

Yelemat Tirufat

An overview of the initiative and lessons
of experience from selected livestock development
interventions in Ethiopia



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INITIATIVE ON
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Yelemat Tirufat is a four-year development program that aims to boost productivity and production of dairy, eggs, chicken meat, and honey and related hive products.



The main developmental objectives of *Yelemat Tirufat* are to accelerate efforts to achieve food self-sufficiency and ensure nutritional opulence at the family and national levels. The program has also the added objective of creating job opportunities, increasing export, and hastening import substitution (i.e., replacing imported animal products with those processed domestically).



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DECEMBER 2022 • BAHIR DAR, ETHIOPIA

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Executive summary

A national consultative *Workshop on “Are We Ready for Yelemat Tirufat?”*, financed by the International Livestock Research Institute (ILRI) and organised jointly by Ethiopia’s Ministry of Agriculture, ILRI, the International Center for Agricultural Research in the Dry Areas (ICARDA), the International Centre of Insect Physiology and Ecology (*icipe*) and Land O’Lakes Venture³⁷, was held on 24 and 25 December 2022, in Bahir Dar, Ethiopia.

The workshop provided a timely platform to inform key livestock professionals and institutions about the basic elements of *Yelemat Tirufat*, exchange lessons of experience from implementing programs aimed at improving the productivity, accessibility and nutritional dimensions of chicken and chicken products, honey and other hive products, small ruminants, and dairy and dairy products.

Yelemat Tirufat is a four-year development program that aims to boost productivity and production of dairy, eggs, chicken meat, and honey and related hive products. The main developmental objectives of *Yelemat Tirufat* are to accelerate efforts to achieve food self-sufficiency and ensure nutritional opulence at the family and national levels. The program has also the added objective of creating job opportunities, increasing export, and hastening import substitution (i.e., replacing imported animal products with those processed domestically). The following provides a summary

of the issues that participants of the workshop considered critical for the conceptualisation, design, and implementation of *Yelemat Tirufat*. Participants also seized the opportunity of the deliberations on *Yelemat Tirufat* to provide some thoughts that would have relevance for the wider livestock sub-sector.

Correct the narrative: Pursuing *Yelemat Tirufat* with dedication and zeal demands reframing of entrenched narratives surrounding livestock that could stifle the will for action and progress. The following are two such examples:

A Stop romanticizing and taking pride in Ethiopia’s large livestock numbers: That Ethiopia is endowed with among the largest number of livestock resources in the world cannot be contested. However, the level of Ethiopia’s livestock productivity is unacceptably low even by the standards of east African economies. This is

a sobering fact that must be faced squarely. Thus, ensuring effective implementation of *Yelemat Tirufat* demands a realisation that Ethiopia is a country of millions of hoofs and horns carried by emaciated livestock. Upholding such a perspective is likely to galvanise the population to work towards realizing the objectives of *Yelemat Tirufat* with a sense of utmost urgency.

B Bringing about change through livestock development is time consuming: There is a pervasive view held by many professionals, which maintains that returns to livestock development take unduly long periods of time and that perceptible livelihood changes are difficult to come by through investing in livestock development. While there may be some merit in these, in the context of *Yelemat Tirufat*, owing to prior, successive incremental investments made in diverse livestock research and development interventions, a range of potential low hanging fruits and quick wins are available in genetics, feed technology, health/biosecurity services and input-output marketing.

A bold initiative with doable targets and flexible implementation strategy:

Yelemat Tirufat sets out to achieve food self-sufficiency, nutritional opulence, decent job creation, import substitution, and increased agricultural exports. These are important aspirations that can only be realised through setting realistic targets that in turn are anchored in well-thought-out planning and implementation processes. The consensus of professionals is that the planned targets are doable and that some



***Yelemat Tirufat* is a four-year development programme that aims to boost productivity and production of dairy, eggs, chicken meat, and honey and related hive products.**

regional states have even submitted targets higher than those envisaged at the federal level. The initiative is also flexible in terms of embracing to the fold additional focus commodities that go in consonance with resource endowments and take account of agro-ecology specificities. Considering the importance of small ruminants as producers

of red meat in the national food basket, their untapped export earning potentials, the significant job and income generation opportunities that can be realised from the small ruminant value chain operations as well as recognising the presence of a good knowledge base on these species that can inform *Yelemat Tirufat*, there is a possibility that the plan for *Yelemat Tirufat* at the federal level would in due course also include red meat production from small ruminants. Following the principle of subsidiarity, the federal government has endorsed the incorporation of red meat (Amhara and Oromia) and fisheries (Amhara, Oromia and Gambela) into the respective regional *Yelemat Tirufat* plans.

Diverse experience to learn from and *Yelemat Tirufat* to build on

what works: The MoA recognises that implementation of *Yelemat Tirufat* should build on the gains of pertinent projects and programs that have been (or are being) implemented by a range of development actors. The Workshop made it possible for a closer look into the workings of ILRI's chicken genetics program, *icipe*'s apiculture-centred youth and women

entrepreneurship program, ICARDA's small ruminant value chain development program, and Land O'Lakes's project on efficient delivery of artificial insemination services in dairy cattle. All these programs, which are aimed at enhancing the productivity, accessibility, and profitability of—in that order—poultry, apiculture, goats and sheep and dairy, have shown that Ethiopia possesses a wealth of in-house technical experience and expertise, the labour base, and the agro-ecological endowments to help meet the targets set under *Yelemat Tirufat*. Moreover, *Yelemat Tirufat* is bound to capitalise on the range of transferable organisational and supply chain models that the above programs/projects have put to good use, and which have proven their utility on the ground. Examples include:

A Chicken: The agency model that relies on independent small businesses—called Mother Units—who rear the chicks and sell them to the end customers (who are typically small holder farmers).

B Dairy: Performance-based incentive system for artificial insemination (AI) technicians that resulted in virtuous knock-on effects downstream.

The MoA recognises that implementation of *Yelemat Tirufat* should build on the gains of pertinent projects and programs that have been (or are being) implemented by a range of development actors.

C Apiculture:

- i** Vertically integrated financial institutions that availed loans to organised youth groups through microfinance institutions backed by loan guarantee agreements and special financial window facilities.
- ii** Organization of functionally integrated business hubs that cover the full length of the apiculture (honey and related hive products) value chain.

D Small ruminants: Establishment and operationalization of breeders' cooperatives that manage community-based breeding programs as a solution for genetic improvement of sheep and goat in low input systems.

Seize the opportunity of Yelemat Tirufat to set in motion development of the indigenous livestock genetics

base: Limited availability of improved livestock genetics (for instance, parent and grandparent stock of chickens, and sexed semen of improved cattle) is a serious challenge for enhancing productivity sustainably. The existing livestock business and development models in Ethiopia rely on importing these genetic technologies with all the ramifications for hard earned foreign currency and dependence on imports over which the country has little or no control. While this approach cannot be abandoned in the short run because of the urgency of meeting pressing domestic food demands, national and international research institutes should pay adequate attention to more sustainable genetic solutions. Designing breeding programs that aim at developing productive and adaptive genotypes

through utilizing the indigenous animal biodiversity has multiple advantages that need to be exploited. The increased policy, programmatic and funding attention being given to livestock-based livelihoods as part of *Yelemat Tirufat* is an opportunity that should be taken advantage of to support national breeding programs along the above lines.

Yelemat Tirufat has a 'latecomer's advantage'; but no two experiences are exactly alike:

Experiences of the 'Green Legacy' and the 'Wheat Production Movement' with regards to program coordination, resource mobilization, and partnership development—among others—can prove to be vital ingredients for successfully implementing *Yelemat Tirufat*. Furthermore, successes achieved in the two flagship agricultural initiatives can only incentivise the leadership at the top to do more and register yet better results. Thus, coming on the heels of these two initiatives, *Yelemat Tirufat* is already off to a good start. However, the professionalism within which *Yelemat Tirufat* has been designed has to be matched by commitment and capacity at grassroots level. To this end, series of awareness raising as well as technical and leadership training sessions need to be organised to those involved at the sharp end of implementation. In addition, implementation of livestock-centred interventions under *Yelemat Tirufat* require subtlety that befit their unique features. In this regard, note must be taken of the fact that these livestock-centred interventions:

A will be implemented at household level in both mixed farming, pastoral, and agro-pastoral production systems with varying degrees of prior exposure to intensive

development programming and project implementation like the type *Yelemat Tirufat* would demand, thus requiring more nuanced monitoring, mentoring, and learning-by-doing approaches.

