

INTERNATIONAL FARMER INNOVATION FAIR & CONFERENCE (IFIF&C) 2024

Theme: Two decades of promoting farmer-led participatory innovation development for enhanced climate change resilience, food and nutrition security and sustainable natural resource management.

Key issue: How to ensure that formal agricultural research and development (ARD) effectively integrates farmer-led joint research as a key approach in partnership with all legitimate stakeholders.



Participants in the International Farmer Innovation Fair & Conference held on 7–10 April 2024 at Kilimo Grand Resort – Farmers’ Conference Center, Kikuyu, Kenya (Photo: Janish Wettasinha)

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Acronyms

AFCIA	Adaptation Fund Climate Innovation Accelerator
ARD	Agricultural Research and Development
BUMA	<i>Bunyala Maendeleo</i>
CoP	Community of Practice
CPs	County Platforms
CRDD	Centre for Research and Development in Drylands
CSOs	Civil Society Organisations
ESA	Eastern and Southern Africa
FIF	Farmer Innovation Fair
GDP	Gross Domestic Product
IFIF&C	International Farmer Innovation Fair and Conference
ILRI	International Livestock Research Institute
ISGAP	Innovation Small Grant Aggregator Platform
IST	International Support Team
JOOUST	Jaramogi Oginga Odinga University of Science and Technology
KALRO	Kenya Agricultural and Livestock Research Organization
KENAFF	Kenya National Farmers' Federation
MSP	multistakeholder platform
NGOs	Non-Governmental Organisation
NSC	National Steering Committee
PID	Participatory Innovation Development
POG	Prolinnova Oversight Group
Prolinnova	Promoting local innovation in agroecology & natural resource management
RUDI	Rural Development Initiative
UNDP	United Nations Development Programme
YPARD	Young Professionals for Agricultural Research & Development
WCA	West and Central Africa

A. DAY 1: 8 APRIL 2024

I. WELCOME

Welcoming address by Bell Okello, Prolinnova–Kenya National Steering Committee Chair

Bell Okello, the chairperson of the Prolinnova–Kenya National Steering Committee and Director of ETC-EA Consulting, welcomed guests to the fair and commended the organising committee for a job well done. He emphasised that there can't be a farmer innovation fair without farmers and asked the farmers present to engage with each other as well as to encourage more people in their communities to innovate.



Bell Okello delivering the welcoming address; on right is Paul Jimmy Kouété, subregional coordinator for Prolinnova in West & Central Africa, who made the English-to-French translations (Photo: Janish Wettasinha)

II. SETTING THE SCENE

BACKGROUND/OVERVIEW OF PROLINNOVA by Chris Macoloo

[Summary of presentation](#) (see annex for full presentation)

Prolinnova is a Community of Practice (CoP) that promotes local innovation with the vision of a world where women and men farmers play decisive roles in innovation process in agroecology and natural resource management. The term “farmers” in this context includes crop growers, pastoralists and other livestock keepers, fishers, artisans, forest dwellers and others who depend on natural resources for their livelihoods. Prolinnova recognises indigenous knowledge on which the farmers base their innovations. Prolinnova wants to ensure that formal systems of agricultural research and development (ARD) recognise the ideas and innovations of small-scale farmers, based on indigenous knowledge accumulated

over generations and adapting to change. Prolinnova recognises what small-scale farmers do, enhancing their capacities to innovate, to adapt to change and to partner with formal researchers and agricultural development agents. Prolinnova aims to strengthen multistakeholder partnerships and break down the “silos” that exist between different stakeholders in ARD and has adopted the local innovation approach as the best way forward.

The CoP’s organisational structure includes the Prolinnova Oversight Group (POG), International Support Team (IST), Country Platforms (CPs) and National Steering Committees (NSCs) in these countries. The CPs are mainly in Africa and Asia, with local multistakeholder platforms (MSPs) in the action-learning sites. All CPs have a coordinator who is in charge of day-to-day running of Prolinnova affairs and who are knowledgeable about local innovation as an approach to ARD. Individuals or organisations can apply to be a member of Prolinnova or a CP. The main approach that is supported by Prolinnova is one in which farmer innovators take the lead in joint experimentation with other ARD stakeholders to co-create new knowledge and solutions.



Chris Macoloo addressing participants at the Farmer Innovation Fair (Photo: Janish Wettasinha)

Major achievements of the CoP include increase in number of CPs, South–South backstopping and resource mobilisation for supporting the work. Farmer Innovation Fairs (FIFs) are spaces in which farmers interact with each other, share their ideas and learn from each other. They learn about different innovations and try these out and adapt them to their specific environments. For example, an Ethiopian farmer picked up the idea from a Kenyan farmer who innovated in determining the sex of chicks by the shape of the eggs, and found this innovation to be effective to 90%. Similarly, farmer innovators in Prolinnova–India learned from a farmer innovator in Kenya about planting finger millet seedlings from a nursery (instead of direct sowing) as an adaptation to climate change.

Opportunities within the CoP currently include influencing ARD policy and institutionalising the farmer-led joint research (“Participatory Innovation Development” / PID) approach within ARD organisations, especially to be able to deal with changes resulting from climate change. Partners within the CoP are also addressing issues of intellectual property rights for local innovators, reviving the Andean platform and creating subregional groups within the Asian regional platform.

INTRODUCTION OF FIF PARTICIPANTS (see list of participants in annex)

Brigid Letty and Djibril Thiam facilitated the introduction session, which was done in country groups because of the large number of countries involved, each with its own group of participants:

1. Benin
2. Burkina Faso
3. Cameroon
4. Egypt
5. Ethiopia
6. Ghana
7. Kenya
8. Mali
9. Mozambique
10. Senegal
11. Somaliland
12. South Africa
13. Sri Lanka
14. Uganda

Participants from the countries included farmer innovators and CP coordinators and members, and partners from governmental and non-governmental organisations and the private sector affiliated to Prolinnova.

OBJECTIVES OF THE FARMER INNOVATION FAIRS (FIFs) by Chesha Wettasinha (Prolinnova IST)

Summary of presentation

The first FIF was held in Nepal in 2009 and brought together around 60 farmer innovators. FIFs are platforms for farmers to be recognised for their creativity, innovativeness and resilience. Farmer innovators also get to meet each other, share experiences and learn from each other within and across countries/continents. Other stakeholders who are involved in ARD also get to participate and meet innovators. The main objective of the FIFs is to ensure that farmer innovators have a safe space and podium to present their experiences, communicate with others and build their capacities in aspects of innovation.



Chesha Wettasinha, Prolinnova IST member, addressing the participants (Photo: Janish Wettansinha)

III. OFFICIAL OPENING CEREMONY

Opening speech by Halima Nenkari, representing the Director of the Department of Livestock Production (who had to decline due to other pressing duties)

“Ladies and Gentlemen,

Today, I am thrilled to join farmer innovators (greatest stakeholders of this event), actors in the agricultural research and development (ARD) space and other stakeholders in this very important International Farmer Innovation Fair and Conference 2024.

The event that begins today is very extraordinary in its kind as it seeks to not only celebrate small-scale farmers’ invaluable contributions in keeping the world well fed, but also to create a very unique space for peer-learning among innovators as well as sharing between the farmers and the ARD professionals.

The agriculture sector continues to play a critical role in the economies of many countries in the Global South. In Kenya, it accounts for 20% of GDP and employs 40% of the total population and more than 70% of the rural population.

Small-scale farmers and pastoralists do the majority of agricultural production activities. They play a vital and indispensable role in ensuring food security in countries in the Global South. According to FAO, about 2.5 billion people – more than a third of the world’s population – derives their living from the agricultural sector. In Africa and Asia, small-scale farmers produce

over 90% of the locally consumed food. Closer to home, small-scale farmers in Kenya account for 75% of the total agricultural output.

It is largely known that, for centuries, small-scale farmers and pastoralists came up with their own solutions to solve the day-to-day problems they encountered during their crop-farming and livestock-keeping activities. Through informal research, they often came up with local innovations, which helped them to strengthen their resilience against shocks and disasters.

Fellow actors in crop and livestock production,

Not so long ago when Covid-19 was ravaging the world, innovations and home-grown solutions became the proverbial stone that the builders rejected, providing the much-needed energy to keep life going.

