Food and Agriculture Organization of the United Nations

RURAL EMPLOYMENT

Youth-sensitive analysis and strategy design for the soybean value chain in Zambia

Integrated Country Approach for boosting decent jobs for youth in the agrifood system, Phase IV (ICA-4)

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Contents

Tables

Figures

Boxes

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Abbreviations

8NDP	The Eighth National Development Plan
ACLTAB	Agriculture Concessional Loans Through Anchor Borrowers
AgBIT	Agribusiness Incubation Trust
AKTC	German-Zambian Agricultural Knowledge and Training Centre
AMZ	Agora Microfinance Zambia
BDS	business development services
CATSP	Comprehensive Agriculture Transformation Support Programme
CAYACC	Consortium of African Youth in Agriculture and Climate Change
CDF	Constituency Development Fund
CEEC	Citizens Economic Empowerment Commission
CFU	Conservation Farming Unit
CIMMYT	International Maize and Wheat Improvement Center
COMACO	Community Markets for Conservation
FAO	Food and Agriculture Organization of the United Nations
FGD	focus group discussion
FSD	Financial Sector Deepening
FI	financial institution
FISP	Farmer Input Support Programme
FRA	Food Reserve Agency
FSP	financial service provider
GDP	gross domestic product
GNA	Good Nature Agro
KGoZ	Government of Zambia
ILO	International Labour Organization
MFI	microfinance institution
MGEE	Ministry of Green Economy and Environment
MLSS	Ministry of Labour and Social Security
MoA	Ministry of Agriculture

MSC	mechanization service centre
MSME	micro-, small- and medium-sized enterprise
MSMED	Ministry of Small and Medium Enterprises Development
MYSA	Ministry of Youth, Sport and Arts
NAMS	National Agricultural Mechanization Strategy 2024–28
NEET	not in education, employment or training
NGO	non-governmental organization
OSH	occupational safety and health
PPE	personal protective equipment
PWD	persons with disabilities
SAFF	Sustainable Agriculture Financing Facility
SCCI	Seed Control and Certification Institute
SIFAZ	Sustainable Intensification of Smallholder Farming Systems in Zambia
SME	small and medium-sized enterprise
SWOT	strengths, weaknesses, opportunities and threats
TEVET	technical education, vocational and entrepreneurship training
TEVETA	Technical Education, Vocational and Entrepreneurship Training Authority
UNZA	University of Zambia
UNZA-TDAU	University of Zambia Technology Development and Advisory Unit
USD	United States Dollar
VC	value chain
WEAC	Women's Entrepreneurship Access Center
YADIZ	Youth In Action for Disability Inclusion Zambia
YAZ	Youth Alive Zambia
YEAZ	Youth Entrepreneurs Association of Zambia
YEFI	Young Emerging Farmers Initiative
ZAMACE	Zambian Commodities Exchange
Zanaco	Zambia National Commercial Bank
ZAPD	Zambia Agency for Persons with Disabilities
ZARI	Zambia Agriculture Research Institute
ZMW	Zambian Kwacha

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Executive summary

This report, conducted under the Integrated Country Approach for boosting decent jobs for youth in the agrifood system, Phase IV (ICA-4), presents a youth-sensitive analysis of the soybean value chain (VC) in Zambia. The geographic focus of this study is on the Central and Eastern provinces of Zambia, due to their significant contribution to national soybean production.

The research methodology involved a collaborative desk review and field research by Musika Development Initiatives and the Food and Agriculture Organization of the United Nations (FAO). Data was collected through 162 key informant interviews and focus group discussions over four weeks in November 2024 and January 2025 with a diverse range of stakeholders. These included youth (46 percent of respondents), business owners, experts and government officials. The research was built on FAO's VC analysis methodologies,[1,2] combined with market-systems development approaches from the International Labour Organization and the Donor Committee for Enterprise Development.[3,4] Findings were validated through triangulation of primary and secondary data and three multistakeholder workshops held in October 2024, January 2025 and March 2025 in Eastern, Central and Lusaka provinces, respectively. Additional insights were gathered from a call for youth-led business initiatives in soybean launched in May 2025, which received 134 applications from youth cooperatives, groups and agripreneurs.

The study's core objectives are to inform recommendations for unlocking the potential of the soybean VC to deliver more and better job opportunities for rural youth and to identify potential entry points for ICA-4 project interventions addressing key market constraints.

Zambia faces a critical demographic challenge and opportunity: approximately 36 percent of its population (around 7 million individuals) is aged 19–34 years, and 77 percent are under the age of 35. This youthful demographic underscores the urgent need for inclusive employment strategies. The country's labour market is characterized by high unemployment (18.8 percent for youth, 21.3 percent for young women), widespread informality of employment (90.2 percent in agriculture), low labour productivity and vulnerable employment, with women and youth disproportionately disadvantaged. Over 3.3 million youth are not in education, employment or training, with rural youth and young women overrepresented among this number. While agriculture employs 53 percent of rural youth, much of this engagement is informal and low paid. Despite these challenges, young people largely hold positive perceptions of agriculture, viewing it as a rewarding activity that ensures food security, generates income and fosters independence, and express a strong desire to expand their involvement if supported.

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[1] **Cruickshank, D., Grandelis, I., Barwitzki, S. & Bammann, H., eds**. 2022. *Youth-sensitive value chain analysis and development – Guidelines for practitioners*. Rome, FAO. https://doi.org/10.4060/cb8489en

[2] **FAO and UNIDO (United Nations Industrial Development Organization).** 2024. *Developing sustainable food value chains – Practical guidance for systems-based analysis and design.* SFVC Methodological Brief. Rome, FAO and Vienna, UNIDO. https://doi.org/10.4060/cc9291en

[3] **Somji, A. & Mandelli, E**. 2020. *Market systems analysis for decent work: A user-friendly guide*. Geneva, International Labour Organization. https://tinyurl.com/2s3uw2dh

[4] **van Rhyn, J.** 2022. *A rough guide to using the MSD approach for youth employment in sub-Saharan Africa*. BEAM Exchange. https://tinyurl.com/yuytcwmz

The soybean VC is important to the Zambian economy, valued at approximately USD 830 million and employing nearly 700 000 people. Youth are actively engaged as workers across almost all nodes of the VC, including in primary production, aggregation, processing, retailing and various support functions. However, a critical finding is the limited youth business ownership in most VC segments beyond small-scale production.

The analysis identified several critical and interconnected constraints that limit the potential of the VC to benefit youth.

- **Limited access to quality inputs and mechanization:** This limits profitability and income-generating potential for youth producers. Small-scale farmers (including youth) struggle with low yields (averaging 0.8–1.0 tonnes per hectare, compared with 2.8 tonnes per hectare for larger-scale commercial farmers). This yield deficit is due to inadequate access to certified seeds (i.e. high cost and limited supply, which leads to seed recycling) and other inputs (e.g. inoculum, fertilizer). There is also limited access to irrigation, which increases climate-related risks, and modern mechanization equipment (e.g. threshers, tractors), which results in labour-intensive practices that increase cost and disproportionately involve women.
- **Pervasive financial barriers:** This is the most significant challenge facing soybean farmers in Zambia. Financial institutions often perceive micro-, small- and medium-sized enterprises, small-scale farmers and especially youth as high-risk clients. This is due to their lack of collateral, limited formal business experience (with banks requiring three years of operations to be eligible for loans and microfinance institutions (MFIs) requiring six months to two years of operations) and predominance of informal operations, further exacerbated by price volatility and climate change induced risks. This leads to high interest rates (16–27 percent per annum for commercial banks, 40–82 percent per annum for MFIs), short repayment durations and loan products poorly tailored to agricultural cycles. Only a minority of youth interviewed had accessed formal loans, primarily from MFIs or government empowerment programmes, such as the Constituency Development Fund. None of the youth interviewed had accessed a bank loan. MFIs showed limited youth engagement, despite their mandate to serve underserved populations, with youth comprising only a relatively limited share of their clientele (between 5 and 25 percent). Alternative financing mechanisms such as asset-based leasing through AgLeaseCo, which requires no collateral beyond the financed equipment itself, remain inaccessible to youth due to requirements from two to three years farming experience and 25–30 percent deposits.
- **Ineffective credit information systems:** The country's credit bureau, TransUnion, operates with mostly manual processes, resulting in substantial delays in updating borrower information, with loan repayments often not reflected for extended periods. This particularly affects younger borrowers seeking smaller loans through automated credit scoring systems, where outdated information can result in the wrongful rejection of creditworthy applicants.
- **Weak entrepreneurship and business support:** Youth-led businesses face complex formal registration processes. They also lack essential financial literacy and business management skills and have limited access to local, affordable entrepreneurial support services. Many youth were either unaware of government support programmes or sceptical of their effectiveness.

- **Restrictive social and gender norms:** Deeply ingrained discriminatory gender norms result in time poverty for young women, who disproportionately bear the burden of household and caregiving responsibilities (3–7 hours daily). This severely limits their capacity to engage in training, entrepreneurship or productivity-enhancing activities. Men's involvement in child care and household chores remains limited due to cultural norms. Youth, both young women and young men, also experience limited representation and influence in decision-making spaces at community and family levels.
- **Decent work deficits:** Employment in the VC, especially in primary production, is often informal, low paid and physically demanding, exposing workers to significant occupational safety and health risks (e.g. injuries from tools and draught animals, exposure to chemicals, snake bites, respiratory issues from inhaling dust during threshing) without adequate protective measures or training. Child labour, exacerbated by rural poverty, remains a serious concern, with children involved in family farm work such as weeding and harvesting.

Despite these challenges, the growing domestic and regional demand for soybean and its diverse products (animal feed, edible oils and processed food products) presents significant untapped opportunities for youth employment and entrepreneurship. These opportunities are particularly promising in the following areas:

- **Certified seed multiplication:** Youth expressed strong interest in engaging as contracted seed growers in partnership with established seed companies and some seed companies are already engaged in this model.
- **Provision of mechanization services:** Youth can provide threshing and equipment maintenance or repair services, contributing to reduced labour burdens and post-harvest losses.
- **Small-scale local processing:** Youth can establish enterprises producing soy-based animal feed and food products (e.g. soy chunks, soy porridge and cooking oil), helping address domestic market gaps and unmet demand.
- **Delivery of extension and digital advisory services:** Youth can collaborate with established public and private actors to provide extension and digital advisory services, leveraging their inclination towards technology to strengthen market linkages and information dissemination.

Drawing from the analysis of VC constraints and youth employment opportunities, and considering the possible contribution of FAO, the report outlines potential intervention areas for the ICA-4 project. The proposed actions aim to address root causes of major bottlenecks, with an emphasis on sustainability and scalability to ensure that local systems can maintain, expand or replicate the interventions beyond the project's duration. ICA-4 actions are structured around three main intervention areas:

1. **Enhance youth engagement in seed multiplication through contract farming to improve the availability and reduce the costs of certified soybean seeds.** This includes enhancing and expanding contract-farming agreements between seed companies and youth groups while promoting the use of irrigation, insurance and climate-smart agricultural practices and encouraging the bundling of support services by seed companies in contract-farming models.
2. **Enable youth to harness existing market opportunities in provision of mechanization services and local processing by facilitating access to finance for youth groups through collaboration with financial service providers (FSPs) and equipment leasing companies, together with technical training, entrepreneurship support and linkages to**

offtakers. Interventions include facilitating pilot access to finance for youth groups through collaboration with FSPs and equipment leasing companies, with a view to identifying sustainable and scalable models. They also include establishing connections between youth groups and large-scale mechanization initiatives and supporting incubators to test economically viable models for rural agripreneurs. This intervention area fosters market connections and offtake agreements between established processing companies and youth groups for semi-processed products.

3. **Strengthen youth agency and address gender norms related to the division of labour in the household, which limit the participation of young women.** This involves strengthening youth connections and storytelling within the soybean VC to build inclusive representation and raising awareness about discriminatory gender norms at household, community and VC levels. This will involve engaging champions to question them and promoting more equitable distribution of household and child-care responsibilities.

Cross-cutting priorities for all interventions include gender equality, disability inclusion and environmental sustainability.

Finally, beyond the ICA-4 intervention, the report underscores that unlocking the full potential of the Zambian soybean VC for youth employment necessitates a coordinated, multistakeholder approach that builds on the country's generally supportive policy environment while strategically addressing implementation gaps. Annex A presents a full list of recommendations aimed at addressing the critical constraints assessed and their underlying causes. Interventions are organized by main areas of upgrade, such as upgraded business models for VC actors and support service providers (i.e. an improved way of doing business); upgraded enabling environment elements, such as policies, regulations, sociocultural norms, public investment; and upgraded governance or linkages between VC stakeholders.

By systematically addressing these constraints and strategically leveraging the abundant opportunities, the Zambian soybean VC can become a powerful engine for inclusive growth and sustainable, decent employment for its young population

CHAPTER 1

Introduction

1.1 Project introduction

The fourth phase of the Integrated Country Approach for boosting decent jobs for youth in the agrifood system (ICA-4) project aims to support national stakeholders in implementing sustainable solutions for generating decent employment opportunities for youth in agrifood value chains (VCs). ICA-4 is a three-year interregional project (2024–2027) implemented in Ecuador, Viet Nam and Zambia. It is funded by the Swedish International Development Cooperation Agency.

In Zambia, the ICA-4 project targets the soybean VC, which underpins an industry valued at around USD 830 million and provides employment for nearly 700 000 people (FAO and UNIDO, 2025).

In this context, the ICA-4 project conducted a youth-sensitive analysis of the soybean VC for the Central and Eastern provinces of the country (**Figure 1**).

This examines the soybean VC, highlighting current youth engagement, untapped opportunities, support systems for youth employment and key constraints along with their underlying causes. The analysis builds on the recent assessment of the soybean VC conducted by FAO and the United Nations Industrial Development Organization (FAO and UNIDO, 2025), complementing it with a six-month youth-specific participatory field research effort.

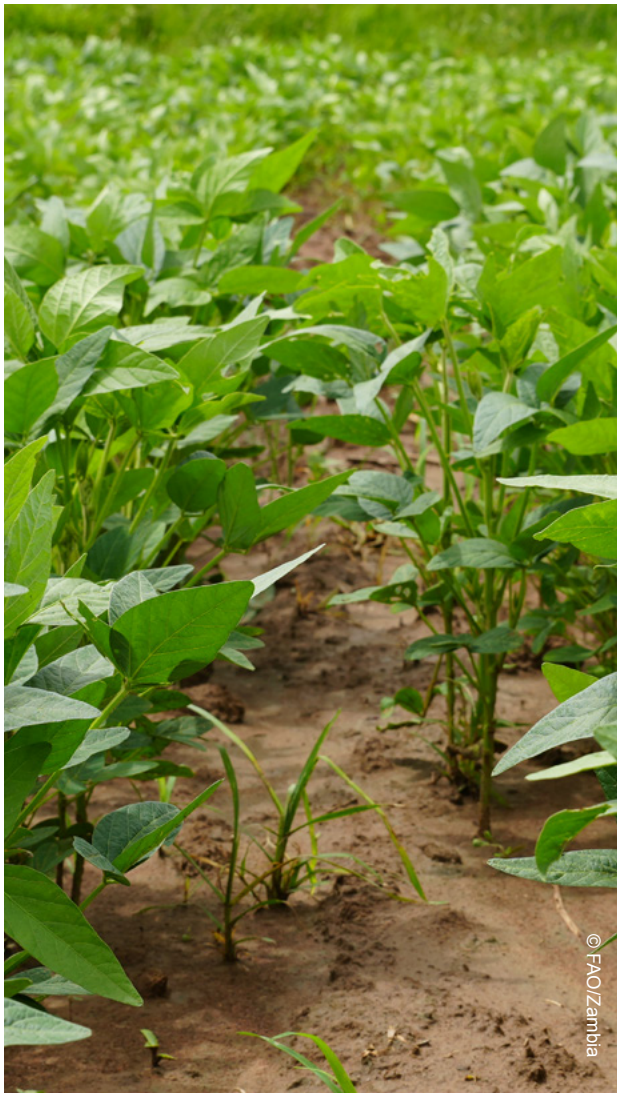


FIGURE 1

Map of Central and Eastern provinces of Zambia

Note: Refer to the disclaimer on page ii for the names and boundaries used in this map.

Source: adapted from United Nations Geospatial. 2021. Zambia. [Cited 29 January 2026]. https://www.un.org/geospatial/content/zambia-0

1.2 Study purpose and scope

The purpose of this study was to conduct a youth-sensitive analysis of the soybean VC in Zambia, selected for its strong potential to create employment for young women and men in rural areas. The objectives were to develop recommendations for unlocking the VC's potential to deliver more and better job opportunities for rural youth and identify potential entry points for the ICA-4 project, i.e. interventions that address key market constraints and offer high potential to generate youth employment in the Central and Eastern provinces. These entry points include specific VC upgrades (e.g. improved business models, strengthened governance and a more-enabling environment) and related catalytic interventions selected based on their feasibility and expected employment impact under ICA-4. Throughout implementation, the project will place local actors at the forefront, ensuring they have the incentives and capacities to sustain these interventions beyond the project's duration.

The scope of the assessment follows the ICA-4 analytical approach, beginning with an overview of the rural youth labour market since the expected impact of ICA-4 is to improve access to decent employment and business opportunities for rural youth. Starting with this broader perspective ensures a solid understanding of how rural youth currently engage in the labour market, including their needs, aspirations and constraints and the root causes behind those constraints.

The analysis then shifts focus to the demand side of the labour market, specifically in the soybean VC based on the assumption that a critical challenge lies in the limited availability of quality jobs and business opportunities capable of absorbing rural youth. It also reflects the recognition that the agrifood system's full potential for job creation remains largely untapped. This VC analysis covers two main aspects:

1. The current functioning of the soybean VC and its related market system from a youth perspective.
2. An assessment of the VC's economic, social and environmental sustainability, with the aim of identifying key hot spots for intervention.

Beyond the core VC – from production to distribution – the analysis also considers support functions (e.g. input provision, financial and non-financial services) and the broader enabling environment. While not all related market systems are analysed in detail, those most likely to affect youth are prioritized (such as the financial services market).

The analysis places less emphasis on the supply side of the rural youth labour market than on the demand side. Instead, it focuses on cross-cutting issues that influence both supply and demand, such as skills development, access to education and training, and gender norms shaping young women's roles in society and within households.

Geographically, the analysis focuses on the Central and Eastern provinces, given their significant contribution to national soybean production. In terms of age, the study considers youth aged 19–34, as defined in the National Constitution.

1.3 Methodology

To conduct the analysis, FAO partnered with Musika Development Initiatives, which was selected as the service provider based on its extensive knowledge of both the soybean VC in Zambia and market-system development approaches.

The research started with a desk review, undertaken collaboratively by Musika and FAO, which included the analysis of available literature to provide a knowledge framework and guide the prioritization for the subsequent primary data-collection process. This involved examining national policy frameworks, analysing labour market and VC-specific data and market trends, and reviewing existing studies and prior analyses related to the topic.

The desk review was followed by field research conducted in the Central and Eastern provinces over four weeks in November 2024 and January 2025. Musika sent four teams to the field in Central Province (Mumbwa, Kabwe and Mkushi) and Eastern Province (Nyimba, Petauke, Chipata) to collect data. In addition, the team conducted interviews with key informants in Lusaka upon return from fieldwork.

The study sites were selected based on soybean production levels and potential for value addition. Sixteen personnel from Musika participated in data collection, five of whom were female, together with two FAO staff, one male and one female.

A total of 162 datasets (key informant interviews, focus group discussions) were collected, using 26 interview guides tailored to the different VC actors. The interviews were semi-structured and conducted with producers and their organizations (youth and non-youth), business owners along the soybean VC, experts (policymakers, academics), government officials, non-governmental organizations, training centres and business incubators (see **Annex B** for details). A purposive sampling approach was used, relying on referrals and researchers' knowledge to ensure that all key VC players were represented. Of the 162 interviews conducted, 45 percent involved youth participants, with 9 percent being only young women, 17 percent only young men and the remaining 19 percent involving mixed youth groups.

The research was guided by a dedicated methodology developed for the ICA-4 project that builds on FAO's methodology for VC analysis and youth-sensitive VC analysis (Cruickshank et al., 2022; FAO and UNIDO, 2024), combined with relevant methodologies from the International Labour Organization and the Donor Committee for Enterprise Development on market-systems development (Somji and Mandelli, 2020; van Rhyn, 2022).

The findings were validated through triangulation, using a combination of data sources (both primary and secondary) and three multistakeholder feedback workshops:

- An inception workshop was held in October 2024, in Kabwe, Central Province, to discuss findings from the desk review with VC stakeholders, gain feedback and prioritize constraints and opportunities for decent youth employment to be further analysed during the field research.
- A validation workshop was held in January 2025, in Chipata, Eastern Province to further verify data collected and fill in gaps in the business-model opportunities identified.
- A final planning workshop was held in Lusaka, in March 2025, to validate the study findings and recommendations.

In each of these workshops, more than 40 participants discussed the findings and made recommendations, and their inputs have been taken into consideration in the final revision of this report. Following the final planning workshop, stakeholders were also invited to submit written feedback on the strategic recommendations for youth-centred upgrades of the soybean VC (**Annex A**), which have also been duly integrated.

Additional insights were gathered through a call for youth-led business initiatives in soybean launched by the ICA-4 project in May 2025. This attracted 134 applications from youth cooperatives, groups and agripreneurs in Central and Eastern provinces. The call provided further information on youth access to finance and employment potential.

Confidentiality and limitations

All participants in this study were informed of the purpose of the research and provided their consent before taking part. To ensure confidentiality, no personal identifiers have been included in this report, and all data collected through interviews and focus group discussions has been anonymized.

While the study gathered valuable insights from a range of stakeholders in the soybean value chains, including through youth-specific focus group discussions, it was more difficult to capture the perspectives of individuals – both youth and adults – who were not engaged in the sector at the time of the assessment. As a result, the findings may reflect the experiences and views of those already participating in the value chain more strongly than those of potential entrants.

1.4 Report structure

The report begins with an overview of the rural youth labour market and the associated decent work challenges (**Chapter 2**). It then examines the soybean VC through a youth-sensitive lens, assessing both market opportunities and overall functioning and highlighting key constraints that directly affect youth employment, along with their root causes (**Chapter 3**). **Chapter 4** complements this analysis with a sustainability assessment of the VC, identifying sustainability hot spots that offer the greatest potential as entry points for improving youth employment outcomes. **Chapter 5** summarizes the analysis of strengths, weaknesses, opportunities and threats (SWOT) and the findings inform a proposed set of potential ICA-4 interventions aimed at addressing the root causes of some of the identified constraints in a sustainable manner (**Chapter 6**). A more complete list of recommendations for youth-sensitive upgrades of the soybean VC is presented in **Annex A**.

CHAPTER 2

The labour market in Zambia and the participation of rural young women and men

Zambia is a landlocked country rich in natural resources, with an estimated population of 20 million, around 60 percent of whom reside in rural areas (ZamStats, 2022). Although the country has maintained a steady economic growth, with annual GDP growth rate averaging more than 5 percent since 2000 – excluding the COVID-19 period – poverty and income inequality remain widespread (World Bank, 2024, 2025).

The economy of Zambia is heavily reliant on mining (particularly for copper) and agriculture (IMF, 2023). While mining contributed to 17.5 percent of gross domestic product in 2021 (IMF, 2023; World Bank, 2024), the sector has seen limited job creation. Meanwhile, the agricultural sector, which contributed only 3.4 percent to gross domestic product in the same year and faces challenges of low and declining productivity, employs 22 percent of the workforce (IMF, 2023; ZamStats, 2023a).

Most workers are engaged in subsistence agriculture and the informal services sector, with low incomes and wages (Eliste, Pijuan Sala and Tudela Pye, 2024). As a result, poverty rates are high, particularly in rural areas.

In 2022, the national poverty rate was 60 percent, up from 54.4 percent in 2015, with rural areas at 78.8 percent (compared with 31.9 percent in urban areas) (ZamStats, 2023b). Extreme poverty affected 48 percent of the population in 2022 and was also notably higher in rural areas than in urban areas (65.1 percent versus 22.4 percent). Poverty is more pronounced among those engaged in farming, unemployed or inactive than among those in wage employment and the self-employed. Inequalities in general are persistent, with a Gini coefficient of 0.507 in 2022 (ZamStats, 2023b).

The lack of quality employment opportunities for the general population, and particularly for the growing number of young people, is one of the most significant challenges facing the country. According to a recent World Bank report (Eliste, Pijuan Sala and Tudela Pye, 2024), Zambia needs to create over 10 million new jobs by 2050 to keep its labour-force participation and employment rates from declining. This chapter provides an overview of the Zambian labour market, its challenges on the demand side, particularly from the agricultural sector, and on the supply side, and in terms of support functions and enabling environment.

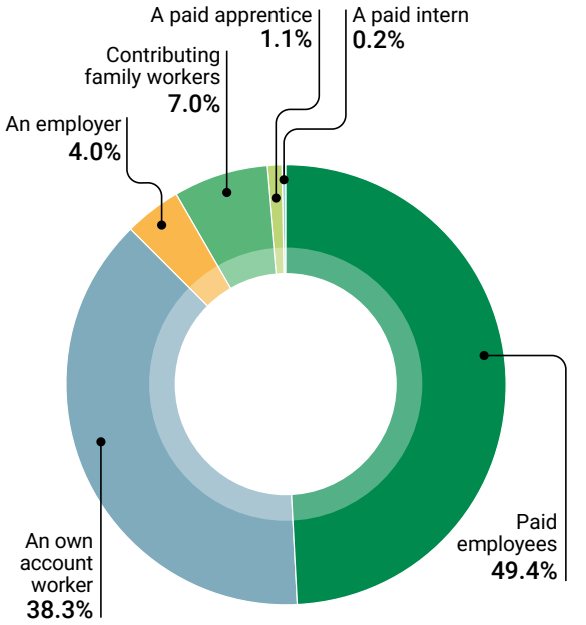
2.1 Demand and supply of employment in Zambia

The Zambian labour market is marked by high unemployment, low labour productivity, widespread informality and vulnerable employment, with women and youth particularly disadvantaged. Most youth work as employees (49.4 percent) and own-account workers (38.3 percent), while 7 percent are contributing family workers (**Figure 2**). Young women are overrepresented among contributing family workers compared with young men (58.6 percent and 41.4 percent, respectively). Rural youth face greater barriers to employment. In rural areas, the largest share of rural youth in employment are own-accountant workers (43 percent), followed by paid employees (38 percent), while only 3 percent employ others (ZamStats, 2023a).

The total national youth labour force (ages 15–35) is estimated at 2 million (ZamStats, 2023c), with a high youth unemployment rate of 18.8 percent – above the national average of 12.6 percent. Unemployment rate is higher among young women than among young men (**Table 1**). A large share of youth remains outside the labour force, particularly those aged 15–19 (28.6 percent), 20–24 (19.3 percent) and 25–29 (12.4 percent). While some are studying, the number of youths not in employment, education or training (NEET) is alarmingly high at over 3.3 million, with rural youth and young women overrepresented (61.2 percent and 58.9 percent of 3.3 million, respectively). NEET levels are very high among young rural women, and the number of rural youth female who are NEET is more than five times bigger than the number of rural youth females who are employed (**Table 1**). Of those outside the labour force, 2.6 million youth are engaged in own-use production work, mostly subsistence farming, 77.2 percent of whom reside in rural areas (ZamStats, 2023a).

FIGURE 2

Employment status of youth aged 15–35 years in Zambia



Source: Own elaboration based on Zambia Statistics Agency. 2023. 2022 Annual labour force survey report. Lusaka. https://tinyurl.com/myr628m5

Excluding those in subsistence farming, 23.1 percent of employed youth work in agriculture, forestry and fishing (**Figure 3**). In rural areas, however, the percentage of youth employed in agriculture, forestry and fishing increases significantly to 53 percent. Another 36.1 percent are engaged in wholesale and retail trade, transportation and storage, accommodation and food service activities (ZamStats, 2023a), which are key components of agrifood systems. This suggests that the total contribution of agrifood systems to youth employment is even higher.

TABLE 1

Youth (aged 15–35 years) population and labour statistics by gender and area

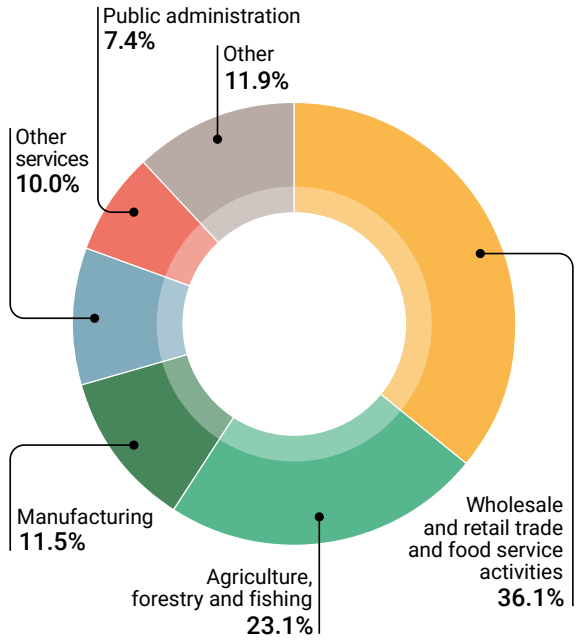
		YOUTH POPULATION	EMPLOYED YOUTH	UNEMPLOYED YOUTH	UNEMPLOYMENT RATE	YOUTH NEET	YOUTH EMPLOYED IN INFORMAL SECTOR
Total		6 701 038	1 646 617	380 968	18.8%	3 362 224	781 737
Male	Rural	3 291 482	386 864	77 682	16.9%	892 129	200 396
Male	Urban		625 607	128 313	17.3%	489 016	295 727
Female	Rural	3 409 556	208 312	38 435	15.8%	1 166 924	91 727
Female	Urban		425 834	129 344	23.7%	814 155	193 887

Note: NEET – not in education, employment or training.

Source: Own elaboration based on Zambia Statistics Agency. 2023. 2022 Annual labour force survey report. Lusaka. https://tinyurl.com/myr628m5

FIGURE 3

Youth employment by industry



Source: Own elaboration based on Zambia Statistics Agency. 2023. 2022 Annual labour force survey report. Lusaka. https://tinyurl.com/myr628m5

However, the potential of the agricultural sector to drive inclusive development remains underutilized. The sector has struggled with stagnant or declining productivity and has not kept pace with the growing food demand of the population, mainly due to increasing climate variability, limited efforts to adapt to climate change and inefficient and distortive public policies (World Bank, 2024). In 2024, a severe drought significantly disrupted agricultural production and power supply, with over half of the cultivated land projected to be lost (World Bank, 2024). The informal employment rate[5] is especially high in agriculture (90.2 percent) and trade (93.9 percent) and is generally higher in rural areas (86.3 percent) than in urban areas (71.0 percent) (ZamStats, 2023a). Informal employment is widespread among employed youth and remains particularly pronounced in rural areas, where 52 percent of young men and 44 percent of young women work in the informal sector, compared with 44.9 percent for the overall workforce.

[5] Informal employment refers to lack of an entitlement to social security coverage, annual paid leave and paid sick leave, and may be found in both the formal and informal sectors. Informal sector employment refers to employment in an unregistered establishment (ZamStats, 2023a).

Earnings also reflect these disparities. Average monthly earnings are considerably lower in the agricultural sector (ZMW[6] 2 846) and in rural areas than the national average of ZMW 5 342 (ZamStats, 2023a).[7] Hourly earnings correspond to ZMW 29 in rural areas and ZMW 32 in urban areas (ZamStats, 2023a). Youth aged 20–24 earn the least per hour (ZMW 15), followed by those aged 15–19 (ZMW 16) and 25–29 (ZMW 23). Adults aged 55–59 earn the highest hourly wage at ZMW 58 per hour (ZamStats, 2023a). Gender inequalities in the sector persist. Women tend to face worse labour conditions, lower monthly earnings, are more likely to be in unpaid rural labour than are men and suffer from multiple barriers to ownership and control over land and other productive resources (FAO, 2018; World Bank, 2023). Child labour is widespread in Zambia (see Chapter 4, Sustainability assessment).

When examining the country's demographics, the urgency of absorbing its rapidly growing youth population becomes clear (**Table 2**). Over the past decade, the country's population has grown by approximately 3 percent yearly, which is higher than the average for sub-Saharan Africa (UNDESA, 2024). The average household size nationally is 4.8 persons, and the national average fertility rate stands at 4.7 children per woman, rising to 5.8 in rural areas. Youth aged 19–34 account for 26.7 percent of the total population of Zambia, amounting to approximately 5 million individuals, nearly evenly split between males and females (MYSA, 2024). In total, about 77 percent of the population is under the age of 35 years (UNDESA, 2024), highlighting the country's youthful demographic and the urgent need for inclusive employment strategies.

Regarding the overall preparation of the potential workforce, several challenges persist and the literacy levels remain stagnant. Zambia has made strides in expanding access to education: the younger generation has higher literacy levels (80 percent) than do adults (66 percent) and gender disparities are much smaller than for older age groups. However, youth literacy rates are in decline, which demands urgent attention (UNICEF, 2021). In 2020, approximately 1.3 million of the estimated 6.2 million children aged 5 to 17 had never attended school – 73.8 percent of them living in in rural areas (ZamStats, 2021). The most frequently cited reason for never attending school was "Cannot afford school costs" (49.4 percent), followed by "School being far" (12.5 percent). When children do attend school, many – especially those in rural areas or from the poorest households – begin school later than they should and drop out early. More than half of Zambian youth over the age of 16 years are no longer in school (Table 2) and very few youths undergo tertiary education (4.6 percent and 3.7 percent for males and females aged 20–24, respectively). Rural youth are particularly disadvantaged, often being the last to enter school and among the first to leave, with still too many not completing primary education (UNICEF, 2021). Furthermore, literacy challenges persist even among those who went to school: in rural areas 20 percent of illiterate girls have completed primary education or higher levels (UNICEF, 2021). Youth with disabilities face additional challenges (**Box 1**).

A gender gap persists in education, mostly due to discriminatory social norms in terms of women's engagement in domestic and reproductive tasks, distance to schools especially in the rural areas and high teenage pregnancy rates. At the national level, only 66 percent of women can read and write, compared with 82 percent of men (World Bank, 2023). Although gender parity has been attained at the primary school level, the percentage of female students drops significantly as children progress through the education system. Fertility rates, teenage pregnancy and child marriage remain high in Zambia (World Bank, 2023). Around half of rural women are married

[6] At the time of this report development, the currency exchange rate is USD 1.00 = ZMW 23.515 (United Nations, 2025).

[7] The minimum wage for general workers is ZMW 2 313 and domestic workers is ZMW 1 300 (MMLP, 2023).

Box 1. Challenges faced by youth with disabilities in Zambia

Youth with disabilities in Zambia face significant challenges that impede their full participation in society, with specific issues amplified in rural areas. A 2015 national survey estimated that approximately 7.7 percent of the population has a disability, a figure believed to be an underestimate (CSO, 2018). People with disabilities are less likely to be employed, get married or attend school. They also face a greater likelihood of experiencing physical abuse. Poverty is a major concern, and recent studies show a greater likelihood of food insecurity and malnutrition among children with disabilities (Scherer et al., 2024). Pervasive stigma and discrimination persist, stemming from limited awareness of disability issues and negative cultural and religious beliefs that sometimes attribute disabilities to ancestral curses or demonic possession, leading to social exclusion and isolation for people with disabilities and their families (Scherer et al., 2024; UNPRDP, 2024).

Children and youth with disabilities face consistent exclusion in terms of access to education due to inaccessible buildings and teaching materials, the cost of schooling and transport challenges. Stigma in the eyes of community members, teachers, parents and other students acts as a major barrier, with some schools reportedly rejecting applications from children with disabilities and children experiencing bullying and violence (Scherer et al., 2024). While government policies support inclusive education, their implementation is inconsistent due to limited funding and reliance on donor support.

Employment rates are significantly lower for individuals in households with persons with disabilities, and household members are more likely to be informally employed or self-employed (Scherer et al., 2024; UNPRDP, 2024). In 2025, the government adopted the National Policy on Persons with Disabilities (RoZ, 2025), which it is hoped will boost efforts in support of persons with disabilities in Zambia.

Available research data on persons with disabilities in rural areas and agriculture remains very limited, with 60 percent of studies in Zambia conducted in Lusaka Province (Scherer *et al.*, 2024). As a result, the specific challenges pertaining to rural youth with disabilities and their involvement in agriculture are poorly understood.

Sources:

CSO (Central Statistical Office). 2018. Zambia National Disability Survey 2015. Lusaka. https://tinyurl.com/2s3w9cfe

RoZ (Republic of Zambia). 2025. National Policy on Persons with Disabilities. Lusaka. https://tinyurl.com/3vmuy8yh

Scherer, N., Martha B. C., Chansa-Kabali, T., Kofi, N., Queen E. S., Mcenzie, J. & Smythe, T. 2024. Disability research in Zambia: A scoping review. Scandinavian Journal of Disability Research, 26(1): 44–66. https://doi.org/10.16993/sjdr.1095

UNPRDP (United Nations Partnership on the Rights of Persons with Disabilities). 2024. Situational analysis of the rights of persons with disabilities. New York, USA. https://tinyurl.com/yj96cnhw

by the age of 18 and approximately one in three women gives birth before that age (UNICEF, 2021). Furthermore, in addition to general concerns related to the quality of primary and secondary school education, a qualification mismatch seems to be an issue: about 43 percent of the employed population are underskilled (UNICEF, 2021).