- B** have peculiar characteristics that set them apart from crop-based interventions, including the perishability of the products, the need for striking a delicate balance between food and feed, and the imperatives of availing sustained supply of improved genetics.
- C** necessitate pursuing an integrated value chain approach anchored on market linkages.
- D** are more amenable for private sector engagement of diverse capacities and scales, thereby demanding government leadership to make *Yelemat Tirufat* bankable and to facilitate access to land and development finance to livestock businesses and those involved in the respective commodity value chains. In this regard, the irreplaceable role of private sector investment as well as public-private partnership arrangements in input supply, service delivery and value addition cannot be overemphasised. As can be learnt from the rapid success of the floriculture industry in Ethiopia, adequate incentives and a forward-looking administrative support structure is bound to spur private businesses to co-invest in the livestock sub-sector as well.

Beyond the ‘whole of government approach’: *Yelemat Tirufat* realises that the stated livestock-centred targets are affected by programmatic responses

beyond the agricultural sector, hence has the preparedness to engage all relevant public service agencies with diverse mandates to develop systems and mechanisms that would help achieve the set targets - in a manner akin to a ‘*whole of government approach*’. Uniquely, *Yelemat Tirufat* also demands direct and fullest engagement of every concerned citizen and institution, following the principles of a ‘*whole of society approach*’: the success of *Yelemat Tirufat* is in part contingent on how actively the organised business sector takes advantage of the opportunities being created; the technical and implementation support of academic and research institutions in meeting the targets set in a manner analogous to the role they have been playing in support, for instance, of the ‘Wheat Production Movement’; and the role the media and civil society play in ensuring that the general public participates in the drive towards food self-sufficiency and enhancing the visibility of animal source foods in everyone’s plates.

Pursuing implementation in earnest:

To-date, considerable effort has been exerted with regards to setting high-level targets at federal level, putting in place the necessary institutional architecture, and mobilizing technical and financial resources to implement *Yelemat Tirufat*. At regional level, too, pertinent focus commodities have been identified and corresponding targets set. Also, preparations of various intensity are underway to commence implementation of the initiative at all levels. Yet, very much in keeping with the whole of society approach being pursued, clarity is needed as to how best the different actors could be involved



in support of the initiative. To this end, series of follow up deliberations will be organised so that the diverse public sector agencies and a range of non-state actors, including international agricultural research institutes and private sector actors, obtain greater clarity on their respective modalities of engagement with the initiative and the specific roles and deliverables expected of them.

Yelemat Tirufat—dream coming true for livestock professionals and leaders of the livestock sub-sector:

The initiative places livestock at the centre of Ethiopia’s medium-term development agenda. *Yelemat Tirufat* turns the page on the decades-long lament of livestock professionals about the limited attention given to livestock development at the highest level of government. *Yelemat Tirufat* presents livestock professionals with a rare opportunity to marshal their organisational, human, and financial resources and make a mark on Ethiopia’s determined path to prosperity. They should thus begin working hands-in-glove with all key stakeholders with a sense of urgency. Realising the unique stake that Ethiopian livestock professionals

have in a successful outcome of *Yelemat Tirufat*, the Ministry of Agriculture is committed to facilitate the establishment of an independent *Technical Advisory Team* at the federal level that would provide inputs for a smooth implementation of the initiative through, *inter alia*, supporting human and organizational capacity strengthening schemes; identifying workable and value adding institutional and technical innovations; and informing program monitoring, replanning and learning. At regional and sub-regional levels, livestock professionals are expected to find their respective niches and serve as local champions in support of *Yelemat Tirufat*.

Valuing livestock: This is an opportune moment for livestock professionals and leaders of the sub-sector to advocate for a proper valuation and appreciation of the diverse contributions of livestock to Ethiopia’s macro economy. This is critical not least because a fuller knowledge of the place of livestock in the national economy is bound to influence the level of public investment, including research and development initiatives, that would go into the sub-sector.

I Background

Livestock resources in Ethiopia contribute to over a quarter of the country's agricultural Gross Domestic Product (GDP)¹ and are major contributors to food and nutrition security and wealth creation. For a very long time, Ethiopia has not been able to efficiently utilise its livestock resources for the improvement of the livelihoods of livestock keepers and the incomes of other livestock value chain actors. *Yelemat Tirufat* is expected to reverse this situation and pave a new vista for putting the country's livestock resources at the service of national socio-economic development.

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¹This is excluding the substantial value of ploughing/traction services that livestock provides to crop agriculture.

Yelemat Tirufat is the third major recent national initiative on agricultural and natural resources development, after the 'Green Legacy' and the 'Wheat Production Movement', which is being implemented country-wide under the overall leadership of the Prime Minister – the Ministry of Agriculture (MoA) and the respective regional bureaux providing the required technical and organizational leadership. *Yelemat Tirufat* has drawn out lessons and experiences from the best practices of the above two ongoing initiatives.

Yelemat Tirufat places great emphasis on nurturing partnerships with national and international research, development, and financial partners. The MoA recognises that implementation of *Yelemat Tirufat* should build on the gains of pertinent projects and programs supported by national and international research and development organizations and other partners. The Ministry is also keen on engaging the expertise within these organizations to provide advisory support to its own professionals so that they could contribute to the success of *Yelemat Tirufat*.

***Yelemat Tirufat* is the third major recent national initiative on agricultural and natural resources development, after the 'Green Legacy' and the 'Wheat Production Movement'.**

Against the above background, on 24 and 25 December 2022, the International Livestock Research Institute (ILRI) financed a national consultative workshop, which was organised collaboratively between ILRI, MoA, the International Center for Agricultural Research in the Dry Areas (ICARDA), the International Centre of Insect Physiology and Ecology (*icipe*) and Land O'Lakes Venture37 under the title "Are We Ready for *Yelemat Tirufat?*" at the Blue Nile Resort Hotel in Bahir Dar, Ethiopia.

The workshop attracted senior livestock professionals from the MoA, the Ethiopian Institute of Agricultural Research (EIAR), the Ethiopian Agricultural Transformation Institute (ATI) and regional agricultural bureaux and research institutes; Universities, ICARDA, *icipe*, ILRI, and Land O'Lakes Venture37. A total of 47 participants attended the workshop (please refer to Annex 1 for a comprehensive list).

The workshop was facilitated by **Yihenew Zewdie** and officiated by **Likawent Yeheyis, Deputy Director General of the Amhara Region Agricultural Research Institute (ARARI)** and **H.E. Fikru Regassa, State Minister, Ministry of Agriculture**, who delivered, respectively, welcoming, and opening addresses.

In his welcoming remarks, **Likawent Yeheyis** underlined the importance of investing in livestock and developing the sub-sector to address the challenges of poor nutrition and expand gainful employment opportunities for the youth and women who are significantly involved in the different

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nodes of the diverse livestock value chains. **Likawent** appreciated the timeliness of the workshop and urged participants to play active roles in the deliberations. He also affirmed ARARI's readiness to play its part in making *Yelemat Tirufat* a success. Finally, he encouraged participants to find time to explore the beautiful town of Bahir Dar.

In his opening speech, **Fikru** underlined that *Yelemat Tirufat* is essentially about harnessing Ethiopia's livestock resources for the benefit of its current population and the generations to come, and that this initiative has benefitted from the wisdom, experience, and insights of several leaders in Ethiopia's livestock sub-sector. He reminded participants that *Yelemat Tirufat Initiative* is aimed at improving the productivity and production of milk, chicken meat, chicken egg, and honey and other hive products.



Fikru stressed that *Yelemat Tirufat* is an unprecedented opportunity presented to livestock professionals to marshal their social capital as well as organizational and intellectual resources and thereby make a mark on Ethiopia's determined path to prosperity. He reiterated that *Yelemat Tirufat* turns the page on the decades-long lament of livestock professionals about their perceived second-fiddle role to professionals in crop sciences. He advised livestock professionals to begin working hands-in-glove with all key stakeholders with a sense of urgency: no more regrets, no more complaints. In his concluding remarks, **Fikru** expressed his gratitude to ILRI and the team of professionals in the international agricultural research and development system who conceived the idea of organizing the workshop. He then declared the workshop open.

The session facilitator presented the workshop agenda as involving six major presentations, including a presentation that would set the scene, a lead presentation by **Fikru** and four commodity-based Power Point presentations (please refer to Annex 2 for the workshop program).

