

WRITE-UP OF THE SOUTHERN AFRICAN RESILIENCE ACADEMY'S **"FUTURES OF FOOD IN SOUTHERN AFRICA" ONLINE WORKSHOP USING A RANGE OF FUTURES/FORESIGHT METHODS 14 AND 16 SEPTEMBER 2021**

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Centre for Sustainability Transitions





Programme on Ecosystem Change and Society





Water, Land and



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INTRODUCTION, BACKGROUND AND WORKSHOP RATIONALE

Issues and challenges of southern African food systems, and how these systems interact and interconnect with other critical systems, in particular the water-energy-food (WEF) nexus, typify some of the so-called wicked problems in the Anthropocene.

Addressing the complexities and challenges of building more resilient, sustainable, and equitable food systems was the theme for the 2021 Southern African Resilience Academy (SARA). The academy is an initiative of the Global Resilience Partnership, which endeavours to enable vulnerable people and places to thrive in the face of shocks, uncertainty and change. The main goals of SARA are to strengthen southern African expert networks and collaborations across sectors, and support the co-production of policy- and practice-relevant knowledge. The Centre for Sustainability Transitions (CST) at Stellenbosch University is a key partner in the establishment of the academy, and led the engagement of leading thinkers in food systems and the WEF nexus in a 'Futures of Food in southern Africa' workshop. See Appendix A for a list of workshop participants and their affiliations.

This online workshop took place over two days on 14 and 16 September 2021, and the content of this document serves as write-up and capture of the workshop. This report also serves as a working document that can be used by SARA and workshop participants for additional purposes, and/or it can be expanded into other relevant formats.

The "Futures of Food in southern Africa" workshop formed part of a series of engagements that started in April of 2021 with an Independent Dialogue linked to the UN Food Systems Summit 2021. At this dialogue, concrete actions for food systems transformations in the southern African region were identified for short-term timescales of 3-5 years. Building on these discussions, and with the continued support of SARA's regional partners – the USAID Resilient Waters Program, International Water Management Institute/CGIAR, and International Food Policy Research Institute - the aim turned to exploring the futures of food outside of the shorter-term timeframe towards more holistic, diverse, and creative visions for southern Africa for 2040 and beyond.

Taking a longer-term view and futures / foresight approach can enable SARA and its stakeholders to, amongst others;

- explore more unorthodox trends and ideas, and challenge deeply held assumptions,.
- improve awareness of the changing external environment, and therefore decide what they

Foresight is the capacity to anticipate and plan for possible futures.

- should focus on to achieve their objectives in conditions of uncertainty,
- create a platform for new thinking about strategy, policy, and innovation, and
- better understand the whole system, patterns of change, and the complexity within it.

Some of the generic benefits of a futures / foresight approach include:

- Thinking is more diverse, open, balanced, and non-biased
- Focusing on the 'right' questions and problems more clearly
- Being more aware of assumptions and mental models
- Anticipating change and avoiding surprise
- Producing more creative, broader, and deeper insights
- Identifying a wider range of opportunities and options
- Prioritising and making better and more robust decisions
- Constructing pathways from the present to the future that enable rehearsing

Futures and foresight activities involve creating and sustaining a variety of high-quality forward views, and to apply the emerging insights in useful ways; for example, to detect adverse conditions, guide policy, shape strategy and to explore new products and services.

In addition to this, the workshop also had specific objectives of:

- 1. Enable **diverse perspectives** on food futures for the southern African region to come together in a creative, generative process;
- 2. strengthen the **community of practice** around food systems and the WEF nexus in southern Africa, and foster new connections and collaborations among experts in the region;
- 3. share **tools and methods** for thinking creatively about the future, and enhance futures literacy and strategic foresight skills among regional experts and decision-makers; and
- 4. explore key regional goals, "what if?" questions, and "seeds" of the future in the present to identify important leverage points for **transformational change**.

