SATI
SOUTH AFRICAN TABLE GRAPE INDUSTRY

WOOLWORTHS

SA retailer's perspective on fresh produce in key export markets and sustainability related matters applicable on farm

July 2024

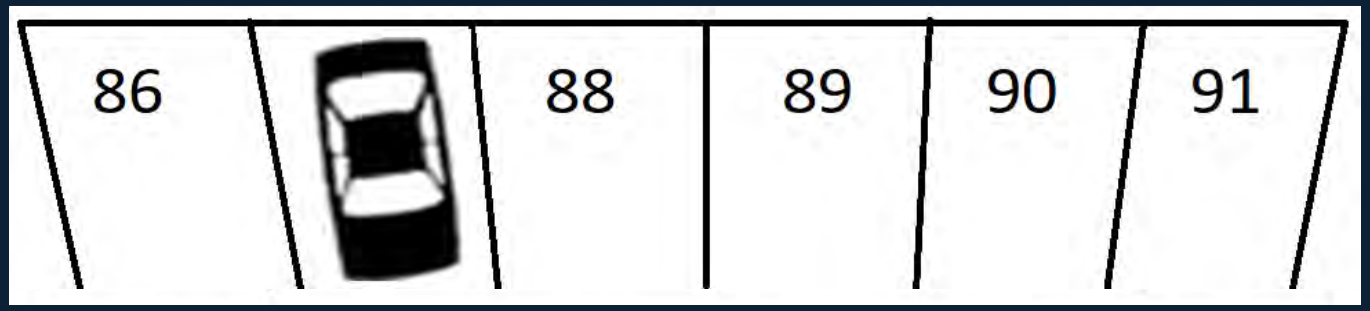
AGENDA

From a retailer's perspective:

- Our perception of things as individuals
- International trends
- Local trends
- Practical examples towards sustainable farming
- Conclusion

Exercise to open the mind!

This is a Hong Kong Elementary School First Grade Student Admissions Test Question.
(First Grade.....that means it must be an easy question....right?)



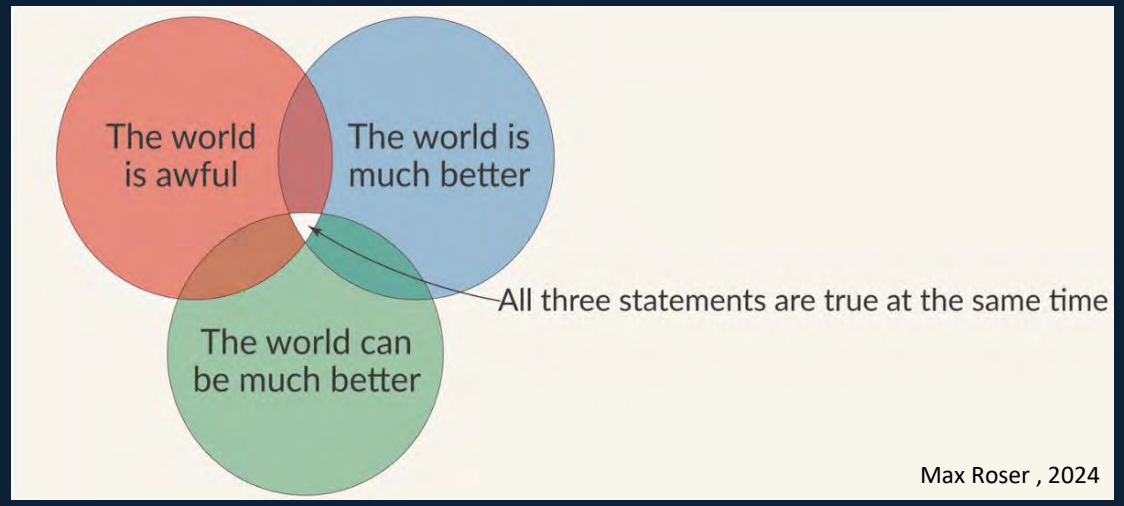
What parking spot number is the car parked in?

ANSWER: #87

Did you get it?????

Want to try to figure it out before you see the solution?

Your sense of the world today?



Define the world in one word:

Challenging | Opportunity | Better | Exciting

Aggressive | Too fast | Bright Future | Uncertain

> "Most of the time, we fill the gaps with our own biases, assumptions, beliefs, thoughts, ideas, and conclusions."
>
> — NATALIE CHRISTINE DATTILO, PHD

Your approach towards business resilience?

TIME HORIZON: short – term → **long-term**

FOCUS: current shareholder value → **current & future shareholder value**

OUTLOOK: inside-out → **inside-out and outside-in**

TRANSPARENCY: as little as possible → **naked**

RELATIONSHIPS: short-term, transactional → **long-term, shared density**

COLLABORATION: few/limited range of partners → **extensive/electric**

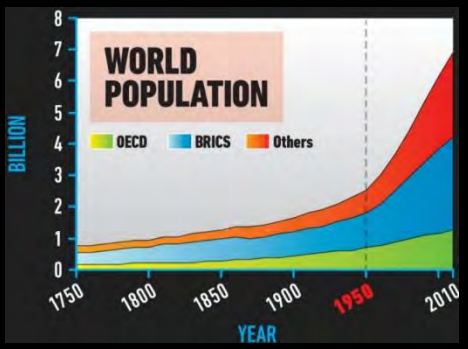
BUSSINESS MODEL: take, make, waste (linear) → **borrow, use, return (circular)**

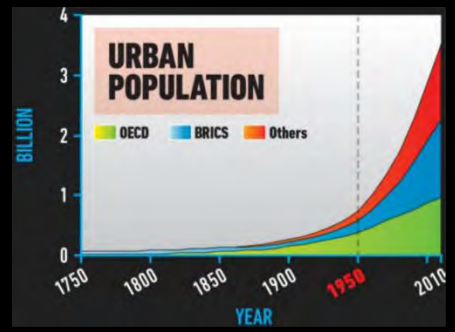
Low — **Resilience** (capacity to recover from difficulties & shocks) — Optimal

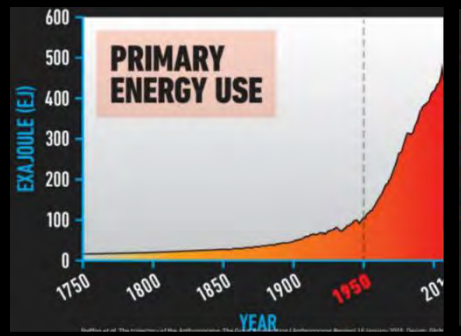
International Trends

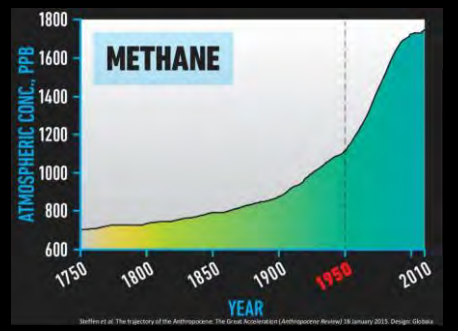
FARMING for the future

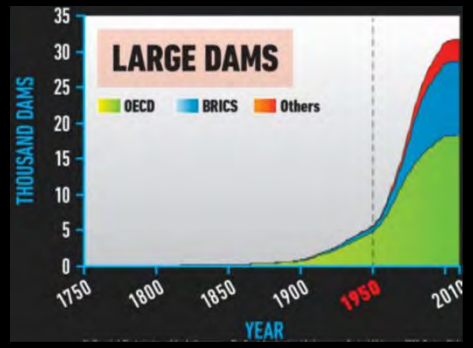
The era of rapid change 1950 +

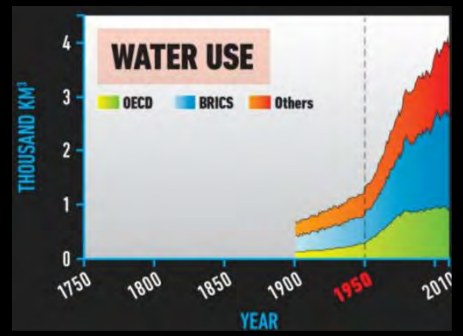


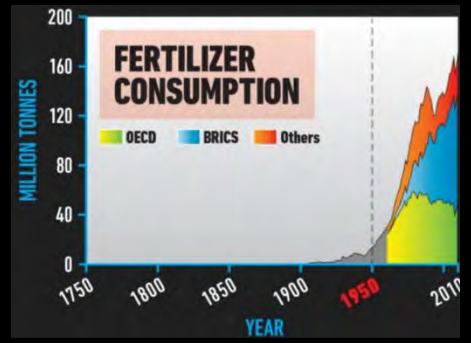


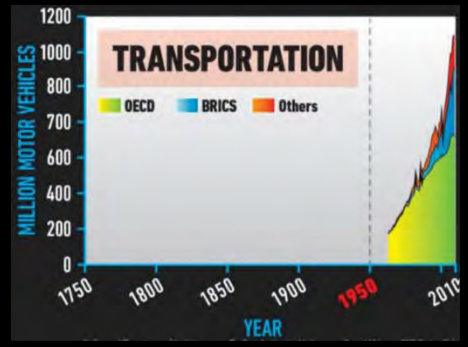


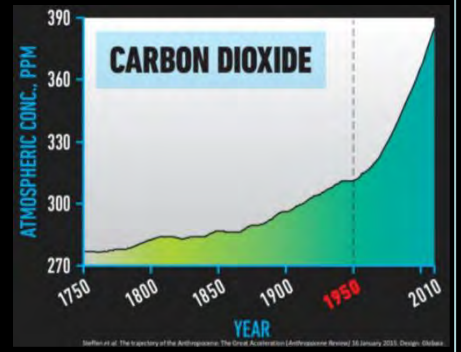


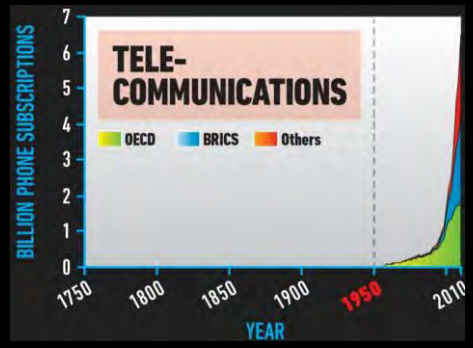


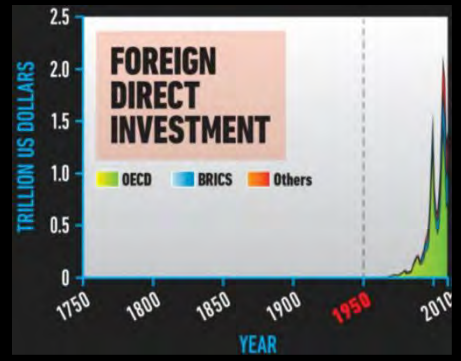


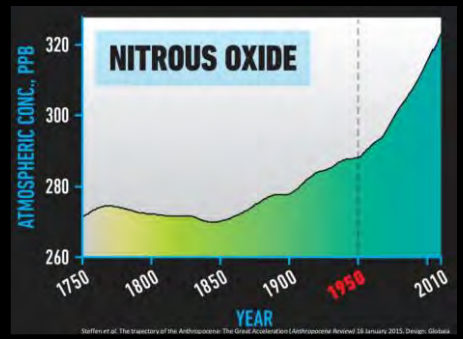


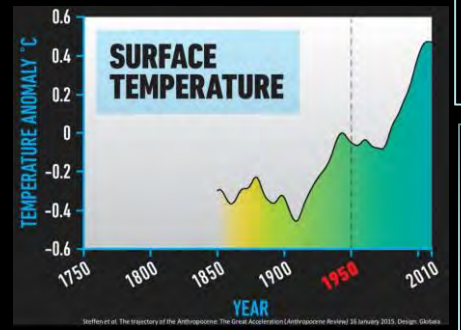












OECD:

