

# Report of the workshop on training of trainers on technologies for the promotion of local poultry value chain in Africa

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<b>Name of training event</b>	<b>‘Training of Trainers on technologies for the promotion of local poultry value chain in Africa’</b>
<b>Dates</b>	16 <sup>th</sup> -20 <sup>th</sup> November 2020
<b>Venue</b>	Douala – Cameroon (Onomo Hotel)
<b>Instructors and their affiliation</b>	Dr Christian Keambou Tiambo ( <b>CTLGH/ILRI</b> ) and Dr Henri Rene Zambou ( <b>Equavet Group</b> )
<b>Participant information, including number by gender</b>	Participants consisted of local poultry geneticists, scientists, producers, poultry equipment manufacturers, ICT start-ups, technology developers, feed producers, poultry cooperatives promoters and animal health service providers from the five agro-ecological zones of Cameroon. Also present were government officials from the Ministry of Livestock, Fisheries and Animal Industries (MINEPIA), and the Regional Delegate for MINEPIA in the Littoral Region of Cameroon; World Poultry Science Association (WPSA) Cameroon branch; the Cameroon poultry inter-profession (IPAVIC). Among the participants were 11 women and 32 men (see list attached)
<b>Funder</b>	AU-IBAR, Live2Africa project.,  Press release: <a href="https://www.au-ibar.org/home/486-en/media/press-releases/live2/1580-workshop-on-training-of-trainers-tot-on-technologies-for-the-promotion-of-local-poultry-value-chain-in-africa">https://www.au-ibar.org/home/486-en/media/press-releases/live2/1580-workshop-on-training-of-trainers-tot-on-technologies-for-the-promotion-of-local-poultry-value-chain-in-africa</a>
<b>Aim of the course</b>	To build the capacity of the participants on the development process of the poultry value chain using technologies innovation
<b>Course summary or agenda</b>	<p>A training workshop <b>“Training of Trainers (ToT) on technologies for the promotion of local poultry value chain in Africa”</b> was held from 16 to 20 November 2020 in Douala-Cameroon. This workshop was supported by the Live2Africa Project of AU-IBAR. The main objective of the workshop was to build the capacity of the participants on the latest technologies and developments in the local poultry value chain. The specific objectives of the pilot ToT workshop in Cameroon were to:</p> <ul style="list-style-type: none"> <li>• Identify key components and priority interventions areas of the local poultry value chain in Cameroon</li> <li>• Validate and adopt models of community-based poultry breeding programmes while addressing technical gaps in the value chain</li> <li>• Highlight and promote the appropriate technology and start up innovations to sustain the Cameroon local poultry value chain</li> <li>• Design the way forward towards developing the local poultry cooperatives, Cameroon branches of the world Poultry science association (WPSA), Cameroon poultry inter-profession (IPAVIC) and the value chain</li> <li>• Develop a stepwise Action Plan to guide the sustainability of the Cameroon local poultry value chain.</li> </ul> <p>Participants consisted of local poultry geneticists, scientists, producers, poultry equipment manufacturers, ICT start-ups, technology developers, feed producers, poultry cooperatives promoters and animal health service providers from the five agro-ecological zones of Cameroon. Also present were government officials from the Ministry of Livestock, Fisheries and Animal Industries (MINEPIA), and the Regional Delegate for MINEPIA in the Littoral Region of Cameroon; World Poultry Science Association (WPSA) Cameroon branch; the Cameroon poultry inter-profession (IPAVIC). The training was facilitated by Drs Christian Keambou Tiambo from CTLGH/ILRI (Kenya) and Henri Rene Zambou from Equavet Group (Cameroon).</p> <p>The Director of AU-IBAR, Prof Ahmed Elsawalhy, through a video-conference link welcomed the participants. In his opening remarks, he highlighted the importance of technology and innovations to drive development and stressed how small improvements in techniques, procedures and methods can have positive impacts on local poultry production and productivity. The representative of the Ministry of Livestock, Fisheries and Animal Industries (MINEPIA), Mrs Annie Claire Ngo Ongla, who officially chaired the workshop, in her opening remarks emphasized the role of livestock, particularly poultry, on food and nutrition security.</p> <p>Over the five days training, the facilitators and workshop participants shared, and exchanged experiences on innovative technologies for the development of the Cameroon local poultry value chain. The emphasis was on developing and promoting local poultry genetic resources and breeding, eggs and meat production and processing of local poultry products and by-products for value addition. Marketing channels development supported by information technology innovations were also discussed. These were presented by JANGOLO start-up (<a href="https://www.jangolo.cm/">https://www.jangolo.cm/</a>).</p>

