Fertiliser Dialogue Report 2022

REGIONAL MULTI-STAKEHOLDER DIALOGUEON VULNERABLE FARMERS' ACCESS TO FERTILISERS.

Sharing Good Practices, Innovations and Viable Options.

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BACKGROUND

The Centre for Coordination of Agricultural Research and Development for Southern Africa (CCARDESA) in collaboration with the Food and Agriculture Organization of the United Nations (FAO), organized a Regional Multi-stakeholder Dialogue event on Vulnerable Farmers' Access to Fertilizer from 4th to 6th October 2022 in Mbabane, Eswatini.

The event facilitated increased stakeholder awareness, dialogue, advocacy and the sharing of good practices to mitigate the fertilizer access challenge by vulnerable smallholder farming households under the evolving global environment. The dialogue would be a platform to deliberate on the full range of mitigation pathways, from the emergency response in the short-term to increased and sustainable production and productivity under a challenging environment in the long-term.

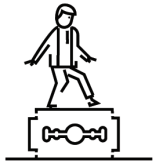
The event objective was to increase awareness and galvanize a collective voice on the need to act now on the foreseen risks of fertilizer access for vulnerable farming households. The dialogue initiative covered four subregions in Africa (Central, East, West, and Southern) and was led by SADC CCARDESA and the FAO Regional Office for Africa (RAF) under the leadership of the FAO Subregional Office for Southern Africa (SFS).

The participants had various presentations from experts, countries and other players. They also conducted a field visit to appreciate the initiatives that Eswatini was taking. The participants always worked in groups to reflect on the issues and to put forward recommendations to various stakeholders.

THE FERTILIZER CHALLENGE

THE CONTEXT

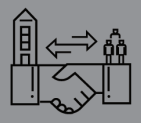
CLIMATE CHANGE



COVID-19 PANDEMIC
& AFTER-MATH

CONFLICT IN UKRAINE
IMPACT

COUNTRY
CHALLENGES



CO-ACTION

NOTED ISSUES/INSIGHTS GENERATED

THE MARKET REALITIES FOR AFRICA:

- Smallholder farmers produce 70% of the food in Africa.
- Fertiliser constitutes up to 30% of the cereal production budgets.
- Fertilizer is central to Productivity, Food Security and Nutrition.

IMPACT OF THE CONTEXT:

1.Disrupted production of fertilisers

2. Prolonged the supply chains.

3. Increased shipping costs

4. Export restrictions

5. Increasing prices of 4Fs: Food. Fuel. Fertiliser, Funding.

6. Reduced fertiliser utilisation by 15%

7. Reduced production:

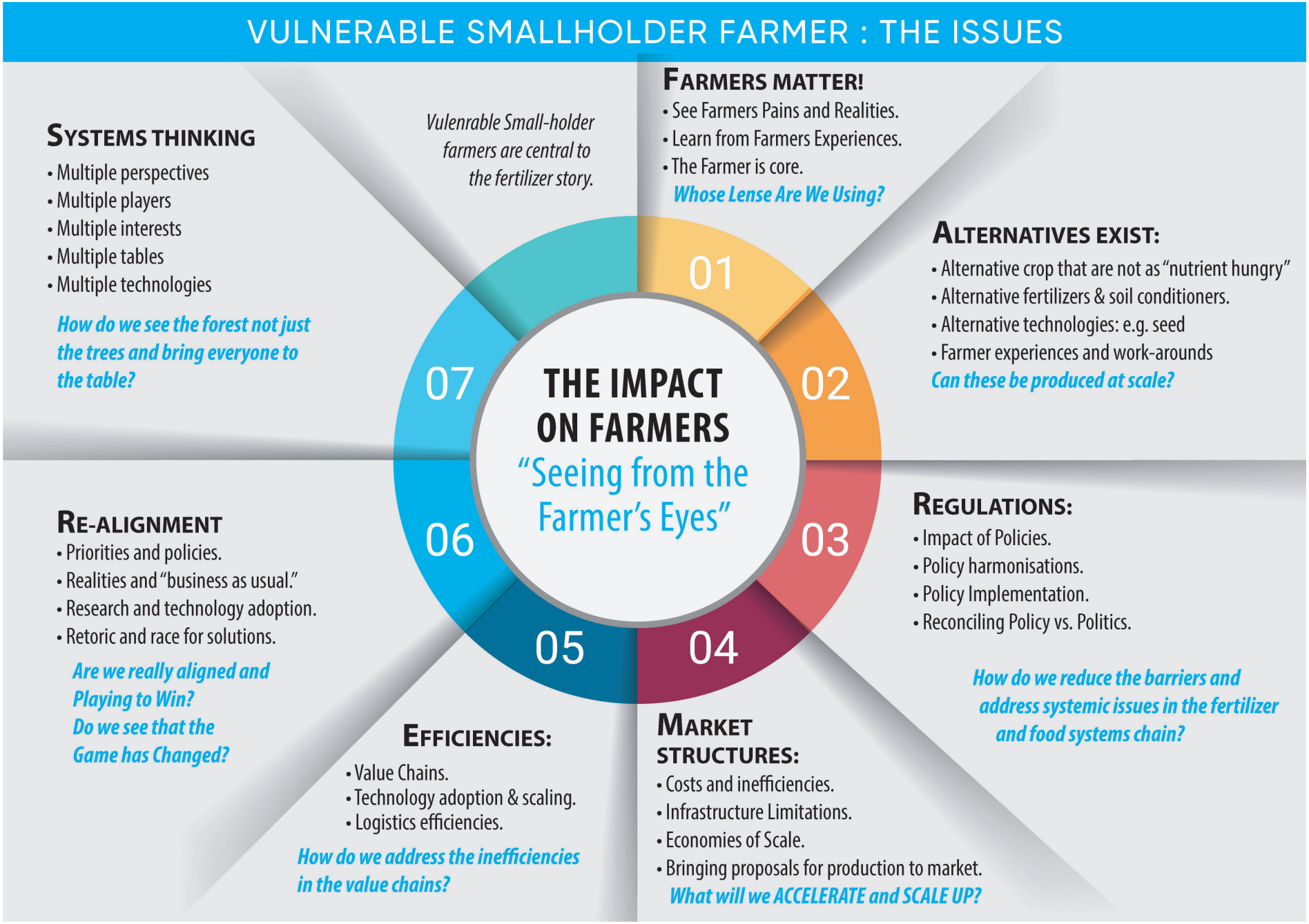
   Maize by 1.4%, Rice by 1,5%, Wheat by 3.1%

8. Food and Nutrition Insecurity Threat.

9. Increased Vulnerability & Fragility.

THE EYE OF THE STORM:

Farmers: Once production is disrupted, everything else is disrupted.


VULNERABLE SMALLHOLDER FARMER : THE ISSUES
Vulenrable Small-holder farmers are central to the fertilizer story.
FARMERS MATTER!
• See Farmers Pains and Realities.
• Learn from Farmers Experiences.
• The Farmer is core.
Whose Lense Are We Using?
ALTERNATIVES EXIST:
• Alternative crop that are not as "nutrient hungry"
• Alternative fertilizers & soil conditioners.
• Alternative technologies: e.g. seed
• Farmer experiences and work-arounds
Can these be produced at scale?
REGULATIONS:
• Impact of Policies.
• Policy harmonisations.
• Policy Implementation.
• Reconciling Policy vs. Politics.
How do we reduce the barriers and address systemic issues in the fertilizer and food systems chain?
MARKET STRUCTURES:
• Costs and inefficiencies.
• Infrastructure Limitations.
• Economies of Scale.
• Bringing proposals for production to market.
What will we ACCELERATE and SCALE UP?
EFFICIENCIES:
• Value Chains.
• Technology adoption & scaling.
• Logistics efficiencies.
How do we address the inefficiencies in the value chains?
RE-ALIGNMENT
• Priorities and policies.
• Realities and "business as usual."
• Research and technology adoption.
• Retoric and race for solutions.
Are we really aligned and Playing to Win? Do we see that the Game has Changed?
SYSTEMS THINKING
• Multiple perspectives
• Multiple players
• Multiple interests
• Multiple tables
• Multiple technologies
How do we see the forest not just the trees and bring everyone to the table?
01
02
03
04
05
06
07
THE IMPACT ON FARMERS
"Seeing from the Farmer's Eyes"

THE SOLUTIONS • Climate Change - Covid 19 • Conflict

S SOIL SCIENCE & FERTILITY. STOP UNSUSTAINABILITY
Stop doing things that do now work & dumping fertilizers to farmers. Scale-up extension and support viable indigeneous knowlege systems.