Australia
Austria
Belgium
Canada
Chile
Czech Republic
Denmark
Estonia
Finland
France
Germany
Greece
Hungary
Iceland
Ireland
Israël
Italy
Japan
Korea
Luxembourg
Mexico
Netherlands
New Zealand
Norway
Poland
Portugal
Slovak Republic
Slovenia
Spain
Sweden
Switzerland
Turkey
United Kingdom
United States

BRICS:

Brazil
Russia
India
China
South Africa

FARMING for the future

The success of companies that do *their part* to support social and environmental resilience (systems value)

shareholder value

Financial returns are all that matters

Companies privatize gains and externalize losses

stakeholder value

Sustainability goal: win-win; shared value

Business comes first:

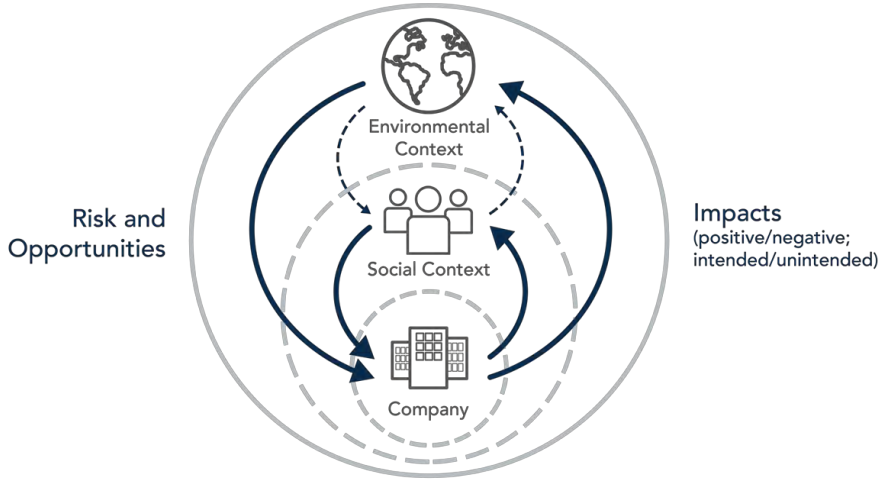
Negative impacts are often not sufficiently internalized or are justified by "doing good' elsewhere

systems value

Sustainability goal: doing your part to support systems resilience

Business in no way hinders –

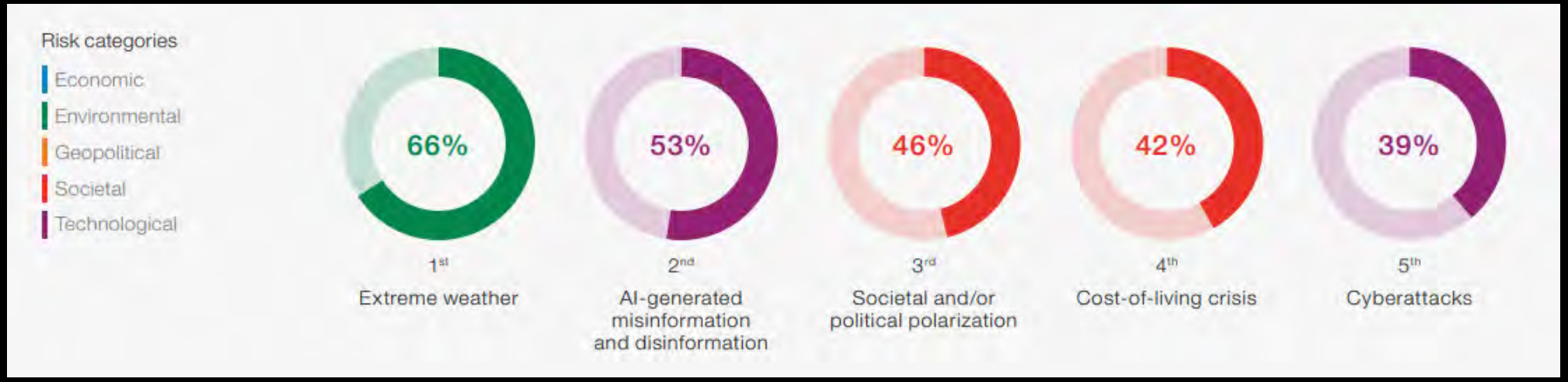
Contributes to society's progress toward future fitness



companies have an impact on the social and environmental systems around them and that those systems present risks and opportunities to the company.

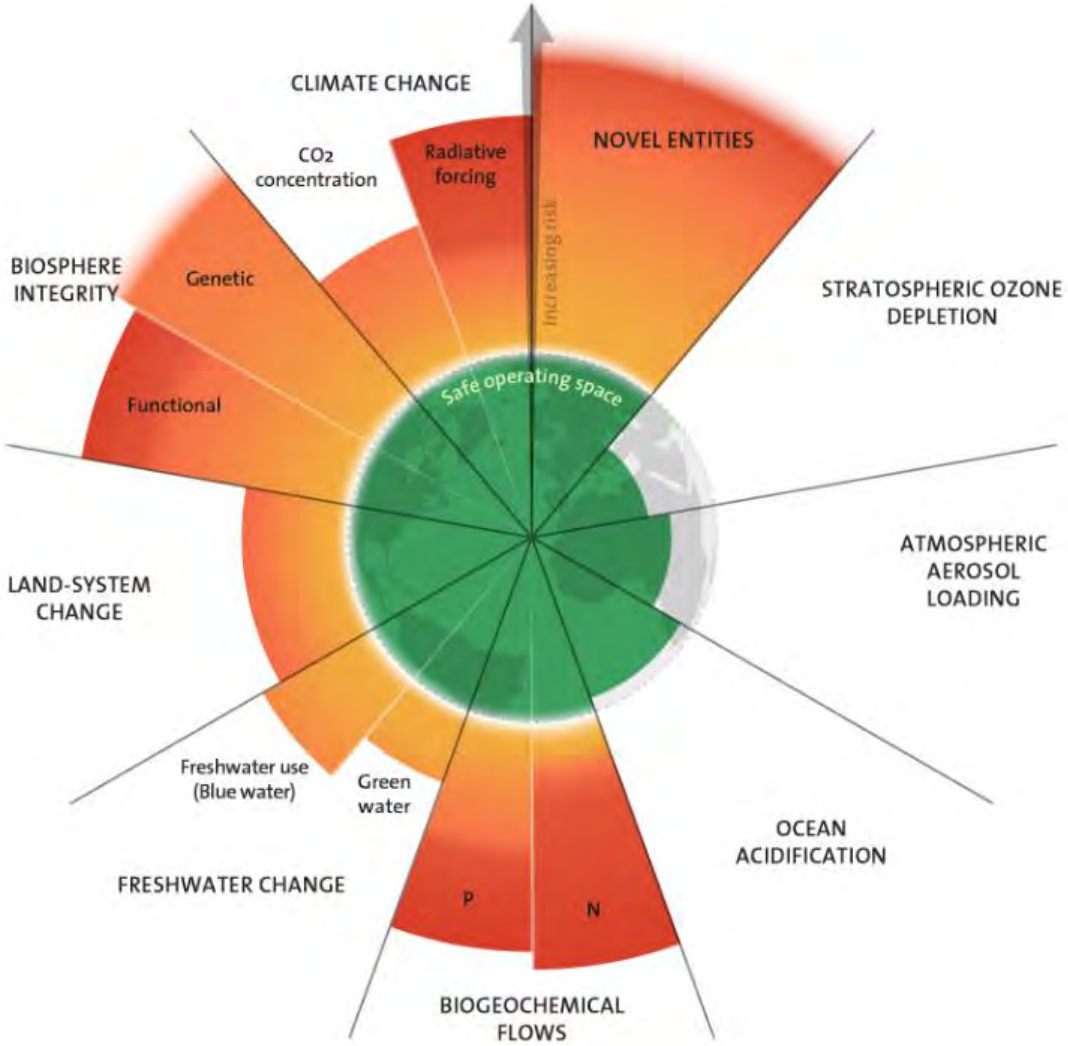
The Global Risks Report presents the major risks the world will be facing.