Despite this, most formal ARD puts more emphasis on introduction of externally developed ideas and technologies to the farmers. Such ideas and technologies have often been found less effective for small-scale farmers and pastoralists. At the same time, informal research by small-scale farmers, their creativity and innovative capacities, has saved them for centuries, even before the advent of so-called formal research and development.

Indeed, one interesting thing about this event and its structure is the fact that it creates a suitable environment for the co-creation of knowledge between the small-scale farmers and the ARD professionals of diversified expertise.

This is a manifestation that small-scale farmers are recognised as co-creators of solutions/knowledge and not as mere recipients of knowledge that comes from outside. These solutions otherwise referred to as local innovations are definitely site-specific and are provoked by their daily challenges. Necessity is, for sure, the mother of innovation.

This approach is in line with the government's Bottom-up Transformation Agenda (BETA) - a holistic economic model. H.E the President is very determined in his aspirations and efforts to cause a turn-around in Kenya's economy.

I would like to take this opportunity to thank the organisers of this unique event, with the help all the stakeholders in ARD, and urge them to not relent in their support to the farmers' and pastoralists' local innovation development.

It gives me great pleasure to declare this event officially open.



Halima Nenkari from the Ministry of Agriculture delivering the opening speech on behalf of the Director of Livestock Production; on the right is Vincent Pesa for the English–French translation (Photo: Janish Wettasinha)

IV. EXHIBITION SESSION

The following is a compilation of the profiles of the innovators and the innovations they exhibited during the FIF. Each profile includes the name of the innovator, the issue that the innovation addressed and the current status of the innovation. It also includes a list of other stakeholders who were involved in the process, if any. The profiles are arranged by country in alphabetical order. The innovators from Kenya were the most numerous, because the FIF was held there.

BENIN



Innovator: **Sanni Guerra**
Site: Parakou, Benin
Innovation: Composite flours *Kpankpanou* and *Wagaru*
Issue addressed: Reducing malnutrition
Status: Documented, undergone PID and disseminated
Other stakeholders/partners: Prolinnova–Benin, NaviNut

BURKINA FASO



Innovator: Fofana Elie
Site: Prolinnova Burkina Faso
Innovation: Action research to create in-kind working capital to improve and develop family livestock farming
Issue addressed: Lack of capital to invest in farming
Status: Documented, undergone PID and disseminated
Other stakeholders/partners: Prolinnova–Burkina Faso, Diobass

CAMEROON



Innovator: Catherine Ngah
Site: Prolinnova Cameroon
Innovation: Use of red *Macabo* (*Xanthosoma* sp) leaves for healthy snail nutrition
Issue addressed: Improving snail yield affordably
Status: Documented undergone PID, disseminated
Other stakeholders/partners: Prolinnova–Cameroon

ETHIOPIA



Poster presenter: Yohannes GebreMichael
Site: Several sites in Ethiopia
Poster: Improved cooking stove (energy saving)
Issue addressed: Access to energy-saving practices in rural areas
Status: Documented, undergone PID, disseminated and commercialised
Other stakeholders/partners: Prolinnova–Ethiopia

GHANA



Innovator: Saadia Issifu
Site: Tamale, Northern Ghana
Innovation: Livestock feed made from local materials
Issue addressed: Poor access to livestock feed
Status: Documented, undergone PID and disseminated to small-scale mixed farmers
Other stakeholders/partners: Prolinnova–Ghana, ACDEP Ghana, NABOCADO, Ministry of Livestock

KENYA



Innovator: John Musembi

Site: Makueni, Eastern Kenya

Innovations: Organic pesticides; foliar feeds and fertilisers

Issues addressed: Excessive use of inorganic/chemical products, high costs of commercial products, inaccessibility to commercial plant protection and fertility-enhancing products

Status: Documentation and PID already done, not commercialised or standardised yet but used within the innovator's locality

Other stakeholders/partners: Community, Prolinnova–Kenya, KALRO, INADES Formation, Local MSP Makueni



Innovator: Charity Ndivo

Site: Makueni, Eastern Kenya

Innovations: Mini solar drier; vegetable preservation kit; bottle planter; turkey relay hatching; poultry feeder and drinker

Issues addressed: Reducing postharvest losses; adding value, low poultry production, recycling of plastic waste and banana plant fibre

Status: Documented, not commercialised or standardised yet, but is disseminated and already in use

Other stakeholders/partners: Prolinnova–Kenya, World Neighbors, KALRO, INADES Formation, Local MSP Makueni



Innovator: Joe Ouko

Site: Nyakach, Western Kenya

Innovation: Locally Formulated Dairy Goat Meal (LOFODA-G-Meal)

Issues addressed: Dry-season feeding, environmentally friendly use of local plant resources for dairy goat feeding, low productivity of dairy goats

Status: Documented, undergone PID and is currently going through the preparatory processes towards standardisation and commercialisation

Other stakeholders/partners: Prolinnova–Kenya, World Neighbors, KALRO, Ministry of Agriculture and Livestock Development, PELUM Kenya, NETFund, World Vision, UNDP-ISGAP, Jomo Kenyatta University of Agricultural Technology



Innovator: Jack Osida (DJakes)

Site: Nyando, Western Kenya

Innovation: Hybrid hive

Issues addressed: Cost of introduced hives; low productivity of local hives

Status: Documented, developed through Local Innovation Support Facility, disseminated within the locality

Other stakeholders/partners: Prolinnova–Kenya, World Neighbors, KALRO, Ministry of Agriculture



Innovator: Grace Musembi

Site: Makueni, Eastern Kenya

Innovation: Adding value to sorghum (sorghum pilau and beverage)

Issue addressed: Diversification of use of sorghum as food and beverage

Status: Documented and disseminated within the locality

Other stakeholders/partners: Prolinnova–Kenya, World Neighbors, Ministry of Agriculture, Local MSP Makueni



Innovator: Rebecca Dero
Site: Kisumu, Eastern Kenya
Innovation: Multi-storey garden irrigation kit
Issue addressed: Sustaining vegetable production through drought period to contribute to good household nutrition
Status: Documented, undergone PID and disseminated within the locality and shared beyond community
Other stakeholders/partners: Prolinnova–Kenya, World Neighbors, KALRO, Ministry of Agriculture, Local MSP Kisumu



Innovator: Halima Roba
Site: Marsabit, Northern Kenya
Innovation: Adding value to pawpaw and dried vegetables
Issue addressed: Malnutrition in young children
Status: Documented
Other stakeholders/partners: Prolinnova–Kenya, World Neighbors, NaviNut project, Center for Research and Development in Drylands (CRDD), FINN-HORACHA Women’s Group



Innovator: Eunice Ayieko
Site: Kisumu, Western Kenya
Innovation: Energy-saving stove
Issues addressed: Reducing use of firewood, reducing smoke, recycling old jiko parts
Status: Documented, undergone PID and disseminated
Other stakeholders/partners: Prolinnova–Kenya, World Neighbors, KALRO, RUDI, Ministry of Agriculture



Innovator: Dorice Amoke
Site: Kisumu, Western Kenya
Innovation: Improved poultry production (“the chicken that never dies”) social innovation
Issue addressed: Reducing mortality in poultry
Status: Documented, undergone PID and disseminated
Other stakeholders/partners: Prolinnova–Kenya, World Neighbors, KALRO, RUDI, Ministry of Agriculture



Innovator: Agnes Mumbua
Site: Makueni, Eastern Kenya
Innovation: Recycling glass using locally fabricated tools to make ornaments
Issues addressed: To improve income, reduce waste and provide school fees for orphaned girls
Status: Documented, disseminated and commercialised
Other stakeholders/partners: Prolinnova–Kenya, World Neighbors, KALRO, INADES Formation, Local MSP Makueni



Innovator: Priver Toiywa and Noah Lusaka
Site: Bungoma, Western, Kenya
Innovation: Improved upland production of arrowroots
Issue addressed: Increase potential for arrowroot production through innovative approaches, water efficiency and higher arrowroot yields
Status: Documented, disseminated
Other stakeholders/partners: Cultivet Technologies, Bungoma and outgrower farmers who are adapting the technology



Innovator: Milliane Aloo
Site: Busia, Western Kenya
Innovation: Adding value to pawpaw by making jam
Issues addressed: Pawpaw utilisation, decreasing wastage
Status: Documented
Other stakeholders/partners: Prolinnova–Kenya, World Neighbors, KALRO, Ministry of Agriculture, *Bunyala Maendeleo* (BUMA)