Furthermore, the aim, and therefore the structure and format, of the workshop was to expose participants to, and involve them in, a range of futures/foresight tools and methods. These are listed below and also form the content of the rest of the report;

- Polak game,
- Future Wheels,
- Causal Layered Analysis,
- Seeds of change, and
- Three Horizons Framework

Each of these tools/methods enabled participants to engage with food system change and how it could unfold differently when it comes to driving forces shaping the future. Thus;

- the Polak Game sensitised participants to their different perceptions and perspectives of the future,
- the Future Wheels exercise enabled participants to engage with potential shocks, disruptors and disasters,
- the Causal Layered Analysis facilitated a deeper understanding of what lies beneath everyday headlines,
- the Seeds of change cultivated an appreciation of weak signals and 'pocket of the future in the present', and
- the Three Horizons Framework stimulated structured strategic conversation about systemic change, preferred futures and the interventions needed to shift systems.

In addition to the conversations around key insights and learnings after having used the above-mentioned tools and methods, the workshop process was also designed to 'harvest' or capture individuals' brainstorm of options, interventions and/or recommendations to bring about change after each of the sessions using the different tools/methods. This content is presented together with the tool it was based on, and not as a separate 'options, interventions and/or recommendations' section.

DIFFERENT PERCEPTIONS AND PERSPECTIVES OF THE FUTURE [POLAK GAME]

In order to sensitise participants to the reality that individuals – who come together in 'participatory' workshops – hold different, individualistic perceptions and perspectives of the future, everybody engaged in the Polack Game – aka "Where do you stand?" - using a template on the Miro platform (shown below).

The game is a user-friendly structure for facilitating conversation among participants, and it represents an effective and accessible approach to introducing "images of the future" as a basic property of both cultures and individuals, and so to pave the way for more advanced tools and frameworks¹.

¹ Hayward, P. and Candy, S., 2017. The Polak Game, or: Where do you stand?. *Journal of Futures Studies*, 22(2), pp.5-14.

Participants were asked to place their marker on the Miro board by answering two questions:

- In general, in the next 10 years, do you see food systems in southern Africa getting better or worse?
- How capable do you feel of personally affecting the future?

The result is depicted in the graphic below.



Some of the engagement around WHY people placed their markers where they did, included:

- There is positivity because there has been some progress recently, e.g. communities and stakeholders dealing with issues effectively at the local scale.
- It was remarked that 'lots more people need to do the right thing' for food system futures to turn out better.
- A 'worse and incapable' quadrant placement mentioned that they were negative because food systems are 'obscenely unequal and highly concentrated. There is scarcity and hunger in southern Africa. Covid has shown the effect on the system, and in the absence of concerted effort, it will increase inequality. It is disappointing that relief efforts have reinforced spending in the formal (unequal, concentrated) system'.

SHOCKS, SURPRISES AND DISRUPTORS [FUTURES WHEELS]

For the second session of the workshop participants explored potential shocks, disasters, surprises and disruptors using Futures Wheels (see **populated workshop templates with links to the actual output in Appendix B**).

Futures Wheels is a group brainstorming method that explores and maps multiple levels of consequences of trends, events, emerging issues and/or future possible decisions. In this case, the wheel centred on selected shocks, surprises and disruptors relating to southern African food systems. It is a graphic visualization of direct and indirect, as well as positive and negative, future consequences of a particular change or development.

Each of the four groups worked with a pre-prepared 'disruptor' topic. These were;

- 1. "Mainstreaming of drought resistant indigenous superfood",
- "Constant, destructive extreme weather due to climate change (e.g. drought, storm damage, late frosts, floods, fires, etc. 'Constant El Niño')",

- 3. "No import or export of any food value chain item into or out of the region (due to whatever reason, e.g. transport constraints, NetZero, pandemic-related border closures)", and
- 4. "Mutant fall armyworm annihilates maize production for years to come".

