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Policies and interventions to promote SDG-aligned investments in dairy in Ethiopia

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Abbreviations and acronyms

A2F	Access to Finance
ATA	Agricultural Transformation Agency
CDAIS	Capacity Development for Agricultural Innovation Systems
EAFIA	Ethiopian Animal Feed Industry Association
ECDPM	European Centre for Development Policy Management
EMDIDI	Ethiopian Meat and Dairy Industry Development Institute
ENTAG	Ethiopia-Netherlands Trade for Agricultural Growth
FAO	Food and Agriculture Organization of the United Nations
FOLU	Food and Land Use Coalition
IAIPs	Integrated Agro-Industrial Parks
ILRI	International Livestock Research Institute
MoU	Memorandum of understanding
MSP	Multistakeholder platform
NEADAP	Netherlands East African Dairy Partnership
NGO	Non-governmental organization
PARM	Platform for Agricultural Risk Management
PROSEAD	Promoting Sustainable Ethiopia Agroindustrial Development
RED&FS	Rural Economic Development and Food Security
SDG	Sustainable Development Goal
SME	Small and medium-sized enterprise
SNNP	Southern Nations, Nationalities and Peoples
SNV	Netherlands Development Organisation
VDFACA	Veterinary Drug and Feed Administration and Control Authority
WUR	Wageningen University & Research

1. Introduction

1.1 Background to this paper

This paper is part of the AgrInvest-Food Systems Project, a collaboration between the Food and Agricultural Organization of the United Nations (FAO) and the European Centre for Development Policy Management (ECDPM) to promote private investments in African food systems that contribute to local economic, social and environmental sustainability.

In Ethiopia, the project intends to build on and support the **efforts of different stakeholders to attract investments in the dairy value chain in Oromia.** Adapting and strengthening institutions that support the dairy value chain, creating an enabling environment for small and medium scale farmers and businesses to thrive, and strengthening the capacity to innovate, both technically and organizationally, are policy interventions that can help the dairy value chain to sustainably develop. Public sector interventions in selected and targeted investments and revising how existing policies, strategies, regulations, and standards can be made more supportive to dairy value chain development can unlock private sector investment. Coordinated action by different food system stakeholders at dairy value chain level are viable mechanisms to address major financing bottlenecks and sustainability issues.

The objective of this paper is to **analyse a number of policy recommendations that could contribute to attracting sustainable investments** in the dairy value chain in Oromia. It will also **map existing partnerships and discuss processes** that could help catalyze policy reforms. Finally, it will set out the necessary steps in a potential roadmap.

1.2 Key characteristics of the dairy value chain in Oromia

The contribution of dairy to the country's developmental objectives

The livestock sector and dairy value chain specifically is critical for nutrition and economic security of Ethiopia and Oromia. In a context of major population growth, urbanization and increasing incomes, the country's food system will undoubtedly change. The Ethiopian government envisions the agricultural sector to be a key driver of poverty reduction, improved nutrition, and inclusive growth in rural areas. Government policies, investments, and development priorities will need to be geared to achieve these developmental objectives, whilst safeguarding Ethiopia's natural resources and achieving the low-carbon and climate-resilient objectives stipulated in the country's Climate-Resilient Green Economy strategy (FOLU, 2020).

The Ethiopian dairy sector is a strategic priority for the Government of Ethiopia. Increasing the access to affordable dairy products can play an important role in improving food and nutrition security. The Ministry of Agriculture's ten-year plan for the livestock sector, ATA's ten-year strategy and the Action Plan for Transforming the Dairy Sector in Ethiopia (Action Plan) promote a shift to the commercialization and production of high-value commodities for domestic consumption and an export-oriented marketable surplus (Abebe *et al.*, 2022). Milk consumption currently is an estimated 3.6 million metric tonnes per year and is expected to double by 2030 (TRAIDE Ethiopia, 2021). The dairy value chain also has the potential to create employment, not only through value addition such as processing but also through business development up and downstream such as input service provision.

The livestock sector in general, and **the dairy value chain in particular in Ethiopia is constrained by confounding factors.** The dairy production is predominantly handled by smallholder producers. Dairy producers have limitations on accessing animal feeds and other inputs. Collecting fresh milk from smallholders is challenging for collectors and processors due to distances and the absence of a functioning cold chain. The relatively medium-sized dairy processing businesses, mostly active in Central Oromia, often operate below full capacity due to low and fluctuating milk supplies (Ahairwe and Bilal, 2022).

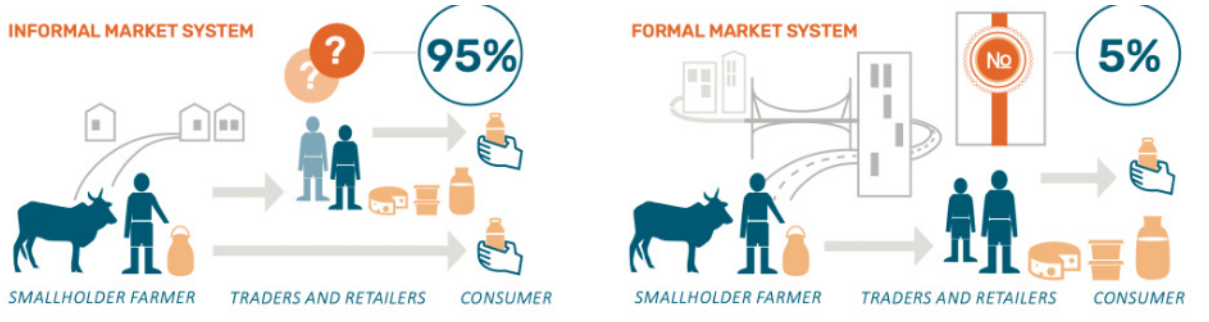
However, the **dairy value chain has been in the forefront of development agendas of the government and its partners alike.** There are various government agencies at federal and regional levels tasked and regularly budgeted to work on the development of the dairy value chain. The Ministry of Agriculture, the Agricultural Transformation Agency, and various Agricultural Research Institutes and Centres are the most notable federal government structures that support parts of or the entire dairy value chain. Regions such as Oromia have their own structures set up to support the development of the dairy value chain. The Oromia Livestock Agency is one of the most active regional agencies which support and coordinate the development of the dairy value chain across the region. The agency has recently crafted and adopted standards for milk production, collection, processing, packing and marketing.