Innovator: Collins Chibole
Site: Laikipia
Innovations: Azhola feeds; Black Soldier flies for poultry; organic waste management; multipurpose vermiculture products; indigenous seed saving and preservation
Issue addressed: Improving food sovereignty in healthy and sustainable environments
Status: Documented
Other stakeholders/partners: Knowledge Hub for Organic Agriculture in Eastern Africa Project, PELUM Kenya



Innovator: Sarah Chiwe
Site: Marsabit, Northern Kenya
Innovation: Composite flours for infants, elderly persons and pregnant mothers
Issue addressed: Reducing malnutrition among these groups in the population
Status: Documented, disseminated and commercialised
Other stakeholders/partners: Prolinnova–Kenya, NaviNut, CRDD



Innovator: Frank Thioya
Site: Kilifi
Innovation: Fish cookies
Issue addressed: Diversification of fish products and income generation
Status: Documented and commercialised



Innovator: Omar Boru
Site: Marsabit, Northern Kenya
Innovation: Adding value through processing *Moringa olifera* leaves and seeds into powders
Issue addressed: Utilisation of *Moringa olifera*
Status: Documented and commercialised
Other stakeholders/partners: Prolinnova–Kenya, NaviNut, CRDD



Innovator: Faith Njogu
Site: Laikipia, Central Kenya
Innovation: Adding value to cactus by making wine, juice and jam; *Aloe vera* soap production; gooseberry jam; Acacia honey; tea herbs from moringa, resurrection plant (*Selaginella lepidophylla*) and Aloe flower tea.
Issue addressed: Adding value to orphaned crops
Status: Documented and commercialized
Other stakeholders/Partners: Pelum Kenya



Innovator: Wilfred Owala
Site: Busia, Western Kenya
Innovation: Making feed for poultry from its wastes; locally formulated fish feeds
Issue addressed: High costs of feed
Status: Documented
Other stakeholders/partners: Prolinnova–Kenya, World Neighbors, KALRO, Ministry of Agriculture, JOOUST



Innovator: Angeline Odero
Site: Busia, Western Kenya
Innovation: Organic termiticide
Issues addressed: Reduce costs of termite control; environmentally friendly method of termite control
Status: Documented
Stakeholders/partners: Prolinnova–Kenya, KALRO, Ministry of Agriculture, ETC Consulting



Innovator: Richard Odinga
Site: Busia, Western Kenya
Innovation: Desalinating land for crop production
Issue addressed: Increasing arable land through desalination
Status: Documented
Other stakeholders/partners: Prolinnova–Kenya, World Neighbors, KALRO, Ministry of Agriculture



Innovator: Charles Ang'ienda
Site: Kisumu, Western Kenya
Innovation: Improved cassava production
Issue addressed: Increasing cassava plant establishment and yields
Status: Documented and disseminated
Other stakeholders/partners: Prolinnova–Kenya, World Neighbors, KALRO, Ministry of Agriculture



Innovator: Faith Opundo
Site: Kisumu, Western Kenya
Innovation: Adding value to pumpkin
Issue addressed: Low utilisation of pumpkin for food
Status: Documented and disseminated
Other stakeholders/partners: Prolinnova–Kenya, World Neighbors, KALRO, Ministry of Agriculture



Innovator: Janice Audi, on behalf of YPARD
Poster: Processing food products through participatory innovation
Issue addressed: Sustainable and environmentally friendly food production, utilisation and processing
Other stakeholders/partners: YPARD



Innovator: Edwin Mitey and Immaculate Kiptoo
Site: Nandi/Bomet, Rift Valley
Innovation: Making sorghum silage (instead of maize silage)
Issue addressed: Maize lethal necrotic disease that affects maize
Status: Documented and disseminated
Other stakeholders/partners: ILRI



Innovator: Jane Nyangota
Site: Kisumu, Western Kenya
Innovation: Locally made moringa soap
Issue addressed: Moringa utilisation
Status: Documented, undergone PID, disseminated
Other stakeholders/partners: Prolinnova–Kenya, World Neighbors, KALRO, Ministry of Agriculture



Innovator: Imelda Nandakho
Site: Busia, Western Kenya
Innovation: Adding value to pawpaw by making fries
Issues addressed: High cost of potatoes; utilisation of available pawpaw
Status: Documented
Other stakeholders/partners: Prolinnova–Kenya, World Neighbors, KALRO, Ministry of Agriculture, BUMA

MALI



Innovator: Dembele Aminata
Site: Segou, Mali
Innovation: Control of tomato pest with *Physalis minima*
Issue addressed: Reducing cost of pest control in tomato using locally available and environmentally friendly materials
Status: Documented, undergone PID and disseminated
Other stakeholders/partners: Prolinnova–Mali, PROFEIS Mali

MOZAMBIQUE



Innovator: Veronica Siteo
Site: Prolinnova–Mozambique
Innovation: Woven-grass vessels for seedling nurseries (ecological grass pots)
Issue addressed: Reducing dependence on plastic seedling pots by using environmentally friendly materials
Status: Documented and disseminated
Other stakeholders/partners: Prolinnova–Mozambique, Tchemulane Association of Guemulene

SENEGAL



Innovator: Diallo Balla, on behalf of Cooperative des marachers de Ngane Alassane
Site: Ngane Alassane, Central Senegal
Innovation: Using basins to desalinate water for horticultural production
Issue addressed: Increase access to water for irrigating vegetable plots in the Sahel
Other stakeholders/partners: Prolinnova–Senegal, AgriBio Services

SOUTH AFRICA



Innovator: Gladys Mathabatha on behalf of Tjiane Farmers
Site: Ga-Mphahlele, Limpopo, South Africa
Innovation: Treating livestock wounds using local herbs (social innovation)
Issues addressed: High cost of and poor access to veterinary drugs
Status: Documented, undergone PID and disseminated
Other stakeholders/partners: Prolinnova–South Africa, University of Limpopo, Limpopo Department of Agriculture and Rural Development, Institute for Natural Resources

UGANDA



Innovator: Alex Atuhaire & Doreen Namaya,

Site: Mbarara, Western Uganda

Innovation: Banana micro-propagation business model

Issue addressed: Lack of access to good-quality and sufficient banana planting material

Status: Documented, disseminated

Other stakeholders/partners: Prolinnova–Uganda, Uganda National Farmers' Federation, Mbarara District Farmers Association

B. DAY 2: 9 APRIL 2024

I. RECAP OF DAY 1

Lessons from Day 1

1. Display of trust and confidence by innovators (Yohannes, Ethiopia)
2. The learning from every innovation should be taken for adaptation to other countries. Africa is going to be the best in innovations (Joe Ouko, Kenya)
3. African farmers have a common problem; they have everything but fail to exploit the opportunities; farmers across Africa are patriotic in their day-to-day affairs (Omar, Kenya)
4. You need no money to think; Africa has solutions to its problems (Thioya, Kenya)
5. We had an opportunity of learning from all innovations and will take back the learning home; saw solutions presented by the innovators to their problems (Fatima Idris, Egypt)
6. The African farmer innovators are rediscovering the old values and this leads to sustainable solutions to our problems, instead of taking pride in technologies they cannot afford or access (Fofana, Burkina Faso)
7. Women showcasing innovations in different fields including livestock, crop and other areas; the innovations are opportunities for development in agriculture (Aminata, Mali).

II. KEYNOTE SPEECH: THE IMPORTANCE OF GENDER IN INSTITUTIONALISATION by Susan Kaaria (Director, African Women in Agricultural Research & Development, AWARD, Kenya)

Summary of presentation

About AWARD

AWARD was founded in 2008 as a career-development fellowship programme, with the goal of building the capacity of women in leadership in ARD. In the last 15 years of its existence, it has had fellowship programmes focusing on leadership, mentorship and science skills and increasing visibility and access networks for 1,872 fellows from 460 institutions in 26 countries.

Gender in agri-food systems

Women continue to play a key role in agri-food systems, which are a key source of livelihoods for them and their households. However, inequalities and barriers still exist mostly against the women. There is need to recognise the need to remove the barriers and obstacles to resources for women.

Gender matters in local innovation and Participatory Innovation Development (PID)

Women and men have access to different resources, select different technology options and prioritise different enterprises. There is need to talk to both men and women, and prioritise different enterprises according to their needs. It is important to hold conversations with communities and households regarding the value of considering gender in farming systems.

