

Canada- Africa 4R Solution & Precision Nutrient Management Online Series

Presented By



University
of Manitoba





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Welcome to Webinar 8 Parttnership

Clyde Graham

Executive Vice President | Fertilizer Canada

Welcome to Canada – Africa 4R Solution and Precision Nutrient Management Online Series

- The Online series is brought to you by **4R Solution, University of Manitoba, and Mohammed VI Polytechnic University** with sponsorship from **OCP N. A.**
- 4R Solution is **Global Affairs Canada funded project** that is working to improve socio-economic well-being and resilience of **80,000 smallholder farmers, particularly women**, in Ethiopia, Ghana and Senegal. It is a **public-private sponsorship**.
- The series aims to create a network of African and Canadian scientists and academics with a goal of advancing 4R and precision agriculture science and extension.
- The event was originally planned to be a three day event in June 2020 hosted at the University of Manitoba, Winnipeg, Canada. Due to COVID-19 outbreak worldwide, the program was postponed in March 2020. The program has now been redesigned to be fully virtual. It will be a series of two hour live webinars over eight months.

nutrient stewardship

4R Nutrient Stewardship can **help** grow crops sustainably

The 4Rs work to increase production/profitability for farmers while ensuring the future of the agricultural industry

RIGHT



SOURCE

RIGHT



RATE

RIGHT



TIME

RIGHT



PLACE



THANK YOU

PARTNERS



Savanna Agricultural Research Institute



FUNDERS



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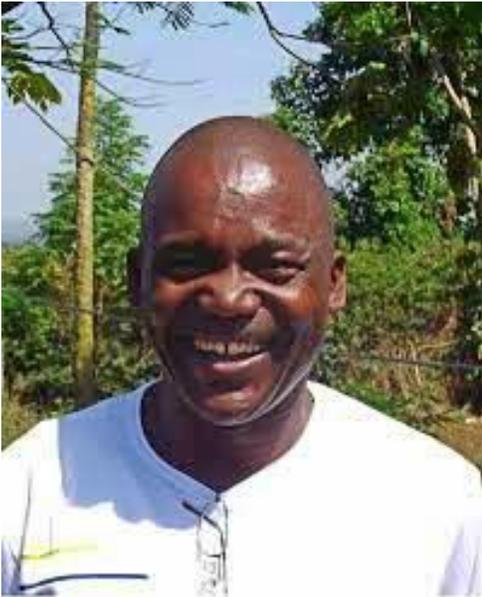
 4RSolution.org

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 linkedin.com/company/4R-Solution/



Ed Rege- Webinar Moderator & Keynote Speaker



- founder and CEO of ECI-Africa and Emerge Africa
- over 35 years' experience in agriculture, having worked in different capacities – as university trainer, CGIAR researcher and science leader
- He is one of Africa's foremost practitioners in institutional development; strategic planning, design and implementation; facilitation of complex multi-stakeholder processes, including program development and implementation processes, leadership and management capacity building, and executive coaching and mentoring.

Partnership enablers and barriers: Some lessons from agricultural R&D in sub-Saharan Africa

Ed Rege

Emerge Centre for Innovations - Africa



Case Study 1: Projects led by IARCs & ARIs collaborating with NARES

The African ARD institutional landscape

1. **NARS (NARIs and Universities)**
2. **NAES**
3. Civil Society (international, national, local/community)
4. Private Sector (international, national, local/community)
5. Sub-Regional Research Organizations (SROs)
6. Forum for Agricultural Research in Africa (FARA)
7. IARCs (CGIAR and others) – includes ICIPE, AGRA, **APNI**, etc.
8. Advanced Research Institutes (and Universities) (mainly from the North)
9. Development Partners (Donors and Technical Agencies)
10. Others!

} **NARES**

Project development motivation and pathways –Examples of common scenarios ... 1

1. **IARC/ARI** has funds: Initiates the project idea, develops the project proposal, decides on project countries; and then invites NARES to partner; and tells them how much funding is for them and for what purpose, how, etc.
2. **IARC/ARI** has an idea but needs funds: Asks NARES scientists if they might be interested (in the general idea), applies and gets funds; then tells NARES what the funds are for, and how much is available for them
3. **DP** indicates to **IARC/ARI** that funds are available subject to some collaboration with NARES (often in specified countries); NARES are included in proposal with vague ‘promises’; funds arrive; allocation does not reflect reality

• **DP: Development Partner**

Project development motivation and pathways –Examples of common scenarios ... 2

4. IARC/ARI has an initial idea; convenes possible collaborators to co-create the project, including financial proposal; funding is approved; co-implementation, with funds allocation that reflects agreed activities
5. NARES institution conceptualizes the project idea but has no funds; seeks IARC/ARI collaboration; together they get funding ; funded project is implemented in a partnership arrangement

➔ Scenarios 1-3 are most common in IARC and ARI-led collaborations; BUT the ‘partnership’ is often lop-sided/dysfunctional

➔ Scenarios 4 & 5: Often lead to productive partnerships; but they are infrequent!

