

Report of the Kongwa Kiteto action sites innovation platform launch

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Through action research and development partnerships, Africa RISING will create opportunities for smallholder farm households to move out of hunger and poverty through sustainably intensified farming systems that improve food, nutrition, and income security, particularly for women and children, and conserve or enhance the natural resource base.

The three regional projects are led by the International Institute of Tropical Agriculture (in West Africa and East and Southern Africa) and the International Livestock Research Institute (in the Ethiopian Highlands). The International Food Policy Research Institute leads the program's monitoring, evaluation and impact assessment. <http://africa-rising.net/>



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Executive summary

The Kongwa-Kiteto Africa RISING research team launched its innovation platform on the 27th February in Dodoma. The meeting drew about 38 participants who represented various stakeholders associated with crops and livestock value chains in both districts. It also involved participants from Government Statutory Agencies such as the Ministry of Agriculture, Tanzania Food and Drugs Authority, Tanzania Food and Nutrition Centre and Zonal Agricultural Research Centers. Participants from the USAID supported programs NAFKA and Tuboreshe-Chakula were also involved. The aim of this Innovation Platform meeting was to bring stakeholders together to clarify issues needed to improve functionality of selected value chains (maize, groundnut and pigeon peas), and how they are linked to agro-pastoral production systems of Kongwa and Kiteto. Agro-forestry based interventions and how they could be used to improve soil fertility, pasture management, food and incomes are also an integral part of this Innovation Platform. The stakeholders identified challenges for increased productivity of their agricultural enterprises and prioritized action areas for Africa RISING in 2014-2015 (see table below).

Crops		
Research area	Total scores	Rank
Drought and water stress under unreliable rains	25	1
Management of pest and diseases	22	2
Improving access to knowledge and adoption	9	4
Improving availability of agricultural inputs	15	3
Improving access to good agricultural practices	9	4
Improving access to markets	1	5
Livestock		
Research area	Total scores	Rank
Poor pastures and grazing lands	19	1
Limited access to veterinary support and extension services	18	2
Endemic livestock pests and disease	18	2
Land conflicts between farmers and animal keepers	9	3
Limited access to improved breeds of improved livestock	8	3

On the basis of these prioritized areas, five action areas have been identified for R4D in 2014-2015. They are:

1. Testing and deployment of resilient varieties and animal breeds for
 - a) Better adaptability to changing rainfall pattern;
 - b) Increased productivity and adaptability to pests and diseases;
 - c) Improve resource use efficiency reducing costs but increasing productivity.
2. Testing and deployment of resource efficient agronomy and their related animal husbandry.
3. Improving access to agricultural inputs especially improved seed at community level.
4. Unlocking the potential for markets, food, nutrition and safety of key crop products.
5. Improving pasture quantity and quality.

The next platform meeting is planned for August 2014.

1. Introduction

1.1 Research context

Many farming communities of the semi-arid zones districts of Kongwa and Kiteto in Tanzania practice agro-pastoralism, growing maize, sorghum and pearl millet along with drought hardy legumes such as bambara nuts, groundnuts and to a limited extent pigeon peas¹. In 2013 the Kongwa-Kiteto Africa RISING team conducted a baseline study to underpin the interventions being studied for up-and out-scaling in both districts and the region. The household surveys and pastoral system studies of 2013 showed that in both communities, these cereals and legumes initially sustain food, nutrition and income security and subsequently, their crop residues serve as livestock feed during lean periods. (See Box 1 for selected study highlights).

Box 1: Highlights from a baseline study conducted in August 2013 to inform interventions by the Africa RISING team in Kongwa and Kiteto.

1. Farming systems and productivity

- a) Within the farming systems that is, mainly agro-pastoral, the predominant cropping systems where cereal – legumes based systems with maize, sorghum and pearl millet being the predominant cereals and pigeonpea, groundnuts and bambara nuts being the major legumes. Sunflower is a major cash crop in these systems.
- b) In Kongwa, communal fallow systems are used, whilst in Kiteto, well-managed traditional systems known as *Alalili* are used. Under the *Alalili* and fallow systems, crop residues and forage trees are essential components of feed supply.
- c) Crop productivity is very low, in general with less than 50% of the expected yields for legumes (groundnuts, bambara nuts) and cereals (sorghum, pearl millet and maize).