These topics were specifically chosen in order to explore the broad-ranging impacts, implications, and consequences of such potential future shocks, crises, and disruptors on southern African food systems. The Future Wheels methodology was specifically chosen because it produces cascading waves of change – in other words the consequences of the consequences; the impacts of the impacts (of a shock / disruptor in this case). This is represented by the different rings around the central disruptor – first order impacts are most direct and close to the centre, with 2nd and 3rd order (i.e. more indirect) impacts being captured in the outer rings.

The value of using this tool and imagined disruptors is that it focusses attention on our blind spots and cognitive biases -- on the way in which our assumptions about the world obscures us to parts of it that do not fit with our worldview, or with our self-interest. After the exercise participants reported back on their topics.

Drought resistant indigenous superfood:

- Even though this started out as a positive disruptor it quickly became obvious that there could be massive implications for land and land ownership. Such a superfood changes the dynamics. There may be greater food security, but there will be other (potentially negative) consequences, e.g. corporates will want to take control.
- When it comes to the 'virtuous circle' that such a superfood could be part of, it is assumed that primary production is a constraint, but is this so?
- Who will have the patent of such a superfood? It will create new money flows, but also potential for new power pathways.
- Marginal land will become more useful and valuable new ways of controlling prospecting etc.
- Big corporations will 'muscle in'. There will be resistance!
- Who owns the patent of alternative foods crops?
- Are there other options, other than shocks, that could stop the large agribusinesses and supermarket from completely taking over the food system?
- A shift to understanding resource risk is needed.
- This tool/method stimulates non-linear thinking.

Inability to import/export

- This disruptor has a bifurcation point.
- It would increase the use of fertilizers and chemicals to boost local production.
- There is some impact of digitalisation, but maybe not in terms of import from the north.
- Interesting opportunities for collaboration / sharing of knowledge will be available via regional engagement and drawing on traditional subsistence knowledge.
- No more shopping mall economies! Local markets, local value chain, less urbanisation, and potential for local economies and informal growth.
- Breakdown in colonial borders, also cross-border issues there is potential for systems change change in production and consumption patterns.
- An opportunity for adaptation and resilience despite the disruptor being regarded as 'negative'.

Constant, destructive, extreme weather

- Many direct impacts with important knock-on effects on health and livelihoods
- Fiscal systems not flexible enough to deal with constant uncertainty
- Potential for regional "coupled" impacts like pest outbreaks
- Changes in production and consumption patterns will be required
- Impacts will compound challenges for the vulnerable
- Cross-sectoral integration and coordination is key

Mutant fall armyworm

- How to function in coordinated, multi-sectoral and cross-disciplinary way?
- Potential for more diversified diets and production positive things from disaster.
- Reliance on food imports, which may worsen situation for vulnerable households and increase inequality
- Political fall-out
- Collective action may build social capital

Brainstorm of options, interventions, recommendations and ideas based on participants' engagement with a Futures Wheel and its 2nd and 3rd order consequences.

Participants were asked to share their thoughts after the Future Wheel exercise via Mentimeter, an online tool designed to elicit feedback and participation in online meetings. Mentimeter allows for short, written (and anonymous) responses to be entered via a website, and then immediately posts the comments on a screen that is shared with the group. Since this report/write-up of the workshop is a working document, this content is presented *ad verbum*, and the participants' contributions have not been clustered, synthesised, and/or reworded.

