



**ASAL-APRP CONTENT/DATA GENERATION & REPACKAGING  
TRAINING WORKSHOP AND WEBSITE SENSITISATION AT KALRO  
KANDARA**



**20<sup>TH</sup> -23<sup>RD</sup> SEPTEMBER 2016**

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## 1.0 BACKGROUND

Arid and Semi-arid lands Agricultural Productivity Research Project (ASAL APRP) is a five-year project (2012- 2017) funded by the Government of Kenya and the European Union under the Kenya Rural Development Programme (KRDP). ASAL APRP is a successor to the Kenya Arid and Semi-Arid Lands Research Programme (KASAL) which was implemented by KALRO from 2007-2011. ASAL-APRP builds on the achievements of KASAL and will also develop new technologies, information and knowledge suitable for the ASAL areas. The project has four Result Areas: Capacity Building, Food and Nutrition, Livestock Productivity and Up-Scaling/Out-scaling.

The ASAL-APRP content/data generation and Repackaging training workshop and website sensitization took place at KALRO, Horticultural Research Institute (HRI) in Kandara from 20th to 23rd September, 2016. This was a joint workshop by the ASAL-APRP teams implementing knowledge management, communication and visibility and that implementing acquisition and utilisation of open access data. The Purpose of the workshop was enhance implementation of result four, Up-scaling/Out-scaling of appropriate ASAL Knowledge, Information and technologies.

The activities under this result include:

- Developing procedures and modalities of collaboration/partnerships in scaling up activities for dry land crops, pasture, indigenous poultry, cattle, sheep, goats and camels (engagement, funding, performance monitoring, reporting) and formalization of partnerships and collaborations.
- Selecting and packaging improved livestock and crop technologies for up-scaling/out-scaling to arid and semi-arid areas.
- Up-scaling/ Out-scaling of livestock and crops technologies in the arid and semi-arid areas.
- Adoption and impact assessment of up-scaling/out-scaling collaborations and partnerships in the arid and semi-arid areas (Baselines, adoption/impact studies).

- Management, backstopping and performance tracking of partnerships and collaborations and sharing of information and knowledge.

## **2.0 OBJECTIVES OF THE WORKSHOP**

The aim of the workshop was to sensitise and equip project implementers with the requisite skills to generate, repackage and upload content and data into the ASAL-APRP and the knowledge Hub. The objectives include:

- Knowledge Management
- Information Communication Technology
- Information Repackaging
- Open Access and Open Data.

## **2.1 PARTICIPATION**

A total of 54 participants drawn from KALRO Centres and partners implementing ASAL-APRP activities participated in the workshop. The KALRO Institutes and Centres included the KALRO Secretariat, KALRO Kandara, KALRO Kiboko, KALRO Katumani, KALRO Marsabit, KALRO Naivasha and KALRO Mtwapa. Partners included Smart Logistics Solution, Catholic Diocese of Kitui, ADS Pwani, SACDEP Kenya and ADMS Mt. Kenya.

## **2.2 WORKSHOP STRUCTURE**

The workshop structure comprised of the plenary presentations, and question and answer sessions after each presentation. There was group discussions for the planning session.

## **3.0 OPENING REMARKS**

The workshop was officially opened by the Deputy Director General in Charge of Livestock, Dr Joseph Mureithi. He explained that the growth of the four former research institutes (Tea, Sugar and Coffee Research Foundations and KARI) contributed to the formation the current Kenya Agricultural and Livestock Research Organization (KALRO) whose strengths

are a collection of the synergies brought in by the former institutes. He asked the participants to use the strength of the new organization to enhance visibility and sharing of agricultural information and knowledge. Noting from the reorganization of the regional research body, ASARECA, Dr. Mureithi said that the initiative has made it easy to focus, access and share data and information on agriculture among researchers of the ten participating countries in ASARECA.

Talking on the usage of research information and data, Dr. Mureithi noted that time series data and information was lacking yet the insurance industry looked up to the research sub sector for the same as they analyzed climatic related risks. He pointed out that consistent data collection and effective storage would make it available for use, now and in future. He further advised researchers to carry out their work for the benefit of mankind. He quoted the great Indian philosopher Mahatma Gandhi; working for each other is working together. He used the example of ICRISAT whose slogan is; 'Science with a human face'; as he told researchers the importance of using a people centred-approach. He emphasized the importance of researchers anticipating future problems and therefore conducting simulation research that provides solutions to anticipated problems.

Dr. George Keya, who is the ASAL-ARP Coordinator, pointed out that the project focused on upscaling existing technologies in the ASAL areas as well as developing new ones to assist in the improvement of resource utilization. Improvement of food security and capacity building of the researchers working in the ASAL areas were other key result areas of the project. He further noted that a lot of information has been produced but lamented that it never gets to the intended beneficiaries. He challenged the participants to use the workshop to acquire essential skills to avail and share the information. He reminded the project researchers to begin preparing for the end of project conference to be held in April, 2017 as well as be ready to receive inspection teams of the project in their research sites.

Dr. Charles Waturu, the Institute Director of Horticulture Research Institute at Kandara, welcomed the participants at the Institute. He expressed his gratitude to the organizers of the workshop for finding the KALRO HRI a worthy host. He noted that the workshop content planned to expose the participants to the much needed skills in outreach and communication. He noted that this came at a time when KALRO needed to up its game in not only developing technologies but also transferring them to farmers as this was the only

way of showing KALRO's value to the country. He asked the participants to vigorously seek the vital outreach and communication skill the workshop planned to impart in them.

## **Session 1: Chair: Dr. Jack Ouda**

### **4.1 Open Data and Open science for Sustainable Development by Dr. John Kinyuru**

Dr. Kinyuru, a lecturer at Jomo Kenyatta University of Agriculture and Technology (JKUAT) and expert of Open Data concept, made a presentation on Open Data and Open Science. He emphasized that Universities and other public bodies have a lot of unpublished research that cannot be accessed despite the high investment in agricultural research. Citing past initiatives such as the Kenya Agricultural Information Network (KAINet) which was formed to promote information exchange among stakeholders in agricultural sector, he said there was still limited access to Agricultural information, which is a major constraint and obstacle towards achieving food security. The presenter said there was need to develop a coherent platform for sharing of data and information in Agricultural sector.

The presenter retaliated that championing for open data meant seeking to realize better quality, reliability, management and accessibility of data of importance to all fields of science and technology noting that JKUAT has a robust Faculty of Agriculture that runs programmes in Agriculture, Horticulture, Food science and Technology, Human Nutrition, Animal Science and Hospitality among others. He stressed that there is need to develop and implement Open Data policies.

Some of the achievements at JKUAT include:

- Co-hosting the International Workshop on Open Data for Science and Sustainability in Developing Countries last year in August 2014.
- Establishing a directorate for advancing open data called the ICT Centre of Excellence and Open Data (iCEOD)
- JKUAT joined the Committee on Data for Science and Technology (CODATA) in 2014 and is the official representative of Kenya; Prof Wafula elected to the CODATA Executive committee.
- Developed an Open Research Data Policy.
- Partnered with IBM to build Open Data Infrastructure with Capacity to ensure storage and publish data in desired format with digital preservation capability.
- Supported training of staff in Open data.