2. Food security and safety

- a) Food security. Only 46% of farmers have adequate food to last 12 months, with 21% having food in January, 22% in February and 17% in March.
- b) Coping strategies for food shortages: Cash purchases at 62% and exchange labour for food at 28% of the population, are major coping strategies for food insecurity.
- c) Food safety: All target districts have very high levels of aflatoxin, with 70% of samples taken being contaminated some with up to 4000 ppb in groundnut. Bambara nuts had (43.5 %) of samples contaminated with up to 411 ppb.
- d) Knowledge about aflatoxin or its management was minimal at 19% of samples taken.
- e) All market samples had higher than the 20 ppb threshold for aflatoxin in food products.

¹ Okori et al., 2013. Intensification of maize-legume based systems in the semi-arid areas of Tanzania (Kongwa and Kiteto districts) to increase farm productivity and improve farming natural resource base. Final Report for 2013 submitted to Africa Rising Secretariat.

The study also showed that in the broader Manyara region where both districts are found, there is increased take-over of wet season grazing lands for arable farming², a potential source of conflict but also an opportunity for integration as well. These findings show that there is scope for improving productivity in both districts but that requires harnessing multi-level engagement in R4D, such as is provided for by innovation platforms.

1.2 The innovation platform

The Africa RISING Research Framework proposes that innovation platforms be used initially to identify critical value chains for targeting of research intervention but since the R4D team already has specific commodities identified through prioritisation and own research efforts, the focus shall be to improve functionality of these identified value chains (mainly maize, groundnuts and pigeon pea). As such, the project starts from step 2 of Africa RISING Research Framework Innovation Platform establishment strategy i.e. platform establishment. The Innovation Platform is being managed using the guiding principles set out in the Africa RISING Research Framework and IAR4D³ principles modified to deepen understanding on delivery of Africa RISING output 2 which includes:

- a) Use a system wide approach akin to the innovation systems approach by engaging diverse stakeholders to jointly identify problems, device solutions, implement R4D agenda and evaluate progress and outcomes.
- b) Support demand driven research with focal areas identified collectively and the impact of such endeavour, measured in terms of meeting the demand.
- c) Use multi-stakeholder approaches that accommodate and give adequate recognition to complexities of agriculture and how they affect production, marketing and utilization of produce and products to inform R4D.
- d) Engage stakeholders beyond rural communities to ensure their intellectual contribution to innovation and secure their ownership of research outputs.
- e) Engage and inform policy at different levels to inform the research and deployment of innovations.

The innovation platform will thus be used to clarify the effectiveness of technology integration and to elucidate contexts (R4D entry points, draw lessons and partnership opportunities) of innovation and adoption processes.

² Flintan, F. 2012. Participatory rangeland resource mapping as a valuable tool for village land use planning in Tanzania. International Land Coalition, IFAD, CARE Tanzania, KINNAPA Development Program, Ministry of Livestock and Fisheries Development, local government and CSO partners.

³ Adekunle, A.A. and Fatunbi, A.O. 2012. Approaches for Setting-up Multi-Stakeholder Platforms for Agricultural Research and Development. World Applied Sciences Journal 16: 981-988

2. Highlights of the innovation platform meeting

2.1 Participant profile

The innovation platform meeting was held in Dodoma town at the Regional Library. The meeting involved participants who represented different stakeholder types. These stakeholders represent various stakeholder types who generate research products, use them in production, are agro-dealers, process agricultural products and manage the sector in the districts (Table 1). The farmers included those implementing activities under NAFKA as well as Africa RISING, processors where mainly those working with Tuboreshe-Chakula and NAFKA, whilst researchers were drawn from Tanzania (ARI Hombolo, ARI Uyole and CGIAR Staff). Government Statutory agencies were also represented.