- *PL in PLI: “Project Lead in Project Lead Institution” ≡ IARCs & ARIs*
- *DP: Development Partner*

Case Study 2:

The collaborative approach by the McKnight Foundation's

Collaborative Crop Research Program (CCRP)

The McKnight Foundation is:

1. A place-based family foundation that cares about its deep relationships in all the places where it works
2. Believes in and practices systems-thinking approach
3. Deeply committed to **transparency, respect, and equity in partnerships** and in its communities.
4. Partnership approach pays attention to authentic engagement, respect for individuals and communities, and **adaptive** implementation
5. Engagement approach is highly **contextualized**, and projects are long enough to take learnings and innovations to **tipping points**

The CCRP's CoP Approach

1. The CCRP is a program of the McKnight Foundation that has funded agricultural research since the 1980s.
2. Regionally based research projects that are grouped into three regional communities of practice (CoPs) – two in Africa and one in South America.
3. A small portfolio of grants are cross-cutting and support work across projects and regions or help to facilitate global-to-local connections
4. Regional projects typically link international, national, and local organizations with communities of smallholder farmers, researchers, development professionals, NGOs/CBOs, and other stakeholders.
5. CCRP projects generate technical and social innovations to improve nutrition, livelihoods, productivity, environmental sustainability, rural vibrancy, and equity for farming communities.
6. Large-scale impact is realized when new ideas, technologies, or processes are adapted to new contexts, when insights from research catalyze change in policy and practice, and when innovation inspires further success.

The CoPs ...

1. The CCRP's community of practice (CoP) model emphasizes **networking, learning, and collective action**
2. Regional CoPs make possible collaboration, **knowledge co-creation**, and the **exchange of innovation and information**, in the process **strengthening capacity** at regional, institutional, project, and individual levels.
3. Learning occurs within, between, and beyond the three geographic CoPs.
4. The CoP convenings (regional and thematic) are **vibrant spaces for info exchange and networking!**

Farmer Research Networks in CCRP

- A social innovation
- A type of multi-environment trial
- A way of linking social and technical innovation processes

FRN principles

- **Farmers** who represent the social and biophysical diversity of their communities participate in the whole research process.
- **Research** is rigorous, democratized, and useful, providing practical benefits to farmers as well as insights on biophysical and social variation.
- **Networks** foster collaboration and opportunities for learning and knowledge sharing.



What does each stakeholder get?



Farmers: Influence the agenda;
contribute a bit of data
and get a lot of info beyond their
plots

FRN

Researchers:
Like farmers, need
bigger data to effectively
match options contexts

Extension/NGOs:
Looking to empower
communities and
deliver benefits

Partnerships guided by solid principles



Both the design and implementation of the CoP model and the FRN approach to *Options x Context* reflect what the Foundation cares about:

1. Transparency
2. Respect for collaborators (individuals, communities, institutions)
3. Equity
4. **Authentic engagement** – intentional about use of process facilitation/moderation to ensure quality participation by all
5. **Adaptive** implementation (learning together & recalibrating together)
6. **Contextualized** approach
7. **Long-term commitment** – to attain tipping point

What is partnership? ... 1

1. A legal partnership is a contractual relationship involving close cooperation between two or more entities having specified expectations/results and responsibilities. Each party has a stake in both the risks and rewards. [A collaboration involves cooperation in which parties are not necessarily bound contractually]
 2. The cooperation that makes a partnership work is that between ***the people*** involved, not the organizations
 3. Partnerships imply a shared leadership among respected individuals who are recognized and empowered by their own teams, organizations or institutions and trusted by partners to build consensus and resolve conflicts.
- ➔ Partnership leaders need to be recognized and empowered by their own organizations and trusted by the partners. [Leaders are not necessarily the best scientists!]

Note: A group of institutions working together on a problem may NOT meet threshold definition of a functional partnership!

Partnership power identity

1. Power differences and power abuse can be common, standing in the way of potential productive partnerships.
2. But power is not inherently negative; it can also be used to bring about positive change in a partnership.
3. Successful partnering is about how carefully or thoughtlessly power is viewed and used.

Four forms of power*

1. **“Power over”** is the most understood concept and works largely through domination or control, usually driven by fear. This power form believes it is a finite resource and that some have power, and others do not.
2. **“Power to”** is rooted in the belief that every individual has the “power to” make a difference. This mindset shift can positively drive behaviour.
3. **“Power with”** is shared power that grows out of collective action. Bridges are built across different interests and bring together resources and strategies so partners can act together.
4. **“Power within”** allows people to recognize their “power to” and “power with” and how they can use this to make a difference.

**VeneKlasen, L., & Miller, V. (2007). A New Weave of Power, People & Politics: The Action Guide for Advocacy and Citizen Participation. Warwickshire: Practical Action Publishing*

Success factors/Enablers

1. Need for Partnership
2. Clear Purpose
3. Clarity of Leadership
4. Clarity of Understanding
5. Appreciating existence of different cultures/practices
6. High Commitment Levels
7. Trust
8. Clear Working Arrangements
9. Performance Management Systems
10. Learning/Exchanges of Good Practices

Barriers

	Inadequate attention to
1. Limited <u>vision</u> /failure to <u>inspire</u>	Leadership
2. One partner <u>manipulates or dominates</u> , or partners <u>compete</u> for the lead	
3. Unequal and/or unacceptable <u>balance of power and control</u>	Power dynamics
4. Lack of <u>support</u> from partner organizations with ultimate decision-making power	
5. <u>Hidden agendas</u>	Trust
6. <u>Lack of trust</u>	
7. Lack of <u>clear purpose</u> and inconsistent level of understanding purpose	Purpose and Roles
8. Lack of understanding <u>roles/responsibilities</u>	
9. Lack of <u>commitment</u> ; <u>unwilling</u> participants	
10. Financial and <u>time commitments outweigh potential benefits</u>	
11. <u>Key interests and/or people missing</u> from the partnership	
12. Differences of <u>philosophies and ways</u> of working	
13. Lack of <u>evaluation or monitoring</u> systems	Culture & Values
14. Failure to <u>learn</u>	
15. Failure to <u>communicate</u>	
16. Too <u>little time for effective consultation</u>	
	MEAL + Communication