The **dairy value chain is given due attention by donors as well.** There are projects supported by the World Bank and FAO which are related to promoting investment in the dairy sub-sector in the Oromia Region. There are international development organizations such as the Netherlands Development Agency (SNV) which have been supporting the dairy value chain development'.

Oromia dairy value chain characteristics

In this paper, we **focus on the rural, peri-urban/urban and commercial systems in Central Oromia,** including North Shewa, West Shewa, South West Shewa, East Shewa and Oromia Special Zone Surrounding Finfinne. The pastoral/agro-pastoral system in the lowlands make up a very small percentage of the total milk production available for human consumption in the country and in the Oromia region. The dairy value chain in Oromia has particular characteristics; the value chain is made up of mostly small-scale producers that supply for home consumption and sell surplus milk in informal markets. **Milk is predominantly marketed through informal channels.**

Figure 1: Informal and formal market systems



Source: TRAIDE Ethiopia. 2021. Investment Opportunities in the Ethiopian Dairy Sector. Addis Ababa. https://www.traide.org/wp-content/uploads/2021/09/2021-Dairy-Business-Opportunity-Report-TRAIDE-Ethiopia-1.pdf

Especially in the milk sheds in Central Oromia servicing the Addis Ababa populations, dairy processing firms are starting or expanding operations. Low milk yields and spatial limitations for dairy farming to expand have limited the supply of fresh milk to keep up both with demand from consumers as well as from the growing processing industry. Prices of dairy products and imports are increasing (Minten *et al.*, 2018; Ndambi *et al.*, 2018).

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2. Policy recommendations for dairy value chain development

2.1 Dairy quality standards and regulations

Bottlenecks

The low level of dairy quality in Oromia is a problem throughout the dairy value chain, with severe effects on human health. Quality issues impact negatively the health of consumers: in the short term, high bacterial counts can cause vomiting and diarrhoea; antibiotics residues in milk and dairy products can cause cancer, hypersensitivity reactions and in the long-term antibiotic resistance; aflatoxin residues from compromised feed finds its way into dairy products, causing severe acute or chronic toxic effects.[1] The consequences of these risks are more severe for children. Quality issues also hinder the functioning of small, medium and large-sized dairy processors, impacting the quality of the final product, while adulteration can hinder the production of fermented products like cheese, butter and other products.

Compromised quality can be the consequence of deliberate or unintentional tampering with quality. There are dairy farmers who are adulterating milk for better volume or extending shelf life of fresh milk. On the other hand, the quality of milk could be affected due to lack of awareness or lack of adequate capacity to invest in appropriate tools and technologies.

Recognizing these challenges, there are already **efforts from the government, mainly in the Oromia region, in terms of setting standards for milk** production, collection, processing, packing and marketing (Ethiopian Standards, 2021). The standards being promoted by the Oromia region outline the safety protocols to be pursued by all operators of the dairy value chain. They also indicates the materials and technologies relevant to making sure the safety of dairy products at different nodes of the value chain.

Policy recommendations

Compliance and enforcement of milk quality standards and regulations in Oromia is challenging due to various interrelated reasons. In this section we highlight three challenges, according to the respective step in the value chain.

- Firstly, on the demand side, there is a **limited awareness of health impacts** of compromised milk safety and quality and a **limited ability to distinguish different levels of quality** on the market, while the **limited purchasing power of consumers** to pay a price premium for quality assured dairy products limits the financial incentive for different value chain actors to invest in improved quality and safety.
- Secondly, on the production side, there is **limited technical and financial capacity** to comply with the standards and regulations. **Access to clean water and hygienic materials** can be limited, especially in more remote areas. Knowledge of **good milk handling practices** in Oromia is improving, but can be strengthened. Throughout the value chain - producers, processors, milk collection centres, transporters and distributors (traders, retail, cafes and restaurants) - there is **limited access to testing equipment** to (self-)assess the quality of the outgoing and incoming milk or to assess the quality of feed that producers are purchasing from others or producing themselves.
- Lastly, on the enforcement side, government authorities have **limited human, technical and financial resources** to check and enforce standards and regulations throughout the value

[1]See for detailed explanation of aflatoxin effects on human health, with a focus on the context of Africa: https://www.fao.org/fileadmin/user_upload/wa_workshop/ECAfrica-caadp/4._Aflatoxin_USAID.pdf

chain. Public labs are few and have sparse equipment to perform their duties. At the same time, **too stringent quality parameters and regulations** that do not take into account the **limited technical and financial capacities** of different value chain actors in the context of a largely informal and smallholder based dairy value chain, risk the drop out of the majority of producers.

These challenges in the enforcement of milk quality standards, discourage investments in the dairy value chain by smallholders, micro/small agribusinesses, diaspora investors and larger scale investors.

Policy interventions that can help attract investment in the dairy value chain in Oromia need to address the above mentioned bottlenecks in a coherent and interrelated manner to be effective. In this section we propose three packages of policy interventions.