- cross-sectoral integration
- Regulation of input industries especially seed is the critical factor that can shape positive outcome either of (a) shocks or (b) beneficial opportunities. It's one of the most significant determining factors.
- change planning 'systems'
- The presumption that productivity is the problem to be resolved is a mistake.
- Distributional focus
- Whether something has positive or negative impacts (and for whom!) is very much within our controland recognizing the different power relations and interests is a prerequisite
- a shift to understanding resource risk
- Crises, unchecked, lead to food system concentration.
- rural development and regional integration critical
- Stimulates non-linear thinking
- Change' is inevitable and, in itself, neither positive nor negative. Our choices control that!
- serious consideration of how to make policy response processes more flexible
- Illustrates interconnectedness across scales
- Improve the ability of communities to anticipate shocks, and build capacity to absorb them (e.g. access to finance and markets, social protection, infrastructure, rural services, etc.)
- ways of dealing with lobby power
- "Transformative" or nexus approaches
- Sustainable and resilient food systems
- Stronger focus on inclusion, equity and dignity"
- Unpack the productivity question more, whether to chuck it or develop an ecologically and socially
 progressive approach to it linked to distribution and justice
- political collaboration would need to look at agro-ecological zones serving all of SADC and even Africa's food needs, instead of each govt autonomous grand schemes of trying to become food secure...we'll have to think across borders
- Principles, rights and a commitment to dealing with rural poverty and inequality should guide interventions and support for those interventions. The existing system will not support a more fair way of building a future, it needs to be pushed there
- Are we even agreed on what a beneficial or positive impact on the food system would be?
- cross-national coordination in response to boundary-spanning risks

- Are the other options, other than shocks, that could stop the large agribusinesses and supermarket from completely taking over the food system?
- social protection policy development
- Proactive collective response to tackle the pressing issues, Regional and sub regional, national and sub-national coordination is necessary. Promotion of foresight tools among planners and educators. Resource mobilisation to tackle critical ones
- Knowledge generation and sharing for policy shift; Support innovation; Social enterprise development; Partnerships for change;
- It can help multi-disciplinary teams explore complementarities
- Ability to be agile and flexible enough to respond to uncertain, and severe, events
- support and policy changes to allow rural SME to thrive instead of overloading rural economy with legislature and restriction
- promotion of diets and food cultures based on indigenous, climate change resilient foods
- What will it take to build the political impetus for necessary transformation of food systems, in regulating corporate sector, expanding 'people's' food economies, agrarian reform, real support to ss farmers, ecologically just food systems et
- The foresight futures planning require robust engagement at individual and institutional level. Climate
 information generators and distributors have to establish strong collaboration mechanisms and
 narrative if such is to benefits populations.
- communication systems for all
- logistics support
- Acknowledgement of compounded challenges faced by the marginalized what are the policy responses to help address such compounded challenges?
- climate variations are coming with extremes such as pests and diseases, hence need for early
 preparation and stocking of the pesticides for control at local level with clear information on use,
 mixing, application and disposal, also feedback

DEEPENING FUTURES [CAUSAL LAYERED ANALYSIS]

For the third session of the workshop, participants concentrated on deepening futures and examining beyond the headlines by using Causal Layered Analysis (CLA) (see **populated workshop templates with links to the actual output in Appendix C**).

CLA is a four-level analysis examining the litany ('headlines'), systems, worldviews and myths/metaphors associated with southern African food systems. It is used for identifying different perspectives about the future and is good for 'surfacing' underlying, sometimes sensitive issues. Changing or challenging the deepest levels of myths/metaphors about an issue is one way of developing preferred futures.

Each of the four groups worked with a pre-prepared 'headline' topic. These were;

- 1. "Mega-farmers leverage 4IR tech"
- 2. "Chicken on special for R20/kilo!"
- 3. "Rural economy collapse where to now?"
- 4. "Limpopo water offtake causes tensions to rise"

After reaching the 'myth/metaphor' level, groups were asked to choose one statement at that level, and to 'flip' / transform it from a negative to a positive, and work back up through the levels (to the surface) to identify a new litany (headline) of an alternative future.

These new headlines (in the same order as above) were:

- 1. "AI solves food waste system!"
- 2. "Southern African chickens win prize"

- 3. "Rural economy not just cash based, but centred on food security, healthy environment, strong social relationships, clean water"
- 4. "Limpopo wins Africa Food prize"

Brainstorm of options, interventions, recommendations and ideas based on participants' engagement with Causal Layered Analysis.

As before, participants entered their thoughts via Mentimeter. Since this report/write-up of the workshop is a working document, this content is presented *ad verbum*, and the participants' contributions have not been clustered, synthesised, and/or reworded.