	<p>The workshop was participatory, consisting of plenary presentations by the facilitators followed by discussions, clarification and sharing of experiences on the various components of the value chain. Working groups were also established for more focussed deliberations. Hands-on practical field visits were made to Nono Nono Gomes family poultry farm at Lendi at Douala 5 district and a structure provider of animal health, EQUAVET GROUP based at Bonaberi, Douala 4 District. The workshop also analysed case studies, best practices and causes of bottlenecks in local poultry value chain.</p> <p>Participants were informed of success stories and experiences in local poultry breeding and distribution from Kenya (KALRO); Tanzania (AKM Glitters) and Ethiopia (ACGG). The investment and business opportunities in the development of the local poultry value chain, were also demonstrated. Other topics covered included: reproductive technologies; feed technologies and feeding systems; health, public health and biosecurity; housing and other infrastructures; designing successful local poultry agri-business; project design and cycle, cost-benefit analysis; value addition, processing, biosecurity; conservation and bio banking of local poultry genetic resources; and utilization and distribution of elite breeds.</p> <p>There were presentations and showcasing by the poultry industry stakeholders including: egg incubators manufacturers (GIC-APME and GIC DALUCAM), feed producer (SPRADY Ltd), animal health service provider (Equavet group), ICT start-up innovator for poultry information system to support production, market and services delivery (JANGOLO), cooperatives of producers (BUPOFAI COOP, AZ Elevage, Socoo PRORALOC-Cam, Happy- Birds Happy Eggs, KFARM INDUSTRY, and GreenGold AgroVenture.</p> <p>Key outputs and recommendations of the training workshop included:</p> <ul style="list-style-type: none"> <li>• Need for legal frameworks and regulations to protect local poultry resources from crossbreeding</li> <li>• Mapping (GIS) of existing breeders and farmers</li> <li>• Characterisation of existing genetic resources, and bio-banking;</li> <li>• Identification and selection of pilot local poultry breeders for training</li> <li>• Creation of a platform for stakeholders from the ministry of livestock research, universities, and producers to condense and package and disseminate the results of research on local poultry development</li> <li>• Introduction and promotion of local solar incubators for eggs</li> <li>• Introduce breeding cocks selected from the local gene pool and promote artificial insemination and the primordial germ cell (PGC) technology.</li> <li>• Determine nutritional requirements of local poultry breeds in Cameroon</li> <li>• Formulate complete diets using locally available feed resources in each agro-ecological zone</li> <li>• Organize farmers into co-operatives to facilitate access to training, funding, and other support</li> <li>• Train poultry farmers on housing, feeding, health management</li> <li>• Design the epidemiological map and related prophylactic program</li> <li>• Train farmers on ICT and establish networks/platforms to facilitate online training, sharing experiences, links with customers</li> <li>• Organize annual national or regional local poultry day where poultry products are exhibited and producers given awards as incentives</li> </ul> <p>The training workshop improved the capacity of participants who were exposed to innovative technologies, modern tools and opportunities to develop and sustain the local poultry value chain. It is envisaged that the enhanced capacity of stakeholders will result in increased agri-entrepreneurship, technology development and uptake by the local poultry industry. The participants are expected to train other stakeholders, thereby increasing the pool of expertise in the local poultry value chain.</p> <p>(see agenda attached)</p>
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<b>Links to training material, if available</b>	<p>Not yet Available, as AU-IBAR will be load from their website</p>
<b>Any other remarks</b>	<p>Generally, the workshop went well with emphasis on interactive discussions, experiences sharing and working groups on innovative technologies. There were some challenges of time management due to the fact that most participants were not lodging at the training venue. The facilitators had many activities including training, facilitating, taking notes, preparing daily reports and debriefing, daily evaluation, and other administrative tasks. It was clear that there were few known innovations and technologies on local poultry farming and local chicken value chain development. This was evidenced in the proposed required innovations and technologies for the sector, such as for genetic improvement, breeding and production (meat and eggs). The trainees showed enthusiasm and will be future trainers and create the expected « <b>snowball</b> » effect in line with the expectations of the Live2Africa project of AU-IBAR.</p> <p>It's advisable for further training to <b>make a local poultry value chain situation analysis in a country</b> to enable all participants to have the same starting point and to propose innovations based on existing technologies.</p> <p>It was recommended that similar workshops are organised in other ECCAS countries and create family poultry value chains across the Central Africa (ECCAS) region. This will encourage sharing of genetic resources, equipment, expertise and markets. Pictures and videos from the workshop are share in different files.</p>
<b>Photos</b>	<div data-bbox="523 797 1327 1220" data-label="Image"> </div> <div data-bbox="523 1272 1310 1635" data-label="Image"> </div> <p data-bbox="587 1675 1246 1702">View of workshop set up at ONOMO Hotel conference hall Douala</p>