First, a presentation titled 'Setting the scene: Why do we need this meeting?' was delivered by **Tadelle Dessie, Principal Scientist and Director of the Tropical Poultry Genetics (TPGS) Program, ILRI**. **Tadelle** welcomed participants and began his presentation by providing a short background information on the circumstances that led to the organisation of the workshop, the main objectives of the workshop, and key issues that need to be examined during the workshop and beyond. **Tadelle** clarified that the present workshop was a follow on to a previous similar technical consultation meeting held in the presence of **H.E. State Minister Fikru Regassa** and hosted by ICARDA in Hawassa in December 2021 involving senior Ethiopian livestock researchers working within the international agricultural research and development system² on, among others, opportunities for aligning the programs they lead to national initiatives in Ethiopia's livestock sub-sector. It was further reported

² Namely, Aynalem Haile, ICARDA; Tadelle Dessie, ILRI; Workneh Ayalew, icipe; and Zelalem Yilma, Land O'Lakes Venture³⁷. These four livestock professionals constitute the Core Team that had initiated regular expert consultations aimed at strengthening collaboration between senior livestock professionals working in different international and non-state institutions and the Ministry of Agriculture's plans for developing the country's livestock sub-sector.

that these professionals (who go by the term ‘Core Team’), considered *Yelemat Tirufat* as one such opportunity, hence their eventual involvement in co-organising the present workshop. **Tadelle** then identified the following as the three main objectives of the workshop:

- to have a common understanding of the framework for the implementation of *Yelemat Tirufat*;
- to identify lessons and experiences for *Yelemat Tirufat* from some of the major ongoing livestock-centred development and/or research-for-development programs being implemented in Ethiopia with the support of international agricultural research and development institutes; and
- to deliberate on the role partners (CGIAR and others) could play in support of the initiative and agree on a way forward.

As a prelude to supporting implementation, **Tadelle** provided a conceptual framework for analysing ‘solutions for perceived problems’ that centre on cost considerations, extent of regulatory burdens, demand responsiveness, value addition, impactfulness, and verifiability. He further provided some thoughts for reflection that relate to the following: presence of conducive policies that would support *Yelemat Tirufat*, extent of readiness of the government to help engage the organised business sector with the initiative, presence of committed personnel that would shoulder implementation responsibilities, and thoughts about and modalities of engagement of key stakeholders with the initiative.

Tadelle also reminded participants about the unique features of livestock development interventions that set apart those that are crop focused. The major ones include difficulty of sustained supply of improved genetics; need for striking a delicate balance between food and feed; and lack of affordability of livestock products. These notwithstanding, investment in livestock resources was presented as worth the venture because of the contribution of livestock products to better nutritional outcomes; amenability of livestock value chains to enhance women empowerment and create more decent jobs to the needy; and the multipurpose uses of livestock, livestock products and livestock byproducts.



II

An Overview of the *Yelemat Tirufat Initiative*

Fikru began his presentation by underscoring the substantial endowment of the country with livestock and fishery resources and a biodiversity base suitable for improving agricultural productivity genetically. Nonetheless, citing evidence and comparable data, **Fikru** noted the low surplus production and productivity of milk, eggs, chicken meat, honey, and beeswax as well as the resultant limited contribution of animal source foods to improved nutrition in the country. It was noted, as an example, that in part to meet the supply gap in milk and satisfy the dairy product intake requirements of children, among others, in 2021/22 the country imported USD 25 million worth dairy products.

Fikru then explained how the experiences from the 'Green Legacy' and the 'Wheat Production Movement' informed the development of the *Yelemat Tirufat Initiative*. These mainly relate to the

importance of committed leadership at the very top, the need for engaging all pertinent public service agencies as well as the citizenry and the significance of timely mobilization and effective utilization of available resources for program implementation.

Fikru informed participants that *Yelemat Tirufat* also dovetails into the country's long-term agricultural development plan. The State Minister highlighted that based on a sound analysis of the realisable potentials, organizing producers into about 54,000 commodity-specific village units, and investing a total of USD 5.26 billion, *Yelemat Tirufat* envisages substantial increment in the production of milk, eggs, chicken meat, and honey (Box 1).

In terms of broad activities to be pursued to realise the expected production targets, **Fikru** mentioned the following:

Box 1: Yelemat Tirufat at a glance

Commodity	2021/2 yield	2025/6 plan	No of commodity villages	Required investment (USD billion)
Cow's milk (billion litres)	5.80	10.30	21,000	4.00
Camel's milk (billion litres)	1.10	1.35		
Egg (billions)	3.20	9.10	27,700	1.00
Chicken meat ('000MT)	90	240		
Honey ('000MT)	147	296	5,200	0.26



Yelemat Tirufat presents a rare opportunity for livestock professionals to leave a large footprint on Ethiopia's quest for rapid agricultural transformation.

Seize the moment!



H.E. Fikru Regassa
State Minister
Ministry of Agriculture, Ethiopia.

A Milk: increase supply of improved heifers; expand supply of improved feed and provision of timely and adequate animal health care services.

B Chicken: introduction and adoption of improved chicken breeds (both layers and broilers); improvements in the management of family poultry through improved feed and health interventions.

C Honey: introduction and adoption of transitional beehives; expanding the reach of modern beehives; encouraging large-scale bee keeping operations.

Fikru explained that, as a national program, *Yelemat Tirufat* is expected to be implemented taking into consideration agroecology and production system peculiarities and associated human and institutional capacities. Yet, effort will be exerted to learn not just from implementation experiences across regions but also from other countries, such as India, where cluster-based livestock development activities have been practiced.

Fikru described at length the five organization and management related instruments for implementing the program: **i)** establishment of a program coordination structure, including a program implementation unit at the federal level; **ii)** provision of effective technical backstopping; **iii)** support for enhanced participation of the private sector; **iv)** due consideration for marketing and value addition; and **v)** establishment of systems for provision and allocation of program finance.

Fikru reported the criticality of finance to implement *Yelemat Tirufat* and outlined the steps being taken by the government to mobilise funds from domestic and external sources. In this connection, **Fikru** emphasised the importance of advocacy for securing the required finance for the initiative, a task that livestock professionals including those in the CGIAR system should consider seriously when developing research/development proposals.

“ *Yelemat Tirufat* presents excellent opportunities for research institutes. This initiative is expected to create the conditions for a scaled-up uptake of technologies developed in the research system and is likely to generate new and higher demand for the technologies that are being multiplied in our research facilities, including day old chicks, heifers, and bee colonies. Feedbacks from the scaling initiative will also shape research ideas. We also envisage that research would get better attention in the program and as a result better capacities will be built. Finally, *Yelemat Tirufat* creates a great opportunity for us to strengthen old partnerships and create new ones with important stakeholders such as CGIAR centres.”



Tilaye Tekelwold
Director General, ARARI.

Fikru noted that considering the limited domestic supply of improved livestock genetics, *Yelemat Tirufat* must rely on importing these genetic technologies incurring substantial expenses in foreign currency. Given the unsustainability of these measures over the long term, he urged national and international research institutes to devise ways of generating more sustainable genetic solutions through supporting national breeding programs. In this later respect, **Fikru** expressed his hope that CGIAR centres and other international agricultural research institutes would step up their support to the national research systems.

In his final remarks **Fikru** emphasised that the question of giving livestock a central place of importance in Ethiopia's development has just been answered at the level of intent, as evidenced from the effort put into the planning of *Yelemat Tirufat*. He observed that turning this singular

opportunity into action is the responsibility of all concerned. The initiative, it was observed, has enough space for everyone, every professional, to contribute as they see fit. In this regard, **Fikru** challenged professionals present to become local champions working in concert with regional champions. The latter, it was reported, are senior current or former decision-makers in the Ethiopian government system who have already started steering the process in their respective regions of assignment.

Workshop participants affirmed that the initiative was a timely one and appreciated the informativeness of the presentation **Fikru** made. There was consensus, though, that livestock professionals and those entrusted with the responsibility of implementing *Yelemat Tirufat* must correct the age-old narrative that blows out of proportion Ethiopia's endowment with substantial livestock resources. Instead, given the unacceptably low level of livestock

productivity even by the standards of east African economies, ensuring effective implementation of *Yelemat Tirufat* demands a realisation that Ethiopia is a country of just millions of hoofs and horns carried by emaciated livestock. Such a perspective, it was appreciated, could galvanise the population to work towards realizing the objectives of *Yelemat Tirufat* with a sense of utmost urgency.

Participants were of the view that the professionalism within which the program has been designed has to be matched by commitment and implementation capacity at grassroots level. To this end, it was stressed that, series of awareness raising as well as technical and leadership training sessions need to be organised to those involved at the sharp end of implementation. In this respect, participants saw great role for academic and research institutes, coordinating their actions with respective regional and zonal technical support teams.

Participants also saw a need for exerting significant effort by federal and regional governments to make *Yelemat Tirufat* bankable and enlist the participation of the private sector (including Ethiopians in the Diaspora) in support of the initiative through, inter alia, availing land and development finance to livestock businesses and those involved in the respective commodity value chains. In this later respect, the engagement of the Development Bank of Ethiopia was regarded as instrumental. Citing the critical role of the government behind the rapid success of the floriculture industry in Ethiopia, some emphasised that adequate incentives and a duty-conscious administrative support structure are essential to spur private businesses to co-invest in the livestock sub-sector.



Thomas Cherenet

National Coordinator, Livestock and Fisheries Sector Development Project, MoA.

“

Yelemat Tirufat is intended to translate the 10-year Agriculture Sector Perspective Plan and other current government initiatives such as “10 in 10 programs” into concrete, doable targets.