- Firstly, to address the bottlenecks on the demand side, it would be pertinent to **forge and support alliances** between government institutions responsible for public health, civil society consumer protection organizations and media (e.g. community radio) to increase the awareness of enforcing milk quality standards for human health.
- Secondly, investments in **capacity building throughout the value chain**, starting with smallholder farmers and farmers organizations like cooperatives, are necessary to support them to comply with current or future dairy quality and safety standards. This should be done through increased investments in public and private extension services and fostering **dialogue to bridge the gap between research, extension and farmers**. The Farmer Field School approach has been developed by FAO and partners for decades and is being implemented in Ethiopia by the Ethiopian government and partners such as SNV.
- Lastly, improve and invest in **effective dialogue** between government regulating authorities, sector associations such as the Ethiopian Meat and Dairy Industry Development Institute (EMDIDI), producers, processors and public health, civil society consumer protection organizations and development partners active in the dairy value chain **to ensure standards are addressing issues identified and recognized by value chain actors.** Increased buy-in and ownership of standards and regulations by the different value chain stakeholders will decrease the cost of enforcement. A system of standards and regulations needs to start with less strict quality parameters and progressively increase stringency. Taking a gradual approach, farmers have the opportunity to apply new knowledge and technologies and improve quality. Required standards can gradually increase (Ndambi *et al.*, 2020).

Building on existing partnerships and processes will increase the feasibility of these recommendations being implemented. On 3 March 2022, The Ethiopian Agricultural Transformation Institute (ATI) signed a memorandum of understanding (MoU) with various institutions and projects to promote dairy research, extension, and development in Ethiopia. Partners include the National Livestock Development Institute (MoA), SNV (BRIDGE), International Livestock Research Institute (ILRI), Land O' Lakes, Precision Agriculture for Development, and Project Mercy. The partnership aims to strengthen the collaboration and complementarity in dairy research, extension, institutional development, and capacity building skills of these different partners (ATA website, 2022).

A partnership that has worked extensively on the issue of dairy quality in East Africa is the Netherlands East African Dairy Partnership (NEADAP). The NEADAP partnership, established in 2018, links core partners such as Agriterra, SNV, Solidaridad and Wageningen University & Research (WUR) with Ethiopian, Kenyan and Ugandan partners and projects such as local research institutes

and government institutions, farmers organizations, service providers, processors and dairy authorities as well as international dairy actors such as the International Livestock Research Institute (ILRI), International Center for Tropical Agriculture (CIAT) and dairy non-governmental organizations (NGOs). NEADAP, together with these partners, has piloted **quality-based milk payment systems** in Uganda and Kenya. Valuable lessons can be drawn from this experience: measures must be processor - driven, and the system must be transparent to build trust among the value chain actors. The Uganda and Kenya pilots with quality-based milk payment systems highlight the important potential role processors can play in contributing to a more enabling environment for quality improvement throughout the chain (Ndambi *et al.*, 2020b). The potential to scale out the lessons to Ethiopia, starting with the main milksheds in Central Oromia, should be explored.

Implemented in close relation to each other, these **packages of policy interventions will reinforce each other** and create synergies. The policy reforms would help attract investments; lifting the minimum standards for the whole market, facilitating dialogue to share the costs of investments throughout the value chain, increasing awareness to ensure market pull. There are limitations to the impact, because of low purchasing power of consumers which is outside of the realm of policy interventions. A recommendation is to explore the potential for integrating small-scale processed milk products like fermented or sour milk (ergo), butter, cottage cheese (ayib), buttermilk (arera) and yoghurt into homegrown school feeding programmes or other public procurement schemes.

2.2 Feed and forage

Bottlenecks

Access to affordable feed and forage is one of the main bottlenecks in the dairy value chain in Oromia. To address this bottleneck effectively, it is important to understand the different demands and possibilities of the dairy value chain actors regarding feed and forage. What dairy cows need depends on their breed, condition (e.g. pregnant, lactating) and the dairy production system used.[2] These different factors will greatly influence their milk yields. Improved breeds have more demanding feed requirements than local breeds. A large number of improved breeds in Oromia are producing below their potential due to limited access to adequate feed.

Effective demand for feed by dairy farmers in Oromia differs according to the dairy production system. Due to crop land expansion and land degradation from overgrazing and erosion, **communal grazing areas are shrinking** (ILRI, 2021). Commercial farmers also face the challenges of the high costs of commercial feed and industrial by-products used for feed such as wheat bran, wheat middling, brewers waste and noug cake (Brasesco *et al.*, 2019).[3]

The bottleneck of affordable feed and forage is actually composed of different interrelated bottlenecks. Following the different steps in the feed value chain, this section highlights a number of them. A more detailed analysis is provided in Abebe *et al.* (2022).

- Firstly, on the demand side, the awareness of the importance of adequate feed and forage is increasing, especially in the milk sheds close to end-markets such as Addis Ababa. Smallholder farmers however have **limited financial capacity to invest in adequate feed**, especially when

[2]For detailed guidelines on dairy cow feeding in the context of Ethiopian highlands such as Oromia, see https://snv.org/cms/sites/default/files/explore/download/dairy_cattle_feeding_and_nutrition_management_training_manual_and_guideline_0.pdf
[3]In order to bridge the gap between current production and projected demand of manufactured animal feed, the production capacity should increase between 300 and 800 percent (Brasesco *et al.*, 2019). The price of food industry by-products (e.g. from vegetable oil production and beer brewing) used for feed is skyrocketing even higher than the price of the main product. Forage production as an enterprise has a hard time to compete with other forms of business such as manufacturing, or horticulture farming, especially in the highland areas where competition for land is high.

return on investment is unclear. Access to finance for dairy is very limited, especially for working capital. The little formal finance that reaches the dairy value chain favours investments in processing, since investments in equipment are deemed less risky by financial institutions.

- Secondly, on the production side, the production of forage is hindered by the **competition for land and water resources** by crop production. In the peri-urban areas, urban development and infrastructure also impacts land availability. Current land policy does not enable access to land for feed production (ILRI, 2021). There is a lack of seed for **high quality and high yielding forage crops**. Feeds are bulky in nature, making it a costly business to transport them over large distances, even more so in the context of high fuel prices.
- Lastly, on the policy strategy and enforcement side, feed quality is not standardized, and enforcement of safety of feed is lacking. Forage seed also lacks certification. Forage production has also been lagging in government attention compared to crop production (interviews with sector experts).