Table 1: Stakeholders profile and their associated work during the Innovation Platform meeting

Stakeholder/Customer segment	Functions in the Innovation System	Representation during the innovation platform
Farmers- (Crop & livestock)	Users of research products. Generate research agenda. Engage in R4D process.	12
Input dealerships	Scaling up and out of technologies. First line extension agents.	4
Produce traders	Access to markets. First line in produce quality assurance	
Produce processors	Add value to products Create demand for produce	3
Researchers	Generate new innovations to solve problems Support extension and adoption	9
Village agricultural extension staff	Support adoption process Support participatory research	4
District agriculture leaders	Policy guidance for the R4D work	2
Statutory agencies (Tanzania Food & Drugs Agency)	Policy guidance for the R4D work	2
Development programs (NAFAKA & Tuboreshe-Chakula)	Up and out scaling of innovations Inform R4D process Provide extension support	2

2.2 Meeting objectives and expected outputs

The purpose of the one-day meeting was to launch the Innovation Platform to serve Kongwa and Kiteto and provide for establishing major operational thrusts of the Innovation Platform in the two districts. This was achieved through a step-wise process implemented via four specific activities indicated below.

2.2.1 Specific objectives

1. Identification of problems affecting crop and livestock production by groups.
2. Identification of available opportunities that can be exploited.
3. Deduction of key challenges affecting crop and livestock productivity based on problems and opportunities to address them as identified by stakeholders from both districts.
4. Planning together for action based on priorities identified. Farmers, researchers and other stakeholders.

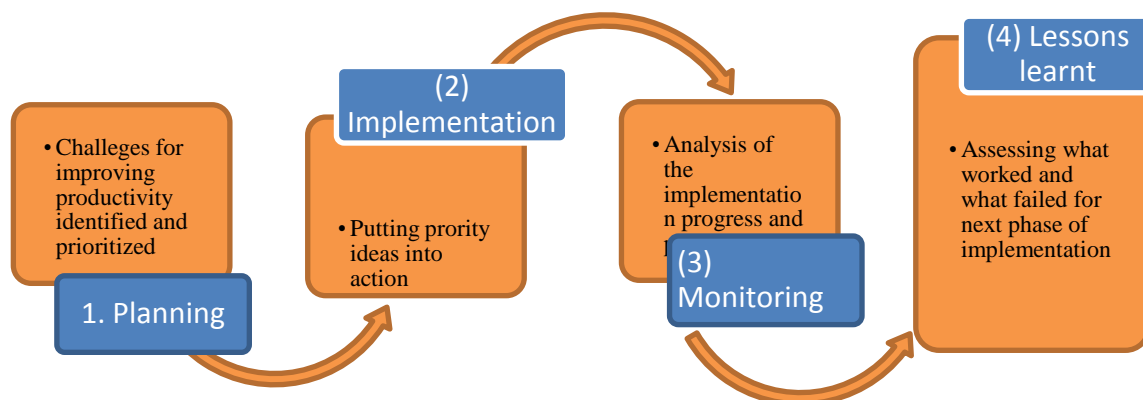
2.2.2 Expected output

- i. Capture major challenges affecting both crop and livestock production.
- ii. Capture key opportunities that could be exploited to improve production and livelihoods during the 2013-2014 and succeeding seasons.

2.3 The meeting process

The meeting was facilitated by a team comprising of Patrick Okori, Swai Elirehema and Mathew Mpanda from Africa RISING and Ladislau Ikombe from Tuboreshe-Chakula. Participants were informed that the day was an opportunity for them to provide an in depth assessment of project activities and isolate what worked and did not work and use the lessons learnt to improve project implementation for wider outcomes. The schema below guided the whole process (Figure 1).

Figure 1. Critical intervention points needed for the improving targeting and outcomes of R&D thrust of



2.3.1 Participant expectations

A guided process was used to engage participants in the meeting. Participants were asked to discuss and share their expectations of the workshop and subsequently form discussion groups. The groups collectively generated expectations for the IP that was to serve as a mechanism to:

1. Share experiences with fellow farmers on how they managed to increase their productivity;
2. Acquire skills and knowledge from fellow farmers on good farming practices especially on how to manage erosion;
3. Learn from workshop organizers about advances on how to cope with weather changes;
4. Acquire knowledge on how to improve productivity in semi arid areas through water harvesting and integrated livestock management.
5. Establish a forum for farmer exchange visits to learn from one another

To get feedback on aflatoxin crop and soil surveys conducted in their locality.