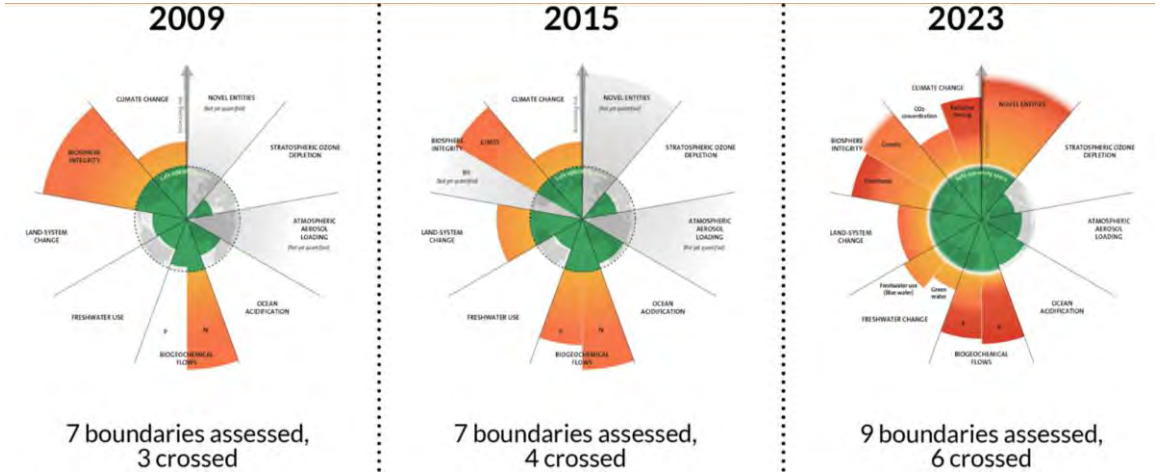
WORLD ECONOMIC FORUM
COMMITTED TO IMPROVING THE STATE OF THE WORLD



It stresses the need for a multi-stakeholder approach to addressing the world's greatest challenges

Sustainable Agriculture | CONTEXT





Agricultural intensification is a leading cause of global biodiversity loss due to land-system changes, the use of chemicals and introduction of novel pathogens and diseases

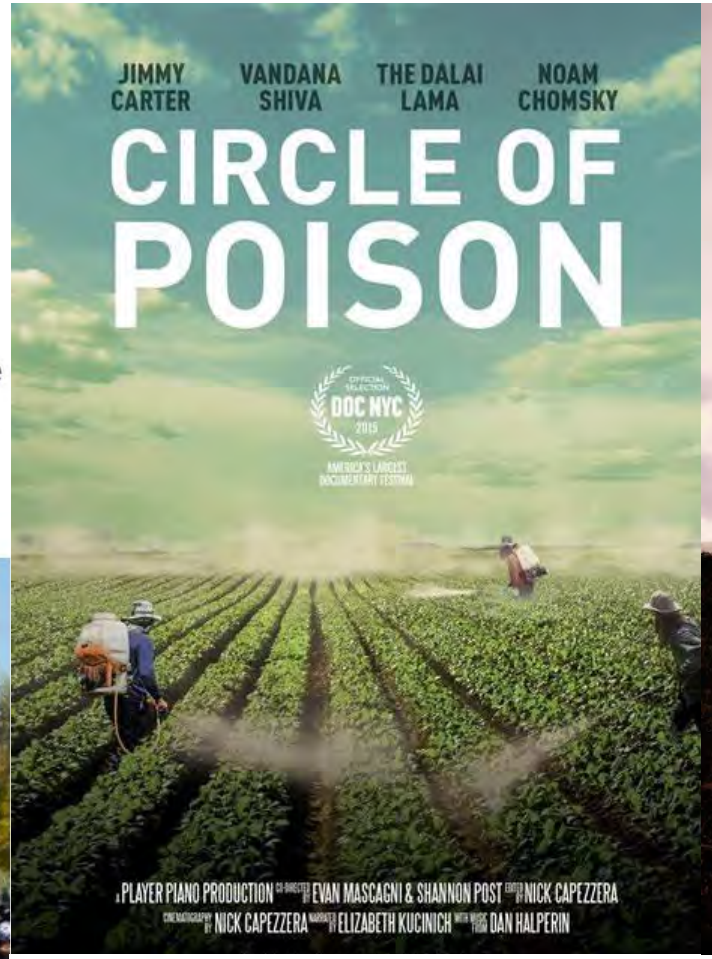
ZERO MRL LEVELS?

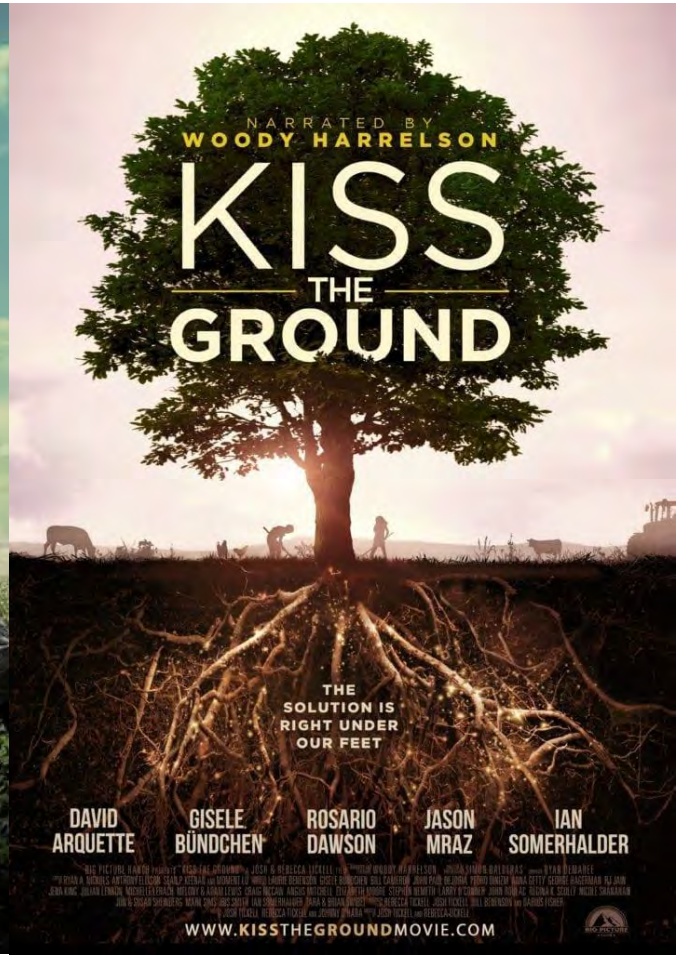
Department of Agriculture to ban use of certain pesticides by 2024

This comes nearly three years after Women on Farms raised the alarm over the use of pesticides which had already been banned in the EU

21 September 2022 | By Liezl Human

News | Western Cape





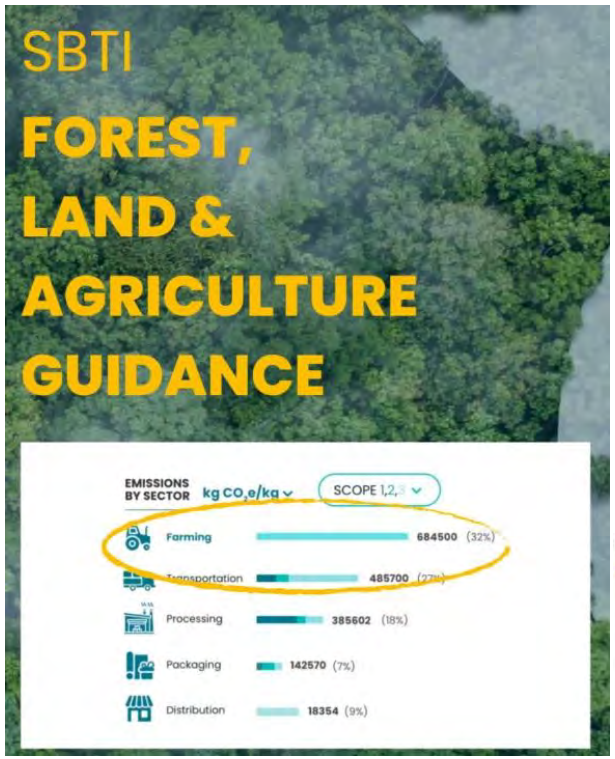
ARTICLE

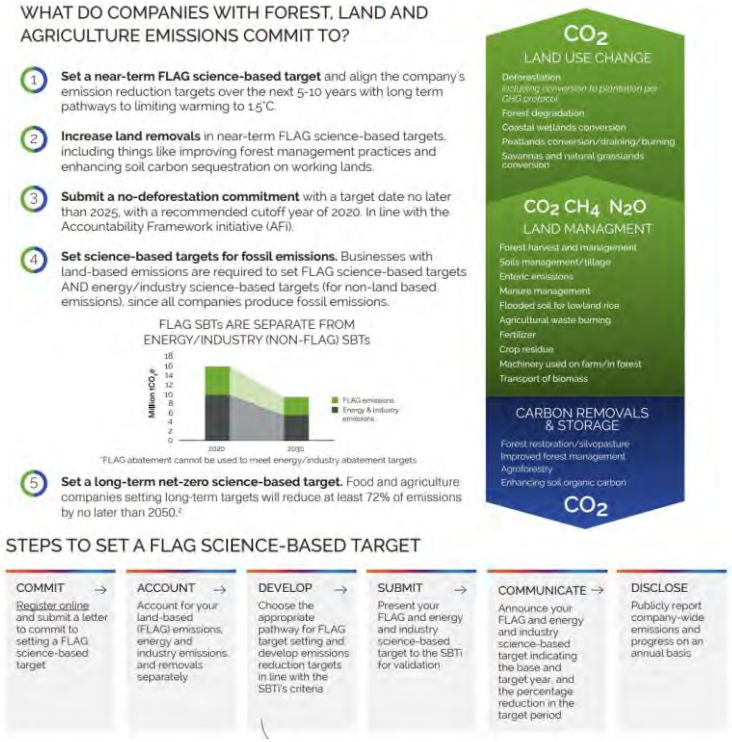
https://doi.org/10.1038/s41467-021-25505-7 OPEN

Check for updates

Climate warming promotes pesticide resistance through expanding overwintering range of a global pest

Chun-Sen Ma[1,2✉], Wei Zhang[1✉], Yu Peng[1], Fei Zhao[1,2], Xiang-Qian Chang[1,3], Kun Xing[1,2], Liang Zhu[1], Gang Ma[1], He-Ping Yang[4] & Volker H. W. Rudolf[5]





E

S

G

1. **Competitive** advantages over business rivals.