Policy recommendations

A broad set of public and private services is necessary to meet the needs and address the challenges of different types of farms regarding feed and forage. The following section elaborates on a number of policy recommendations that, when implemented in an integrated fashion, can unlock the feed and forage sub-value chain.

- Firstly, **supporting farmers with knowledge to decide if it is profitable to invest in high quality feed** and forage can help increase the demand. Moreover, research has shown that increased access to markets has a positive effect on the demand for inputs (ILRI, 2021; Van der Lee, 2020). **Targeted and contextualized support** can help increase insights on the return on investment for different types of farmers. This needs to be coupled with **appropriate credit to ensure demand is effective**. Village savings and loans and other types of accessible finance can start a virtuous cycle of increased profits and productive investments. More commercially oriented dairy farmers could access credit when engaging with formal processors and feed producers.
- Secondly, there is a need for **policy reforms that can kickstart the forage value chain and improve the affordability of feed.** Apart from increasing milk yields, **high yielding forage crops** can contribute to sustainable intensification of land use. Local governments can allocate land for the production of forage and multiplication of forage seed. Land allocation to encourage feed and forage production should be based on a **comprehensive mapping to ensure optimal land use.** Investments in low energy or off-grid feed processing machines can help reduce the cost of transport of bulky forage and feed (ILRI, 2021). A **cluster approach** can ease delivery of inputs and services such as feed and forage. Development of and training in competitive and cost-efficient **feed conservation and distribution systems** can help make feed more affordable for rural farming systems. National level government can increase trust of farmers in investing in improved forage seed by setting up an **external quality assurance system for seed for feed.** Farmers Training Centres can play an important role in producing forage seed and scale up forage production.
- Thirdly, the responsible government institutions can **enable research and innovation in the use of by-products for feed**, both from industrial food processing and from smallholder farmers themselves. Research from the pan African N2Africa project[4] shows for example that using pulses production residues as forage has a positive impact on the nutritional value of milk. Pulse production in integrated crop-livestock farming systems contributes to improved soil fertility and

[4]In Ethiopia, the N2Africa project was led by ILRI, and involved key national and international research institutes and government agencies. See for more information: https://www.ilri.org/research/projects/n2africa-phase-ii-ethiopia

health because of the nitrogen-fixating qualities of pulses. Technologies that would improve the nutritive values (palatability, intake and digestibility) of available crop residues by farmers and local processors could be promoted, and loans for expensive machinery such as choppers could be enabled by improving access to finance.

- Lastly, the responsible government institutions need to **develop and enforce feed quality standards.** This can help to incentivize farmers to invest in quality feed. A 2015 study by ILRI caused a lot of upheaval when the widely used noug cake (a by-product of vegetable oil production) was found to be the main source of aflatoxin contamination in dairy products in the Addis Ababa milk shed.[5] The research illustrates the importance of effective quality control on feed and spurred the feed industry to look more closely at the causes and control methods.

Existing partnerships and processes that can be built upon are the Capacity Development for Agricultural Innovation Systems (CDAIS) project and a public-private model on feed, involving small-scale dairy farmers, a commercial feed producer, government extension providers and local dairy processors.

In 2017, the CDAIS project[6] facilitated a **multistakeholder process** that resulted in the commitment of key government and private sector stakeholders to develop **a directive on feed risk assessments, risk management and risk communication.**[7] A 'feed safety and quality innovation partnership' under the auspices of a task force of the Veterinary Drug and Feed Administration and Control Authority (VDFACA) with members including a wide range of stakeholders representing government ministries and authorities (including VDFACA), farmers, traders, the Ethiopian Animal Feed Industry Association (EAFIA), and the Ethiopian Poultry Producers and Processors Association came together to jointly analyse causes and effects around poor feed safety and quality and develop a detailed assessment of the causes and possible solutions. They also proposed a plan of action that was supposed to lead to definite impacts in the short to medium term.

"The intended **legal framework will assist Ethiopia to meet international requirements, ensure human health**, build consumer confidence in animal products, and legalize the often informal animal feed business," said Gemechu Nemie, Director of the EAFIA (Asmare, 2017. p.88). The EAFIA is a formal not-for-profit organization established by feed-factory owners, private dairy farmers and feed-manufacturing cooperatives in 2008. The CDAIS project trained and coached facilitators and representatives in lead organizations in collaborative and reflective leadership. The World Bank's Livestock Micro Reforms in Agribusiness project and international economic development organization ACDI/VOCA showed interest to work with the partnership and cover part of the cost of a consultant to develop the directive, and to enhance the knowledge and skills of partners in regulatory framework development. Despite these efforts and apparent buy-in from government agencies such as the Veterinary Drug and Feed Administration and Control Authority, currently there is no legal framework and guideline for feed risk assessment or a directive. The potential to revisit the work of this partnership should be explored and the engagement of these partners to revive these dialogues should be taken on board in dialogue efforts to strengthen the feed value chain in Oromia.

[5]For the ILRI press communication about the research, see https://news.ilri.org/2015/10/30/aflatoxin-levels-in-cow-milk-and-feed-in-the-addis-ababa-milk-shed-new-study/

[6]The objective of the CDAIS project (2015-2019) was a partnership developed and implemented by Agrinatura and FAO, supported by the European Union. CDAIS facilitated partnerships that build functional capacity of value chain stakeholders (capacity to collaborate, to engage in political and strategic processes, to manage innovation, to experiment and to learn) around specific agricultural bottlenecks, to meet the demands of farmers, agribusiness and consumers. It emphasizes the need to also invest in the organizational capacities and skills required to shape an enabling environment that is more conducive to sustainable value chain development.

[7]See for a detailed description of the CDAIS project: https://cdais.net/wp-content/uploads/2019/08/CDAIS-Stories-of-Change-Ethiopia-10.pdf

Feed producer Alema Koudijs Feed Plc and dairy processors MB Plc (Family Milk) and Etete Milk Processing S.C. piloted a model whereby the concentrate feed producer supplied concentrate feed to the dairy processors, who then distributed it to the dairy farmers that supplied raw milk to them. The processor deducted the costs of the concentrate from the milk payments. The farmers also received additional training by government Cooperative Promotion and Livestock offices. The pilot gave good results, increasing daily yields and improving quality of the milk. The 2Scale project of the International Fertilizer Development Center and Wageningen Livestock Research (WUR) contributed to the pilot.