Box 2 presents disaggregated data and information for the Central and Eastern provinces, which were prioritized by the ICA-4 project.

Box 2. The youth employment situation in the Central and Eastern provinces of Zambia

The Central and Eastern provinces are among largest and most rural provinces of Zambia. Central Province is experiencing rapid population growth (72.3 percent), well above the national average (49.8 percent). Both provinces face significant socioeconomic challenges, including high levels of poverty (67.5 and 76.4 percent for Central and Eastern province, respectively, compared with 60.0 percent nationally), limited financial inclusion (65.4 and 63.2 percent) and school attendance rates lower than the national average (74 and 70 percent for primary attendance in Central and Eastern province, compared with 79 percent nationally, and 36 and 21 percent secondary attendance, compared with 40 percent nationally). Eastern Province, in particular, has some of the highest rates of teenage childbearing in the country (40 percent compared to 29 percent at the national level) (ZamStats, 2023; UNICEF, 2021).

Despite these challenges, youth unemployment rates in both provinces are lower than the national average (18.8 percent), with Eastern Province ranking among the lowest in the country (7.2 percent). However, the quality of available employment remains a concern, as most jobs are in the informal sector and offer lower-than-average earnings. Moreover, both provinces have a considerable proportion of young people not in employment, education or training (7.0 percent in Central Province and 13.5 percent in Eastern Province) (ZamStats, 2023).

Despite the low attendance rates at both primary and secondary level, female literacy in Central Province stands at 74 percent – above the national average of 66 percent – although Eastern Province trails significantly at 50 percent (UNICEF, 2021).

Sources::

UNICEF (United Nations Children's Fund, Zambia). 2021. 2018 Zambia Demographic and Health Survey: Secondary data analysis. Lusaka. https://tinyurl.com/ythp6ssd

ZamStats (Zambia Statistics Agency). 2022. 2022 Census of Population and Housing. Preliminary report. Lusaka. https://tinyurl.com/ys4k7vrh

ZamStats. 2023. 2022 Census of Population and Housing. Preliminary report. Lusaka. https://tinyurl.com/ys4k7vrh

TABLE 2

Key statistics on demographics, labour and education at national level and Central and Eastern provinces, Zambia

INDICATOR	NATIONAL	CENTRAL	EASTERN
Population (million)*	19.61	2.25	2.45
Share of population in rural areas (%)*	60	76.6	83.2
Change of population size (2010- 2022) (%)*	49.8	72.3	44.7
Poverty rate (%)†	60	67.5	76.4
Youth labour-force distribution (%)‡	100	11.7	5.6
Youth NEET distribution (%)‡	100	7	13.5
Youth unemployment rate (%)‡	18.8	11.1	7.2
Informal employment (%)‡	63.5	78.8	81.4
Average monthly earnings (ZMW)‡	5 342	4 024	4 493
Net attendance rate – primary (%)§	79	74	70
Net attendance rate – secondary (%)§	40	36	21
Financial inclusion rate (%)ı	69.4	65.4	63.2

Note: NEET – not in education, employment or training.

Sources:

* **Zambia Statistics Agency.** 2022. 2022 Census of Population and Housing. Preliminary report. Lusaka. https://tinyurl.com/ys4k7vrh

† **Zambia Statistics Agency.** 2023. Highlights of the 2022 Poverty Assessment in Zambia. Lusaka. https://tinyurl.com/2y37cyst

‡ **Zambia Statistics Agency.** 2023 2022 Annual Labour Force Survey Report. Lusaka. https://tinyurl.com/myr628m5

§ **United Nations Children's Fund, Zambia.** 2021. 2018 Zambia Demographic and Health Survey: Secondary data analysis. Lusaka. https://tinyurl.com/ythp6ssd

ı **Bank of Zambia.** 2020. FinScope 2020 – Top line findings. Lusaka. https://www.boz.zm/finscope_2020_survey_topline_findings.pdf

2.2 Enabling environment for youth employment in rural areas and the agricultural sector: policies, rules and social norms

2.2.1 Policies, rules and related programmes

The Government of Zambia has made significant efforts to foster youth empowerment and engagement in the transformation of agrifood systems nationwide. Multiple ministries play a role in supporting youth and their employment in the agrifood system, including the Ministry of Agriculture (MoA), the Ministry of Small and Medium Enterprises Development (MSMED), the Ministry of Youth, Sport and Arts (with its 23 Youth Resource Centres nationwide), the National Youth Development Council and the Technical Education, Vocational and Entrepreneurship Training Authority (TEVETA).

Various policy instruments converge to create a supportive environment for youth engagement in agrifood systems. Focus is placed on job creation and poverty reduction through agriculture-led industrialization and inclusive local supply chains (e.g. the Eighth National Development Plan 2022–2026 [8NDP], the Comprehensive Agriculture Transformation Support Programme [CATSP, 2023] and Vision 2030 [RoZ, 2006]). There is also attention to: private-sector-driven transformation (e.g. 8NDP), climate resilience and sustainable agriculture (e.g. 8NDP); youth agricultural mechanization (e.g. 8NDP, Zambia Agriculture Mechanization Strategy); skills

development and entrepreneurship (e.g. 8NDP, the CATSP, Youth Policy and the 2020 National Policy on Technical and Vocational Education [TEVET Policy]); youth access to productive resources and financial inclusion (e.g. the 2021 Land Policy and the National Financial Inclusion Strategy II 2024–2028); and promoting youth civic engagement and participation in leadership (e.g. the National Youth Policy 2024). See **Box 3** for more information on youth and access to land in Zambia. Further details on youth targeting in national policies are provided in **Annex D**.

Box 3. Youth and land access in Zambia

While it is difficult to find data on access to land in Zambia disaggregated by age, there is clear evidence of a positive policy environment in support of youth access to land. The National Lands Policy (RoZ, 2021) makes clear provisions in this regard, even though implementation will demand significant investments in ensuring youth are aware of their rights and chiefs and families are actually supportive of youth.

In general, land rights in Zambia do not seem to discriminate against youth-headed households, with tenure structures and control over land showing no significant differences between the age groups (Andersson et al., 2019). However, youth rarely have autonomous access to land, with common reasons including slow inheritance processes, traditional norms of land attribution by village chiefs, youth lacking resources to purchase or lease land. As a result, land ownership by youth is lower in Zambia than in other countries in the region (Heifer International, 2021). In general, limited access to land among youth constrains their agricultural engagement, their transition into adulthood and their ability to set up an independent household (Andersson et al., 2019; Kalema and Biggie, 2022).

This situation is evolving in the context of a complex dual land tenure system comprising customary tenure governed by traditional norms and practices and leasehold tenure of state land governed by statutory laws.

Eighty percent of land in the country is held under customary tenure and 10 percent under statutory leasehold. While private, individual land rights are well acknowledged within customary tenure, they remain informal and are not adequately recognized in law or as collateral by financial institutions. Therefore, there is growing interest in converting land held under customary tenure to leasehold title. The government launched the Land Titling Programme in 2014 with the aim of issuing certificates of title to landowners. This would improve access to finance for smallholder farmers by allowing them to use their land as collateral. According to data from the Rural Agricultural Livelihoods Survey of 2019, only about 12 percent of smallholders reported having land titles (IAPRI, 2019), up from 9.8 percent in 2015 (Samboko, 2017). Emerging processes of land commodification and alienation are also challenging the acquisition of land titles by local residents, especially smallholder farmers (Sitko and Chamberlin, 2016).

In interviews for the Integrated Country Approach for boosting decent jobs for youth in the agrifood system, Phase IV, youth did not point to access to land as a critical challenge. Inheriting was the most common option cited for to access land, but some youth also reported accessing it though marriage, purchase, rent or borrowing it from traditional leaders. In interviews with mixed groups, women-only

Box 3. Youth and land access in Zambia

groups and youth coops, most youth did not think that young women are disadvantaged, excluding the few who mention that young women may be disadvantaged because of the idea "that they will one day get married and leave the family behind." Nevertheless, when asked about access to finance and the need for collateral, several youth cooperatives indicated that limited access to land titles, especially for women, prevents many from meeting bank collateral requirements.

Sources::
Andersson, D.A., Kalindi, A., Lindsjö, K. & Wamulume, M. 2019. Yearning to farm – Youth, agricultural intensification and land in Mkushi, Zambia. Journal of Rural Studies, 71: 85–93. https://doi.org/10.1016/j.jrurstud.2019.08.010

Heifer International. 2021. The future of Africa's agriculture – An assessment of the role of youth and technology. Little Rock, AR, USA. https://media.heifer.org/About_Us/Africa-Agriculture-Tech-2021.pdf

IAPRI (Indaba Agricultural Policy Research Institute). 2019. Rural Agricultural Livelihood Survey (RALS) data. Unpublished dataset.

Kalema, P.B. & Biggie, K.L. 2022. Willingness of youths to engage in agriculture as a business: Insights from Chilanga District, Zambia. International Journal of Multidisciplinary Research and Development, 10(12): 158–161. https://www.ijres.org/papers/Volume-10/Issue-12/1012158161.pdf

RoZ (Republic of Zambia). 2021. National Lands Policy. Lusaka. https://tinyurl.com/45452jxk

Samboko, P.C. 2017. Land institutions in Zambia: Evolution and the determinants of the extent of land titling. Working Paper No. 122. Lusaka, Indaba Agricultural Policy Research Institute.

Sitko, N.J. & Chamberlin, J. 2016. The geography of Zambia's customary land: Assessing the prospects for smallholder development. Land Use Policy, 55: 49–60. https://doi.org/10.1016/j.landusepol.2016.03.026

In implementing the youth policy frameworks, the government, in collaboration with its development partners, has launched multiple programmes aimed at promoting youth skills development, empowerment and entrepreneurship, such as the following.

- Established in 2008, the Citizens Economic Empowerment Commission (CEEC) is a statutory body under the MSMED, mandated to promote broad-based and sustainable economic empowerment of targeted citizens, particularly women, youth and persons with disabilities. The CEEC provides financial and technical support to micro-, small- and medium-sized enterprises (MSMEs) through empowerment funds, business development services, and value chain development initiatives (CEEC, 2023; MMP, 2024). About 30 percent of the CEEC beneficiaries are youth (MYSA, 2024). More information on its loans is provided in Chapter 3.
- Established in 1995, the Constituency Development Fund (CDF) is a government initiative aimed at decentralizing financial resources to constituencies to support local development. Managed through local authorities and guided by the Ministry of Local Government and Rural Development, the CDF supports community-driven projects and initiatives in areas such as infrastructure, education, health and youth and women's empowerment. Its budget increased from ZMW 1.6 million in 2021 to ZMW 30.8 million under the 2024 budget (MMP, 2024). Recent reforms have significantly increased CDF allocations and expanded its scope to include skills development, bursaries and financial inclusion. Some constituencies/districts have introduced economic empowerment grants and business start-up funds (grant-based, cash transactions only) targeting smallholder farmers, youth-led enterprises and informal sector businesses. Nevertheless, monitoring

and evaluation systems remain weak, with limited tracking of fund utilization and impact (NAZ, 2023).

- The Farmer Input Support Programme (FISP) is a flagship government initiative administered by the MoA since 2002.[8] It aims at improving agricultural productivity and household food security among smallholder farmers. FISP provides subsidized inputs such as maize, cereal or legume seed and fertilizer through both conventional and electronic voucher systems. Youth are among the targeted beneficiaries of the programme, while the initiative also contributes to youth employment generation in agro-input provision. In the 2023/24 farming season, just over one million small-scale farmers, including youth, were targeted beneficiaries (MMP, 2024). The Sustainable Agriculture Financing Facility (SAFF), linked to FISP, was launched by the government in 2023 to strengthen small farmers' capacity to access quality credit to purchase inputs. It is a credit line channelled through local commercial banks that provides input loans to farmers at a competitive interest rate of 12 percent. It targets especially those farmers who are unable to access the input bundle provided by FISP. All beneficiary borrowers have to agree to sell their produce to the Food Reserve Agency of Zambia, which ensures there is an established market channel for these farmers while also contributing to food security at a national level (MMEA, 2023).

However, challenges remain, particularly regarding coordination among initiatives, monitoring and the effective targeting of youth beneficiaries (NAZ, 2023; MYSA, 2024). Focus group discussions (FGDs) and key informant interviews conducted by the ICA-4 project with mixed rural youth groups, rural women, youth cooperatives and individual young farmers revealed a general lack of awareness about public policies, programmes or incentives aimed at supporting youth in agriculture. Only a few groups reported awareness or limited engagement with initiatives such as the CDF, CEEC, FISP and a couple of more-specific fund initiatives.

2.2.2 Perceptions and social norms

Agricultural livelihoods continue to play a central role in youth aspirations, as confirmed by interviews conducted under the ICA-4 project, where only a minority of respondents explicitly expressed a preference for non-agricultural or salaried employment. This aligns with literature indicating that youth aspirations remain strongly rooted in agriculture. While some studies, such as Machina, Namonje-Kapembwa and Kasoma (2018), highlight perceptions of agriculture as unprofitable, laborious and a fallback option for those from farming households, others offer a more nuanced picture. Mulema *et al.* (2021) found that many young people – especially young women – view agriculture positively and recognize its income-generating potential. Similarly, Andersson *et al.* (2019) observed that, even as non-farm opportunities emerge, agriculture remains an attractive livelihood, with some youth expressing intentions to relocate for better access to land and markets. ICA-4 interviews in Central and Eastern provinces reinforced these findings: youth already engaged in agriculture – whether through cooperatives, family farms or alongside studies – frequently described it as a rewarding activity that ensures food security, generates income and assets, supports life milestones such as marriage, and fosters pride and independence.

However, across groups, youth noted several recurring challenges in agriculture, including low commodity prices and incomes, high input costs, difficult working conditions, seasonality and increasing uncertainty linked to climate variability and input availability. Young women also mentioned the risks they face when working

[8] Initially launched as the Fertilizer Support Programme, it was renamed in 2009 to reflect its broader scope.

in the fields, such as being murdered, attacked, robbed or sexually abused. Yet, while some youth acknowledged the potential for better wages and diverse job opportunities in urban areas, they viewed such opportunities as difficult to access without strong connections or indicated that they prefer rural living due to familial ties and lower living cost. Some youth engage in seasonal migration to urban areas for work but return to rural activities, while others see urban employment as a temporary means to raise capital for agricultural investment. Only a few indicated a willingness to leave rural areas permanently – and only for significantly higher wages (e.g. ZMW 6 000 per month).

> **"We are satisfied, and it is a good job to do because we earn income from farming which we use for buying clothes and taking children to school. We also get food for household consumption.**
>
> (Young women, Mumbwa, Central Province)

> **"Farming empowers me with food security and gives me capital to buy other necessities in the house to meet health and education needs. There is need, though, for access to equipment and machinery to increase production.**
>
> (Young man, Petauke, Eastern Province)

When asked how they believe others in their community perceive them as agricultural workers or agripreneurs, both young men and young women participating in ICA-4 FGDs reported being seen as hardworking and smart. Many said they receive encouragement and motivation from their communities and families. Some young women expressed a desire for their stories to be shared more widely through television and radio. However, a minority of participants noted that they sometimes face negative perceptions – being laughed at, viewed as having failed in education, envied for their achievements or even accused of engaging in witchcraft due to their success.

Regarding how others see youth, perceptions in Zambia are highly polarized. According to Andersson *et al.* (2019), on the one hand, youth are seen as strong, capable, hardworking individuals eager to improve their livelihoods and farms; on the other hand, they are dismissed as disrespectful or associated with negative stereotypes such as alcoholism, prostitution and theft. A similar mix of views emerged from interviews conducted under the ICA-4 project in the soybean value chain. Government officials, training providers and extension officers generally expressed positive perceptions of youth, emphasizing their energy and potential for innovation. In contrast, private-sector stakeholders offered more mixed assessments. While many acknowledged the dynamism of youth, others raised concerns about a perceived lack of responsibility, citing cases of youth spending income on alcohol, abandoning agricultural activities after receiving training, or, in the case of young women, leaving farming due to marriage or pregnancy.

> **"Working with youths is preferable because they are teachable and have the energy to run around and accomplish the activities the company assigns them.**
>
> (Agrodealer, Mumbwa, Central Province)

> **"Young people often lack the patience to nurture and grow their careers. They want to get to the top in the shortest possible way. They often reject starting at the lower level. Youth easily quit. They do not stay long and give themselves a chance to learn. They do not devote/commit.**
>
> (Aggregator, Eastern Province)

Discriminatory gender norms persist and negatively affect the participation of young

women in the rural labour market and in the agrifood system at large. A number of issues contribute to limiting young women's agency and access to opportunities. These include women's comparatively low level of education, lack of financial and other resources, the unequal distribution of household and caring responsibilities and the risk of gender-based violence. This dimension is addressed in **Chapter 4** (Sustainability assessment).

2.3 Labour-market support functions: Critical factors and opportunities

2.3.1 Labour information system, child-care services and skills development

Zambia faces a major gap in labour-market information and intermediation, with limited data available to guide students, employers and education providers. This disconnect leads to mismatched skills, outdated curricula and missed opportunities for workforce planning. A coordinated system – proposed by industry – between the Ministries of Labour and Education could help align training with market demand (Moono and Rankin, 2013). The interviews conducted by the ICA-4 project with rural youth confirm that they basically rely on friends and family, word of mouth and social media (e.g. Facebook and WhatsApp), radio, TV and newspapers and posters to find out about job opportunities, with no differences between groups and genders. A few interviewees also mentioned local leaders, churches, community meetings and camp officers.

Child-care services seem informal or absent in rural areas, with child care seen as a traditional female responsibility. Evidence suggests that large-scale farms can contribute to greater gender equality by increasing the engagement of women in paid work, which may encourage more equitable sharing of household tasks (Khadjavi, Sipangule and Thiele, 2024). In ICA-4 FGDs, young women reported commonly bringing their children to the fields, especially when breastfeeding (e.g. to play or, if they are older, to help with some work), or arranging informal care through older siblings, grandparents or young girls. The involvement of fathers in child care and household chores remains limited, largely due to traditional cultural norms, with few young women reporting regular support from their husbands.

The 2024 National Youth Policy emphasizes the need to boost coverage of skills development and technical education, vocational and entrepreneurship training (TEVET) services and make them more relevant to the needs of industry (MYSA, 2024). The number of TEVET graduates has increased from 10 512 students in 2010 to 41 806 in 2019 (MoHE, 2020) but access remains low. The government has committed to providing sustained financing to the national TEVET system and enlarging and decentralizing the skills development bursary scheme for improved access by vulnerable youth to skills training (MMP, 2024). Further, the recently approved CATSP, as the flagship investment plan for the Zambian agricultural sector, puts youth and enhancing their skills at the centre of driving the transformation of Zambian food systems. Several training centres offering agriculture-related training were mapped in Lusaka, Central, and Eastern provinces. Interestingly, women made up 80 percent of students enrolled in the general agriculture training course at the three TEVETA-accredited centres in Central Province interviewed by ICA-4. However, one centre reported that some women face resistance at home, where their pursuit of education or entrepreneurship is perceived as a threat to male authority.

Other key considerations in this regard include the following:

- The TEVET bursary supports vulnerable youth to access skills training, with approximately

9 000 students benefiting in 2022. Courses included general agriculture and food and beverage production. The bursary is funded by the Skills Development Fund – established under the 2016 Skills Development Levy Act – and is managed by the Ministry of Technology and Science (MMP, 2024).

- Youth also benefit from extension services, primarily from the camp officers of the MoA. This aligns with findings from a recent field study in Lusaka, Central and Copperbelt provinces (FAO and UNIDO, 2025), which showed that about 80 percent of farmers received soybean production advice from public extension services or non-governmental organizations (NGOs). Nevertheless, officer-to-farmer ratios remain generally low, at 1:1 136, compared with the FAO recommended standard of 1:400 (FAO and UNIDO, 2025). The private extension system also remains limited, with some agribusinesses, such as seed companies or agro-input suppliers, offering post-sales training (e.g. on the safe handling and application of chemicals). ICA-4 field interviews indicated that public extension topics seem to cover more strongly production-related topics (including pests and diseases, soil health, climate-smart agriculture and irrigation methods) and post-harvest handling. However, feedback received from MoA officers and extensionists at district level, confirmed by some youth interviews, indicate that they also cover record-keeping, nutrition, leadership, managerial, processing and marketing aspects, including farming as a business. A few cooperatives in Eastern Province also reported receiving soybean-specific training.
- Youth are increasingly using the internet and smartphones to connect with other farmers for peer-to-peer learning, particularly through WhatsApp groups. They also access agricultural information from the MoA – such as weather forecasts and plant disease diagnostics – and use platforms like Google, YouTube and company websites to check market prices. All youth interviewed under ICA-4 expressed strong interest in exploring additional digital platforms and tools to enhance their knowledge of soybean production and marketing. However, despite this growing interest and some advances, rural connectivity remains a significant barrier. Smartphone ownership is still relatively low, with only 18.6 percent of the population owning one. Notably, the highest ownership is among individuals aged 14 to 35 (ZICTA, 2023). Limited access is further compounded by prolonged electricity outages, which limit the ability to charge devices and consistently access digital services.

ICA-4 interviews suggest that many youths do access agricultural training and extension services – particularly on production topics, including soybean cultivation.[9] Extension officers play a crucial role, even if in some cases this support is reported as sporadic. Regarding trainings, while youth generally do not feel excluded from trainings, access remains uneven and often depends on NGO or project-based interventions.

2.3.2. Entrepreneurship support and financial access

Zambia ranked second only to Morocco among African countries in the 2019 Enabling the Business of Agriculture index, with a score of 63.7 out of 100 (World Bank, 2019a). Despite

[9] Five of the ten individual youth farmers interviewed by ICA-4 reported receiving extension guidance on topics such as drought-resistant seeds, fertilizer use, crop rotation, climate-smart practices, harvesting and post-harvest handling and soybean marketing. Among 17 mixed youth FGDs, at least seven had received extension training, and ten had benefited from agricultural training through NGOs or national programmes. Of eight all-female youth groups, five had received some form of training, including from extension services, local centres, FAO programmes and other development partners. Among youth cooperatives, all but one of nine groups had received technical or business training, including agronomy, livestock and soybean-specific support.

this, business registration processes remain complex, costly and poorly understood (AFI, 2023; MYSA, 2024). This has a direct negative impact on the willingness of financial service providers (FSPs) to provide credit to such enterprises and further pushes young entrepreneurs towards relying on informal sources of financing. This is despite public stakeholders noting that a support system is in place. MSMED and MoA are reportedly working together to assist youth. Business and cooperative registration, promotion of cooperatives and entrepreneurial training fall under MSMED.

Across youth FGDs, many lacked knowledge about business formalization requirements and were discouraged by costs, taxes and the perception that their ventures are not profitable enough to justify formalization. Youth networks cited limited information on registration steps, fear of taxation and lack of business growth resources as major barriers. Support actors (extensionists, incubators) pointed to low awareness of benefits, complex procedures, limited capital, market access issues and a lack of support for value addition as major obstacles. Patents and Companies Registration Agency offices are found only in provincial capitals and online registration remains inaccessible for youth without smartphones.

The Government has introduced several youth entrepreneurship support programmes, including initiatives through the CEEC and the Ministry of Youth, Sport and Arts (MYSA, 2024). Zambia has also adopted the International Institute of Tropical Agriculture Youth Agripreneurs model, which provides 18 months of incubation to unemployed graduates, supporting them in launching agribusinesses across a range of commodities. Other initiatives and entities are also in place, although most are project funded and do not have a clear strategy for scalability and sustainability. Among the ones interviewed by the ICA-4 project are the Agribusiness Incubation Trust (AgBIT), Bongohive, Youth Entrepreneurs Association of Zambia, Jacaranda Hub, Prospero, She Entrepreneur and the Women's Entrepreneurship Access Center (Box 4). A recent study by FAO (2023) found only three Entrepreneurship Support Organizations in Zambia that focus exclusively on agriculture and agribusiness, with just one – AgBIT – offering agroprocessing pilot facilities.

Overall, the lack of accessible, agriculture-focused support services limits opportunities for young entrepreneurs to prototype and scale innovations. The offer of decentralized (beyond Lusaka/Copperbelt) and online business development services is growing but remains limited. Also, the low capacity of rural youth to pay for training and incubation is a critical limitation on the demand side.

According to Chigunta, Gough and Langevang (2016), many youth in Lusaka perceive starting a business as their best livelihood option but they encounter significant obstacles. While most believe they can succeed, they feel limited by a lack of capital, high competition and inadequate support from families. Education is seen as inadequate for entrepreneurship, with many young people feeling that it does not prepare them for self-employment. A majority are unaware of available government programmes and express scepticism about their effectiveness, often attributing barriers to corruption. Moreover, there is a pervasive belief in witchcraft, which influences perceptions of success; prosperous entrepreneurs may face suspicion from their peers. This combination of factors shapes a challenging environment for youth entrepreneurs, who strive for better opportunities amidst these perceptions.

The ICA-4 interviews confirmed the existing limitations perceived by the youth. Most of those receiving support had been assisted by project-based initiatives or NGOs. When asked where they would go for support if they wanted to start up a business, most youth either had no idea or stated that there were no initiatives

or online services available to help people start businesses. Only a few referred to specific entities – such as the MoA, local authorities, local cooperatives, projects or friends and family – but without a clear pattern. Ninety-nine of 134 (74 percent) of the youth enterprises, groups or cooperatives that applied to the ICA-4 youth call in 2025 indicated that they do not have a business plan. Of these, 22 percent specifically reported that they either do not know how to develop one or have very basic knowledge of how to do so.

Box 4. Incubation and agripreneurship support initiatives in Zambia

Agribusiness Incubation Trust (AgBIT): Established in 2021 in Lusaka, AgBIT offers incubation services to individuals, institutions and cooperatives. Services include virtual incubation, product development, business plan development, feasibility studies, start-up support, commercialization of research outputs and demonstration plots for youth without land. AgBIT was initially financed by private equity and later donor funds, although it currently does not receive donor funds. It does not have standard service fees; these are negotiated with applicants. It is owned by a consortium that includes Frontier Development Associates, the University of Zambia, Mulungushi University, Natural Resources Development College and the Zambian Agriculture Research Institute. The institution initially focused on the fruit and vegetables value chain but now offers services to other value chains, including that for soybeans. AgBIT supports fewer than 400 beneficiaries due to limited funding, of whom around 45 percent are women and 65 percent are youth below 35. It does not provide financial information on accessing credit.

BongoHive: Established in 2012, BongoHive funds itself through consultancies and training fees. It offers online training in entrepreneurial skills, linkages to funding sources and a physical co-working space. It also has a technology department for building information systems. Around 50 percent of the company staff are aged between 21 and 42 years. While it trained 225 farmers on digital literacy under a project funded by the United States Agency for International Development, its typical clients are startups, numbering around 375 in 2024. It has a website with a resources repository for entrepreneurs (BongoHive, n.d.).

Youth Entrepreneurs Association of Zambia (YEAZ): A youth-led non-profit established in 1989 and relaunched in 2020, YEAZ provides business development services. As of January 2025, it has 1 164 members, mostly from Lusaka Province (58 percent). Overall, 46.5 percent are graduates or students; 30 percent are self-employed; and 18.6 percent are wage employees. YEAZ covers various sectors, including agriculture. It finances itself through membership fees (with different levels for students, professionals and corporate members) and social media marketing. It is currently also trying to sell a brand, Zamprenurs, but is not yet financially sustainable. Services include business development, facilitation of funding access, training in pitching, an innovation bootcamp and networking opportunities. YEAZ has collaborated with AgBIT for incubation training. In 2024 they pitched to the National Youth Development Council and the Ministry of Youth, Sport and Arts to persuade them engage YEAZ when implementing related policies in the provinces. Its website is under construction but it has Facebook and LinkedIn presence. It also uses WhatsApp groups for day-to-day communication. YEAZ collaborates with the Zambia Business of Angeles Network (ZBAN) and the Gracia Machel Foundation, Stanbic Bank and ICREATE Youth Hub.

Box 4. Incubation and agripreneurship support initiatives in Zambia

Women's Entrepreneurship Access Center (WEAC): A non-profit organization with activities across all ten provinces of Zambia, WEAC provides business development services (incubation and acceleration) and enterprise development support, including linkages to financial service providers. About 60 percent of supported enterprises are in the agrifood sector, including soybean, and their network includes over 75 percent women and youth. WEAC works through projects with partners and offers technical and grant support to investment-ready businesses. It promotes biodiversity-friendly and biodiversity-positive models, including around waste management, and digital solutions such as precision farming or smart farming.

She Entrepreneur Zambia: Started in 2016, this organization supports women entrepreneurs in various sectors, including agriculture, offering capacity building and networking services through conferences. It also has an online mentorship programme for women in agribusiness and a small business academy. Since 2020–2021, it is among the organizers of the annual Women in Agribusiness Conference in Zambia.

Jacaranda Hub: A young incubator supporting various sectors, including agribusiness, Jacaranda Hub organizes youth incubation challenges and pitching opportunities. It is currently based in Lusaka and northwestern Zambia but plans to expand nationwide. To achieve this, it will focus on initiatives such as the Green Gen Climate Smart Agriculture Incubation Project, which targets youth and women, and launching rural hubs to support financial inclusion, in partnership with Absa Bank Zambia and the Baobab Network, a continent-wide accelerator programme for startup business ventures. Furthermore, the Hub aims to launched up to 25 startup villages through the country, where startups are provided with co-working spaces, thanks to a partnership with the Ministry of Youth, Arts and Sport.

Prospero: Established in 2014 under a UK Private Enterprise Programme, Prospero is a Zambian non-profit helping small and medium-sized enterprises to access business linkages and finance, including grants and impact investments. It is project funded and supports the agricultural sector, particularly production of legumes such as soybean. It is increasingly involved in climate finance, offering a blend of zero-percent interest rate loans and grants within an enterprise graduation process involving moving away from free funds, starting with a soft loan.

Sources:: **BongoHive. N.d. Resources. In: BongoHive. [Cited 12 November 2025]**. https://bongohive.co.zm/entrepreneur-resources
Interviews conducted during the Integrated Country Approach for boosting decent jobs for youth in the agrifood system, Phase IV.

Lack of access to finance is another major factor that limits the capacity of youth to invest in the sector (Box 5). In a World Bank survey from 2019, 31 percent of firms reported that lack of access to suitable financial services was the greatest obstacle to their expansion, compared with a 24 percent regional average in sub-Saharan Africa (AFI, 2023). Furthermore, interest rates for loans to micro-, small- and medium-sized enterprises in Zambia are high, ranging between 16 and 82 percent, with average annual interest rates in the non-bank sector (which includes microfinance institutions [MFIs]) being 81 percent in 2021 (AFI, 2023).

While several initiatives have been put in place to promote the financial inclusion of marginalized actors in rural and agricultural areas of Zambia – such as the government-led CEEC and CDF or development partner-supported efforts such as the United Nations Capital Development Fund/ FINCA Zambia portfolio guarantee facility – significant challenges persist. In interviews conducted under ICA-4, lack of funding emerged as the top challenge identified by youth cooperatives and was consistently mentioned across interviews and FGDs. Most cooperatives reported relying solely on members' contributions. Only one of the cooperatives interviewed had applied for a loan from CEEC. A small number of individual youth in FGDs and half of the young farmers interviewed had accessed loans, mainly from MFIs such as Agora, Vision Fund, Apollo, One Acre Fund, Unifi or through CDF support (three cases). Twenty-five percent of the 134 applicants to the ICA-4 youth call stated that they had received a grant or loan from the CDF (eight youth) or from projects. None of the youth interviewed or applying to the youth call had ever accessed a bank loan.

Box 5. By the numbers: Youth access to finance in Zambia

- **Financial inclusion:** Ages 26–35 show the highest rate (77 percent), while ages 16–25 the lowest (62 percent); only seniors 66+ fare worse (BoZ, 2020).
- **Financial literacy:** Youth outperform older groups: 16–25-year-olds at 25.0 percent and 26–35-year-olds at 25.3 percent compared with just 19.1 percent for 46–55-year-olds, likely due to improved schooling (BoZ, 2020).

Sources:: **BoZ (Bank of Zambia).** 2020. FinScope 2020 – Top line findings. Lusaka. https://www.boz.zm/finscope_2020_survey_topline_findings.pdf

> **"Members are hesitant to take loans, fearing repayment challenges. While some members borrow from microfinance institutions, repayment rates are inconsistent, with some borrowers losing assets due to default. There is a need for better financial planning and education.**
>
> (Youth cooperative, Central Province)

Across all FGDs, youth cited several barriers to accessing finance, including:

- high interest rates;
- loan products poorly tailored to agriculture;
- fear of harsh recovery terms in case of default;
- lack of collateral – particularly challenging for young women;[10]
- short repayment durations; and
- difficulty understanding loan conditions.

Most youth cooperatives have established savings groups or benefit from village banks that offer small loans to members. Participation in village savings groups was less popular with individual youth farmers and more common among young women. The results of the ICA-4 youth call align with this finding, with 54 percent of cooperative applicants indicating that they manage a savings group or village bank, while the rates were 38 percent for clubs or associations and 22 percent for enterprises.

Most respondents did not have any insurance. However, some were covered by the FISP weather index insurance or had health insurance under the National Health Insurance Management Authority and some had loan-related insurance.

While most youth cooperatives have a bank account, a minority prefer to keep resources in cash with the group treasurer. The results of the ICA-4 youth call also reflect relatively high bank account ownership among youth cooperatives, groups and enterprises: Overall, 79 percent (106 out of 134 applicants) had a bank account, with 80 percent of cooperatives, 67 percent of groups and 83 percent of enterprises having a bank account. In contrast, bank account ownership was lower among individual FGD participants and farmers interviewed, with only 30 percent of young farmers and few if any participants in most FGDs reporting that they had one. Mobile accounts were more commonly used by these youth, both for transferring money and for savings. Some youth reported keeping cash at home.

Access to specialized information on financial products appears limited. Cooperatives, individual young farmers and youth in FGDs indicated relying on sources such as radio, social media, MFI agents, friends or local actors such as extension officers and ward councillors. However, a minority could not identify any source of financial information. In mixed FGDs, eight out of 17 groups were unable to name a place to seek financial advice. Most cooperatives or their members had not received financial or business training, although many individual farmers reported some exposure. Most youth in FGDs said they lacked the information, skills and confidence to apply for loans.

[10] The possibility of using movable forms of collateral to guarantee loans (e.g. livestock units, agricultural machinery and equipment), which are usually more available to rural entrepreneurs, was introduced in Zambia in 2016 with the promulgation of the Movable Property Act, which also established a collateral registry office. However, this possibility has still to be fully harnessed by youth.

Key insights: The labour market in Zambia and youth

- Youth aged 19–34 make up 36 percent of the population – about 7 million people – while 77 percent of Zambians are under 35 (UNDESA, 2024; UN Data, 2025).
- Informal employment is prevalent among employed youth, including in rural areas: more than half (52 percent) of employed rural youth males and 44 percent of rural youth females are in the informal sector.
- Levels of youth who are not in education, employment or training (NEET) are very high, especially for young rural women: 64 percent are NEET and more than five times as many rural youth females are NEET (1 166 924) as are employed (208 312). Rural youth females are also overrepresented among the contributing family workers.
- The largest share of rural young women and men in employment are own-accountant workers (43 percent), followed by paid employees (38 percent). Only 3 percent employ others (4 percent of rural males and 2 percent of rural females in employment).
- From a labour demand perspective, creating better and more diversified jobs is a priority – not only in primary production, but also in off-farm segments of agrifood value chains. This requires inclusive productivity growth and rural transformation, supported by investments in research and development, extension services, infrastructure (physical and digital), irrigation, food processing, small-scale mechanization, access to technology, and skills development (FAO, 2025). These efforts must go hand in hand with promoting gender equality and monitoring labour conditions to prevent violations such as child labour.
- From the labour supply perspective, improving the education and skills of rural youth remains essential for their effective integration into the labour market.
- Zambia has made significant progress in promoting youth engagement in agrifood systems through supportive policies and public programmes. Many young people continue to see the sector as a viable and fulfilling livelihood. However, despite a growing number of initiatives on youth skills, empowerment and entrepreneurship, challenges persist – particularly in terms of coordination and effectively reaching youth beneficiaries.
- Although financial literacy and entrepreneurship support have improved, young people still face major barriers in accessing credit and support services. In addition, technical education, vocational and entrepreneurship training coverage remains limited and insufficiently aligned with local market needs.