- better identify causal links in issues
- Capitalism is the root of evil!
- Reckoning with the idea that corporations are rational and care about humans
- find new ways to construct 'deals'
- Introduction to structured thinking.
- How to shift deeply held myths?
- development as understood in its current Western configuration cannot be perpetuated
- All of the improved scenarios had better equality and consideration of the social aspects
- Audit existing resource sharing arrangements to ensure equity and sustainability
- Dealing with mental models
- contribution to society and economic benefit
- Transparency is key to understanding how to transform systems. Good science and impartial
 observers can help all to know what needs to be done and how we are doing on getting to a new
 headline.
- "Systems approaches
- Building a shared understanding
- Challenging myths and perceptions"
- An Africa-focused education system that takes rural traditional activities as equally valuable to
 western education systems in account, so that people act from pride in who they are and want to be
 but have a choice
- Our relationships with the natural environment are really messed up
- There is always an underlying reason behind the common reason
- don't just look at sectors
- Existing approaches are narrow, and optimised in that way. But we need a broader set of goals resources matter, access matters, equity matters.
- A good life is not dependent on money.
- go beyond value chain analysis
- Multi-stakeholder dialogue platforms to co-create solutions
- How to shift deeply held norms of development etc away from economic growth, high consumption etc
- Convert food production into a not-for-profit industry
- Promote community awareness on sustainable resource use
- surface level reason will give surface level solutions
- Chicken centrism is the future
- two-layered societies with options to fall back on rural livelihoods when needed
- A new generation with less stake in the system can change it.
- How to build the democratic processes through which all of this thinking can actually be enacted; rather than the constant dominant imposition
- Monitor resource use and act appropriately

Participant reflections and insights halfway through the workshop, at the beginning of the 16 September session, included:

- As a result of the methodology it was stimulating discussion and thoughts around the topic of indigenous superfood
- There is an opportunity for capacity building given the tools and platforms such as Miro, Mentimeter and similar
- When we're busy with our 'heads down' work, there is no big picture, so this valuable stimulation re the big picture
- These are interesting tools for use in the virtual space it means people from different places can contribute
- The idea of disruptors was stimulating, it shows what various shocks are possible.
- The CLA method could be useful for helping to design a future food system
- The Future Wheels is an Interesting approach for how to prepare for shocks. Divergent views of
 participants is interesting, and the it is a means of coming up with positive ideas of addressing
 challenges
- These tools are an interesting alternative to a data led approach
- These are useful exercises and stimulate strategic thinking given the work that we do. It raised issues around power, and the need to shift entrenched values. But the but real status quo shift means confronting power
- This practitioner's perspective is interesting to engage with, as is 'practical academia' and policy people

SYSTEMIC CHANGE, 'SEEDS' AND PREFERRED FUTURES [THREE HORIZONS FRAMEWORK]

Participants were given 'homework' at the end of the 14 September session. They had to submit a short description of a Seed – see definition in the text box on the next page - and include a weblink if there is one. The *ad verbum* list of Seeds follows:

- Post-growth is stance on economic growth concerning the limits-to-growth dilemma recognition that, on a planet of finite material resources, extractive economies and populations cannot grow infinitely <u>https://en.wikipedia.org/wiki/Post-growth</u>
- Agroecology based crop-livestock production system
- Dealing with food waste: <u>https://bokashibran.co.za/bokashi-bran/what-is-bokashi-composting/</u>.
 .Ideally you design out waste in the food system. The seed here is a better way of dealing with organic waste: separating at source and using Bokhashi at home.
- Umgibe is an innovative vegetable box scheme and training institute in KZN, SA, that provides weekly boxes filled with organic vegetables grown by farmers from under-served communities (mostly in recycled plastic bags). <u>https://umgibe.org/</u>
- Value chain approach to re-indigenizing food systems scaling up production of indigenous vegetables, crops and livestock; including seed systems development; value addition and processing using modern technologies and market linkages
- Plus 50 % Own Production Food Networks national and regional networks of people sharing knowledge and skills on own food production even in urban settings
- Agroecology and regenerative agriculture have potential to disrupt crop-livestock production systems in a positive way.