- Establishment of iJapan committee on open data.

#### 4.1.1 Questions, Comments and Answers

**Question: Mr. John Wambua:** Your presentation has shown that JKUAT has developed an open data policy. Do we need to have an institutional policy or national policy in Kenya?

**Answer: Dr. John Kinyuru:** Policy has to start from an in-house level before it can go national. KALRO needs to have its own mechanism of managing internal data even as efforts to develop a national policy are ongoing.

**Question: Mr. John Wambua:** What is the difference between open data and open science?

**Answer: Dr. John Kinyuru:** Open science encompasses open data.

**Question: Dr. Jack Ouda:** Open data should have value?

**Dr. Kinyuru:** Open data has to have value to the researcher and to the institution.

**Question: Dr. Rahab Muinga:** Do you see a point in future where the open data can be used by students for their thesis; if yes, how does the source of the data and (the person who provided the data) benefit?

**Answer: Dr. John Kinyuru:** Yes this is being used by students to get new trends and findings, e.g. the food composition data-base in JKUAT has been used to deduce new information Universities in UK allow students to use such data instead of wasting time collecting new data.

**Question: Dr. George Keya:** Could you share your experiences at JKUAT in getting everybody on board on the open data initiative?

**Answer: Dr. John Kinyuru:** Efforts on sensitization are ongoing to enlighten the researchers. So far the uptake is slow.

**Question: Dr. George Keya:** How does the platform operate?

**Answer: Dr. John Kinyuru:** iCEOD Platform – find it on JKUAT website for more details.

**Comment: Dr. Jack Ouda:** Open data needs to have demonstrated benefits and applications. I have benefitted from open data when I was studying in Europe. I received a tax refund at the exit airport when the details of myself and the items I had bought were screened through data system. Issues of stakeholders, regulations, rewards, and feedbacks need to be considered at this early stage.

**Answer: Ms. Irene Kimani:** Yes indeed. Open data is beneficial to society and data must be preserved, stored and reused within set. Policies, sustainability, regulations, rewards and feedback from stakeholders. This must be considered very early as the institutions, organisations and counties embark on open data.

**Question:** Does Kenya Archives release data after 20 years?

**Dr. Kinyuru:** Yes, that is open data.

**Comment: Ms. Irene Kimani:** As we go on we will demonstrate that KALRO has opened data but it was not called open data. Thanked the organisers for inviting Dr. Kinyuru and thanked Dr. Kinyuru for accepting to participate and make a presentation.

**Comment: Mr. Boniface Akuku –** Mr. Boniface Akuku thanked the speaker for his presentation and said that whatever has not been addressed will be relooked by himself and Irene. He urged participants to google science common protocols – issues governing open data. Any technology should be built on open standards. Concept of open science is here with us. How can we build protocols? Once that is done we will not find it very difficult. Also google ‘value of open data’.



Participants of the ASAL-APRP Workshop during presentations

## **Session 2: Chair: Dr. Michael Njunie**

### **4.2 Knowledge Hub (K-Hub) Concept by Mr Boniface Akuku**

Mr. Boniface Akuku gave an overview of the knowledge hub concept. The K-hub is principally designed to coordinate sharing, learning and collaboration and to influence knowledge management strategies and policies. In view of ASAL-APRP log frame the K-hub is a centre for the generation (creation, processing, storage) and exchange (retrieval and dissemination) of knowledge, networking, learning and development of new ideas. He underscored that transformation of agriculture continues to require generation, dissemination and use of appropriately packaged technologies, innovations and management practices (TIMPs) beyond research, piloting localities and publications.

The presenter highlighted that the EU and ASAL-APRP have supported the development of a Knowledge and Information Hub with the aim of facilitating equitable access to information and knowledge, learning and networking by different actors in the project. Mr. Akuku said the K-Hub will be developed under the following outputs:

#### **Output 1**

Learning and Innovation centre for ASAL-APRP agricultural research and development (AR&D) established and operationalized.

Platform built for learning, sharing and collaboration to support ASAL-APRP research output:

- Facilitate on-going learning, sharing and collaboration.
- Linkages facilitated through learning and collaborations in a variety of AR4D value chains in ASAL-APRP.
- Enhanced and sustainable internal knowledge sharing and learning culture.

## **Output 2**

Stakeholder knowledge, and practices characterized:

- Enhanced access to knowledge and information in appropriate formats for target users.
- Enhanced use of virtual platforms for information exchange, learning and collaboration.
- A robust system for information exchange and networking developed and put in use.
- Integration of programmes and stakeholders, and ensuring that ASAL-APRP knowledge management embedded seamlessly into K-hub platform.

## **Output 3**

Knowledge and Information “Clearing House” established and operationalized:

- A network of partners who adhere and agree to the primary goals and aspirations of the clearing house established.
- Relevant available information and knowledge used in AR&D in ASAL-APRP collected and collated.
- The use of standards and procedures to ensure quality of information and knowledge in ASAL-APRP promoted.
- Access to information and knowledge provided across platforms and user profiles.
- Partnership are harnessed for producing and facilitating the flow of ASAL-APRP agricultural research knowledge.

#### **4.2.1 ASAL-APRP Knowledge hub Demonstration by Mr Boniface Akuku**

After the presentation, Mr Boniface Akuku demonstrated the dummy ASAL-APRP Knowledge hub.

##### **4.2.1.1 Questions, Comments and Answers**

**Question: Dr. David Miano Mwangi:** Good and exciting demonstration. When will we be able to put in information/photos and will we have to do it through you?

**Answer: Mr. Boniface Akuku:** The user will be given access rights, however the clearing house will assist in quality.

**Question: Mr. John Wambua:** From the presentation of Knowledge Management components, it looks like the component on knowledge generation is missing.

**Answer: Mr. Boniface Akuku:** Knowledge components incorporates all the aspects of knowledge management including creating, sharing, dissemination etc.

**Question: Mr. John Wambua**

It looks like the activities and the outputs for the ASAL APRP included in the knowledge hub are too many for the limited programme duration.

**Answer: Mr. Boniface Akuku**

Being a virtual platform it is possible to accomplish much and continue even after the project life.

**Question: Mr. Amos Adongo:** Under the addition of user, there is need to add the name of the organisation of the user accessing the hub online. This may assist in assessing success of the platform in terms of type of users and nature of information transacted.

**Answer: Mr. Boniface Akuku:** Yes this is true and is included in the systems.

**Comment: Mr. Boniface Akuku:** Come up with content management policy to manage frequency of receiving information. Can develop a holding unit where the team vets the

content before it goes into the website. When you show what you are doing well, it creates a chance for you to compete for the next grant.

**Comment: Dr. David Miano:** I don't think we should be worried about putting our data on open data but we need to publish the data. As soon as we do this then it is our data (we are the source). As an organisation we need a policy on how to manage data and how to share the same. We must learn how to use data, analyse it and develop marketable products out of the data/information we have.

### **4.3 Website Sensitization & Management- presentation by Richard Kedemi**

The presentation provided an overview of the ASAL-APRP website. The purpose was to sensitise the project implementers and content generators on the website and their specific roles in content development and uploading. The presenter outlined the website capacity, purpose and benefits of the website.