Sources::

FAO. 2025. The status of youth in agrifood systems. Rome. https://doi.org/10.4060/cd5886en

UN Data. 2025. Population by age, sex and urban/rural residence. In: *UN Data*. New York, USA. [Cited 11 November 2025]. https://data.un.org/Data.aspx?d=POP&f=tableCode%3A22

UNDESA (United Nations, Department of Economic and Social Affairs). 2024. World Population Prospects 2024. In: *United Nations, Department of Economic and Social Affairs, Population Division*. New York, USA. [Cited 11 November 2025]. https://population.un.org/wpp/

CHAPTER 3

Youth-sensitive value chain analysis

The soybean value chain (VC) plays a vital role in the economy of Zambia, offering significant opportunities for income generation, value addition and employment. This chapter analyses the functioning of the soybean VC with a particular focus on youth employment, examining key constraints, their underlying causes and potential upgrade opportunities.

3.1 Youth-sensitive value chain map

The map of the soybean value chain (**Figure 4**) shows the flows of soybean products from production to consumption, together with the support services and enabling environment surrounding the core value chain. The soybean quantities and the number of farmers used in this VC map are five-year annual averages (2019–2023) (FAO, 2025a). Averages are used instead of figures from the most recent year to better reflect a typical, representative situation within the VC. This approach helps mitigate the impact of the unusually high production in 2022/2023 and the subsequent significant decline in 2023/2024 (for more information, see **Annex E**).

3.1.1. Production

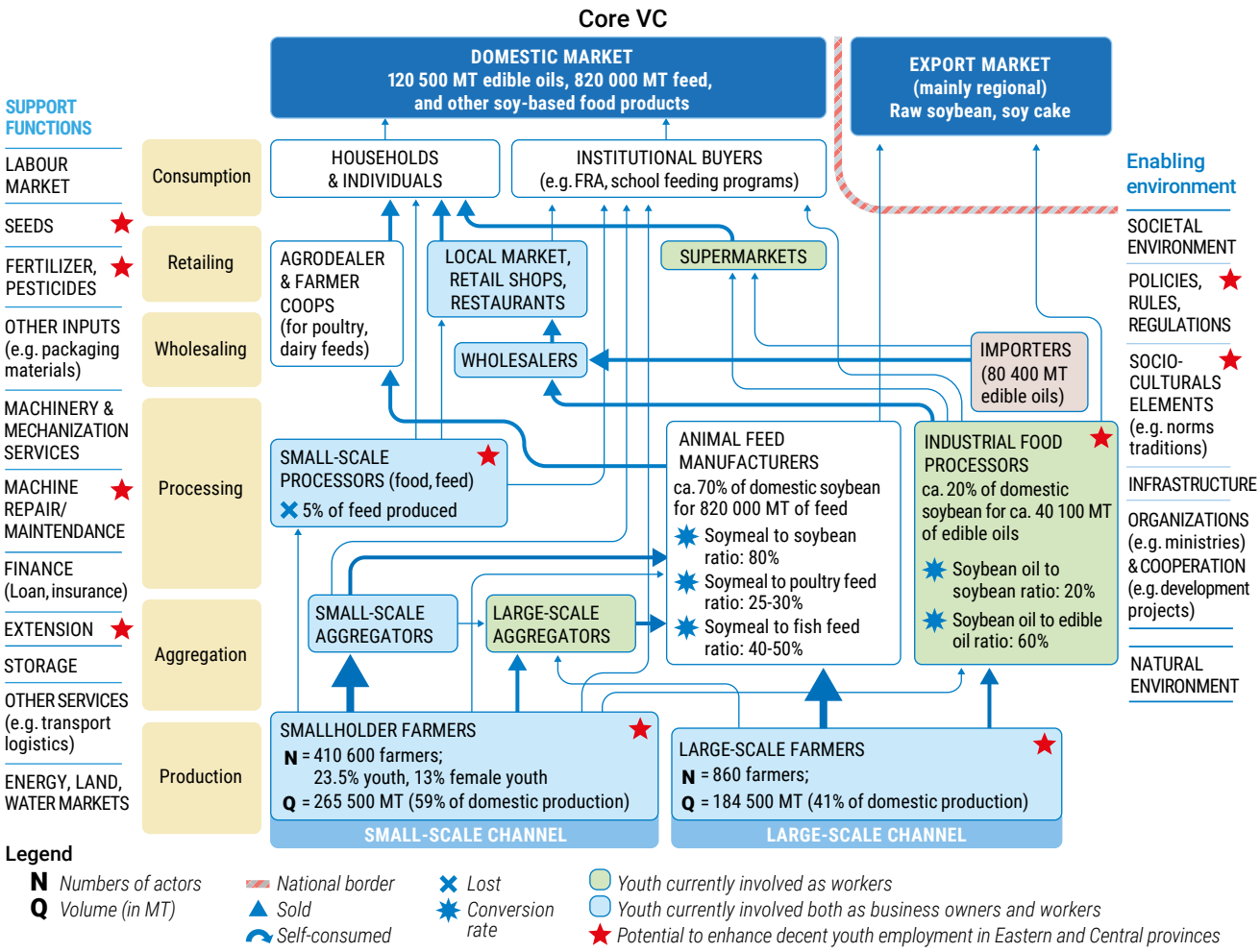
The soybean production depicted in **Figure 4** represents the annual average for the period from 2019 to 2023. It is estimated that the soybean VC in Zambia is based on an annual total production of around 450 000 tonnes of soybean. The majority of the soybean (60 percent of total production, or around 265 000 tonnes) is produced by approximately 410 600 small-scale farmers, while the remaining 40 percent (around 185 000 tonnes) is produced by nearly 860 large-scale farmers.[11] According to FAO and UNIDO (2025), small-scale farmers rely almost entirely on rainfed agriculture, use recycled seeds, minimal input and mechanization and have more limited technical skills, unlike large-scale farmers who typically follow recommended agronomic practices.

3.1.2. Aggregation

According to field interviews, small-scale farmers primarily sell their soybean produce to aggregators, who set up buying points near their farms (common for larger aggregators) or buy directly at the farm gate (smaller aggregators, known as “briefcase buyers”). These aggregators then sell in bulk to other buyers, including larger traders or processors. To a lesser extent, small-scale farmers also sell directly to processors or agents of processors. In contrast, large-scale farmers typically sell their soybeans directly to processors.

[11] These are five-year annual averages. For further detail about how these numbers have changed over time, please refer to section 3.2.2.1 (Primary production).

FIGURE 4
The soybean value chain in Zambia



Note: This map shows the annual average for the period from 2019 to 2023.

Source: Own elaboration based on multiple data sources, as elaborated in Annex E.

3.1.3. Processing

Three categories of processor are present in the soybean VC in Zambia: industrial animal-feed manufacturers (such as Novatek, Tiger Animal Feed, Nutri Feeds), industrial food processors (such as Community Markets for Conservation [COMACO], Mount Meru, Parrogate) and small-scale processors who produce both food and feed in a rather artisanal manner. Approximately 60–70 percent of the domestically produced soybean is utilized as soybean meal or cake for feed, while the remaining 30–40 percent is used to produce edible oils and other food products (WFP, 2022; FAO and UNIDO, 2025). In Zambia, soybean processing is mainly undertaken by industrial processors; small-scale processing is negligible (FAO and UNIDO, 2025).

3.1.4. Wholesaling and retailing

Soybean products are distributed through networks of wholesalers and retailers on local markets and across the country. Importers of edible oil also play a role here, as the domestic demand for edible oil surpasses domestic supply, leading to the unmet demand (around 80 000 tonnes, or two-thirds of national demand) to be filled by imports (Kudu Consulting, 2021; FAO and UNIDO, 2025).

3.1.5. Consumption

It is estimated that the 450 000 tonnes of raw soybean produced domestically are processed into around 820 000 tonnes of animal feed (mainly poultry feed), 120 000 tonnes of edible oil and a range of other soy-based food such as soy chunks, soy milk or soy porridge.[12] Household and institutional buyers (such as the Food Reserve Agency [FRA] and school feeding programmes) are the main end-consumers of soybean and soybean products. Only small quantities of raw soybean and soybean cake are exported (see section 3.2.1: End-market analysis).

3.1.6. Value chain summary

In summary, there are two channels in the soybean VC in Zambia. The first is a small-scale channel, consisting of a large number of small-scale farmers, a number of small-scale aggregators and a few small-scale processors, all of whom are characterized by low levels of technical skills and a lack of coordination. The second channel involves a significantly smaller number of large-scale farmers and several industrial feed and food manufacturers that dominate soybean processing in the country. While there are linkages between these two channels, such as small-scale farmers selling to industrial processors, these connections are generally weak and lack formal contracts.

The activities of VC actors are supported by a range of service providers, or support functions, who provide inputs, machinery and mechanization services, finance, extension and other services. Both VC actors and support service providers operate within an enabling environment consisting of various societal and natural elements.

3.1.7. Youth involvement

Field interviews conducted in November 2024 and January 2025 revealed the high level of youth involvement in the soybean VC. Youth are involved in functions and activities along the value chain, both in the core VC from production to consumption and in support functions. As illustrated in the VC map, youth participate as workers in nearly all activities across both the small-scale and the large-scale channel. However, when it comes to business ownership, youth are only present within the small-scale channel, with only a few youth as owners of large-scale farms.

[12] These volumes are estimated based on the conversion rates of raw soybean to soymeal and of soymeal to animal fee. See more details, see Table E1 in Annex E.

3.2 Youth-sensitive analysis of value chain elements

3.2.1 End-market analysis

3.2.1.1. Global soybean markets: uses, trends and prices

Soybean is one of the most important crops in the world, with a well-established global market owing to its multiple uses in food, feed and other industrial applications (e.g. biofuels) (Fraanje and Garnett, 2020; Voora *et al.*, 2024; FAO and UNIDO, 2025). Around 90 percent of global soybean production is crushed and processed into soybean oil and soybean meal (or soy cake),[13] with the latter used almost entirely as an input for animal-feed manufacturing. Of the remaining

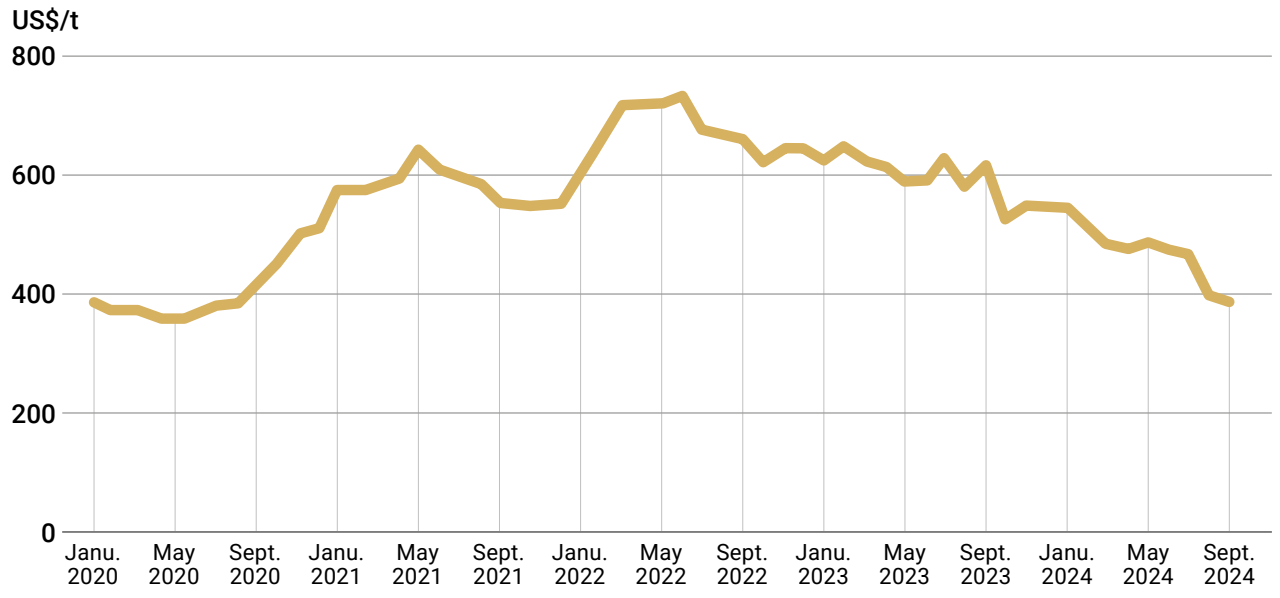
[13] Through crushing, whole soybeans are processed into soybean meal (about 80 percent by weight) and soybean oil (20 percent by weight) (Fraanje and Garnett, 2020).

soybeans that are consumed as whole soybeans (i.e. not crushed), around half are used for human consumption (e.g. edamame beans, tofu, soymilk, soy sauce) and the other half for animal feed (Fraanje and Garnett, 2020; OECD and FAO, 2021).

Driven by various factors including growing population and changing food consumption patterns (e.g. increasing consumption of both animal-based and plant-based products), global demand for soybean has greatly increased over recent decades (Fraanje and Garnett, 2020; Voora *et al.*, 2024; FAO and UNIDO, 2025). Demand for sustainably produced soybean products is also growing (**Box 6**). Over 40 percent of global soybean production is traded internationally. Brazil and the USA are the largest exporters, together accounting for about over 80 percent of global soybean exports, while China, the European Union (EU) and Argentina are the top importers (OECD and FAO, 2024; Voora *et al.*, 2024).

Over the last five years, global soybean supply and demand have remained largely even (Voora *et al.*, 2024), with the rise in demand pushing up prices, triggering a supply response through increased production (FAO and UNIDO, 2025). In early 2020, COVID-19 reduced demand for soybean oil and meal and disrupted supply chains, temporarily lowering prices. However, the market rebounded in the second half of the year, underscoring its resilience (OECD and FAO, 2021; Voora *et al.*, 2024). The war in Ukraine further pressured the soybean sector by cutting sunflower oil exports, thus boosting demand for soybean oil, and raising fertilizer and energy costs, which drove soybean prices higher (Voora *et al.*, 2024). The global supply of soybean then quickly expanded in response to the price increase, leading to a steady decline in soybean price since the second half of 2022 (**Figure 5**).

FIGURE 5
Global soybean prices (January 2020–September 2024)



Source: Adapted from **World Bank.** 2024. Commodity markets outlook, October 2024, Figure 8C. Washington, DC. https://hdl.handle.net/10986/42219

According to OECD and FAO (2024), the growth in the demand for protein meal – three-quarters of which is sourced from soybean – is expected to slow significantly through to 2033 in the world's two largest protein meal users, China and the EU. This is expected to cause a downward trend of soybean price (OECD and FAO, 2024).

Box 6. Market for sustainable soybean products

The global demand for soybean produced in compliance with sustainability standards (such as organic) is on the rise. The global organic soybean market was valued at approximately USD 1.7 billion in 2024 and is projected to reach USD 6.2 in 2035, exhibiting a compound annual growth rate (CAGR) of over 12 percent during this period (Market Research Future, 2017).

This rise is driven by consumers – especially in Europe and North America – who prioritize healthy, environmentally friendly products and seek alternative protein sources. The demand for sustainably produced soybean is also growing in China – the world's largest soybean consumer – as the Chinese Government tries to address the negative environmental impacts (such as deforestation) associated with domestic soybean production (Voora *et al.*, 2024).

The production of soybean that complies with voluntary sustainability standards (VSS) has also increased. Between 2008 and 2019, the supply of VSS-compliant soybeans grew at a CAGR of 2.52–6.46 percent, representing about 2 percent to 3 percent of total global soybean production in 2019–2021.The growth rate for VSS-compliant soybeans accelerated significantly between 2014 and 2019, with a CAGR of 11 percent to 15 percent. This marks a sharp contrast to the modest growth of conventional soybean production, with a CAGR of 1.64 percent over the same period (Voora *et al.*, 2024).

Although still a niche market, the sustainable soybean sector offers significant opportunities for soybean-related businesses in Zambia, including those led by or inclusive of youth. These businesses can capitalize on the growing demand for sustainable soybean products by engaging in organic and sustainable soybean production and providing related support services such as extension, traceability and certification.

Note: The ranges in the shares and CAGRs of VSS-compliant soybean are due to the potentially VSS-compliant soybean, which cannot be definitely listed in either VSS-compliant category or conventional category:

Sources:

Research Future. 2017. Organic soybean market research report by application (crush, food use, feed use), and by region (North America, Europe, Asia-Pacific, and rest of the world) - Market forecast till 2035. (Cited 25 November 2025]. https://www.marketresearchfuture.com/reports/organic-soybean-market-4208

Voora, V., Bermudez, S., Le, H., Larrea, C., & Luna, E. 2024. *Global market report. Soybean prices and sustainability.* Winnipeg, Canada, International Institute for Sustainable Development. https://tinyurl.com/mr3sp5xk

3.2.1.2. Zambian soybean exports

Export markets for Zambian soybean and soybean products are primarily regional markets, although there some soybean beans are exported to India, the United Arab Emirates and Pakistan (ITC, 2025). The main export destinations are neighbouring countries including the United Republic of Tanzania, Zimbabwe, Botswana, South Africa, Namibia and the Democratic Republic of the Congo. Soybean cake is the most important exported soybean product in terms of both quantity and values (see Annex D for more detail). During 2019–2023, Zambia exported an annual average of 142 000 tonnes (USD 71 million) of soybean cake, around 33 600 tonnes (USD 17 000 million) of soybean beans and 2 500 tonnes (USD 3 000 million) of soybean oil (own analysis using ITC, 2025). Both the quantities and values of exports show an upward trend over the years, indicating a rising demand for soybean exports from Zambia.

According to ITC (2025), Zambia also imports soybean beans, soybean cake and soybean oil from both within Africa (e.g. beans from Zimbabwe, cake from Malawi and oil from South Africa, Malawi and Mauritius) and beyond (e.g. oil from Argentina and India). As a result of these trade dynamics, during 2019–2023 Zambia was a net importer of soybean oil but a net exporter of soybean beans and soybean cake.[14]

Thanks to the Zambian Government's efforts to promote diversification from maize to crops such as soybean, new opportunities are emerging in untapped export markets. In July 2022, the government signed protocols with China to facilitate the export of soybean meal to China (Mtisunge, 2023). This opens the door for Zambia to export directly to the world's largest soybean consumption market, as the country currently exports soybeans to China via secondary channels through the United Republic of Tanzania (FAO and UNIDO, 2025).

The rising demand in existing markets and potential access to new markets (such as China) present opportunities for soybean-related businesses in Zambia, including those led by or inclusive of youth, to engage in activities from production to processing, exporting and provision of support services.

3.2.1.3. Domestic market

The primary use of soybean in Zambia is for animal feed, particularly for poultry. Approximately 70 percent of domestically produced soybean is utilized as soybean meal for feed, while the remainder is used for edible oils and other food products (WFP, 2022). The poultry industry is the largest consumer of soybean meal, accounting for more than 60 percent of soybean produced (Samboko, Zulu-Mbata and Chapoto, 2018; FAO, and UNIDO, 2025). The remaining soybean-based feed is utilized by other livestock sectors and the aquaculture industry.

Animal feed: Soymeal is a key ingredient in animal feed, making up around 25–30 percent of poultry feed and 40–50 percent of fish feed (CCPC, 2019; own calculations based on Kudu Consulting, 2021).[15] In Zambia, the rapidly-expanding livestock and aquaculture sectors – whose growth is attributed to factors such as favourable policies, changing consumer preferences, a growing middle-income class,

[14] It is important to note that the ITC Trade Map figures (ITC, 2025) do not capture the trade of soybean and soybean products between Zambia and neighbouring countries through informal or, in some cases, illegal channels. According to FAO and UNIDO (2025), these informal routes are the primary channel through which Zambian soybean and soybean products are exported. If this informal trade were accounted for (and quantifiable), the picture of Zambian's exports of soybean and soybean products may look considerably different.

[15] Kudo Consulting (2021, p.15) indicates that 0.5 million tonnes of poultry feed requires 125 000 tonnes of soymeal/cake and 50 000 tonnes of aquaculture feed requires about 17 350–20 000 tonnes of soymeal/cake. These imply soybean meal/cake contribute around 25 percent of poultry feed and 40 percent of aquaculture feed by weight.

increased urbanization and population growth – are driving demand for soybean meal for animal feed (Samboko, Zulu-Mbata and Chapoto, 2018; FAO and UNIDO, 2025). Animal-feed production grew by 117 percent during 2010–2014, largely in line with the growth of the poultry industry (Samboko, Zulu-Mbata and Chapoto, 2018). It is estimated that in 2021, the poultry industry consumed about 150 000 tonnes of soybean meal/cake (which translates to around 650 000 tonnes of poultry feed) and the aquaculture sector about 17 350–20 000 tonnes of soybean meal/cake (which translates to around 50 000 tonnes of fish feed) (Kudu Consulting, 2021).

Driven by strong and growing demand, the animal-feed industry in Zambia has evolved from one with very few players (mainly poultry farms producing their own feed) to a more diverse sector with multiple companies (Samboko, Zulu-Mbata and Chapoto, 2018). Despite this, small-and-medium-sized farmers continue to produce their own animal feed alongside large-scale industrial producers. According to the Zambia Livestock Survey report 2023 (MFL and ZamStats, 2024), nearly three-quarters of livestock farmers used on-farm feed, while only 15 percent used commercial feed and the remaining used other types of feed. ICA-4 interviews with industrial processors (COMACO, Mt Meru) suggest that the low demand for industrial (commercial) feed is due to its high cost. This presents significant opportunities for youth to engage in producing, processing and supplying soybean meal to livestock farmers, as well as in manufacturing animal feed themselves.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Edible oils: Soybean oil is one of the most widely consumed vegetable oils in Zambia. Estimated annual demand for edible oils in Zambia is around 120 000 tonnes. Domestic production is approximately 40 000 tonnes, leaving the remainder to be met through imports (ZAM, 2021; FAO and UNIDO, 2025). As a result, Zambia remains a net importer of edible oils. According to ZNFU (2023), the demand for edible oils, particularly soybean oil, is projected to grow at an annual rate of 5 percent over the next decade due to population growth and increased awareness of its health benefits. This expansion offers youth entrepreneurs the opportunity to enter the refining and packaging sectors of the soybean oil industry, targeting both household and commercial consumers.

Other soy-based food products: Beyond animal feed and edible oil, soybean is also utilized in the production of a variety of food products including soy milk, tofu, textured vegetable protein, soy chunks and more. Over the years, the National Food and Nutrition Commission and other stakeholders have promoted soybean as a key source of protein (FAO and UNIDO, 2025). As a result, the Zambian population is generally aware of and likes soybean food products such as soya chunks, soy mince (e.g. Nyama Soya, Seba's Golden Goodness) and soy porridge or cereal (e.g. Yummy Soy). These products are popular because they are tasty, affordable sources of protein, available in most wholesale and retail outlets and open roadside markets. Additionally, soy-based fortified foods are increasingly being used in school feeding and nutrition programmes. For example, the Mary's Meals programme in Eastern Province partners with COMACO to distribute Yummy Soy to schools for preparing porridge for children. Given growing demand for them, soy-based products offer opportunities for youth to establish or engage in small-scale food processing businesses, which would not only boost their income and livelihoods but also contribute to better health and nutrition within their communities.

Prices: Soybean prices paid to smallholder farmers range from ZMW 6 to ZMW 12 per kilogram (FAO and UNIDO, 2025), depending on the buyer and the availability of supply during the season. According to FAO and UNIDO (2025), large-scale farmers typically sell at higher prices than smallholders. This price disparity stems from the fact that smallholders, who are often resource-poor, are pressured to accept lower prices offered by the first buyers (i.e. those buying at farm gate), while large-scale farmers can wait for better prices. Additionally, smallholders lack strong connections to higher-paying buyers, such as aggregators and processors, due to limited formal transactions, small quantities and high transport costs to move soybean from their farm to the premises of these buyers. In contrast, large-scale farmers benefit from contracts with buyers (processors, aggregators) and have greater negotiating power due to their larger supply volumes.

Apart from private buyers, the Government of Zambia (GoZ), through the FRA, also procures soybean from farmers, primarily for national food security purposes (WFP, 2022). For instance, in 2022, due to an oversupply of soybean, the government intervened by directing the FRA to purchase soybean from farmers at a minimum price of ZMW 11/kg. This attractive price incentivized many farmers to shift to soybean production, leading to an increase in production in 2023 (FAO and UNIDO, 2025). In 2023, however, the soybean price set by FRA was reduced to ZMW 6/kg (Daily Nation, 2023), before rising again to ZMW 12/kg in 2024 (interview with COMACO, November 2024). The interventions of the government in the soybean market thus play a significant role in influencing the supply–demand dynamics and the price of the commodity.

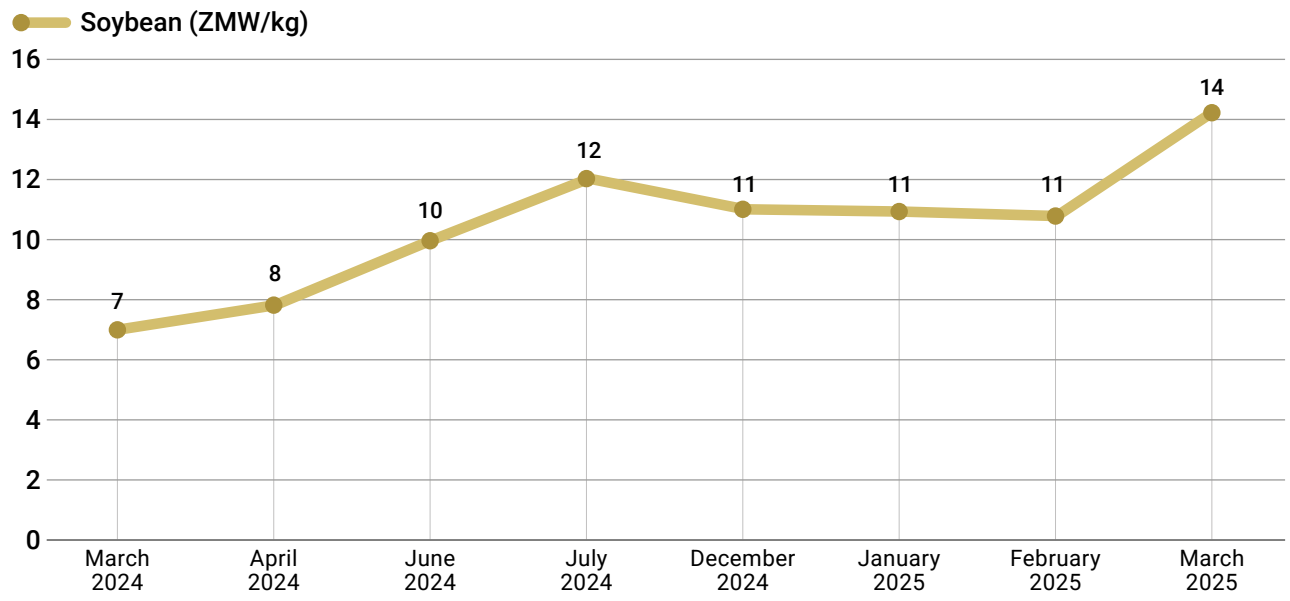
Since early 2024, soybean price has continued to increase (**Figure 6**), driven by rising domestic demand across all soybean-based products, including feed, edible oils and other food products.

Despite this upward trend in soybean price, market actors remain concerned about price vlatility. Desk research and interviews with value chain stakeholders in November 2024 – including large- and small-scale farmers, aggregators, processors, retailers and seed companies – indicate that soybean price fluctuations create uncertainty, posing a challenge to their businesses. This price volatility is due to several factors including market power, seasonality, fluctuations in exchange rates and government interventions in the soybean market through price setting, direct purchase of soybean and ad hoc export bans, as described in more detail in **section 3.2.4** (The enabling environment).

Interviews conducted with value chain actors in November 2024 indicate that processed soybean products command significantly higher prices than raw soybean, highlighting the value of value-added activities (**Table 3**). For example, soy chunks were sold to consumers at a retail price of ZMW 5 per 90 g pack (equivalent to ZMW 55/kg), compared with raw soybeans selling for around ZMW 11/kg during the same period (November–December 2024 (**Figure 6**).

Summary of domestic demand: Domestic demand is growing across all soybean products (feed, edible oils, other food products) and sometimes exceeds supply. This rise in demand is driven by the nutritional value, affordability and taste of these products and by consumers' growing awareness of the benefits of soybean for both food and feed consumption. An overview of different soybean products and their market potential is summarized in **Table 4.**

FIGURE 6
Trend in soybean price in Zambia (March 2024–March 2025)



Note: The prices included in this figure are national average prices..

Sources:

Ministry of Agriculture. 2024a. *Monthly market information bulletin.* Bulletin No. 020424. - 30 April 2024. Lusaka.
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TABLE 3

Prices of soybean products in Zambia (November 2024)

	WHOLESALE	RETAIL
Soy chunks	ZMW 4/pack of 90 g	ZMW 5/pack of 90 g
Cooking oil	ZMW 51/litre	ZMW 60–90 per litre
Soy porridge		ZMW 32/kg

Source: Interviews with wholesalers and retailers in November 2024.

TABLE 4

Domestic market potential of different soybean products in Zambia

PRODUCT	MARKET POTENTIAL	MAIN SOURCES OF INFORMATION
Soymeal/cake for feed (industrial production)	Decreasing demand due to high cost	Actor interviews: Community Markets for Conservation (COMACO), Mt Meru
Soymeal/cake for feed (small-scale production)	Increasing demand due to affordability and growing livestock and aquaculture sectors	Literature review (e.g. Zambia Livestock Survey report 2023).
Soybean (cooking) oil	Increasing demand due to nutritional value, affordability and taste and consumer awareness of health and sustainability concerns Soy chunks, cooking oils and soy porridge are the top-selling products with the highest market potential	Actor interviews: Industrial processors (Mt Meru, COMACO), retailers
Soy porridge/cereal (e.g. Yummy Soy, Jumbo Combo), high energy protein supplement (e.g. Seba's HEPS)		Actor interviews: Industrial processors (COMACO, Seba Foods [260 Brands]), retailers
Soya piece, soy chunks, soy mince (or textured vegetable protein) (e.g. Golden Goodness Soya pieces, Golden Goodness Soya		Actor interviews: Industrial processors (Seba Foods [260 Brands]). Retailers
Soy milk, soy yoghurt		Literature review (e.g. Funduluka *et al.*, 2023; FAO and UNIDO (2025)) Actor interviews: Industrial processors (Seba Foods [260 Brands])

Source:

*FAO and United Nations Industrial Development Organization. 2025. *Zambia's soya bean value chain analysis and strategy design 2024–2033.* Rome, FAO nd Vienna, UNIDO. https://openknowledge.fao.org/handle/20.500.14283/cd4967en

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3.2.1.4. Market opportunities and potential for youth employment

Export markets: While the rising demand on existing regional markets along with potential new markets (such as China) and specialized market segments (such as sustainable soybean) present various opportunities for youth, it is often difficult for them to establish and/or run businesses to export soybean to these markets due to various challenges, including finance and technical skills. Some relevant opportunities for youth stemming from export markets ***may*** include the following:

- **Soybean production:** Youth farmers can be supported in adopting more-sustainable soybean production practices (e.g.

organic). Additionally, youth can engage in the promotion of such practices (for example, through improved seed production, mechanization services, extension and training services) and in quality control efforts (for example through traceability and certification services). However, for farmers to invest in and adopt improved practices to enhance quality, it is necessary to facilitate linkages between farmers and buyers who are willing to pay a premium for higher-quality produce and between farmers and those who can provide the necessary services and inputs for farmers to upgrade.

- **Trade and distribution:** Youth can engage in regional trade, particularly cross-border trade, by working as aggregators, traders or logistic service providers or as workers in these businesses.

Domestic markets: Findings from the end-market analysis suggest that there is more potential for youth employment driven by domestic market opportunities, specifically the demand for soymeal for small-scale animal-feed production, soybean oil, soymeal for food (e.g. mixed in porridge) and other food products (e.g. soy chunks or soy pieces). Some relevant opportunities for youth stemming from the domestic market may include the following:

- **Small-scale processing of soy-based animal feed, targeting the local market:** Youth can be supported to establish and run small-scale processing businesses to process soybean into animal feed to supply local livestock farmers.
- **Small-scale processing of soy-based food products, targeting the local market:** Youth can be supported to establish and run small-scale processing businesses to process soybean into soy-based food products, specifically soy chunks and soybean oil, to supply the local market.
- **Local trade and distribution:** Youth can engage as aggregators, traders or logistic service providers or as workers in these businesses.
- **Support services for soybean processing:** Various value-added opportunities for soybean products highlight the need for appropriate machinery and equipment for post-harvest handling and processing. In turn, this creates opportunities for youth to engage in providing post-harvest/processing mechanization services (such as threshing and crushing) and offering machine repair and maintenance services.

3.2.2 The soybean core value chain in Zambia and youth involvement

3.2.2.1. Primary production

Soybean is the second most extensively cultivated crop in Zambia, after maize, with production rising sharply from approximately 112 000 tonnes in 2010 to 760 067 tonnes in 2023 (ZamStats, 2010, 2023a). The Central and Eastern provinces are the primary production areas, contributing 48 percent and 25 percent, respectively, of total national output (ZamStats, 2023a).

Small-scale farmers[16] have been increasingly attracted to the sector, with approximately 637 000 households cultivating 638 201 hectares of soybean in 2023, accounting for 91 percent of the total 701 325 hectares planted (ZamStats, 2023a). In the 2022/2023 season, these farmers are expected to produce 78 percent of total soybean output, marking a notable shift from 2010, when large commercial producers supplied 77 percent of national production (ZamStats, 2010, 2023a). This growth has been largely

[16] The Zambian Government classifies farmers by land size: small scale (up to 5 ha), medium scale (5–20 ha) and large scale (over 20 ha). For this document, medium-scale farmers are grouped with small-scale farmers, following the approach of FAO and UNIDO (2025).

influenced by strong market prices, driven by rising demand both domestically and within the region, and targeted government support for soybean cultivation through the Farmer Input Support Programme (FISP). Gross margin analyses for small-scale producers show that soybean farming yields solid returns, often exceeding a 100 percent return on investment within a single season (FAO and UNIDO, 2025).

However, smallholder soybean yields, averaging about 0.8–1 tonne per hectare, remain considerably lower than those of large commercial farmers, who achieve 2.8 tonnes per hectare on average (FAO and UNIDO, 2025). Such low yields among small-scale farmers are mostly attributed to low adoption of good agricultural practices, such as pest management, and limited access to high-quality inputs and technologies such as certified seed, irrigation and mechanization for land preparation and threshing. Most small-scale farmers do not own machinery and thus have high labour inputs for land preparation, harvesting and threshing, the last of which is disproportionally carried out by women.

Youth involvement in the production node

Youth engagement in soybean production has been rising. According to the Rural Agricultural Livelihoods Survey 2019 (IAPRI, 2019), nearly a quarter (23.5 percent) of small-scale soybean farmers were youth. Although more recent data are not available, this share has likely grown over the past six years, given the overall expansion of soybean production. Youth farmers achieved average yields of 0.87 tonnes per hectare – comparable to the national average yields for all farmers – with notable gains since 2012. In Central Province, youth outperformed the national average in 2019, producing over 1 tonne per hectare (**Table 5**). Participation by young women has also increased, particularly in Eastern Province, where the proportion of female-headed households growing soybeans rose by nearly one-third since 2012.

ICA-4 fieldwork findings confirmed that youth are actively engaged in the production of soybean as individual farmers, through cooperatives and as workers on commercial farms. The formation of youth-centred farmer cooperatives seems to be encouraged by provincial-level government (Ministry of Small and Medium Enterprises Development and Ministry of Agriculture [MoA]) as a means for young farmers to access inputs under FISP, learn productive techniques from each other and aggregating and selling their production as a group. More information on cooperative development among youth is included in **Chapter 4** (Sustainability assessment).

TABLE 5

Youth involvement in soybean production in Zambia, 2012 and 2019

	2012			2019		
	Youth-headed (up to 35 years)			*Youth-headed (up to 35 years)*		
	NATIONAL	CENTRAL	EASTERN	NATIONAL	CENTRAL	EASTERN
% female-headed household	12	11.7	9.9	13	10	13
Mean area planted to soybean (ha)	0.44	0.99	0.52	0.596	0.907	0.631
Mean soybean yield (kg/ha)	794.4	795.6	842.9	868.3	1006.96	862.6

Source: elaborated by Musika, service provider for FAO for this study, analysing data from the 2012 and 2019 Rural Agricultural Livelihood Survey.

As individual farmers or members of cooperatives, youth, like adults, engage in diversified production and livelihoods. Soybean farming alone is not enough for small-scale farmers to make a decent living due to small land sizes and only one rainfed harvest season, fluctuating/unpredictable prices and the harsh impact of climate change in recent years. In addition to soybean, youth farmers produce maize, sunflower, groundnuts, cowpeas and vegetables (sweet potato, tomato, onion, eggplant), raise poultry and livestock and do piecework for other farmer's fields such as weeding and planting. Across all farmers interviewed, a share of outputs was kept for home consumption and the remainder was sold to generate income. Most youth were also engaged in off-farm income-generating activities including involvement in other nodes of the soybean value chain such as aggregation or trading. Other income-generating activities reported by youth included welding, carpentry, plumbing, bricklaying and running small businesses. including transport, charcoal production, selling firewood, clothes and stationery and vegetables (especially relevant for women).