2. More attractive to ESG-focused **investors.** ($8.4 trillion).

3. Better **financial** performance.

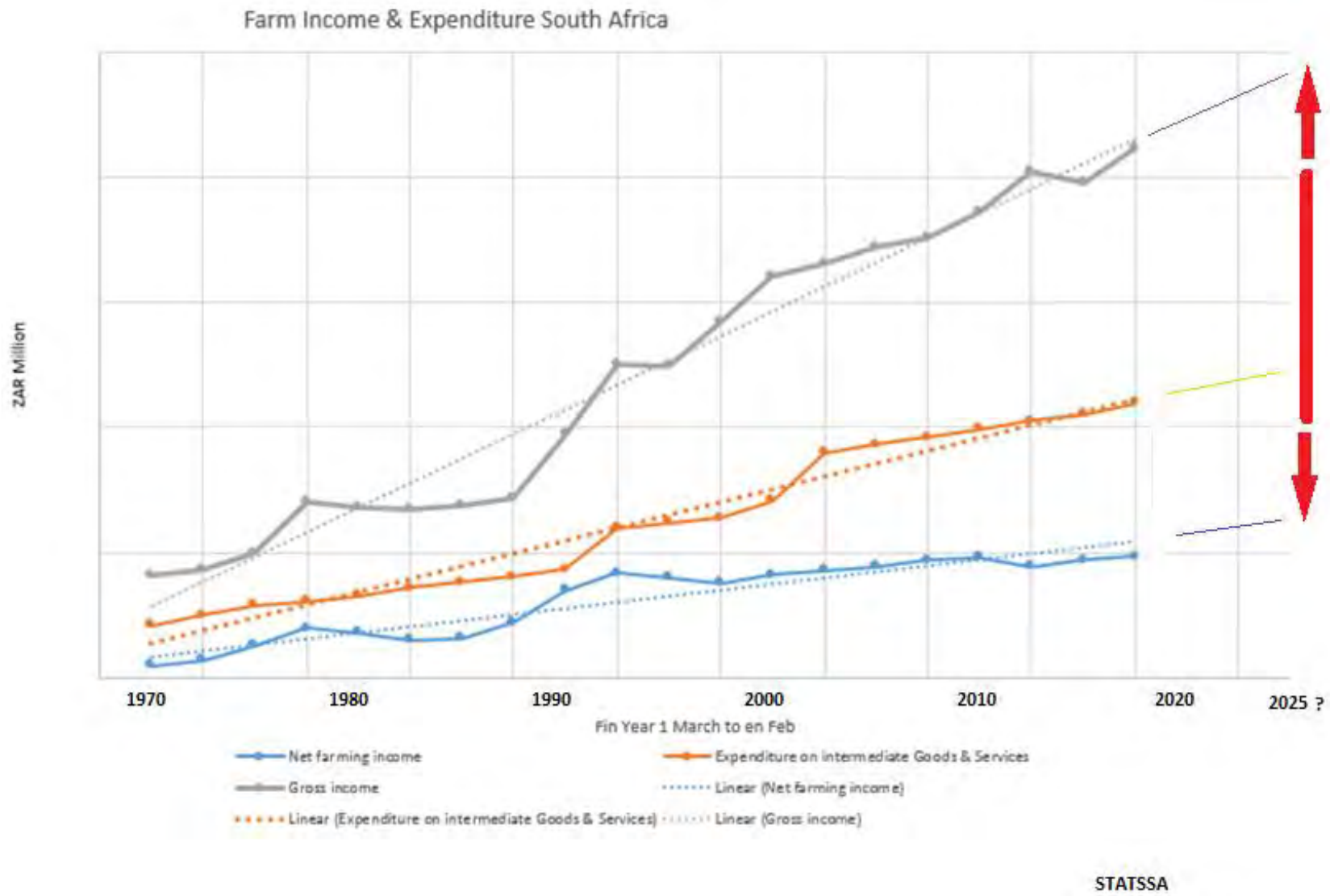
4. Increased customer & staff **loyalty.**

5. More sustainable and **adaptable** business operations. (Resilience)

FARMING for the future

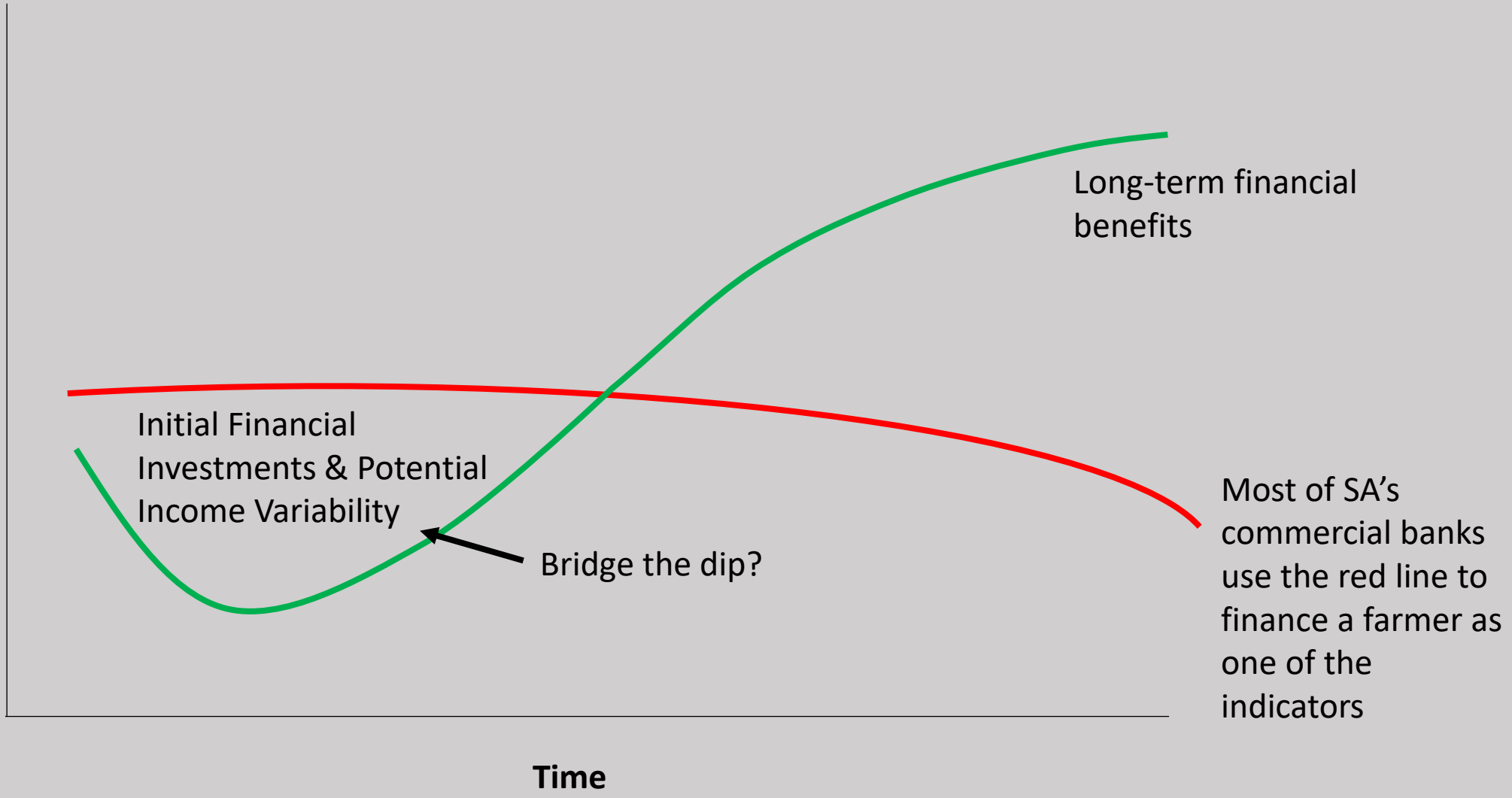

Botswana
Namibia
Swakopmund
Gaborone
Pretoria
Maputo
Johannesburg
Eswatini
Bloemfontein
Lesotho
Durban
South Africa
East London
Cape Town
Gqeberha
Local Trends
FARMING
for the future