Fostering gender-responsive local innovation and PID processes

This involves the following actions:

1. Conducting a community-level gender analysis
2. Integrating gender in the various stages of the PID process
3. Applying gender transformative approaches such as Gender Action Learning Systems (GALS), Social Analysis and Action (SAA) and Journeys to Transformation
4. Enhancing women's participation in leadership
5. Strengthening capacity to integrate gender in ARD organisations.



Susan Kaaria, Director of AWARD, making her keynote presentation (Photo: Janish Wettasinha)

III. FIRST PANEL DISCUSSION: PERSPECTIVES REGARDING RECOGNISING AND SUPPORTING FARMER INNOVATION AND FARMER-LED EXPERIMENTATION.

Sanni Guera – Farmer innovator, Benin

The project enabled women to improve their product through packaging. Marketing is a challenge, as exhibitions and fairs are the only platform they have to display their wares. They would want to make the product more available and accessible.

Naomi Zaato – Ministry of Agriculture, Ghana

Farmers are mostly seen as technology adopters as opposed to creators as they normally have research pushed down to them. Our mindset has changed to seeing farmers as innovators of techniques that are cheap and accessible to them. Capacity building in PID process, implementation and documentation has enhanced and enabled sharing. Women are being supported and, as a result, are being empowered both socially and financially.

Charity Ndivo – Farmer innovator, Kenya

Farmers lose produce especially postharvest; hence, she came up with a solar drier to minimise harvest loss. This ensures that on- and off-season, crops are available. An example of value addition is in *sorghum*, which has numerous nutritional values. She came up with a multipurpose brooder to minimise the contamination of feed and water given to chicks, thus extending their lifespan. Innovation has enabled her to share her knowledge with other farmers and has given her exposure to other innovations from other farmers. However, there is a need for more awareness raising, as most families do not know that the work they are currently doing on their farms are innovations, as well as a need to give farmers a stipend to be able to explore and innovate more.

Martha Opondo – KALRO, Kenya

She interacts mainly in supporting innovators. The more innovators are supported, the more they innovate, either different innovations or around the first innovation. Sense of self-help and self-determination that comes from recognising innovators has seen personal growth not just for the innovations, but for the innovators is well. Supporting, recognising and documenting innovation also brings out a lot of knowledge that is hidden or on the verge of getting lost. Most local innovations are specific to the problem being targeted. PID has spread and is becoming more or less a movement in areas where it is being applied, as it is being integrated, for example in agroecology, as we are operating in a climate-change era and a rapidly changing environment. Farmers are able to explore local resources to solve problems they face without much external support.

Abdou Thiam – CP Coordinator, Senegal

In Prolinnova–Senegal, the PID process starts with local sensitisation. At first, the community could not understand the concepts but, with time, they recognised and started to support the concepts. In institutionalisation, universities are being engaged, for example, the fourth year in the Department of Agronomy supports the processes with students signing up for the internship programme with farmer innovators and experimenters. Networking is going on in different parts of the country as well as lobbying with authorities, and the concepts have been

widely accepted, as farmers from the north and the south have a network that can be used as a force with researchers helping to have PID processes and concepts acceptable and used.

Magdalene Alukhava – Kenya National Farmers’ Federation (KENAFF)

West Kenya is predominantly a maize-growing area. Through the KENAFF programmes, farmers were introduced to growing soybeans, which they sold to off-takers. When the production increased and the number of off-takers did not increase at the same rate, the farmers decided to venture into value-addition innovations, e.g. making cookies, soy sauce, flour etc. Most of the farmers participating in the programme were women; this ended up improving the income and livelihood. The benefits from adding value to soybean saw an increased area being planted. From a technological point, if service providers do not come up with solutions that address farmers’ problems, this leads to wastage of resources and funds being spent on agri-tech solutions that are not useful to the farmers, as they were not consulted in the solution-building process. Hence, the need for farmer-led solutions, where they are engaged right from problem identification, through solution development and in dissemination. Solutions being designed should also be gender inclusive, as men and women have different priorities and preferences. There is a Kilimo App that highlights what farmers are doing in terms of innovation, thus enhancing the sharing of knowledge. It also reaches out to value-chain actors and institutions to ensure that the information/research reaches farmers.

Hellen Mang’oi – INADES Formation Kenya

Recognising farmer-led innovations as solutions in the space of climate change and food security has helped more farmers innovate. Most farmers do not recognise innovations at first, thinking that they are resource-poor. INADES, which has been deliberate in incorporating innovations in their programmes, identifies, recognises and brings innovators on board to realise that the innovations they come up with are solving problems and can be taken up and adopted by others. Platforms like exhibitions, field days and fairs where farmers can share their innovations have enabled them to develop their innovations as well as enhancing peer-to-peer learning, which makes implementation easier. Innovators are also invited by organisations to reach out to other farmers being targeted. The government is also recognising innovations and calls upon farmers to showcase what they have, e.g. during the Madaraka Day celebrations.

Yohannes GebreMichael – Addis Ababa University, Ethiopia

Innovators innovate every day and every time. The concept around innovation is dynamic and diverse; hence, experts should not be tied up in timelines as processes consume time and enough time should be given when carrying out projects. In the absence of experts, researchers or government, farmers are still innovating and coming up with solutions to problems they face in their environments: excess water, absence of water, pest infestation etc. Recognising and supporting farmers is a longer journey that goes beyond a project cycle; the impact from the outcome of projects is felt way after completion, as this is when farmers implement. The two important things in innovation are the software and the hardware:

- Software – the invisible internal aspects of the farmers: values, identities etc
- Hardware – the outcomes of processes: innovations.

Innovators also need to be protected through intellectual property rights; we cannot expect them to share all their knowledge. It is good to create an enabling environment for the innovator farmers so that they can experiment and innovate to solve their own problems.

Q&A and comments

- Farmers are not only consumers of innovations but also the producers. There is also need to be aware of the implications of innovations as well as to learn from each other – **Joe**
- To Sanni and Abou, about sharing innovations:
 - ✓ **Sanni** – The packaging to prolong shelf-life and improve the nutritional value of their product
 - ✓ **Abdou** – Farmers came up with a way of growing vegetables in salty water conditions; they would trap rain in basins, which would be stored for 24 hours. The heavy elements would settle at the bottom of the basins, thus making the water usable as it reduces the salinity.
- Standardisation (for innovations to meet the refined product stage) and copyright issues (innovations are open)
 - ✓ Under different environmental conditions, we cannot expect a standard solution.
 - ✓ On intellectual property rights, most policies that exist are not functional as they are outdated – **Yohannes**
 - ✓ Some PID processes support standardisation, for instance, in nutrient analysis; LAFODA Feed has gone through analysis based on the Kenya Bureau of Standards (KEBS). It is important to note that standardisation is innovation-specific based on the direction the innovator wants to take; to commercialise an innovation, it has to meet the standards the market requires of it.
 - ✓ On copyright: copyleft sharing is encouraged. Several innovations are “discovered” and documented after they have already been shared and are being practised by other farmers – **Martha**
 - ✓ In cases where innovators wish not to expose their innovations, it is respected.
- Farmers should be given ample time to express concerns and ask questions, as fairs are the only time to fully exhaust concerns – **Umar**
- A group for each area should be created to make it easier for farmers to engage – **Yohannes**
- Branding is part of giving rights and a sense of ownership to producers. This arises from PID processes, which also depends on the desires of the innovators and which direction they want innovations to take – **Martha**
- The average age of farmers in Kenya is 60 years. How is youth inclusion ensured for long-lasting transformation of innovations? – **Janice Audi**
 - ✓ There is a youth council at KENAFF that has representation of young people from ward to national level so that they can articulate issues affecting them. In the KENAFF Young Program, more youths are being encouraged to join agricultural ventures and this is ensured by making agriculture attractive to them by using technology, e.g. the Kilomo

App. Farmer-to-farmer exchange visits are also being organised both locally and internationally – **Magdalene**

- ✓ The internalisation and processes used (software) should be recognised and not just the innovation (output) – **Righa**
- ✓ Experts think in two dimensions, while farmers/innovators think in four dimensions; there is need to know more about the farmer in order to find a common ground – **Yohannes**
- ✓ It is the responsibility of the innovator and all actors to show youth the opportunities that are available in the different value chains. Individual innovators have a duty and responsibility to pass on knowledge to his/her children and other young people to ensure that the know-how isn't lost and that improvements can be made to innovations – **Daudi**
- ✓ In Ghana, whenever there are exercises being carried out to identify innovations, many young people are always present. On such occasions, young people come up with ideas and innovations they would like to pursue, which is greatly encouraged – **Naomi**



