the future	Capacity-building and mentorship	The number of SACNASP credits, or certified attendance of any other relevant ongoing training programme, of the participant's employees, divided by the number of full-time equivalent employees not in senior management
Bonus points can be earned for a range of on-farm innovations that lead to regeneration.		


iSCORE: GRAIN PRODUCTION SYSTEMS


Cluster	Outcome	Indicator
Resource availability	Erosion control efficiency	The crop production method and the percentage ground cover before planting
	Biomass production efficiency	An index of biomass of the participant expressed as a ratio to a district and industry-specific norm
Management system	Biodiversity promotion	The diversity and integration between the number and type of crops, cover crops and livestock
Outcomes	Water use efficiency	The biomass of the cash and cover crops divided by the total available water of the participant expressed as a ratio to a district and industry-specific norm

	Land use efficiency	The total calorific production value of the 1st and 2nd crops as well as the animals supported, divided by the calorific value of a single crop use system
	Input use efficiency	The external input as percentage of gross income per ha of the participant expressed as a ratio to a district and industry-specific norms
Care about the future	Capacity-building and mentorship	The number of SACNASP credits, or certified attendance of any other relevant ongoing training programme, of the participant's employees, divided by the number of full-time equivalent employees not in senior management
Bonus points can be earned for a range of on-farm innovations that lead to regeneration.		

The iScore is a road map to restoration and regeneration through learning and encouragement!