General perceptions from both youth in cooperatives and individual farmers indicated that soybean farming was a profitable activity, despite recent droughts, fluctuating prices and high input costs.[17] About 90 percent of the youth farmers interviewed reported that they would expand soybean production if they had the finances available to do so and sufficient access to land.

Youth are also engaged as family labour in the family business – especially in small-scale farming – and as seasonal hired workers. Commercial farmers tend to hire more permanent staff than do small-scale farms and appear to employ a higher proportion of youth than adults, both male and female. Both men and women were hired, with one farm claiming that 70 percent of the total number of workers are women due to their good work ethic, and both genders perform similar roles. All four commercial farms interviewed reported no difficulty in finding workers and responded positively to the idea of supporting youth internships and on-the-job training; two (one in Central Province, one in Eastern Province) have already been doing so for several years. According to ICA-4 fieldwork, most youth cooperatives and individual farmers also contribute to employment generation,[18] engaging family members (usually unpaid) and hiring mostly seasonal or casual labour for tasks such as tillage, spraying, weeding and harvesting. Labour patterns among young farmers differ by farm size. The smallest-scale young farmers (below 2 hectares) among the ten interviewed tend to rely almost exclusively on family labour, occasionally complemented by close friends or neighbours through in-kind arrangements. Slightly larger-scale farmers (2–5 hectares) begin to combine family and hired labour, typically engaging 4 or 5 seasonal workers in addition to family support. Larger farms, above 5 hectares, depend predominantly on hired labour, averaging around 6–10 workers per season, with family labour playing a minimal role. Among the applicants to the youth call, around half claimed to hire workers, with an average of 2–8 permanent employees and 8–18 temporary workers.

Key challenges limiting the capacity of the production node to benefit youth

The main weaknesses faced by producers at this node – highlighted in the literature review and confirmed through interviews and workshops conducted by the ICA-4 project – relate primarily to limited access to inputs (especially certified seeds), mechanization and broader financial

[17] The total share of income generated from soybean activities ranged from 16–70 percent across the cooperatives under ICA-4 and 12–70 percent for youth individual farmers with average production areas of 1–2 hectares.

[18] Fo the purpose of this report, the term employment generation is used to refer both to paid employment and unremunerated family work.

services. These constraints hinder their ability to grow, improve household income and generate additional employment.

- **Access to inputs:** Soybean cultivation requires significant inputs, including seed, herbicides and pesticides, fertilizers and inoculants. Some inputs are subsidized by the GoZ through the FISP programme (see section 3.2.3.1, Input provision), but quantities received are often insufficient. FISP inputs were commonly accessed by cooperatives interviewed under the ICA-4 project, with more cooperatives in Central Province receiving support than in Eastern Province. However, not all members benefited equally and youth members generally received smaller packages than adult farmers. Only 20 percent of individual farmers interviewed had received FISP inputs, all in Central Province. Farmers and cooperative members not receiving inputs through FISP or those who could afford additional inputs to complement their FISP allocation purchased them from agrodealers within the district or in the next village. Lack of finance was a critical concern, particularly for small-scale farmers. Availability of inputs, especially seed and weed killers, was also a challenge as many agroshops were far from where farms were located; 83 percent of individual farmers in Mumbwa, Chibombo and Kabwe reported such difficulties. In Eastern Province, high transport cost, often charged per bag, was the most frequently reported issue. Recent studies show low use of inoculants among small-scale farmers (12 percent), mainly due to cost (FAO and UNIDO, 2025). However, ICA-4 fieldwork found that around 60 percent of youth cooperatives and 60 percent of individual youth farmers were using inoculants. Most farmers were aware of the benefits and found them accessible, but limited resources often led to deprioritization. For those not using inoculants or certified seed, the main constraint was lack of working capital, not lack of awareness.
- **Access to certified seed:** This is a major constraint to increasing yield and was reported by all soybean farmers (youth and non-youth). The key challenges are limited availability and high prices. For young people, this constraint is further exacerbated by limited resources and poor access to finance. Seed is the major cost element in soybean production for small-scale farmers, representing 29 percent of the total cost, followed by fertilizer (20 percent) and the cost of labour for land preparation (17 percent) (FAO and UNIDO, 2025) Based on the ICA-4 interviews conducted with youth farmers, the price of seeds – ranging from ZMW 28/kg to ZMW 50/kg and averaging ZMW 34/kg – is often unaffordable for most small-scale youth farmers. See Annex F for more details on trends in soybean seed prices in Zambia from March 2024 to March 2025.

  At the national level, the use of improved seed across crops has been steadily increasing, rising from about 44 percent of smallholder households in 2004 to 79 percent in 2022 (Mulenga, Muletambo and Chapoto, 2022), reflecting a growing awareness of the importance of quality seed. However, this general upward trend in use of improved seed is not fully reflected in the soybean sector, as availability and affordability remain major barriers for small-scale farmers, especially youth farmers.

  As a result, all small-scale farmers interviewed recycle seeds some from their own harvest. Some also used a mix of their own saved seed, seed received from FISP and seed purchased from agrodealers. See **Box 7** for more information on producers' willingness to purchase seed. Recycling seed is possible because soybean varieties grown in Zambia are open-pollinated. This heavy reliance on recycled seed leads to lower productivity, which farmers are well aware of but cannot overcome due to financial constraints.

Box 7. Willingness to purchase seed – at what price?

Agrodealers in Zambia often struggle to estimate the underlying demand for soybean seed, partly because many farmers lack the financial means to purchase inputs due to limited access to input financing. This results in low seed demand, prompting agrodealers to stock conservatively. However, in seasons when farmers do have the resources to buy seed, they frequently encounter shortages and inflated prices driven by a sudden surge in demand. One approach to stabilizing demand is to identify a price point that would enable more farmers to buy seed consistently, while still allowing seed producers and agrodealers to earn a reasonable profit.

At what price are farmers willing to pay for certified seed?

According to interviews conducted for the Integrated Country Approach for boosting decent jobs for youth in the agrifood system, Phase IV, the average seed price that farmer cooperatives felt they could afford differed between the Central and Eastern provinces. The cooperatives in Central Province reported a relatively wide range of prices they could afford, from ZMW 600 per 25 kg bag (ZMW 24 per kg) to ZMW 500 per 10 kg bag (ZMW 50 per kg). In Eastern Province, the prices that cooperatives were willing to pay were lower (possibly reflecting the lower economic levels of cooperative members), ranging from ZMW 450 to ZMW 500 per 25 kg bag (ZMW 20 per kg) to ZMW 300 per 10 kg bag (ZMW 30 per kg). On average, cooperatives across the two provinces are willing to pay around ZMW 27 per kg of certified seed.

This price is lower than the current market price (averaging ZMW 34 per kg between March 2024 and March 2025). It remains uncertain whether seed production can be sufficiently scaled to meet the demand at this price point while still ensuring a fair profit for seed companies, especially in the current context of high inflation and elevated interest rates in Zambia.

What is needed is not price fixing but rather creating conditions that support more consistent and predictable pricing through stronger demand for and greater supply of seed. Seed demand can be limited not only by high price but also by factors such as poor soybean harvests (which limit the amount of soybean seed that can be recycled) and low soybean price (which discourages planting). Strengthening the soybean value chain through measures such as investment in irrigation to reduce climate risks combined with market facilitation for soybean-based commodities will be key to building stable demand for both soybean-based commodities and soybean seed.

Source: Own analysis based on the interviews conducted for the Integrated Country Approach for boosting decent jobs for youth in the agrifood system, Phase IV.

In Central Province, all youth cooperatives interviewed had purchased seed at least once from agrodealers and some had also received a small quantity of soybean seed as part of their FISP packages. In the Eastern Province, only 50 percent of the youth cooperatives had purchased seed with the rest preferring to use recycled seed only due to cost savings. The high cost of seed and lack of financing options were mentioned in all interviews with youth cooperatives. Some also mentioned the need to sell assets to purchase seed. One youth cooperative in Central Province had managed to negotiate a purchase agreement for seed with Good Nature Agro (GNA), who provided seed under a loan arrangement that required farmers

to pay an upfront amount of only ZMW 200/per 25 kg bag, with the rest to be paid in kind after harvest (100 kg of soybean). It is these types of initiatives by seed companies (discussed further in 3.2.3.1) that can help young farmers overcome the financial constraints currently inhibiting seed purchase and in-so-doing turn latent demand into actual demand for seed. The price of soybean seed reported also appears to vary across provinces and districts, potentially reflecting distance to seed producers, who are predominantly located in Lusaka, and the pricing strategies of the various agrodealers.

All of the commercial farmers interviewed reported purchasing seed, either directly from seed companies or through local agrodealers. Among small-scale youth farmers, 50 percent of those in Central Province and 75 percent of those in Eastern Province also bought seed. The remaining farmers relied entirely on recycled seed as they could not afford certified seed. All categories of farmers reported recycling at least some seed for financial reasons.

> **I recycle seed because it is costly to buy certified. I know the benefits of certified seed, including drought tolerance and high germination rates.**
>
> (Young farmer, Central Province)

- **Labour intensity and associated costs:** These remain a major constraint for small-scale soybean farmers, due to very limited mechanization. According to the National Agricultural Mechanization Strategy 2024–28 (MoA, 2024), only 2 percent of farming households nationally use mechanical power, while 46 percent rely on animal draught power.

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Just 0.1 percent of households in Eastern Province own a tractor, and only 0.8 percent of households in Central Province do so. Small-scale soybean production depends largely on animal draught power for land preparation and manual labour for harvesting – both labour-intensive activities often carried out by unpaid family members or hired workers. Without mechanization, these activities are not only expensive but also physically demanding and potentially hazardous. This is particularly relevant from a gender perspective, given that women are significantly more involved in harvesting processes than are men. Post-harvest activities, such as threshing and shelling, also rely heavily on manual labour, leading to inefficiencies, high labour costs, and significant post-harvest losses, including high levels of bean breakage. Land preparation alone accounts for an estimated 16 percent of total production costs (the third highest cost after seed and fertilizer), while harvesting contributes 8 percent (FAO and UNIDO, 2025). ICA-4 fieldwork findings on mechanization use are consistent with these figures. Interviewed small-scale farmers expressed a strong desire to improve their productivity by adopting mechanized services but face financial constraints that prevent them from purchasing machinery and lack of machinery hire services, and threshing services in particular.

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None of the youth cooperatives in either the Central or the Eastern Province used any form of mechanization. Manual labour and oxen were used for land preparation and harvesting. All cooperative members expressed an interest in using and learning how to use mechanized equipment, particularly for threshing.

Among individual youth farmers, in Central Province, a third of the farmers interviewed had hired a tractor but did not do so regularly due to lack of affordability. None of the individual youth farmers in Eastern Province had ever used any form of mechanization. All expressed a strong interest in learning how to use machinery and purchasing or hiring equipment if they had the finances available. The most requested machinery was tractors, threshers and shelling machinery.

No women interviewed had ever used any machinery, and most young farmers of both genders agreed that it was more difficult for women than men to access this equipment due to lack of resources. There were, however, some perceptions that women were less interested than men in learning about how to operate machinery. This perception was not in line with the views expressed by women cooperative members and individual female farmers, who were as positive about the use of mechanization as their male counterparts.

Unsurprisingly, all commercial soybean farmers interviewed used machines for all stages of production and harvesting. This included tractors, rippers, planters, boom sprayers and combine harvesters. The machinery was owned by the farmers and had been purchased from SARO with financing from AgLeasCo. None of the farmers were able to maintain or repair the machinery themselves, although one farmer did have an in-house mechanic on staff who could assist in this. The other three farmers relied on hired mechanics or support from SARO to maintain and repair machinery.

- **Limited skills in crop management:** Although not widely cited by farmers interviewed during the ICA-4 project, limited skills in crop management – including pest control and good agricultural practices – appear to be a significant constraint for small-scale soybean farmers. Challenges with pests and diseases were mentioned by several farmers interviewed. Many farmers have only recently engaged in soybean production and therefore still have limited crop management knowledge (FAO and UNIDO, 2025).
- **Limited access to finance:** Limited access to finance remains the main challenge for small-scale farmers, youth cooperatives and youth farmers alike, as discussed in section 2.3.2 (Entrepreneurship support and financial access). It limits their capacity to finance both working capital and assets. However, ICA-4 interviews suggest that commercial farmers face fewer difficulties, with easier access to bank loans and AgLeasCo financing for machinery.
- **Other constraints:** Impacts of climate change and excessive work burdens, especially for young women, were also identified as major constraints. Both are discussed in Chapter 4 (Sustainability assessment). Finally, additional, but less severe or less frequently mentioned constraints include: the cost of transport (e.g. to deliver the product to the buyer) and the poor road network in some districts (especially in Eastern Province); the lack of proper storage facilities or limited access to or availability of warehouses; price fluctuations for maize and soybean and related political interference (analysed in section 3.2.4 on the enabling environment); limited access to land to expand production; and poor linkages to market actors such as through contract-farming agreements or long-term relationships with buyers.

Most youth and non-youth farmers interviewed agree that the identified constraints are more severe for younger farmers than for older, more established farmers. Reasons cited include limited skills, fewer assets (to sell in case of a shock or to use as collateral), smaller scale, lack of finance for buying inputs and hiring labour, and weaker commercial relationships with buyers.

> **The challenges are more difficult to youths because they are new to the business and do not have necessary experience and skills in the soybean value chain.**
> (Youth small-scale farmer)

> **These challenges are more difficult for young farmers because they do not produce in bulk. Most older farmers have big farms and enough capital to produce in bulk and make reasonable profits. They also have assets like cattle which they can sell and buy inputs.**
> (Youth small-scale farmer)

> **It is more difficult for youth farmers than older farmers because they usually have no direct contacts and businesses relationships with soybean buyers.** (Adult commercial farmer)

Prospects for youth employment opportunities identified in the production node

A number of youth employment opportunities were identified in the soybean production node. Three are listed here in order of perceived importance.

- **Provision of mechanization services:** There is strong unmet demand for mechanization services in soybean production, and this area is particularly appealing to young people.

- **Production of certified seed:** The shortage of quality seed at the local level presents a significant business opportunity for youth as seed growers. As demand for improved varieties continues to rise among smallholder farmers (Mulenga, Muletambo and Chapoto, 2022), supporting youth to engage in seed multiplication could help enhance the availability and affordability of improved seeds.
- **Technical advice to producers:** Providing extension support ranked high among youth respondents. Extension agents confirmed this as a promising entry point for youth, especially if supported with training and transport (e.g. bicycles). Youth could also work with input suppliers, delivering products and offering usage guidance.

3.2.2.2. Aggregation

The growth in the soybean sector is driving increasing demand for efficient logistics and aggregation to serve the market effectively. Reflecting on the past 5–10 years, all four aggregators interviewed by ICA-4 agreed that soybean production has grown rapidly and that this trend is likely to continue, with strong demand for feed and food products and good returns for both farmers and traders. However, they emphasized how irrigated production will be necessary to deal with changing climatic factors in the future and to ensure greater continuity of supply.

Soybean aggregation in Zambia is dominated by a mix of small-, medium- and large-scale traders who buy grain from farmers for onward sale to processors or exporters. While some aggregators pick up crops at the farm gate – so-called "briefcase buyers" – others buy at centralized points. Small-scale farmers often face unfair practices, such as low prices and inaccurate weighing, and do not have the means to bring their produce to aggregators or processors that may offer higher prices. All aggregators interviewed by ICA-4 sell to large-scale animal-feed and oil producers located in Lusaka and Eastern provinces, without formal contracts and with payments usually made upon delivery or the following day.

According to data from the Rural Agricultural Livelihoods Survey 2019 (IAPRI, 2019), small-scale traders were the most common buyers nationally of soybeans produced by youth farmers, accounting on average for 50 percent of total soybeans bought from youth. The second most common buyers were large-scale traders/wholesalers, purchasing approximately 27 percent of the total crop. Less than 5 percent of youth producers sell directly to millers or processors. The ICA-4 fieldwork confirmed this picture, with most youth cooperative members and individual farmers selling to briefcase buyers and only a few individual farmers selling directly to feed companies, processors or large-scale aggregation firms. Most youth avoid storing the product due to immediate cash needs. Therefore, while youth farmers do not seem to face major issues in finding buyers, they are often forced to take the price offered at the time of harvest, with no opportunity to wait for better prices. Awareness and accessibility of warehouse opportunities is also low among youth (**Box 8**).

Small aggregators in particular struggle with low margins, high transport costs, poor grain quality and limited storage. Large aggregators, with better infrastructure and access to quality grain, tend to achieve higher returns. Across the board, limited access to affordable finance remains a key challenge (FAO and UNIDO, 2025).

Box 8. Warehouse receipt systems in Zambia

Since 2010, the Zambian Commodities Exchange (ZAMACE) has offered a warehouse receipt system (WRS) service to registered members, even though the system remains significantly underutilized in the soybean value chain (key informant interviews; FAO and UNIDO, 2025). Each client must store a minimum of 20 tonnes of seed, which far exceeds the production capacity of the smallholder farmers interviewed and their cooperatives.

ZAMACE has certified 80 warehouses across the country and has registered 43 brokers and 103 cooperatives. Major operators include NewGrowCo Zambia, the Food Reserve Agency (FRA), CHC Commodities, Export Trading Company and United African Grains (Pty.) Ltd. In 2023, approximately 100 000 tonnes of soybeans were traded on the ZAMACE platform, with transactions worth USD 40 million conducted on behalf of the FRA.

Despite this infrastructure, participation of small-scale farmers, including youth, remains limited. In 2024, only six cooperatives actively participated in WRSs, with just 34 farmers having been issued warehouse receipts, despite about 100 farmer groups being registered with the system. Young farmers face particular challenges in accessing this financing mechanism and satisfying the minimum trading volume.

To address these constraints, ZAMACE has established community trading hubs in seven districts of Eastern Province, with plans to expand to Central, Copperbelt, Luapula, Northern and Muchinga provinces. These hubs serve as central trading points where farmers can aggregate their produce more efficiently, potentially enabling greater participation in the WRS. The hubs are linked to certified warehouses to facilitate access to storage and receipt issuance.

For the time being, the youth farmers and cooperatives interviewed by the Integrated Country Approach for boosting decent jobs for youth in the agrifood system, Phase IV were not familiar with ZAMACE WRS and would not have the minimum quantities needed to access it. Also, none of the aggregators were using the WRS set up by ZAMACE, and only one had heard about it.

Source: **FAO and UNIDO (United Nations Industrial Development Organization).** 2025. Zambia's soya bean value chain analysis and strategy design 2024–2033. Rome, FAO and Vienna, UNIDO. https://openknowledge.fao.org/handle/20.500.14283/cd4967en

Youth involvement in the aggregation node

Youth engagement in aggregation remains limited, particularly as business owners, due to constraints such as lack of working capital and weak market linkages. Only two individual youth farmers, one in Central Province and one in Eastern Province, were found to operate small-scale aggregation and storage, transporting produce to markets in Lusaka, Kabwe or Chibombo. It should be also noted, however, that three of the four commercial aggregators interviewed said they started the business when they were youth, aged 26–33; the fourth aggregator was a representative of a large-scale trading company in Lusaka. The independent aggregators started their businesses small, using their own capital, and gradually grew as income was generated and reinvested back into the business. Some of the reported challenges they faced during the start-up phase were a shortage of buyers; delayed payment from buyers; lack of

transport and high transport costs associated with collecting product from farmgate; and lack of working capital.

Youth are more commonly employed by aggregators than owning such businesses, with some of them working as agents for processors (FAO and UNIDO, 2025). All four aggregators interviewed by ICA-4 reported high youth representation among their employees – up to 80–100 percent in some cases – due to their energy and ability to engage in physically demanding, labour-intensive work. However, some stated that youth are at times less reliable than older workers, want quick cash and often leave to pursue better opportunities, while women may leave due to pregnancy.

The total number of people employed by the aggregators ranged from 20 to 50, including both permanent and seasonal staff. None of the aggregators reported difficulty finding workers; while some used radio advertisements, most relied on prospective workers coming to their premises. All staff were locally hired and directly employed, with no subcontracting. On-the-job training is provided and no major skills gaps were reported, although literacy is preferred for roles involving record-keeping and sales. Aggregators hired both young men and women. Men are involved in more physical jobs such as loading/offloading soybeans. Women do bookkeeping, packaging, sewing, labelling of bags and cleaning of the work area.

Key challenges limiting the capacity of the aggregation node to benefit youth

Aggregators identified several constraints affecting their business models – and, in turn, their ability to create additional jobs – including the following:

- **Trust and quality issues**: Some farmers deliver poor-quality soybean grain, including tampering with bags by adding sand or stones to increase weight.
- **Climate impacts:** Droughts and increasing pest and disease incidences have affected soybean supply.
- **Price volatility:** Soybean prices fluctuate significantly within a season due to shifting demand, government interventions, exchange rates and climate effects.
- **Transport challenges:** Poor road conditions lead to vehicle damage and some aggregators reported losses from dishonest transporters offloading fewer bags than agreed.
- **Limited working capital:** In high-yield seasons, aggregators often lack funds to buy all available grain from farmers.
- **Tax and levies:** Annual levies on storage facilities and transport vehicles are seen as burdensome for small- and medium-scale aggregators.

Prospects for youth employment opportunities identified in the aggregation node

Opportunities in this node are expanding as demand for soybean from animal-feed and food processors increases. This is expected to generate more low-skilled and semi-skilled jobs. Youth cooperatives could engage more autonomously in aggregating and supplying larger buyers, but financial constraints (especially lack of working capital) and limited market connections limit their capacity to harness this opportunity.

3.2.2.3 Processing

Soybean processing in Zambia is largely dominated by commercial processors based in Lusaka, Central and Copperbelt provinces. Five commercial soybean processors were interviewed by the ICA-4 programme, one in Central Province (Willowton Oils), one in Eastern Province (COMACO) and three in Lusaka (Mt Meru, COMACO and Seba Foods).[19]

Small-scale processing remains minimal and mostly informal, often carried out at household level to produce food items such as soya flour or livestock feed such as soya cake (Hichaambwa, *et al.* 2014; FAO and UNIDO, 2025). Only a few small and medium-sized enterprise (SMEs) engaged in processing could be mapped and interviewed as part of the ICA-4 fieldwork.[20]

Profitability is constrained by seasonal fluctuations in input costs, climate-related supply issues and volatile market prices for oil and cake. Some concerns have been raised, in particular by commercial processors, about falling demand for soy cake and animal feed due to increasing cost of production (see section 3.2.1 [End-market analysis]). Additional challenges include frequent power outages and uncertainty in export policies, which increase business risks.


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[19] Willowton oils produces soybean oil from crude oil purchased from local suppliers and also produces soap as a by-product. COMACO and Mt Meru produce cooking oil, soybean food products (Yummy Soy, soy chunks, porridge) and soycake that is processed into broiler feed (COMACO) or sold on to other feed manufacturers (Mt Meru). Seba foods produces a range of soybean food products including cereals, soy chunks, soy milk and snacks. They sell to wholesalers, retailers (including supermarkets such as Shoprite) and institutions (hospitals, schools etc). Like Mt Meru, soybean cake produced by Seba Foods is considered a by-product and is sold to feed processors.

[20] Two adult-run SME processing businesses were eventually identified and one women's cooperative. The businesses were producing sunflower and soybean oil and cake and offering milling services for maize and soybean. The women's association was processing soybean into soybean cake as an input into broiler feed.

To secure a reliable supply of raw materials and strengthen smallholder participation, several soybean processors have adopted contract-farming arrangements with soybean farmers. These contracts typically include providing contracted farmers with bundled inputs, such as seed of improved varieties and technical advice. Such mechanisms not only ensure processors' access to the specific soybean varieties they require for processing but also stimulate demand for and adoption of improved seeds among farmers.

Nevertheless, overall, the processing sector has steadily expanded, with crushing capacity more than doubling from 375 000 tonnes in 2013 to 850 000 tonnes by 2018 (FAO and UNIDO, 2025). As elaborated in section 3.2.1, the domestic demand for soybean products – including animal feed, edible oils and other food items – is growing and presents valuable and still untapped opportunities for soybean processing SMEs in Zambia, including youth-led ones.

Youth involvement in the processing node

As noted earlier, the participation of small- and medium-scale processing enterprises in the soybean value chain is very limited – whether youth- or adult-led. During the field visits to Eastern and Central provinces, it proved challenging to identify active SMEs involved in soybean processing and no youth-owned operations could be mapped. However, some youth were found to be engaged in small-scale processing of sunflower oil.

The contribution of youth to this node is more visible in terms of upstream supply and as hired labour. All five commercial processors interviewed source soybeans from youth cooperatives and youth farmers. One firm estimated that 60 percent of its 330 suppliers are youth. Youth also make up a significant share of the workforce – typically over 50 percent of employees (ranging from 66 to 450 per firm interviewed) – in both seasonal and permanent roles. Common positions include machine operator, quality assurance officer, loader/off-loader and cashier. No formal educational requirements were cited, as most roles are manual. Three firms already offer internships and all provide on-the-job training. Employers tend to prefer young men for physically demanding and shift-based roles, with night shifts seen as unsuitable for women. Firms reported no difficulties in recruiting labourers, relying on advertisements on local radio, newspapers and websites to hire directly from neighbouring communities. However, finding specialized workers (e.g. engineers, quality control staff) remains a challenge due to skills gaps.

Only two SME milling businesses were interviewed, a medium-level one and a very small one. The medium-level milling business has a regular staff of 23 workers but hires up to 80 workers in the harvesting season. Youth represented around 50 percent of the workforce and women about 30 percent. The small milling business had only one youth worker but young family members are also involved. Youth were employed as machine operators and loaders/off-loaders and in administrative support roles.

Key challenges limiting the capacity of the processing node to benefit youth

According to the interviews with processors conducted by the ICA-4 project and findings from previous studies, several key challenges affect the viability and growth of processing businesses, especially small-scale ones.

- **High investment costs for essential processing equipment and limited availability:** Key machinery – such as crushers, hammer mills, extruders and feed mixing or pelletizing equipment – requires significant upfront investment, which is not readily accessible. This is the main entry barrier for SMEs.
- **Maintenance constraints:** Repair and maintenance of processing equipment is expensive and depends on specialized technicians, adding to operational challenges.

- **Unstable raw material supply:** Climate variability, along with frequent price fluctuations influenced by market demand and government interventions, makes it difficult for processors to consistently source soybeans. SMEs are only able to procure limited volumes at a time due to financial constraints, which makes them more vulnerable to price fluctuations. Some, like COMACO, are attempting to address this by contracting with cooperatives to secure more stable supply.
- **Soybean grain quality issues:** Commercial processors raised the issue of poor-quality and unclean soybeans – often with high moisture content, dirt or stones, which increase processing costs, as the grain must be cleaned before use.
- **High energy costs:** Expensive and unreliable electricity drives up production costs. Commercial processors often resort to double shifts during power availability, which raises labour costs due to overtime payments. Limited access to finance makes it difficult to invest in more reliable energy solutions such as solar systems.
- **Limited access to finance:** Many SMEs struggle to secure financing to invest in equipment or to purchase raw materials. Although the project interviewed only two processing SMEs – too small a sample to be representative – neither of them had ever applied for or received a loan. While all commercial processors are able to access finance, they also consider the high interest rates and limited financing options as a constraint that impacts on their ability to expand and hire more staff.
- **Packaging limitations:** A lack of appropriate packaging materials and technology makes it difficult for SMEs to meet quality and market standards.

> **"The primary challenge was accessing sufficient working capital and financing. Currently, loans account for about 70 percent of the organization's working capital, with an annual requirement of approximately USD 4 million per year, of which 70 percent is loans.**
>
> (Commercial processor, Lusaka)

- **Transport infrastructure:** Poor road conditions contribute to wear and tear on delivery vehicles, raising maintenance and transport costs.
- **Regulatory burden:** Food processing regulations in Zambia are complex and do not differentiate between SMEs and large-scale firms. This includes stringent regulations for food safety standards and certification requirements for many aspects of the business. Compliance involves navigating multiple agencies, e.g. Zambia Bureau of Standards, Ministry of Health, Zambia Environmental Management Agency and local authorities such as municipal and district councils that inspect food premises and enforce hygiene standards. This is costly and difficult for small processors. Existing SME processors note that youth would face even greater barriers due to limited networks, technical knowledge and experience, requiring substantial training and external support to enter and comply with the sector's regulatory framework.

Prospects for youth employment opportunities identified in the processing node

Despite the multiple constraints faced by processors, the domestic demand for soybean food products is growing and this presents opportunities not only to expand the youth workforce but also for youth entrepreneurs

to engage in small-scale processing. Such businesses could not only provide good income but also promote better health and nutrition in their communities. In particular, the following opportunities could be better harnessed with additional support in terms of access to finance (e.g. lower-risk asset-based financing), market access (e.g. sales contracts with offtakers) and technical and business training, including support to obtain food safety certifications:

- **Youth-led small-scale processing of soy-based animal feed:** There is a growing demand for soy-based animal feed, especially among small-scale poultry and fish farmers, but the cost of animal feed is often a barrier to greater uptake. By processing soybeans into affordable feed, SMEs can help reduce feed costs, making it more accessible to local farmers.
- **Youth-led small-scale processing of soy-based food products:** Soy-based food products such as soy chunks (textured vegetable protein), soy porridge (high energy protein supplement), and cooking oils are increasingly sought after in the local market, with soy chunks being the top-selling product. However, there is currently insufficient domestic production to meet the demand, with imports (e.g. soy chunks from Malawi) filling the gap. Commercial processors also noted unmet demand for crude soybean oil, which offers opportunities for youth-led businesses to supply it.
- **Provision of machine repair and maintenance services.** However, challenges such as limited access to capital and the need for technical expertise remain barriers that must be addressed to fully unlock these opportunities for youth.

3.2.2.4. Retailing

In Zambia, farmers primarily sell their produce through local market channels, which are also served by aggregators collecting from multiple smallholders. Soybean-based animal feed produced by processors reaches customers via both wholesale and retail outlets, including through retail agents. Food products derived from soybean – such as cooking oil, soy chunks and other human food items – are predominantly distributed through wholesalers, supermarkets, smaller shops and roadside open markets (Hichaambwa et al, 2024; FAO and UNIDO, 2025).

When asked about market trends and demand, all retail firms interviewed[21] by ICA-4 confirmed that demand for soybean food products is strong, particularly for soy chunks and oil, with demand sometimes outstripping supply. Given the strong demand, no specific consumer segments were targeted for the soy products offered, with retailers stating that all ages and genders buy soybean products, including individual youth and adult men and women and institutional buyers such as schools and hospitals. Porridge was mostly bought by mothers for their children. Soy chunks were popular with all, but particularly with students and labourers due to their affordability. Prepackaged soy chunks were thought to be consumed most by wealthier families.

Youth involvement in retailing

Youth involvement in the retail node seems low as business owners and high as employees of retail businesses. While the ICA-4 project

[21] Interviews were conducted with four SMEs retailing soy food products in Central and Eastern provinces and one retail outlet of a commercial processor. Two of the SMEs were not formally registered as a business, thus operating in the informal economy, while the other two SMEs had formalized their businesses when they had grown to a size where they were generating enough income to do so. Soybean products sold included soya pieces/chunks, soy porridge, cooking oil and soy milk/drinks. The sale of soybean products accounted for 30–50 percent of total retail sales.

could not map any youth-led retail business for interview, three of the four SMEs interviewed reported starting their business as youth with savings from their farming operations, indicating relatively low entry barriers.

In addition to family workers, all retailers interviewed by ICA-4 reported hiring youth as the large majority of their employees.[22] They had no trouble finding workers and mostly relied on word of mouth to advertise jobs and on community connections for recommending potential employees. All employees hired were unskilled, with no minimum educational requirements, and on-the-job training was provided. No significant capacity gaps were noted, given the low-skilled nature of the jobs. Tasks include selling, cleaning the shop, purchasing stock and managing the shop stock.

Key challenges limiting the capacity of the retailing node to benefit youth

Most actors in this segment of the value chain expressed a generally positive outlook, with few reporting significant constraints. Constraints that were mentioned included limited access to finance to expand the business, price fluctuations, product quality concerns and issues linked to the informal nature of cross-border trade.

Prospects for youth employment opportunities identified in the retailing node

Opportunities in this segment of the value chain are expanding, driven by growing demand for soybean. This trend is expected to create additional employment, particularly for low-skilled and semi-skilled workers.

Given the relatively low barriers to entry, small-scale retailing presents a potential pathway for youth to diversify their income sources beyond primary production. There may also be emerging opportunities for youth in digital branding and marketing, depending on their skills and ability to access relevant training and support services (**Box 9**).

Box 9. Brands: a story of successful marketing

The global demand for soybean produced in 260 Brands, a Zambian company operating from Lusaka, manufactures high-quality consumer products (soy chunks, soy milk, cereals, snacks etc.) using soybean ingredients sourced from smallholder farmers. The company provides a unique case on how youth can be engaged in marketing and branding, research and innovation – 80 percent of the firm's 250 workers are youth and youth are also a key target customer group. The branding emphasizes health-conscious choices and local production, appealing to both domestic and international markets, which aligns with global trends favouring plant-based alternatives.

The company has expanded into neighbouring countries and penetrated into low-income markets using innovative strategies such as last-mile distribution via tricycles that offer significant opportunities for youth employment.

Source: Interviews conducted for the Integrated Country Approach for boosting decent jobs for youth in the agrifood system, Phase IV

[22] One retailer claimed that 70 percent of their 46 employees are youth. The other retailers interviewed, which hired fewer employees or did not specify a total employee number, indicated that all of their employees were youth. The information was not verified and is based on the retailers' declarations.

3.2.3 Main supporting functions in the soybean value chain in Zambia and youth involvement

This section analyses selected supporting functions in the soybean value chain, focusing on those that market actors identify as the most constraining, both in terms of severity and their impact on youth employment. This includes input provision, especially certified seeds, mechanization services and financial services. Other supporting functions that more broadly affect youth employment in the agrifood systems, such as training and business development services, are described in **Chapter 2.**

3.2.3.1 Input provision (including certified seeds)

As discussed under the production node, soybean is an input-intensive crop, with inputs typically including certified seed, herbicides and pesticides, fertilizers and inoculants. Most inputs are provided by private-sector suppliers. The GoZ, through FISP, sources inputs from the private sector and provides varying quantities of subsidized inputs each season to farmers or cooperatives. Maize seed and fertilizer are the main inputs provided but soybean seed has also been included in the package since 2017.

Beyond the inputs provided through FISP, farmers often buy additional supplies from agrodealers located within their districts or nearby villages. These source inputs directly from the larger input supply companies, such as SeedCo, Synergy, Syngenta, Zamseed, GNA, Snow Trading and Farmers Africa. Four of the five agrodealers interviewed by ICA-4 have seasonal consignment contracts with suppliers under which they receive the inputs and can pay for them once they are sold, usually within 30 days of delivery of the supplies. The dealers are then paid a commission based on the quantity of sales. This is the common model for seed supply; however, cash on delivery or bank guarantees are normally required for other inputs such as pesticides and herbicides.

Agrodealers are widely present across the country, including in remote rural areas. Nevertheless, some accessibility issues were raised by young farmers and cooperatives interviewed. For instance, respondents in Central Province reported a lack of agroshops in their locality and respondents in Eastern Province noted high transport costs when buying inputs.

Between 10 and 30 percent of total sales of the SME agrodealers interviewed by ICA-4 were related to inputs for soybean production. All agreed that demand for soybean inputs has increased in recent years due to strong market demand for soybean products. Some fluctuations in demand were noted, most notably in 2024 following the severe drought in 2023, which made farmers hesitant to invest for fear of further crop loss. Farmers were also seen to base planting decisions on past commodity prices, increasing production after a good price year. One supplier reported success in boosting local demand for soybean inputs through outreach efforts highlighting the benefits of hybrid seed, fertilizers and inoculants. While two of the five agrodealers interviewed also offered organic fertilizers, demand remained low, largely due to limited farmer awareness.

Individual smallholder farmers represent over 90 percent of the clients of the agrodealers interviewed. Of these, 30–50 percent were reported to be youth farmers, further validating the finding of high engagement of youth in the production node and demand by youth for improved inputs. 'Dina', 'Kafue' and 'Spike' were the most sold soybean varieties, with 'Dina' preferred for its low shattering and 'Kafue' as an early-maturing variety.

The most common mode for purchase of inputs was direct cash purchases by farmers walking into the store. However, farmers were also able to order by phone and four of the agrodealers offered a delivery service (free or subsidized) for minimum quantities purchased. Two of the five

agrodealers offered seasonal credit to repeat (trustworthy) customers, who were able to obtain inputs on credit and pay for them at the end of the season. All agrodealers offered after-sales services to customers to help them learn to handle and apply inputs purchased correctly, particularly for agrochemicals. Two of the agrodealers also offered mechanization services, including land preparation and shelling services for maize.