Panellists in 1st discussion (left to right): Magdalene Alukhava, (KENAFF, Kenya), Martha Opondo (KALRO, Kenya), Abdou Thiam (Prolinnova–Senegal Coordinator), Charity Ndivo (farmer innovator, Kenya), Yohannes GebreMichael (Addis Ababa University, Ethiopia), Naomi Zaato (Ministry of Agriculture, Ghana), Sanni Guera (farmer innovator, Benin), Hellen Mang'oi (INADES Formation Kenya) (Photo: Janish Wettasinha)

IV. SECOND PANEL DISCUSSION: HOW TO ENSURE THAT FORMAL ARD EFFECTIVELY INTEGRATES FARMER-LED JOINT RESEARCH AS A KEY APPROACH IN PARTNERSHIP WITH ALL LEGITIMATE STAKEHOLDERS

Chrilukivian Wasike (Maseno University): The university is already running a programme where some of the farmer innovations are informing the research process and the sharing is ongoing, e.g. use of rumen extracts to make silage. The results have influenced revision of the curriculum in animal sciences

Nancy Chege (Machakos University): Mutual respect and recognition between farmers and researchers is important. Research should be driven by the needs of the farmer. Importance of practicability, capacity building, inclusive platforms for knowledge and experience exchange. Sustainable practices. Policy advocacy and support. Long-term engagement to implement and scale up findings. Diverse participation across intersectionality. Allocate resources, financial and human to support farmer-led research initiatives. Impact assessment.

Daudi Ssentongo (Prolinnova–Uganda, Uganda Farmers Federation): Need to be able to mobilise resources to support the approach; we want to avoid donor influence. Formal research is dominated by national and government donors, who determine where the money goes. In farmer-led research, how do we convince the owners of the money to fund the farmers? How to harmonise the Intellectual property issues and the financiers? It requires institutionalisation and alignment of the legal and regulatory framework. Need to advocate for a harmonised framework and recognise that institutionalisation is slow and requires continuous engagement.

Mahama Sabratu (Prolinnova–Ghana, WCA): Farmer-led research is to improve the farmers' livelihood and also find out how the farmers use the local resources. It is becoming an accepted part of ARD, starting with the exploration of the opportunities. Both the farmers and the other ARD actors have to recognise the farmers and appreciate their potential to tackle their constraints, which gives them confidence to take up the opportunities. ARD actors need to integrate the approach into the relevant platforms. When innovators are recognised, they own what they are doing and do it with zeal.

Matilda Ouma (Jaramogi Oginga Odinga University of Science and Technology/JOOUST, Kenya): We need to recognise who they are, where they are and to integrate them into the university programmes and community-outreach projects. Through a project supporting use of insects as food and feed, there has been outreach and many have embraced the raising and use of insects as food and feed. A farmer is raising the insects and is reaching out to many other farmers and there is a platform for knowledge co-creation and commercialisation.

Veronica Siote (Prolinnova–Mozambique): We receive agricultural extension officers that help us plant trees; they mostly use plastic potting materials. These leave a lot of plastic waste. Sustainability was a problem. So the group found a way of using biodegradable materials: organic waste. The innovation is environmentally friendly and these grass-woven containers for seedling are used whole during tree planting; hence, no waste.

Rosinah Mbenya (PELUM Kenya): We are socialising issues of innovation and putting together groups of farmers. They are not just recipients but co-creators, creating new knowledge within the groups. An example is the innovation around tephrosia, where we gave farmers space to adapt it to their own context. It started as a bio-antiparasite but is now used in brooding for chickens, among other uses. Give farmers an opportunity to socialise the innovations and not do it alone, to give space for new knowledge and more innovations. Documentation and scaling up are important: in the PELUM network, work has increased on biofertilisers post-Covid and during the Ukraine war. The innovations are documented and showcased to others.

Richard Chuene (Prolinnova–South Africa, Limpopo Dept of Agriculture: In a case of female farmers who were using plants to control pests, there was a misunderstanding of the concepts of Prolinnova. There was a member of the group who was not paying her dues to the leaders. The leaders decided not to work with her and the members were adamant about the payments and this fighting discouraged the Prolinnova platform but eventually they resolved the issue and the work went on.



Panelists in 2nd discussion (left to right): Nancy Chege (Machakos University, Kenya), Rosinah Mbenya (PELUM Uganda), Veronica Siote (innovator, Mozambique), Chrilukovian Waiske (Maseno University, Kenya), Diakit  Bourama Prolinnova Burkina Faso), Daudi Ssentongo (Uganda Farmers Federation), Matilda Ouma (JOOUST, Kenya), Mahama Sabratu (Ghana), Richard Chuene (Limpopo Dept of Agriculture, South Africa) (Photo: Janish Wettasinha)

V. GROUP DISCUSSION (based on issues emerging form panel discussions)

Group 1: How do we standardise, commercialise and market the products of local innovation and PID?

1. Establish simple experimentation protocols that include the ingredients or materials used and the quantities
2. Conduct experiments to validate the local innovations/ideas
3. Provide evidence for the local innovation to facilitate commercialisation
4. Emphasise the evidence supporting the innovations for purposes of influencing policy-/decision-makers
5. Conduct evaluations to demonstrate the impact of the innovation based on the challenges it targets to solve.

Group 2: How do we protect Intellectual Property Rights (IPR) of local innovations and the Innovators? Will protection carry the risk of exclusion?

1. Facilitate application of trade marks, patents and copyrights
2. Encourage continued innovation to improve on the innovations
3. Compile evidence for innovations
4. Publish Innovations
5. Keep innovations secret until they are protected.

Exclusion is beneficial to the innovator as it provides incentives for the patent holder to undertake further research and development.

Group 3: How do we create an enabling environment within communities to continue the PID process (capacity, policy, financial aspects)

1. Capacity strengthening: Enhance farmers' skills and knowledge continuously to perform efficiently and effectively through training, exchange visits and farmer schools' establishment.
2. Financial support and linkage through: village savings and loan schemes, government grants, proposals for funding and private-sector linkages
3. Advocate and lobby for favourable policies that promote local innovators: involving government in all farming processes and engaging institutions such as KEBS and the National Environmental Management Authority and related bodies in other CPs as well at the grassroots level
4. Strengthen networks to enable farmers to source and receive information on all aspects of agricultural value chains, i.e. production, marketing, pricing.
5. Ensure good governance: build institutional transparency and accountability.

Group 4: How do we form or support formation of a regional/national innovators' networks for purposes of advocating for integrating PID into ARD organisations?

1. Build confidence in local innovation
2. Establish/form physical and virtual platforms
3. Create linkages among the local innovators
4. Demonstrate the economic value of local innovation
5. Ensure structures are adapted to the local context
6. Set up networks (of innovators).

Group 5: How do we support farmer communities to be self-supporting in continuing with local innovation and PID processes (without or with limited external support)

1. Establish local revolving funds
2. Provide training in PID
3. Establish strong and dynamic innovator groups
4. Make linkages with other relevant stakeholders
5. Lobby for policy framework that is in favour of local innovation and PID processes

Group 6: How do we creatively engage ARD stakeholders in PID in the process of institutionalising it?

1. Stakeholders in this process include: innovators, local leaders, government sectors/ ministries, research organisations, universities, training Institutions, relevant NGOs and community-based organisations, farmer organisations, cultural/religious institutions, media, artists.
2. Process of creative engagement:
 - Intentional stakeholder mapping and profiling (mandate, role, interest, value to the specific local innovations)
 - Creating knowledge-sharing platforms, being sensitive to language and minding relevance to stakeholders
 - Engaging in curriculum development at all levels of education
 - Creating a forum to protect innovation
 - Include the use of local language during implementation
 - Recognition of ownership, knowledge, publication and provision of incentives.

Group 7: How do we assess the impact of the local innovation/PID approach at different levels (community and institutional)?

1. Assess sustainability and continued use in the community
2. Assess scalability: how many farmers are practising and benefitting from LI/PID
3. Assess the level of socio-economic transformation arising from LI/PID
4. Assess the number of approaches integrated into formal ARD institutional level
5. Assess the level of contribution of LI/PID to climate-change resilience, adaptation and mitigation.