ECI-Africa



Some Learnings on partnership development and strengthening

Clarity of purpose

1. Ensure the partnership is built on a shared and common vision, and mutually agreeable service principles
2. Ensure that all partners understand and agree on the purpose and outcome of the partnership
3. Develop a shared decision-making process in which partners have equal power
4. Define clear and realistic partnership aims and objectives, with objectives expressed as outcomes
5. Acknowledge the existence of separate organizational aims and objectives and their connection to jointly agreed aims and objectives

Common understanding

1. Framework, culture, values, and the approach of partner organizations will in many cases need to be the subject of explicit discussion.
2. Partners need to be clear about and understand what is in it for them, and their roles and responsibilities

Breaking through power dynamics

1. Having a conversation about power dynamics enables a partnership to become what partners want it to be
2. It also determines the virtues that will support the partnership identity, and establishes the behavior and actions that ensure the partners have the power dynamic they want
3. The discussion should be part of the partnership establishment and be encouraged to happen all through the partnership period

Culture and values

1. **Recognize and allow** the differences in culture/practice that exist among partners
2. Suppression of different cultures and practices leads to conflict!
3. Recognize and accept that others have a diversity of skills and innovative abilities
4. Only address significant differences which prevent/constrain implementation.

Develop and maintain Trust

1. Be open and honest, and communicative. The need for effective communication goes beyond the partnership itself.
2. Ensure that the trust that is built up within partnerships is protected from any mistrust that develops in parent organizations

Dialogue as a tool for learning and collective change

1. Dialogue (all judgments suspended, listening deeply, balancing advocacy with inquiry, etc.) is a powerful tool
2. The deeper the conversation gets, the more the assumptions and beliefs that shape collective reality have a chance of being exposed and re-examined.
3. The learning happens at personal, cultural and systemic levels

Thank You!





University
of Manitoba



Co-operative Development
Foundation of Canada



FERTILIZER CANADA
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Global Affairs
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Canada

Q&A

To ask a question, type it into the Q&A box on your screen



International Certified Crop Adviser (ICCA) Program



Partnerships

- The Structure is based on collaboration with
 - Private sector – industry / businesses
 - Public sector – academia - universities and government

Each certifying board has representatives on it from each sector



International

- USA, Canada, Mexico - active
- Brazil – underdevelopment, India – Past but not currently, Africa – inquires over the years
- Two paths
 - Form a certifying board and build the structure within country – development team forms first
 - Individual – new process ready in April 2021



Culture

- We use what we know and learn from the host country, we adapt it for the Countries conditions
 - Agronomy Science practices and principles
 - Education level that is appropriate
 - Local Agriculture
 - Local people on the team, locally lead



Background

- Most CCAs, more than 80% work in the private sector – farm supply – providing advice and inputs to farmers
- 14% women, up from 7% in 2013



Open Access

- Anyone can apply and become certified as long as they can meet the standards of the program
 - Exams
 - Education
 - Experience
 - Ethics



Knowledge

- Nutrient Management
- Soil and Water Management
- Integrated Pest Management
- Crop Management



Education

- Same four areas plus professional development
- 40 hours every two years
- Live Long Learning
 - Maintains and advances knowledge and skills



Questions / Comments

- Luther Smith, CAE
- Director Professional Development
 - lsmith@sciencesocieties.org



CERTIFIED
CROP ADVISER



Q&A

To ask a question, type it into the Q&A box on your screen

RIGHT SOURCE, RIGHT RATE, RIGHT TIME, RIGHT PLACE AND RIGHT PARTNERSHIP: WHO CAN PROVIDE THE 4RS

Hugo Beauregard-Langelier

Secretary General



POUVOIR NOURRIR
POUVOIR GRANDIR

*Développement
international*

March 15th

UPA DI: AN HISTORY BUILDS ON PARTNERSHIP



- When?
 - Founded in 1993 by UPA (Quebec Farmers' Union).
- Why?
 - Develop some alliances with other FOs around the world to defend and promote the family farm model.
 - Share the experiences acquired by UPA since its creation in 1924.
 - Share the agricultural expertise of UPA and its network.
- How?
 - Develop collective services within FOs.
 - Empower and strengthen democratic FOs.
 - Support family farming.



UPA DI'S APPROACH



- We believe that:
 - Family farms are equipped to implement practices that will have the most positive impacts on the environment, the involvement of women and youths in agriculture and the national economy.
 - FO's are vector of change that must be supported to advance progress in the agricultural sector.
 - Collective action is a proven approach for famers to live decently while benefiting the other stakeholders of the value chain.
- Vision 2019-2024 (action plan): Bring together the expertise.



TRANSLATING THIS APPROACH ON THE FIELD... AND IN THE SOIL



- Project: Dekaal Suuf (giving new life to soils - Wolof)
- Country: Senegal
- Donors: Quebec Ministry of Environment and FAO (counterpart).
- Assertions:
 - Advanced soil degradation (erosion, salinization)
 - No or very few soil analysis conducted by family farms.
 - Lack of knowledge regarding soil health (source, rate, time and place).
 - Growing interest from family farmers to improve soil health for economic and environmental reasons.
- Solution: Needs for agricultural extension service at the family farm level.