2.3.2 Discussion points during the innovation platform

Participants were grouped into two composite clusters to discuss the provided guiding questions for crops and livestock. At the end of the discussions, each group was supposed to report on

1. The main crops (cash and food) and livestock in their locality;
2. Problems affecting crop and livestock productivity;
3. Prioritize six problems that need to be addressed to increase productivity;
4. Prioritize six major opportunities to be harnessed to increase productivity.



Mathew guiding a discussion with one of the groups during the IP meeting.

2.3.3 Identification of intervention thrusts for R4D

2.3.3.1 Major crop and livestock enterprises in Kongwa and Kiteto

The major crop and livestock enterprises in Kongwa and Kiteto that underpin livelihoods of farmers are summarized in the Table 2. Some of the crops and livestock served a single role i.e. for food security, whilst others served both food and income security functions. The uses ranged from food, to soil health management, traction and security for persons and property.

Table 2: Agricultural enterprises and their role(s) in farmer livelihoods in Kongwa and Kiteto

Crops	Importance	Livestock	Importance
Maize	Food and Cash	Cattle	Cash, hides, Manure and Food
Pearl Millet	Food	Sheep	Cash, hides, Manure and Food
Sorghum	Food	Goats	Cash, hides, manure and Food
Groundnuts	Cash and Food	Pigs	Cash, manure and Food
Sunflower	Cash	Chicken	Cash, manure and Food
Pigeonpea	Cash and Food	Donkeys	Transport
Bambara nuts	Food	Dogs	Security
Cassava	Food		
Beans	Food		

2.3.3.2 Challenges to increased crop productivity

A two-stage process was used to identify the challenges faced in producing the crops. First each group identified problems encountered during in their daily operations in their fields and subsequently opportunities available to address them. Through facilitation, the challenges were identified in the form of “how to” Common problems affecting crop production are summarised in box 2.

Box 2: Key problems and opportunities for improving crop productivity in Kongwa and Kiteto, identified by stakeholders during an Innovation Platform meeting of 27th February

The problems affecting crop production

1. Unpredictable rainfall (droughts and or erratic rainfall);
2. Unavailability of seeds of improved varieties;
3. Weeds such as *Striga*, pests and diseases reduce yield and destroy stored harvests;
4. Limited finance resources to buy agricultural inputs;
5. Limited access to productivity enhancing skills and knowledge scale down adoption;
6. Lack of reliable markets coupled with the fact that farmers have no control over prices as well as unavailability of buyers at times. Poor quality of produce also affects markets access;
7. Transport connectivity especially during rain seasons increase production costs;
8. Lack of packaging materials;
9. Poor soils especially low fertility and extensive erosion;
10. Limited investments by government in improving profitability of agricultural enterprises.

The opportunities for increased crop productivity

1. Good arable land that can be easily worked;
2. Presence of agro-dealers who can supply agricultural inputs;
3. Presence of extension workers at village and ward levels;
4. Availability of processing machines for farm produce;
5. Availability of cheap labour;
6. Availability of National Agriculture Policy to guide investments;
7. Availability of agriculture implements i.e. ploughs, ridges and tractors especially in Kiteto;
8. Availability of livestock for traction to support extensive farming and provide farmyard manure;
9. Availability of market such as Kibaigwa for farm produce;
10. Availability of agricultural institutions both Government and NGOs.

The problems and opportunities were then used to derive challenges that affect increased crop productivity in both districts and are presented as:

1. How to improve resilience of cropping systems to drought and low fertility by leveraging benefits of livestock enterprises.
2. How to sustainably increase crop productivity on large farm lands using existing livestock, agro-inputs and traction capacity in both districts.
3. How to improve access to improved seed and other agricultural inputs needed to increase productivity.
4. How to effectively utilize the existing extension capacity available with both government and other organisations to strengthen adoption and access to knowledge for management of various biotic and abiotic stresses of crop production.
5. How to improve competitiveness of crop enterprises through pre-and-post harvest handling and processing capacity available in both districts to improve market access, pricing and opportunities available at Kibaigwa and other markets

2.3.4.3 Challenges to increased livestock productivity

The same two-stage process used for crop enterprises was used to formulate the challenges to be addressed. Common problems affecting livestock production are summarized below. These farmers from Africa RISING, Tuboreshe Chakula and NAFKA, both male and female, were involved in the discussions that generated challenges to increased productivity. In a plenary the group prioritized six areas of action for the 2013-2014 as well as 2014-2015 seasons.