Securing long-term financial sustainability in food production a challenge



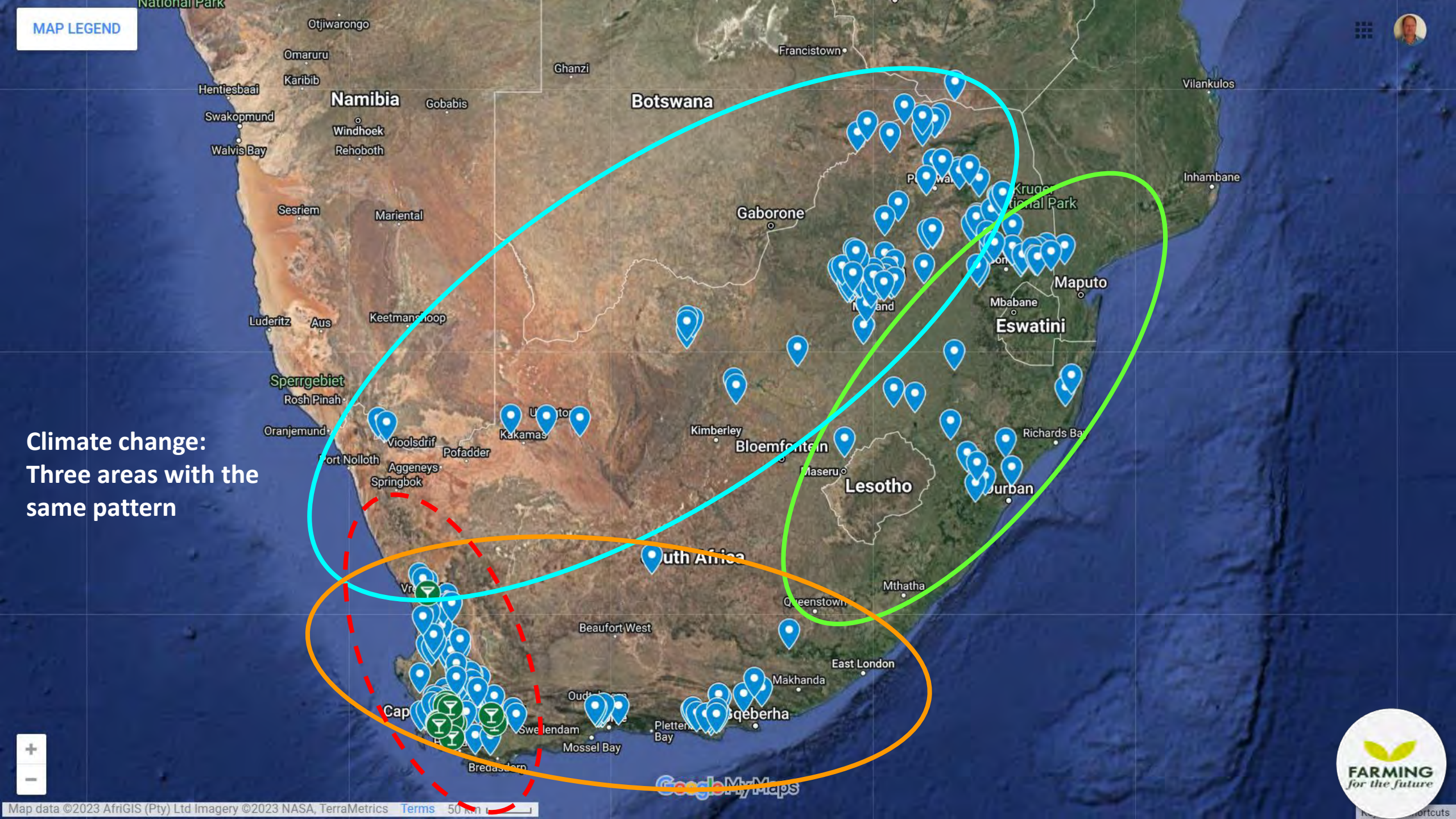
FARMING for the future

The problem with sustainable agriculture

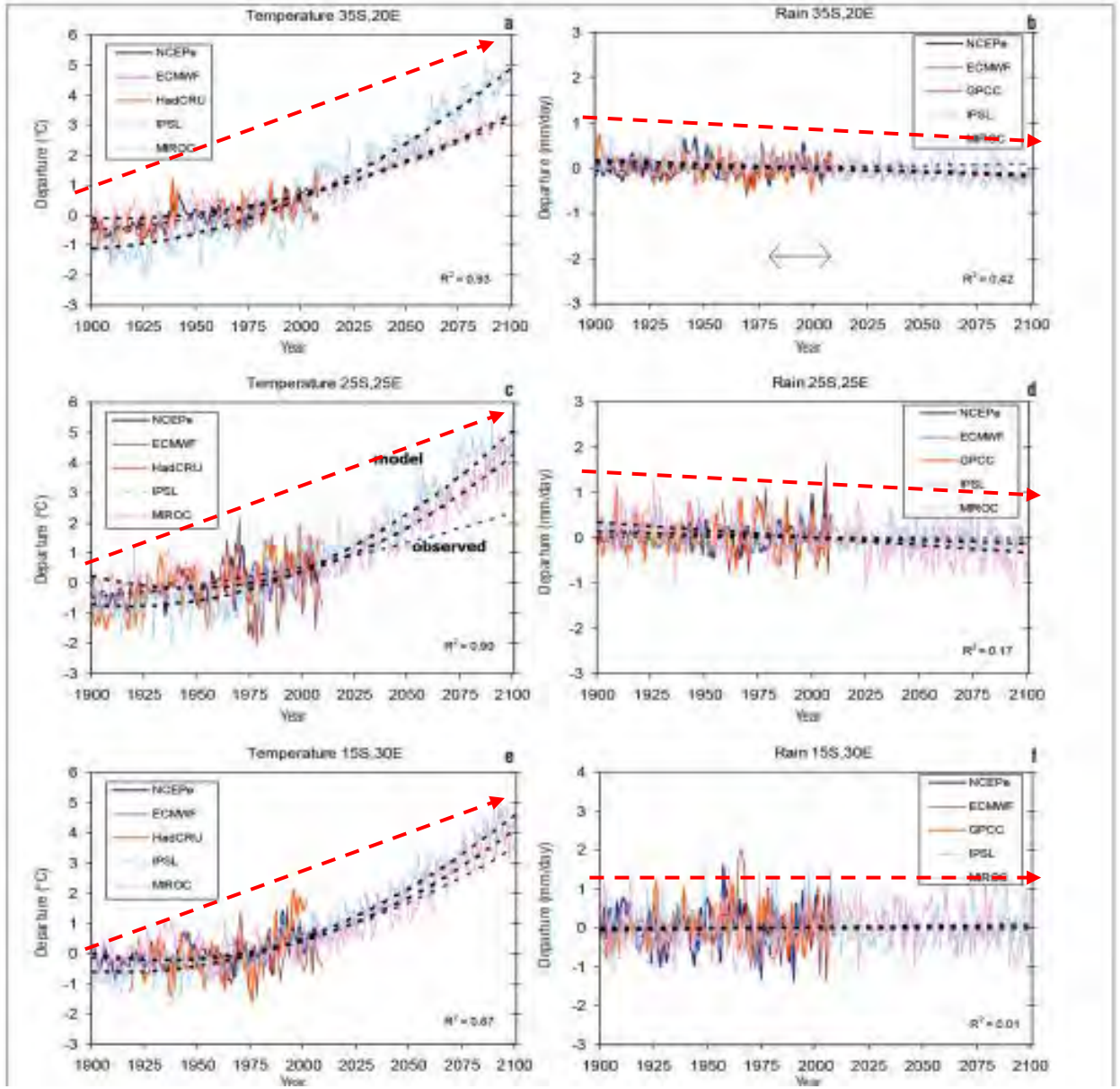


John Deere Huizen & Nokuzola on their way to work

More urgency at Department of Agriculture!


MAP LEGEND
Climate change:
Three areas with the same pattern
Namibia
Botswana
Eswatini
Lesotho
Gaborone
Maputo
Mbabane
Francistown
Ghanzi
Vilankulos
Inhambane
Otjiwarongo
Omaruru
Karibib
Hentiesbaai
Swakopmund
Walvis Bay
Windhoek
Rehoboth
Gobabis
Sesriem
Mariental
Luderitz
Aus
Keetmanshoop
Sperrgebiet
Rosh Pinah
Oranjemund
Vioolsdrif
Port Nolloth
Aggeneys
Springbok
Pofadder
Kakamas
Kimberley
Bloemfontein
Richards Bay
Maseru
Durban
Mthatha
Queenstown
East London
Makhanda
Beaufort West
Mossel Bay
Swellendam
Bredasdorp
Google My Maps
FARMING for the future

Changes in temperature and rainfall patterns in Southern Africa



Water rights: Here's what farmers should know

There are no grey areas when it comes to water rights. Once a farmer has purchased a farm, there are procedures to be followed, licences to be acquired and being aware of legislation. Experts explain more about this lengthy process

by **Tiisetso Manoko** — 20th January 2023 in **News**
Reading Time: 6 mins read

AA

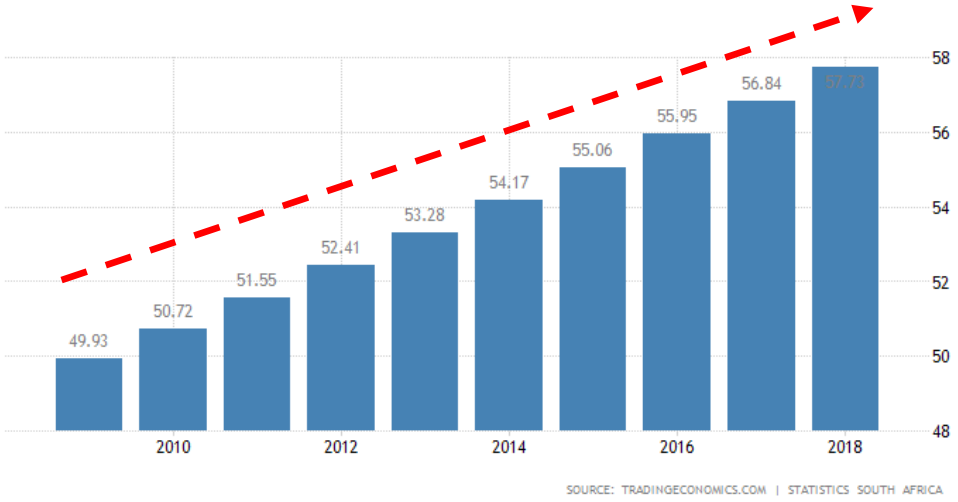
World's average rainfall = **1171** mm p.a.
Africa's average rainfall = **1159** mm p.a.
SA's average rainfall = **451** mm p.a.
SA is **38th** driest country in the world
SA is the **15th** driest country in Africa

Sector (DWSA 2022)	%
Irrigation	59.0
Urban use	25.1
Mining & Industrial	5.7
Rural use	4.3
Afforestation & Other	3.7
Power generation	2.2

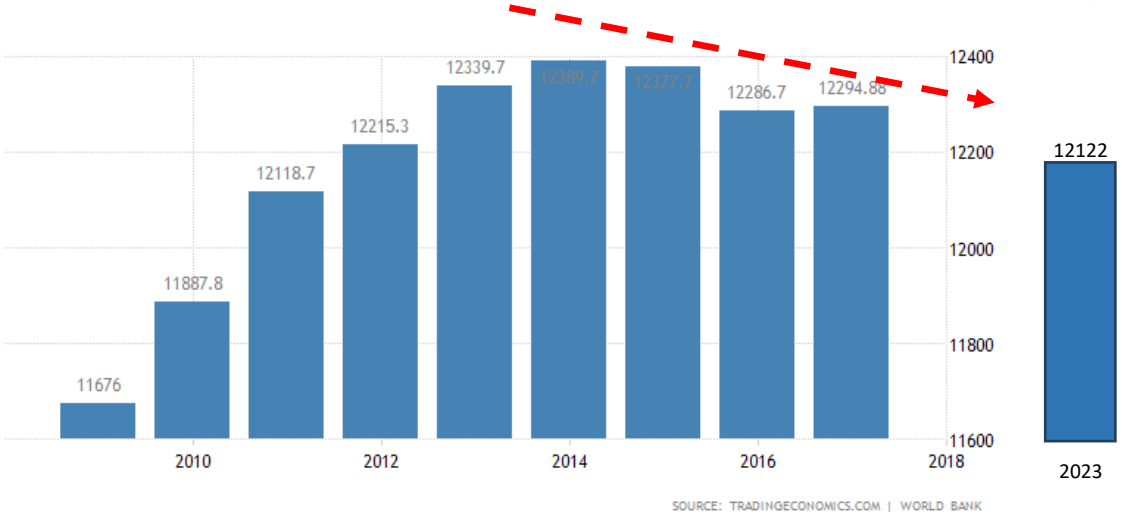
Estimate **95%** of WW's Local Procurement

FARMING for the future

SA's Population growth



SA's GDP per capita



AFFORDABILITY: Prices in relation to income

Sept 23: Average National Min Wage for a general worker amounts to R4 067.20

Transport & 350 kWh of prepaid electricity amounts to R2 346.92

If R 1 720.28 is spend on food - typical household 0f 4 persons = R430.07 per person

This is below the Food Poverty Line of R760.00

General Workers at NMW	
Income	Wage scenario 1
Number of days worked	20
Number of hours worked	8
Remuneration rate	R25.42
Wage income	R4,067.20

	Wage scenario 1	
Wage income	R4,067.20	
Household expenses		% of wage
Transport to work (2 taxi, return)	R1,440.00	35.40%
Prepaid electricity	R906.92	22.30%
Total for transport + electricity	R2,346.92	57.70%
Money remaining to secure all other expenses	R1,720.28	
Subtract food (4 persons)	R3,557.41	
Minimum surplus/shortfall on food costs	-R1,837.13	-51.60%