#### **Key Highlights**

Purpose of the ASAL-APRP website:

- To avail/disseminate information (online) on Research Deliverables / Output / Work.
- Interact/communicate with online stakeholders/target groups
- Create visibility of the technologies and results of the ASAL-APRP Project (Reporting Platform).

#### **Way Forward**

- More features/functionalities to be added to the website
- Regular content flow to website
- Web maintenance and uploads.

#### **4.3.1 Demonstration of ASAL-APRP Website Capabilities**

Mr. Richard Kedemi later presented a live Demonstration of ASAL-APRP Website Capabilities & Applications.

#### **4.3.1.1 Questions/Comments and Answers**

**Question: Mr. John Ayemba:** Are there plans to reproduce what goes onto the website in hard copy form?

**Answer: Dr. Jack Ouda:** If project will sponsor production of leaflets then it can be done.

**Comment: Dr. George Keya:** Materials that go on to the website are in a certain format and some can be produced in hard form but some might not be possible. Some of the materials could be distilled into brochures, flyers, policy briefs and other forms of packaging depending on the activity and how the information is to be used.

**Question: Dr. John Ogecha:** Are there plans to train scientists in rudimentary knowledge towards web development and management?

**Answer: Mr. Richard Kedemi:** It is part of the activities scheduled under the workshop.

**Comment: Dr. David Miano Mwangi:** -I think we need to change the model of how we develop content for the website since what we need is how our science impacts on life and we need to work together (scientists and scientific editors and corporate communication to come up with the content for the website). We need to write in a friendly manner. We need an ear/eye for good stories.

**Comment: Richard Kidemi:** I agree with Dr. Miano's comments. The workshop is also planned to train the scientists to write web content. We need to embrace ICT. It is not an age issue.

### **Session 3: Chair: Dr. David Miano Mwangi**

#### **4.4 Elements of Quality Scientific Writing: Tips on Writing Scientific articles for Refereed Journals by Dr. Jack Ouda**

Dr Ouda provided important tips on writing scientific papers. The presentation provided insight on the components of a scientific paper, Introduction, Methods, Results and Discussion (Conclusion) commonly referred to as IMRaD. Other important aspects such as Titles, Abstracts, References, Acknowledgement, Writing styles and Plagiarism were covered. Participants were urged to keep to the 3C Principle which include clarity, Conciseness and Correctness (accuracy).

##### **4.4.1 Questions, Comments and Answers**

**Question: Mr. Peter Alaru:** Suppose a research scientist has worked with a product that few people have researched on. Is it possible for the researcher not to quote anyone or quote persons who had worked on a product almost similar to that?

**Answer: Dr. Jack Ouda:** It is possible not to quote anyone during a discussion if the product you are handling has not been researched. However, ensure that proper explanation is given in the discussion to support the points. There must be an indication that you actually own the knowledge.

#### **4.5 Publishing (Leaflets, Pamphlets/Brochures and Booklets)-Presentation by Koinange T. Mukundi**

Mr. Mukundi covered widely on publishing leaflets, brochures/pamphlets and booklets. The presentation included, approaches to publishing Pamphlets/brochures and booklets, communication for the targeted audience, physical/special attributes, qualities and differences between leaflets/pamphlets and booklets. The presenter provided broader details on how to write brochures and what author should adhere to. The Key highlights details included:



- In the brochure inside pages explain details and argued out comparisons if any.
- Avoid jargon in any narrative.
- Information must be people based or about people.
- Explanations must display high clarity. For science communication have your facts/illustrations simple and correct.
- Towards the end attempt a justification through success story or relevant statistics.
- Quality illustrations add impact and improve a brochure's effectiveness.
- Avoid clutter by providing just what is enough for the space.
- Have a contact address to facilitate communication on the subject or related subject.
- Appeal to readers to seek further information.
- Show reference person and brochure identity.

#### **4.5.1 Questions, Comments and Answers**

**Question: S. N. Kihara:** If every communication must be non-scientific a plant pathologist may lack words to explain the message that should be delivered.

**Answer: Mr. Koinange Thuku Mukundi:** He advocated for striking a balance between effective communication and without loss of scientific meaning.

**Comment: Dr. David Miano Mwangi:** -Who is the target for the brochure? That is the question you should ask yourself. Avoid big scientific words which cannot be understood by the target group especially farmers. Validation should be done with the target group. What is the objective of the brochure? A lot of legal issues to be dealt with – e.g. people selling KALRO brochures at events.

**Comment: Mr. John Ayemba:** An easier way to avoid scientific names would be to pre-test a brochure to the target audience.

**Answer: Mr. Koinange Thuku Mukundi**

This is quite in order. We did this in 2008 and got very nice feedback during a farmers field day in Wambugu FTC. The only problem is that farmers confused the raw material with completed work. Most however pointed out excess and deficiencies which we later addressed.

**Question: Dr. D. Mutisya:** We at KALRO Katumani normally prepare brochures but whenever we send them to KALRO Headquarters, we never get feedback. What could be wrong within the Publishing Unit at KALRO Headquarters?

**Answer: Mr. Koinange Thuku Mukundi:** Yes. This has happened especially for those not supported by any project funding and programme cycle. Currently the editor assists packaging of information on a need basis and send the same back to the sender. In future it would be good to send the requests to publications unit and copy the same to the Director of Knowledge and Information for proper follow-up.

**Question: Ms. Linah Muhonja:** There is a need to be guided to move to next level of writing since most brochures carry a lot of information (from production to pests and diseases).

**Answer: Mr. Koinange Thuku Mukundi:** It is important to structure information on each technology to ensure that no one brochure is overloaded. One could handle varietal characteristics in one and production in another. Holistic approach could be placed in a booklet.

**Comment: Ms. Linah Muhonja:** There is need to address way of communication since the information sharing is being short changed by laymen using KALRO to sell wrong information.

**Answer: Mr. Koinange Thuku Mukundi:** We have to up our game. Develop technologies with accompanying instructions/information about the same. Let us leave no information vacuums.

**Comment: Ms. Linah Muhonja:** Need to find means of channelling out information so that our technologies are known to avoid aspects of others claiming innovation (citing case: Banana ripening chamber).

## 5.0 PRESENTATIONS DAY TWO-21<sup>st</sup> September 2016

### Session 1 Chair: Dr. Arnold Njaimwe

#### 5.1 Information Repackaging for Various Users- Photo graphs captions by Ms Pauline Mburu

The presentation provided an overview of writing photograph captions. The presentation included, Importance of captions, Writing good captions and Tips for writing captions. The presenter noted that it was important to consider the 5Ws when writing captions. The 5Ws provides a complete description of the photograph. The 5Ws include:

- Who is in the picture?
- Where was the picture taken?
- What is happening in the picture?
- When did this happen?
- Why did this happen? Why is this picture important?

The presenter emphasised that it was important to consider the following before writing captions.

- Identify the purpose of the picture (i.e., to inform, to persuade, to entertain, to describe).
- Use a consistent justification pattern throughout the document i.e. centred alignment, left alignment or right alignment.
- The document grid structure determines the width of any one caption.
- Use smaller fonts on captions than on the body of the document.