Production and distribution of seed in Zambia is dominated by the private sector, with companies such as SeedCo, Zamseed, Kamano, Syngenta, Pannar Seed, GNA, COMACO, Afriseed and Share Africa among the identified important players in Central and Eastern provinces. Breeder seeds are the genetically pure seeds that are used to produce foundation or basic seeds, which are then used to produce certified seeds. They are produced by plant breeders, including a few private companies, such as Afriseed, GNA and Zamseed, and by the Zambia Agriculture Research Institute (ZARI), whose contribution remains limited due to constraints in seed multiplication capacity (FAO and UNIDO, 2025). The Seed Certification and Control Institute plays a critical role in approving land areas designated for seed production; and inspecting and certifying seed grown according to quality and purity standards.

The seed companies contract small-scale farmers, both as individuals and as groups, including youth, in Central and Eastern provinces to produce certified soybean seeds. According to ICA-4 interviews, the size of groups ranges from 15 to 66 growers per group, with an average group size of approximately 40 farmers. Nevertheless, this opportunity is not well known or easy to access for many youth groups because dedicated information or related training is not immediately available in rural areas. The youth who benefit are usually those that are members of broader cooperatives or farmers' groups. See **Box 10** for more information on the current outgrower schemes for seed multiplication in Zambia.

According to the agrodealers interviewed, 'Dina' (supplied by Syngenta), 'Kafue' (supplied by ZARI) and 'Spike' (supplied by SeedCo) were the most sold varieties in Central and Eastern provinces, with 'Dina' preferred for its low shattering and 'Kafue' for its early maturity and drought resistance. According to ZARI, 'Kafue' and 'Lukanga' (medium-maturity, good productivity but riskier in dry conditions) are the most suitable varieties for Central and Eastern provinces.

Seed companies in Zambia are increasingly working not only on the supply side (production and distribution) of certified seed but also actively stimulating the demand for improved seeds from farmers. Most seed companies undertake sensitization activities, including demonstration plots, to showcase the productivity benefits of using certified seed. These efforts, combined with other initiatives such as the government's FISP, have helped farmers better appreciate the value of improved varieties, contributing to their higher uptake (Mulenga, Muletambo and Chapoto, 2022). In addition, some companies, such as GNA, are supporting the broader development of the soybean VC to create and sustain the demand for soybean seed. According to GNA, it works from the market end of the VC – starting with the demand for soybean commodities – and linking back to soybean and soybean seed farmers so that they are able to produce what the market requires. Apart from selling seeds, the company also provides its seed customers with a comprehensive support package that includes agronomic training, access to finance and market linkages to offtakers or direct procurement of soybean commodities by GNA itself. This integrated approach helps soybean farmers reduce market uncertainty and improve profitability, while simultaneously driving the demand for quality soybean seed.

Youth involvement in input provision

Youth involved in input provision are typically engaged as employees by agrodealers or seed

Box 10. Seed multiplication and outgrower schemes in Zambia

Seed growers in Zambia are formally engaged by seed companies in several ways, including:

- directly contracted as individual farmers (e.g. Share Africa, Kamano Seeds);
- directly contracted as individual farmers organized into groups by the seed company, which also establishes a second liability contract with the group (e.g. Good Nature Agro);
- contracted through a lead farmer representing a cooperative or group, with a list of individual farmers attached to the contract (e.g. Kamano Seeds);
- contracted as groups or cooperatives (e.g. Afriseed); and
- contracted by a cooperative that has a framework agreement with a seed company (e.g. Community Markets for Conservation [COMACO]).

Under these mechanisms, seed companies typically provide contracted growers with the following support:

- basic or foundation seed for multiplication;
- financial support in the form of advanced inputs – e.g. 50 percent of total seed costs advanced and repaid in-kind after harvest;
- training and monitoring throughout all stages of seed production, often in collaboration with public research institutions (e.g. the Seed Control and Certification Institute [SCCI],); in some cases, this includes financial literacy training (e.g. Share Africa);
- training in climate-smart practices and conservation agriculture (e.g. Afriseed, COMACO, Share Africa);
- access to post-harvest machinery (in some cases), such as threshers and shellers (e.g. Share Africa);
- inspection and certification of quality seed, in partnership with SCCI; and
- secured income through fixed-price base contracts, with some flexibility for price increases (typically 10–20 percent) within an agreed range (e.g. Share Africa).

The cost of these services is usually paid by the seed companies and the farmers themselves, although companies might access donor or NGO funds to sponsor more-inclusive approaches.

To qualify for participation in seed growing schemes, farmers are usually required to meet some criteria, such as:

- access to adequate land (usually at least 1 hectare), either owned or rented, in an area accessible to the seed company and approved by SCCI for seed production;
- interest and basic knowledge in crop or seed production: In some cases, farmers may first be contracted to grow soybean for one season to assess their agronomic skills and attitude towards contract farming (e.g. Share Africa); and
- education level: Some companies (e.g. SeedCo) prefer working with farmers who have completed Grade 12 or possess tertiary education.

While seed companies do not seem to have a youth targeting strategy in place, all of them confirm youth are among the seed growers that they partner with.

Source: Interviews conducted for the Integrated Country Approach for boosting decent jobs for youth in the agrifood system, Phase IV.

companies. Only a small number of youth appear to own input supply businesses, largely because of the financial capital and technical expertise required.

While none of the input supply businesses interviewed were currently run by youth, all owners had started their enterprises when they were between 20 and 34 years old, relying primarily on personal savings; only one had received a grant. In several cases, family members – such as a husband or cousin – also supported the business during its start-up phase, highlighting the potential importance of having a supportive "champion" within the household for women entrepreneurs. Contrary to previous reports suggesting very limited involvement of women in agrodealer roles (WFP, 2022), four out of the five businesses interviewed were owned and managed by women. This suggests that input supply is a support service where some women have been able to overcome gender-based barriers.

All agrodealers interviewed reported hiring local youth, valuing their energy, physical strength and willingness to travel. Youth made up more than 80 percent of permanent employees (ranging from 2 to 26 per business) and even larger numbers were engaged for seasonal work. Roles typically included truck driving, loading and offloading inputs, sales and general support. In terms of recruitment criteria, preference was given to candidates with basic agricultural knowledge, literacy, strong communication skills with farmers and trustworthiness to manage shop operations. However, agrodealers noted a shortage of youth with agronomic expertise. At the same time, hiring formally trained staff was often unaffordable for small businesses. To address this, all businesses relied on on-the-job training, which they provided to all employees. Notably, all agrodealers reported low staff turnover and were generally able to retain their workers. Young men were preferred for physical roles (loading/unloading trucks), whereas women were preferred as sales personnel as they were considered more trustworthy than men.

Seed companies engage youth both as seed growers and as agents to provide support to seed growers in contract-farming schemes, such as field agents, or in administrative and management positions. Many seed companies recognize the advantages of expanding contract farming to involve more small-scale seed growers in the multiplication of certified seed as this helps lower seed production cost. To support this expansion, companies see high potential in involving more youth – either as contracted seed growers or hired workers in roles related to research and development and extension – and are open to integrating youth further in their models.

Consultations with youth through interviews, focus group discussions (FGDs) and workshops in Eastern and Central provinces consistently showed strong interest among youth in engaging in the production of certified soybean seed. This area generated some of the highest levels of interest among the youth consulted.

Key challenges limiting the capacity of the node to benefit youth

In addition to the demand challenges mentioned in section 3.2.2 (e.g. fluctuating demand for seed due to seed recycling etc.), key challenges faced by SMEs in this node refer to the following:

- **Access to finance:** Access to working capital was the biggest challenge faced during start up for all agrodealers and for seed companies wanting to expand the number of seed growers. This might be even more challenging in future for agrodealers as suppliers increasingly demand cash-based payments upfront. Insufficient financial capital also limited the capacity of agrodealers to offer input financing to customers. Financial capital to invest in research and development, irrigation and agricultural insurance is also a challenge for seed companies.

- **Lack of financial and business management knowledge:** This was also a major challenge that agrodealers had to overcome. Some of these issues were considered more challenging for the female business owners, and some reported sexual harassment.
- **Limited access to basic seed for multiplication:** While this was noted as a challenge during the study, according to ZARI the shortages were caused by droughts and should be overcome by 2026.
- **Climate-related challenges:** Climate-related challenges such as droughts increase the risk of seed losses for farmers without irrigation and financial losses due to lack of insurance.

Other challenges, mentioned less consistently across respondents, include the following:

- **For agrodealers:** lack of resources (time, financial, human) to extend outreach programmes to new customers including youth farmers.

> **"I lacked knowledge on how to run an agrodealing business. I also lacked enough financial capacity to start the business. Accessing inputs for my store was a challenge as some (suppliers) demanded sexual favours to expedite my orders. I also got swindled by some suppliers taking advantage of the fact that I was a woman. But I overcame these challenges by identifying experienced agrodealers that mentored me and linked me to suppliers that were genuine in their dealings with their clients.**
>
> (Agrodealer, woman, Central Province)

- **For seed companies and seed growers' groups:** competition with fake seed in the black market; lack of post-harvest machinery, which can result in high seed losses; and infrastructure limitations (e.g. poor roads and storage facilities). A regulatory challenge was also reported regarding current seed production zoning and certification processes which limit expansion due to a shortage of seed certification inspectors and officials available to inspect land and certify seeds. To address this, the Seed Control and Certification Institute encourages private-sector involvement and invites youth with agricultural diplomas to become seed inspectors, aiming to streamline and accelerate the certification process.

Prospects for youth employment opportunities identified in the input supply node

Several opportunities were identified in the input supply node and listed in order of importance:

- **Production of certified seed:** Field consultations in Eastern and Central provinces showed strong youth interest in production of certified seed, both because of their familiarity with soybean and the short-term investment needed to set up the business (e.g. one seed cycle takes approximately six months). More youth could be engaged as contracted growers or as employees of seed companies, such as field agents.
- **Working as agents for an input supplier – input distribution and advisory services:** Youth may be able to reach remote "last-mile" farmers via bicycles or motorbikes provided by agrodealers, distributing inputs and offering basic guidance on their use.
- **Providing technical advisory services on soybean production – Youth-led extension linked to input sales and digital services:** With the right training, youth could support peers and other farmers on good agricultural

practices such as correct planting, pest and disease management and crop care while also promoting the use of improved inputs. Acting as trusted advisers in their communities, they could help generate demand for inputs sold by local agrodealers or suppliers. This role could be further strengthened through digital tools and platforms that offer production advice, link farmers to suppliers and markets and track input availability and prices. Companies such as eMsika, BargnBay and AgriPredict already apply such tools in other commodity chains in Zambia; similar models could be adapted for soybean with youth playing a central role. See **Box 11** for broader info on extension services and youth opportunities.

Box 11. Youth engagement and opportunities in extension services in Zambia

Extension services in Zambia are mainly guaranteed by the Ministry of Agriculture (MoA), with some support also provided by NGOs through projects and by the private sector.

The frequency of trainings delivered varied, but on average training was provided 4–5 times per year by MoA extension agents, compared with 24 trainings per calendar year offered by Community Markets for Conservation under their NGO-supported model focusing on conservation agriculture.

In terms of equal access to extension services, there are no specific youth targets in place for public extension. However, the MoA recommends that 40 percent of all people trained should be women, and youth participation is encouraged.

General challenges identified by extension agents included: transport costs and lack of funding to cover fuel and repairs to motorbikes or to procure equipment needed for demonstrations; low ratios of extension officers to farmers; lack of updated training materials/modules; low literacy levels of farmers; competing demands for extension activities from different organizations and donor-funded projects; and uncoordinated extension delivery by partners, particularly NGOs, with each organization having different policies/incentives to mobilizing farmer.

Interviews with youth cooperatives and farmers revealed strong interest among youth in learning more about soybean production and in training other farmers. Most saw working as an extension officer as a valuable opportunity to engage in the soybean value chain.

Public extension officers interviewed also confirmed that extension services offer a promising entry point for youth, particularly given potential to innovate through digital tools. Some young farmers are already volunteering as trainers and extension workers but lack incentives – such as bicycles for transportation – which limits their reach. However, officers noted that taking on extension roles remains challenging for women, especially those who are married, due to the travel requirements and negative perceptions within the community.

Agrodealers offering private extension also felt that youth could be engaged in work for input suppliers, distributing inputs to farmers and providing advice on their use. An example of the potential of youth engagement in extension is eMsika, a youth-led online marketplace for agriculture products, mainly inputs, that provides associated training to farmers on their use.

Source: Interviews conducted for the Integrated Country Approach for boosting decent jobs for youth in the agrifood system, Phase IV

- **Ownership of input supply businesses – Youth-run agrodealerships:** While barriers to entry remain high, there is potential for youth to establish their own small agrodealer businesses. This requires significant initial capital, skills in business and inventory management and reliable linkages to input suppliers. With targeted support – such as access to finance, training and mentorship – entrepreneurial youth could gradually enter this space and serve as local hubs for soybean inputs and related services.

3.2.3.2 Mechanization services

As discussed in section 3.2.2.1 (Primary production), the use of mechanization by small-scale farmers in Zambia is extremely low but is common among commercial farmers who own their own equipment. While commercial farmers use mechanical threshers, small-scale farmers rely on labour-intensive and damaging methods such as hitting beans with sticks. As a result, post-harvest losses for small-scale farmers are high, with threshing, harvesting and winnowing found to be the most critical stages (RoZ and WFP, 2022).

The range of mechanization services offered in the soybean value chain is limited. Based on field visits to the Eastern and Central provinces and interviews conducted,[23] the main services available included land preparation using tractors and threshing, yet both services were limited and not available in all areas. Milling services are also offered in some locations, but to a lesser extent. The business model for threshing services is described in **Box 12.**

[23] Interviews were conducted with three machinery providers (i.e. SARO, CAMCO and the University of Zambia Technology Development and Advisory Unit [UNZA-TDAU]) and five SME service providers in Eastern Province who offer post-harvest threshing services and some land preparation services.

Box 12. Small and medium-sized enterprise business model for threshing services

Income generated from threshing soybean accounted for 15–30 percent of total income of small and medium-sized enterprises (SMEs) engaged in this business. Other income was generated from maize shelling and milling and providing tractor services for land preparation.

The main clients were small-scale farmers and some emergent farmers in local communities. All service providers transport the threshing equipment to the farm to thresh the soybean on site to reduce post-harvest losses.

Fees charged vary from ZMW 10–ZMW 40 per 50 kg bag threshed. Prices are set based on the cost of fuel and demand during the season (i.e. the greater the demand, the higher the price). Only one SME kept the prices fixed at only ZMW 10 per 50 kg bag threshed to maintain a good business relationship with farmers. The peak season for provision of threshing services is during the harvesting period from April to July.

Source: Interviews conducted for the Integrated Country Approach for boosting decent jobs for youth in the agrifood system, Phase IV

There is a significant unmet demand for both production and post-harvest mechanization services in the soybean value chain. Small-scale farmers interviewed express a strong desire to improve their productivity by adopting mechanized services but face financial constraints that prevent them from purchasing machinery. There is strong demand for mechanized threshing services in particular, as farmers seek to reduce labour intensity and post-harvest losses.

All SME threshing service providers were also positive that the demand will continue to grow due to the strong market demand for soybean products and growing interest in soybean production by farmers. In most cases, business owners were not able to meet current demand, indicating strong potential for the expansion of existing services and the entry of new service providers into the sector, particularly in areas where these services are not currently available to farmers.

Finally, interesting initiatives to consider in this field that will likely increase the demand for mechanization services by small-scale farmers include the government Mechanization Centres of Excellence and the Mechanization Service Centres being supported by the EU funded FAO Sustainable Intensification of Smallholder Farming Systems (SIFAZ) project. The Mechanization Centres of Excellence operate as centres for training, research and innovation, linked to farm institutes in different provinces, including the Keembe Farm Institute in Central Province and Katapola Farm Institute in Eastern Province. The SIFAZ mechanization centres, supported by FAO in partnership with the International Maize and Wheat Improvement Center (CIMMYT) and the MoA, will be run by cooperatives in various provinces, including Eastern Province but not Central Province. They are expected to demonstrate and promote a range of appropriate mechanization technologies (e.g. two-wheel tractors, threshers, planters), which will raise awareness and drive demand for these services. The cooperatives will then provide these services as a fee-for-service business to smallholder farmers.

Youth involvement in mechanization service provision

The range of mechanization services offered in the soybean value chain is primarily provided by adult-owned businesses. All SME business owners interviewed were male and adult. Four of the five threshing businesses set up the business with their own savings and some funds borrowed from friends/family while one received the threshing equipment and a two-wheel tractor free of charge from CIMMYT in partnership with MoA. These findings highlight that access to finance for purchasing equipment is essential for youth seeking to start businesses in mechanization service provision.

Youth engage in this node mainly as hired labour. Youth employees are preferred by all business operators because they are energetic and open to learning. Some preference for male youth workers over female workers was reported due to physical nature of the work operating the threshing machines (e.g. transporting them to farmers fields and feeding in soybean); however, others argue threshing can be undertaken equally by both genders.

Machinery providers, such as SARO and CAMCO, reported that up to 80 percent of the workers they hire are youth, with an average age of 20–24 years. Roles include plumbers, electricians, water engineers, agri-engineers, IT, management, sales and general workers. For SMEs, most youth workers are hired as machine operators. Internships are provided by machinery companies, which are already linked to training institutions such as the Natural Resources Development College to find skilled workers. All SMEs provide on-the-job training to youth employed as machinery operators.

Consultations with youth through interviews, FGDs and workshops in Eastern and Central provinces consistently showed strong interest among youth in engaging in the provision of mechanization services. This area generated some of the highest levels of interest among the youth consulted.

Key challenges limiting the capacity of mechanization service provision to benefit youth

The challenges limiting business expansion in this node include the following:

For machinery suppliers

- **Customer financing constraints:** Limited access to finance among potential customers reduces their ability to purchase or upgrade equipment, directly affecting overall demand.
- **High cost of solar equipment:** While solar-powered machinery is preferred to diesel-powered machinery due to lower running costs, it remains significantly more expensive than diesel-powered alternatives, limiting uptake.
- **Import dependence and delays:** Most equipment is imported – primarily from China – resulting in long lead times and added administrative and logistical costs due to the lack of local manufacturing.

For SMEs providing threshing services

- **Limited access to finance:** SMEs often lack the financial capacity to purchase equipment, especially tractors for transporting threshers, and to upgrade, maintain and repair machinery. While AgLeasCo offer asset-based leasing solutions, requirements include a minimum three years of experience in farming and/or agroprocessing and a deposit, generally 25–30 percent, as down payment.
- **Few suppliers:** Purchasing options for machinery are limited to a few suppliers who source some equipment locally (e.g. threshers) and those who import equipment. The latter often face constraints associated with long lead times and high administrative costs (e.g. delays in shipping; issues in clearing machinery at entry border points).
- **Climate-driven fluctuations in demand:** Climate shocks – especially drought – directly impact soybean production, reducing or eliminating demand for threshing services during affected seasons.
- **Seasonal income gaps:** Since soybean threshing is seasonal (typically April–July), SME service providers need to diversify offerings to maintain income throughout the year.
- **Fuel costs fluctuations:** High fuel prices reduce profits and may require revision to threshing fees charged to reflect true operating costs.
- **Weak operational partnerships:** Limited collaboration with cooperatives, aggregators and other local actors constrains service reach and timely delivery during peak demand.
- **Shortage of technical skills:** A lack of skilled labour in machinery maintenance and operational management hinders performance and consistent service delivery.

Prospects for youth employment opportunities identified in the mechanization services node

The review identified two main areas of opportunity for youth in the mechanization services node.

- **Mechanization services entrepreneurship:** Youth could be supported to establish sustainable mechanization service businesses to meet the growing demand for these services, either as individual entrepreneurs or youth cooperatives. Threshing, in particular, presents a gender-neutral opportunity because threshing machines can be operated by either young men or young women. Barriers to entry mainly relate to limited access to finance for purchasing or leasing equipment and low levels of business and management skills.
- **Machinery maintenance and repair:** There is also an opportunity for youth to provide essential machinery maintenance and repair services.

3.2.3.3 Financial service providers

Access to finance is a major constraint for all actors in the soybean value chain, especially for youth and women. While Chapter 2 examined youth financial inclusion and section 3.2.2 looked at the demand for finance from value chain actors, this section shifts the lens to the supply side, aiming to identify some of the underlying causes behind the limited availability of financial services.

There are currently 19 commercial banks in Zambia together with 35 registered microfinance institutions (MFIs) and one development finance institution (the Development Bank of Zambia). Although MFIs are not majorly engaged in the agricultural sector, a few of them, such as Vision Fund, Madison Finance, Agora and EFC, focus on this type of lending. Both banks and MFIs are concentrated in population centres and along major roads. Mobile money agents and emerging bank agents are reaching into less populated areas but households in rural areas and smaller towns remain underserved for both credit and savings options.

Around 85 percent of formal agricultural financing is directed towards large-scale commercial farms. Small- and medium-sized farms account for only 8 percent of the total and non-farm agribusinesses receive the remaining 7 percent (World Bank, 2019b). Lending rates from commercial banks are typically high, often exceeding 21 percent, and the sector faces a significant challenge with a non-performing loan rate of 28 percent within agricultural portfolios. Just three commercial banks – Stanbic, First National Bank and the Zambia National Commercial Bank (Zanaco) – account for roughly 60 percent of all agricultural lending. Most of this credit is concentrated among large agroenterprizes, with limited lending to small-scale farmers.

Lending requirements are stringent, with major commercial banks requiring a minimum of three years of business registration, comprehensive financial statements and fixed collateral for their commercial loans. Banks demand at least six months of formal financial records and business registration even for smaller SME facilities. Personal loans, while more accessible, typically require permanent employment and regular salary deposits into a bank account, effectively excluding self-employed young agripreneurs. These requirements, which are standard across the commercial banking sector, create a structural barrier that particularly affects young agripreneurs, who often lack the required documentation and operational history.

MFIs and other non-bank entities provide nearly two-thirds of the formal loans accessed by small-scale producers. As described in Chapter 2, loans from such bodies are also more accessible for young agripreneurs. However, loans from MFIs to agriculture tend to have high interest rates (between 35 and 75 percent), with movable assets or group guarantees often accepted as collateral (FAO and UNIDO, 2025). See Annex G for an overview of financial service providers (FSPs) assessed in Zambia and their requirements.

Beyond traditional financial institutions, several specialized facilities and programmes have been established to specifically address financing gaps for rural and agricultural enterprises (Chapter 2). These include the following:

- **Citizens Economic Empowerment Commission (CEEC):** Between August 2022 and December 2023, CEEC provided over ZMW 158 million to traders in Marketeer Booster Loans (not requiring collateral), over ZMW 70 million in Busulu Microfinance Loans (not requiring collateral) and more than ZMW 460 million in bigger project loans (requiring collateral). Thirty-six percent of the Busulu Microfinance Loans went to women and 47 percent to youth. Annual interest rates range between 8 percent for small loans of between ZMW 5 000 and ZMW 50

000 for individuals and 12 percent for larger loans up to ZMW 2 million for MSMEs and cooperatives. Loan recovery rates improved from 27 percent in 2022 to 70 percent at the end of 2023 (CEEC, 2023; MMP, 2024). The agricultural sector represents 75 percent of CEEC's portfolio, with target allocations of 35 percent for youth, 12 percent for women and 5 percent for people with disabilities (ICA-4 interviews). To qualify, applicants must be Zambian citizens with formal business registration, a Zambia Revenue Authority Taxpayer Identification Number and sufficient collateral for working capital loans. This makes the loans inaccessible for the majority of rural youth. Furthermore, while CEEC has historically supported both startups and existing businesses, it plans to focus primarily on established businesses from 2025 because of high losses experienced with startups. Field research reveals that youth engagement has been particularly successful in carpentry and agricultural processing activities. To reduce fund misappropriation, CEEC pays equipment suppliers directly rather than providing cash to borrowers. It provides pre- and post-disbursement training covering business formalization, industry standards and business management. The institution has established partnerships with mobile money operators (Airtel and MTN Zambia) to facilitate loan disbursements and maintains memorandums of understanding with local banks for rural outreach.

- **Financial Sector Deepening (FSD) Zambia:** FSD Zambia is a development organization focused on expanding financial inclusion by improving the activity of financial markets, with a strong emphasis on serving women, youth and disadvantaged populations in rural areas. The organization collaborates with financial service providers, policymakers and civil society to enhance access to finance. It is supported by donors and programmes such as UK Aid, the Swedish International Development Cooperation Agency, the Rural Finance Expansion Programme and the German Agency for International Cooperation (GIZ). FSD Zambia engages in multiple areas related to inclusive finance, including enterprise finance, working capital solutions, digital finance and financial inclusion for women and youth. The organization has also played a role in market research, strengthening farmer organizations and training smallholder farmers in climate-smart agricultural techniques. In addition, FSD Zambia actively supports financial education and entrepreneurship training. Given the high cost of in-person training, the organization has prioritized leveraging technology, including audio recordings, SMS-based financial education and mobile banking solutions to enhance outreach in rural areas. The organization has also worked on digitizing loan processes for low-income clients in collaboration with the Agora Microfinance Zambia and played a role in the Zanaco and Mercy Corps AgriPay Program, which introduced digital savings accounts tailored for women smallholder farmers.

- **Zambia Agriculture Value Chain Facility:** In 2023, the European Commission and the European Investment Bank launched the Zambia Agriculture Value Chain Facility to deploy investment capital for micro-, small- and medium-sized enterprises (MSMEs) in agricultural value chains through a range of local financial intermediaries. The facility provides credit lines to local financial institutions (FIs) for onlending to agricultural enterprises. It also provides partial credit guarantees to derisk FIs' agricultural lending portfolios and capability building to FIs to strengthen their capacity to provide long-term agricultural financing and support to MSMEs. So far, a USD 10 million line of credit has been provided to First Capital Bank, a Zambian commercial bank, to onlend to agricultural

MSMEs (EIB, 2023). However, field interviews with FIs revealed that traditional risk-assessment models continue to favour larger agribusinesses, limiting smallholder access to finance, despite the facility's concessional funding structure.

Finally, value chain mechanisms are also emerging to compensate for the challenges faced by farmers in accessing finance. Credit tied to inputs is offered through outgrower schemes operated by SMEs, including seed companies (FAO and UNIDO, 2025). Large processors and feed manufacturers have also developed forward purchasing agreements that combine input financing with guaranteed market access. Novatek and National Milling Corporation, for instance, provide input financing against guaranteed supply contracts, although these arrangements primarily benefit established producers who can demonstrate consistent production capacity and meet quality standards. Field research indicates that 260 Brands Zambia maintains similar contractual agreements with farmer groups, offering competitive pricing that often exceeds government-set rates. COMACO also has developed an effective integrated model that addresses both production and market risks. Their approach bundles certified seed and

fertilizers with technical support, using structured offtake agreements to secure repayment. A key differentiator of COMACO's model is its emphasis on sustainability and conservation agriculture, training farmers in climate-smart practices such as agroforestry and crop rotation to improve soil fertility and increase yields. Farmers are organized into cooperatives, facilitating access to high-quality inputs and extension services while ensuring stronger bargaining power in the market. COMACO operates a network of community trading depots where farmers can sell their produce at premium prices, reinforcing the viability of smallholder participation in the value chain. During the field visit, it was identified that the organization relies heavily on external financing, with loans accounting for approximately 70 percent of its working capital needs, underscoring the challenges of securing affordable credit in the Zambian agricultural sector. Despite this, COMACO has maintained a strong repayment performance, demonstrating that well-structured financing models, when coupled with technical support and reliable market linkages, can effectively integrate smallholders into formal value chains. Similarly, Griffin Services Ltd. operates an innovative agent-based sourcing system that integrates financing with market access through a network of local depots and extension officers. Their check-off system, where input loans are deducted from final payments, has proven effective in reducing default risks while ensuring stable market access for smallholder producers (Griffin Services, 2023).

Insurance coverage among Zambian smallholder farmers remains low, even though the need for insurance products is expected to increase due to climate change. Some progress has been enabled by FISP, which bundles insurance with the input subsidy package provided to farmers, using a hybrid insurance product comprising weather index insurance and area yield index insurance. While FISP prefinances the insurance premium, the farmer ultimately pays for it through a mandatory cash contribution that is required to access the FISP input package.[24] Evidence from interviews indicates that some private-sector companies such as Synergy have also started to bundle insurance with inputs, i.e. every bag of soybeans bought from them would already have the cost of insurance included.

> **"Youth have access to loans but there is no deliberate effort to target them as they are high risk.**
>
> (Financial service provider, Chibombo, Central Province)

> **"Youth are a riskier clientele than the older generation because youth still have a low financial profile compared with the older generation.**
>
> (Financial service provider, Nyimba, Eastern Province)

Youth involvement in financial service provision

The engagement of youth as agents or employees of FSPs could not be assessed during this study. Young people are generally considered high-risk clients by FSPs (with eight out of nine FSPs expressing negative views).

[24] Mayfair Insurance, a local insurance company, was awarded a contract by the Zambian Government to develop a weather-based index insurance product to be bundled together with the input subsidy package provided to farmers by FISP. They were supported by the Global Index Insurance Facility, a multi-donor programme managed by the World Bank. The product benefited from a range of good practices learned during the implementation of the older FISP insurance product and from the Rural Resilience Initiative of the World Food Programme. One of the core changes applied in this new product was the use of data crowdsourced from farmers to refine the index underpinning the FISP insurance model. The national e-registration system for agriculture (the Zambia Integrated Agricultural Information System) was critical for the dissemination and uptake of the FISP insurance product, as it allowed farmers to be registered remotely, tracking of suppliers and delivery of payouts to beneficiaries via mobile (WFP, 2022). While Mayfair Insurance was initially the primary insurer under FISP, the programme has evolved into a multiprovider insurance model with other insurance companies involved, such as ZSIC General Insurance, and Professional Insurance Corporation Zambia PLC.

No FSP has specific products for youth farmers and agripreneurs. Some banks, such as Zanaco, acknowledge gaps in meeting youth needs, while others consider their current product range as sufficient for these segments. Youth are instead a specific target population for most specialized facilities and programmes.

Key challenges limiting the capacity of financial service provision to benefit youth

The most critical challenges for FSPs to provide agricultural finance, especially to youth, include the following:

- **Perception of high risk in agriculture:** Most FSPs consider agricultural lending risky due to climate variability and market volatility. This leads them to require substantial collateral and track records. Furthermore, many small-scale farmers lack insurance or risk mitigation tools, compounding perceived risk.
- **Perception of youth as especially high risk:** Youth are perceived as having limited business experience and low levels of financial education; a tendency to relocate after obtaining loans; limited educational background especially in rural areas; ambitions often seen as excessive; a tendency towards risky and reckless behaviour; and a focus on short-term goals rather than sustainable plans. FSPs have limited options to mitigate such perceived risks due to the absence of youth-focused guarantee schemes. Only two FSPs (out of nine interviewed) highlighted the potential of youth, particularly those with proven business concepts or involved in value-added sectors and expressed a willingness to support them. Women are seen as generally demonstrating better repayment performance but facing greater barriers to access financial services due to limited access to resources (land) and cultural barriers.
- **Weak financial infrastructure in rural areas:** The 2020 Finscope Survey (BoZ, 2020) highlighted the limited presence of banking and MFI branches in rural areas as a major barrier to financial inclusion. As a result, transaction costs for servicing rural and remote clients are high, discouraging FSPs from engaging in these areas. While digital solutions are being developed, rural connectivity challenges limit their effectiveness. Between 2022 and 2023, the total value of mobile money transactions increased by 52.8 percent, reaching USD 17.3 million, continuing a growth trend since 2015 (BoZ, 2021; IGC, 2024). In 2020, approximately 58 percent of Zambians made use of mobile money services, compared with only 20 percent accessing services at traditional bank branches (BoZ, 2020; UNCDF, 2023). However, key challenges remain. Smartphone ownership is still low at 30 percent in 2022 (UNCDF, 2023) and financial literacy continues to limit effective use. Furthermore, Zambia introduced a person-to-person mobile-money levy in 2024 (ZMW 0.08–ZMW 1.80 per transfer), later increased under the 2024 Act to ZMW 0.16–ZMW 3.60 effective 2025 (Zambia Parliament, 2023, 2024), a change that may discourage usage.
- **High cost of capital and interest rates:** High interest rates in Zambia are driven primarily by persistent inflation, tight monetary policy, high funding costs for banks and elevated lending risks, particularly in agriculture. Inflation reached 16.8 percent in February 2025, prompting the Bank of Zambia to raise its policy rate to 14.5 percent to contain inflationary pressures (BoZ, 2025). Commercial banks typically lend to SMEs and agricultural businesses at rates between 25 and 33 percent annually, significantly higher than the policy rate to cover their own borrowing costs, risk premiums and operating expenses (IMF, 2023). MFIs, which are often

dependent on donor funds or expensive market-based financing, charge even higher rates, typically ranging from 32 to 80 percent annually. For example, VisionFund Zambia, whose lending costs are influenced by funding from donors such as World Vision International, charges approximately 5.5 percent monthly on a reducing balance, equivalent to roughly 60 percent per year.

- **Inadequate data for risk assessment:** FSPs often lack reliable data on yields, prices, climate risk and borrower histories to assess their creditworthiness. Youth often lack credit history, making their perceived risk even higher. The high levels of informality in value-chain relations further limits the capacity of youth to prove market access or business experience. While most young people engage with financial services through mobile money, these platforms do not yet serve as effective tools for building credit history or long-term financial records. This limits youth access to formal loans, as financial institutions remain hesitant to lend without collateral or verified repayment capacity.

Prospects for greater youth access and engagement in financial services

Opportunities identified in the financial services area are related to the following:

- **Develop and pilot youth-oriented credit products and explore risk mitigation options such as partial guarantees or interest rate subsidies:** Better linking outgrower schemes (e.g. COMACO, GNA) to financial opportunities and tools available could contribute to provide guarantees to FSPs on youth creditworthiness. This would progressively build the capacity of FSPs to design and market youth-focused services and encourage them to allocate their own resources to ensure commitment and sustainability.
- **Strengthen youth-data collection and provide data-driven risk assessments:** Efforts could be made to support financial institutions in developing youth-friendly lending models that incorporate alternative risk-assessment approaches. This includes training financial institutions on how to use non-traditional credit indicators such as mobile money transaction histories, input purchase records and cooperative membership to evaluate creditworthiness.
- **Use of matching grants:** The use of matching grants can serve as a catalyst for youth investment in the soybean value chain while simultaneously building stronger linkages to formal financial services. This would allow recipients to progressively build their capacity to engage with formal financial institutions, with the result that matching grants would be phased out gradually and increasingly replaced by loans from FIs. Embedding structured training within the grant facility would help mitigate risks such as misallocation of funds or poor financial planning, which are common challenges in youth-targeted financing initiatives. Grant mechanisms could be linked with climate-resilience investments, such as financing for solar-powered irrigation systems or seed of drought-resistant varieties, aligning with the country's broader agricultural objectives.

3.2.4 The enabling environment

National policies and institutions in Zambia are very supportive of the soybean value chain and of youth involvement in agrifood systems. While section 2.2 analysed the enabling environment for youth employment, this section focuses on the soybean value chain more specifically. More details on each policy can be found in Annex D.

The government has prioritized the soybean value chain in its Comprehensive Agriculture Transformation Support Programme (CATSP)

(RoZ, 2023), aiming at increasing production to 1 million tonnes in 2027. Recently, a proposal for a National Soybean Strategy 2024–2033 has been supported by FAO and the United Nations Industrial Development Organization (FAO and UNIDO, 2025). This strategy explicitly prioritizes youth as a target group, recognizes the extent of youth employment opportunities in the soybean value chain and aligns with the main entry points identified by this study, namely seed multiplication, mechanization and local processing, and with the need for entrepreneurship support and financial inclusion.

Some government interventions seem, however, to interfere with the growth of the sector, causing price fluctuations that negatively affect private-sector investment. The most challenging area seems to be export bans, which have affected both soybean grain and feed products. These include the 2021 export ban of soybean meal in 2021 (FAO and UNIDO, 2025) and more recently the suspension of export permits for soybeans and soybean cake in March 2024 (Chisalu, 2024). The ongoing 16 percent value added tax on domestically produced edible oil in Zambia also undermines local demand, as consumers turn to more affordable imports from East Africa that are exempt from this tax (FAO and UNIDO, 2025).

Another challenge refers to input subsidies under FISP and above-market price setting by the FRA which incentivizes maize production. Since 2017, FISP has included support for legumes, including soybean, but its scale remains minor compared with support for maize, limiting broader crop diversification (FAO and UNIDO, 2025). However, more recently the government has rolled out 100 percent use of e-vouchers by FISP beneficiaries. This implies that the farmers can choose what type of inputs they need as they redeem their voucher with agrodealers (President of the Republic of Zambia, 2025).

3.2.5. Value-chain governance

While coordination across the soybean value chain remains limited, some structured efforts exist within individual nodes. Under Strategic Priority 3 – Promote inclusive local supply chains, CATSP states that, for each priority commodity, the GoZ will institutionalize the preparation and implementation of value chain development plan agreements in partnership with industry associations (RoZ, 2023). This includes promoting agricultural aggregation alliances (3As) as a mechanism for the inclusion of vulnerable people, youth and women. Nevertheless, most stakeholders interviewed were unfamiliar with the specific 3A approach promoted by CATSP and its potential for fostering more youth-inclusive value-chain governance.