O OPTIMISE AND ORGANICS
Organic fertilizers as an option and complement. Optimise the use of fertlisers, soli conditioners and fertiliser-efficiency technologies.

L LEVERAGE LOCAL PRODUCTION AND INSTITUTIONS
Leverage existsing institutions, technologies and infrastructure. Local production support and ramping up. Support local farmers and research valorisation.

U UNDERLYING SYSTEMIC ISSUES - Address root-causes.
The underlying problems are multi-faceted and multi-layered. Disrupt the dependency-forming practices. Revisiting funding models and loopholes.

T TIME-FRAME AND SOLUTION-FRAME
Solutions have to respond to the time-frames. Address burning issues while creating long-term local capacity.

I INVESTMENT AND INNOVATION
Investment in local and regional bulk infrastructure. Scale up innovations in fertigations, soils and seed technologies. Start making mindful investments.

O OPERATING CONTEXT
Organised play that allows all stakeholders to play their part: Governments/REC - policy, Private Sector - capitalisation & incentives. Civic Sector - Extension. and access to markets, etc.

N NEW THINKING, MODELS AND SOURCES
Engage in new thinking frames, business and operating models. New sources of potash.

S SCALING UP
Scale-up initiatives and organic solutions. Harmonisation of seed and fertilizer regulations and systems. Prime synergies, symbiosis and sharing.

Outcomes of the Dialogue Session

ADDRESS
- Persistent Problems
- Policies
- Plans
- Programmes
- Paradigms
- Projects

TOWARDS SOLUTIONS:

Policies, Projects And Programmes To Address Climate Change, Covid-19 And Conflict-Induced Challenges.

The participants to the dialogue suggested the following as possible solutions that could be adopted to address the issues related to fertilizer shortage:

1. Smart Fertiliser Subsidy Programmes
2. Domestic Production of Organic and Inorganic Fertilisers: Capital Intensive.
3. Develop Incentives for investment in local production: Tax holidays, guarantees, Development Funds, etc.
4. Sustain Africa Programme: Fertiliser subsidy (30% discount for farmers – 10% supplier and 20% donor)
5. Build Strategic Fertiliser Reserves and In-country storage of forward supply.
6. Free Online Fertiliser Tracking Tools: Dashboards, Statistics and Forecasts.
7. Fertiliser as a strategic priority product without boarders and Off-take agreements.
8. Integrated soil fertiliser management.
9. Use of Inoculants. Bio-fertilisers. Stimulants.
10. Extension Capacitation. Demonstration Centres, Farmer Field Schools.
11. Alignment of Government tenders to markets and payment of suppliers
12. Research and development, Innovation across the Value Chain. Dissemination of Existing and new Technologies.

TOWARDS BETTER DESIGN:

of Effective Subsidy Schemes.

The participants recommended the following as possible solutions for improved fertilizer subsidy programmes:

1. Diversified Crops: Food and Nutrition Security
2. Focus Local Supply Chains vs. Imports
3. Farmer Contribution
4. Distribution by Agro-ecological Zone
5. Soil pH Heat Map
6. Inoculates and or Stimulants
7. E-voucher System
8. Agro-Dealer Network and Existing Institutions
9. Special Groups: Elderly, Disabled, etc
10. Insurance Cover
11. Conservation Farming
12. Extension capacitation
13. Monitoring and Evaluation

RECOMMENDATIONS

The participants of the Regional Multi-stakeholder Dialogue on Vulnerable Farmers' access to fertilizers gathered with the intent to share good practices , innovationa and viable option, in Mbabane, Eswatini from October 4-6, 2022.