C. DAY 3: 10 April 2024

I. RECAP: LESSONS FROM DAY 2

1. Richard: The need to note that man and women have different preferences; this needs to be taken into consideration.
2. Thabo: It is important to take gender equality seriously; women are still left behind. The emphasis was on the products and the value that women's products are given compared to those of men.
3. Yohannes: Underlining the importance of finetuning technology at all levels to conform to the heterogeneity of our communities.
4. Yohannes: The software: who is making decisions is the ultimate goal of having a sustainable innovation, who is the innovation targeting?
5. Muia: Give women space in innovation; women have a time burden and innovations should target them. This was especially established during the Covid-19 period.
6. Ashifu: Talked about challenging socio-cultural norms, behavioural change
7. Siaka: Focus on issues regarding land rights and access
8. Diakit : The need for having sustainable innovations; most innovators are older and therefore the importance of engaging youth; disseminate the knowledge to the younger age group.

9. Joe: Learning about gender; naturally women have the ability to innovate and should be encouraged. The women are already doing more in innovation and should be encouraged to do still more in order to improve livelihoods.
10. Sarah: Women play a major role in innovation and should be involved in all stages of PID.
11. Toywa: Innovations are end production and innovation is the process; innovativeness is the innate process. How do we trigger innovativeness in our community?
12. Francis: Need to consider women in rural areas; women in rural areas are lacking Internet; this needs to be improved.
13. Alex: Women are more sensitive to food security: food first and income later. Women choose income and food but men focus on income. You need to be intentional with integrating gender and do a thorough gender analysis first and empower women.

II. VIRTUAL EXHIBITION FROM NEPAL

https://drive.google.com/file/d/1RAvB-ZCZ69Sb2vookVb1skEqqMwaK94T/view?usp=drive_link

Chitwal ecological innovations by Chandra Prasad Adhikari

1. **Compost-making structure:** Prolinnova–Nepal provided incentives for developing innovations and he improved his structure for making compost. Visitors to his farm noticed his innovation and it was taken up by the Agriculture and Forestry University, and others too copied it.
2. **Vermicompost farming:** Initially done in a structure that was attacked by mongoose and decided to build it inside water, collected water from rooftop harvesting and used it to rear fish and the water for irrigation. No support received yet for this innovation but awarded best innovator at a Prolinnova exhibition. The flow to observe the innovation is high and people like it but no-one has adopted it yet.
3. **Rainwater harvesting** to reduced splash from rainwater, made a tank and raise tilapia in it; the tank is above ground and the water is also used for irrigation because it is fertile.
4. **Cage drier** to reduce losses after losing mustard while drying. Made out of bamboo and netting. Produces better quality and clean product and reduces losses from birds and goats and other animals.

Chandra concludes that local innovation occurs due to difficulties spontaneously but should be taken seriously, studied and disseminated. Interest should be created in young students' mind so they can innovate and organisations should support this. This innovator gets many visits from different organisations. The innovator has many innovations but has mostly done this without support. He shares freely the innovations and advocates for recognition of innovators.

Innovators from Kerala

https://drive.google.com/file/d/1RAvB-ZCZ69Sb2vookVb1skEqqMwaK94T/view?usp=drive_link

Jose Chacko is a small-scale farmer who produces seedlings through grafting and budding and does handicrafts. His innovation is a manual pepper plucker called “*Jos plucker*” to make plucking pepper easier and reduce accidents from falling while harvesting. It is simple to assemble and has no bolts or nuts. It took four years to get to the right design to ensure that it harvests right. Social media influencers advertise these innovations and benefit, but the innovators do not benefit. India has a high penetration of mobile phones, and there is potential of people using this to get money.

Joshy Joseph Revov developed his multipurpose machine during the Covid period when organic farming gained importance. It was to improve the process of making organic fertilisers. It is currently used for organic waste management, grinding food (e.g. arrowroots, coconut) and feed. He has received several awards for the innovation and has displayed it in several exhibitions. He has not received any support towards his innovation but has also not followed up on the schemes supporting innovators. The innovator feels that authorities should reach out to innovators. Formal-sector actors can help in schemes, information, marketing and dissemination since the innovations are useful to farmers. The innovator has been able to improve the design and used it for several purposes by changing the cutting/grinding parts.

https://drive.google.com/file/d/1RAvB-ZCZ69Sb2vookVb1skEqgMwak94T/view?usp=drive_link;

Lessons from the virtual exhibitions:

1. The videos are made by fellow farmer innovators.
2. The readiness of the innovators to share and train the other small-scale farmers in the innovations.
3. The resourcefulness of innovators and the pro-activeness in assisting other farmers. There is need to reduce dependence on donor funding.

III. KEYNOTE SPEECH: NETWORKING AND FINANCING OF LOCALLY LED ADAPTATION by Monica Borrero, Programme Manager, UNDP Adaptation Fund Climate Innovation Accelerator (AFCIA/ISGAP)

Summary of presentation (see annex for full presentation and biosketch)

AFCIA’s focus has been on:

Local empowerment

- Support local actors through a whole-of-society approach exercising their agency through collective action for effective governance, advocacy and participation

Resilience

- Support local actors in building the socio-ecological resilience and productivity of their rural and urban landscapes

Investment

- Transform financial and funding flows to local actors to accelerate and sustain collective action by local government, entrepreneurs and civil society.

AFCIA works through the Adaptation Innovation Marketplace (AIM), which is a flexible mechanism for actors to access funding for supporting local adaptation to climate change. The overall objective is to support development, diffusion and building evidence of innovative

adaptation practices, tools and technologies in developing countries. Key stakeholders and partnerships have been national governments, private-sector entities; international financial institutions, international organisations, philanthropic organisations, academic and research institutions, and indigenous and local community representatives. Other strategies include diversification of funding models, cross-sector collaboration, impact measurement and reporting, sustainable finance ecosystems and tech-driven solutions.



Monica Borrero (UNDP AFCIA/ISGAP) during her virtual presentation (Photo: Janish Wettasinha)

Question: Are there other opportunities for funding open?

Answer: We are currently focusing on additional grants for on-going projects.

Question: Calls are mainly in English, what about non-English speakers?

Answer: We receive proposals in English. In the next call, AFCIA will work more closely with local actors and get an opportunity to have people who can understand proposals in other languages.

Question: In the process of proposal writing, does the organisation consider the local initiative?

Answer: It is supporting locally led initiatives; this is an important factor to demonstrate how solutions are co-created locally. Also, indigenous knowledge and potential for scaling up.

Question: Does funding go according to scale or is it uniform?

Answer: There are grants for 60,000 dollars and 125,000 dollars. The applicants choose and it depends on what funding level they choose and they were given what they request if successful.

Question: Are the grants going to one innovator or several innovators?

Answer: The grants contracts are only signed by the NGO or the CSO who co-created the proposal, not directly with the innovators. The organisation then uses stakeholder engagement. Prolinnova–Kenya can share what happened with the ISGAP Grant.

Question: Can students who are innovators also be funded to support training?

Answer: Not under this programme, because the target is NGOs and CSOs but there could be UNDP programmes that look at supporting youth and youth start-ups and internship and fellowship programmes.

IV. POSTER SESSION / TEA BREAK

The posters presented were as tabulated below:

No.	Title of the poster	Author / Country
1.	Farmer-led approach for scaling climate change adaptation in Kenya's smallholder dairy systems	Edwin Mitey / Kenya
2.	Upland arrowroots (less water, double yields)	Noah Lusaka and Priver Toywa / Kenya
3.	Integrating PID for sustainable agriculture: insights from Young Professionals for Agricultural Research & Development (YPARD)	Janice Achieng / Kenya
4.	Transitioning into the future: rural women as incubator of innovations	Yohannes GebreMichael / Ethiopia

V. OVERVIEW OF INSTITUTIONALISATION OF FARMER-LED RESEARCH (PARTICIPATORY INNOVATION DEVELOPMENT) by Chesha Wettasinha (Prolinnova IST)

Summary (full presentation annexed)

Institutionalisation is the process through which new ideas are introduced, accepted, used by individuals and organisations, and become part of the norm. It involves transformation of attitudes norms, behaviours and organisational structures so that the idea becomes part of the organisation.