2.3 Finance and credit

Bottlenecks

Dairy value chain actors in Oromia, as in the rest of Ethiopia, find it very difficult to access finance at reasonable rates from banks and other formal financial institutions. This is particularly true for smallholder farmers and dairy cooperatives, but also for small and medium-sized enterprises (SMEs) in dairy and other agribusinesses operating in the dairy value chain. This hinders the ability of the dairy value chain to increase the milk production necessary to meet the current market demands, both direct domestic consumption of fresh milk, and supply of intermediary inputs for the growing processing industries. In this section, a few specific bottlenecks are highlighted. A more detailed analysis of bottlenecks in finance and credit affecting the dairy value chain is provided in Abebe *et al.*, 2022 and in Ahairwe and Bilal, 2022.

The bottlenecks of the finance sector in Ethiopia are diverse. Some specifically relate to Ethiopian political dynamics, others are more comparable to the challenges of agricultural finance in general. Typical to the Ethiopian context, the sector is state-controlled and closed to foreign investment that would otherwise bridge the existing financing gaps. The persistent foreign exchange shortages and the subsequent strict regulations regarding the availability of **foreign exchange** to the private sector adds to the complexity of the financing landscape in Ethiopia. **Loans and investments in the agricultural sector are perceived to be high-risk** by domestic banks, who are relatively absent from the rural market and are reluctant to finance agriculture activities. This leads to **structurally low levels of financial inclusion**. Youth and women are more heavily affected, partly due to their limited asset-base.

Women in Ethiopia are excluded from access to financial services and financing opportunities.[8] The current system is based on assets as collateral.[9] **Without a power and gender-sensitive approach, the current financial system risks reproducing and deepening the unequal economic power and gender dynamics**, affecting the extent to which individuals and businesses engaged in the dairy value chain have access to affordable financing opportunities in Oromia.

Developments in digital finance in Ethiopia are slowly gathering speed. Government strategies are set in place, but progress is suffering from COVID-19 impacts and the volatile security situation. In 2020 the government launched the Digital Ethiopia 2025 strategy to take advantage of digital technologies for inclusive national prosperity (GoE, 2020). The first of four prioritized 'digitally enabled pathways for prosperity for Ethiopia' is centred around unleashing value from agriculture by making optimal use of emerging digital technologies to modernize the sector. The strategy highlights building a Digital Agriculture platform and supporting and incentivizing Ag-

[8]Less than thirty percent of adult women in Ethiopia have a bank or mobile money account, compared to 34.8 percent of the overall adult population.
[9]86 percent of loans in 2015 to SMEs in Ethiopia required collateral security, with an average of 296 percent of the total loan amount in value (World Bank 2021a in Ahairwe and Bilal, 2022).

tech entrepreneurs. The current situation is far from that vision: World Bank (2021) data shows that only 0.51 percent of the Ethiopian adult population is currently able to make any payments using mobile money or the internet. Lack of digital skills is holding back about 62 percent of Ethiopian non-internet users from adopting mobile and internet banking financial services (Ahairwe and Bilal, 2022).

High regulation of financial technology players in Ethiopia restricts the development of digital banking. Digital networks are growing rapidly and regulatory frameworks are gradually changing (MercyCorps, 2021). Although Ethiopia has been attracting relatively high rates of foreign direct investments flows, the COVID-19 pandemic and the volatile security situation have negatively affected these trends.

Policy recommendations

Strategies and reforms around investments and the finance sector in Ethiopia are in general well designed and coherent. Apart from the digital strategy, financial inclusion is recognized as a priority while, already in 2018, the government announced reforms to make the financial sector more efficient and competitive. Efforts to integrate agricultural risk management in policy planning and implementation are undertaken in partnership with FAO. However, **bridging policy to practice is likely a bigger challenge than identifying gaps in existing policies.**

A **context-sensitive approach is necessary to address the bottlenecks in the financial sector** and understand what is necessary to help increase the availability, access and adequateness of financial products that can improve dairy businesses and the value chain as a whole. The way investors deal with the foreign exchange shortage and related restrictive regulations and how it affects their ability to finance operations and investments for example, depends on whether entrepreneurs produce mainly for the domestic market, for export or function in a hybrid form. **Support needs to be tailored to their specific context, needs and opportunities.** Investments in developing products with longer shelf life for example could enhance export opportunities and generate much needed foreign currency (TRAIDE Ethiopia, 2021).

Also, sharing **information on new developments in the financial sector and innovative financial products** available for the dairy value chain is crucial. The Access to Finance (A2F) Discussion Group, which is hosted and facilitated by the Promoting Sustainable Ethiopia Agroindustrial Development (PROSEAD) Project works on sharing information on new developments in the financial sector, and on innovative financial products, services and initiatives that may contribute to the Integrated Agro-Industrial Parks (IAIPs) and their catchment areas. Funded by the European Development Fund of the European Commission, PROSEAD works on accelerating the mobilization of public investments and leveraging private investments for the realization of IAIPs and to synergize with current government and donors' investments in the development of agricultural value chains. This kind of coordination is very important.

The perception of risk of investments in the dairy value chain should be reduced by a more evidence-based dialogue between the financial sector and dairy value chain actors. Investments in facilitating these dialogues and providing reliable data to feed into these dialogues are an important step to engage with key finance stakeholders. Government agencies like ATA should establish these dialogues with support from development partners and research institutes.

Finance institutions need to understand how to support women to access credit. Women are currently not explicitly targeted. Providing the right financial services and products that address distinct barriers that women face calls for the critical involvement of impact investors, microfinance

institutions, and other social development oriented international agencies. They can develop risk-sharing facilities or other adapted products. Government agencies can stimulate and push financial service providers to be involved in dialogues around inclusion of women in dairy value chains. Service providers need to be convinced that there is a stake in it for them.