They noted the following emerging and key issues:

- Combined effect of Russia-Ukraine conflict , Covid 19 and climate change has increased food and nutrition vulnerability in Africa
- Russia-Ukraine conflict has exacerbated an already fragile situation in smallholder farming systems
- Conflict induced fertilizer price increases (Potash price, all time high)
- Fertilizer access challenge currently being experienced
- Cereal production expected to decline consequently leading to food and nutrition insecurity
- Increase in crop production costs expected.
- Need to develop SHF fertilizer access mitigation strategies.
- There are fertilizer access and utilization issues.

They therefore raised the following recommendations. Some of the recommendations are Short Term (ST), others Medium Term (MT), while others are Long Term (LT).

A. REGIONAL ECONOMIC COMMUNITIES RECOMMENDATIONS

1. Support domestication of the harmonized fertilizer regulatory frame work of the RECs region to aid smooth intra-regional fertilizer trade or movement (MT)
2. Promote Intra regional fertilizer trade in line with African Continental Free trade Agreement (MT to LT)
3. Mobilize resources for regional fertilizer production (MT)
4. Create regional engagement and community practice platforms to discuss emerging issues (ST to LT)

B. GOVERNMENT RECOMMENDATIONS:

1. Smart and targeted subsidies programmes to enable farmers to access fertilizers (ST)
2. Promote and implement policies and programmes for promoting viable agricultural practices eg CA, climate smart agriculture , mechanization (MT to LT)
3. Consider using the eVoucher system for distribution of fertilizers under subsidy programmes (ST to MT)
4. Policies that support or promote local fertilizer prod (MT to LT)
5. Strengthen local fertilizer procurement (MT to LT)
6. Tax exemptions or reductions on fertilizer raw material imports (ST)
7. Put in place fertilizer regulations on imports, fertilizer quality and fertilizer registration (ST to MT)
8. Government guarantees to access money for capital expenditure (capacity expansion, setting up of fertilizer blending plants and chemical plants in the long term) (LT).
9. Decentralize soil testing services (MT to LT) , support extension activities.
10. Repurpose resources (ST to MT).

C. PRIVATE SECTOR RECOMMENDATIONS:

1. Invest in capacity expansion and new local fertilizer production (MT to LT)
2. Investment in prescription blending plants (MT to LT)
3. Set up local organic fertilizer manufacturing plants (ST to MT)
4. Introduce cheap and effective bio-fertilizers (eg legume inoculants , P solubilizing inoculants and bio-stimulants) (MT to LT)
5. Improve fertilizer distribution systems and agro-dealer networks to cover smallholder farming areas (MT to LT)
6. Develop agro –dealer input and output markets (ST to MT)

D: AGRICULTURE RESEARCH INSTITUTIONS:

1. Review the effectiveness of reduced mineral fertilizer on soil fertility management options (MT)
2. Participatory research on fertilizer alternatives (academia, researchers, farmers) (MT to LT)
3. Scaling up proven , viable and adaptable options such as CA (ST to MT)
4. Advisory guidelines on use of low-cost soil fertility management practices (legume inoculants , strategic legume –cereal rotations, use of animal manure , manure handling and storage, anthill soil (ST to MT)
5. Advisory guidelines on practices that improves fertilizer use efficiency (liming , fertilizer timing and placement strategies)
6. Information dissemination on viable alternatives (ST to MT)
7. Breeding for crop varieties tolerant to soil acidity, with low nutrient requirements, with efficient nutrient capture and conversion traits (MT to LT)
8. Area specific soil fertility maps (MT to LT).

E: EXTENSION:

1. Capacitate extension services and strengthen early warning systems (ST to MT)
2. Scaling up proven , viable and adaptable options such as CA, agroecology, organic nutrient sources, CSA (ST to MT)
3. Advisory guidelines on use of low-cost soil fertility management practices (legume inoculants , strategic legume –cereal rotations, use of animal manure, manure handling and storage, anthill soil(ST to MT)
4. Advisory guidelines on practices that improves fertilizer use efficiency (liming , fertilizer timing and placement strategies) (ST to MT)
5. Information dissemination on viable alternatives (ST to MT)
6. Area specific soil fertility maps (MT to LT)