##### 5.1.1 Questions, Comments and Answers

###### Comments:

**Dr. Ouda** - Don't describe people e.g. the person with a bald head, person with a cowboy hat, pot belly etc.

**Dr. Keya** – Good photographs and captions give a complete story.

**Dr. Ouda** – Sharpness of photos and quality with good captions is very important.

**Mr. Koinange** – Photography is an art. Distinctive dressing is good e.g. uniform. Take a number of photographs; not one. People can pose but not in an obvious manner etc.

## **5.2 Information Repackaging by Anthony Biegon**

Mr. Anthony Biegon provided an in-depth presentation on information repackaging. He underscored that information repackaging provided an opportunity to communicate effectively and conveniently to a target audience. The presentation emphasised that repackaging enhances acceptance and use of information products by the various categories of users like farmers. The presentation expounded on the following when dealing with farmers.

- Need knowledge to re-engineer their production practices
- Largely illiterate and therefore cannot benefit easily from printed work
- Need regular information (earn a living through farming).

## **5.3 Research Data Collation & Sharing-Presentation by Irene Kimani**

Ms Irene Kimani delivered a broad presentation open data and open science. The detailed presentation covered, Data Collation, Sharing and re-use, Data Publishing and Repository, Data Management Policies, Dataset Submission for Publishing Policy, datasets Peer Review Policy, Data Sharing Policy. The presenter underscored that even as data sharing is advocated, it was important to strategize on increasing value of data through policies that promote sharing and management of data. These policies include, Dataset Submission for Publishing Policy, Peer Review Policy, Data Quality Control Policy, Data Long-term Preservation Policy, Data Sharing Policy, Data Services Statistics Policy and Ten Percent (10%) Policy.

The following should be considered in open data.

- Store and share data according to open data standards and principles
- Preservation of scientific data

- Perform data analytics
- Package/classify data and assign Application Programming Interfaces (APIs) for easy access
- Commercialize selected sets of data outputs of analytics
- Provide insights for new studies.

### 5.3.1 Questions, Comments and Answers

**Comment: Dr. George Keya:** Many queries are to help Irene because this is something new.

**Comment: Mr. John Ayemba:** The web team has clarified that open data is not allowing everybody to share data. That the access to share data is restricted.

**Comment: Ms. Everlyne Kirwa:** Promises of rewards was mentioned but it is better if there is specificity on this. All the data shown as examples are more of social science data. Probably we should be shown examples of basic research data that is similar to ours that has been put in open access.

**Comment: Mr. Alex Mutio – Catholic Diocese of Kitui:** Is it possible to get a consent tool from KALRO; I comment that it is useful for agreement between the partner and beneficiaries, in cases where the partner looks forward to use beneficiary photos/videos. This will protect future hiccups in case the photos/videos are used elsewhere.

### 5.4 Publishing - Writing Posters, Banners & Manuals by Koinange Mukundi

The presenter provided a broad overview on publishing of posters, banners and manuals. The presentation covered in details the different physical attributes, technical aspects, purpose and objectives.

#### Key Highlights-Manuals

- Manual structure should progress from introduction through intermediate levels to advanced levels. Illustrate.
- With instructions, manuals have vital information that show distinct stages.
- Good manuals intersperse straight instructions with stories of people following the instruction and show the benefit they derive.
- Manuals tell users what actions produce desirable results.

- Make use of reported speech formats and direct instruction.
- Take the form of a textbook to a layman.
- Avoid generalizations, e.g. dig a hole.
- Focus on making us to understand results of desired actions. Equally they warn of middle position where clear cut positions may be obtained.
- Unlike brochures manuals contain many related messages.

### **Key Highlights-Posters and Banners**

- A banner has less information than a poster, usually announcement with rallying call, dates, and logos.
- Poster may be mounted on bill boards, walls, doors etc.
- Event posters like for shows, exhibitions need consistent designs.
- State the objective/purpose
- Define how message should be consumed.
- Identify target and its characteristics in detail.
- Draft the message in direct simple words.
- Identify the illustration.
- Sketch a layout and have it designed.

### **Questions, Comments and Answers**

**Question: Mr. Peter G. Mburu:** Some manuals are developed from training notes after a course. Is it recommended?

**Answer: Mr. Koinange Mukundi Thuku:** No. Manuals are target specific and address user needs. After identifying a target audience, a needs assessment is done. Based on this, information is packaged and developed as per needs.

**Question: Dr. Michael Njunie:** Is there a difference between manual and guidelines?

**Answer: Mr. Koinange Mukundi Thuku:** If the guidelines are meant to guide users of particular technology and have to exploit it better, then there is no difference. However, manuals that use the instructions approach exclusively take this title of guidelines and are largely mean with background information. Generally manuals have extra information such

as background and success stories that make them be better companion to user as they are hard books of information.

**Question: Ms. Gladys Wangui:** Does a manual have a specific range of pages that it should have/contain?

**Answer: Mr. Koinange Mukundi Thuku:** No, but a good manual should not be more than 100 pages to benefit from cheaper binding styles (staple binding).

## **Session 2: Chair: Dr. Arnold Njaimwe**

### **5.5 E-Resources: KALRO and External e-Resources by Patrick Maina**

The presentation outlined the e-resources subscribed by the Library and Information Services (LIS). These are internal and external e-resources published by renowned publishers and are accessible through KALRO'S Wider Area Network (WAN) by internet provider (IP) access or the provided password. The Internal Institutional repository (IR) has over 12,000 published and grey literature published by KALRO and the precursor institutions.

#### **5.5.1 Questions, Comments and Answers**

**Comment: Dr. Keya** – I am surprised by the kind of information that you can get from the presentation. Most of us are not aware.

### **5.6 Web Content Uploads by Richard Kedemi and Henry Wanyama**

Mr. Richard Kedemi and Mr. Henry Wanyama presented Demonstration and a hands on practice session on uploading content in ASAL-APRP Website. All the Participants participated in the exercise.

## 6.0 PRESENTATIONS DAY Three-22nd September 2016

### Session 1: Chair- Hellen Ngema

#### 6.1 Tips on Writing Media Articles-Press Releases, News, Features – by Koinange Mukundi

The presentation covered various topical areas on media articles. These included, Press Release, Media Features, Types of Articles in Media and Writing News Stories. Among key highlights included:

##### Press Release

- It is a one-page statement on an aspect (positive or negative) of your organization which is attention-grabbing, exciting, or noteworthy.
- Press releases attempts to get the attention of the media looking for a story.
- It presents information in an easy format to facilitate easy writing of a news story.

##### Media Features

A human interest story is written to show a subject's oddity or its practical, emotional, or entertainment value.

##### Questions, Comments and Answers

**Question: Ms. Hellen Ngema:** In case of misquotation by journalist that may have an impact on the reputation of the scientists; what can a scientist do to correct the technical mistake done by news/media personnel?

**Answer: Mr. Koinange Mukundi Thuku:** A misquotation can be corrected by writing to the media house to make appropriate corrections.

**Question: Mr. John Wambua:** Why does KALRO caution against individual scientists communicating to the media directly?

**Answer: Mr. Koinange Thuku Mukundi:** Individual scientists and staff are not at liberty to speak to media on policy except with express authority. When the same is anticipated, they should seek indulgence of the Director General's office. The Director-General is the CEO of the organization as well as its spokesperson.