Swai and Martha facilitating a group discussion that identified problems and opportunities to increased productivity

Box 3: Key problems and opportunities to improve livestock productivity in Kongwa and Kiteto as identified by stakeholders during an Innovation Platform meeting held in February in Dodoma

The problems affecting livestock and poultry production

1. Endemic diseases and pests that affect productivity of livestock and poultry;
2. Lack of, as well as limited access to improved breeds;
3. Limited and unreliable markets for livestock and their products;
4. Overstocking and poor management leading to overgrazing of pastures;
5. Ignoring modern ways of animal keeping;
6. Limited and costly veterinary inputs and veterinary support.

The opportunities for increasing productivity

1. There are veterinary officers available who can be engaged to support interventions;
2. The two districts have large stocks of animals (ruminants, non ruminants & poultry);
3. Most communities have large tracks of grazing lands;
4. Government has provided public dip tanks to manage ticks and other arthropod pests.

As before, the problems and opportunities were used to derive challenges that affect increased livestock productivity in both districts and are presented as:

1. How to harness the existing natural resources endowments to improve livestock productivity, while minimizing environmental degradation.
2. How to effectively utilize the existing veterinary services and public tick management systems to improve disease and pest management as well as increase productivity.
3. How to improve access to new knowledge and technologies including new breeds, production practices and inputs needed to support and sustain high quality increasing livestock production and market competitiveness.

3. Prioritization of research for development action areas

In order to inform the R4D prioritization process, two input presentations were made by the Africa Rising team and Tuboreshe-Chakula. Key highlights of the presentations are made below:

3.1. Major results from the R4D work in Kongwa and Kiteto

The presentation was made by Patrick Okori with the goal of briefing stakeholders about key project findings in order to contribute to planning for subsequent R4D work in both districts. A snapshot of new technologies and information for agro-ecological intensification efforts were presented as:

- a. New high yielding resilient genotypes for pigeon peas (ICEAP 932 and ICEAP 00557) and groundnuts (ICGV-SM 02724) yielding 1.8 tons and 1.5 tons/per ha for pigeon peas and groundnuts respectively have been identified collectively with farmers. These materials will underpin the legume-cereal intensification.
- b. Efficient fertilizer application rates that cut down application rates for maize production by almost 50% from **30 kg P ha⁻¹** to **15 kg P ha⁻¹** without losing yield significantly has been found. This result will reduce input costs and increase productivity.
- c. For seed systems, good progress has been made for seed production of pigeonpea (Mali) & groundnut (Pendo-ICGMS 33). This was initiated at Kongwa-Moleti, Chitego, Laikala and Mlali and Kiteto- Njoro. Total seed harvested available is 3.5 tons that will be injected into the community this coming season to improve seed access and investigate possibility for community based seed production.
- d. Preliminary results from the soils and water management studies show that *in situ* water harvesting approaches using locally available equipment (Ox-ripper and ox-ridger tillage) and tractor driven systems have a yield advantage of 25 to 30 % or 1.6 tons/ha for conventional tillage and 2.7 tons/ha for ripping tillage.
- e. There is limited awareness on food safety and nutrition with only 19% of farmers aware of aflatoxin or its dangers. Post harvest handling processes households, in fact, increased exposure to the toxins, with only 15% of households throwing away grade-outs of grain.

3.2 Opportunities to improve nutrition through Tuboreshe-Chakula

The presentation was made by Ladislau Ikombe on behalf of Tuboreshe-Chakula. Project objectives were presented as, (i) to enhance competitiveness of agro-processors and (ii) to increase the supply of and demand for nutritious (fortified and blended) food products in Tanzania. Stakeholders were informed of the four-component intervention design of the program that now had one more year of operations (Figure 2). Participants were informed of activities in Kongwa and Kiteto that the project had implemented such as:

1. Training of 160 maize and sunflower processors on business management and good manufacturing practices;
2. Training of 4 blended-flour groups 2 from each district on different blended flour formulations;
3. Promotion and distribution of Micronutrient Powder (MNP) and fortified flour and;
4. Provision of technical advisory services to processors on storage of raw materials, processing techniques and storage of finished products.