F: DEVELOPMENT AGENCIES AND NGOS:

1. Invest in research and mobilize resources for research eg research grants, academic research studies.
2. Scaling up of proven good agricultural practices and alternative fertilizer options (ST to MT)
3. Humanitarian and developmental strategies for targeted emergency fertilizer support to the most vulnerable farmers (ST to MT)
4. Avail and repurpose funds to ensure fertilizer access to the vulnerable (ST to LT)

G: RECOMMENDATION TO FARMERS:

1. Efficient fertilizer use (placement , timing and liming)
2. Strengthen farmers and farmer organizations for ease access to inputs and markets.
3. Inclusive participation of vulnerable farmers (ST to LT)
4. Implement low cost soil fertility management practices (animal manure, manure and reduced fertilizer combinations) (ST to LT)
5. Sustainable intensification of viable practices like CA , CSA etc (ST to MT)
6. Grow crops with low fertilizer requirements (ST to MT)

COUNTRY EXPERIENCES

Following the presentation of the Country Experience, the following discussion points were noted:

1. Most of the future plans presented by the countries are already in motion or are about to be implemented.
2. It is critical to make agriculture attractive to young people. However, in some countries like South Africa, access to land by youth is a challenge and most young people getting into agriculture are leasing out from the big farms.
3. We should not throw away the not so good aspects raised by the countries but try to address the challenges that caused undesirable outcomes and move forward.
4. Countries should not use transboundary pest and diseases as barriers to trade but should work together as member states to address them as regional challenges. Concern was also raised on the movement of organic manure, as it can be a medium to move pathogens across borders.
5. Within the Fertilizer Sector there is need to create the enabling environment through policies and the development of strong institutions at both regional and national levels.
6. Fertilizer Industry should be driven by the Private Sector and government is there to provide an enabling environment in public private partnerships
7. There should be a strong capacity building initiatives for the Extension Staff and blending this with the knowledge management where extension simplifies technologies and approaches in the production arena for the farmers without losing the originality of the messages meant for those farmers.
8. Is it possible to create an ideal smart input scheme or subsidy program that can be used in the region working in partnership with the private sector and agro-dealers playing a pivotal role in the distribution of the inputs in the localities they operate including imparting the technologies through demonstrations
9. There is need to manage political interference in the handling of the procurement and distribution of fertilizers especially during implementation of input schemes.

Country	Good Initiatives	Not-So Great	Future Plans	Recommendations
South Africa	• Adoption of GAPs • Innovative products – plant extracts, kelp, fruit assets. • More inclusive farming, emerging farming.	• Poverty pocket – due to high unemployment • Bureaucracy limiting new product introduction • Non-tariff barriers to traditional export market – Europe	• Scale up smart farming – Tech-based farming • Expansion of intra-African trade • More educated young entrants in the food systems	• Protection of agri-ecosystem – sustainable farming • Combination of semio chemicals with standard chemicals • Make agriculture attractive to young people throughout the value chain
Tanzania	• Food self-sufficiency, use of quality fertilizers, seed, and pest control • Expanding irrigation schemes/infrastructure doubled rice yields from 2.5 to an average of 47 metric tons/ha • Capacitating local Extension services at the local level • Reduction of interest rate to 1 digit by private banks enabled farmers to access credit and inputs	• Cooperatives not working • Under - utilized public assets – markets, warehouse, and processing centers	• Strengthen farmer database – use of IT • Expansion of local and international markets • Women and youth inclusion along the value chain	• Multisector planning – government and private sector • Enhance weather forecast and strengthen early warning systems • Expand sustainable research and linkages to extension • Increase financing for sustainable agriculture
Malawi	• Deliberate efforts (intention) to subsidize fertilizer and maize and recently livestock in order to improve access to improved farmers inputs • Implementation of the Lead farmer and Farmer field School agriculture extension approaches which are organic and participatory • Soil fertility and water management practices such as CA, pit planting and agro forestry • Integration of Small stock livestock promotion – Pass-on programs. Access to organic manure, source of income to ensure access to inputs	• Putting all eggs in one basket- Heavy investments in fertilizer and maize production (60-65 percent agriculture budget). Vulnerable maize specific risks. Limited infrastructure investment. • Poor coordination between private and the public in key public programs – fertilizer subsidy. • Poor targeting of subsidy beneficiaries • Enforcement of regulations – quality assurance	• Planning to take a phased approach – Short, medium and Long term. • Work on different scenarios- Time - frame bound. • No return to pre-Covid status. Increasing cases of weather • Related shocks, pest, diseases, anthropogenic factors and conflicts	• Scenario based planning • Harness local resource use and promote local consumption for management of soil fertility management. • Increase local capacity to produce own fertilizers • Re-purposing public funding into programs that respond to emerging shocks-short term measures. For long term, subsidies to be wide ranging- promotion of GAPS, research, innovation, building of factories, commercialization, value addition. • Facilitate and promote blending of organic and inorganic fertilizers – will result into lowering of costs of fertilizers