TRANSLATING THIS APPROACH ON THE FIELD... AND IN THE SOIL



Steps:

- Implement a collective service within the FOs dedicated to advising farmers on good soil health practices (partners = FOs).
- Train a network of field agents (technicians + farmers) who will work for the FOs in the advisory service (partners = ANCAR, INP).
- Share the Canadian expertise of organisations working in extension services (partners = Via pole, Coordination des services conseils).
- Involve Canadian farmers to share their experience on the field and to welcome farmers from the South in Canada (partners = UPA).
- Bring specific and complementary expertise to the intervention (partners = private sector, OCP).

Objectives:

- Reach the family farmers on their farm.
- Provide soil analysis.
- Provide advisory services on best soil health practises.
- Improve productivity and climate change resilience.



THE MISSING LINK: PUBLIC POLICIES



- Individual interventions in environment will eventually need public support to be continued and scaled up.
- Paris Climate Agreement is an opportunity to implement better practises in soil health.
- UPA DI is working with its partners to document the results in order to influence public policies.
- Local authorities and government should be part of the « who can provide the 4 Rs ».





THANK YOU



Q&A

To ask a question, type it into the Q&A box on your screen



Putting finance at the service of smallholders

Lionel Pellizzari - March 15, 2021



Desjardins
Développement international

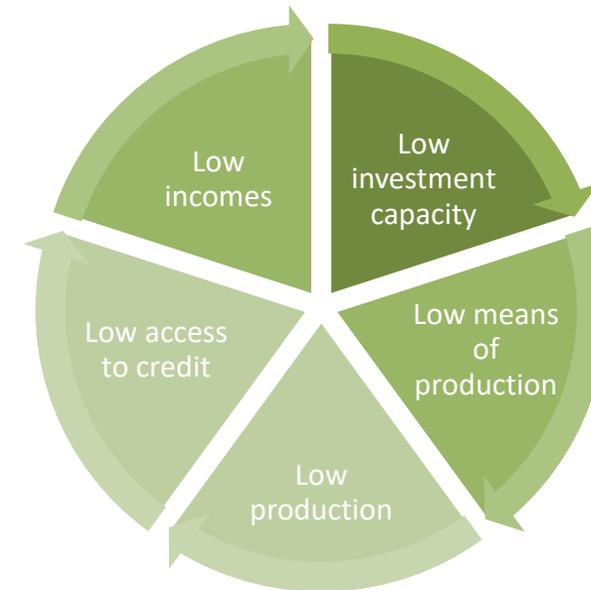
Issue

Agriculture is viewed by financial institutions as a risky, unprofitable sector and very little credit is offered for investment because:

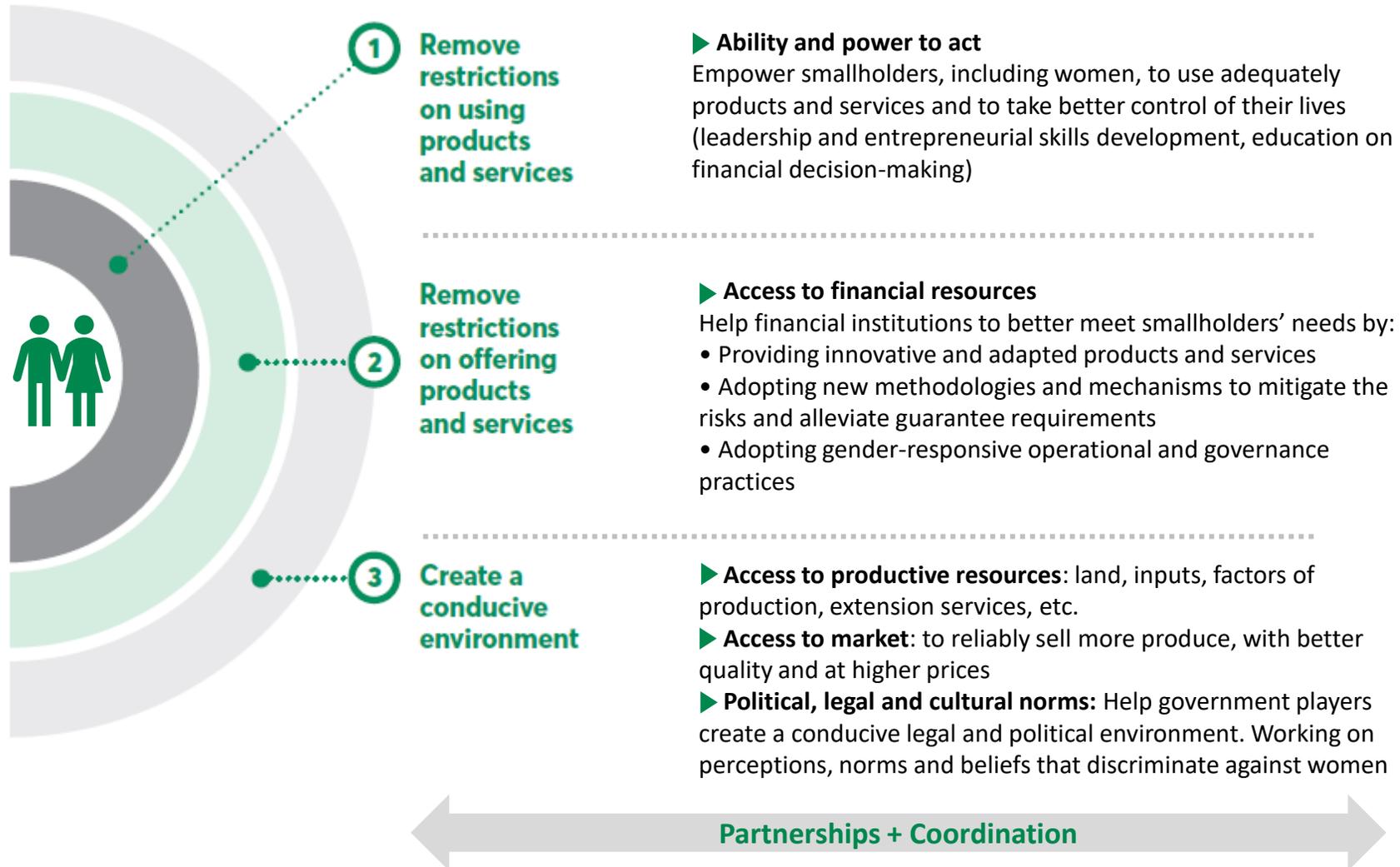
- The risk of production is high
- Producers have little capacity
- Loan officers have little knowledge of agriculture
- Farmer organizations have organizational and governance difficulties
- Markets are dysfunctional