**Question: Mr. John Wambua:** Who writes the story? Media or the researcher?

**Answer: Mr. Koinange Thuku Mukundi:** Purpose of training is to enable scientists appreciate role of media and be in a position to work together. They should also be equipped to do basic writing of articles for internal use. Those for media use will be written by documentation staff.

## **6.2 Content Repackaging for Various Users- Re-writing, Illustrations, Translation & Video Clips by Pauline Mburu and Anthony Biegon**

The presentations covered language translation, illustrations and making effective video clips.

Key Highlights in the presentations included:

- Tips to achieving best translations
- Steps to translation process
- Role of ICT in translation
- Making video clips that communicate.

### **6.2.1 Questions, Comments and Answers**

**Question: John Wambua**

1. Are packaging and repackaging of information different?
2. When do we use bar-graphs, pie-charts, line graphs, tables and figures as presentation of evidence?

**Answer by: Anthony Biegon**

1. They lead to one another. Information which has been processed from data collected is first written in a journal article report. This article target peers in research but not easily understood by the industry stakeholders who may require it redone to fit the expert or literacy levels. Hence, repackaging.
2. This is determined by journal or publishing guidelines given to authors.

**Question: Dr R. W. Muinga-**Why was video capturing using mobile phones and cameras not included in the training? Project staff could then capture stories and send/upload for the experts in headquarters to edit and share.

**Comment: Mr. Boniface Akuku:** It is now possible to send video clips on smart phones. They may need to be refined by the ICT team. Other information as pictures may be sent by whatsapp. Users, depending on need, may decide whether to use a smart phone or digital cameras. KALRO will in the meantime do an assessment exercise to chart a way forward.

**Comment by: Ms Pauline Mburu-**There are software for computer assisted translation (CAT) which must be assisted by human to correct errors and improve quality. The software assists in spell checking, grammar checks and as Terminology managers.

### **6.3 Writing Winning Media Features- By Dr Jack Ouda and Koinange Mukundi**

The presentation covered the various aspects on writing media stories. The highlights include:

- Choosing a theme when writing media feature stories. A theme provides unity and coherence to the feature. -It should adequate and thus neither too broad nor too narrow.
- Choose good Leads which captivates and interests the audience  
Body Structure- Body of story is a series of information blocks organized by subject. The main body of the article consists of several blocks, each representing a different aspect of the main story.

#### **Questions, Comments and Answers**

**Question: Mr. John Wambua:** How do you differentiate the heading or headlines written by others for instance politicians, from the ones written by a researcher?

**Answer: Mr. Koinange Thuku Mukundi:** Information headlines are similar. Those for features are clearly different. When the scientists work, inspire or impact on society, the headlines say so.

**Comment: Mr. David Karanja:** It is best to time variety related stories to variety release.

**Answer: Mr. Koinange Thuku Mukundi:** True. cropping seasons beginnings are good for this messaging.

**Comment: David Karanja:** Need good coordination with the experts at KALRO HQ to improve on the stories. KALRO HQ team needs support to backstop scientists.

**Answer: Mr. Koinange Thuku Mukundi:** Writers/Editors could coordinate with field staff to have organised staff writing. In the effort, scientist ensures farmer, stakeholders are made available to assist as the documentation staff collects and writes stories.

**Question: Dr. D. Mutisya:** As for the feature “Researcher explains why aflatoxin is common in Eastern and Central Kenya”. It appeared the story was mainly on reported speech and no direct quotes. Why this type of lukewarm way of telling the story?

**Answer: Mr. Koinange Thuku Mukundi:** The researcher was not interviewed and this dialogue is lacking in the sample. In a real life case, one has to interview the presenter to elicit dialogue.

## **Session 2: Chair- Hellen Ngema**

### **6.4 Agricultural Research Data Service and Best Practice- Presentation by Richard Kedemi and Irene Kimani**

The outline of the presentation included Proposed Dataset Samples, Value and benefits of Data Management, Research data service, Creating data Management Plan and Organizing data files.

#### **Key Highlights in Data Management**

- Prudent Data management, Increases research impact, saves time, Preserves data and Maintains data integrity.
- Data Management provides rewards throughout and beyond the life of a research project.
- Ensure that data are discoverable, accessible and intelligible to enable long-term reuse.
- Lead to higher-quality research, increased visibility and enhanced citation rates.

- The perception of data as an instrument of research and new knowledge can be transformational.
- Creating data Management Plan in Documentation, organization, storage, Access, Archiving, sharing, and re-use.

### 6.2.1 Questions, Comments and Answers

#### Question: John Wambua

1. I feel the process of reaching the data in Open Access is long and looks still protected. Is it possible build like FAOSTAT?
2. It looks like the service from open access might take long. How can we facilitate the service?

**Answer by: Irene Kimani-**The metadata improves the access to the datasheets or information on the internet.

**Comment: By Dr. R. Muinga:** Similar to FAOSTAT is data stored by Kenya National Bureau of Statistics which is readily accessible.

### 6.3 Tips on Writing Reports-Dr Jack Ouda and Anthony Biegon

The presentation provided important insight to effective report writing. These included the general aspects of report writing, writing effective reports and structures, features and attributes of reports.

#### 6.3.1 Questions, Comments and Answers

**Question: Arnold N. Njaimwe:** When you write a report on something that negatively affects the community due to some agricultural material alleged to have been supplied by a third party and not directly by the reputable organization, do you need to caution the recipient of the report that there are some things he needs to investigate before releasing the report to the wider audience? Were the materials really from that reputable organization or not?

**Answer: Anthony Biegon:** Have the terms of reference well spelt out before you engage on gathering information and writing the report to ensure acceptance.

**Comment by: Dr. Njaimwe-** Going to the field to help improve the cause of a problem calls for one to stick to their TORs as the correct specific information that will assist in getting the problem solved. Where necessary, one should give short term solutions to avoid escalation of the problem. The information brought back to the office must suggest possible solutions for consideration by the appointing authority.

### **Session 3: Chair- Hellen Ngema**

#### **6.4 Big data: Collation, Storage & Sharing- by Boniface Akuku**

The presentation highlighted the major aspects of big data. These included Characteristics, Analytics, Challenges, analytics Framework, Opportunities and big Data solutions

#### **Key Highlights**

- Big Data is characterised by high volume, velocity, knowledge and variety of information assets that demand cost-effective, innovative forms of information processing for enhanced insight and decision making.
- Open Data is a powerful evidence based tool for long term sustainable development by improving economic opportunities for farmers and health consumers
- Open Access to research, meta-analysis and open publication of data are vital resources.

#### **6.5 Open Science in Agriculture KALRO's Dataset Tool- Demonstration by Richard Kedemi**

Mr Richard presented dummy KALRO dataset tool which can be used to harvest, store and share datasets by KALRO researchers.

## **7.0 PRESENTATIONS DAY Four-23<sup>rd</sup> September 2016**

### **Session 1: Chair- Dr. George Keya**

#### **7.1 Fundamentals for success to publish in reputable journals by Dr. Jack Ouda and Dr. Rahab Muinga**

The presentation provided important guidelines on publishing in reputable journals. Among major highlights included:

- Science doesn't exist in a vacuum. So if you cannot communicate effectively to your colleagues and the general public, your work will be perceived as unimportant
- It is beneficial to decide on the target journal early, rather than writing and then considering where to send
- Strictly adhere to Authors guidelines
- Consider reviewers' perception - Analyse the critiques, involve colleague & co-authors
- Predatory/fake publishers and journals increased publication from 53,000 in 2010 to an estimated over million articles currently.