”

“ *Yelemat Tirufat* is expected to benefit not just agricultural producers but also all those involved in the value chains of milk, honey, and chicken products. Through *Yelemat Tirufat* the supply and per capita consumption of livestock products will increase, as will the contribution of livestock to the national economy. In addition, it is believed that the measures that will be taken to implement *Yelemat Tirufat* will create favourable conditions for the further development of our livestock resources.

”



Tsigereda Fekadu
Lead Executive of Livestock
and Fisheries Development, MoA.

Participants appreciated the call for strengthening national breeding programs as these would lead to availability of genetic lines useful for crossbreeding and development of composite strains, contributes to sustainable utilisation and conservation of farm animal genetic resources, and help respond to unforeseen demands in the future (e.g., changes in consumer preference, climate change, and emerging livestock diseases).

Some participants also seized the opportunity of the deliberations on *Yelemat Tirufat* to provide some thoughts regarding the importance of fully valuing the contributions of livestock to GDP, employment, and incomes. They underlined the necessity of advocating for a proper valuation and appreciation of the diverse contributions of livestock to Ethiopia’s

macro economy, for a fuller knowledge of the place of livestock in the national economy is bound to influence the level of public investment that would go into the sub-sector.

In response to some of the questions raised, **Fikru** underlined that the planned targets are doable and that some regions have even submitted targets higher than those envisaged at the federal level. In this regard, he informed participants that the federal government has endorsed the incorporation of red meat (Amhara and Oromia) and fisheries (Amhara, Oromia and Gambela) into the respective regional *Yelemat Tirufat* plans. **Fikru** also highlighted that the initiative has considered the backward (i.e., input supply function) and forward (product processing function) linkages that could be established with agro-industrial parks.



“

Yelemat Tirufat is about making the best use of the country's livestock potential through mobilizing the available technologies, skills, knowledge, and financial investment to the sector. *Yelemat Tirufat* is also expected to help energise the functionality of the public extension system. With the expected increment in livestock productivity, *Yelemat Tirufat* will help raise the profile of the livestock sub-sector and is expected to attract further attention to livestock development.

”



Gashaw Muche, Director
Amhara Regional Livestock and Fishery
Resources Development Office.

III

Integrated and inclusive public private partnership models for effective poultry sector transformation in Ethiopia: Thoughts on contributions to *Yelemat Tirufat*

Tadelle provided an overview of the poultry production systems in Ethiopia with special emphasis on the dominant village poultry production system and the measures that need to be taken to improve its productivity and transform it into a vibrant, resilient, and economically viable production system. To this end, he noted, challenges pertaining to feed supply, product affordability, breed suitability, health and biosecurity, markets and market information, technical and organisational capacity, access to reliable finance, and the enabling environment (including quality standards, feed taxation policy) need to be addressed. Tadelle then zeroed in on the outcomes of ILRI's approach to poultry research for development that resulted in significant productivity gains (both in the number of eggs/hen/year and in the body weight of broilers—Box 2); nutrition gains realised as measured, among

others, on children's dietary diversity; profitability of chicken-based enterprises; and functioning multi-stakeholder platforms—called Innovation Platforms—at community and national levels where common challenges are discussed and solutions co-designed. Tadelle also discussed developments concerning ILRI's ongoing effort to produce improved chicken lines.

Tadelle emphasised that to catapult the current traditional poultry system into a modern and more robust system due consideration must be given to a 'market-first' (as opposed to a 'farmer-first') approach. Such an approach, Tadelle explained, entails mainly exploring market opportunities and identifying processes that would enhance the profitable engagement of smallholder farmers and other actors in the poultry value chain.



This is a timely workshop that provided us with helpful insights into key national livestock development initiatives and their operational modalities. I am particularly excited that *Yelemat Tirufat* provides huge scaling opportunities for initiatives such as Tropical Poultry Genetics and associated public private partnership models. The wealth of experience shared in this workshop will serve as an important food-for-thought as we embark on the journey of contributing actively to the success of *Yelemat Tirufat*.



Adebabay Kebede, Director, Andassa Livestock Research Centre.





Fekede Feyisa,
Director, Livestock Research, EIAR.



Four years is more than adequate to meet the targets set in the *Yelemat Tirufat Initiative* with respect to poultry meat and eggs. Achieving these targets demand massive multiplication and distribution of carefully identified chicken breeds; ensuring affordable supply of key feed ingredients; rendering efficient health/biosecurity services; and establishing functional market linkages.

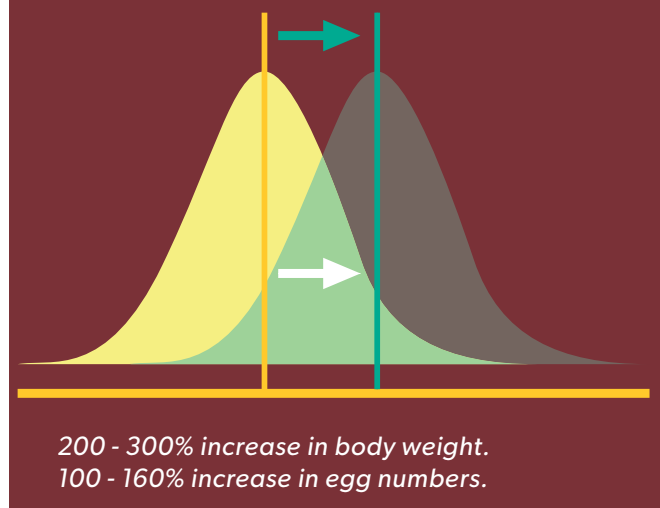


Finally, **Tadelle** identified key areas where ILRI could support and/or inform the poultry thrust of the *Yelemat Tirufat Initiative*. These include availing high producing, adaptable own genetics; evidence-based recommendation on gender disaggregated farmer-preferred breeds of chicken and suitability of chicken strains under different agro-ecologies – option by context (OxC) paradigm; business models on multiplication and distribution of improved chicken strains, including partnerships with private breeding companies; and inclusive mechanisms (including Innovation Platforms) for developing solutions across the poultry value chain.

The presentation was well-received; the information on the development of improved chicken lines was particularly cited by many for praise. Some of the more pertinent reflections and comments from the presentation made centred on the need for a well-coordinated and digital-based data management infrastructure for use at a system level; the appropriateness of the semi-intensive system of poultry production for the majority of smallholder farmers going forward; the potentials and unique features of poultry-based businesses in creating decent work for the youth and women; the innovativeness of the TPGS program in integrating one egg/child/day into school feeding operations; and the excellent progress towards the development of locally improved chicken breeds that combine a

range of desirable traits, both phenotypically and genetically. Asked as to whether the TPGS program has a workable public-private partnership (PPP) model that can inform *Yelemat Tirufat*, Tadelle identified EthioChicken's business model whereby day-old chicks (DOC) are hatched by EthioChicken and supplied to small-scale commercial chicken producers (called 'Mother Units') for the latter to raise them (mostly for 45 days) and sell to smallholder farmers for further production. EthioChicken often utilises the services of development agents employed by the country's large public extension system in close coordination with the company's agents stationed in the Woredas.

Box 2: Chicken productivity gains



IV

Integrated inclusive apiculture development model is transformative and ready for scale up

Workneh Ayalew, Coordinator, MOre Young Entrepreneurs in Silk and Honey (MOYESH) Program, icipe, presented experiences with MOYESH and the lessons that can be learnt for the design and implementation of the honey thrust of the *Yelemat Tirufat*. **Workneh** began by noting that MOYESH builds on the successes of an earlier project called Young Entrepreneurs in Silk and Honey (YESH). It was learnt that, presently MOYESH is the single largest such program in Ethiopia that is aimed at ‘securing dignified and fulfilling direct employment and income for 100,000 unemployed youth (60% women) through providing youth with appropriate knowledge and skills and enabling them to establish beekeeping and sericulture business enterprises’ (Box 3).

Workneh further observed that the MOYESH’s business model centres on site selection and recruitment of needy unemployed youth; technical,

entrepreneurship, and life skills training; support for establishment of enterprises, cooperatives, or common interest groups (CIG) as the case requires; provision of starter kit and extension services; facilitation of market linkages; support for establishment of group saving accounts and provision of credit and insurance services; and communication, monitoring, evaluation, and learning. These, **Workneh** underlined, have been undergirded by strong partnerships with a range of public institutions (including MoA and public universities), non-governmental organisations (NGOs) and private sector actors. The latter includes service providers (e.g., micro finance institutes—MFIs, commercial banks, and fintech companies), input suppliers, large commercial beekeepers, out grower businesses and major buyers, including exporters.

Having outlined the remarkable program achievements to-date in terms of, among others, number of jobs created, number of saving bank accounts opened, amount of deposits mobilized, and size of loans extended, **Workneh** identified the following as approaches that the *Yelemat Tirufat Initiative* could adopt in its quest for doubling the production of honey during the four-year period. These include:

- A** integration of beekeeping with rehabilitation of vulnerable watersheds.
- B** provision of starter kit supplies manufactured by small and medium enterprises (SMEs), generating additional jobs and market linkages.