- African countries to reconsider changing the school calendar year so that a longer holiday coincides with .the crop harvesting season and veldt-food gathering time, to restore food secure subsistence living and protect indigenous knowledge transfer.
- Alternative crops are urgently needed through promoting natural resources such as veld products. Cultivation of such resources should be explored by making resources available to do trials in various agro-ecological zones, instead of veldt harvesting
- Support to strengthening farmer seed systems and farmers' rights (rather than corporate/commercial seed systems), especially critical in a time of climate crisis <u>http://www.fao.org/3/cb3735en/cb3735en.pdf</u>
- At Massingir Dam in Mozambique a more inclusive dam management system that understand and addresses the transboundary nature of water flows is being put in place.

Seeds, a.k.a. 'bright spots', 'weak signals' or 'pockets of the future in the present', can be small-scale, experimental projects and initiatives that employ new ways of thinking or doing and exist at the margin of the current world and worldviews; or they can take the form of

- new social institutions,
- technologies,
- or frameworks for understanding the world
 that are not yet mainstream, but
 have the potential, or have shown at
 local scale to improve southern
 African food systems.
- Not my idea, but I think Reko markets (that bring together producers and consumers) are great-they are springing up across SA <u>https://www.news24.com/witness/lifestyle/planet/reko-farmers-market-20210805</u>
- For food packaging it would be great to have reusable containers that are part of a product price but for which you get money back when you return them-like the soft drink and beer bottle return schemes
- Irrigation development needs a new paradigm. Co-evolution of hardware and software is crucial. TISA project started this journey will simple tools and intensive innovation systems. <u>https://www.tandfonline.com/toc/cijw20/36/sup1?nav=tocList</u>

Some of these Seeds were then used in the Three Horizons exercise session that followed.

For the fourth and final session of the workshop, participants concentrated on working with systemic change, preferred futures, and transitions needed to shift systems by using the Three Horizons Framework (see **populated workshop templates with links to the actual output in Appendix D**).

The Three Horizons Framework - see graphic on the next page - is a conceptual model to aid peoples' thinking about current assumptions, emerging changes – the Seeds - and possible, desired futures. It is a graphical approach developed to explore the change in importance of issues over time, and connect the future to the present. It is an adaptable tool, and is often used as an intuitive, accessible introduction to futures thinking, as well as to make sense of emerging changes. At its most basic it is a systems model about the way things change over time. It is particularly good for working with complexity, developing future consciousness, and recognising transformative change, whilst exploring how to manage transitions. In this case, the Three Horizons Framework was used to work with different aspects of desired futures for southern African food systems.



Participants were presented with three statements about preferred futures that were informed by the previous session. These preferred futures were:

- 1. Food production and distribution is environmentally sustainable (climate-friendly, net-zero, biodiversity-friendly, water wise) and driven by major dietary demand shifts;
- 2. Access to land and land ownership is equitably resolved and rural economies flourish; and
- 3. Food production and distribution is a not-for-profit enterprise.

Brainstorm of options, interventions, recommendations and ideas based on participants' engagement with Three Horizons Framework, preferred futures and Seeds.

As before, participants entered their thoughts via Mentimeter. Since this report/write-up of the workshop is a working document, this content is presented *ad verbum*, and the participants' contributions have not been clustered, synthesised, and/or reworded.