**NB: Soft copies of all presentations were availed to participants.**

## Session 2: Chair- Dr. George Keya

### 7.2 Way Forward

Each of the teams in the centres participating in the ASAL-ARP project met and made summaries of their planned future work as presented below:

#### KALRO Mtwapa

Group	Item	Titles	Means/Facilitation required
Mtwapa	<ul style="list-style-type: none"> <li>• <b>Brochures</b></li> </ul>	<ol style="list-style-type: none"> <li>1. Rhodes grass ex – Tozi establishment and management.</li> <li>2. Rhodes grass utilization</li> </ol>	Write shop for the project team. 2 <sup>nd</sup> week January 2017
	<ul style="list-style-type: none"> <li>• <b>Manuals</b></li> </ul>	<ol style="list-style-type: none"> <li>1. Rhodes grass ex – tozi production and utilization manual</li> </ol>	
	<ul style="list-style-type: none"> <li>• <b>Technical report</b></li> </ul>	<ol style="list-style-type: none"> <li>1. Evaluation of Rhodes grass and legume mixtures for milk and beef production in Coastal Kenya</li> <li>2. Experiences and lessons in establishing Rhodes grass in large acreage.</li> </ol>	
	<ul style="list-style-type: none"> <li>• <b>Journal articles</b></li> </ul>	<ol style="list-style-type: none"> <li>1. Utilization of Rhodes grass and legume mixtures for milk production in a rotational grazing system in Coastal Kenya.</li> <li>2. Biomass production of Rhodes grass and legume mixtures in Coastal Kenya.</li> <li>3. Productivity of Rhodes grass under different clipping frequencies and intensity in</li> </ol>	

		Coastal Kenya. 4. Nutritive composition of Rhodes grass under different Clipping frequencies and intensities	
	<ul style="list-style-type: none"> <li>• <b>Website Content uploading</b></li> </ul>	<ol style="list-style-type: none"> <li>1. Project brief</li> <li>2. Scientists profiles</li> </ol>	
<b>ICT</b>	<b>Open data</b>	<ol style="list-style-type: none"> <li>1. Publications will be available for uploading</li> </ol>	



## Open Data Forum

<b>Item</b>	<b>Tasks</b>	<b>Means/Facilitation required</b>	<b>Milestones</b>	<b>Interventions By who</b>
Open data	From what	<ul style="list-style-type: none"> <li>• ASAL APRP/KASAL Research</li> <li>• 12 datasets from each center</li> </ul>	<ul style="list-style-type: none"> <li>• 12 Complete Datasets (0%)</li> </ul>	Scientists ICT
	Activities	<ul style="list-style-type: none"> <li>• Develop a template/ guidelines for data collection Crops/livestock</li> <li>• Give template to scientists to input the data</li> <li>• Clean data</li> <li>• Upload to the K-Hub</li> <li>• Analysis and Reporting</li> </ul>	<ul style="list-style-type: none"> <li>• K-HUB (70% Done)</li> <li>• Template &amp; Guidelines (0%)</li> </ul>	Scientists ICT

## KALRO Naivasha

Activity	Item	Task	Expected time	Means of facilitation
Flock management at the unit	Technical report	Technical Team	End of October	ASAL-APRP
Availing chicks to farmers	Technical report	Technical team	End of October	ASAL-APRP
Disease control(vaccination)	Technical report	Technical team	End of October 2016	ASAL-APRP
Chicks harvest and package to farmers	Technical report	Technical team	End of October 2016	ASAL-APRP
IBD control	Technical report	Technical team	November 2016	ASAL-APRP
Develop publicity information materials	<ul style="list-style-type: none"> <li>• Packaged technology</li> <li>• Development of scripts</li> <li>• Documentary</li> </ul> Brochures <ul style="list-style-type: none"> <li>• Poultry Feeds and feed formulation</li> <li>• Disease control</li> <li>• Breeding</li> </ul> Leaflets <ul style="list-style-type: none"> <li>• Brooding</li> <li>• Hatchery management</li> </ul>	Technical team	November 2016	ASAL-APRP
		Technical team	December 2016	Facilitation required
		Technical team	November 2016	Facilitation required
IBD prevalence in ASAL areas.	Journal paper	Wachira et al	February 2017	ASAL-APRP

Impact assessment on IC	Journal	Murage et al	February 2017	ASAL-APRP
Website uploading content	<ul style="list-style-type: none"> <li>• Leaflets</li> <li>• Photos</li> <li>• Documentary</li> <li>• Profile</li> </ul>	Gladys Wangui	Every two weeks	ASAL-APRP
Field/Open days	SACDEP-Kenya to coordinate	Technical team	one in late Oct-Nov 2016	ASAL-APRP
Shows and exhibitions	Nairobi Trade Fair	Technical team	October	ASAL-APRP
Training	Technical report	Technical team	2 by December	ASAL-APRP
IC breeding project	3 Journals	Ilatsia et al	March 2017	ASAL-APRP
Open data	Consult	Dr Ann Wachira/ Peter Alaru		

### KALRO Katumani

Activity/Item	Name/Title	Who	Timeline	Means/ Facilitation
<b>Brochures/pamphlets</b>	Amaranth production	Fatuma Omari and CDK	Nov	Payment for publication by coordination
	Amaranth Agronomic practices	Fatuma Omari and CDK	Nov	
	Amaranth crop protection	Fatuma Omari and CDK	Nov	
	Sorghum legume rotation	Dr Njaimwe	Nov	
	Sorghum Post Harvest	Peter Kathuli	Nov	
	Increasing sorghum yields	Peter Kathuli	Nov	
	3 brochures on New Green gram Varieties	Rael Karimi	Nov	
	Sorghum Bird management	D Mutisya	Nov	
<b>Leaflets</b>	Characteristics and production of new bean varieties	Davis Karanja	Nov	
	Characteristics of cassava Varieties with low cyanide	John Wambua	Nov	
	Cassava root starch content	John Wambua	Nov	
	How to handle and multiply clean cassava planting material	John Wambua	Nov	

<b>Manuals/Booklets</b>	Amaranth production	Fatuma Omari and CDK	Nov	
	Amaranth Post Harvest practices	Fatuma Omari and CDK	Nov	
	Sorghum Husbandry	Sorghum team	Nov	
	Increasing Cassava yield: A manual for the extension	Wambua	Jan	
<b>Field days</b>	2 Amaranth Filed days At Kitui and Mks	Fatuma	Jan/Feb	Katumani Project budget
	1 major field day at Makueni for all activities	All	Jan/Feb	
	Beans field day at Katumani	D Karanja	Jan/Feb	
	3 Sorghum Field days at Makueni Kitui and Mks	Smart Logistics	To be given dates	
<b>Technical reports</b>	5 (Sorghum, amaranth , cassava, Green grams, beans)		Each Quarter	
<b>Journal Papers</b>	Amaranth - Bollworm	Fatuma and Mutisya	Jan	Payment for publication by coordination
	Amaranth Plant Ecology	Fatuma and Mutisya	January	
	Sorghum Rotations and intercropping	Njaimwe	January	
	Sorghum characterization and adaptability for tolerance to various ecological conditions	Rachael	January	
	Sorghum agronomy and pest management for increased yields	Kathuli	January	
	Sorghum participatory breeding for hot dry lowlands	Rachael	January	
	Variation of green grams lines in E. Kenya	Karimi	January	
	Beans participatory selection	Karanja	January	
	Evaluation of beans for cold and hot tolerance	Karanja	January	
	Cassava yield under small holder conditions	Wambua	January	