Figure 2: Tuboreshe-Chakula component summary

1. Business Advisory	2. Technical Assistance	3. Institutional Capacity Building	4. Behavior Change
<ul style="list-style-type: none"> • Business advisory services like profit and loss statement, optimization of raw material purchasing, creating business plans and financial linkages; • Training on effective and successful agro processing businesses • Training on business cycles and profitability of business 	<ul style="list-style-type: none"> • Improving machine uptime through better maintenance • Increasing efficiency and quality through better milling practices • Machine selection advice • Improving formulations of nutritious blends • Education on food fortification processes • Improving safety of milled products 	<ul style="list-style-type: none"> • Supporting local miller associations • Establishing blended Flour groups • Working with local and regional NGO's to improve sustainability • Linking processors to regulators procedures like TFDA, TBS, TF&C • Working with Government and its agencies 	<ul style="list-style-type: none"> • Conducting market research on healthy products • Undertaking marketing campaign on local radios and TVs • Promoting fortified/blended nutritious brands • Working with health facilities in disseminating micronutrient powder to children

Key achievements of the program thus far were also presented to stakeholders and they included:

1. Training of 405 small and medium scale processors;
2. Established 262 processors who are operating profitably;
3. Imported 2 million nutrient sachets and distribute 1.8 million;
4. Facilitated loan acquisition to 62 processors;
5. In collaboration with Tanzania Food and Drugs Authority developed and printed 300 copies each of maize flour and sunflower oil fortification manuals;
6. In collaboration with Tanzania Food and Nutrition Centre developed blended flour manual with 15 different formulations that take into account ingredient available at our local communities;

7. Successfully introduced a fortification device for local milling machines.

Stakeholder where informed that in 2014 the program would among others

- In collaboration with NAFKA and Africa RISING a Post Harvest Handling training would be conducted;
- The program would install 100 dosifiers to maize millers;
- The program would install a maize milling plant in Kibaigwa to increase processing capacity;
- The program would upgrade skills of at least 200 blenders on blending techniques.

The main concerns from the stakeholders on the Tuboreshe-Chakula Presentation were of two,

- i. Limited availability of enough nutrition supplements on the market, and
- ii. Quality control by government to ensure that unscrupulous persons do not take advantage and start selling looks a likes and adulterated products.

Participants were informed of the seriousness with which government takes adulteration of food and drugs with statutory bodies such as role the Tanzania Food and Drugs Agency taking centre stage.

3.3 Priority areas for action by the program

Using the information presented by Africa RISING as well as the outcomes from the group work stakeholders prioritized key issues by selecting the top two interventions they wanted the project to focus on from action areas would be developed in 2014 and 2015 seasons (Table 3).

Table 3: Major R4D action areas for improving crop and livestock production in Kongwa and Kiteto

Crops		
Research area	Total scores	Rank
Drought and water stress under unreliable rains	25	1
Management of pest and diseases	22	2
Improving access to knowledge and adoption	9	4
Improving availability of agricultural inputs	15	3
Improving access to good agricultural practices	9	4
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Limited access to veterinary support and extension services	18	2
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Land conflicts between farmers and animal keepers	9	3
Limited access to improved breeds of improved livestock	8	3

On the basis of these prioritized areas five action areas have been identified for targeted support in 2014-2015 periods. They are:

1. Testing and deployment of resilient varieties and animal breeds for
 - a) Better adaptability to changing rainfall pattern;
 - b) Increased productivity and adaptability to pests and diseases;
 - c) Improve resource use efficiency reducing costs but increasing productivity. This research area will address the challenges of:
 - How to improve resilience of cropping systems to drought and low fertility by leveraging benefits of livestock enterprises.
 - How to effectively utilize existing veterinary services and public tick management systems to improve disease and pest management as well as increase productivity.
2. Testing and deployment of resource-use efficient agronomy and related animal husbandry. This research area will address the challenges of:
 - a) How to sustainably increase crop productivity on large farm lands using existing livestock, agro-inputs and traction capacity in both districts.
 - b) How to effectively utilize the existing extension capacity available with government and other organisations to strengthen adoption and access to knowledge for management of various biotic and abiotic stresses.
3. Improving access to agricultural inputs especially improved seed at community level. This area will address the challenges of:
 - a) How to improve access to improved seed and other agricultural inputs needed to increase crop productivity.
4. Unlocking the potential for markets, food, nutrition and safety of key crop products: This area will address the challenges of:
 - a) How to improve competitiveness of crop enterprises through pre-and-post harvest handling and processing capacity available both districts to improve market access, pricing and opportunities available at Kibaigwa and other markets.
 - b) How to improve access to new knowledge and technologies including new breeds, production practices and inputs needed to support and sustain high quality increase in livestock production and market competitiveness.
5. Improving pasture quantity and quality. This area will address the challenges of:
 - a) How to harness the existing natural resources endowments to improve livestock productivity, while minimizing environmental degradation.

The meeting was adjourned to the next IP meeting in the third quarter of 2014.

Annexes

Annex 1. List of participants

Names	Village Affiliation	Affiliation
Piriska Sefu	Moleti- Kongwa	Africa RISING
Winnie Saigodi	Moleti- Kongwa	Africa RISING
Betina Ntibagomba	Moleti- Kongwa	Africa RISING
Pili Muonga	Mlali-Iyegu-Kongwa	Africa RISING
Moshi Maile	Mlali-Iyegu-Kongwa	Africa RISING
Lamuel Lamabi	Mlali-Iyegu-Kongwa	Africa RISING
Peter Ndolosi	Mlali-Iyegu-Kongwa	Africa RISING
Mwajabu Seif	Laikala-Kongwa	Africa RISING
Samueli Mjoweni	Laikala-Kongwa	Africa RISING
Bernard Singo	Chitego-Koongwa	Africa RISING
Zanura L Mllawa	Njoro- Kiteto	Africa RISING
Ayubu H. Imbili	Njoro-Kiteto	Africa RISING
Chepe Makaranga	Kibaigwa	Stockist NAFKA
Daniel Nghambi	Kibaigwa	Stockist-NAFKA
John S. Mteve	Kibaigwa Flour	Stockist-NAFKA
Maines Mwalugalle	Kongwa	Stockist- NAFKA
Anthony Mwisu	Mbande Kongwa,	Tuboreshe-USAID Development project
Isaya Mtitu	Iduo Chamumbe	Tuboreshe-USAID Development project
Tabu Mbedegalo	Ndalibo	Tuboreshe-USAID Development project
Laurent S. Mselle	Tanzania Food & Nutrition Centre	Government Statutory Agency
Paulo Nzwili	Tanzania Food and Drugs Authority	Government Statutory Agency
Martha Swamila	ICRAF	Africa RISING Researcher
Mathew Mpanda	ICRAF	Africa RISING Researcher
Felita J. Mpore	ARI- Makutupora	ARI Makutupora - Government researcher
Dorah Bivugile	ARI- Makutupora	ARI Makutupora - Government researcher
Elirehema Swai	ARI- Hombolo	ARI Hombolo- Africa RISING Researcher
James Mabuga	ARI- Hombolo	ARI Hombolo- Africa RISING Researcher
Julius W. Sanga	ARI- Uyole	ARI Uyole- Government researcher
Josephat Kionaumela	Village Extension agent -Kongwa	Ministry of Agriculture

Temu Msanjo	Village Extension agent Mlali	Ministry of Agriculture
Godfrey Kingu	Village Extension agent -Njoro	Ministry of Agriculture
Kaleb Mbeleselo	Village Extension agent - Laikala	Ministry of Agriculture
Jackson Shija	Kongwa District Agriculture, Irrigation & Cooperatives Officer	Ministry of Agriculture
Lucas Mirambo	Kiteto District Agriculture, Irrigation & Cooperatives Officer	Ministry of Agriculture
Ladislau Ikombe	Tuboreshe Chakula	USAID Development Project
Juliana Mtenga	Tuboreshe Chakula	USAID Development Project
Wills M. Munthali	ICRISAT	CGIAR- and Africa RISING Researcher
Patrick Okori	ICRISAT	CGIAR- and Africa RISING Researcher