Country	Good Initiatives	Not-So Great	Future Plans	Recommendations
Madagscar	• Fertilizer (chemical and organic) manufacturing industry set-up and ready to start production by 2023 Madagascar - Increase production of rice • Agriculture development fund- improving access to financing for agriculture financing. • Up coming mining company that produces ammonium sulfate as a by-product of nickel extraction	• Created overdependence of farmers on subsidy programs. • Competition with private sector	• Fulfill conditions for investment in agriculture – • Increase the demand for agricultural products on local and regional markets (consumption stimulation) • Contract farming, favorable land policy for small farmers	• Strengthen the promotion of agro-ecological practices – • Harness local resource use and promote local consumption for management of soil fertility management. • Reinforce the advocacy for the Abuja Declaration. • Moral advocacy for reciprocal resource support from the developed countries. • Bulk Buying of fertilizers
Lesotho	• Government procures fertilizer and sells to farmers at subsidized prices 80:20. Government was only source of inputs from • CERC - Government/World Bank re-purpose funds from existing programmes to support farmers • Piloted farmer registration database under LIAMIS • Developed the LESIS (Lesotho Soil Information System) • Promote CA • Prioritized commodity value chains that have comparative advantage based on appropriate land use planning - Potato production	• Limited budget to support all farmers • Delay of inputs delivery and the government system not the best way. • Fertilizer and other agri-inputs subjected to natural hazards	• Depoliticize the subsidy programme to reach the intended beneficiary – involve private sector • Complete the digitalization the farmer registration to make follow up • Fertilizer legislation within the SADC harmonized fertilizer regulatory framework	• Private sector led subsidy programme through the E-Voucher System • Production of local organic fertilizer with locally available ingredients • Utilize the LESIS system to understand the soil nutrient requirements • Complete the application for the African Emergency Food Procurement Plan under AFDB

Country	Good Initiatives	Not-So Great	Future Plans	Recommendations
Botswana	• Integrated/Accelerated Support Programme • Government contributing 50% of farmers cost to promote local production (import substitution) • Fertilizer and seed subsidy • Fertilizer re-introduced to subsidy list • Affordability addressed/availability still a challenge • Tax reduction on food/crops, Wheat, cooking oil • Zero VAT (14%)	Ban on horticulture imports	Establish soil and fertilizer testing laboratories (infrastructure)	• Consider establishing fertilizer production facility (inorganic) • Provide support/finance for organic fertilizer manufacturing • Build capacity of agricultural extension service to support uptake/use of organic fertilizers • Enhance the relationship between the farmer and research/extension agents • Promote integrated farming
Mozambique	• Subsidy Programme for Inputs • Reduction of 2,5% duty on inorganic fertilizer • Zero duty on organic fertilizer, seeds, machinery, pesticides • Electronic Voucher System: Improved M&E, Beneficiaries linked to technical assistance/extension • Electronic Voucher system building trust amongst government, private sector, and farmers.	• Fertilizer subsidy provided for crops without high economic return: Maize and rice • No market guarantees after provision of subsidies and high post-harvest losses • Inputs provided by government (fertilizer and seeds) not good - not matched to soil types.	• Future fertilizer to be matched to soil types • Private sector blenders collaborating with public sector laboratories • Key initiatives dependent on funding • Crop – livestock integration for CSA transformation of agriculture • Application of bio-fertilizers as alternative, given the higher prices for inorganic fertilizers • Promotion of regenerative agriculture through crop-livestock integration (follow RSA and Netherlands examples)	• Fertilizer companies to invest more towards distribution and extension • Need fertilizer specifications for northern and southern parts of country (central done) • To ensure private sector leads in future projects/interventions on fertilizer • Need national policy on Conservation Agriculture and climate Smart Agriculture