The presentation highlighted examples of ARD organisations that could be part of PID institutionalisation, frameworks for understanding PID institutionalisation, how to scale PID up and out, and resources on institutionalisation. It also gave the example of the Dutch-funded PHME (Promoting Multifunctional Household Environments) project in Sri Lanka on how Participatory Technology Development (PTD) was institutionalised by training the staff members, supporting their participation, creating conditions for sustaining the approach and conducting impact assessment. It highlighted the development outcomes of the process of institutionalisation in the PHME project. These included:

- Increased capacity to engage in iterative planning and reflective learning
- Increased ability to try out new ideas and adopt new things
- Increased ability to link with external actors and to utilise linkages strategically
- Increased capacity to participate effectively in and manage small groups to achieve communal/joint economic and social aspirations
- Increased capacity at community level to lead/support/accompany group processes of local development.

Question (Chris): This institutionalisation focused on one organisation, to what extent has it spilled over to point towards replicability.

Answer: The organisation re-organised itself and some of the staff moved on with the approach to the other organisations they went to. In addition, there was a PTD working group that incorporated other organisations doing the same thing and the approach was integrated in this way. At policy level, there is a lot of attention to participatory methods. There was a period when many people were trained in the approach.

Question (Yohannes): How did you do this within a short time? Who were the main change agents? How are you using the youth?

Answer: When there are several people trained in PID, the process is much faster. Do not get into projects that give you a short timeframe; 8–10 years give results that are sustainable. It is an engagement process, attitude change that takes time. During the project, we knew our mandate was institutionalisation into the government agency. We included 24 young people from the villages over a period of two years and gave them training in this approach and, at the end of two years, they could carry on the work and are still there. Only two have left the area, but are passing on the knowledge to their children.

Question (Paul Jimmy): How did you get the people to work in the farms?

Answer: A process for allocating land to landless was done and the people settled there to work on the land.

VI. DIVERGENT ECOYSTEMS: EXPLORING ALTERNATIVE PATHWAYS FOR AGRICULTURAL INNOVATION by Samuel Oslund (Program Director at the 11th Hour Project)

Summary of presentation

Samuel highlighted the need to have context-specific technologies that respond to needs in time and space, i.e. context specificity. He highlighted the danger of looking at technological solutions in agriculture from a linear point of view while promoting “single bullet” types of solutions (referred to as the “unicorn concept”). Such approaches tend to tie up huge amounts of resources from both the private and the public sector, but with catastrophic and devastating effects when they fail, which spread across several landscapes and affect several communities, some of which are already disadvantaged and vulnerable.

Samuel proposed the following considerations regarding technology options (referred to as the “zebra unite”):

- A balance between profit and purpose, that champions democracy, puts a premium on sharing of power and revenues, and creates a more just and responsible society that hears, helps and heals communities;
- Recognise that there are more than technical problems that farmers are trying to solve; there are economic, environmental and social factors at play;
- Innovations that will bring additional value to farmers, e.g. solve the technical but also address the other aspects.

Also proposed are Intellectual Property models that promote community ownership of technology that guard against cost and restricted access.

Thinking differently about scale and innovation systems means:

- Establishing farmer-led innovation networks
- Catalysing international collaboration and strategy
- Nurturing the flowering, resilient networks of innovators and creating enabling environment for innovation outputs and technologies to emerge.

It is worth noting that innovations do not always scale, and different contexts determine responses, which are unique to each context.

It is important to improve access to resources for many small-scale innovators rather than tie up resources in one or only a few large one-concept start-ups that affect the whole system and have catastrophic outputs to communities when they fail. Focus should be on innovations that respond to place and time.

In conclusion, emphasis should be more on technologies that reflect, adapt and enhance their environment, rather than those that shape and control the environment.



Samuel Oslund from the 11th Hour Project making his presentation (Photo: Janish Wettasinha)

Question (Chege): Do we continue innovating in livestock systems, being emitters of greenhouse gases (GHGs)? What happens to farmers' knowledge in the context of artificial intelligence (AI)?

Answer: Along with greenhouses, there were lots of companies that collapsed with it. Industrial production does increase GHGs but small-scale actors can sequester carbon. For the artificial companies, six companies collapsed because they didn't factor in the cost of artificially produced protein and it is not cost effective.

AI has been released on public data and the majority of farming knowledge is not farmer-centred, so AI is unlikely to represent this knowledge but rather the conventional research system knowledge.

Question (Chesha): What is the reason to support the community in the United States (US) with small-scale threshers? Is it need-based, or is there a lack of these tools in the US?

Answer: A combination of all those. They are trying to come up with the tools that they need but are looking at what exists in the global context.

Comment (Chesha): Cambodia has these tools.

Answer: This is why the network helps in sharing the information instead of duplication.

Question (Chris): Corporate land grabs are the greatest enemy of innovation by grabbing large tracts of land, practising monoculture and growing livestock feed, denying the farmers land, and are a threat to food sovereignty and security, bearing in mind the foreign nature of the policies used locally.

Answer: Yes, this will be exacerbated by the digital technologies, which will promote mapping and taking off more land from the hands of small-scale farmers.

Question (Matilda): Wherever there are innovations, the process and the product, there are innovation brokers and champions. What is their role? I found them in my work.

Answer (Chesha): I don't have details of your work so I may not be able to talk about it. I like to move away from calling people champions because all innovators are champions. I don't encourage model farmers (hierarchy) so I may not be the right person to answer the question.

VII. CERTIFICATE AWARD CEREMONY

Recognition of innovators is one of the ways to motivate and incentivise them to continue with the local innovation activities. In view of this, all the exhibiting innovators were awarded certificates of participation in the IFIF 2024 event. Various facilitators and guests awarded these certificates during the event.



Certificate award ceremony during the IFIF 2024 event (Photos: Janish Wettasinha)

VIII. READING OF THE DECLARATION by Rebecca Dero, farmer Innovator, Kisumu, Kenya

The highlight of the IFIF 2024 was a 7-point commitment by the stakeholders to uphold and promote the local innovation and PID approach as follows:

Nairobi Declaration 2024 on Local Innovation and Participatory Innovation Development

This declaration is an outcome of the International Farmer Innovation Fair and Conference held in Nairobi from 8–10 April 2024.

We, farmer innovators, researchers, academics, members of the private sector, government officials, staff from non-governmental organisations and young professionals, hereby recognise the significance of local innovation and participatory innovation development (or farmer-led joint experimentation) with regard to enhancing food and nutrition security, managing natural resources sustainably and enabling people and their agrifood systems to adapt to the impacts of climate change.

Therefore, we commit to:

- (1) Advocate for policies to be developed, revised and implemented so that they support local innovation and PID;
- (2) Encourage and build the capacity of different agricultural research and development organisations at national, regional and international levels to promote, integrate and finance farmer innovation and the PID approach – in particular, placing resources for this in the hands of innovators;
- (3) Enhance the capacity of farmer innovators to enable them to continue innovating and make deliberate efforts to link them to relevant organisations that can support them;
- (4) Ensure that innovation processes integrate and meet the needs of youth and women;
- (5) Collaborate and share information and knowledge with other actors, and support forums and platforms that allow for farmer innovators to be recognised;
- (6) Explore sources of funding that allow for long-term support for innovation processes to ensure their sustainability;
- (7) Monitor and document the impacts of innovation processes to provide evidence of the value of farmer innovation to society.

We recommend that governments help innovators to be identified and recognised, and ensure that there are legal instruments in place to protect the intellectual property rights of farmer innovators. We also recommend that the concepts of local innovation and farmer-led joint experimentation be mainstreamed into the education system, from elementary through to tertiary education.



Rebecca Dero, farmer innovator from Kisumu County, reading the Nairobi Declaration. Standing beside her is Brigid Letty (Prolinnova IST), who facilitated the process of formulating the declaration (Photo: Janish Wettasinha).

IX. CLOSING SESSION

VOTE OF THANKS by Bell Okello

Bell extended gratitude to all participants for having found time to attend and participate in the event and also appreciated the organisers of the event for a job well done.