Lack of access to finance is often identified as an obstacle to food security, economic empowerment and the deployment of innovations:

- Underfunding agriculture limits strongly the development of farmers and the agrifood sector
- Underfunding agriculture slows the diffusion of innovations and helps maintain a cycle of chronic underperformance
- It is key to break this cycle and improve the productivity of small producers.



A transformative approach through financial inclusion



Financial services and deployment of agricultural innovations project in Burkina Faso

- Research project funded by IRDC with an amount of 3M CAD
- Burkina Faso (Zondoma, Passoré, Ziro et Nahouri)
- Sectors of maize and cowpea
- Demonstrate that improving access to financing enhances the effectiveness of innovation deployment strategies and increases the agricultural productivity of smallholders:
 - Accelerating dissemination of innovative practices
 - Improving food security
 - improving the standard of living of farmers
- Solution
 - Definition of the technical kit and the practices to be promoted
 - Provision of extension services
 - Capacity building of farmers-based organizations
 - **Innovative credit: CIPA**





The CIPA (*Crédit pour l'intensification de la production agricole*)

- Authorized amount based on a technical path defined by INERA to optimize yields, improved seeds, fertilization, phytosanitary protection and PICS bags
- Credit finances 100% of input needs
- Guarantee
 - Savings as security with 10% of the loan
 - Joint surety for FBO members who have benefited from CIPA
- Interest: 1% / month
- Agreement with suppliers ensures the delivery of the necessary quantities of quality products, on time
- No subsidy
- Uses a group lending methodology to reach very small producers and women in particular
- Product supported by capacity building.



Results and lessons learned

- CIPA deployed in **4 financial cooperatives** on a **pilot** base. 1,390 loans in 2 years, 50% to women
- New methodologies introduced to improve access to finance, **eliminate guarantee requirements** and provide **proximity services**, while allowing the RCPB to meet its business objectives
- **High rate** of loan repayment (almost 100%)
- Improvement of loan officer **productivity** and increase of client **satisfaction**
- Partnership with the private sector which significantly improved smallholders' access to quality inputs, on time and near their production site
- Increase on planted areas, performance and production, incomes from the sale of agricultural production and household food security
- Access improved for **women** to products and services near their village. Best results for the cowpea value chain, mostly **managed by women**

- **Financing is essential** to the deployment of innovations, though **not enough**
- The **value chain approach** is a powerful methodology, but **coordination** of all actors within the value chain is essential
- Financial institutions and other private sector organizations must reach their **business targets**
- The credit product was appreciated by **women** with limited access to conventional credit, inputs and advisory services. Women liked the fact that these elements were offered **near their home**, keeping them from having to travel to access them
- **Key role of financial institutions** in coordinating and strengthening all actors



Thank you



Q&A

To ask a question, type it into the Q&A box on your screen

A stylized tree icon composed of several brown lines of varying lengths, representing branches or a field.

TOGETHER,

LET'S MAKE **AFRICA**
THE EPICENTER
OF A SUSTAINABLE
TRANSFORMATION
OF **FOOD SYSTEMS**



Jihane AJITI – Head of Strategy, Partnerships & Delivery





A CENTURY OF COMMITMENT TO A SUSTAINABLE PLANT NUTRITION & SUSTAINABLE TRANSFORMATION OF FOOD SYSTEMS

Feeding sustainably the earth
to feed the planet





AS AN AFRICAN COMPANY, OUR COMMITMENT FOR OUR CONTINENT IS NATURALLY STRONG AND AMBITIOUS

We are committed to the development of the African continent and to play a critical role as a **partner of Food Systems in Africa.**