Box 3: MOYESH program profile

Start and end date	Oct. 2019 – Sept. 2024
Budget	USD 55.6 million
Intervention districts	60
Youth in the workplace (YIW) target	100,000+
Outreach target	1.7 million people
Production target	38,000 tons of honey and silkworm cocoons
Income target	USD 120 million
Total economic benefits	USD 187 million



Apiculture has significant contributions to food and nutrition security. Honey is an important source of carbohydrate; it is rich in vitamins and minerals; it enhances crop production through cross-pollination; it contributes



Yoseph Mekasha, Director,
Livestock Commercialisation, ATI.

to ecosystem sustainability and can be an important source of income for smallholder farmers. Apiculture could also help generate hard currency through honey and wax export. Ethiopia produces only 10% of its apiculture potential mainly due to low-input, low-output traditional production system, poor infrastructure, lack of access to services, and undeveloped marketing system. Inclusion of honey and other hive products in *Yelemat Tirufat* is, therefore, a welcome development, as this helps realise the potential of apiculture in local and national socio-economic development.



C provision of support to complementary income generating businesses to ensure year-round cash flow and smoothen consumption.

D creation of functional integrated business hubs through provision of business development services and linking financial service providers with producers.

E facilitate vertical integration of financial institutions with the ultimate objective of expanding financial access to youth honey enterprises.

F Establishment of digital platforms to facilitate business-to-business and business-to-consumer relationships and reduce transaction costs.

G Promotion of out grower and contract farming—partnering with private sector businesses—using lead-and-follower beekeeper mode of expansion.

H dovetail the concept and applications of apiculture development clusters to those of ‘honey zones’ and ‘honey villages’ being envisaged under *Yelemat Tirufat*.

I Work towards realizing opportunities for addressing pollination deficit through managed beekeeping—including through supporting cultivation of coffee, avocado, oil crops, vegetables, spices as complementary income generating activities.

During the subsequent discussion session, participants lauded the presentation on MOYESH for its clarity and informativeness and congratulated the presenter for the success of the program he leads. This wide-ranging presentation elicited several questions that focused largely on the challenges that the program faced; the steps taken to relax liquidity constraints of the youth group; the viability of the smallholder beekeeping business model to



“

I see clear relevance of several aspects of the MOYESH business model, such as creation of functional integrated business hubs, for promoting poultry interventions envisaged under *Yelemat Tirufat*. ”

Misba Alewi

Poultry Research Coordinator, EIAR.

create full-time job opportunities for the youth; extent of MOYESH's involvement in supporting product diversification; MOYESH's engagement with research into honeybee health; and effects of extensive use of agrochemicals on MOYESH program operations and whether the program is involved in tackling effects of the same.

As regards challenges, **Workneh** identified the following as the major ones that the program faced in its early days: free riding attitude of some youth; severe shortage of honeybee colony; and lack of technical skills among agricultural professionals operating in the program target areas. Employing a community-managed targeting system and continual training and retraining helped to address the attitude-related challenges, while challenges to do with colony supply have been progressively addressed through establishment of colony multiplication centres in selected strategic locations. On the other hand, **Workneh** noted that, in addition to organising series of training-of-trainers (TOT), use of peer-to-peer training involving locally recognized beekeepers helped alleviate capacity-related challenges.

Workneh underscored that the cooperative model works and the deliberate attempt

at buttressing honey production with complementary income generating businesses proved successful not just in helping the youth to generate income but also in ensuring that there was adequate forage for the bee colonies. Furthermore, **Workneh** observed that with about 10 or more beehives occupied with honeybee colonies, beekeeping and associated complementary farming activities can become full-time jobs for start-ups. **Workneh** also noted that a well-functioning honey value chain demands not just supporting the cooperative model of honey production but also encouraging the engagement of the private sector in honey production and processing activities both for mass and niche markets.

As regards support for product diversification, **Workneh** explained that MOYESH has initiated targeted promotion of hive products other than honey and beeswax such as propolis production, the commercial viability of which depends on volume of production and existence of reliable market.

With reference to MOYESH support for research into honeybee health, **Workneh** clarified that the program appreciates

the issues, but the support they provide is confined to applied research aimed at addressing current beekeeping constraints, or issues that have immediate relevance to beekeeping development.

Concerning indiscriminate application of agro chemicals, **Workneh** elucidated that the expansive application of herbicides and other agrochemicals has direct negative impact on honeybee colony density, particularly in areas that practice intensive cereal crop production, hence MOYESH's advocacy for allocation of dedicated suitable land for establishing apiculture businesses, away from areas that intensively apply agrochemicals. In addition, **Workneh** observed, more responsible ways of application as well as community collective action could help in addressing the challenge. Cognisant of the need to tackle the unintended negative side-effects of indiscriminate application of agrochemicals, it was reported that MOYESH:

A supports international accreditation of honey and beeswax residue analysis capacity at two local product quality analysis laboratories—the Ethiopian Conformity Assessment Enterprise (ECAE) and Bless Agri-Foods Laboratory Services PLC.

B collaborates with the Ministry of Agriculture in the review and validation of the implementation guideline for the national Bee Resources Protection Directive; and

C has initiated an action research partnership with Bahir Dar University aimed at quantifying the extent of the challenge associated with indiscriminate application of agro chemicals.

In conclusion, **Workneh** stressed that *Yelemat Tirufat* paves a new vista for the scaling of small-scale commercial beekeeping operations, which is critical for keeping prices of honey and associated hive products affordable to most consumers whilst enabling smallholder beekeeping businesses thrive.





Going to scale—from community-based to population-wide small ruminant development and commercialised product supply in Ethiopia

Aynalem Haile, Principal Scientist, ICARDA, began his presentation³ by outlining the role sheep and goats play as key means of livelihood in rural Ethiopia as measured by ownership. Moreover, he indicated that small ruminants provide about 46 per cent of the national meat consumption and over 50 per cent of the value of hides and skin production. **Aynalem** also provided some details regarding the many advantages small ruminants have over large ruminants for most smallholder farmers. These notwithstanding, **Aynalem** brought to the attention of participants that the plan for *Yelemat Tirufat* at the federal level has not yet embraced small ruminants. Fittingly, though, he appreciated the move by Amhara and Oromia regions to include small ruminants in their respective plans

and expressed his hope that other regions (notably, Afar and Somali) would also follow suit.

Aynalem then discussed the innovations that ICARDA and ILRI have been spearheading in support of small ruminant value chain development in close collaboration mainly with EIAR and regional agricultural research institutes. The innovations include community-based breeding program (CBBP); animal biotechnology services; animal health interventions; sheep and goat feedlot linked to CBBPs; comprehensive, cloud-based data infrastructure (known as DTREO) that has the potential to integrate feed, health, and market information; and workable system for facilitating market linkages, including digital marketing.

³The presentation made herein was jointly prepared by the Small Ruminants team of ICARDA: Aynalem Haile, Tesfaye Getachew, and Berhanu Belay.

“ ICARDA’s more than 10 years of continuous and holistic investment in community-based breeding program has completely changed the strategy of genetic improvement for small ruminants in this country. Institutional commitment on the part of all concerned, including ICARDA, and forging partnerships with key partners are critical for massive scaling of the CBBP approach to help realise the goals set by *Yelemat Tirufat* in different regions. ”



Asrat Tera, Director General
Livestock Development Institute.