	Conference paper: Sorghum COPMAS model	Smart Logistics	January	
<b>Demos</b>	4 Amaranth Demos at Katumani Yatta Kitui	Fatuma	November	Katumani Project budget
	8 Sorghum Demos- Makueni, Kithimani, Mwingi, Kitui	Sorghum team	November	
	Sorghum Participatory Evaluation	Njaimwe, Rachael	Dec/Jan	
	3 Bean PVS	Karanja	Dec/Jan	
<b>Shows</b>	Participation in Nairobi show	Katumani Team	October	Katumani Project budget
<b>Packaging</b>	2 Write Shops	Katumani Team	Nov and end Dec	Katumani Project budget

### **KALRO Kiboko**

<b>Activity/Item</b>	<b>Name/Title</b>
<b>Journal papers</b>	<ul style="list-style-type: none"> <li>• Milk hygiene and marketing</li> <li>• Fodder production and utilization in Loitokitok –</li> <li>• Cold tolerance of selected fodder varieties</li> <li>• Capacity building pf agro pastoralists in Loitokitok</li> <li>• Morphological Characterization of collected pasture accessions</li> <li>• <i>Panicum maximum</i></li> <li>• <i>Cenchrus ciliaris</i></li> <li>• 2 papers - Molecular characterization               <ol style="list-style-type: none"> <li>1. <i>Panicum maximum</i></li> <li>2. <i>Enteropogon macrostachyus</i></li> </ol> </li> <li>• Pasture seed quality – germination capacity across seasons</li> <li>• 2 - Characterized feed supplements</li> <li>• Feeding trial –results from experiment with beef steers</li> </ul>

	<ul style="list-style-type: none"> <li>• Nutritive value of selected feed materials – cassava , azola, bracharia , range grasses</li> </ul>
<b>Technical reports</b>	<ul style="list-style-type: none"> <li>• Pasture and fodder Demonstration set ups – Loitokitok</li> <li>• Milk hygiene and handling</li> <li>• Overall project report of Loitokitok work</li> <li>• Collections of grass ecotypes</li> <li>• Whole project report – characterization work</li> </ul>
<b>Website content uploading</b>	<ul style="list-style-type: none"> <li>• Pictures and videos from pasture work</li> <li>• Success stories <ul style="list-style-type: none"> <li>○ To be updated frequently</li> </ul> </li> </ul>
<b>Manual</b>	<ul style="list-style-type: none"> <li>• Pasture production training manual</li> </ul>
<b>Outreach</b>	<ul style="list-style-type: none"> <li>• Field day/open day at Loitokitok</li> <li>• Showcase technologies at field days invited</li> </ul>
<b>Brochures</b>	<ul style="list-style-type: none"> <li>• Hygienic handling of milk</li> <li>• Participatory evaluation of pastures and fodders</li> <li>• Harvesting Range Pasture Seeds For Natural Pasture Improvement In ASALS</li> <li>• Feed Conservation For Livestock Production in ASALS</li> <li>• Packaging and storing range pasture seeds</li> <li>• Tree-intercrop integration</li> <li>• Azolla as a protein supplement – production and management</li> </ul>
<b>Leaflet</b>	<ul style="list-style-type: none"> <li>• Pasture development work at Kiboko – flow chart of all the activities leading to the release of varieties</li> </ul>
<b>Booklet</b>	<ul style="list-style-type: none"> <li>• Ecotypes of <i>Cenchrus ciliaris</i></li> </ul>



## KALRO Veterinary Research Centre

Areas	Items	Title	Responsible	Timeline/milestone	Facilitation
Extension materials and publications	Brochures	Management of mastitis in camels	Maichomo and Ndirangu	By Nov. 2016	Project budget
	Technical reports	Two: 1. Development of a vaccine for camel mastitis. 2. Validation of mastitis kit	Maichomo, Ndirangu, Siamba	Feb. 2017	Project budget
	Journal articles	Two: 1. Camel mastitis vaccine candidates identified. 2. Prevalence and management of mastitis in cattle under pastoral production system	Maichomo, Mungube, Ndirangu, MSc. student	Feb, 2017	Project budget
	Website content uploading	1. Camel mastitis project activities 2. Human interest story 3. Profiles	Maichomo and Olum	Regularly	
	Outreach	To participate in a field day to be organized in Oloitoktok by Kiboko team	Maichomo, Mungube, Ndirangu	Dates to be determined	By Kiboko team
ICT	Open data	1. Prevalence rates of mastitis in camel herds in Isiolo and Marsabit counties 2. Antibiotic sensitivity patterns of bacterial isolates from goat milk	Maichomo, Ndirangu	Nov. 2016	



## **8.0 WORKSHOP EVALUATION**

Overall, the participants rated the organization, facilitation and conference facilities during the workshop highly. Majority of the participants indicated the workshop was well organised and facilities a good. This is summarised as follows:

- 80% of the participants hailed the pre-training preparations as adequate and 69% said transport and logistics was adequate.
- On workshop presentations 63% said time allocated was adequate with 33% indicating it was moderately adequate.
- On presentations made at the workshop 21% rated them as excellent, 75% good and 4% satisfactory.
- The time allocated for discussions was rated at 34% excellent, 58% as good and 8% as satisfactory.
- The format of the training was rated as adequate 65%, and 35% moderately adequate.

## APPENDIX 1. LIST OF PARTICIPANTS

NO	NAME	ORGANIZATION
1	Dr. Joseph Mureithi	KALRO HQTS
2	Dr. Charles Waturu	ID KALRO Kandara
3	Dr. George A. Keya	KALRO HQTS
4	Dr. Jack Ouda	KALRO HQTS
5	Dr. Rahab Muinga	KALRO HQTS
6	Onesmus D. Mwaggoni	ADS-Pwani
7	Irene W. Kimani	KALRO HQTS
8	John Kinyuru	JKUAT
9	Peter A. O. Alaru	KALRO NRI
10	Racheal Kisilu	KALRO Katumani
11	Dr. Moses O. Olum	KALRO Muguga
12	Patrick Maina	KALRO HQTS
13	John Ayemba	KALRO Katumani
14	Arnold N. Njaimwe	KALRO Katumani
15	Dr. John Ogecha	KALRO Kandara
16	Samson N. Kihara	KALRO Kandara
17	Bernard K. Korir	KALRO Kiboko
18	David M. Mwangi	KALRO NRI
19	Henry Wanyama	KALRO HQTS
20	Richard Kidemi	KALRO HQTS
21	Alex Mutio	CDK
22	Christopher Malusi	Catholic Diocese of Kitui
23	Fredrick M. Mutumba	Catholic Diocese of Kitui
24	Daniel Mutisya	KALRO Ktumani
25	Fatuma Omari	KALRO Katumani
26	Peter Kathuli	KALRO Ktumani
27	Rael Karimi	KALRO Katumani
28	John M. Wambua	KALRO Katumani
29	Gaudensius Mwangi Kungu	KALRO NRI