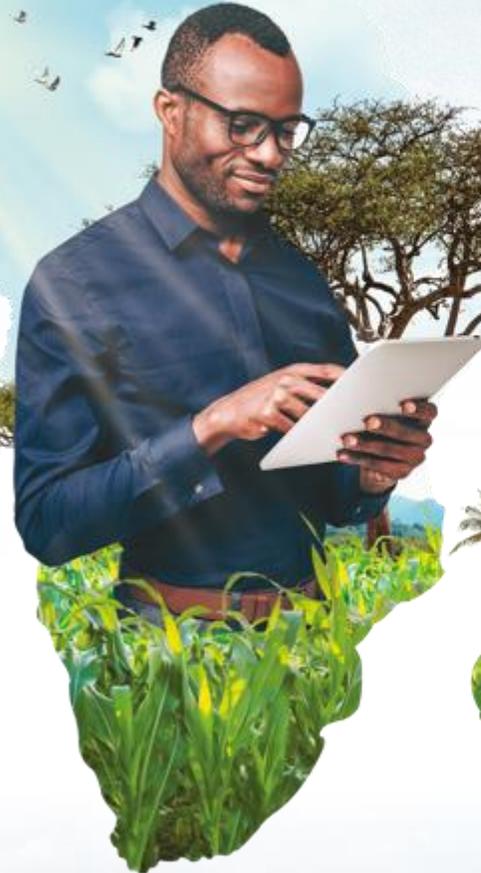
TO CREATE SUSTAINABLE IMPACT ON AFRICAN FOOD SYSTEMS

Our approach is



1
Innovation
& Science-based

We contribute to
sustainable market
transformation



2

Human
development
centered

We create a
sustainable impact
on local ecosystems



3

Partnership
driven

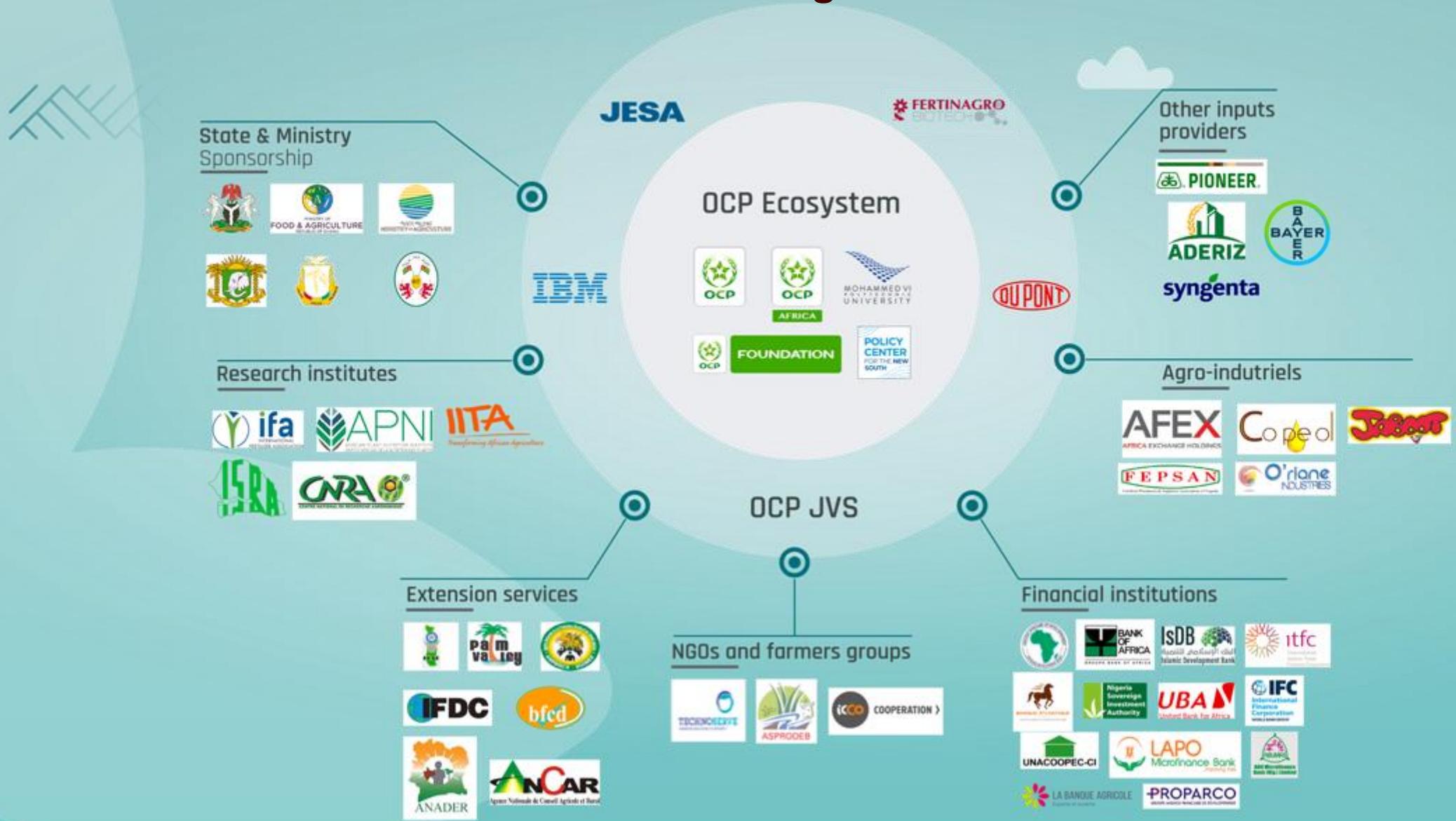
We build together a
common goal for Africa



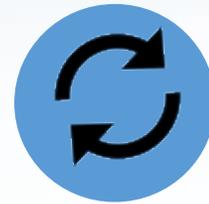


Our approach is Partnership-driven

OCP builds strong public-private partnerships with the major actors of the Agricultural sector



A COMPREHENSIVE AND HOLISTIC SOLUTION CENTERED AROUND SMALLHOLDER FARMER



**Securing a sustainable
increase in yields through :**

...