Country	Good Initiatives	Not-So Great	Future Plans	Recommendations
Zambia	• Farmer Input Support scheme - diversified, insurance cover, the resource endowed farmers contribute some percent. • Reaching up to 1million farmers., Livelihood improvement for the vulnerable groups • A differentiated special support to very vulnerable sections of society (female headed, orphaned, etc).	• Dependency syndrome • Issuance of seed did not consider agro-ecological zones…e.g Soybean distributed in zones with inadequate rainfall.	• Farmers now given option to select relevant crops/packages • Package to include irrigation equipment and mechanization support • Recapitalization of Nitrogen fertilizer industry, targeting Production of NPK	• Government to create an enabling environment for the private sector to set up fertilizer plants… e.g. tax holidays, government guarantees • Research-extension – education to demonstrate new/ proposed innovations to attract private sector adoption and farmer uptake of technologies • Improve on information dissemination • Funding needed to encourage industrialization that adopts innovation • Investment in improved technology should be matched with end product market ., for example invest in value additions to assist farmers in market access for soyabean and thereby enable them uptake basal fertilizers or legume (P/N) inoculants • Enforce monitoring mechanisms, to ensure pass on of benefits from subsidy to the end user (farmer) • Government to create an enabling environment for the private sector to set up fertilizer plants… e.g foreign currency allocation • Investment in low cost inputs, for example, livestock manure combined with inorganic fertilizers, promote use of the conventional nutrient options, such as anthill soil, • Implement 100% E-voucher input system
Zimbabwe	• Input subsidy_ Climate proof (Pfumvudza) scheme – resulted in increased yields (3.2 – 5.2 t/ha) versus the usual less than 1 t/ha • Provided free soil pH testing across smallholder and commercial farms- updated the soil pH map which now guides in lime recommendations and farmers have embraced the need for soil testing • Fertilizer subsidy scheme already in place for the 2022-23 season with up to 160 000 metric tonnes basal NPK and top-dressing fertilizer under the Pfumvudza scheme, targeting 3.2 million households • A heavy investment in localizing blenders which reduced basal fertilizer import costs • Existence of an enabling policy environment, that allows duty free importation of raw materials/ fertilizers for the support schemes • Capacitated extension- mobility, hence farmer-extension linkages strengthened • Existing low - cost fertility options – legume inoculants, conservation agriculture models	• The mode of delivery of the inputs • Overdependence on government distribution structures, without strengthening the private sector, for continuity/ upscaling	• Support towards local production of fertilizers (INDIGENIZATION)… targeting Dorowa Mine and Zimphos (phosphate fertilizers) and Sable Chemicals (ANfert) • Introduction of insurance into the input support schemes	