A breakout session during the workshop supervised by Dr Zambou



visit at Equavet group by workshop participants



Workshop participants with lab coat and cover boots as part of biosecurity measures

**Contact person  
for more  
information**

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CTLGH-ILRI: Christian K Tiambo, [c.tiambo@cgiar.org](mailto:c.tiambo@cgiar.org)

# Annexes Agenda

Date and time	Activities	Resource persons
<b>DAY 1: Monday 16<sup>th</sup> November 2020</b>		
<b>Identification of key components and priority intervention areas of the local poultry value chain in Central Africa - Cameroon</b>		
<b>Facilitators: Christian K. Tiambo and Henri René Zambou</b>		
<b>SESSION 1: opening</b>		
8:30 – 9:00	Arrival of participants and Registration	All Participants
9:00 – 9:15	Self-introduction of participants	All Participants
9:15 – 10:15	Welcome notes Opening Remarks	Representative MINE-PIA AU-IBAR Director
10:15 – 10:45	Presentation of Workshop Programme and Objectives Adoption of Agenda	Facilitators (Christian K. Tiambo)
10:45 – 11:00	<b>Group photo and Health Break</b>	
11:00 – 11:30	Brief Presentation of AU-IBAR <i>Sustainable Livestock for Livelihoods in Africa</i> (Live2Africa) project and Central Africa Priority Livestock Value Chain and actions	AU-IBAR (Mary Mbole-Kariuki & Edward Musiwa Nengomasha)
11:30 – 12:00	General characteristics and facts about African chickens, Production systems, Management, Constraints and Opportunities	Facilitators (Henri R. Zambou)
12:00 – 12:30	Success stories local poultry breeding and dissemination: Experience from <b>Kenya (KALRO)</b> and <b>Tanzania (AKM glitters)</b> and <b>Ethiopia (ACGG)</b>	Facilitators (Christian K. Tiambo)
12:30 – 13:00	Presentation of Guidelines for Group Work on priority needs across components of local poultry value chains	Facilitators (Christian K. Tiambo)
13:00 – 14:00	<b>Lunch</b>	
<b>SESSION 2: INFORMATION NEEDS ANALYSIS</b>		
14:00 – 16:15	Group work: details description of the:  a) Priority Components for the development needs of the local poultry value chain in Central Africa – Cameroon.  b) breeding needs and assessment of technical across the regional local poultry value chains (RPVCs)	All Participants
16:15 – 17:00	Plenary presentations and discussions	All Participants