Developing innovative insurance services, both by the public and private sector (for example Ethiopian Insurance Company and Nyala Insurance) targeting the dairy value chain specially, can benefit from both improved data on the value chain characteristics and strengthened dialogue between key stakeholders. Government agencies should invest in producing, gathering and disclosing high quality data and establish and facilitate dialogue. Technical partners like FAO should support these processes. Development partners and private sector stakeholders can play a role in co-financing these systems, which will also benefit their operations and monitoring systems.

The development of tailored digital financial services could be a good alternative to provide small-scale loans and insurance products, targeting not only smallholder livestock farmers, but also diaspora investors that could be incentivized to invest in the feed and forage value chain. The opportunities of digital payment systems to facilitate transactions among the dairy value chain MSMEs for fresh milk and milk processed products can help improve financial history record-keeping and feed into the development of digital financing solutions (Ahairwe and Bilal, 2022). Moreover, innovative equipment leasing solutions for example can enable the adoption of new machinery and technology. (TRAIDE Ethiopia, 2021). New machinery and equipment should be appropriate for the local context, for example taking into account the regular blackouts and the limited availability of and access to skilled technicians. An Ethiopian insurance company has started issuing insurance against political risks as well.

A number of processes and partnerships are contributing to bridging the agricultural finance gap, few specifically targeting the dairy value chain. Together with the Ethiopian Meat and Dairy Industry Development Institute (EMDIDI), SNV facilitated a panel discussion on finance for dairy and livestock at the biggest livestock event in Ethiopia, the African Livestock Exhibition & Congress, held between 27 October and 29 October 2021. The Development Bank of Ethiopia was present, but otherwise it was challenging to engage other finance institutions. Ahead of this panel discussion, SNV and EMDIDI visited banks, sector associations and National and Regional Investment Commissions to have preparatory discussions with key stakeholders. There is scope to build on these conversations and connect them to the A2F Discussion Group that is part of PROSEAD.

TRAIDE Ethiopia is currently conducting a study on the way investors deal with the foreign exchange shortage in Ethiopia and related restrictive regulations. The study is expected to be presented in September 2022 and could feed into more focused discussions (TRAIDE Ethiopia, forthcoming).

In January 2022, the Food and Land Use Coalition (FOLU) launched the Innovative Finance Initiative in Ethiopia. This initiative focuses on the potential of blended finance for Ethiopia, mobilizing catalytic capital from public or philanthropic sources to leverage financing from the private sector in agriculture. Additional capital in this sector is necessary to de-risk investments, since commercial actors associate the sector with higher risk and lower financial returns on investment. Blended finance can thus help reduce investment risk (e.g. with the help of a loan guarantee), improve returns (e.g. through debt or equity financing facilities) and increase economic, social, environmental, or other impacts (e.g. with the help of performance-based contracts). **FOLU works closely with stakeholders in the agriculture and finance sectors** including the Ministry of Agriculture,

The Agricultural Transformation Agency, and the Ministry of Finance and Economic Development and an international network of experts that form the Blended Finance Taskforce (FOLU, 2022).

Other agriculture sector-wide efforts relate to improved data for decision-making, including investment decisions. ATA for example has developed a Data Hub that centralizes and consolidates existing ATA data sources to provide data insights. Further strengthening the Data Hub can inform financial decision-making, as well as help farmers build, protect and leverage economic identities and access financing (MercyCorps, 2021).

With regards to making finance more gender sensitive, a number of **gender programmes within international development finance** such as the She-invest for the European Investment Bank and the 2X-Challenge are working on this. Building on these efforts will promote access to grants and concessional loans to women-led businesses along the dairy value chain. Women dairy groups should receive targeted support from banks, microfinance institutions, and impact funders through credit by providing them with the necessary technology and training (Ahairwe and Bilal, 2022).

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3. Process recommendations

Most of the recommendations developed in section 2 involve some kind of multistakeholder dialogue. Hence, the following sections showcase a number of efforts to develop multistakeholder dialogue processes in Ethiopia, draw lessons from these experiences and map existing dialogue platforms and partnerships to feed into a roadmap.

3.1 Facilitating multistakeholder dialogue for SDG-aligned investments

Due to the large number and variety of actors involved, an integrated and effective development of **the dairy value chain in Oromia faces challenges of coordination and coherence.** The different value chain actors, extension workers, development partners, researchers, businesses in value addition, trade and distribution, input supply and service delivery are often dispersed and have different and sometimes diverging interests and incentives. Dairy value chain development interventions often work in a fragmented way, lacking in coordination and coherence of resources and efforts. Lack of clarity about roles and responsibilities and duplication of efforts have led to a poor overall return on total investment in development of the dairy value chain (ILRI, 2021).

The **Rural Economic Development and Food Security (RED&FS) platform is an existing platform** of government and development partners housed at the Ministry of Agriculture. It is meant to organize and coordinate efforts and resources around joint objectives related to rural development and food security. The RED&FS platform has the potential to address some of the dairy value chain development bottlenecks described in this paper and mobilize resources for selected priority interventions (ILRI, 2021).

Agricultural Commercialization Clusters have also been designed to provide an integrated platform to implement priority interventions across value chains and sectors and improve coordination and coherence among actors in the public and private sectors, as well as development partners and NGOs. In a similar vein, integrated agro-industrial parks (IAIPs) in Oromia, Amhara, the Southern Nations, Nationalities and Peoples (SNNP) region and Tigray have been established, with the objective to spur agricultural transformation in a number of prioritized commodities. For the IAIP in Oromia, Bulbula IAIP, dairy has been identified as a priority commodity but concrete investments targeting clustered agro-processing of dairy are still in the pipeline.