**But also an increase in income
thanks to linkage to the market**

Supply of agricultural inputs

Ag productivity and commercialization



OCP SCHOOL LAB : A SUCCESSFUL PARTNERSHIP BASED PROGRAM



2020 OCP SCHOOL LAB ACHIEVEMENTS

-  **#440,000** The number of SMH farmers benefiting from OSL
-  **# 100,000** The number of fertilizers recommendation reports
-  **# 90,000** The number of free soil testing provided at the farmer's gate
-  **+ 1,500** villages visited by OSL caravans since the beginning of the program
-  **+ 15** mobile laboratories travelling across Africa
-  **# 8 countries** : CIV, Senegal, Burkina Faso, Togo, Ghana, Nigeria, Kenya, Tanzania



OCP SCHOOL LAB PARTNERSHIP FRAMEWORK



State & Ministry Sponsorship

Mali, Kenya, Togo, Ghana, Guinée

Research Institute Agronomy expertise

CRAI, IPNI, IITA

Extension services Training- Soil collection- logistics

IITA, Ministry of Food & Agriculture (Eastern Region), ANADER, Gov Extension, Anproca

Mobile Lab provider Soil testing

SoilCares, CROPNUTS

OCP Partners

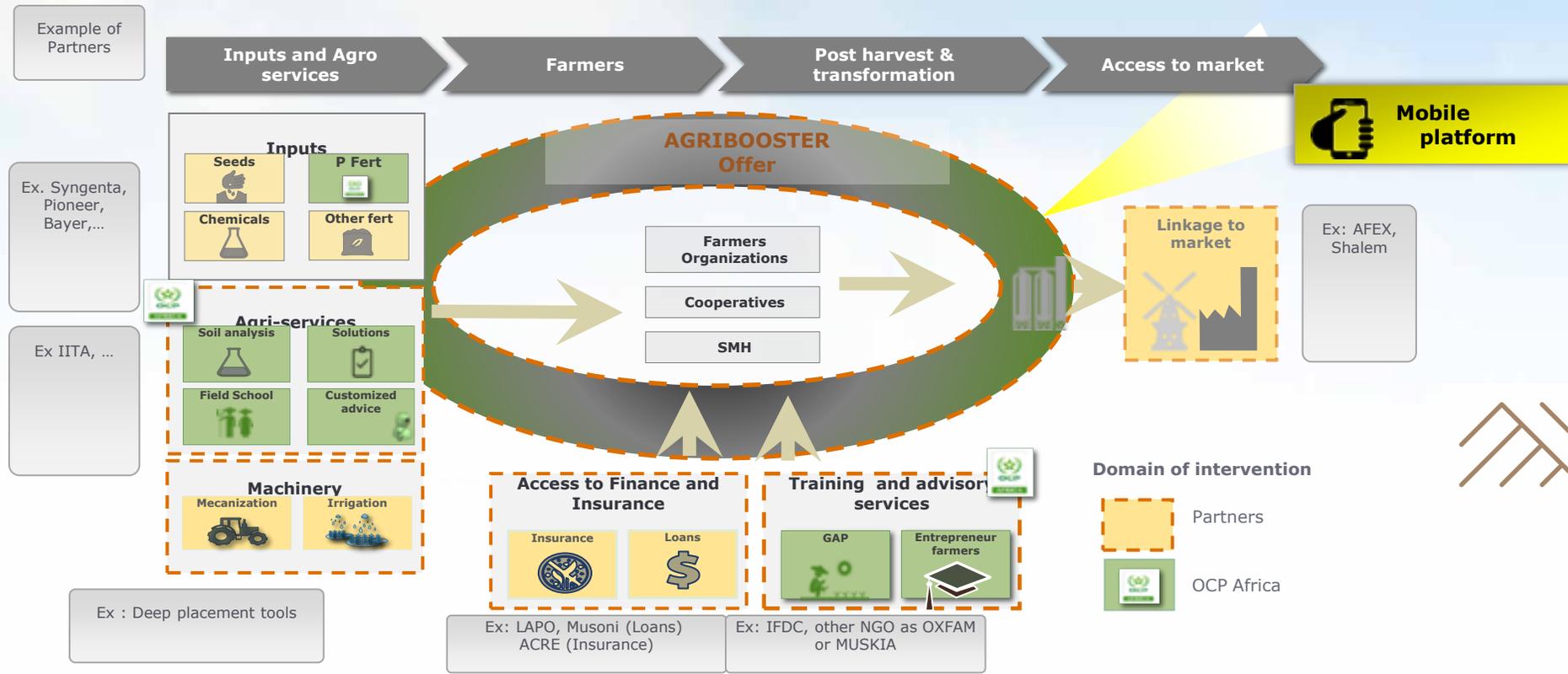
Mohammed VI Polytechnic University, OCP Foundation

Private partners Miscellinious

- Communication/event
- Transit and clearance
- HR agencies
- Local NGOs



AGRIBOOSTER: BUILDING-UP A COMPLETE ECOSYSTEM AROUND FARMERS TO BOOST THEIR DEVELOPMENT



A comprehensive and sustainable offer to farmers that is economically viable for all stakeholders ... based on a strong involvement of all value chain players



AGRIBOOSTER: LEVERAGING ON STRATEGIC PARTNERSHIPS TO BUILD-UP A FULL PACKAGE OF PRODUCT AND SERVICES FOR SMALLHOLDER FARMERS



Agribooster builds-up a complete ecosystem around farmers & provides them with support for every aspect of the agricultural value chain