<b>DAY 2: Tuesday 17<sup>th</sup> November 2020</b> <b>Technologies innovations and models of community-based breeding programmes addressing technical gaps in local poultry value chain</b> <b>Facilitators: Christian K. Tiambo and Henri Zambou</b>		
8:30 – 8:45	Recap of Day 1 and orientations for Day 2	Rapporteurs (Sally Katee & Moses Ogugo)
8:45 – 9:45	Appropriate interventions in local poultry value chain (Part 1): <ul style="list-style-type: none"> <li>• Breeds, breeding and reproductive technologies</li> <li>• Feed technologies and feeding systems</li> <li>• Health, public health and biosecurity</li> <li>• Housing and other infrastructures</li> </ul>	Facilitators (Christian K. Tiambo)
9:45 – 10:45	Appropriate interventions in local poultry value chain (Part 2): <ul style="list-style-type: none"> <li>• Introduction to poultry agri-business</li> </ul>	Facilitators (Henri R. Zambou)
10:45 – 11:00	<b>Health Break</b>	
11:00 – 12:00	Designing successful local poultry agri-business <ul style="list-style-type: none"> <li>• Project cycle and main activities for each phase</li> <li>• Decision tree for project design</li> <li>• Cost-benefit analysis</li> </ul>	Facilitators (Henri R. Zambou)
12:00 – 13:00	Value addition, processing, and biosecurity in local poultry value chain	Facilitators (Henri R. Zambou)
13:00 – 14:00	<b>Lunch</b>	
14:00 – 16:00	<b><i>Sharing success stories in technology and innovations in the poultry value chain</i></b> <ul style="list-style-type: none"> <li>• Experiences from egg incubators production units</li> <li>• Experiences from poultry equipment production units</li> <li>• Experiences from ICT innovations for Poultry information system to support production, market and service delivery</li> <li>• Experiences from poultry feed production units</li> <li>• Experiences from value addition and commercialisation units</li> </ul>	All Participants
16:00 – 16:30	<ul style="list-style-type: none"> <li>• Technologies in inputs and services for poultry value chain</li> <li>• Guidelines for Group Work on improving existing technologies and innovations uptake and utilization in the regional local poultry value chain (RPVC)</li> </ul>	Facilitators (Christian K. Tiambo)
16:00 – 17:00	Presentation of the World Poultry Science Association (WPSA) – Cameroon Branch	Member of the WPSA-Cameroon



<b>Day 3: Wednesday 18<sup>th</sup> November 2020</b> <b>NEEDS FOR IMPROVING EXISTING TECHNOLOGIES AND INNOVATIONS UPTAKE AND UTILIZATION IN THE REGIONAL LOCAL POULTRY VALUE CHAINS AND ADDRESSING TECHNICAL GAPS</b> <b>Facilitators: Dr Christian K. Tiambo and Dr Henri Zambou</b>		
8:30 – 8:45	Recap of Day 2 and orientations for Day 3	Rapporteurs (Sally Katee & Moses Ogugo)
8:45 – 10:45	<b>Group Work:</b> <ul style="list-style-type: none"> <li>• Groupe 1: egg incubators technology</li> <li>• Groupe 2: poultry production equipment</li> <li>• Groupe 3: ICT innovations for support to production, market, and service delivery</li> <li>• Groupe 4: feed and feeding systems</li> <li>• Groupe 5: value addition and commercialisation</li> </ul>	All Participants
10:45 – 11:00	<b>Health Break</b>	
11:00 – 12:00	<b>Group Work (Continued):</b> <ul style="list-style-type: none"> <li>• Groupe 1: egg incubators technology</li> <li>• Groupe 2: poultry production equipment</li> <li>• Groupe 3: ICT innovations for support to production, market, and service delivery</li> <li>• Groupe 4: feed and feeding systems</li> <li>• Groupe 5: value addition and commercialisation</li> </ul>	All Participants
12:00 – 13:00	Plenary discussion the improvement of existing technologies and innovations uptake and utilization in the regional local poultry value chain	All Participants
13:00 – 14:30	<b>Lunch</b>	
14:30 – 15:30	Conservation of local poultry genetic resources to support development <ul style="list-style-type: none"> <li>• Bio banking African poultry seed for conservation and dissemination of elite breeds</li> <li>• Operationalization of the Central African GeneBanks</li> </ul>	Moses Ogugo & Christian K. Tiambo
15:30 – 16:00	Highlight on Access and a Benefits sharing for the local poultry conservation and value chain development in Central Africa	Sally Katee and Aurelie Dingom
16:00 – 17:00	Awareness creation on the benefits of poultry cooperatives and national branches of Central Africa Poultry Association	Facilitators/Poultry Association