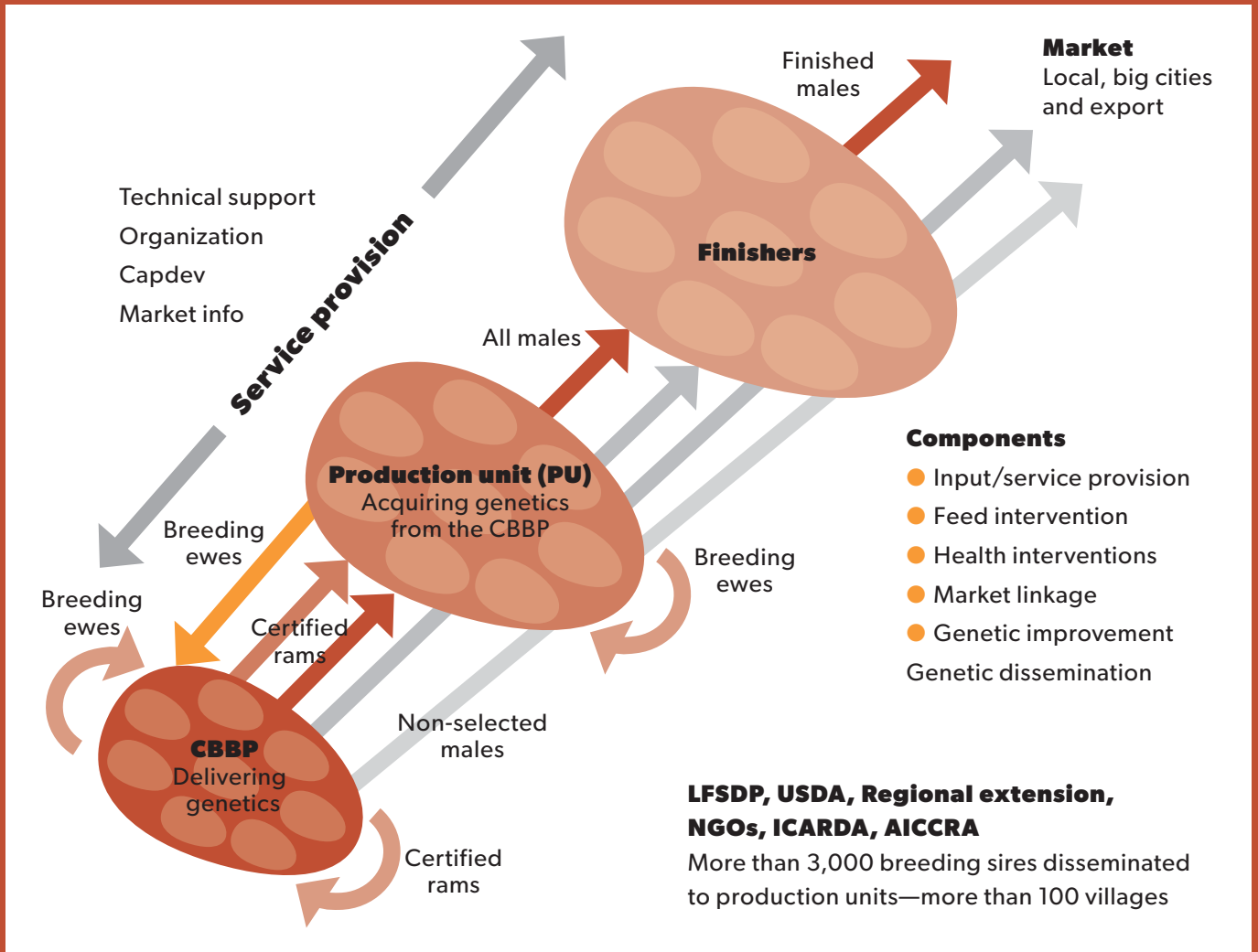
Focusing on the CBBP, **Aynalem** underlined that CBBP is a home-made, participatory innovation that considers farmers' breeding objectives and available infrastructure where the management of the program is bestowed upon farming communities themselves. CBBP is said to be a trailblazer solution for genetic improvement of sheep and goat in low input systems. CBBP focuses on training and building local capacity, leading to sustained genetic improvement of indigenous breeds.

He further elaborated that the program hinges largely on community groups and legally recognised breeders' cooperatives established by interested farmers. In terms of outcomes, the program is said to have resulted in improved genetic gains of economically important traits in several sheep and goat breeds; substantial social and economic benefits, including higher levels of household income (an average of 20 per cent increment); profitable market participation of livestock keepers, enhanced consumption of animal source food among

local farming communities (an average of three-fold increase) and better understanding of adoption of breeding technologies at the local level.

Aynalem also noted that useful experience of women empowerment was obtained via establishing women-only breeding programs in some locations. Moreover, **Aynalem** explained ICARDA's well thought out scaling framework (Box 4), shared the successful scaling experience of CBBP using this framework, and cited the Washera-Wollo (WaWo) and Bongacho initiatives as cases in point.

The integration of CBBP into the curriculum of undergraduate and post-graduate programs as well as the engagement of at least 16 universities in operationalising the CBBP as part of their respective community outreach schemes were cited as useful experiences, respectively, of informing next generation sheep and goat breeders and expanding the appeal of the program more widely.



Box 4: Scaling framework in Community-Based Breeding

Aynalem made a case for inclusion of red meat as a major target of *Yelemat Tirufat Initiative* at the federal level by underlining the importance of small ruminants in the national food basket, the untapped export earning potentials of these species, and the significant job and income generation opportunities that can be realised from the small ruminant value chain operations. He further appealed to representatives of regions that are yet to embrace sheep and goats in their respective regional plans to seriously consider doing so.

Aynalem concluded his presentation by reminding participants about the presence of cost-effective small ruminant breeding technologies and associated innovations as well as tried and tested modalities of

engagement including framework for scaling, tailor-made capacity development packages and multistakeholder platforms to channel innovations and address challenges.

Participants appreciated the rich content of the presentation delivered. Most praised not just the contribution that the CBBP approach has made towards improving the productivity of small ruminants in a cost-effective manner but also the pioneering role the ICARDA team and partners played in presenting the CBBP approach to the global livestock fraternity. A few comments were made that centred on the need for better engaging universities given the substantial number of animal science

professionals deployed there; the need for establishing stronger linkages with pertinent national institutions such as the Livestock Development Institute (LDI) and with MoA's livestock sector to better inform policy and programming and for the visibility of the substantial body of work already undertaken pursuing a CBBP approach.

Building on aspects of **Aynalem's** presentation dealing with DTREO—data infrastructure in use at ICARDA—and his suggestion of the potentials of this system to inform *Yelemat Tirufat*, some participants underlined the need for establishing a robust information management system for *Yelemat Tirufat* that would help track progress with activities under each of the focus commodities at the program level and support learning and evidence-based decision making.

Questions raised from participants included challenges faced in the implementation of CBBP; the transferability of the CBBP approach to other livestock species; and progress with CBBP in the context of (dairy) goats. In response, **Aynalem**,

A cited difficulty of establishing breeders' cooperatives in some regions (especially Amhara and Oromia) as a critical challenge that needs resolving;

B affirmed the adaptability of the CBBP approach—with some tweaking—for cattle and camel; and

C noted success being registered in the breeding of goats with respect, for instance, to milk yield of lactating does and the weight of kids.



In his concluding remarks, **Aynalem** encouraged participants to see for themselves the efficacy of the CBBP approach in the field and reiterated that the national research system should be credited for the success of the CBBP. He also emphasized that the CBBP approach is market-driven, people centred, and Primary Cooperatives and—in some cases—Unions⁴ own small ruminant development and commercialized product supply processes. Thus, CBBP and complementary approaches to small ruminant development are mainstreamed into the operations of grassroots farmers' organisations, which bodes well for a successful outcome as and when red meat and goat's milk become integral to *Yelemat Tirufat*.

⁴A good example here is the Bonga Livestock Union, which has 15 primary cooperative members. The sheer size of Union membership helps reap the advantages of economies of scale including greater bargaining power in the acquisition of inputs and sale of small ruminant offtake as well as better leverage and voice in dealings with authorities for service provision in support of small ruminant development.

VI

Moving to transform the Ethiopian dairy sector: Efficient Artificial Insemination service delivery through public-private partnerships— a contribution to *Yelemat Tirufat*

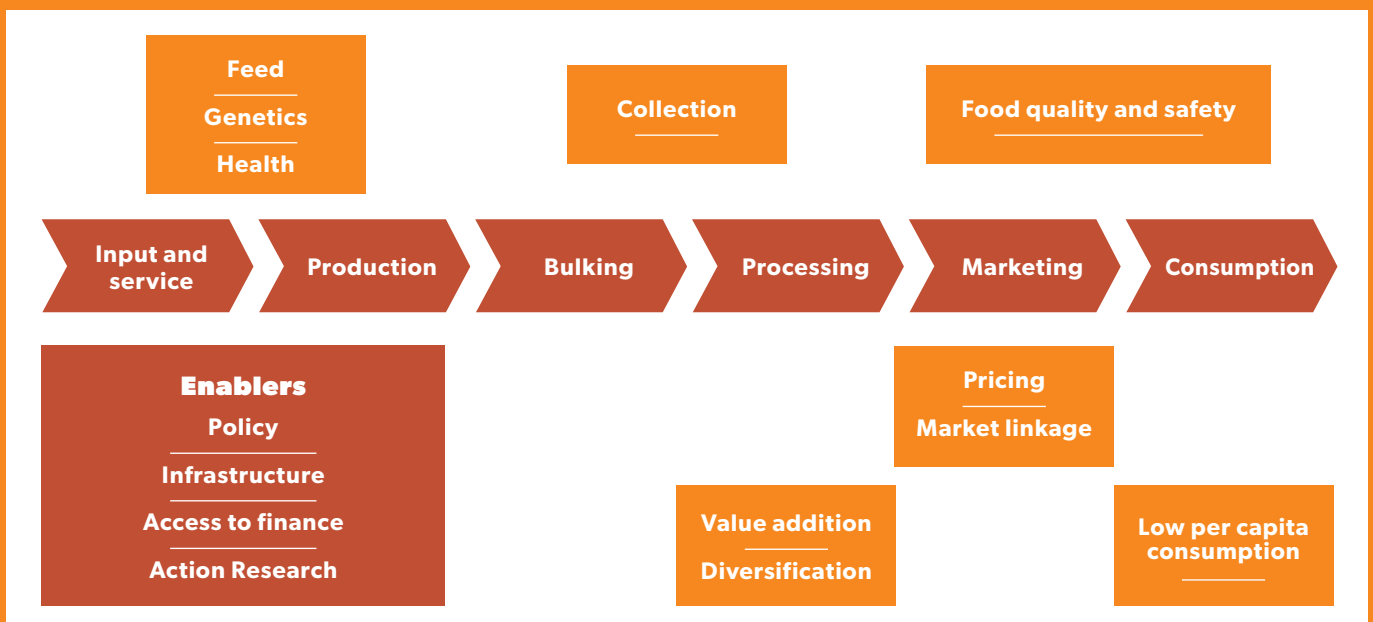
Zelalem Yilma, Country Coordinator, Land O’Lakes Venture37’s Public-Private Partnership for Artificial Insemination Delivery (PAID) project, Ethiopia started his presentation with an uplifting message that underscored the taking off of Ethiopia’s dairy industry as exemplified, among others, by the reported three-fold increase in the number of improved cattle (including female cattle population) over the last five years and the substantial rise in the number of dairy cooperatives, private milk aggregators and increased attention being given to food quality and safety—the latter especially in Amhara and Oromia regions. He then made a succinct presentation of key components of the dairy value chain in the country and