Mervyn Abrahams from Pietermaritzburg justice & dignity group Oct 23

Features | Workers' Rights

'Forgotten citizens': South Africa's farm workers threatened with eviction

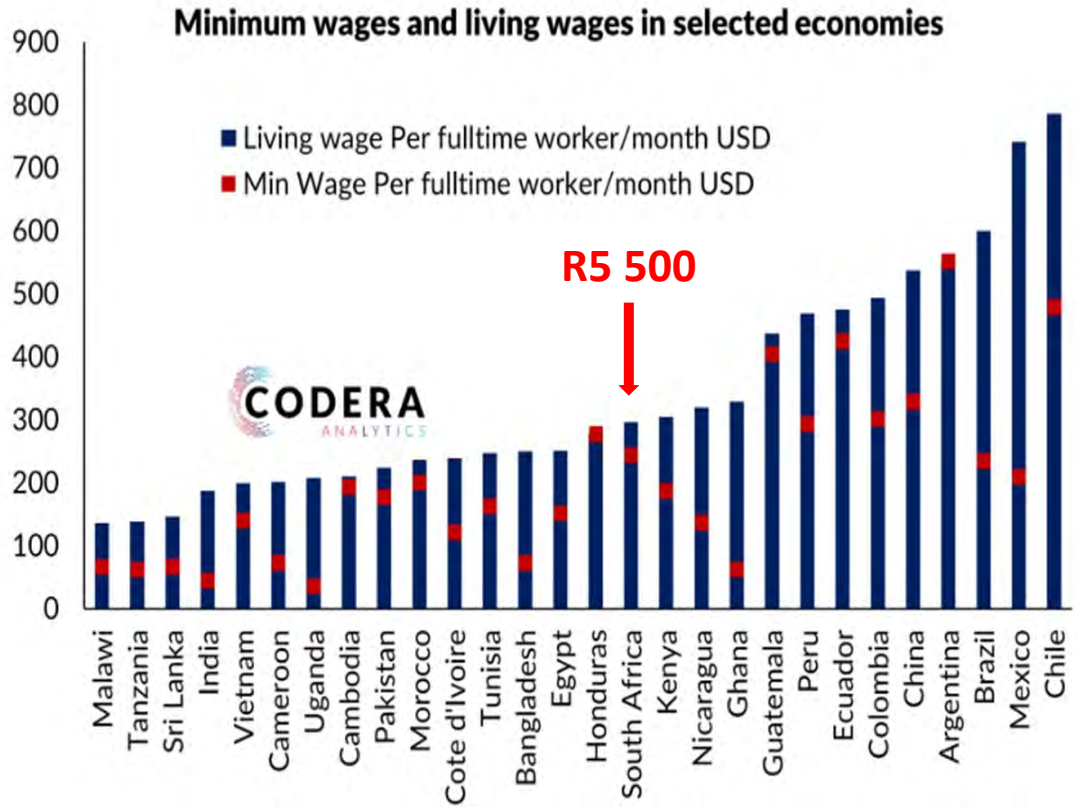
Farm workers and dwellers with historical links to the land have worked for generations but have seen nothing in return.

A University of Cape Town researcher shared the results of an International Labour Organisation (ILO) study on farm workers' living conditions in South Africa which had been conducted

The study had found good compliance with labour legislation, and had not found any evidence of slavery, nor of workers getting paid in alcohol.

However, the conditions of temporary or seasonal workers were inferior.

Human Rights Commission of South Africa 2023



"The remuneration received for a standard workweek by a worker in a particular place sufficient to afford a decent standard of living for the worker and her or his family. Elements of a decent standard of living include food, water, housing, education, health care, transportation, clothing, and other essential needs including provision for unexpected events"

UN 2017

THE WOOLWORTHS CUSTOMER….

Large % of WW customers buy products based on its social and environmental credentials

Majority of WW customers buy products based on its health & safety credentials

1. Is it safe?

2. Is it healthy?

3. Fair price? (value for money)

4. What about the people?

5. What about the animals?

6. What about the environment?

WW customer survey (2023)

Overall, consumers today are more informed (*mis-informed*) and conscientious about their food choices, and they appreciate farmers who prioritize sustainability, transparency, and community engagement in their farming practices.

Building and maintaining a positive consumer perception can be crucial for farmers looking to differentiate themselves in the marketplace and meet the evolving preferences of today's consumers.

Dept. of consumer Sciences, Stellenbosch University

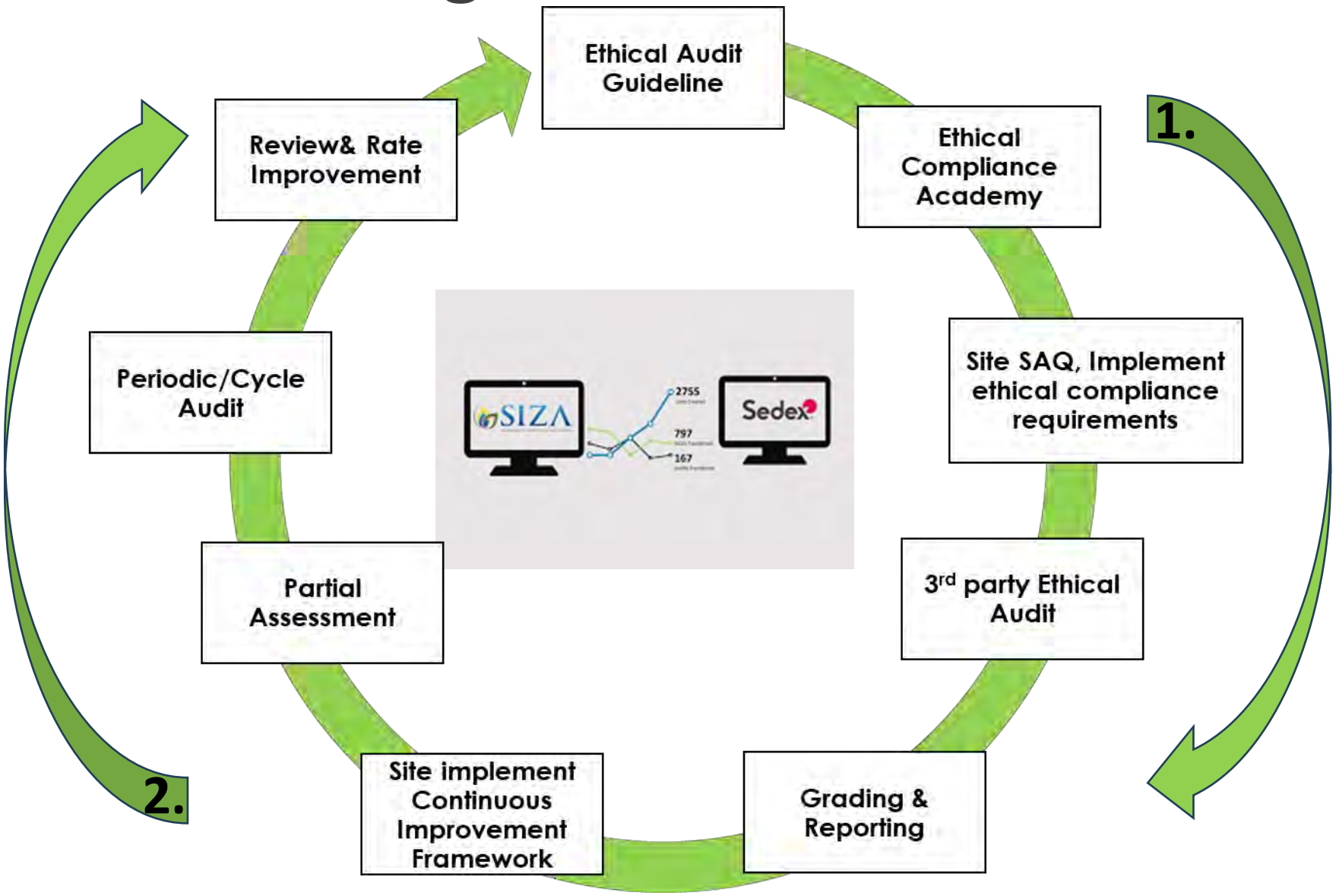
Which practices can we do to adapt to these challenges ?

It is about resilience, to absorb and recover from shocks and stresses :

1) Human rights on farms
2) Measure input vs. yield over time,
3) Map and understand your soil ‘s biological, chemical and physical attributes
4) Become a master of Integrated Pest & Disease Management,
5) Understand the end customer’s requirements,
6) Single or multiple enterprise approach,
7) Design your sustainability plan with timelines and milestones

Manage your farm as an ecosystem and not as a factory

1. Human rights and farmworker wellbeing:



1. **Design your own model and test it against the SEDEX model**

2. **Implement improvement plan**

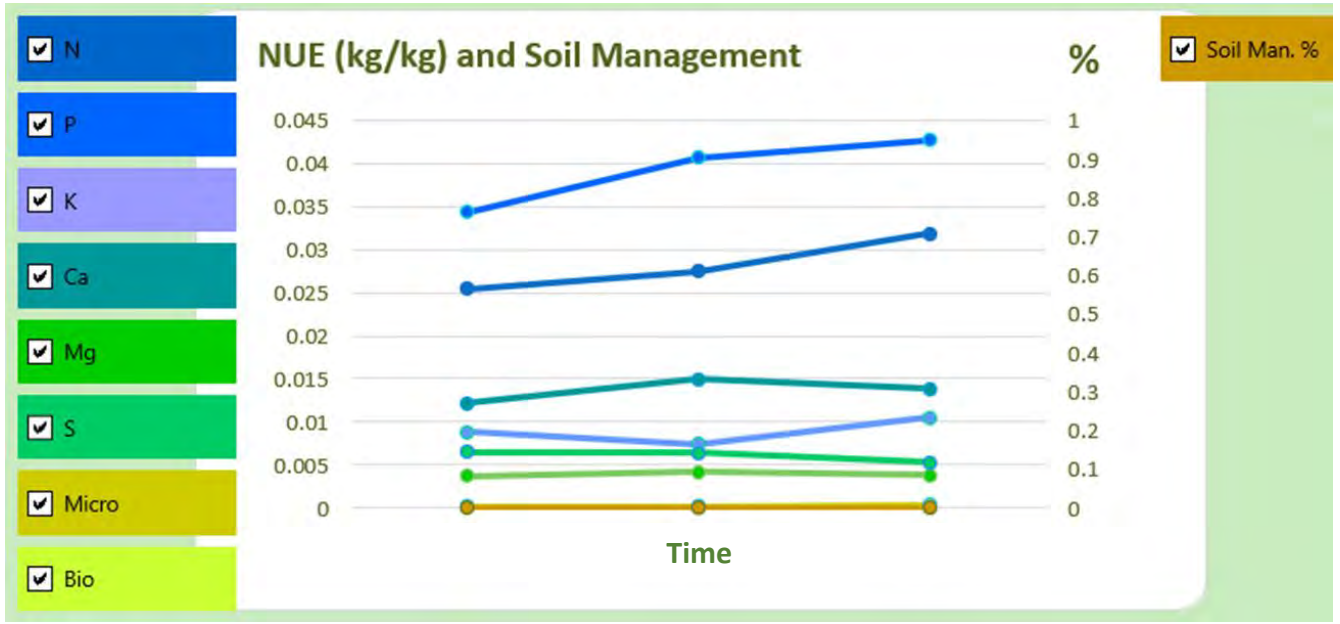
2. Direct inputs vs. yield over time:

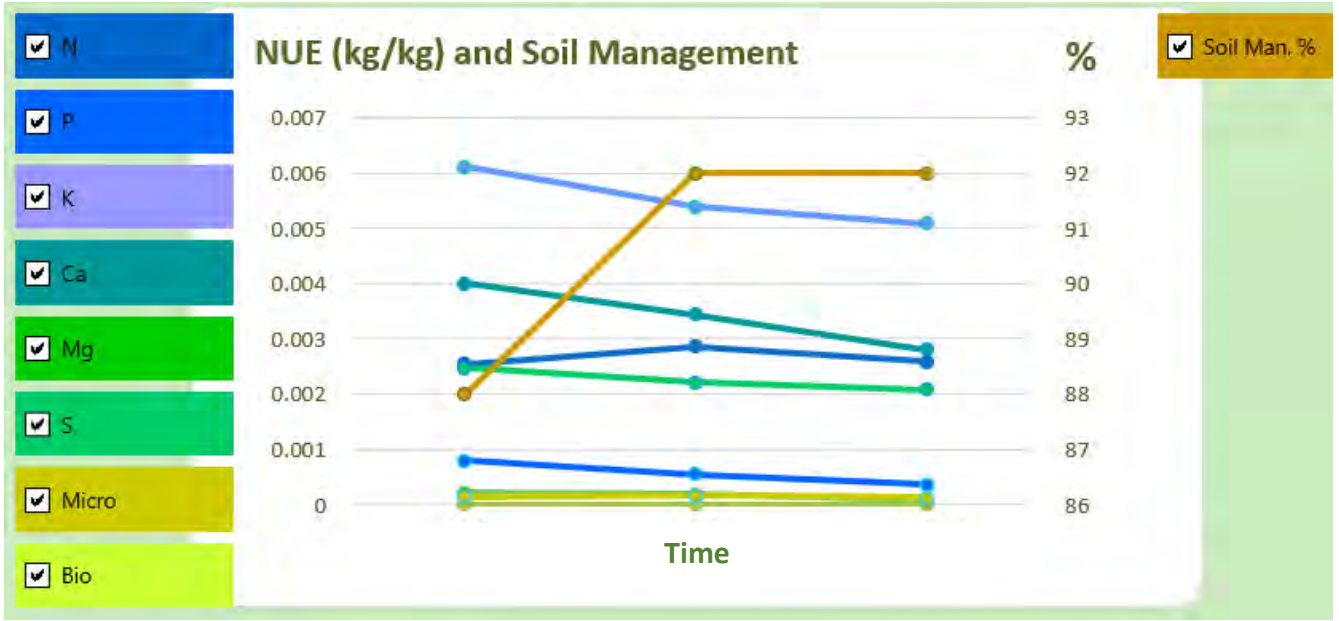
Qualifiable indication of profit per unit produced through:

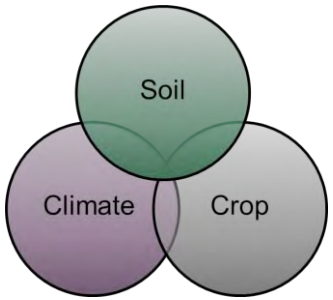
- **Monitoring of the sustainable use of resources (fertiliser, water etc.) across production cycles against yield, quality & waste, and**
- **The subsequent continual improvement plan of areas that the data reveal.**

- **NUE (Kg/ton produced) vs. soil quality**
- **WUE (m3/ton produced vs. soil quality**
- **PUE (red label sprays/ton produced) vs. NUE & WUE**
- **FUE (red label sprays/ton produced) vs. NUE & WUE**

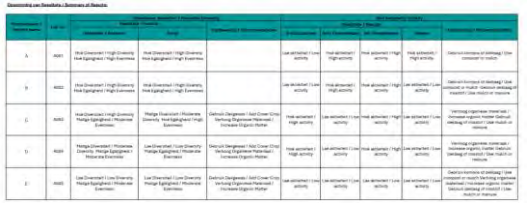
Direct inputs vs. yield over time:

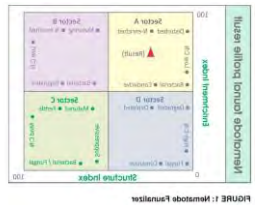




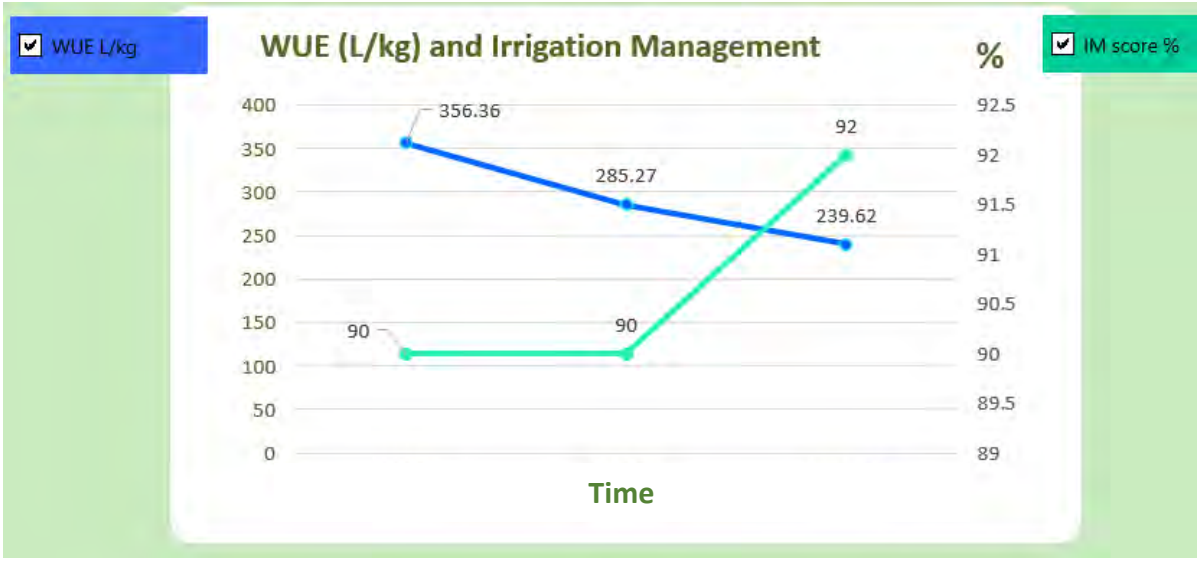


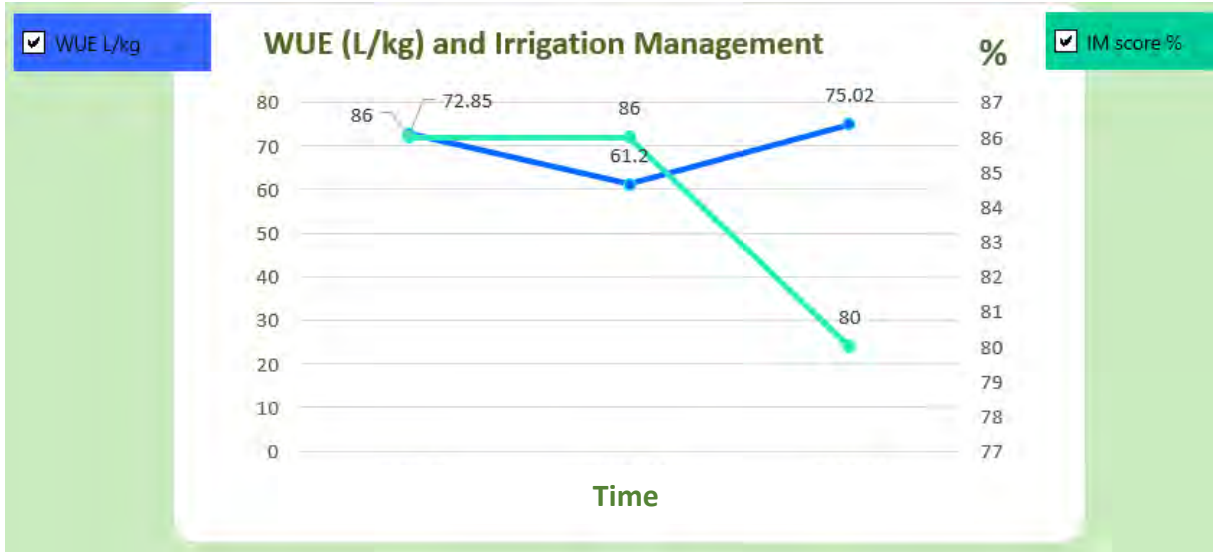
Soil Management			
	Full Score	**Analyses**	**Score**
Soil Chemical Composition	**10**		**6**
pH	4	5.1	3
Salinity	4	200	1
Na	2	0.68	2
Soil Nutrient Status	**10**		**2**
P (mg/kg)	2	34	1
K (mg/kg)	2	424	0
Ca (cmol/kg)	2	9.47	1
Mg (cmol/kg)	2	4.96	0
Micro-elements	2	*0*	0
Fertilisation Practices	**10**		**5**
Fertiliser programme	5	*2*	2
Organic products used & source	5	*3*	3
Org Carbon Content	**10**		**0.5**
Texture vs C content	10	0.38	0.5
Soil Cover	**10**		**8**
Type of covering	5	*3*	3
Percentage covered	5	*5*	5

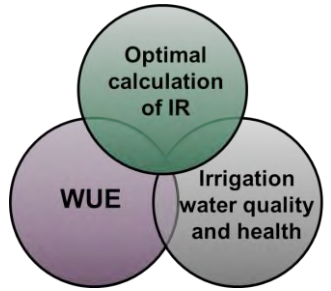




Direct inputs vs. yield over time:







Water Management			
Calculation of Irrigation Requirement	**10**		**5**
Method of calculating IR	10	*5*	5
Measurement of Soil Water	**10**		**7**
Regularity of measurement & depth	10	*7*	7
WUE	**5**		**2**
WUE	5	*2*	2
Water Chemical Composition	**20**		**9.7**
pH	3	5	1
Conductivity (mS/m)	5	150	2
SAR	5	3	3
Ca (mg/L)	0.5	20	0.5
Mg (mg/L)	0.5	10	0.5
K (mg/L)	0.5	50	0.5
Na (mg/L)	0.5	30	0.2
Cl (mg/L)	5	90	2
Water Health	**5**		**5**
E. Coli	5	*0*	5

3. Map & Understand Soil Properties:

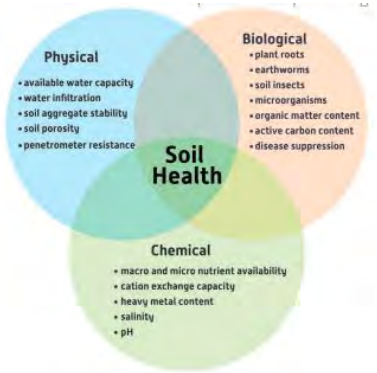
Soil properties are fundamental to successful agricultural production and sustainable land management.

Farmers who understand and manage soil properties effectively can enhance productivity, conserve natural resources, and mitigate environmental impacts, thereby ensuring long-term viability and profitability of their farming operations.

- **Physical**
- **Chemical**
- **Biological**

Interaction and relationships

- **Geology (How the soil was formed)**



Chemical indicators as related to soil functions.