30	Gladys Wangui	KALRO NRI
31	Bosco Kidake	KALRO Kiboko
32	Amos O. Adongo	KALRO Marsabit
33	Koinange Thuku Mukundi	KALRO HQTS
34	Pauline Mburu	KALRO HQTS
35	Simon Mulwa	KALRO HQTS
36	Nancy Wele	KALRO HQTS/ASAL
37	Linah Muhonja	KALRO Kandara
38	Simon Wepukhulu	KALRO Kandara
39	Jackline Langat	KALRO HQTS/ASAL
40	Kirwa E. C.	KALRO Kiboko
41	Michael N. Njunie	KALRO Matuga
42	Gideon S. Munga	KALRO Mtwapa
43	Boniface Akuku	KALRO HQTS
44	Peter N. Ndirangu	KALRO Muguga VSRI
45	Priscah N. Kibwage	KALRO HQTS.
46	Hellen Nafuna Ngema	SACDEP Kenya
47	Peter g. Mburu	KALRO Kandara
48	Paul Kiuru	KALRO Kandara
49	Rebecca N. Faraay	KALRO Kandara
50	Mary Gateri	KALRO Kandara
51	Michael Nzomo	Smart Logistics
52	David Karanja	KALRO Katumani
53	Anthony Biegon	KALRO HQTS
54	James Gwandaru	KALRO Kandara

## APPENDIX 2. WORKSHOP PROGRAMME

### ASAL-APRP CONTENT/DATA GENERATION & REPACKAGING TRAINING WORKSHOP AND WEBSITE SENSITIZATION AT KALRO-KANDARA FROM 20TH - 23RD SEPTEMBER, 2016 PROGRAMME

#### Day 1 -September 20, 2016

Time	Activity	Presenter/Facilitator
8:15-8:30	<b>Arrival and Registration</b>	
8:30-8:45	<b>Welcoming, Introduction of Participants</b>	Director KALRO KANDARA
8:45-9:15	<b>Opening Remarks</b>	Dr George Keya
9:15-9:45	<b>Official Opening</b>	Dr Joseph Mureithi
9:45-10:00	<b>Workshop Objective on Knowledge Management &amp; Workshop Agenda</b>	Dr Jack Ouda
10:00-10:30	<b>Health Break</b>	
10.30-11.15	<b>Highlights on Open Data and Open Science</b> <ul style="list-style-type: none"> <li>• Development of KALRO Policy</li> </ul>	Dr John Kinyuru (JKUAT)
11.15-11.45	<b>The Concept of Knowledge Hub</b>	Boniface Akuku
11.45-1.00	<b>Website Sensitization &amp; Management</b> Website Platform Planning & Design, Roles of the Project Team, Content Workflows	Richard Kedemi/Henry Wanyama
1:00-2:00	<b>Lunch Break</b>	
2:00-2.45	<b>ASAL-APRP Website:</b> Demonstration of ASAL-APRP Website Capabilities & Applications	Richard Kedemi/Henry Wanyama
2.45-3:30	<b>Elements of Quality Scientific Writing</b> Tips on Writing Scientific articles for Refereed Journals	Dr Rahab Muinga/Dr Jack Ouda

Time	Activity	Presenter/Facilitator
3.30-3.45	<b>Health Break</b>	
3.45-4:30	<b>Publishing</b> Leaflets, Pamphlets/Brochures, Booklets	Mukundi Thuku
4:30-5.00	<b>Wrap Up and Evaluation of Day 1</b>	Dr. Rahab Muinga

## Day 2 - September 21, 2016

Time	Activity	Presenter/Facilitator
8.00-8.15	<b>Overview of Day 2</b>	Dr Jack Ouda
8:15-9:00	<b>Information Repackaging for Various Users</b> Farmers, Policy Makers, Technical/Commercial Application	Pauline Mburu/Anthony Biegon
9.15-10.00	<b>Research Data Collation &amp; Sharing</b> KALRO datasets Examples from Chinese Academy of Sciences (CAS)	Irene Kimani
10.00-11.00	<b>Publishing</b> Writing Posters, Bannaers & Manuals	Mukundi Thuku
11:00 - 11:30	<b>Health Break</b>	
11:30-1.00	<b>Web Content Uploads – Hands On</b>	Richard Kedemi/Henry Wanyama
1:00-2:00	<b>Lunch Break</b>	

Time	Activity	Presenter/Facilitator
2:00-2:45	<b>E-Resources:</b> KALRO and External e-Resources	Patrick Maina
3:00-4:00	<b>Web Content Uploads</b> – Hands On	Richard Kedemi/Henry Wanyama
4:00 – 4:15	<b>Health Break</b>	
4:15-4:45	<b>Reports:</b> Tips on Writing Reports	Anthony Biegon/Dr Jack Ouda
4:45-5:00	<b>Wrap up and evaluation of day 2</b>	Mukundi Thuku

### Day 3 - September 22, 2016

Time	Activity	Presenter/Facilitator
8:30-9:00	<b>Welcome Overview of Day 3</b>	Dr Jack Ouda
9:15-10:00	<b>Tips on Writing Media Articles</b> -Press Releases, News, Features	Mukundi Thuku
10:45-11:15	<b>Health Break</b>	
11:15-12:00	<b>Content Repackaging for Various Users</b> Re-writing, Illustrations, Translation & Video Clips	Anthony Biegon/Pauline Mburu
12:00-12:30	<b>Tips on Writing Human interest and Impact Stories</b>	Dr Jack Ouda/Mukundi Thuku
1:00-2:00	<b>Lunch Break</b>	
2:00-2:30	<b>Open Science in Agriculture</b> <ul style="list-style-type: none"> <li>• Research Data Service and Best Practices</li> </ul>	Irene Kimani
2:30-3:30	<ul style="list-style-type: none"> <li>• Big data: Collation, Storage &amp; Sharing</li> </ul>	Boniface Akuku
3:30-4:00	<b>Health Break</b>	

Time	Activity	Presenter/Facilitator
4:00-4:30	<ul style="list-style-type: none"> <li>• <b>Open Science in Agriculture</b> KALRO's Dataset Tool- Hands on</li> <li>• Data Mining Tools</li> </ul>	Richard Kedemi
4:30-5:00	<b>Wrap Up and Evaluation of Day 3</b>	Boniface Akuku

**Day 4 - September 23, 2016**

Time	Activity	Presenter/Facilitator
8:30-10:45	<b>Web Content Uploading</b> – Hands on	Richard Kedemi/Henry Wanyama
10:45-11:15	<b>Health Break</b>	
11:15-12:00	<ul style="list-style-type: none"> <li>• Data Mining Tools</li> </ul>	Irene Kimani
12:00-12:30	<b>Wrap Up and Evaluation of Day 4</b> <b>Way Forward</b> <b>Closing</b>	Dr Jack Ouda  Dr. George Keya
1:00-2:00	<b>DEPARTURE</b>	