Within each specific node, multiple organizations defend the needs of their members. The Zambia National Farmers' Union and National Union of Small Scale Farmers of Zambia are the main farmers' organizations, followed by a multitude of district associations and cooperatives. While adult famers interviewed were associated with national or district associations, the young farmers interviewed were not familiar with any of them and were more familiar with local cooperatives. Some aggregators and traders were linked to the Grain Traders Association of Zambia, agrodealers to district chapters of the Agro-Dealer Business Association of Zambia and machinery providers and processors to bodies such as the Zambian Association of Manufacturers and the Crushers and Edible Oil Refiners Association. However, some respondents questioned the effectiveness of these associations in influencing government policy.

In terms of horizontal linkages among young producers in particular, cooperatives seem rather common. Membership numbers among the cooperatives interviewed ranged from 12 to 40 members, 20 to 60 percent of whom were women, including in managerial and leadership

positions. Most cooperatives interviewed were formally registered, even though they appear to have limited capacity and entrepreneurial focus. Zambia has a long history of promoting cooperatives, with 50 265 registered by the end of 2020. However, only 818 were considered fully operational and effectively contributing to members' well-being (Mundia et al., 2022). Around 50 percent were classified as non-enterprising cooperatives, often benefiting from seasonal government programmes like FISP or functioning mainly as marketing groups (Mundia et al., 2022). Membership is incentivized by the requirement to join a cooperative to access FISP support for seed and fertilizer (Blekking et al., 2021) and funding from CEEC and the Consortium of African Youth in Agriculture and Climate Change, which also prioritize cooperatives. This incentive-driven formation was echoed in interviews, where most youth cited access to inputs as a key reason for establishing their cooperative. Other goals included poverty reduction and income generation, sharing labour and productive techniques, increasing access to mechanization and collectively marketing their produce. Despite these goals, the youth cooperatives interviewed provided few services to their members (e.g. no mechanization, no output marketing) and focused almost exclusively on production. Lack of adequate training and support and limited access to finance inhibits the development of youth cooperatives and their capacity to offer much-needed services to their members. These factors are considered especially important at an emerging stage (Mundia et al., 2022). Only two of the youth cooperatives interviewed reported having received any training on financial and business management, one from the village bank and the other from an MFI. A general lack of resources for the Department of Cooperatives and Entrepreneurship Development (for transport or conducting training) is reported in the literature as a key reason for limited delivery of training and support (Mundia et al., 2022). The Zambia Cooperative College, formerly under the MoA and now under Ministry of Small and Medium Enterprises Development, is a small institution with limited funding, a largely academic approach, no specific focus on youth and limited capacity to support and monitor cooperatives in the field (e.g. 300 cooperatives supported in 2024).

Recent years have seen private-sector-led improvements of value-chain governance, including the growth of outgrower and contract-farming schemes that help small-scale farmers to access inputs and markets. While engagement in contract farming was not reported by the youth interviewed, around 35 percent of youth call applicants indicated familiarity with the model and approximately 22 percent reported previous participation. Interviews with seed companies confirmed that contract farming for seed production is a common approach to working with both individual farmers and farmer groups as an effective means to bundle inputs to these farmers as part of their procurement strategies. These companies also noted that youth are already involved in such seed production arrangements. The same approach is used by offtaker firms as part of their soybean procurement strategies, where they advance inputs to soybean farmers upfront and deduct payment for these inputs after delivery of agreed quantities of soybeans.

Key insights: Youth engagement and opportunities in the soybean value chain

- Youth are already playing an active role in soybean production, as individual farmers, cooperative members, family labourers and hired workers on commercial farms.
- Despite challenges such as drought, fluctuating prices and high input costs, youth see soybean farming as a profitable activity and want to invest more in it.
- Youth business ownership in aggregation, processing, retailing, input distribution and mechanization is limited by barriers such as insufficient working capital and weak market links, although many youths work in these sectors as employees.
- Production constraints, such as limited farmers' skills, poor access to inputs, certified seeds and mechanization, could become entry points for youth enterprises if their access to finance improves.
- Seed multiplication offers promising opportunities for youth in partnership with seed companies via contract farming, especially if climate risks are mitigated through irrigation and insurance.
- The provision of mechanization services, especially threshers, offers promising opportunities for youth while also helping to reduce labour burdens in the value chain, especially for women.
- Rising demand for soy-based feed and food products opens doors for youth-led small-scale processing, contingent on better financial access, targeted training and marketing support.
- Access to finance remains a critical cross-cutting barrier limiting the capacity of both youth and other small and medium-sized enterprises to invest further and create additional jobs.
- The policy environment is generally supportive of youth engagement in agrifood systems and the soybean value chain. Nevertheless, improving coordination across the soybean value chain remains a priority and should be structured to more effectively leverage youth participation.

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CHAPTER 4

Sustainability assessment

This chapter provides an overview of the most pressing issues (hot spots) in terms of the impacts of the value chain on the economy, society and the natural environment, with a focus on youth.[25] Special attention is given to identifying upgrading opportunities that can improve sustainability while fostering more-inclusive youth engagement.

4.1 Economic sustainability

The soybean value chain already employs approximately 700 000 people and continues to grow (FAO and UNIDO, 2025). While most of this employment is concentrated in primary production, an estimated 3 000 people are employed by crushers and refineries, 500 by the livestock feed sector and more than 80 000 by the poultry industry (FAO and UNIDO, 2025). The crop's versatility and strong demand – both local and regional – for products such as cooking oil, animal feed and food items offer significant opportunities for value addition and market expansion. The favourable agroecological conditions in the Central and Eastern provinces further enhance its production potential, while the country's strategic location in the region strengthens its trade prospects. Despite these strengths, some challenges related to economic sustainability exist and may affect youth employment prospects.

Profitability for small-scale farmers could be improved. While soybean production is profitable for small-scale farmers – with FAO and UNIDO (2025) finding an average profit margin of 19 percent and a profit margin of up to 42 percent for small emerging farms due to lower production costs – significant room remains to enhance profitability, particularly for youth. Chapter 3 reinforces these findings with voices from the field, highlighting persistent barriers that limit productivity and returns. These include limited access to quality inputs (such as certified seed), lack of appropriate equipment (e.g. threshers) and inadequate financing mechanisms. Additionally, gaps in knowledge of good agronomic practices and climate change further constrain yields. A fragmented market system, combined with price volatility, undermines farmers' ability to access stable and profitable markets. Informal cross-border trade – driven by price disparities and porous borders – adds further instability to the market landscape (WFP, 2022; FAO and UNIDO, 2025). Addressing these systemic issues through improved access to certified seed, credit, extension and mechanization services is essential and could create tangible business opportunities for youth.

Value addition is not fully harnessed. As mentioned in section 3.2.1, demand for soybean products is rising on both external and domestic markets. However, soybean processing remains geographically and economically concentrated in large-scale processing firms based in Lusaka, while small- and medium-scale processing for animal feed and human consumption remains underdeveloped at local level, despite strong potential for engaging youth. Empowering youth

[25] The assessment is based on FAO's Sustainable Food Value Chain methodology and assesses the economic, social and environmental impacts of the VC, as well as its resilience.

through training and entrepreneurship support, access to finance and market connections could strengthen their role in processing activities.

4.2 Social sustainability

The soybean value chain plays a vital role in supporting livelihoods, food security and nutrition in Zambia. As discussed in Chapter 3, youth – both young women and young men – are already active across various nodes of the value chain. However, beyond the broader challenges linked to persistent rural poverty highlighted in Chapter 2, this section identifies key areas where social sustainability remains limited and where targeted efforts are needed to strengthen youth inclusion.

Decent work deficits remain significant, especially in relation to labour vulnerability and informality, child labour and occupational safety and health (OSH).

- As already described in Chapter 2, most workers in Zambia are employed in vulnerable occupations, mainly in subsistence agriculture and the informal sector, with low incomes and wages. Informality rates are high and the soybean value chain is no exception. Rural youth are more vulnerable in this regard than their urban or adult counterparts. Child labour is widespread, especially in rural areas and agriculture. Downstream segments of the value chain – particularly medium- and large-scale processors – appear to offer better employment conditions than other nodes. ICA-4 interviews indicate that monthly wages in production, input supply and aggregation range from ZMW 1 800 to ZMW 3 500, aligning closely with the national average for agricultural workers (ZMW 2 846). Family labour is very common and mostly unpaid. In contrast, permanent employees in large-scale processing firms earn between ZMW 3 300 and ZMW 6 000, also receiving additional benefits such as pensions and social protection packages. Larger companies are legally required to comply with the country's employment code, including minimum wage and benefit provisions (FAO and UNIDO, 2025).

  Organizing into cooperatives or associations enables youth and informal microbusinesses to combine resources, lower the obstacles to entering markets and access social protection systems or other government support programmes, helping them transition out of informality (FAO, 2025b). The cooperative model is rather widespread in Zambia, including among youth, which is encouraging. Nevertheless, the cost of cooperative membership [26]can be a barrier for poorer youth. Furthermore, as indicated in section 3.2.5 on value-chain governance, the entrepreneurial capacities of youth cooperatives remain low, as does the availability of support services directed at strengthening them.

- Child labour is a widespread and increasing concern in Zambia, especially in the agricultural sector, and is linked to the high levels of poverty in rural areas. Despite the increased effort by the Ministry of Labour and Social Security to increase labour inspections, open a call centre to receive complaints of labour violations and assign additional budget to education, the monitoring of child labour occurrence in the informal sector remains non-existent (USDOL, 2023). Box 13 provides a data snapshot on child labour, which highlights the frequency of child labour in cereal, legume and oilseed sectors. While the country is implementing a National Action Plan for

[26] Among the cooperatives interviewed, annual membership fees ranged from ZMW 50 to ZMW 300 and some cooperatives required a minimum share capital contribution of ZMW 100 to ZMW 500. Some cooperatives set specific member criteria, such as being over 20 years of age, being a youth (21–34 years of age) and being a farmer.

the Elimination of the Worst Forms of Child Labour 2020–25 (MLSS, 2020)[27] that aims to strengthen cooperation and coordination among relevant stakeholders, the issue remains a cause for concern. It should also be noted that the Education Act of 2011 (Zambia Parliament, 2011) has not yet been amended to set the age of completion of compulsory schooling at 15 years, in line with Article 2(3) of the Minimum Age Convention, 1973 (No. 138) (ILO, 1973) and neither defines the school-going age nor indicates the age of completion of compulsory schooling (ILO, 2024).

Box 13. Data snapshot on child labour in Zambia

Total children aged 5–17

- 6.2 million

Children in work activities or working children*

- 2.8 million
- 44% male | 56% female

Children in child labour†

- 430 075
- 36.6% male | 63.4% female
- 58.1% in rural areas | 41.9% in urban areas

Top provinces by child labour

- Lusaka – 23.2%
- Central – 12.4%
- Copperbelt – 11.9%
- Eastern – 9.5%

Income-related child labour

- 35 943 children
- 59.7% rural | 40.3% urban
- Top activity: Farm labour (livestock/crop) – 37.1%
- Among crop farm labourers: 64% male | 36% female
- Most common sector: Cereal, legume & oil seed growing – 30%

Home-based (non-income) child labour

- 394 132 children
- 58% rural | 42% urban
- 33.3% male |66.7% female

Hazardous child labour

- 29 057 children
- 60.5% rural | 39.5% urban
- 70.8% male | 29.2% female
- 15–17 age group most affected – 55.3%
- Top province: Eastern – 29.8%
- Bottom province: Western – 1.2%.

Notes:

* Working children is defined as all children 5-17 years of age who, during the reference period, were either in paid employment or engaged in home-based activities (i.e., own-use production work) or were in both (ZamStats, 2021)

† Child labour is identified by the Zambia Statistics Agency as the engagement of children in productive activities as stated in the System of National Accounts production boundary and hours of work (ZamStats, 2021).

Sources: **Zambia Statistics Agency.** 2021. 2020 Child Labour Report. Lusaka. https://tinyurl.com/46h9xucn

- Interviews with value-chain actors under ICA-4 confirm that child involvement in farm work is common, primarily as part of family labour. Forty percent of farmers interviewed explicitly reported that children under the age of 15 participate in agricultural activities, particularly

[27] Priority strategies under the National Action Plan include: (1) strengthening inclusive and equitable human development and scaling up access to education, health and other poverty-reducing services; (2) strengthening social protection systems; (3) promoting decent work opportunities for adults and youth; (4) strengthening child protection through institutional coordination; (5) strengthening and harmonizing the legislative framework; and (6) improving child labour awareness.

in weeding, ploughing and harvesting. It also emerged that children are often brought to the fields by their mothers when no alternative child-care options are available at home. By contrast, actors in other nodes of the value chain did not report employing any workers under the age of 15

- Significant OSH-related risks were also identified, especially among small-scale farmers and small informal operators. Jobs in small-scale soybean farming are predominantly low-paid manual tasks that are physically demanding. They pose serious OSH risks to both the farmers and their workers, including exposure to pesticides and other chemicals, farm equipment and sharp tools and more general OSH risks common in a farming environment. Soya is recognized as a dietary allergen, containing a number of identified allergenic proteins. Inhaled soya dust generated by occupational activities (e.g. unloading/loading bulk soya without appropriate dust control measures) can cause respiratory health problems. Endotoxin and fungal contamination associated with soya are also potential respiratory hazards (Mason, 2020). With regards to post-harvest activities and processing in particular, specific risks are related to use of machinery/equipment, noise, illuminance and suspended dust (Oliveira et al., 2016). Women are disproportionately involved in the harvesting and threshing of soybean, which involves piling harvested plants on a concrete floor, mat or tarpaulin and hitting the plants with sticks to separate the beans from the plant. This is a labour-intensive process and also poses respiratory risks to workers associated with inhaling dust particles (FAO and UNIDO, 2025). The risks most frequently cited by youth farmers were physical injuries from using a plough and hoeing; exposure to harmful chemicals when spraying due to inadequate use of personal protective equipment (PPE); injuries caused by ploughing animals and snake bites; dust during threshing causing respiratory disorders; and long working hours. Three out of ten young farmers and half of youth cooperatives and focus group discussions (FGDs) reported having received some training or information on safety and preventive or protective measures from camp officers and agrodealers. Despite this, lack of training and PPE was a concern for half of those interviewed, especially in relation to the lack of financial resources to access PPE. Extension officers confirmed that the lack of youth access to PPE and long working hours are major challenges. Any increases in use of machinery and chemicals, including pesticides, is expected to further increase the exposure of young workers to risks and would need to be complemented with adequate training and accessible PPE. Regarding chemicals, offering safer options to farmworkers (e.g. organic farming or less-toxic alternatives) should be at the core of any response.

> **"I have 9- and 16-year-old kids that help me with farming. The children are both in school. The two kids are mostly involved in weeding and leading the ox-drawn plough.**
>
> (Young farmer, Central Province)

> **"Hiring families to do the farm is the work culture in the area; from my observation, families hired come with labourers as young as ten. The young labourers go to school and during weekdays, they come to the fields after school. The young ones do the weeding and harvesting.**
>
> (Young farmer, Central Province)

> **Most youth farmers are not equipped with protective clothing and as such they become exposed to skin contact that causes skin irritations and burns. Exposure to agrochemical application without protective clothing shows symptoms of skin irritation and respiratory discomfort.**
>
> (Youth cooperative member, Eastern Province)

Persistent gender inequalities limit the roles of young women across the value chain. While both men and women work on family farms, men are typically seen as decision makers and income earners, while women are viewed as unpaid labour. In the soybean value chain, men and women share production tasks, although women are more involved in harvesting processes and men in marketing (FAO and UNIDO, 2025). Women also face greater market access challenges and tend to sell their product at the farm gate. Challenges for women include mobility constraints and male-dominated, often hostile, wholesale environments (FAO, 2018; FAO and UNIDO, 2025). Gender discrimination also prevails in access to productive resources, putting women at a disadvantage. Less than one-fifth of agricultural borrowers are women (World Bank, 2019b). Female-headed households mostly use tillage and weed-control systems that are more labour intensive than those used by male-headed households, which mostly use ox-drawn machinery. As a result, the average production for male-headed households tends to be higher for all crops compared with female-headed households (FAO, 2018). Women in Zambia face significant challenges in accessing and controlling land due to entrenched patriarchal norms and discriminatory customary practices that mostly favour inheritance by males.

Despite legal reforms aimed at promoting gender equality in land rights, implementation remains weak and women continue to face barriers in inheriting, owning and managing land. For instance, a study undertaken in Central Province revealed that 75 percent of men and 58 percent of women had obtained land from their traditional leaders (World Bank, 2023). In another study in the Eastern Province, the heads of villages indicated that consent from a husband is required for a married woman to obtain land (World Bank, 2023). Women also experience a high prevalence of gender-based violence. Forty-seven percent of married women have experienced physical, sexual or emotional violence by their current or most recent husband or partner; 36 percent of women aged 15–49 years have experienced physical violence at least once since age 15; and in the same age group, 14 percent of women experienced sexual violence specifically since age 15 (World Bank, 2023). Social and cultural norms, which are threaded into the social fabric of society, have also resulted in a high acceptance and tolerance towards wife-beating. Wife-beating has been particularly normalized among women: 46 percent of women agree that a husband is justified in beating his wife, compared with 26 percent of men. Younger women aged 15–24 years also share the same belief system with older women, with 47 percent agreeing that wife-beating is justified (UNICEF, 2021; World Bank, 2023). During the ICA-4 fieldwork, one of the female agrodealers shared details of being subjected to sexual harassment and exploitation as the only way to get male agrodealers to supply to her in the early days when she set up her shop.

> **We bring the children along to the fields, fathers are hardly involved in care.**
>
> (Youth cooperative member, Kabwe, Central region)

> **"Mothers go to the field with the children and they play while we work. Culturally men have separate roles and do not look after the children.**
>
> (Youth cooperative member, Chipata, Eastern Province)

> **"Women with breastfeeding children go to their field with the babies and someone to assist look after the baby. Those with children above two are left home with someone to care for them. Some husbands tend to assist their wives at home in cooking and looking after the children in their absence, while others are not able to.**
>
> (Unorganized rural youth, Chibombo, Central Province)

Youth, particularly young men, are employed almost exclusively in physically demanding tasks such as operating machinery and transportation. However, other roles are emerging for young women. Encouragingly, perceptions of young women are improving. The extension workers interviewed note that young women are increasingly seen as hardworking and capable entrepreneurs. In women-only focus groups, participants reported being respected for their contributions, although some feel under-recognized due to limited media visibility. Families generally support young women in agribusiness, but safety concerns – such as theft or gender-based violence – remain. A critical concern is the significant amount of time that women spend on unpaid household and caregiving tasks, which often limit their capacity to further engage in training or productivity activities. This is due to prevailing traditional and gender discriminating social norms.

Based on interviews conducted by the ICA-4 project in the Central and Eastern provinces, young women dedicate between 3 and 7 hours daily on household and caregiving tasks. Young women mentioned that they often carry their children as they work, especially when breastfeeding or when they do not manage to leave them with a grandparent, other adult or older siblings. The involvement of fathers in child care and household chores remains limited, largely due to traditional cultural norms. Only a few young women among those interviewed indicated receiving support from their husbands. Only in a few FGDs[28] did youth report that men participate in caregiving or household chores. In one mixed FGD in Kabwe, one youth stated that "When a husband assists with providing care to the child, the community perceives him as less masculine." The assessment highlights the challenges young mothers face in balancing work and family responsibilities, often relying on informal child-care arrangements or managing on their own.

Finally, limited engagement in decision-making and leadership remains a major constraint for youth, particularly young women. Both FGDs with rural youth (17 groups) and with rural women only (8) indicated quite unanimously that their concerns are not addressed by local leaders and that they don't have a platform where they can engage with them. In all but one of the FGDs, youth participants, particularly all young women, reported not being consulted by local or provincial government on policy decisions that may affect them, except during political campaigns, causing them to lose trust in the sincerity of such consultations. As regards the voices of youth within the families, the views are more balanced, with some youth indicating that their voices are heard, some feeling that, despite participating in decision-making, their opinions count for less than those of older members and others (relatively fewer within the ICA-4 sample) stating that they are not involved in decision-making.

[28] One cooperative out of nine, two women-only groups out of seven and eight mixed groups out of 17.

ICA-4 FGDs with only young women emphasize that young women feel that they still have limited authority to make decisions both within the community and in the family, especially compared with husbands and men. In terms of farm management, all the interviewees noted that decision-making is made between the couple, for those who are married, and with their parents, for those who live with their families. Nevertheless, several young women indicated that men have a bigger voice both within the communities and in the families.

When it comes to the youths' social capital, about half of the rural youth (both men and women) participating in the FGDs and individual farmers interviews, reported belonging to some type of association or group. In general, young respondents seem to value the benefits of joining youth groups (e.g. youth cooperatives, clubs or village banks) for accessing inputs and sometimes training, but do not seem to be in a position to harness collective action for boosting their own agency and voice. None of the youth interviewed could name any of the existing youth national networks or organizations of young farmers or agripreneurs, referring instead to local youth cooperatives. The picture does not change much for young members of agricultural cooperatives in terms of their policy engagement, with respondents mentioning that they are not consulted about policy matters affecting them and that their voices are not adequately reflected in policy discussions, nor in terms of awareness of national youth networks. Only two individual young farmers mentioned that their voices are heard to some extent, through the Ministry of Community Development or the district agricultural coordinator, councillor or members of parliament.

While national youth networks exist, their membership coverage is limited, governance structures often fail to reach all provinces and their strategies are not inclusive of all rural youth, which weakens their policy influence. There is also no platform to coordinate among the different organizations. Their digital presence is weak, with most network websites either outdated or inactive. Some national networks primarily serve urban-based, university-educated young farmers. In ICA-4 interviews, government officials in Central and Eastern provinces – across ministries such as Agriculture, Labour and Cooperatives – were largely unaware of these youth-led networks, with only one referencing the Zambia National Farmers' Union instead. Box 14 provides an overview of the main youth networks active in agriculture in Zambia.

> **"Female youth voices are not heard and are suppressed. This is the case in the community and even households. Mostly, husbands and men in the community have a bigger voice. Men say that they are the head of the house and women are the shoulders, hence women should let the men lead.**
>
> (Young woman participant, focus group discussion (FGD) with young women only, Petauke, Eastern Province)

> **"Although decisions are made together as a couple on what to grow, inputs, weeding, harvesting and selling, the man has the final say in most cases.**
>
> (Young woman participant, FGD with young women only, Petauke, Eastern Province)

> **"Women are aggressive in entrepreneurship; they know how to handle funds. I don't think there are any perceived risks by their partners. However, women lack access to money-generating assets such as land. Most of the income-generating activities are dominated by men and less by women.**
>
> (Incubation and business support entities, Lusaka, Lusaka Province)

Box 14. Main networks of young farmers and agripreneurs in Zambia

Formed in 2016, the Zambia Young Emerging Farmers Association (ZAYEFA) is a member-based umbrella organization of young emerging farmers. It sees its role as being linking youth to trainings, opportunities and events and as a service provider. ZAYEFA initially charged membership fees but later eliminated them as provincial affiliates grew. Its Lusaka office closed in 2020, and operations are now fully virtual. ZAYEFA currently reports 800 active members nationwide (79 percent female), including students, young farmers, cooperatives and experts – some involved in soybean activities – and about 3 000 followers. It regularly participates in youth fora organized by international partners and engages with government on policy issues such as exports, phytosanitary regulations, youth access to inputs and the Farmer Input Support Programme, and solar irrigation. However, it acknowledges limited impact so far due to the relatively small membership base, which it aims to expand through greater student outreach.

The Zambia chapter of the Consortium of African Youth in Agriculture and Climate Change (CAYACC) was launched in November 2023 and is not yet formally registered with the Ministry of Youth, Sport and Arts. Its goal is to serve as a hub for elevating youth voices in policy dialogue. Around 30 groups and cooperatives are affiliated with CAYACC, mainly in agripreneurship, with fewer focused on climate advocacy. CAYACC does not charge membership fees or have income-generating activities. As a new and still-developing network, it lacks visibility and national representation.

The Young Emerging Farmers Initiative (YEFI) is an NGO established in 2014. It has a team of nine people in Lusaka, all women, and provincial and district representatives selected in the communities. The initiative is funded through partner projects, plus some minor fundraising (e.g. selling tickets for events). YEFI is youth-led and focused and works to empower youth in agricultural activities in both rural and urban areas. It reports 50 000 members and a broader network of 500 000 young people across the country, 60 percent of whom are women. YEFI launched the Emerging Farmers Federation in 2024, with 400 young farmers across the country. The federation is yet to be registered. YEFI is currently working on a digital platform to capture a wider range of members in different sectors or value chains, but the vast majority of current members are engaged in the soybean value chain. The initiative also supports consultations around agrifood systems and were involved in the development of the Comprehensive Agriculture Transformation Program (CATSP) and discussion on a national agroecology policy. YEFI won the United Nations Development Programme Equator Prize in 2023 in recognition of outstanding success in promoting local solutions to climate change and sustainable development for people, nature and resilient communities in Zambia.

Youth Alive Zambia (YAZ), established in 1996, operates nationwide. In Eastern and Central provinces, it implements programmes through the Catholic Church as it lacks local offices. YAZ has volunteers across sites and supports over 100 youth clubs and cooperatives. It is funded by donors, with no government support or membership fees. To generate income, YAZ rents out office and boarding facilities and runs agricultural ventures (poultry, vegetables, legumes, maize), although it remains financially dependent on donors. Membership is 60–75 percent female, typically starting through school or community youth clubs. YAZ aims to empower youth with life skills, promote

»

Box 14. Main networks of young farmers and agripreneurs in Zambia

healthy mindsets and support informed decision-making. It claims to have contributed to reducing early marriages, returning girls to school, improving education completion rates and increasing youth incomes. While its policy engagement is not focused specifically on agriculture, it actively contributes to youth and education policy dialogue.

Source: Interviews conducted for the Integrated Country Approach for boosting decent jobs for youth in the agrifood system, Phase IV.

4.3 Environmental sustainability

Soybean is a leguminous crop that naturally fixes nitrogen in the soil and is suitable for intercropping, thus contributing to improving soil fertility. Compared with other crops, such as maize, it is less water-demanding and input intensive. Nevertheless, the value chain also generates waste and pollution and has been contributing to deforestation pressure globally. Additionally, processing facilities typically generate industrial and hazardous waste, including liquid (from wastewater used for cooling) and solid waste (FAO and UNIDO, 2025). The most critical environmental hot spots are highlighted below.

Biodiversity and ecosystems: The country continues to struggle with forest loss caused by agricultural expansion, urbanization, charcoal production and timber harvesting (FAO and UNIDO, 2025). The expansion of maize under the Farmer Input Support Programme and rising oilcrop production – including soybean – are key contributors. As soybean growth relies more on land expansion than yield improvements, it poses increasing risks to forests and other biodiversity habitats and climate goals. Climate-smart practices should be scaled up to boost biodiversity and strengthen the resilience of soybean farming to climate change (FAO and UNIDO, 2025).

Soil quality: Soybean cultivation can offer notable benefits to soil fertility. Nevertheless, poor agronomic practices, such as monocropping and overapplication of synthetic fertilizers and pesticides, can contribute to soil degradation. While the levels of chemical inputs used in soya remain relatively low compared with other crops such as maize, there has been a notable increase recently in herbicide use among small-scale farmers to manage weeds, often not supported by adequate training (FAO and UNIDO, 2025). The integration of sustainable agricultural practices such as crop rotation, alternatives to synthetic inputs and water conservation techniques will be critical for enhancing sustainability in the long term. Box 15 provides an overview on biochar potential in this context.

Plant health and climate change: Small-scale soybean production in Zambia is predominantly rainfed. The effects of climate change, such as the El-Niño-induced droughts (Mulungu et al, 2024), will require increased adaptation resources and capacities of farmers, such as for drought tolerant varieties, legume crop diversification and irrigation. Across ICA-4 fieldwork, farmers generally demonstrated awareness of the impact of climate change on their farms, primarily reduced rainfall leading to lower yields. About half of the respondents consulted through interviews and the youth call reported having received training on climate-smart agriculture or conservation farming from extensionists, the Conservation Farming Unit or various projects.

About 84 percent of the respondent to the youth call reported having acted on those trainings by adopting conservation farming techniques such as potholing, ripping and minimum tillage, crop rotation, agroforestry, organic inputs and use of early-maturing and drought-resistant crop varieties tailored to their geographical regions. This highlights the need for ongoing education and support to youth as green champions to ensure widespread adoption of climate adaptation and mitigation practices.

Water footprint: While Zambia is well endowed with water resources, the increased use of irrigation, required by the increasing droughts, could lead to water resource scarcity if not managed properly (FAO and UNIDO, 2025). The use of efficient irrigation techniques, such as drip irrigation, the adoption of agroforestry and soil-moisture-conservation practices and water storage systems will be critical. Expanding the use of solar energy for irrigation and the operation of small agricultural equipment would further contribute to mitigating climate-related risks. Enhancing the share of non-hydro renewable energy, particularly solar and wind, is also a general priority for the Government of Zambia, which currently still relies on hydroelectricity for more than 80 percent of its total power generation (RoZ, 2025).

Box 15. Biochar potential for climate change adaptation in Zambia

Biochar, a carbon-rich material produced through the pyrolysis of biomass, is gaining attention as a promising soil amendment to improve soybean productivity and sustainability. Its application enhances soil structure, water retention and nutrient availability – critical for soybean cultivation, especially in degraded or nutrient-poor soils common in parts of Zambia. Research shows that biochar can significantly increase soybean yields by improving root development, soil aeration and nutrient uptake, particularly in acidic or sandy soils (Yooyen, Wijitkosum and Sriburi, 2015; Wu *et al.*, 2022; FAO, 2023). In field trials, biochar-treated plots showed greater root mass and higher nodulation, directly contributing to improved biological nitrogen fixation and plant resilience (Wu *et al.*, 2022). Research carried out at Mulungushi University in Zambia also found that applying biochar enhanced root development, increased the soil's ability to retain moisture and improved the efficiency with which soybean plants utilized nutrients (Simfukwe *et al.*, 2023).

Biochar also plays an important role in regulating soil properties such as pH and cation exchange capacity, while promoting beneficial microbial activity (FAO, 2023). When used in conjunction with conservation agriculture or agroforestry systems, biochar contributes to long-term soil health, reduced fertilizer dependency and improved drought tolerance (FAO, 2022). In Zambia, local production of biochar from crop residues or invasive species offers a low-cost, scalable strategy for regenerating soil fertility and stabilizing yields, particularly among smallholder soybean farmers (PIN, 2024; Solidaridad, 2025). In addition to these agronomic benefits, biochar's capacity to sequester carbon positions it as a viable entry point for farmers to participate in carbon credit schemes, providing an additional revenue stream (Solidaridad, 2025). With appropriate technical support, partnerships and verification mechanisms, youth groups could produce and supply biochar locally, both as a green input for soybean producers and as part of broader climate finance initiatives.

Box 15. Biochar potential for climate change adaptation in Zambia

However, biochar use in Zambia remains largely at an exploratory stage and biochar is not yet a marketable product or service. None of the youth or cooperatives interviewed for the Integrated Country Approach for boosting decent jobs for youth in the agrifood system, Phase IV was already making use of it, although a few had heard about it. Its commercialization has yet to be tested, and broader uptake will depend on cost-effective production, awareness-raising and market development. While the potential is strong, scaling up adoption of biochar in the Zambian soybean value chain will require targeted farmer training, demonstrations and integration into broader climate-smart and agroecological frameworks. Increased institutional support and continued research are essential to unlock the full agronomic and environmental benefits of biochar use in soybean production (FAO, 2022; Wu *et al.*, 2022).

Sources:

FAO. 2022. Climate-smart agriculture implementation in three districts of Zambia: Choma, Petauke and Nyimba. Preliminary results from the assessment of the baseline scenario. Presentation by Dr Tiziana Pirelli (FAO), Climate Smart Agriculture consultant, at Stakeholder Meeting in Nyimba District, 15 November 2022.

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Yooyen, J., Wijitkosum, S. & Sriburi, T. 2015. *Increasing yield of soybean by adding biochar. Journal of Environmental Research and Development, 9(4)*: 1066–1074. https://tinyurl.com/4s5m6swn

Post-harvest losses: Such losses are high in soybean production among smallholder farmers in Zambia, with critical loss points being during harvesting, threshing, winnowing and storage (RoZ and WFP, 2022). Threshing and storage practices differ significantly between small-scale and commercial farmers in the country. Commercial farmers use mechanical threshers, which are efficient, reduce labour demand and minimize post-harvest losses. In contrast, small-scale farmers, including youth, rely on labour-intensive and damaging methods such as hitting beans with sticks or driving tractors over them, leading to high bean breakage and losses (FAO and UNIDO, 2025). Storage practices also differ, with small-scale farmers typically storing soybeans in 50 kg polythene bags and stacking them on raised wooden platforms in houses that have poor ventilation and high temperatures during the hot season, increasing the risk of insect attacks (Roz and WFP, 2022). By contrast, commercial farmers use on-farm storage facilities such as metal silos, which allow for maintaining stable temperatures, lower risk of pest attack and facilitate aggregation and storage before market delivery (FAO and UNIDO, 2025).

According to a recent study by the Republic of Zambia and WFP (2022), the cumulative post-harvest loss for soybeans across the value chain was 33.65 percent, highlighting significant inefficiencies. Harvesting accounted for the

highest losses at 9.05 percent, followed by threshing and shelling with 8.98 percent of loss. Winnowing is another critical stage, with losses of 7.32 percent recorded. Smaller losses of 2.71 percent were recorded during transport from field to homestead, while on-farm drying results in 2.92 percent loss and on-farm storage incurred a loss of 2.67 percent (RoZ and WFP, 2022). No significant losses were found to occur during on-farm trading, transport to off-farm trading places or off-trading, again highlighting the vulnerability of smallholder farmers who shoulder the majority of post-harvest losses. These findings emphasize critical areas for intervention and opportunities for youth to establish much-needed businesses in mechanization services, especially harvesting, threshing and grain cleaning, which can significantly reduce food losses.

Key insights: Opportunities for youth engagement to enhance sustainability of soybean production in Zambia

- **Expanding youth access to entrepreneurship and financial support through strengthened linkages with incubation hubs and financial institutions can catalyse youth-led investment in critical services for smallholder farmers, such as certified seed supply and mechanization. This would enhance yields and improve farmer incomes while generating employment opportunities for youth.**
- **Promoting small-scale mechanization for processing and reducing post-harvest losses is essential for improving the economic sustainability of the soybean value chain and presents strong entry points for engaging both young men and young women.**
- **Addressing persistent social norms in terms of gendered division of labour, together with adequate training, access to finance and entrepreneurship support, could facilitate the participation of women in other, more economically rewarding, nodes of the value chain, such as input distribution, aggregation and processing.**
- **Additional efforts should be undertaken to increase awareness of business formalization requirements, costs and benefits. Specific incentives, such as at least 6 months grace period, could be given to young agripreneurs interested in formalizing their businesses. Further strengthening the youth cooperative model with more-effective business management support could be a first step towards formalization of youth-led businesses. It would also contribute to strengthening youth access to resources, collective action and voice. Specific incentives might be needed to subsidize the membership fees of more vulnerable youth.**
- **Engaging youth as champions for prevention of child labour and raising awareness of occupational safety and health could make a significant contribution to the social sustainability of the soybean value chain, if paired with ways to subsidize access to personal protective equipment for rural youth. Improving rural livelihoods is also a key strategy adopted by the National Action Plan for the Elimination of the Worst Forms of Child Labour 2020–25 to prevent child labour, and child labour awareness measures should be included in all training and youth employment support activities conducted.**
- **Additional efforts are needed to contribute to behavioural change at both household and community level towards accepting a more equitable distribution of household and child-care responsibilities and empowering young women.**
- **Training in climate-smart practices, including efficient irrigation, water management solutions, conservation farming and integrated pest management, will be critical for youth to adapt to more sustainable practices.**

CHAPTER 5

Strengths, weaknesses, opportunities and threats summary

Table 6 summarizes the analysis of strengths, weaknesses, opportunities and threats (SWOT) in the context of the soybean value chain, as presented in the previous chapters. The root causes of weaknesses are also identified as well as specific youth employment opportunities.