The number of asterisk indicates the strength of the relationship between the indicator and the function.

Soil Indicator	Soil Function: Sustain biological diversity, activity and productivity	Regulate and partition water and solute flow	Filter, buffer, degrade, detoxify organic and inorganic materials	Store and cycle nutrients and carbon	Physical stability and support for plants and structures associated with human habitation
Phosphorous	*	*	—	—	—
Reactive Carbon	* *	*	* * *	* *	* *
Soil electric conductivity	—	* * *	—	—	—
Soil Nitrate	*	*	—	—	—
Soil pH	* *	* * *	* * *	* * *	—

4. Become a master of IPM:

- **Build knowledge to identify pests and diseases,**
  - **their specific features (spots, dots, lines) and color**
  - **Their life cycle, the signs of damage and the optimum stage to control the pest or disease.**

- **Build knowledge to identify beneficial organisms**
  - **Their specific features (spots, dots, lines), color**
  - **Their life cycle, the optimum environment to thrive**
  - **The effect of synthetic and biological pesticides and fungicides**

- **Understand the impact of climatic conditions; fertilizer and irrigation practices on pests, diseases as well as beneficial organisms (PUEs and FUEs vs. NUE and WUE)**

- **Implement an effective and targeted trapping and scouting methodology using technology.**

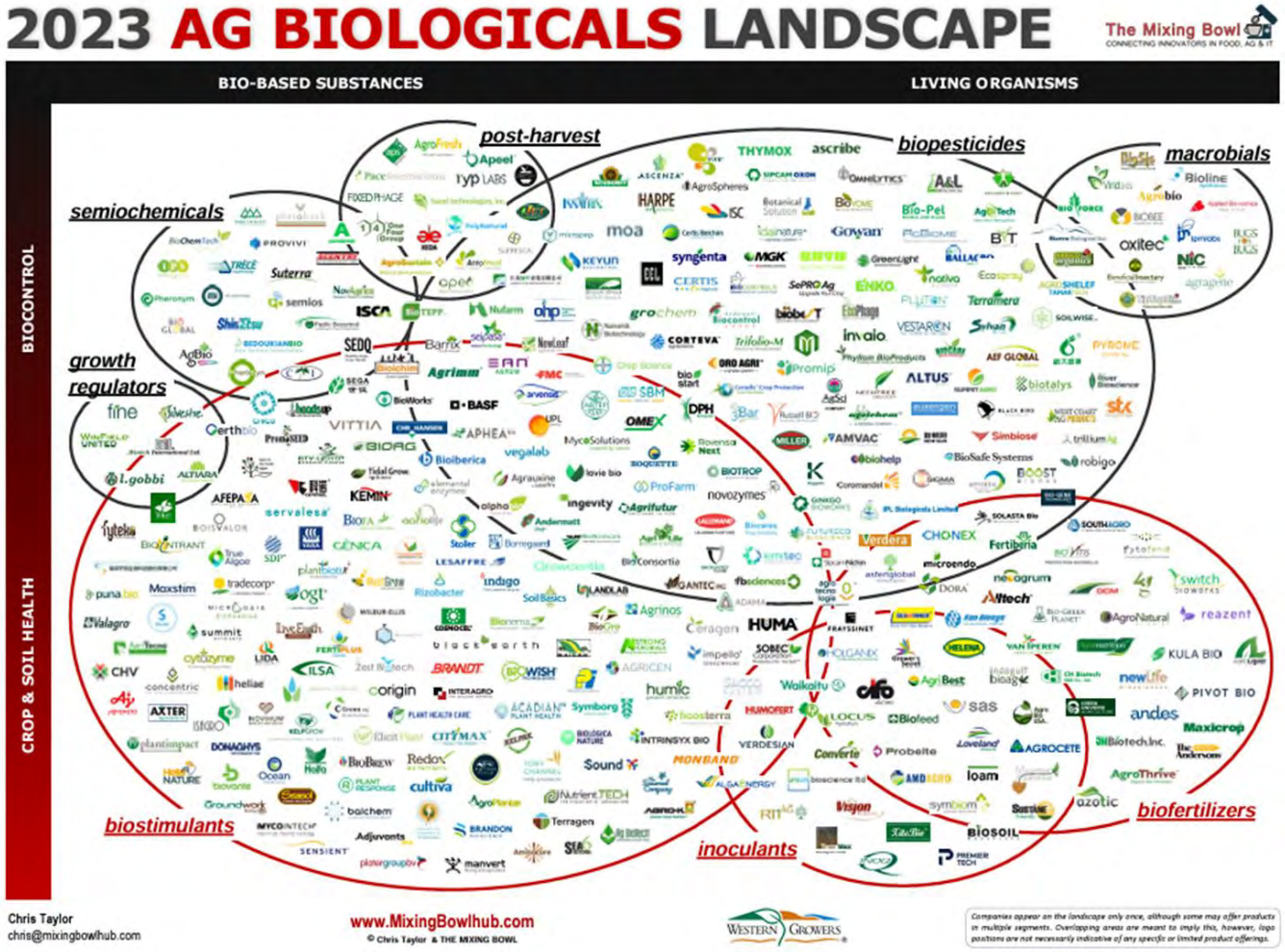
- **Identify the different strains or species of insects and diseases on the farm and prompt your agent to test for resistance at any recognized lab**

- **Do not criminalize pesticides, protect non-HHP's, do not spray more than two actives at a time, move away from routine/programmed spraying and aim for a certain limit of quantification**

4. Become a master of IPM (Cont.):

- **Move away from synthetic pesticides and fungicides**

- **Understand the alternative to synthetic inputs**



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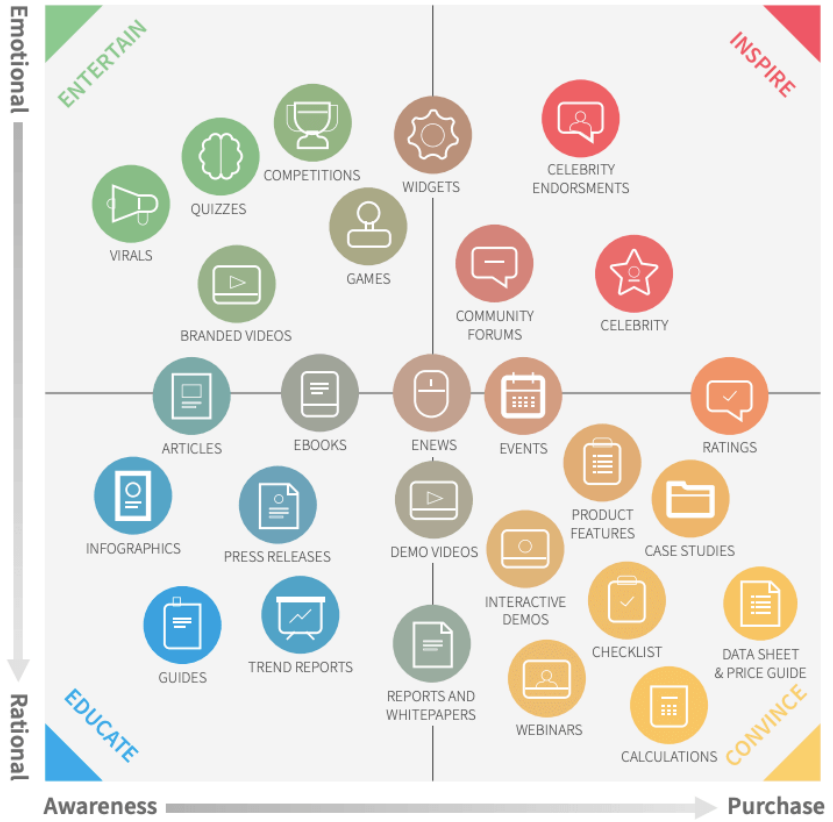
5. Grow your grapes with the end- customer in mind:

By actively seeking out and listening to consumer feedback, farmers can better meet the demands of their target market and build stronger relationships with their customers:

- Market research
- Attend events where you can engage directly with the consumer
- Observe trends proactively
- Utilize social media showcasing ethical and environmental attributes
- Collaborate with retailers, restaurants
- Offer samples for tasting/benchmarking events
- Stay flexible and adaptive
- Educate consumers (for example the CGCSA)
- Monitor competitors
- Create feedback loops and adapt accordingly



6. Single or multiple enterprises?

The choice between focusing on a single enterprise versus having many enterprises on a farm depends on several factors and can significantly impact the farm's profitability, risk management, and overall sustainability.

In practice, many farms employ a mix of these strategies, balancing specialization in key areas with diversification to manage risk and capitalize on opportunities.

The optimal approach depends on:

Considerations		Income	Crops	Other
Land Considerations				
Startup Capital				
Building Needs				
Equipment				
Experience and Knowledge				
Management				
Labour				
Operating costs	vs.	Low, Medium, High & Very high	Large animals, small animals, vegetables, tree fruits, small fruits, aquaculture, citrus, forestry, hydroponics, flowers, nursery, game farming, forages and hay, medicinal herbs, seed production, mushrooms, etc.	Sod/turf, transport, renewable energy (virtual wheeling), agritourism, consulting, security services, manufacturing (cultivation equipment), depot for agri-inputs, land scaping, bee keeping, compost, veterinary clinic, etc.
Marketing				
Packaging/Shipping				
Regulations				
Management of pests				
Maintenance and repair				
Insurance				
Risk of investment				
Potential returns				

Decide on what business structure is the best for your farm

6. Design your own sustainability plan

Designing a sustainability plan involves several key steps to ensure comprehensive coverage of environmental, social, and economic aspects:

1.Assess Current State:

2.Set Clear Goals:

3.Engage Stakeholders:

4.Develop Strategies:

5.Implement Action Plans:

6.Monitor and Measure Progress:

7.Report and Communicate:

8.Continuous Improvement:

9.Integrate Sustainability Across Operations:

10.Seek Certifications and Recognition:

11.Engage with Supply Chain Partners:

12.Educate and Train:

www.embeddingproject.org

To summarize:

- **Embrace the Future of Farming**: You're not just farming for today, but for future generations too.
- **Building Resilience**: To adsorb shocks like spikes in input costs, climate change and resource scarcity.
- **Pride in Stewardship**: Each sustainable choice you make is a testament to your dedication as a steward of the land.
- **Economic Viability**: Sustainable practices can enhance profitability in the long run
- **Learning and Innovation**: Constantly learning and innovating will improve your farm's efficiency and productivity.
- **Honoring Tradition with Innovation**: Combine traditional farming wisdom with innovative sustainable techniques
- **Making a Difference**: Your commitment to sustainable farming will have a positive impact on people of South Africa.

South Africa has the best farmers in the world!

SOUTH AFRICAN TABLE GRAPE INDUSTRY

Thank you!

MAKING THE DIFFERENCE