AGRIBOOSTER: CONCRETE ACHIEVEMENTS



19% to 133%*



4 countries



Major crops



592 000

Total farmers reached by the program

Senegal



- 310 800
- ** Over 780 k\$
- Groundnut 88%
- Millet 63%
- 25 000 T

Nigeria



- 170 337 Shfs
- ** Over 556 k\$
- Maize 48%
- Rice 19%
- 35 090 T

CÔTE D'IVOIRE

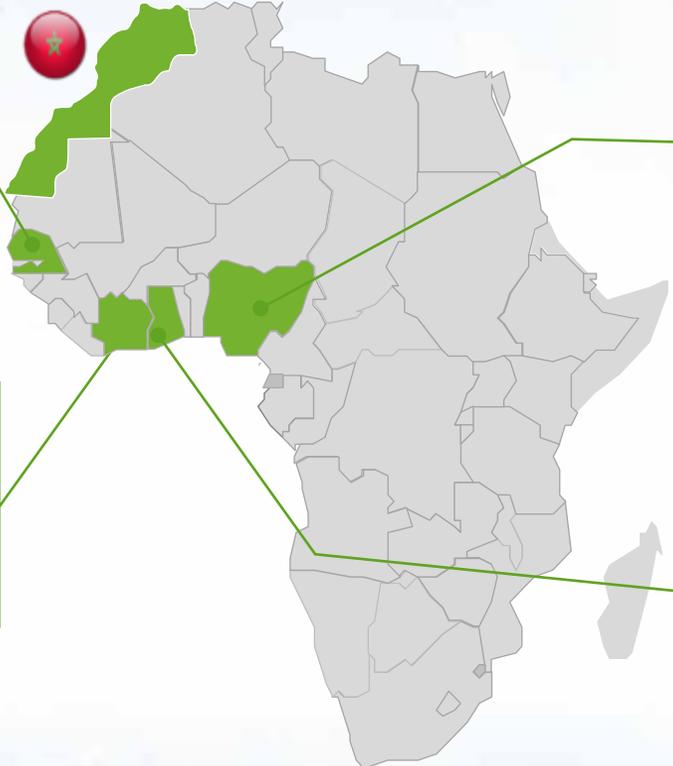


- 1 800
- ** \$ 150k
- Rice 133 %
- 300 T

Ghana



- 108 100
- NA
- Maize 100%
- Rice 67%
- 13 590 T



volume delivered

Crop cultivated

credit allocated

Farmers targeted

Yield increase

* Average yield increase based on 2019 results

** Credit allocated up to 2019

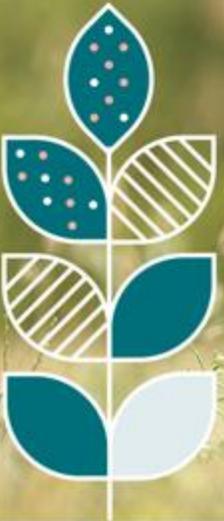


3%

CAGR increase
in Agriculture
Production and Yield



Decrease
of Africa's
Food
imports



**LET'S BUILD
TOGETHER
A COMMON
GOAL FOR OUR
CONTINENT**



Q&A

To ask a question, type it into the Q&A box on your screen



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4R Solution – Progress to Date

Clyde Graham

Executive Vice President | Fertilizer Canada



April 2019- January 2021

- 100 4R Demonstration sites established in Ethiopia and Ghana – Data on the demo plots will be available by end of February
- 4,000 farmers (47% women) and 300 community agriculture extension agents have been trained on 4R principles along with other agronomic practices
- 12 Regional Cooperatives formed
- 750 farmers received improved seed and fertilizers through the co-operatives
- 254 Village Savings and Loans Association have been formed with a total saving of GHS 481,488 (\$104,549)



April 2019- January 2021

In 2020, Two National Advisory Committees (NACs) have been formed in Ethiopia and Ghana **to engage key stakeholders of each target country in the 4R advocacy program.**

The committee members are representatives from:

- Government institutes such as Ministry of food and agriculture in Ghana
 - Co-operatives and women groups
 - NGOs
 - Private sector
 - Farmers association
 - Extension services
 - Retail and manufacturer
- Research and academic institution

Since their inception in November 2020, the NACs are working on five key areas

Challenge	Activity	Progress to date
Limited awareness on the concept of 4Rs by farmers, industry and extension	Promotion of awareness through information/education campaigns	Country team is participating in events, radio discussions and empowering Agricultural Extension Agents and Community Volunteer Agriculture Extension Agents on 4Rs
Difficulty in applying the right type of fertilizer into the soil	Supporting local fabricators to produce hand-held fertilizer applicators	Engaging fabricators to produce an application equipment which could best serve farmer's needs.
Too many organizations doing demonstration on fertilizer	Relevant ministry/policy to regulate all fertilizer application and recommendation across the country	Positive demo plots results to support the NAC push for 4R inclusion in the respective agriculture departments.
Negative perception of fertilizer use	<ul style="list-style-type: none"> - Sensitization - Dialogue - Demonstration - Video documentaries in local languages 	Results from demo plots have physically showed good yield results with the use of fertilizer, also there is repeated sensitization on radio discussions and workshops held on the benefits of the right use of fertilizers.
Limited resources by smallholder farmers to follow 4R practices/principles	<ul style="list-style-type: none"> More subsidies on other agro inputs Build capacity of farmers on access to finance 	Formation of cooperatives to build farmers capacity to access financial assistance and inputs

Stay Connected

Stay connected with us via our social media and website as we prepare for the second part of the #4RCanadaAfrica series

- All webinar materials (recording, presentatioos, Q/As, speaker bios etc.) are uploaded here: <https://4rsolution.org/4r-webinars/>
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