<b>Day 4: Thursday 19<sup>th</sup> November 2020</b> <b>Touching base with technology innovations for uptake and utilization in local poultry value chain</b> <b>Facilitators: Christian K. Tiambo and Henri Zambou</b>		
7:30 – 17:00	<b>Farm visit and hands-on training</b>	All Participants
<b>DAY 5: Friday 20<sup>th</sup> November 2020</b> <b>Way forward on technology and innovation uptake and utilization by the Central African region</b> <b>Facilitators: Christian K. Tiambo and Henri Zambou</b>		
8:30 – 8:45	Recap of Day 4 and orientations for Day 5	Rapporteurs (Sally Katee & Moses Ogugo)
8:45 – 10:45	Plenary discussion for identification of priority technologies and innovations for the Central Africa poultry value chain	Participants
10:45 – 11:00	Health Break	
11:00 – 13:00	Awarding of Certificates	Director AU-IBAR
13:00 – 14:00	Closing remarks and closure	Director AU-IBAR

# List of participants

No	Name of Farmer/participant	Name of association / cooperative/Organisation
1	Tefiang Donfack Eleonore	Ministry of Livestock and Fisheries
2	Kemani Gérard Mercier	Tous Ensemble-Volaille
3	Kamdoum Sah Judicael	Proraloc
4	Dankou Lucas	DALUCAM
5	Gervais Lekane	LTG Incubators
6	KAMSU Gaëlle	Ministry of Livestock and Fisheries
7	Fomunang Beltha Ngum	Zion Farmers (ZIFAs)
8	Sob Motsa'a Joseline	University of Bamenda
9	Terence Forsah Nji	Happy Birds-Happy Eggs
10	Thomas Tebug Tumassang	Tugi Livestock Farmers Cooperative
11	Andre Kom	Ferme Integree de Bayangam
12	Ndaleh Joel	University of Buea
13	Ojong Emmanuel Takor	University of Buea
14	George Tenny Ngu	Buea Poultry Farmers and allied Industries Cooperative (BUPOFAI)
15	Godfred Ayuk Batiem	Ministry of Livestock and Fisheries
16	Bertrand Foffe	Jangolo Farm
17	Sandrine Tsayo	University of Dschang
18	Arnaud Hako Touko	World Poultry Association-Cameroon
19	Prof Alexis Tegua	World Poultry Association-Cameroon
20	Francois Djitie	World Poultry Association-Cameroon
21	Hamasseo Sali	SCOOPS EBT
22	Hamadou Adjia	Continental Veterinaire
23	Mohamat Moussa	SCOOPS Dourgou Woila
24	Jean Claude Fotsa	World Poultry Association-Cameroon
25	Jean Honore Kuete	Société coopérative simplifiée KFARM INDUSTRY
26	Sandrine Kenne	SPRADY
27	Nkenye simplice	Société IPEX SARL
28	Prof Ngoula Ferdinand	World Poultry Association-Cameroon
29	Mafouo Huguette	Green Gold AgroVenture Cameroon
30	David MOMO	volailles de Bangang
31	Prof Jean Raphael Kana	World Poultry Association-Cameroon
32	Kohne Pon Nji Mouafon	pouakohne
33	Dihchout Massein	Dihchout
34	Hypolite Zogning	Hypo Farm
35	Anold Tatah Kong	Buea Farmers Association
36	Alung Mbomouh Mariedo	Mile 16 Farmers
37	Delors Waying	AZ élevage
38	Aboubakary Djidjiwa	GIC MANG-LAWSONG de MBANG-REY
39	Annie Claire Ngo Ongla	Director of Livestock Infrastructures, Pasture and animal feeding
40	Monsieur Seini Boukar	Regional Delegation of Livestock-Douala
41	Christian K Tiambo	CTLGH/ILRI
42	Henri Rene Zambou	Equavet Sarl
43	Gomes NONO NONO	Gomes Farm