Key lessons from the cluster approach concerned to improving extension services, peer-to-peer learning, and collective marketing. The cluster approach facilitated timely access to seed and other inputs, and eased the provision of training and capacity building. An important aspect of the cluster approach was the positive impact of sharing learning and the demonstration effect: weak farmers are learning from strong farmers. Regarding collective marketing, aggregation of supply improved the bargaining power vis-a-vis traders (interview ATA senior official).

The Ethiopia-Netherlands Trade for Agricultural Growth (ENTAG) ran from 2016-2019 to support agribusinesses & entrepreneurs operating in Ethiopia. It was funded by the Dutch Embassy and set up value chain specific platforms in five subsectors; aquaculture, poultry, spices, sesame and legumes. The experience of the platforms was that for the private sector to engage, there was a strong need to show value added for them to participate. Post-project sustainability has been low, partly due to the limited ownership and capacity of local stakeholders to continue the platforms. The main lesson from the ENTAG platforms is that multistakeholder platforms are ideally hosted

by the Ethiopian government to maximize local embeddedness and have clear benefits for the private sector actors to engage. A number of dormant networks[10] illustrate the difficulty of achieving post-project sustainability and the importance of strongly **embedding dialogue platforms and network initiatives within government structures, preferably at regional level.**

Lessons from this type of initiative show that learning and sharing are sub-optimal among the stakeholders due to the **lack of ownership** and loose engagement, leadership, decision-making, communication, commitment to a shared vision, clarity and enforcement of roles and responsibilities. Moreover, if there is no mechanism that ensures the platform's activities respond to the needs of the participants and addresses their problems, it is difficult to influence individual stakeholders' perception about benefits gained from participating in the platform and the overall learning process (Teklewold Deneke and Gulti, 2016).

In the multitude of agrifood multistakeholder platforms, there is **relatively little explicit attention given to environment and climate.** The applied research programme on 'climate-smart and inclusive dairy business models in Kenya and Ethiopia' (CSDEK)[11] found that despite the many initiatives, good practices are still not being sufficiently scaled up to further develop the East African dairy sector.

Applied research has described business models of chain actors and supporting parties in order to identify **opportunities for scaling-up climate-smart good practices.** Some of these research projects have been taken up by NEADAP, a platform for the exchange of knowledge and experience to tackle current challenges and leverage further development in East African dairy.

The efforts of different dairy value chain stakeholders are currently fragmented and lack continuity. **Government-owned platforms** that involve stakeholders across the dairy value chain are necessary to effectively and sustainably address the bottlenecks in the dairy value chain. Increased coordination and coherence will contribute to an **enabling environment that can unlock private investment.**

3.2 Potential for partnership platforms; interests and incentives

Ideally, **multistakeholder platforms (MSPs) are spaces where stakeholders can learn, negotiate, and coordinate** to overcome challenges and capture opportunities through facilitated processes.
The partnership and dialogue processes described in the section above have been initiated by relevant stakeholders in the dairy, finance and agricultural domain, and as such worthwhile to learn from and build on. It is important however to understand **what factors and actors in a specific context are needed to make MSPs work** and to be realistic about what they cannot achieve (Schut *et al.*, 2017). This section provides an overview of potential MSPs at different levels, highlighting some obstacles for more inclusive processes and potential trade-offs.

Obstacles for inclusive processes and trade-offs

Multistakeholder platforms should be set up in a way so as to **strengthen local support and innovation systems**, by putting local institutions and organizations in the driving seat. ATA and the representatives of the Oromia ACCs and integrated agro-industrial parks (IAIPs), EMDIDI,

[10]An Ethiopian AgroEcology Network was established by AgriProFocus and Tufts University. The Agriculture Knowledge Documentation and Policy Program (AKLDP) was launched in 2016 but the network has not shown much activity since the end of 2020. A multistakeholder platform called the Agriculture and Rural Development Partners Linkage Advisory Council (ARDPLAC) was established in 2008 at federal, regional, district and zonal level to establish vibrant linkages with development partners working in that area. ARDPLAC is coordinated by the Bureau of Agriculture or the Ministry of Agriculture and funded by the World Bank (Teklewold Deneke and Gulti, 2016) but the Councils do not show much recent activity.
[11]The research, phased out in December 2020, was a collective effort of Van Hall Larenstein (lead), Michigan State University, Unique Forestry and Land-use GmbH, USIU and Jimma university.

Oromia Bureau of Agriculture and Natural Resources, Oromia Bureau of Livestock Fisheries and Oromia Cooperative Promotion Agency, Addis Ababa, Adama and the Hawassa University, and Kulumusa, Melkasa and Adami Tullu agricultural research centres should be part of such a platform. The Multi-Donor Trust Fund, established by the RED&FS platform in 2008, could be revamped to function as an innovation fund, leveraging private investment by risk-sharing or providing guarantees to private investors.

An important issue to be addressed in a dairy value chain platform is how to effectively **address the gender imbalances in the Ethiopian dairy value chain and in access to finance for women-led dairy businesses.** Recent research into the dairy sector in East Africa shows that while women constitute as much as 70 percent of the dairy labour force in the region, there are numerous challenges to their participation in the dairy value chain (Ahairwe and Bilal, 2022). For example in Uganda, there are concerns that strong commercialization of the dairy value chain will increase the burden of women as they are often left to manage dairy cattle activities including feeding, watering and milking animals. These responsibilities take place around the homestead, while selling milk happens outside of the homestead. If milk sales and marketing become primarily the men's responsibility, it increases the risk of an unequal share of burden and revenue. Recent research from the International Food Policy Research Institute (IFPRI) shows that in Ethiopia, in dairy farms that grow in size and in dairy farms that are closer to urban areas, women's involvement diminishes but men's increases (Minten and Tamru, 2022). Leadership positions in dairy cooperatives, unions and associations in East Africa are less frequently taken by women.

For the establishment of an effective dairy value chain platform in Oromia, it is important to invest in **strong local facilitation skills**. Skilled facilitation is necessary to ensure unequal power relations are not continued or reinforced through the platform. The purpose, roles and rules of engagement as well as the participation of relevant partners and representatives should be clear. The platform should prioritize interventions that produce visible impacts to maintain the commitment to the platform. A strong communication strategy and exposure to other information sources (through visits, documents etc.) maintains and spreads momentum.