the constraints to its smooth functioning (Box 5).

Zelalem noted that the PAID project was in part conceived to respond to genetics-related challenges observed in the dairy value chain with the stated goal of “contributing to financially sustainable private and more efficient and effective public channels for the delivery of improved dairy genetics in Ethiopia.” He then provided an impressive account of what has been accomplished through the three project components:

- A** Improve the performance efficiency of Artificial Insemination Technicians through mainly training on an updated

Box 5: Key bottlenecks in the dairy value chain





Tesfaye Mengistie
Former State Minister
Ministry of Agriculture, Ethiopia.

“ With the inclusion of dairy as a focus commodity under *Yelemat Tirufat*, the government has shown its commitment to make milk available and affordable. This is a welcome development! Realising the targets set for dairy demands adequate budget and effective and coordinated implementation of the program across a wide range of actors, including government departments at all levels and non-state actors supporting the initiative.



curriculum and instituting performance-based incentives structure for the personnel involved. These have, among others, led to increased performance of AI technicians from 23.4 to 57.6 AI services/month/AI technician and a calving rate increase from 34 to 50%.

- B** Increase farmers’ demand for AI technology use through a gender aware and women-inclusive training scheme, which resulted in an over 80% AI technology adoption by targeted farmers.
- C** Enabling LDI and regional AI centres (AICs) to ramp up production of liquid nitrogen (LN2) and quality semen. Here a combination of interventions aimed at lubricating the supply chain have been implemented. Examples of these include improvement of five semen laboratories, improved capacity of at least 25 LN2 plants, and provision of five (5) ear tag printers.

Zelalem noted that the various PAID-supported interventions combined have produced over 600,000 improved calves (of which about 51% are potential improved heifers worth over USD 140 million) resulting from about 1.2 million inseminations. The concerted effect of the diverse interlinked interventions has also driven down the cost of producing an Improved Live Calf (ILC) from USD 95 to USD 22.5 in a space of five years. Synthesizing the lessons learnt from the success story of the PAID Ethiopia project, **Zelalem** identified the following as key takeaway messages that are of relevance to *Yelemat Tirufat*:

A Strategic level:

- i** Irreplaceable role of private sector investment as well as PPP arrangement in input supply, service delivery and milk value addition.
- ii** Presence of pertinent business models to transform the dairy industry (e.g., Cooperative Dairy Model—India and Kenya; Dairy Park Model—China; Cluster Approach—Uganda).

“Yelemat Tirufat stands to gain a lot from the experiences of projects such as PAID in dairy development. Some of the working practices used in PAID, including performance-based incentives for AI technicians, have proven their importance. Thus, this approach should be given due attention going forward. Ensuring availability of critical inputs such as LN2 and quality semen is important to address, at least partly, genetics-related challenges observed in the dairy value chain.”



Tolera Debela, Deputy Head Oromia Region Agriculture and Natural Resources Bureau.

B Operational level:

- i** Support the training of AI technicians at community level and in technical and vocational education and training (TVET) colleges.
- ii** Devise mechanisms to attract women AI technicians
- iii** Conduct farmers’ training and awareness creation employing a range of media and communication campaigns to bring about behavioural change.
- iv** Give due attention to performance-based incentives, for it improves efficiency and helps build capacity.
- v** Ensure availability of critical inputs mainly LN2 and semen.

- vi** Invest in Animal ID as a pre-requisite for provision of improved services as it is a critical step towards tracking animal response/performance and taking management decisions.
- vii** Professionalise milk shops—integrate informal milk supply/sale schemes into the formal milk market.

Zelalem concludes his presentation by giving due credit to the partners at all levels—including actors in the national research and extension system—without which the registered gains would not have been realised. He then identified initiatives that Land O’Lakes—Venture37 are likely to implement in the foreseeable future, including a second phase of PAID.



Participants appreciated the engaging and focused presentation made. Comments given on the presentation included the following: recognition for the significant contribution that performance-based incentives made towards AI service efficiency; the effort exerted to develop an animal identification and tracking system within the project; the extensive visual aids

used to impress upon farmers the value of AI services; and the complementary role that bull service provision (by farmers—on a fee) has been playing along with AI services.

Questions raised revolved around the extent to which the public extension system has adopted the AI service provision model of PAID; insufficient supply of LN2; and thoughts on the engagement of the private sector in the dairy value chain. Responding to the mainstreaming of the PAID model, **Zelalem** noted that the work has been done

in close coordination with regional bureaux of agriculture and that efforts are underway by regions to purchase liquid nitrogen production plants from their respective budgets. As regards the role of the private sector, **Zelalem** saw significant space in a range of dairy value chain activities, including in dairy product diversification. According to **Zelalem**, one area where attention could be directed towards is packaging long life milk in smaller quantities without compromising quality as well as nutritional values.



VII

Way forward

The closing session was chaired by **Tadelle** who was grateful to **H.E. the State Minister, Fikru Regassa**, for gracing the occasion through his presence, for helping participants understand better the essence of *Yelemat Tirufat* and for the useful insights he gave to several of the issues discussed. **Tadelle** also lauded the role of the Core Team in the conceptualisation and management of the workshop and appreciated the good turnout and active engagement of participants. Finally, Tadelle thanked all those at ILRI who contributed to the organisation of the event.

Fikru expressed his gratitude to the organizing team and ILRI for a job well done. He appreciated the excellent presentations made and noted the valuable lessons he learnt from each of the four lead presentations on chicken, apiculture, small

ruminants, and dairy that were anchored in four of the major livestock development programs managed by international research institutions operating in Ethiopia. He observed that *Yelemat Tirufat* stands to gain from the wealth of experience shared and approaches and procedures followed in the implementation of the four different programs as presented by members of the Core Team.

Fikru re-emphasised the preparedness of the Ethiopian government to rigorously monitor the implementation of *Yelemat Tirufat* through periodic meetings involving all actors in the government system including those at federal (e.g., MoA, LDI, ATI, and EIAR) and regional (e.g., Bureaux of Agriculture and regional agricultural research institutes) levels as well as other key stakeholders.



Firew Tegegne
President, Bahir Dar University.

“ Universities, as knowledge powerhouses, should take the driver’s seat in implementing *Yelemat Tirufat*. Accountability-driven proactive engagement of universities with national development initiatives, such as *Yelemat Tirufat*, is among their stated missions. Building on the experience we have with regards to our direct involvement in implementing the Wheat Production Movement, we, at Bahir Dar University, are ready to do what it takes to ensure that *Yelemat Tirufat* achieves its far-reaching objectives that go beyond livestock sector development.

In *Yelemat Tirufat* there is space for direct and fullest engagement of every concerned citizen and institution. The success of the initiative is in part contingent on how actively the organised business sector takes advantage of the opportunities being created; the technical and implementation support of academic and research institutions in meeting the targets set; and the role the media and civil society play in ensuring that the general public participates in the drive towards enhancing the visibility of animal source foods in everyone's plates.



H.E. Fikru Regassa

State Minister

Ministry of Agriculture, Ethiopia.



In this connection, **Fikru** expressed his hope that academic and research institutions will closely follow progress with *Yelemat Tirufat* with the view to supplementing, complementing and/or path correcting its implementation. He also encouraged representatives of the seven regional bureaux of agriculture/pastoral development present⁵ to work towards ensuring that barriers of all sorts (including challenges around availing land to *Yelemat Tirufat* investors and constraints to a more robust engagement of cooperatives with the *Yelemat Tirufat* agenda) to be overcome in the quickest time possible.