TABLE 6

Summary of strengths, weaknesses, opportunities and threats in the soybean value chain in Zambia

STRENGTHS	WEAKNESSES
• **High level of smallholder participation in soybean farming**, indicating broad-based engagement and potential for inclusive value chain development. • **High return on investment for small-scale producers**, with gross margins often exceeding 100 percent per season. • **Public support mechanisms** like the Farmer Input Support Programme incentivize soybean production and input access for smallholders. • **With approximately 700 000 people involved**, the soybean value chain represents a major source of livelihoods. • **Favourable growing conditions** for soybean in Central and Eastern provinces. • **Adequate availability of natural resource**s such as land and water supports sustainable soybean production. • **Soybean is a flexible crop with multiple value-added products and diverse end-markets** (e.g. food, feed, oil), increasing resilience and market opportunities. • **Strategic geographic position** of Zambia for soybean production and export within the southern African region. • **Efficient youth cooperative registration process** supported by coordinated efforts of Ministry of Agriculture and Ministry of Small and Medium Enterprise Development, fostering youth organization and engagement. • **Emerging vertical coordination among value-chain actors**, in particular presence of established commercial seed multipliers, especially in Eastern Province, actively engaging youth groups, supporting youth inclusion and skills development in upstream soybean activities. • **Soybean improves soil health** through nitrogen fixation and is well-suited for intercropping, supporting sustainable and diversified farming systems. • **High proportion of rural youth already engaged in agriculture** (53 percent) and positive attitudes of youth towards agriculture	• **Low productivity among small-scale farmers** (0.8–1 t/ha), limiting competitiveness and income potential for youth. *Due to:* poor agronomic practices, inadequate extension services, low access to finance. • **Limited access to quality inputs**, especially certified seed, leading to seed recycling and limited yields. *Due to*: centralized seed production and limited access to foundation seed for breeding, high costs, poor rural distribution and weak last-mile service models; lack of irrigation, limiting to only cycle per year; few seed certification officers to approve new seed production areas and inspect seed. • **Limited mechanization and labour-intensive practices**, especially for land preparation, harvesting and threshing, which reduce efficiency, increase post-harvest losses and disproportionately affect women. *Due to*: high equipment costs and limited access to finance, limited supply of mechanization services due to financial constraints faced by suppliers; and weak rural repair/service markets. • **Skills mismatch and inadequate youth-focused training**, hindering youth entry and growth in value-chain enterprises. *Due to*: expanding but still limited offer of technical education, vocational and entrepreneurship training; gap in agricultural advisory services and training curriculum for soybean value chain; minimal offer of financial literacy and entrepreneurship support in rural areas – the few incubators are dependent on project funding and youth unable to pay related fees. • **Barriers to youth entrepreneurship and formalization** *Due to:* complex business registration processes; weak financial literacy; low asset base and limited institutional support. • **Restricted access to finance for youth** and micro-, small- and medium-sized enterprises (MSMEs), limiting investment in inputs, mechanization or processing. *Due to*: high collateral requirements and interest rates; youth and agriculture considered high risk due to poor financial literacy and financial management skills; limited options for financial service providers to mitigate perceived risks (e.g. absence of youth-focused guarantee schemes, lack of youth formal credit history); and limited reach and effectiveness of empowerment funds due to lack of monitoring and evaluation and poor targeting. • **Underdeveloped youth-led or MSME soybean processing**, limiting downstream job creation. *Due to:* lack of processing equipment; poor access to working and investment capital; and poor rural infrastructure. • **Limited youth representation in decision-making spaces**, weakening their voice. *Due to:* fragmented youth networks and low capacity for collective action or advocacy. • **Restrictive gender and social norms**, limiting youth and especially women's participation and control over productive resources. *Due to:* challenge in dividing time between the cooperative/ personal farms and parents' farms; early marriage, high rural fertility rates and entrenched gender norms around division of labour, child care and asset ownership. • **High levels of informal and low-quality employment** among rural youth in the soybean value chain, with limited protection or progression opportunities. *Due to*: absence of formal job pathways; and limited occupational safety and health safeguards and access to personal protective equipment.

»

OPPORTUNITIES	THREATS
• **Attractive market conditions** with strong prices and rising demand drive farmer interest and profitability. • Unexploited demand for certified soybean seed presents **new business opportunities for youth in seed multiplication**. • Growing demand for **mechanization services** (planting, harvesting, threshing) and related maintenance and repairing, especially to support women farmers, offers **business opportunities** for youth entrepreneurs. • Increasing engagement of farmers in soybean generates **potential for youth-led extension and advisory services** integrating digital tools to promote climate-smart soybean production. This includes linking youth extension agents with input suppliers and outgrower schemes. • Strong and growing demand from domestic and regional markets for soybean products (e.g. oil, animal feed, food products) creates **opportunities for community-based and MSME processors, including youth**, to enter and expand in the value chain, addressing the current concentration and limited geographic spread of large processors. • **Enabling policy environment supportive of both soybean and youth development**, including the Eighth National Development Plan 2022–2026, the Comprehensive Agriculture Transformation Support Programme, Youth Policy, National Mechanization Strategy and National Soybean Strategy designed with support of FAO and the United Nations Industrial Development Organization. • **Growing youth population:** with 36 percent of the population aged 19–34 and 77 percent below 35, the youthful demographic of Zambia presents a potential opportunity for the agrifood system through increased labour availability, innovation and entrepreneurship, provided that enabling conditions such as skills development, access to finance and market opportunities are in place. • **Supportive cultural norms and policies enabling youth access to land**, with parents and elders willing to allocate land to young people.	• **Climate change impacts**, particularly droughts, increase soybean production risks, especially for rainfed small-scale producers and youth, who are less likely to access mitigation and adaptation tools (e.g. solar pumps, irrigation, insurance) due to weak asset base and limited access to finance. • **Deforestation and land clearing** linked to soybean expansion raise environmental sustainability concerns and regulatory risks, with potential reputational and market-access risks in the future for youth-led enterprises involved in unsustainable practices. • **Soil degradation** is being caused by monocropping and increasing application of synthetic fertilizers and pesticides in a context of limited knowledge of sustainable practices (e.g. rotations, integrated soil fertility) and limited access to organic inputs, which undermine long-term returns. • **Pest and disease outbreaks** (e.g. soybean rust) increase production costs and reduce yields, with new youth farmers more vulnerable due to lack of experience and reduced capacity to recover from crop loss. • **High price volatility and unpredictable government interventions** (e.g. price controls, export bans) reduce investor confidence and youth participation.

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CHAPTER 6

Proposed interventions

This chapter moves from analysis to design. Drawing from the analysis of value-chain (VC) constraints and youth employment opportunities, it outlines potential intervention areas for the ICA-4 project. The proposed actions aim to address the root causes of major bottlenecks, with an emphasis on sustainability and scalability to ensure that local systems can maintain, expand or replicate the interventions beyond the project's duration. In prioritizing these intervention areas, the project recognizes the need for an integrated approach and the importance of leveraging the broader policy context (Annex D). It also acknowledges the presence of multiple organizations and interventions operating in and supporting the soybean VC. The project therefore seeks to position itself as part of the larger VC system, creating synergies and avoiding duplication. What follows is a draft action plan for the ICA-4 project, intended to be iterative and adaptable as new market insights emerge or sector conditions evolve. Beyond the ICA-4 intervention, the report emphasizes that realizing the full potential of the Zambian soybean VC for youth employment requires a coordinated effort among multiple stakeholders (see **Annex B**). Such collaboration should leverage the country's generally supportive policy environment while targeting existing implementation gaps. To guide this, Annex A outlines a broader set of recommendations to address the key constraints identified and their root causes.

6.1. Intervention areas and their rationale

The ICA-4 intervention strategy targets three areas of intervention:

1) Enhance youth engagement in seed multiplication through contract farming to improve the supply availability and reduce the costs of certified soybean seed.
2) Enable youth to harness existing market opportunities in mechanization service provision and local processing by facilitating access to finance for youth groups through collaboration with financial service providers and equipment leasing companies, together with technical training, entrepreneurship support and linkages to offtakers.
3) Strengthen youth agency and address gender norms related to the division of labour in the household that limit the participation of young women.

The selection of the three ICA-4 intervention areas is based mainly on the SWOT analysis (Chapter 5), which identified key opportunities to promote decent youth employment in the value chain in collaboration with youth and other market actors. The following paragraphs describe these opportunities in more detail.

6.1.1 Rationale for Area of Intervention 1: Enhance youth engagement in seed multiplication through contract farming

As described in the previous chapters, the low yields among small-scale soybean farmers are primarily due to the still-limited adoption of improved inputs, including certified soybean seed. Even though farmers' adoption of improved seeds has been increasing over the years (as discussed in section 3.2.2.1), access to certified seed remains particularly challenging for small-scale farmers, including youth, due to limited availability and high costs, which pushes them to use recycled seed. ICA-4 interviews confirmed the soybean farmers recognize the benefits of using certified seed over recycled seed. They also confirmed that farmers are willing to purchase and increase their use of certified seed. However, while the current average price of soybean seed is around ZWM 34/kg, the farmer cooperatives interviewed indicated that they would be willing to pay on average ZMW 27/kg for certified seeds (Box 7).

On the supply side, seed companies consulted recognize this unmet demand but note that seed production is expensive, limiting their ability to lower prices. Expanding contract farming for seed multiplication is seen by many as a promising solution to reduce production costs and increase seed availability through economies of scale. Companies such as SeedCo, Good Nature Agro, Share Africa, Afriseed and Kamano are already contracting seed grower groups, including youth, to increase the production of soybean seed, but the scale remains below its full potential. They also see opportunities to expand these arrangements by engaging more youth in their models, either as contracted seed growers or as company employees in research, development and extension roles. ICA-4 interviews confirmed strong interest among youth to engage in and expand soybean seed production.

However, seed companies face several challenges in realizing these opportunities. High search and training costs to identify and support qualified seed growers and a shortage of qualified seed certifiers constrain the expansion of certified seed production. Climate-related risks (e.g. droughts) and limited irrigation add further uncertainty, while access to finance for investment in irrigation remains limited. ICA-4's pilot aims to help address these supply-related constraints and support seed companies in reaching their full potential through their increased engagement with youth.

ICA-4 deliberately places less emphasis on the demand side of seed supply as other initiatives are already active in this area, such as those led by seed companies, soybean offtakers, government agencies and development programmes (as noted in sections 3.2.2 and 3.2.3).

6.1.2 Rationale for Area of Intervention 2: Enable youth to harness existing market opportunities in mechanization service provision and local processing

Mechanization remains almost entirely absent on small-scale farms, which rely heavily on animal draught power for land preparation and manual labour for harvesting and post-harvest activities, especially threshing. Without mechanization, these activities are not only expensive but also physically demanding and potentially hazardous. Small-scale farmers interviewed express a strong desire to improve their productivity by adopting mechanized services but face financial constraints that prevent them from purchasing or renting machinery or services.

The demand for mechanization services is not fully met. While many farmers cannot afford to purchase machinery, service providers report growing demand for threshing and other mechanization services that they are currently unable to meet. This suggests the presence of a segment of small-scale farmers who would be able and willing to pay for mechanization services, if they were available. On the supply side, service providers face significant barriers including limited technical expertise, high start-up costs and limited access to finance. Most of the service providers interviewed indicated having used their own savings or borrowed from family to start their businesses. Financial constraints are even more

pronounced for youth mechanization service entrepreneurs.
There is strong local demand for soy-based processed products, especially soy chunks (textured vegetable protein) and animal feed among small-scale poultry and fish farmers. However, similar to mechanization services, the local demand for processed soybean products is unmet. Commercial processors also reported being unable to procure sufficient semi-processed soybean products, particularly crude oil, for further processing. This is due to various challenges, including high investment costs (e.g. to buy machines), specialized technical expertise (e.g. related to processing technologies, food safety, machine operation and maintenance) and the unreliable supply and fluctuating prices of soybean as raw materials.
Therefore, there are opportunities for youth to establish and run mechanization services and small-scale processing businesses targeting local markets, and to provide machinery maintenance and repair services. However, challenges such as limited access to capital and the need for technical expertise remain key barriers. ICA-4's pilot aims to support youth-led enterprises in overcoming these barriers to fully unlock these opportunities.

6.1.3 Rationale for Area of Intervention 3: Strengthen youth agency and address gender norms

Youth representation and visibility in the VC and agrifood system more broadly remain scattered, limiting their capacity to influence decision-making and policymaking. Policy decisions that affect youth are made with minimal input from youth, who are often unable to make submissions or have a seat at the table. Furthermore, the ICA-4 assessment highlighted persistent gender inequalities in rural areas, often linked to high fertility rates and deeply rooted cultural norms. These norms contribute to women being seen primarily as unpaid labour rather than as co-managers of farming enterprises. A key driver of this inequality is the unequal distribution of household and caregiving responsibilities, which results in time poverty for women. This limits their ability to engage in training, entrepreneurship or productivity-enhancing activities. These challenges are further intensified by the intersection of gender, age and geographic location, placing rural young women in a particularly vulnerable position. While shifting entrenched social norms may be beyond the immediate scope of the project, ICA-4 should at least increase the awareness of project stakeholders and targeted communities on the importance of a fairer sharing of household and caregiving responsibilities between women and men, while training gender champions and testing related monitoring tools.

6.1.4 Profitability assessment

In addition to the opportunity-based rationale, the prioritization of ICA-4's three intervention areas is further supported by a profitability assessment of the business models in focus, namely: seed multiplication, small-scale processing and mechanization service provision (mainly threshing). The results presented here reflect the upgraded scenarios with ICA-4 interventions, while Annex H also provides details on the current scenario (without interventions) and highlights the key parameters expected to change due to the interventions.

6.1.4.1 Seed multiplication model

The profitability assessment of the seed multiplication model covers the operating accounts of both parties in a contract-farming agreement – a seed company and a seed grower group. Through these agreements, youth seed grower groups will receive advanced basic seed for multiplication. Seed companies will also provide seed growers with training on seed production and post-harvest handling. The training cost will be covered by seed growers. In return, seed grower groups will produce soybean seed and be paid by the seed companies, after the cost of the advanced inputs is deducted.
The accounts presented in Tables 7 and 8 show the annual performance of a typical seed grower group and of a seed company in the upgraded

scenario. For the seed grower group, two upgraded scenarios are presented, corresponding to two kinds of irrigation upgrades: sprinkler irrigation and drip irrigation. For the seed company, the assessment is based on a single seed grower group, meaning the seed company's accounts reflect only the costs and revenues from contracting one group, not all groups it works with.

TABLE 7

Annual operating accounts of a typical single soybean seed grower group in Zambia (upgraded scenarios – integrating the use of irrigation)

		Upgraded scenario – with sprinkler irrigation			Upgraded scenario – with drip irrigation		
	UNIT	NO. OF UNITS	UNIT COST (ZMW)	TOTAL (ZMW)	NO. OF UNITS	UNIT COST (ZMW)	TOTAL (ZMW)
Revenue							
Sales of seeds to contracting seed company	kg	63 750	13.5	860 625	63 750	14	860 625
Total revenue	**ZMW/year**			**860 625**			**860 625**
Cost			60		67.5		76.4
Pay back the basic seed and inoculum advanced by seed company	kg	3 000	42	126 000	3 000	42	126 000
Non-seed inputs							
Fungicides	litre			10 000			10 000
Weedkiller	litre			26 000			26 000
Booster	litre			20 000			20 000
Labour							
Land preparation	ZMW/year			20 000			20 000
Weeding	ZMW/year			20 000			20 000
Planting	ZMW/year			20 000			20 000
Harvesting	ZMW/year			20 000			20 000
Services (not covered in the contract)							
Tractor service (ripping)	ZMW/ha	40	1 500	60 000	40	1 500	60 000
Tractor service (moving sprinkler pivot between farms in the group)	ZMW/hour	240	850	204 000			
Threshing service	ZMW/kg	1 500	30	45 000	1 500	30	45 000
Training	ZMW/year			20 800			20 800
Insurance				6 426			6 426
Rent/lease of land or equipment	ZMW/year			3 125			3 125
Depreciation							
Water tank	ZMW/year			600			600
Solar pump	ZMW/year			1 200			1 200
Solar panel	ZMW/year			480			480
Water pipe	ZMW/year			170			170
Boreholes	ZMW/year			112			112
Centre-pivot sprinkler (solar powered)	ZMW/year			3 800			
Drip irrigation	ZMW/year						6 000
Total costs	**ZMW/year**			**481 713**			**279 913**
Operating profit (gross income)	**ZMW/year**			**378 912**			**580 712**
Net profit	**ZMW/year**			**378 912**			**580 712**
Return on sales (or net profit margin)	**%**			**44%**			**67%**
Return on investment	**%**			**79%**			**207%**

Note: More details about the upgraded scenarios are provided in Annex H

Source: Own analysis using data from:

(i) FAO and United Nations Industrial Development Organization. 2025. *Zambia's soya bean value chain analysis and strategy design 2024–2033.* Rome, FAO and Vienna, UNIDO. https://openknowledge.fao.org/handle/20.500.14283/cd4967en

(ii) field research by Musika in November 2024 and January 2025, and

(iii) consultations with seed grower groups and seed companies through workshops and bilateral meetings.

TABLE 8

Annual operating accounts of a typical seed company for a single soybean grower group in Zambia (upgraded scenarios – expanding contract farming for seed multiplication and integrating the use of irrigation)

	UNIT	NO. of UNITS	UNIT COST (ZMW)	TOTAL (ZMW)
Revenue				
Sales of seeds	kg	63 750	27	1 721 250
Seeds repaid by contracted growers	kg	7 500	27	202 500
Seed growers' payment of training fee	ZMW/year			20 800
Total revenue	ZMW/year			**1 944 550**
Cost				
Buying basic seed to advance to seed growers	kg	3 000	42	126 000
Buying seeds multiplied by seed growers	kg	63 750	14	860 625
Training seed growers	ZMW/year			27 990
Labour				
Field agent	ZMW/month	12	2 000	24 000
Manager/admin support	ZMW/month	12	5 000	60 000
Field supervisor	ZMW/month	12	5 000	6 000
Other outgrower scheme management costs	ZMW/ha			33 588
Other costs for seed production (e.g. packaging materials, inoculum, storage, seed inspection)	ZMW/year			111 960
Transportation	ZMW/t	74	1 567	116 382
Depreciation (facility, equipment)	ZMW/year			1 825
Rent/lease of land or equipment	ZMW/month	12	30 000	360 000
Breeding/R&D	ZMW/year			33 588
Financing cost (assume 9% write-off of advanced input costs due to grower default)	ZMW/year			10 125
Total costs	ZMW/year			**1 772 084**
Operating profit (gross income)	ZMW/year			**172 466**
Direct tax on gross profit	%		**4%**	**6 899**
Net profit	ZMW/year			**165 567**
Return on sales (net profit margin)	%			**8%**
Return on investment	%			**9%**

Note: More details about the upgraded scenarios are provided in Annex H

Source: Own analysis using data from:

(i) FAO and United Nations Industrial Development Organization. 2025. *Zambia's soya bean value chain analysis and strategy design 2024–2033.* Rome, FAO and Vienna, UNIDO. https://openknowledge.fao.org/handle/20.500.14283/cd4967en

(ii) field research by Musika in November 2024 and January 2025, and

(iii) consultations with seed grower groups and seed companies through workshops and bilateral meetings.

6.1.4.2 Small-scale processing model

The profitability assessment of the small-scale processing model covers the operating accounts of a small-scale processing business. The upgraded small-scale processing business model focuses on producing three products: two primary products – animal feed and soy chunks – and one by-product – soybean oil, which is generated during the processing of the primary products.

The accounts presented below show the annual performance of a typical small-scale processing business in the upgraded scenarios. Three upgraded scenarios are presented, corresponding to three compositions of the processed products that the business will produce, namely:

(i) animal feed and soy chunks, plus soy oil as a by-product;

(ii) soy chunks, plus soy oil as a by-product; and

(iii) animal feed, plus soy oil as a by-product.

TABLE 9

Annual operating accounts of a typical small-scale soybean processing business in Zambia (upgraded scenarios – integrating new processed products in the model)

		Upgraded – scenario 2			Upgraded – scenario 3			Upgraded – scenario 4		
		Animal feed + soy chunks + soy oil as by-product			Soy chunks + soy oil as by-product			Animal feed + soy oil as by-product		
	UNIT	NO. OF UNITS	UNIT COST (ZMW)	TOTAL (ZMW)	NO. OF UNITS	UNIT COST (ZMW)	TOTAL (ZMW)	NO. OF UNITS	UNIT COST (ZMW)	TOTAL (ZMW)
Revenue										
Animal feed – sales	kg	94 050	16	1 469 061				118 750	16	1 854 875
Animal feed – own consumption	kg	4 950	16	77 319				6 250	16	97 625
Soy chunks – sales	kg	9 900	33	330 000	39 600	33	1 320 000			
Soybean oil – sales	litre	8 250	50	412 500	8 250	50	412 500	8 250	50	412 500
Total revenue				**2 288 880**			**1 732 500**			**2 365 000**
Costs										
Inputs										
Soybean (procured from within the value chain)	kg	41 250	10	412 500	41 250	10	412 500	41 250	10	412 500
Other raw materials for feed				692 000						692 000
Electricity	ZMW/month	12	6 000	72 000	12	2 000	24 000	12	4 000	48 000
Packaging bags	bag	5 000	15	75 000	2 500	15	37 500	3 750	15	56 250
Services										
Transportation	ZMW/year			15 000			15 000			15 000
Machine repair	ZMW/month	12	500	6 000	12	500	6 000	12	375	6 000
Fees										
Fee paid to Zambia Bureau of Standards	ZMW/ quarter	4	7 500	30 000	4	5 000	20 000	4	5 000	20 000
Labour										
Operator	ZMW/month	12	6 000	72 000	12	6 000	36 000	12	3 000	36 000
Caretaker	ZMW/month	12	1 000	12 000	12	1 000	12 000	12	1 000	12 000
Guard	ZMW/month	12	1 000	12 000	12	1 000	12 000	12	1 000	12 000
Loader	bag of 50 kg	3 069	2	6 138	3 075	2	6 150	3 075	2	6 150
Pellet production	t	99	250	24 750				125	250	31 250
Deprecation										
Feed processing machine (mixer)	ZMW/year			16 000						16 000
Pellet machine	ZMW/year			15 333						15 333
Hammer mill	ZMW/year			26 800						26 800
Extruder	ZMW/year			30 000			30 000			
Oil mill	ZMW/year			24 000			24 000			24 000
Oil filter	ZMW/year			12 000			12 000			12 000
Total costs	**ZMW/year**			**1 553 521**			**647 150**			**1 441 283**
Operating profit (gross income)	**ZMW/year**			**735 359**			**1 085 350**			**923 717**
Direct tax on gross profit	**%**		**4%**	**29 414**		**4%**	**43 414**		**4%**	**36 949**
Net profit	**ZMW/year**			**705 944**			**1 041 936**			**886 768**
Return on sales (net profit margin)	**%**			**31%**			**60%**			**37%**
Return on investment	**%**			**45%**			**161%**			**62%**

Note: More details about the upgraded scenarios are provided in Annex H

Source: Own analysis using data from:

(i) FAO and United Nations Industrial Development Organization. 2025. *Zambia's soya bean value chain analysis and strategy design 2024–2033.* Rome, FAO and Vienna, UNIDO. https://openknowledge.fao.org/handle/20.500.14283/cd4967en

(ii) field research by Musika in November 2024 and January 2025, and

(iii) consultations with seed grower groups and seed companies through workshops and bilateral meetings.

6.1.4.3 Mechanization service provision (mainly threshing)

The profitability assessment of the mechanization service provision model covers the operating accounts of a small-scale mechanization service provider who delivers a threshing service for soybean. In the upgraded model, youth will offer mobile threshing services using a tractor to transport the thresher between farms where threshing is required. Therefore, the business will need both a tractor and a thresher. While investing in a good-quality tractor represents a significant additional cost compared with the current scenario, it is justified for two main reasons. First, existing threshing service providers struggle to move their equipment between farms due to a lack of tractors, limiting their ability to serve multiple clients. Second, owning a tractor will not only support the threshing service but also provide additional income opportunities: when not in use for threshing, the tractor can be rented out to farmers and other service providers for land preparation and planting activities, which occur outside the harvesting period when threshing is needed. The accounts presented below show the annual performance of a typical small-scale mechanization service provider in the upgraded scenarios.

TABLE 10

Annual operating accounts of a typical small-scale mechanization service provider in Zambia (upgraded scenario – buying a tractor to move the thresher and renting out the tractor outside the harvesting period)

	UNIT	NO. of UNITS	UNIT COST (ZMW)	TOTAL (ZMW)
Revenue				
Threshing service fee (soybean only)	50 kg bag	4 800	40	192 000
Tractor renting fee	ZMW/day	30	4 250	127 500
Total revenue				**319 500**
Cost				
Inputs				
Fuel	litre	300	33	9 900
Engine oil	litre	48	100	4 800
Services				
Telecommunication	ZMW/day	150	200	9 900
Transport	ZMW/year			6 350
Machine maintenance/repair	ZMW/month	5	330	1 650
Insurance				
Tractor insurance	ZMW/year			1 200
Labour				
Thresher machine operator	ZMW/month	10	875	8 750
Manager	ZMW/month	12	2 000	24 000
Marketing	ZMW/month	12	2 000	24 000
Rent				
Office/warehouse	ZMW/year			66 000
Depreciation				
Thresher	ZMW/year			27 990
Tractor	ZMW/year			24 071
Total costs	ZMW/year			**208 611**
Operating profit (gross income)	ZMW/year			**110 889**
Direct tax on gross profit	%		**4%**	**4 436**
Net profit	ZMW/year			**106 453**
Return on sales (net profit margin)	%			**33%**
Return on investment	%			**51%**

Note: More details about the upgraded scenarios are provided in Annex H

Source: Own analysis using data from:

(i) FAO and United Nations Industrial Development Organization. 2025. *Zambia's soya bean value chain analysis and strategy design 2024–2033.* Rome, FAO and Vienna, UNIDO. https://openknowledge.fao.org/handle/20.500.14283/cd4967en

(ii) field research by Musika in November 2024 and January 2025, and

(iii) consultations with seed grower groups and seed companies through workshops and bilateral meetings.

6.2. Intervention activities

In each of the three intervention areas, ICA-4 applies a market-systems development approach to help market actors improve their functions and performance rather than taking over these functions directly. In practice, this means the project provides indirect, facilitative support to address the structural constraints that limit market actors' incentives and capacities to perform effectively. To this end, the project will jointly implement with market actors selected pilots of innovative upgrades aimed at addressing these constraints. Once proven successful, these pilots will serve as proofs of concept to help encourage more actors and partners (technical, financial) to participate and scale up these innovations within the soybean value chain and beyond. An overview of ICA-4's facilitatory support is elaborated below. Aspects of gender equality, disability inclusion and environmental sustainability will be promoted whenever possible, as cross-cutting priorities.

6.2.1 Intervention area 1: Enhance youth engagement in seed multiplication through contract farming

Activity 1a. Enhance and expand contract-farming agreements between seed companies and youth groups for the multiplication of climate-resilient soybean seed

For this, the project could identify youth groups in Central and Eastern provinces interested in seed production and facilitate the establishment of contract-farming agreements between them and seed companies. This would help reduce the costs seed companies incur when searching for suitable, qualified growers.

To make soybean seed more affordable for small-scale farmers, seed companies could consider offering seed at a lower unit price of around ZMW 27/kg, which is the level that soybean farmers can afford and are willing to pay (**Box 7**). For seed companies, a lower unit price could be offset by higher overall sales resulting from increased seed production. This increase in supply is expected to come from a combination of factors: expanding contract farming (as more growers produce greater seed quantities); promoting irrigation and climate-smart production practices to boost productivity and reduce seed loss; and encouraging the use of insurance to mitigate risks (see Activity 1b).

To facilitate scaling, the project will pilot a youth-friendly contract-farming scheme with selected youth groups and seed companies, demonstrating a practical and replicable model for youth engagement in seed multiplication. Through the pilot, the project will facilitate youth access to training on seed multiplication in partnership with the Seed Control and Certification Institute (SCCI). It will also support related innovations, including blended training approaches, to reduce the cost of future training. Through the implementation of the pilot, the project will identify and address potential barriers in partnership with seed companies and SCCI and promote transparent contracts that reduce risks for both companies and youth. It will also strengthen youth connections with financial partners, making co-investment in the model more feasible and affordable. Additionally, together with partner seed companies, the project will facilitate awareness-raising activities at provincial and national levels – engaging public institutions, youth organizations and additional seed companies – to position seed multiplication as a viable and attractive livelihood opportunity for young people, paving the way for broad adoption and lasting impact.

Activity 1b. Promote the use of irrigation, insurance and climate-smart production practices in seed multiplication by demonstrating their profitability and facilitating youth access to finance

Both seed growers and seed companies interviewed emphasize the challenges posed by climate change, such as droughts and the consequent risk of seed losses. Nevertheless, the adoption of irrigation, insurance and climate-smart production practices is only incipient.

The project will partner with seed companies, insurance developers, financial service providers (FSPs), SCCI and centres of the Technical Education, Vocational and Entrepreneurship Training Authority (TEVETA) to design and test youth-friendly solutions that are financially accessible and scalable (e.g. simplified insurance products that overcome current data requirements). By engaging market actors such as irrigation and insurance providers in the design and pilot testing of youth-tailored services and innovations, the project will reduce the cost and risk of initial piloting for all partners, thus motivating service providers and seed companies to continue and scale up efforts beyond the duration of the project.

To bridge the financing gap that youth face, the project will provide catalytic matching grants, coupled with support to access loans from banks, microfinance institutions and leasing companies. These grants will help youth to in invest in integrated irrigation systems – such as rainwater harvesting combined with borehole irrigation and solar pumps – while building their credit history. Matching grants are designed as a catalyst for further investment by youth and to attract loans from financial institutions. Therefore, to guarantee a more sustainable financial inclusion for youth, the project will work with FSPs to strengthen their capacity to assess youth creditworthiness and develop better tailored products, while ensuring that business development service providers and seed companies join forces to strengthen the business and financial capacities of youth groups. When combined with the use of formal outgrower contracts, these factors will reduce the risk perceived by FSPs in working with youth. Youth will also be encouraged to adopt an incremental approach to reinvest their seasonal profits in additional irrigation improvements each season. While the project does not aim to develop long-term financial solutions during its two-year duration, it seeks to facilitate and test access to finance for participating youth groups and, through this process, identify models or products that could be sustainable and scalable in the longer term. Another alternative to be explored is facilitating discussions between seed companies and FSPs to encourage seed companies to invest in irrigation infrastructure and extend support to their outgrower groups.

To further introduce climate-smart and sustainable practices into the pilots, the project will facilitate partnerships between universities, NGOs experimenting with biochar and seed growers to test production and use of biochar. Produced from local residues and agricultural waste, biochar can improve soil fertility, enhance water retention and support root development while reducing dependence on costly chemical fertilizers. Lessons from these pilots will be shared with companies and other market actors to encourage broader uptake.

Overall, by supporting the piloting of these innovations, the project can provide proof of concept, demonstrating their commercial viability and clear benefits for all parties involved – seed companies, service providers and youth seed growers. This evidence, in turn, will incentivize service providers to adopt and adapt youth-tailored services to better support youth to engage in seed multiplication. In addition to being delivered by service providers, part of this support could be embedded directly into contract-farming agreements with seed companies, engaging FSPs and other service providers in the process to ensure sustainably and scalability after the project ends (see Activity 1c).

Activity 1c. In parallel with and as an alternative or complement to 1b, promote bundling of support services by seed companies in integrated contract-farming models

Under typical existing outgrower agreements, seed companies already provide their contracted growers with financial support (in the form of advances of inputs) and training on seed production and post-harvest handling (usually paid for by seed growers), in partnership with institutions such as SCCI. Building on this foundation, the project could work with seed companies to pilot more integrated bundling of critical services, such as insurance, irrigation and entrepreneurship support, in their contract-farming models and provision of occupational safety and health (OSH) support such as access to personal protective equipment (PPE). Bundling services and inputs is common in Zambia and is already used by various companies (e.g. Mayfair insurance company and their clients) and development initiatives (e.g. Farmer Input Support Programme, World Food Programme), offering a solid basis for adaptation to seed multiplication.

Through the pilot, the project could support seed companies in testing and refining approaches for providing bundled support to their contracted growers. For example, irrigation assets could be initially owned by the seed company and lent to or rented by youth seed growers until they can buy their own equipment in subsequent seasons. Since limited financial capital is a constraint for many seed companies, providing bundled services can be challenging. The project's support to youth – through matching grants for irrigation and facilitation of linkages for youth to FSPs (as mentioned in 1b) – can reduce the financial burden on companies in delivering these services. Additionally, the project could facilitate linkages with FSPs for seed companies to access affordable capital for bundling of goods and services in the outgrower contract.

In parallel, the project would work with technical education, vocational and entrepreneurship training centres, incubators and business development service providers to streamline and adapt entrepreneurial and technical training for youth. This will enhance youth's capacities as seed growers, which will in turn reduce the costs and risks for seed companies when contracting youth and delivering bundled services to youth.

By supporting seed companies to pilot more integrated bundling in contract-farming mechanisms, the project will help companies to test and refine their models, showing how combining inputs, insurance, irrigation and training can boost yields, enhance crop quality and increase profitability for both growers and companies. This proof of concept will give piloting companies the confidence to scale the model within their own operations and encourage other companies in the sector to adopt similar approaches.

6.2.2 Intervention area 2: Enable youth to harness existing market opportunities in mechanization service provision and local processing

Activity 2a. Facilitate pilot access to finance for youth groups through collaboration with FSPs and equipment leasing companies, with a view to identifying sustainable and scalable models

The project could identify youth groups interested in financing and leasing options for machinery (e.g. threshers connected to small tractors, local processing equipment) and explore partnership with FSPs and leasing companies. As in seed multiplication, the project could provide matching grants to partially cover the investment costs for essential machines and equipment (purchase of thresher, purchase or renting of tractor), which in many cases are unaffordable for youth, coupled with support for accessing loans from FSPs. The project should also make sure that lessons learned from its pilot informs existing public

programmes, both for grants and loans, such as the Consortium of African Youth in Agriculture and Climate Change and the Citizens Economic Empowerment Commission in addition to the FSPs included in the pilot, to ensure local systems are equally strengthened. Over time, as the business model proves its viability and remains profitable, matching grants and technical support can be gradually phased out and replaced by incremental youth investments and loans from financial institutions.

Activity 2b. Establish connections between youth groups interested in engaging in threshing services, other large-scale projects supporting mechanization efforts and government decentralized support structures for mechanization for enhancing youth skills and connections in the value chain

The project could facilitate enhanced linkages between youth-led threshing businesses, and the mechanization service centres (MSCs) to be set up with support from the FAO Sustainable Intensification of Smallholder Farming Systems in Zambia (SIFAZ) project in selected large farmer cooperatives. Linkages should aim to facilitate knowledge exchange and coordinate operational activities, such as sharing the use of tractors, which might be unaffordable for youth. Additionally, in Eastern Province, when relevant and agreed upon, the threshing services offered by ICA-supported youth can be integrated into the overall mechanization services provided by SIFAZ-supported MSCs. This collaboration could help reduce initial investment costs for ICA-4 youth, such as overhead and fixed-asset investments, by allowing youth-led enterprises to rent machinery from MSCs to provide services to farmers, while simultaneously expanding their customer base through access to MSC networks. Additional linkages should be established with the government's Mechanization Centres of Excellence, linked to farm institutes in different provinces, including Eastern and Central provinces (such as Keembe Farm Institute in Central Province, and Katapola Farm Institute in Eastern Province). ICA-4-supported youth will be linked to these centres of excellence for training, capacity building and technical support related to the operation and maintenance of machinery. OSH awareness-raising and access to PPE should be facilitated through the institutes. Similarly, franchise options could be explored with existing threshing companies, thus helping the youth to get started with the support of experienced mechanized services professionals.

Activity 2c. Support incubators/business development service providers in testing models that are economically viable and better adapted to rural agripreneurs

Based on the ICA-4 assessment, the limited availability of local entrepreneurship support services presents a significant challenge for small and medium-sized enterprises and young entrepreneurs. Similarly, youth cooperatives have limited capacities or entrepreneurship orientation. Both public support services and private incubators have funding challenges, which limit their capacity to scale. ICA-4 could pilot innovative approaches to providing youth with accessible business development services, either through local incubators or embedded within the support they receive from offtaker companies. The use of digital tools and other remote approaches should be explored to reduce the cost of the services and their potential for scaling up. The approach proposed should be fee-based and tailored to the soybean business models (seed, mechanization, processing). It should also be tiered, progressively deepen in intensity based on the needs of the youth groups and their level of readiness (basic [group coaching, templates, light mentorship], intermediate [individual coaching, tailored business advice] and advanced [intensive mentorship, investor readiness, feasibility or market studies]). The fees might be subsidized by the project to a certain extent, but the model should be set up in a way that expects youth groups to contribute a nominal fee when their

business is functioning (e.g. after year 1). Local public institutions (e.g. district youth offices, cooperative officers) and ICA-4 private-sector partners should be engaged as co-facilitators and support partners.

Activity 2d. Connect youth processors to providers of technical training

Processing soy chunks and soybean oil for human consumption requires stricter quality and hygiene standards than feed production. Additionally, when both food and feed products are produced in the same facility, machines and production lines are often shared, making it essential to manage resources, production schedules and sanitation carefully. To help youth processors meet these standards, the project will connect youth processors to local providers of technical training on essential topics such as food safety, quality assurance and efficient production management (e.g. the University of Zambia Technology Development and Advisory Unit, TEVETA centres). Training costs would be paid or co-financed by youth, ensuring youth's commitment while making the service delivery more commercially viable. By engaging local training providers and requiring youth to co-finance training, the project facilitates a technical service delivery model that is demand-driven (youth processors as service users). This ensures youth can continue to access technical training needed to meet evolving food safety standards, strengthen their competitiveness and grow their businesses over time.