CLOSING SPEECH by Fredah Maina on behalf of the Director of General KALRO: How locally led adaptations can be integrated into formal Agricultural Research and Development

Organisers, Participants, Farmers, Distinguished guests, Ladies and Gentlemen,

On behalf of the Director General of KALRO (receive his apologies), it is an honour and pleasure to give these closing remarks at the International Farmer Innovation Fair and Conference 2024, which has brought together farmer innovators from 11 of Prolinnova’s multistakeholder CPs in Africa and other stakeholders. KALRO has been a long-term partner and founding member organisation of Prolinnova–Kenya, with representation in the National Steering Committee. I extend my heartfelt appreciation to the conference organisers and to Prolinnova–Kenya in particular for extending this invitation and providing this multistakeholder platform geared towards learning about promoting farmer-led innovation processes.

The theme of this International Farmer Innovation Fair and Conference, “Two decades of promoting farmer-led PID for enhanced climate resilience, food and nutrition security and sustainable natural resource management – how do we integrate the farmer-led joint

research approach into institutions of agricultural research, development and education?” captures and underscores the crucial role that research, innovation and partnerships play in forging a path toward resilience and sustainability of our food systems towards improved livelihoods of our communities. “How can locally led adaptations be integrated into formal Agricultural Research and Development?” Allow me to first delve into KALRO’s mission and working strategies.

The mission of KALRO, as the premier agricultural research organisation in Kenya, is to conduct agricultural research through application of science, technology and innovation to catalyse sustainable growth and development in agriculture and livestock product value chains. Its mandate, as drawn from the Kenya Agricultural and Livestock Research Act of 2013 is “to undertake, streamline, coordinate and regulate all aspects of research in agriculture and livestock development and promote the application of the research findings, technologies and innovations”. To achieve both its mission and its mandate, KALRO partners with all actors involved in agriculture and livestock development research. This includes other research organisations, county governments, development agencies and NGOs, farmers and farmer groups, as well as supportive actors like the traders, among others. Hence, KALRO has made great strides and achievements towards sustainable crop and livestock production systems (including food safety and food quality); management of agroecosystems; solutions towards agribusiness, marketing and trade through linkages to markets, systems for improved efficiency and reduced drudgery in agriculture, agro-processing etc.; biotechnology applications; knowledge management and sharing; and availing the technologies through the KALRO Seeds and the KALRO Mkulima shops.

Ladies and gentlemen, towards making these great achievements, it would be erroneous if we did not acknowledge the significant role played by the farmers and farming communities towards the research process. Research results and output are only beneficial if they provide solutions for the target beneficiaries and are taken up to increase efficiency and effectiveness and address the stated objectives. Therefore, in identifying researchable areas and conducting adaptive research, participatory approaches have been used, which then instils a shared sense of responsibility, commitment and ownership in the process.

Next week Tuesday 16 April, KALRO will launch its current strategic plan (2023/24–2027/28). Among KALRO’s identified strategies is to work with various stakeholders in identifying, validating, documenting, adapting and promoting indigenous technical knowledge on crops, livestock, land, soil and water resource management, including utilisation. This is not a new undertaking and KALRO acknowledges that the availability of farmer-led innovations and technical knowledge by the different farming communities and clients creates opportunities to use, develop and improve technologies that are appropriate to the various communities. Therefore, documenting, validating and protecting the intellectual property in indigenous technical knowledge (ITK) provide opportunities to utilise the knowledge in KALRO’s research process, for the public good.

The KALRO Intellectual Property Policy protects the indigenous knowledge embodied in the traditional lifestyle of a community that is a result of intellectual activity and insight in a traditional context, including know-how, skills, innovations, practices and learning. This

protection hence allows KALRO to work with communities to describe and test/validate the farmer-led innovation, document it and identify any gaps that may exist. Once validated as-is, the organisation can then work in upscaling the information through sharing with other communities, where applicability has also been validated. In some instances, gaps may be identified, thereby necessitating further studies to ensure that the gaps are filled, thus benefitting the innovators as well as other communities.

For example:

1. Sahiwal breeding using bulls rather than artificial insemination
2. *Chumvi Kuria* – Originally ITK but with deficiencies, *Chumvi Kuria* is a fortified form of the original naturally occurring salt
3. Lesailo mobile house for kids and lambs in Northern Kenya – named after a Rendille lady (Lesailo) who had improvised a shelter complete with cover for her lambs and kids, reducing mortality from pneumonia and predators, sheltering the young ones from the harsh sun and hence increasing survival rate and growth
4. Crop research for disease resistance and higher yields emphasises the role of farmers' knowledge and preferences so as not to miss out on the traits that farmers have over time adapted.

It is therefore apparent that farmers and farming communities are a vital key in providing solutions to the agricultural sector. The process in summary therefore requires that the farmers/farmer groups/communities' approach KALRO; following preliminary assessment, we will collaborate with the communities in a participatory process to test, validate and document the process. If proven, it is then well documented and further research can be conducted for adaptability in other regions (before upscaling).

There is great need for cooperation and co-production of solutions to local challenges, as I am sure you have evidenced in the three days of deliberations that you have had at this conference. It gives voice; it provides data; it yields confidence in information sharing; and it gives birth to even more innovations based on the experience – whether through universities, from whichever part of the continent.

Ladies and gentlemen, I would be remiss if I did not acknowledge the pivotal role that Prolinnova–Kenya and all partners have played in hosting this Fair and conference. Your dedication in highlighting and advancing farmer-led knowledge and innovations is commendable, and we deeply appreciate being a partner in this endeavour.

In conclusion, KALRO remains fully committed to its mission of advancing agriculture, improving livelihoods and ensuring food security for all Kenyans, through working in partnership and collaboration with the stakeholders in the sector, and especially the farmers and the innovations they generate. We firmly believe in the transformative power of science, technology, knowledge and partnerships/teamwork and will continue to harness these tools to build resilient and sustainable food systems.

Thank you. I now declare the International Farmer Innovation Fair & Conference 2024 officially closed.



Fredah Maina from KALRO delivering the closing speech on behalf of the Director General of KALRO (Photo: Janish Wettasinha)

Recommendations coming out of the IFIF&C:

1. Accelerated efforts in institutionalising the PID approach and lobbying for the implementation of policies that support local innovation and locally led adaptation processes.
2. Effectively capacitating agricultural research and development actors, drawn from all sectors, on the local innovation and Participatory Innovation Development approach to be able to advise and facilitate joint learning and research with small-scale farmers for increased food and nutrition security and natural resource use efficiency.
3. Strengthen Local Innovation Support Facility (LISF) as a key supportive model of farmer-led joint research. This can be achieved through proper capacity building on the entire model as well as financing for sustainability of local innovation processes.
4. Exploring balanced options for commercialising local innovations for improved livelihoods through creating streams of income. It should be balanced through the lens of “profit and purpose” to the extent that it doesn’t depart from the key principles of ProInnova.

Annexes:

1. *List of participants*

https://drive.google.com/drive/folders/1Yb1TFcru5nVJQ55C2kA064mgGE6aRWjD?usp=drive_link

2. *Audiovisual summary of the event*

<https://drive.google.com/drive/folders/1NAJpY4qwf9Mu0C70JrOvRjxxH4fIYXWH?usp=sharing>

3. *Photos of the event*

i. Day 1: https://drive.google.com/file/d/1e1GbsPjJeLj_6YsLx2qHw-PN91uc1ZZT/view?usp=drive_link

ii. Day 1: https://drive.google.com/file/d/1NFVHxwlnSRvdy9w9eQuRlvjVaNGH4EOG/view?usp=drive_link

iii. Day 2: https://drive.google.com/file/d/1UFYbbCzyImSskP7B-aEXHdRXdJa5Yohe/view?usp=drive_link

iv. Day 3: https://drive.google.com/file/d/1_EOPLNCxXIUt0WYEE6DuuqhOPDfFTH6u/view?usp=drive_link

v. Day 3: https://drive.google.com/file/d/1-JGtzImudXhM1ciKrj4gmNZwRlpJq2wQ/view?usp=drive_link

vi. Day 3: https://drive.google.com/file/d/1tAtGckEMkbV66zMj-vS6BRHYV2kTcQjY/view?usp=drive_link

4. *Posters:*

https://drive.google.com/drive/folders/1g_uNYEUKAbXfZtexz5zFSsj8JQHXPXH9?usp=drive_link

5. *Media coverage:*

i. https://youtu.be/NLYBK_yfZ9w?si=uVKxwo6Ki1M3c18l

ii. <https://www.facebook.com/share/v/SjvZ7s7cYxqdy5iN/?mibextid=qi2Omg>

iii. https://youtu.be/By4O6PusNj8?si=dH6SPw4tnse73c_V