Investments in a **transparent government-owned information management system** should be the first step of a dairy value chain platform in Oromia, and ideally take a cluster approach. Bringing together data from government, (international) NGOs, development partners, and ideally private sector players, an information management system enables different stakeholders to assess the current situation and track if progress is heading in the right direction. It should build on existing information management systems, and enable linking of different databases. Ideally, the platform participants jointly prioritize the key indicators reflecting the priority bottlenecks the platform aims to address. Gaps should be identified where currently no data is being collected on specific priority indicators. A transparent and reliable information management system at cluster level is an invaluable tool for all stakeholders, especially banks and investors that need to plan and track the results of their investments. ATA, championing the cluster approach, could take the lead in developing a joint information management system strategy.

An Ethiopian Dairy Board at national and regional level

Currently, there is **no umbrella organization overseeing, regulating and coordinating the development of the dairy value chain** in the country or region. Such an organization can be a platform for representatives from government, private sector, research institutions, dairy producers and processors and professional associations to jointly map and prioritize main bottlenecks and

identify appropriate strategies to address them. In its 2021 study of the Ethiopian dairy sector's constraints and opportunities, ILRI makes a strong case for establishing such an Ethiopian Dairy Board, at both national and regional levels. It proposes that its members contribute to the sector's development and participate in drafting policies, strategies and regulations, and identify bottlenecks to be addressed by government or development partners. Critical problems in Ethiopia's dairy value chain development would be tackled in periodic meetings as well as emerging trends of the identified problems. The Dairy Board could play a lead role in coordinating a national dairy research agenda and discuss appropriate extension approaches in close collaboration with government and relevant research institutions. These platforms should be strongly embedded in existing structures of the Ministry of Agriculture and its regional bureaus of agriculture, ensuring oversight, and coordination over resources which could be mobilized from government, the private sector and development partners. The Dairy Board and its regional platforms would be an ideal space to mobilize investments for research and technology generation and multiplication of innovations by smallholder farmers (ILRI, 2021).

A tool to facilitate multistakeholder dialogue: the Dairy Sustainability Assessment Tool

The **identification and assessment of potential impacts of investments and interventions in the dairy value chain** on different dimensions of sustainability are key steps to facilitate informed and sustainable investment decisions in agrifood systems (Cortez Tellez, 2022). An integrated assessment of the dairy value chain - at cluster or regional level - can also be the first step in a joint process of prioritisation and planning of activities. Recently, in partnership with Wageningen Livestock Research and as part of NEADAP's research agenda, SNV has developed the Dairy Sustainability Assessment Tool. It was piloted in several Ethiopian milksheds, as well as in Kenya and Uganda. The tool has helped a broad group of stakeholders to assess the main threats to the sustainability of dairy value chain development. The tool can be used at regional, national, or at farm level.

The efforts of SNV and WUR also entails **firmly embedding the tool and related dialogue processes in decision-making processes**, at these different levels. SNV, often in partnership with WUR, has been leading the partnership building work around dairy in Ethiopia and East Africa for years, making available their knowledge and experience on the dairy value chain in Ethiopia with key stakeholders such as ILRI and FAO. Their strong position in the Ethiopian dairy value chain can help ensure impact, relevance and sustainability of these processes. The Dairy Sustainability Assessment Tool they developed is a dynamic one that is open to improvement, adjustments and adaptation to other regions and other agricultural activities, and as such of potential value to organizations with a strong role and important responsibilities in promoting the sustainability of dairy value chains across the world, such as FAO and ILRI.

3.3 A possible roadmap

A **roadmap for the different dialogue efforts is necessary** to spur public and private investments in the dairy value chain in Central Oromia and ensure policy reforms contribute to an enabling environment. Such a roadmap helps to define commitments, responsibilities and the timeframe of actions of each involved actor. Embedding dialogue platforms and network initiatives within local structures, preferably at regional level and with strong government ownership, will be key for bridging policy to practice.

The recent MoU to promote dairy research, extension, and development is a great opportunity to foster and support more structured alliances between dairy value chain stakeholders, the

Ethiopian government and SNV, ILRI and other institutions. A more inclusive and evidence-based dialogue on quality standards can ensure capacity building throughout the value chain is relevant and responsive.

The renewed efforts by EMDIDI and SNV to engage with the Development Bank of Ethiopia and national and regional Investment Committees to discuss concrete investment and finance bottlenecks in the dairy value chain can **build on the experiences of the Platform for Agricultural Risk Management (PARM)**. This flagship programme of the International Fund for Agricultural Development provides awareness and capacity development services on agricultural risk management into the policy planning and investment plans in eight African countries from Sub-Saharan Africa, including Ethiopia. FAO, through the Agrinvest Project, has provided training for dairy value chain actors, under the theme "Multistakeholders' Facilitation and Agricultural Risk Management in the Dairy Value Chain System" by adapting the modules developed by PARM. It can actually be an opportunity for the Government of Ethiopia and development partners to continue their engagement by implementing agricultural risk management initiatives and policies in the dairy value chain. At regional level, aligning with the nutrition and youth employment agenda can help to increase political traction for public investment in the dairy sector.

The FAO Ethiopia country office is currently implementing the Hand in Hand project, which is working on dairy investments in the dairy value chain in the Sidama, SNNP and Oromia regions. Considering the central role of SNV in the dialogue and partnership processes on dairy in the region and the commitment of the Oromia regional government, collaboration between Oromia government institutions such as the Oromia Livestock Agency, SNV and FAO can focus on the different policy recommendations described above. Through technical and process support they can work with the relevant government institutions to define such a roadmap.

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AgrInvest-Food Systems Project

Policies and interventions to promote SDG-aligned investments in dairy in Ethiopia

Food Systems and Food Safety Division - Economic and Social Development Stream

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