Country	Good Initiatives	Not-So Great	Future Plans	Recommendations
Namibia	• Implementing the complementary to fertilizer application - Comprehensive CA Programme - for promotion of CA in the country. • Namibia Agriculture Mechanization and seed system programme (140M) by AFDB – for mechanizing agriculture and increasing area under production. • Agro-Ecological Zone mapping – for proper management of fertilizer application	• Rain fed Subsidy, mechanization and Seed programme – to increase are under production programme not working well. • Fertilizer plant was halted in Namibia soon after it started just before covid. • Low demand from the farmers due to prices and preferences and unpredictable weather patterns	• Introduce the e-voucher through the agrodealers and involve them in extend • Feasibility study on fertilizer production plant - recommend to PPP as an invest • Piloted mobile soil fertility system to determine soil requirements	• Strengthen Soil testing facility • Increase research and extension on the proper use of fertilizer among small holder farmers through training trials, demos.
Eswatini	• Hold several stakeholder consultative meetings to discuss the Russia – Ukraine war effects on agriculture • Collected information on the challenges • Improved on the farmers support (subsidies) packages (50:50) to (35: 65) Farmers : Government contribution • Integration of agro-ecological farming practices CA • Support to improving food and nutrition security through Back yard garden "Asidle Kwetfu" promotion seedling distribution and training of farmers	• Slow decision process and lengthy Legislative processes • Indecision in terms declaration of the fertilizer situation as an Emergency or the country and drawing of mitigation plans • Lack of or poor coordination of the process (no clear mechanism for stakeholder engagement)	• Improve on the coordination of the different stakeholders e.g. NGO's, private sector, farmers, engagements • Develop, strengthen legislation to address the emergency situations such as the fertilizers • Upscaling Capacity building and improving fertilizer use efficiency - Government and private sector collaboration in farmer training and skills development	• Create a conducive environment (legislative and financial incentives) to encourage importation of low cost production inputs and technologies - Review of the import duty laws and fees • Create Conductive environment (legislative and financial incentives) to promote local production of the needed industrial materials • Create a platform for Government - Private sector collaboration in the building capacity of farmers to produce low cost fertilizers organic fertilizers e.g. manures and compost • Invest in improving the knowledge of farmers on the available fertilizer products or alternatives as part of Corporate Social Responsibility and marketing strategy

FIELD VISIT

The participants visited a number of smallholder farmers to appreciate the issues under discussion in the conference. Working in groups they put forward the what they learned and what are the things that they need to unlearn:

Things learned

- The Rural Development Area (RDA) centre visited is important as it serve as one stop centre for extension services. The RDA is close to the farmers thus making provision of extension services effective.
- Inclusion of youth and women in conservation agriculture practices is critical for improved agricultural productivity and production.
- Use of Kraal manure using indigenous knowledge with a mix of modern technology
- Bottom-up approach, from farmers and schools.
- Farmers access to services such as soil testing.
- Integration of conservation agriculture in school curriculum.
- Indigenous knowledge of using kraal manure including how to composite the manure. It was noted that in some part of southern African the practice is that the manure is take straight from the kraal to the field, the learning is that it need first to be composite in improve its effectiveness.
- Conservation agriculture have added benefit of minimal use of pesticides which is limited to farmers due to high costs.
- Food production is linked to nutrition allowing for diversification of produces to meet nutrition requirements. There could be food production but still there could be malnutrition if no diversification on the agricultural produce.
- Success of free soil testing facility. Participants felt that other countries should follow the same.
- Advantage of early planting even when the rain have not started.
- Integrated farming i.e. crop production with livestock is benefiting farmers example rent a kraal
- Within the same locality no one size fits all. Farmers are diversifying their farming practices.
- Blending (use of organic and organic fertilizers)
- Indigenous knowledge to complement modern way of farming
- Community assets; livestock/crop farming.
- Application of conservation agriculture on holticulture farming normal done in the crop fields.
- Rate of manure application was low due to practicing conservation agriculture.
- Inclusion of conservation agricture in school curriculum for both primary and secondary education is key for mindset changing to practice conservation agriculture.
- Farmers are getting more yield from small area farmed without using inorganic fertilizers.
- Intensive application of animal manure was observed on some farmers plots.
- RDA is decentralized services.
- Develop small cohort of extension services to train others (ToT) even beyond borders is necessary

Things to unlearn

- Mechanization – management, maintenance and sustainability of the equipment/farming implements
- Equal importance/documentation of both inorganic and organic fertilizers
- Market structure of the products, was not well elaborated or informed.
- How do we view the technology to complement and not replace the indigenous practices in order to increase productivity, i.e. use of bio stimulants.
- Soil microbiology work together to increase fertility and not just the chemistry.
- Monocropping, mixing cropping to produce more plant to work together.
- Women farmers were not available to present or showcase their farming activities though it is known that women farmers are predominantly the most common in rural areas.
- Use of inorganic fertilizers not well emphasized.
- The most vulnerable are always not the target, need for depoliticize the fertilize subsidy and other supports.