- How do we shift mindsets AND actions in the consumer?
- I am going to make better food choices myself (and perhaps question why I don't as a matter of course!)
- Increasing knowledge and information for the consumer is only part of the solution, there need to be other incentives, e.g. pricing and tax incentives, insurance incentives, lifestyle incentives
- Inclusive and fair practice in food systems cannot work in the current system.
- Can 3H be a consensus building tool? Not sure you get consensus on 'outcome'/goal
- Interesting to see the strong connections to water coming through addressing food system challenges means addressing water system challenges
- A great structured way to determine what, where and how the system needs to change
- there are lots of normative discussions that need to be had-and a focus on food systems rather than discrete parts of it (agriculture, land etc) would help that
- Food supply is important, but a sustainable environment, consumer behaviour, and affordable healthy diets are importanter
- Stopping the flooding in of 'cheap' foods will have consequences of food security (calories anyway), but we need to think about providing local (or regional), cheap, healthy food alternatives

- What does LAND have to do with FOOD?
- How we think about land and its uses is fascinating, even in a smaller group
- Food systems are embedded in other systems
- Technology, infrastructure, and enabling policies are important for the future we want
- Energy and the food systems needs more attention. The decarbonisation of food might offer opportunities.
- There is urgent need for concerted efforts to organise small producers to produce and distribute superfoods and disrupt the markets
- Long food value chains should future food system support these
- We have to ensure that innovations and reform are inclusive and accessible
- Who is the current land use and food system serving if millions can't participate in it?
- Looking at the different 3H boards reminded me that "Food" has multiple functions... entry points, drivers, controllers and consequences.
- Selected insects becoming part of diet (seed)
- Changing demand is difficult: needs variety, affordability, and a shift in culture and preferences.
- Just food transitions? (just to capture here)
- Transitions imply 'management'. Transition might be responses
- Voices of smallholder women farmers matter in transition discourse
- At least 50% of the climate financing must go into regenerative agriculture supporting and scaling integration of traditional and modern practices of water and soil conservation

INSIGHTS AND REFLECTIONS

After the four sessions featuring the different tools/methods, participants spent some time reflecting how these futures/foresight tools can help to reframe / re-perceive, and make sense of the present. In a plenary discussion, they contributed as follows:

- These conversations need to be inclusive some government departments are also using these tools, but they need broader perspectives
- Sectors are usually analysed in terms of their sector, and in a 'rational' manner. These tools enable us
 to talk more holistically, like for example about the nexus it's challenging but it can be done.
- Analytical tools are used 'differently", so how can one translate this sort of work into economists' 'language' and their analytical work?
- There is also a lot of systems thinking work going on how can we translate that into the 'analytical' world?
- There is a need for evidence-based for policy-making, and there are linkages between models development is taking place. How do we take different sources of information into consideration to confront these difficult questions about what the future could look like?
- Three Horizons is a good framework for planning purposes. Is there something like this in place for South Africa? Can this sort of content can be put into practice, e.g. how to make indigenous superfood real? Would be good to have concrete superfood examples...(Seeds)
- "We must all unpack our own icebergs"
- The consumer is the 'elephant in the room'. How do we change the paradigm of the consumer? This is complex because there are numerous types and levels of consumers
- There is a similarity and complimentary with Transformative Innovation Policy frameworks -- the field of techno-socio transitions
- How can this of work be incorporated with / complement the more quantitative data-based modelling and forecasting type work that policymakers (Treasury) relies upon?
- One should be careful not to 'cherry-pick' the future. People can, and should come up with their futures

- It is actually not the 'specific' futures that matter, it is their baggage and assumptions that these futures expose that matters. We all have blind spots to identify and trade-offs to make. Working with futures helps make this visible.
- Three Horizons links 'visioning' of futures to the present and potential pathways

NEXT STEPS

Next steps for this endeavour is for participants to review and add their reflections to this report, which will be made available as an open working document. Continued access is provided to the Miro boards containing the tools used and the content created by the participants.

We encourage the use of this evolving document for a range of purposes, including:

- As a source of ideas for novel approaches especially with regard to the "seeds of change" section;
- As a source of recommendations and options, taking into consideration that options can also serve as contingency plans and be converted into action plans;
- Validation/confirmation of existing approaches, commitments, and decisions, especially where there are recurring themes and emphases on issues; and
- The beginning of more forward-looking risk management approaches, especially given the nature and type of shocks / crises mentioned.