Underlining the importance of pursuing implementation in earnest, Fikru noted the need for organizing series of follow up deliberations at all levels so that the diverse public sector agencies and a range of non-state actors, including international agricultural research institutes and private sector actors, obtain greater clarity on their respective modalities of engagement with the initiative and the specific roles and deliverables expected of them.

Realizing the stake that the Ethiopian livestock professionals have in a successful outcome of *Yelemat Tirufat*, and cognisant of the readiness of several of these professionals to provide their technical expertise to the initiative, **Fikru** requested the Core Team members to:

- A** suggest additional members who would work with them as part of the to-be established ad hoc "Technical Advisory Team to the *Yelemat Tirufat Initiative*" under the overall leadership of his office; and
- B** propose potential roles and responsibilities of this Team and submit to his office a draft terms of reference as soon as is feasible.

Wishing all present at the workshop a successful engagement with *Yelemat Tirufat*, **H.E. The State Minister, Fikru Regassa**, declared that the workshop officially closed!

⁵ These include, Afar, Amhara, Benishangul-Gumuz, Gambela, Harari, Somali, and South-western Ethiopia peoples' regional states.

Annex 1

List of participants

	Participant	Organization	Designation
1	Adebabay Kebede	ARARI–Andassa Livestock Research Centre	Director
2	Amsalu Bezabih	National Honey Research Program	Coordinator
3	Asmelash Berhe	MOA	Meat development coordinator
4	Asrat Tera	LDI	Director general
5	Aynalem Haile	ICARDA	Principal Scientist
6	Azize Ayalew	MOA	Honey Development Coordinator
7	Berhanu Belay	ICARDA	Consultant
8	Berhanu Yetecha	Benishangul-Gumuz Region Agriculture Bureau	Head, Livestock Sector Deputy Bureau
9	Derbie Gemiyo	SARI	Director, Livestock Research
10	Fasil Getachew	ILRI	Consultant
11	Fasil Tadesse	Bahir Dar University	Lecturer
12	Fekede Feyisa	EIAR	Director, Livestock Research
13	Fikru Regassa	MOA	State Minister
14	Firew Tegegne	Bahir Dar University	President
15	Gashaw Muche	Livestock and Fishery Resources Development Office	Director
16	Getnet Zeleke	ARARI	Director, Livestock Research
17	Kefena Effa	EIAR	Lead Researcher, Centre Director, EIAR-Holeta
18	Kumlachew Geremew	ILRI	Research Officer
19	Lema Gameda	MOA	Dairy Development Coordinator
20	Lidia Abebe	ILRI	Administrative Associate
21	Likawent Yeheyis	ARARI	Deputy Director General
22	Mekuryaw Wubie	MoA	Animal and Fisheries Sector Development Deputy Bureau Head
23	Mengistie Taye	Bahir Dar University	Director, Institute of Biotechnology
24	Mengistu Urge	Haramaya University	Vice President, Academic Affairs

	Participant	Organization	Designation
25	Misba Alewi	EIAR	Coordinator, Poultry Research Program
26	Mohammed Redwan	Harari Region Agriculture Development Office	Animal and Fisheries Sector Development Director
27	Mulugeta Yitayih	ILRI	Research Officer
28	Nasrin Cabdi Yusuf	Somali Region Pastoral Development Office	Expert
29	Okach Malut	Gambela Region Animal and Fisheries Resources Development Bureau	Head
30	Shanbel Besufekad	ARARI	Coordinator, Small Ruminant Research
31	Tadelle Dessie	ILRI	Principal Scientist/TPGS Program Director
32	Tamene Bekele	Southwest Region Agriculture Bureau	Animal and Fisheries Sector Development Deputy Bureau Head
33	Tesfaye Alemu	OARI	Director, Livestock Research
34	Tesfaye Getachew	ICARDA	Scientist
35	Tesfaye Mengistie	MOA	Former State Minister
36	Thomas Cherenet	MOA	National Coordinator, Livestock and Fisheries Sector Development Project
37	Tilaye T/Wold	ARARI	Director General
38	Tolera Debela	Oromia Region Agriculture and Natural Resources Bureau	Deputy Head
39	Tsegereda Fekadu	MOA	Lead Executive of Livestock and Fisheries Development
40	Tsion Yemane	ILRI	Research Associate
41	Wondmeh Esatu	ILRI	Scientist
42	Workneh Ayalew	<i>icipe</i>	Coordinator, MOYESH Program
43	Wubalem Dejene	ILRI	Assistant to Program Manager
44	Yihewew Zewdie	ILRI	Consultant
45	Yonatan Zewudie	MOA	Poultry Development Coordinator
46	Yoseph Mekasha	ATI	Director, Livestock Commercialization
47	Zelalem Yilma	PAID project (Land O'Lakes Venture 37)	Country Coordinator

Annex 2 Workshop program

A consultative workshop: *Are we ready for Yelemat Tirufat?*

BLUE NILE RESORT HOTEL, BAHIR DAR - ETHIOPIA, 24 – 25 DECEMBER 2022

Day 1 Saturday, 24 December 2022			
Time	Theme	Responsibility	Session moderator/s
08:30–09:00	Registration	Organizers	
Opening Session			
09:00–09:15	Workshop objectives and overview of the workshop	Tadelle Dessie, principal scientist and TPGS director	Yihenew Zewdie
09:15–09:35	Opening remarks	H.E. Fikru Regassa, state minister, Ministry of Agriculture, FDRE	
09:35–09:50	Self-introduction of participants	Participants	
09:50–10:10	Setting the scene: Why do we need this meeting?	Tadelle Dessie, ILRI	
10:10–10:30	Group photo and coffee break		
Day 1 Morning			
10:30–11:30	Introduction to <i>Yelemat Tirufat</i> national program to improve Milk, Poultry and Apiculture production	H.E. Fikru Regassa, state minister, Ministry of Agriculture, FDRE	Tilaye T/Wold, Director General, ARARI
11:30–12:30	Discussion	Participants	
12:30–14:00	Lunch break		
14:00–14:30	Integrated and inclusive Public Private Partnership (PPP) Models for effective poultry sector transformation in Ethiopia: Thoughts on contributions to <i>Yelemat Tirufat</i>	Tadelle Dessie, ILRI	Kefena Effa, Director, Holeta Agricultural Research Centre
14:30–15:30	Discussion, Q&A	Participants	
15:30–16:00	Coffee break		
16:00–16:30	Integrated inclusive apiculture development model is transformative and ready for scale up	Workneh Ayalew, <i>icipe</i>	Yoseph Mekasha, Director, Livestock Commercialisation, ATI
16:30–17:30	Discussion, Q&A	Participants	

Day **2** Sunday, 25 December 2022

Time	Theme	Responsibility	Session moderator/s
09:00–09:30	Going to scale – from community-based to population-wide small ruminant development and commercialized product supply in Ethiopia	Aynalem Haile, ICARDA	Prof. Mengistu Urge, Vice President for Academic Affairs, Haramaya University
09:30–10:30	Discussion, Q&A	Participants	
10:30–11:00	Coffee break		
11:00–11:30	Moving to transform the Ethiopian dairy sector: Efficient Artificial Insemination service delivery through public-private partnerships—a contribution to <i>Yelemat Tirufat</i>	Zelalem Yilma, PAID	Tolera Debela, Deputy Head, Oromia Region Agricultural Development Bureau
11:30–12:30	Discussion, Q&A	Participants	
12:30–13:30	Way forward	H.E. Fikru Regassa	Tadelle Dessie, ILRI



Annex 3

List of acronyms and abbreviations

AI	Artificial insemination
AICs	AI centres
ARARI	Amhara Region Agricultural Research Institute
ATI	Agricultural Transformation Institute
CBB	Community-based breeding
CBBP	Community-based breeding program
CIG	Common Interest Group
DOC	Day-old chicks
EIAR	Ethiopian Institute of Agricultural Research
GDP	Gross domestic product
ICARDA	The International Center for Agricultural Research in the Dry Areas
<i>icipe</i>	International Centre of Insect Physiology and Ecology
ILC	Improved live calf
ILRI	International Livestock Research Institute
LDI	Livestock Development Institute
LN2	Liquid nitrogen
MFIs	Microfinance institutions
MoA	Ministry of Agriculture
MOYESH	More Young Entrepreneurs in Silk and Honey
MT	Metric tonne
NGOs	Non-governmental organisations
OxC	Option by context
PAID	Public-private partnership for artificial insemination delivery
PPP	Public-private partnership
SMEs	Small and medium enterprises
TOT	Training-of-Trainers
TPGS	Tropical Poultry Genetics Solutions
TVET	Technical and vocational education and training
WaWo	Washera-Wollo
YESH	Young Entrepreneurs in Silk and Honey