SARA will organise a third workshop towards the end of 2021, which will concentrate on lessons learned, key messages, and recommendations.

For 2022 and beyond, it is envisaged that there will be a call for the formation of expert working groups to synthesize knowledge on a range of resilience and development challenges in the southern Africa region.

APPENDIX A: WORKSHOP PARTICIPANTS

Name	Affiliation
André van Rooyen	International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)
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Cliff Dlamini	Centre for Coordination of Agricultural Research and Development for Southern Africa (CCARDESA)
Georgina Ryan	South African National Treasury
Inga Jacobs-Mata	International Water Management Institute (IWMI)
Joe Mzinga	Eastern and Southern Africa Small Scale Farmers Forum (ESAFF)
Katharine Vincent	Kulima Integrated Development Solutions
Kenneth Sinachikupo	Zambia Meteorological Department
Laura Pereira	Global Change Institute, University of the Witwatersrand
Leonard Unganai	Oxfam
Lewis Hove	Food and Agriculture Organization of the United Nations (FAO)
Maike Hamann	Centre for Sustainability Transitions (CST), Stellenbosch University
Mao Amis	African Centre for a Green Economy (AfriCGE)
Mmeli Sotshononda	Informality Concepts
Netsayi Noris Mudege	WorldFish
Odirilwe Selomane	Centre for Sustainability Transitions (CST), Stellenbosch University
Panduleni Elago	Southern African Development Community (SADC) Secretariat
Patricia Rwasoka-Masanganise	Palladium Group
Reinette (Oonsie) Biggs	Centre for Sustainability Transitions (CST), Stellenbosch University
Ruth Hall	Institute for Poverty, Land, and Agrarian Studies (PLAAS), University of the Western Cape
Sherwin Gabriel	International Food Policy Research Institute (IFPRI)
Steve Collins	USAID Resilient Waters Program
Tafadzwa Mabhaudhi	School of Agricultural, Earth, and Environmental Sciences, University of KwaZulu-Natal
Willemien le Roux	Pabalelo Trust
Zulu Dackson	Zambia Ministry of Fisheries and Livestock

APPENDIX B: FUTURE WHEELS



"Mainstreaming of drought resistant indigenous foods"

https://miro.com/app/board/o9J_lx9ncY8=/?invite_link_id=926339034754



"Constant, destructive extreme weather due to climate change (e.g. drought, storm damage, late frosts, floods, fires, etc. 'Constant El Niño')"

https://miro.com/app/board/o9J_lxGyMQ0=/?invite_link_id=704709667814



"No import or export of any food value chain item into or out of the region (due to whatever reason, e.g. transport constraints, NetZero, pandemic-related border closures)"

https://miro.com/app/board/o9J_lxG6oPs=/?invite_link_id=933218909642



"Mutant fall armyworm annihilates maize production for years to come"

https://miro.com/app/board/o9J_lxG6oGA=/?invite_link_id=738064493355

APPENDIX C: CAUSAL LAYERED ANALYSIS





'Flipped' headline: "AI solves food waste system!"





'Flipped' headline: "Southern African chickens win prize"





Headline: "Rural economy collapse -where to now?"

'Flipped' headline: "Rural economy not just cash based, but centred on food security, healthy environment, strong social relationships, clean water





Headline: "Limpopo water offtake causes tensions to rise"

'Flipped' headline: Limpopo wins Africa Food prize



APPENDIX D: THREE HORIZONS FRAMEWORKS

"Food production and distribution is environmentally sustainable (climate-friendly, net-zero, biodiversity-friendly, water wise) and driven by major dietary demand shifts"



https://miro.com/app/board/o9J lx92ktA=/?invite link id=75292530903

"Access to land and land ownership is equitably resolved and rural economies flourish"

https://miro.com/app/board/o9J_lxG7cJg=/?invite_link_id=507425728252



"Food production and distribution is a not-for-profit enterprise"

https://miro.com/app/board/o9J_lxG7cMU=/?invite_link_id=509866557667