Activity 2e. Foster market connections and offtake agreements between established processing companies and youth groups for semi-processed products

For all youth engaged in processing, the project should establish connections with available marketing support entities (e.g. district marketing development officers of the Ministry of Agriculture) to help them sell to local end-consumers such as livestock farmers (for feed) and households (for chunks and oil), along with retail outlets like agrodealers and food retailers. The project could also facilitate contacts with potential local investors as an alternative. For soybean oil in particular, the project could facilitate connections with industrial processing companies, who could purchase the crude oil from youth processors and refine it into cooking oil and other products. This could later expand into other semi-processed soybean products, such as soy flour. These connections provide youth processors with a more reliable offtake market while also giving them opportunities to access training and technical support from industrial processors seeking to ensure quality standards. Additionally, securing a contract with industrial processors can also help small-scale youth processors to better access finance to improve or expand their businesses, as the contract can serve as a means to help derisk their loans.

6.2.3 Intervention area 3: Strengthen youth agency and address gender norms

3a. Strengthen youth connections and storytelling within the soybean value chain and beyond

To build stronger, more-inclusive representation of youth in agriculture, it is essential to enhance both the networking and communication capacity of youth involved in the soybean value chain. The project could support the formation of informal, provincial-level youth groups, starting with its direct beneficiaries. These local groups could then be linked to national youth networks and organizations, with the potential to develop crop- or sector-specific chapters, such as one focused on soybean. Beyond network building, there is a need to strengthen youth voices in policy dialogue and storytelling. National and provincial youth networks could be supported to improve their communication and advocacy skills – particularly in generating people-centred narratives that spotlight the diversity of youth experiences. These might include stories of young

women overcoming barriers, youth with disabilities innovating in farming or successful young agripreneurs in soybean or related sectors. These stories can play a powerful role in challenging stereotypes, inspiring peers and informing policies and programmes. The project will then leverage its multistakeholder partnerships, including local institutions, incubators, private-sector actors in the soybean value chain and youth-serving civil society organizations, to give visibility to those success stories and promote powerful role models, while encouraging youth-led dialogues at community and district level (see 3b). Throughout, the project should apply gender equality and social inclusion principles (FAO, 2024) to ensure that youth from marginalized groups are not only represented but actively shaping these platforms and narratives.

3b. Raise awareness about discriminatory gender norms at community and district levels and engage champions for questioning them

In partnership with national organizations experienced in gender equality promotion in Zambia, the project could engage in the coaching of gender-transformative champions in the soybean value chain and at community level (including youth). A simple household-responsibilities tracking tool could be developed, together with ward development committees and youth researchers to generate locally owned data on unpaid care burdens constraining young women's productivity. The latter would inform sensitization workshops with young women and their families including husbands and parents to encourage increased involvement of young men in household chores and caregiving responsibilities. Similarly, youth-led community, district and value-chain dialogues and events could be organized to shed light on discriminatory gender norms and promote positive alternatives and role models. Finally, a youth-targeted multimedia campaign on equal sharing of household responsibilities could be implemented together with national youth networks, which would be responsible for further scaling.

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Conclusion

This report, conducted under the FAO Integrated Country Approach for boosting decent jobs for youth in the agrifood system (ICA-4) project, presents a comprehensive, youth-sensitive analysis of the Zambian soybean value chain. The primary objective was to identify both existing and untapped opportunities for decent employment for young women and men in the soybean value chain, while also pinpointing key constraints and their underlying causes to inform strategic interventions.

The analysis confirms the high relevance of the soybean value chain as a promising engine for youth employment. Young people are already engaged across most segments of the chain and have strong interest in further engagement. The report highlights concrete opportunities to expand youth participation as entrepreneurs, particularly in areas including multiplication of certified seed (in partnership with seed companies), mechanization services (specifically threshing) and small-scale processing of soy-based feed and food products (e.g. soy chunks, soy oil).

The report outlines a set of recommendations aimed at driving sustainable and inclusive engagement of youth in these opportunities. These span across systemic upgrades to business models, the enabling environment and governance structures. Importantly, the report emphasizes that unlocking the full potential of the soybean value chain for youth employment requires an integrated, multistakeholder approach that leverages the country's supportive policy framework while addressing persistent implementation gaps. The proposed upgrades seek to overcome critical, interconnected constraints – including limited access to finance, weak entrepreneurship and business support systems, prevailing gender and social norms and deficits in decent work such as informality, occupational safety and health risks, and child labour.

Finally, the report puts forward a targeted set of interventions for consideration under the ICA-4 project. These are designed to address root causes of major constraints – in close collaboration with market actors – to catalyse transformative change and foster decent work opportunities for rural youth in Zambia. The proposed interventions fall under three main intervention areas:

1. **Enhancing youth engagement in seed multiplication through contract farming to improve the supply availability and reduce the costs of certified soybean seeds.**
2. **Enabling youth to harness existing market opportunities in mechanization service provision and local processing by facilitating access to finance for youth groups through collaboration with financial service providers and equipment leasing companies, together with technical training, entrepreneurship support and linkages to offtakers.**
3. **Strengthening youth agency and addressing gender norms related to the division of labour in the household, which limit the participation of young women.**

Looking ahead, it is important to recognize that this analysis should serve as a dynamic foundation rather than a final blueprint. As the project progresses, the team will continue to revisit, refine and expand the findings in response to new insights, evidence and dialogue with stakeholders. This iterative approach will enable the project to adapt more effectively to the rapidly evolving soybean sector and to develop and implement action plans in close collaboration with partners.

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ANNEX A

Strategic recommendations for a youth-inclusive soybean value chain

This annex provides a list of youth-centred recommendations for the soybean value chain (VC), beyond the ICA-4 project, by main areas of upgrade, such as (i) upgraded business models for value chain actors and support service providers (i.e. an improved way of doing business); (ii) upgraded enabling environment elements, such as policies, regulations, sociocultural norms, public investment; and (iii) upgraded governance or linkages between value chain stakeholders.

Key actors for each proposed upgrade are also suggested – more information on each of them is provided in **Annex F**. These recommendations have been informed by the analysis conducted and have been validated with value chain stakeholders and youth themselves. The specific interventions selected for potential support under the ICA-4 FAO project (2024–2027) are highlighted in light green in **Table A1**.

Recommendations for youth-centred upgrades of the soybean value chain

TABLE A1
List of recommendations for youth-centred upgrades of the soybean value chain in Zambia by area of upgrade

Area of upgrade	Recommendation	Actors to engage
Upgraded business models		
Increasing the profitability and resilience of youth farmers and cooperatives engaged in soybean production	**Support young farmers and cooperatives engaged in soybean production to access training, advisory services and quality inputs and engage in crop and livelihoods diversification for increased resilience.** Access to training should be facilitated through relationships with locally based farmer training hubs run through cooperative leadership and coordinated through lead farmers.	Ministry of Agriculture (MoA), Department of Agriculture, Agricultural Advisory Services Branch, camp officers. Locally based farmer training hubs under cooperative structures. Ministry of Small and Medium Enterprises Development (MSMED), Cooperative Development and Entrepreneurship Inspectors. Financial service providers (FSPs), AgLeaseCo, technical education, vocational and entrepreneurship training (TEVET) centres and Universities (UNZA, Mulungushi). Non-profit organizations, e.g. United States African Development Foundation, Rural Development Innovations Ltd for lessons learned on cooperative models.

	Support youth farmers and cooperatives in accessing profitable markets, in particular by establishing supply chain coordination and contracts with aggregators and processors. For the latter, enhancing the farm business management skills of youth will be critical.	MoA, MSMED Aggregators, input providers, processors business development service providers, incubators
	Support youth in adopting green practices and provide targeted incentives to encourage uptake, particularly in areas such as conservation and regenerative agriculture, safe handling and storage of agrochemicals, and the production of sustainable agricultural bioproducts like compost, biochar and microbial inoculants. These practices contribute to improved soil health, input efficiency and reduced dependency on synthetic inputs in soybean production. Youth groups can be supported to produce and supply biochar locally, not only for use in regenerative farming but also to participate in carbon credit schemes or supply to agroprocessors engaged in voluntary carbon markets, creating new revenue streams. Incentives to promote adoption of climate-smart practices will be critical and could include: • premium pricing (e.g. Community Markets for Conservation [COMACO]) through sustainability certification or verified sustainable supply chains (e.g. under voluntary standards); • tax incentives or subsidies for inputs that are certified organic or bio-based; and • public procurement preferences for sustainably produced commodities (e.g. school feeding programmes sourcing from youth using certified green practices).	Entities engaged in biochar research: CaDev, Zambia Agricultural Research Institute (ZARI), Solidaridad (qualified to certify since 2025), Green Giraffe; MoA, Department of Agriculture, Agricultural Advisory Services Branch, camp officers Ministry of Green Economy and Environment (MGEE), Conservation Farming Unit (CFU) Agrodealers, NGOs, incubators Soybean processors/offtakers Carbon credit institutions (e.g. Carbon Standards International) FSPs, AgLeaseCo Agricultural Knowledge and Training Centre
	Support the access of youth cooperatives to rainwater harvesting and irrigation systems through youth-sensitive financing options (e.g. matching grants). Irrigation can help to stabilize and increase soybean productivity, contributing to food security and resilience against climate change. Furthermore, access to irrigation would allow a fully irrigated second crop to be grown during the winter/dry season and could also allow cooperatives to include vegetables in their crop cycles, thereby improving nutrition outcomes. It will be important to integrate training components on responsible management of water and land resources.	MoA, Department of Agriculture, Agricultural Advisory Services Branch, NGOs, financial institutions Pump suppliers (e.g. KickStart, SARO, Jacana)
Youth engagement in soybean seed multiplication	**Expand and strengthen existing contract-farming mechanisms for seed production operated by seed companies by including more youth groups as contracted seed growers and more bundled services.** This will create opportunities for youth both as seed growers (business owners and workers), and seed company employees supporting the mechanism (e.g. admin, field agent, field supervisor). Any youth-inclusive business model should integrate crop insurance into the input package provided to seed growers to cover risks related to seed production (e.g. yield risks, climate-related risks, pests and diseases). Furthermore, it will be important to support seed growers with access to integrated irrigation solutions combining rainwater harvesting and borehole irrigation, possibly supported by solar power, through matching grants and loan facilitation. Training youth in seed quality control with the Seed Control and Certification Institute (SCCI) and in packaging and branding for local markets would give them more autonomy.	MoA, Department of Agriculture, Agricultural Advisory Services Branch, camp officers Development partners and NGOs ZARI, SCCI, Msekera Research Institute Seed companies such as Kamano Seeds, Share Africa, Afriseed, SeedCo (Central and Eastern provinces), Good Nature Agro and their seed grower groups Insurance providers (e.g. Acre Africa, Mayfair, PULA, Professional Insurance Corporation Zambia) Pump suppliers (e.g. KickStart, SARO) and borehole drilling service providers (such as those supported by Jacana)

Youth engagement in the provision of mechanization services	**Pilot mechanization service business models with youth-led cooperatives** that can respond to the strong demand from small-scale farmers for mechanized equipment. This will create opportunities for youth not only as machinery operators and providers of rental services (e.g. hiring out equipment to others), but also as providers of machinery maintenance and repair services. Focus should be on conservation tools such as rippers, harvesters to reduce losses and multicrop threshers. Threshing in particular presents a gender-neutral opportunity for youth because threshers can be operated by both young men and young women, offering the potential for inclusive engagement of young women in provision of threshing services. A business model could promote the combined provision of threshing and irrigation services. Key training to be provided to youth include: • technical training on technologies and machine operation, repair and maintenance, and occupational safety, in partnership with TEVETA schools; • technical training on irrigation methods and sustainable water resources management; and • entrepreneurship and business management training. Equipment leasing models with pay-as-you-earn terms for youth cooperatives will be critical.	MoA, Department of Agriculture, Agricultural Advisory Services Branch MSMED, Cooperative Development and Entrepreneurship Inspectors TEVETA centres, Universities, such as UNZA-TDAU Youth cooperatives Pump suppliers (e.g. KickStart, SARO, Jacana) Thresher suppliers (e.g. SARO, CAMCO) Borehole drilling service providers (such as those supported by Jacana) Agribusiness incubators FSPs, AgLeaseCo, Value for Women Government of Zambia (GoZ) Mechanization Centres of Excellence CFU
Youth engagement in local soybean processing	**Support youth cooperatives interested in engaging in local processing to produce soy-based animal feed and soy chunks (for human consumption) targeting local markets.** Additionally, linkages should be explored with industrial processing companies as potential buyers of semi-processed soybean products such as crude oil or soy meal. It will be key to provide youth with essential skills and knowledge to effectively manage small-scale processing businesses. These include: • technical training on soybean processing technologies and best practices in areas such as packaging, waste management, food safety and quality control, and occupational safety; • machinery repair and maintenance; and • entrepreneurship and business management training. Given the high investment costs for essential processing equipment, matching grants coupled with support for accessing loans from FSPs could enable youth groups to purchase these machines and equipment. Efforts in this area should include awareness-raising and promotion (marketing) of soy-based products as a healthy, nutritious and affordable alternative to meat. Partnerships with established brands could create mentorship and co-branding opportunities. At a later stage, youth could also be supported to explore opportunities in more complex products such as soy flour or soy-based dairy alternatives.	MoA, Department of Agriculture, Agricultural Advisory Services Branch MSMED, Cooperative Development and Entrepreneurship Inspectors UNZA-TDAU Agribusiness incubators Youth cooperatives Machine providers, e.g. SARO, CAMCO Established processing companies such as 260 Brands, COMACO She Entrepreneur for networks and lessons learned
Innovating youth-targeted and localized business development services (BDS)	**Increase the availability of localized and inclusive agri-entrepreneurship support services** by leveraging provincial hubs and digital platforms. This should include the promotion of incubation services focused on green and innovative solutions that respond to local market needs. Digital tools can enhance accessibility for some youth with disabilities; however, to ensure full inclusion, additional measures such as sign language interpretation, alternative communication formats and accessible infrastructure are essential. The financial sustainability of these services – whether fee-based, subsidized or mixed – should be carefully assessed to ensure long-term viability and reach.	Existing BDS service providers like WAEC, Bongohive, Jacaranda Hub, Prospero, Cooperative college Micro-, small- and medium-sized enterprises, cooperative colleges and cooperative inspectors at district level MoA, Department of Agriculture, Agricultural Advisory Services Branch

Increased targeting of youth by FSPs	**Improve FSPs' offer for youth and soybean financing by strengthening their capacity to serve young agripreneurs.** This might include training FSPs on how to use non-traditional credit indicators for risk assessment and evaluating creditworthiness, such as mobile money transaction histories, input purchase records and cooperative membership, or by building partnerships between FSPs and soybean value chain (VC) actors – such as aggregators, processors and contract-farming schemes, to provide alternative forms of loan security, reducing the need for hard collateral.	Banks and microfinance institution (MFIs) Soybean VC actors
	Expand and strengthen financial institutions' (FIs') engagement in value-chain financing models, such as those implemented by COMACO and Good Nature Agro, by formalizing tripartite arrangements between FIs, agribusinesses and youth farmer groups. Under such a structure, offtakers would provide preseason input packages, while FIs finance additional production costs, embedding loan repayments within contractual produce sales agreements. Youth farmers would receive structured agronomic support to enhance productivity and meet quality standards, thereby improving repayment rates. This would include identifying barriers that limit FI participation and working with agribusinesses to standardize contractual arrangements that embed financing within structured value-chain transactions.	Financial institutions, AgLeaseCo Agribusinesses linked to the soybean VC
	Explore opportunities for post-harvest financing through warehouse receipt systems better adapted to the needs of youth groups. This could be implemented in areas with existing storage infrastructure (e.g. leveraging facilities operated by the Food Reserve Agency and private aggregators). However, it would require significant adaptation to accommodate smaller volumes and simpler requirements.	ZAMACE FSPs
Upgraded enabling environment		
Youth access to TEVET and extension services	Develop dedicated **soybean module and mechanization-related modules** in the TEVET official curriculum.	TEVETA
	Improve the soybean-related module for field extension facilitators by providing additional information on opportunities along the VC, prevention of child labour and provision of occupational safety and health.	MoA, Department of Agriculture, Agricultural Advisory Services Branch Ministry of Labour and Social Security (MLSS)
	Provide incentives and further strengthen the capacities of extension agents and local institutions (such as TEVET centres and business incubators) to support climate-smart business development and green innovation in the soybean VC. This should include both classroom and hands-on demonstrations on aspects of soil health management, climate-smart agriculture, water conservation techniques, waste reduction, by-product valorization and responsible natural resource management. Strengthening partnerships with agricultural research institutions, NGOs, private sector and climate experts is essential to keep curricula up to date and context-specific; innovation challenges for TEVET students could be promoted.	MoA MGEE TEVETA Development partners and NGOs TEVET centres, incubators, agritech hubs
	Further expand digital and AI-supported advisory services to soybean producers (e.g. as part of the public extension system or through the establishment of youth-led extension service platforms tailored for young soybean farmers). This would not only support young farmers engaged in soybean to efficiently access information and markets but also generate additional employment opportunities for youth in the provision of digital services. The role of local youth centres as access points for digital tools and services should be strengthened to bridge the digital divide in rural areas. In addition, telecommunications infrastructure (e.g. mobile towers) would need to be expanded, and digital literacy strengthened among MoA staff and youth farmers, cooperatives and startups (in line with the objectives of the National Digital Transformation Strategy 2023–2027.	Government institutions such as the Ministry of Technology and Science (MoTS), MoA, Department of Agriculture, Agricultural Advisory Services Branch Digital innovation and technology hubs such as BongoHive, Jakaranda Hub, Digital companies such as eMsika; e-commerce platforms such as Maano e-commerce digital platform Parastatal and private network providers (such as Airtel, MTN Zambia and Zamtel)

	Invest in accessible infrastructure in training centres, incubators, and workplaces (e.g. inclusive transportation options) to guarantee equal participation opportunities for youth with disabilities. Existing pilots should be documented for scaling up.	TEVET centres, training centres of district or provincial farmers' associations, e.g. Katete District Women Association Medium and large enterprises in the VC
	Foster regular opportunities for knowledge exchange at provincial level between training institutions and private sector, including soybean VC actors, to guarantee that the training offer is aligned to market needs. Facilitate the placement of interns, the identification of mentors and the actual recruitment of youth.	TEVETA, TEVET training centres, training centres of the MoA Value-chain stakeholders with employment needs GoZ Mechanization Centres of Excellence
Youth access to finance and entrepreneurship support services	**Improve the entrepreneurship ecosystem at provincial level** by favouring the establishment of regular formal or informal connections among different stakeholders, including incubators, youth networks and FSPs.	Existing BDS providers like WAEC, BongoHive, Jacaranda Hub, Prospero, Cooperative college FSPs Youth networks
	Implement the Comprehensive Agriculture Transformation Support Programme measure to establish a Youth Agriculture Loans Facility, as well as the Agriculture Concessional Loans Through Anchor Borrowers (ACLTAB) facility aimed at deepening financial inclusion at affordable rate, in order to grow smallholders from subsistence to commercial.	MoA FSPs, AgLeaseCo
	Make Citizens Economic Empowerment Commission (CEEC) financing more accessible to young agripreneurs by designing tiered loan products that allow young farmers to build credit gradually (e.g. starting with small loans and progressing to larger amounts based on repayment performance) and integrating digital financial services and financial data from savings groups and agribusiness cooperatives into the credit assessment process, to assess risk for applicants without formal banking records.	MSMED, CEEC, fintech firms, mobile network operators Youth saving groups, youth agripreneurs and youth cooperatives
	Make Constituency Development Fund (CDF) financing more sustainable and effective in benefiting young agripreneurs by tailoring grant allocation criteria to the realities of young farmers, ensuring that youth-specific grant categories come with streamlined and transparent application processes, technical assistance, and milestone-based disbursements to improve the effective use of funds and by incorporating a structured loan component within CDF allocations for youth who are ready to transition into formal credit.	Ministry of Local Government and Rural Development, CDF
	Create public incentives and addressing regulatory constraints to unlock more youth agribusiness financing, for instance by introducing tax incentives or concessional funding structures that encourage commercial banks to extend financing to young farmers or setting up a dedicated credit guarantee scheme targeting young farmers and agripreneurs to encourage financial institutions to expand lending to youth by mitigating perceived risk.	Policymakers Financial institutions, Commercial banks Development partners
	Support youth farmers and cooperatives' access to agricultural insurance by facilitating greater linkages combined with awareness-raising between youth and agricultural insurance companies.	MoA, Agricultural Advisory Services Branch, camp officers Insurance providers (e.g. Mayfair, PULA, Professional Insurance Corporation Zambia)

	Establish matching grant mechanisms for youth groups to support investments in key soybean production and processing infrastructure, helping them overcome barriers to market entry and value addition. These grants could co-finance the purchase of processing equipment, storage facilities and productivity-enhancing tools, with youth recipients contributing at least a minimum percentage of the total investment cost. Alternative contribution forms may be considered, including in-kind contributions such as labour, community resources or inputs. Financial services linkages and capacity building should be integrated in the model by requiring grant recipients to open and actively use accounts with partner FIs, with their grant-funded equipment potentially serving as collateral for future loans. This will make youth more "bankable" and create pathways to formal finance, by building their financial history while providing structured training in financial literacy and business management. To prevent dependency on grants, a phased approach should be adopted, where the level of financial support gradually decreases over time as beneficiaries gain greater access to private-sector financing. Partner FIs will gain experience with youth clients while developing tailored products based on their observed financial behaviours. Finally, the selection process must be transparent, merit-based and competitive, incorporating clear eligibility criteria and monitoring mechanisms.	MFIs like Vision Fund or Umino Commercial banks, e.g. the Zambia National Commercial Bank (Zanaco), First National Bank or Absa bank NATSAVE Existing BDS service providers, e.g. WAEC, Bongohive, Jacaranda Hub, Cooperative College Youth networks and organizations
Youth engagement in mechanization	**Support the implementation and monitoring of National Agricultural Mechanization Strategy 2024–28** (NAMS) to guarantee that youth, women and persons with disabilities are aware of and adequately benefit from its provisions on: • strengthening the capacity of TEVETA colleges to offer relevant training in agricultural mechanization; • establishing an agricultural mechanization fund to provide concessionary loans and matching grants; • developing and promoting customized, affordable and innovative financing products and packages in agricultural mechanization for smallholder farmers, women, youth and farmers organizations; and • promoting appropriate business models to enhance access to agricultural mechanization services for smallholder farmers, women and youth.	MoA, Department of Agriculture, Agricultural Advisory Services Branch NAMS Committee comprising sector stakeholders that could provide support and assistance in implementation and monitoring. FSPs, AgLeaseCo
Youth access to occupational safety and health (OSH) measures	**Further support and expand the provision of OSH information and training by extension/camp officers**, in partnership with the Ministry of Labour and private sector (e.g. agrochemical companies). Relevant OSH provisions should be included in extension modules for field extension facilitators and the TEVETA curriculum and related awareness-raising sessions offered to youth networks and local cooperatives. This should go hand in hand with promoting organic fertilizers and less-toxic synthetic options to reduce the risks of exposure by young farmers.	MoA, Department of Agriculture, Agricultural Advisory Services Branch, camp officers, Farmer Input Support Programme (FISP), MLSS Agrochemical companies, agrodealers Youth networks and organizations
	Explore ways to subsidize through government funding the purchase of personal protective equipment (PPE) for young farmers and cooperatives, combined with exploring solutions for scaling up with the government and the private sector.	Government of Zambia Companies producing PPE
Youth access to land	**Support the implementation and monitoring of the National Lands Policy** to guarantee that youth, women and persons with disabilities are aware of and adequately benefit from its provisions.	MoA, Department of Agriculture, Agricultural Advisory Services Branch, camp officers Traditional chiefs
Labour-market information systems and incentives to boost wage employment	**Facilitate access to information on available job offers in the soybean VC through labour offices and other digital channels**	MLSS Local labour offices
	Introduce incentives for the hiring of young workers, especially young women (e.g. wage subsidy, tax incentives, recognition and certification schemes etc.)	MLSS

Child and forced labour prevention and elimination	Continue to implement the National Action Plan for the Elimination of the Worst Forms of Child Labour 2020–25, while particularly monitoring the situation of children in hazardous work in the agricultural sector, including the soybean value chain.	Traditional authorities MLSS; MoA, Department of Agriculture, Agricultural Advisory Services Branch, extensionists Soybean VC stakeholders
	Develop specific training modules to support awareness-raising on child labour in the agricultural sector, including the soybean value chain, to be used as part of the extension and support packages provided to rural farmers, including youth (FISP, FSP, Cash Transfer Programme), and as part of community mobilization activities further engaging young champion agripreneurs.	Traditional authorities MLSS; MoA, Department of Agriculture, Agricultural Advisory Services Branch, extensionists Young champions agripreneurs, cooperatives and networks
	Foster local synergies between agricultural and labour ministries and related decentralized services, and with farmers and workers organizations and youth networks, to boost action for prevention of child labour in agriculture.	MLSS; MoA, Department of Agriculture, Agricultural Advisory Services Branch, extensionists Young champions agripreneurs, cooperatives and networks
Fostering gender equality in the soybean VC and empowering opportunities for young women	**Continue to support the implementation of the National Gender Policy 2023,** ensuring attention to and adequate monitoring of the achievement of its objectives for rural young women.	Gender division under the Office of the President Zambia Statistics Agency MoA, MSMED FSPs, AgLeasCo (Value for Women)
	Guarantee positive action to support young women agripreneurs and participation of young women in cooperatives. This could be achieved, for instance, by targeting the selection of beneficiaries to youth groups that have higher female membership, women in their management or clear objectives related to economic empowerment of women; requiring gender-equal participation in dialogues where youth representatives are invited; reserving a share of matching grants for female-led agribusinesses; providing child-care support during trainings; establishing a mentorship programme for young women that links them to established female mentors/agripreneurs.	Development and government-led programmes Agribusinesses along the VC
	Promote female champions and role models, such as entrepreneurs or innovators, to empower other young women and strengthen knowledge exchange among women.	Gender division under the Office of the President Initiatives and NGOs in support of women entrepreneurs, e.g. She Entrepreneur, WEAC Farmers organizations and associations, youth networks MoA, Department of Agriculture, Agricultural Advisory Services Branch, extensionists
	Organize local campaigns to challenge discriminatory gender norms related to child care and household responsibilities, working also with young male members of households.	Gender division under the Office of the President Initiatives and NGOs in support of women entrepreneurs, e.g. She Entrepreneur, Restless Development MoA, Agricultural Advisory Services Branch, camp officers TEVET centres and universities

Informality	**Continue to support the promotion and registration of youth cooperatives as an accessible option for business formalization for many rural youth**, including young women, but ensure that they receive adequate training and monitoring on business management after registration. Specific incentives might be considered to subsidize cooperatives membership fees for more vulnerable youth.	MSMED, Cooperative Development and Entrepreneurship Inspectors MoA, Department of Agriculture, Agricultural Advisory Services Branch, extensionists
	Increase efforts to build awareness about business formalization requirements, costs and benefits, and introduce specific incentives (e.g. a grace period for young agripreneurs interested in formalizing their businesses).	MSMED, Cooperative Development and Entrepreneurship Inspectors Patents and Companies Registration Agency BDS providers
Youth-friendly social procurement/ school feeding	**Introduce youth affirmative action in public procurement** to ensure that a given percentage of all public procurements and contracts is reserved for youth.	Government of Zambia, Ministry of Youth, Sport and Arts
	Considering the high nutritious value of soybean products, **support youth farmers and agripreneurs in participating in school feeding initiatives such as the Home Grown School Meals programme**, by linking them to primary schools.	MoA, Agricultural Advisory Services Branch, camp officers Ministry of General Education (MoGE) Youth organizations and networks, youth farmers and cooperatives
Upgraded governance		
Enhance youth collective action	**Promote youth cooperatives and strengthen them with management and leadership skills**, including how to create market linkages to aggregators for bulking and direct supply of members' products. Critical training aspects should include: raising awareness of the cooperative model and governance; financial management; sales and invoicing; go-to market strategies; customer retention; and conflict management. Training tools that may be useful include My.Coop (by FAO and the International Labour Organization (ILO)) and Start.Coop (by ILO).	MoA, Agricultural Advisory Services Branch, camp officers MSMESD, Cooperative Development and Entrepreneurship Inspectors and Cooperative College NGOs with experience in supporting cooperatives, e.g. She Entrepreneur
	Facilitate networking among local youth cooperatives in the soybean VC and between them and national youth representative organizations.	MoA, Provincial Agricultural Coordinator, District Agricultural Coordinator, MSMED Farmers organizations, including district or provincial-level farmers' associations Youth networks such as: Young Emerging Farmers Initiative (YEFI); Youth Alive Zambia (YAZ); Consortium of African Youth in Agriculture and Climate Change (CAYACC) Zambia
Youth engagement in contract farming and offtake agreements	**Expand youth engagement in contract-farming arrangements for soybean and soybean seed through integrated models that combine input provision, technical support and guaranteed market access.** To make contract-based financing more reliable, there is a need to standardize agreements between agribusinesses and farmer groups, ensuring clear quality specifications, market-linked pricing formulas and dispute resolution mechanisms. Formalized contracts could reduce lending risks and improve loan repayment certainty for FSPs that already offer agricultural lending products. Additionally, integrating digital platforms to facilitate contract monitoring, payment processing and risk management would significantly enhance expansion of agricultural VC finance. Given the challenges associated with contractual enforcement in smallholder settings, piloting new dispute resolution frameworks would also be essential to enhance trust between farmers and offtakers. Weather index insurance, modelled on FISP's insurance scheme, could be integrated to protect against climate shocks for soybean. First-loss facilities, where agribusinesses or development partners partially absorb defaults, could incentivize FSPs to expand their agricultural lending portfolios while reducing perceived risks. Young farmers need training in contract compliance and financial literacy and management. Beyond seed multiplication, seed companies can also involve youth-led seed enterprises in seed marketing, distribution and sales, particularly in underserved rural areas. As trusted actors in the value chain, seed companies are well-positioned to be strategic partners in scaling youth-inclusive seed systems, particularly when engagement models are tailored to youth realities and supported by public or NGO facilitation.	Good Nature Agro, COMACO and other companies interested in outgrower schemes Banks and other FSPs, insurance providers and development finance institutions

	Facilitate and foster market linkages and offtake agreements for youth agripreneurs and cooperatives more broadly. Structured supply relationships with processors, for instance, such as preferred supplier schemes, can boost the potential for youth integration, especially when complemented by access to finance and technical training. With the right incentives, processors can also support youth-led small and medium-sized enterprises (SMEs) engaged in upstream value addition (e.g. oil extraction, packaging or feed mixing), helping bridge the gap between production and formal markets. Digital platforms could be harnessed for linking youth producers with processors and buyers. In addition, supporting buyers and processors in terms of blockchain or mobile payment integration could improve payment efficiency and reduce disputes between farmers and offtakers.	Offtakers/processors, e.g. COMACO E-Msika, AgriFinTech solutions
Internship placement	**Promote the expansion of internship placements for youth in SMEs and large enterprises in the soybean value chain. This should include commercial processing companies, agrodealers, seed companies, mechanization service providers and aggregators.** It should build on existing internship initiatives and linkages to universities and training institutions to fill gaps in specific skills (e.g. quality assurance, engineers, carbon monitoring) while also including specific incentives for youth with disabilities.	Various SMEs and large companies along the soybean value chain COMACO (Lusaka and Eastern Province); 260 Brands Universities, TEVETA and TEVETA centres
Youth-inclusive governance of the soybean value chain	Ensure youth representation in the industry association for the soybean value chain to be established under the Comprehensive Agriculture Transformation Support Programme. This can be done by reserving seats for youth in the board and internal governance structures. In parallel, other spaces should be identified for the organized participation and formal representation of youth in agrifood system governance structures.	MoA, other actors involved in the soybean Industry Farmers' organizations, including district or provincial-level farmers' associations Youth networks such as: YEFI; YAZ; CAYACC Zambia Ward Development Committees and other local governance structures
	Give visibility to young champions in the soybean VC (male and female farmers and entrepreneurs, including youth with disabilities) and equip them with communication and mentoring skills to foster peer-to-peer support and networking. Youth could be given visibility in high-level summits, fora and expos.	MoA, MSMED Youth networks such as: YEFI; YAZ; CAYACC Zambia
	Raise awareness and facilitate experience-sharing about the specific challenges, needs and contributions of youth with disabilities in the soybean VC and the agricultural sector more broadly.	MoA; Ministry of Community Development and Social Services (MCDSS) Zambia Agency for Persons with Disabilities (ZAPD) Youth In Action for Disability Inclusion Zambia (YADIZ)

ANNEX B

Key actors

TABLE B1

Key stakeholders for youth-centred value chain development

Organization	Relevant Information
Ministry of Agriculture (MoA)	The MoA is responsible for formulating and implementing policies and programmes that promote sustainable agricultural development, food security and rural livelihoods. The ministry recognizes the importance of soybean as a key crop for improving household nutrition and income and for contributing to the livestock feed industry. It supports soybean production through extension services, research, input supply coordination and market development. The MoA also plays a growing role in promoting youth engagement in agriculture by supporting youth-led agribusinesses, encouraging youth participation in cooperatives and integrating youth into value chains such as soybean through training, input support and access to land and market opportunities. This is often done in collaboration with partners. Key actors within the MoA for youth engagement include provincial and district agricultural coordinating officers, agricultural extension officers and camp officers, the last of which are responsible for providing day-to-day extension services to youth farmers.
Seed Certification and Control Institute (SCCI) and Zambia Agricultural Research Institute (ZARI), under the MoA	The SCCI is the national authority for seed quality regulation, certification and inspection in Zambia. Operating under the MoA, SCCI plays a pivotal role by ensuring that seed produced by multipliers meets formal quality standards required for commercialization. All seed companies must collaborate with SCCI and their inspectors to be able to sell certified seed. To be a seed grower, a group or individual must register as a seed grower with SCCI and obtain a seed grower licence and the land where the seed is to be grown must be within approved (certified) areas or zones designated by SCCI. The institute will also conduct seed inspection and sampling and field inspections at various growth stages. The SCCI is responsible for training farmers and seed inspectors in seed production and standards. ZARI is the lead public research body responsible for developing and promoting improved crop varieties and sustainable farming technologies. It breeds new varieties of soybean but has limited capacity for seed multiplication.
Ministry of Youth, Sport and Arts (MYSA)	Government Gazette Notice No. 1123 of 2021 mandates the MYSA to coordinate youth organizations, youth entrepreneurship and youth skills development and act as the custodian of the 2024 National Youth Policy. However, the ministry faces several challenges in terms of staffing, funding, limited numbers of youth skills training centres and lack of structures at district level. The National Youth Development Council (NYDC), under MYSA, is mandated by law to register youth organizations, implement and coordinate youth programmes and advise the minister responsible for youth affairs on programmes related to youth development. From 2011 to 2023, more than 6 212 youth organizations were registered, in various sectors. However, in practice, the NYDC has very limited human and financial resources to fulfil this mandate and the NYDC Act No. 7 from 1986 would need to be updated to make the council more relevant to current times, especially in terms of a more decentralized structure.
Ministry of Small and Medium Enterprise Development (MSMED)	The MSMED, through its Department of Registration and Regulation, is responsible for the formalization of cooperatives and enterprises, while its Department of Cooperatives and Entrepreneurship Development promotes cooperatives and provides capacity building through business management training. It has a cooperative college, although its capacities for supporting youth cooperatives across the country are limited. The Citizens Economic Empowerment Commission (CEEC) is a statutory body under the MSMED. Its core mandate is to promote the economic empowerment of targeted citizens – especially women, youth, persons with disabilities and rural communities – through providing access to finance, business development services (BDS) and entrepreneurship support. The CEEC manages the Citizens Economic Empowerment Fund (CEEF), which provides concessional loans to small and medium-sized enterprises and cooperatives, including in agriculture.

Organization	Relevant Information
Ministry of Labour and Social Security (MLSS)	The MLSS is the institution responsible for formulating and administering labour, employment, social security, productivity and occupational health and safety policies. According to its website, its strategic objectives include fostering employment opportunities (especially for youth, women and persons with disabilities); strengthening industrial harmony and dialogue between employers and employees; eradicating child labour; improving workplace safety; and eliminating discrimination in the labour market. The MLSS oversees the Occupational Health and Safety Institute and the National Health Insurance Management Authority.
Ministry of Community Development and Social Services (MCDSS)	The MCDSS is the government body responsible for promoting social protection, community development and the rights and inclusion of vulnerable groups, including persons with disabilities, the elderly and children. It oversees key programmes related to social cash transfers, livelihoods support and disability services, working to reduce poverty and enhance social inclusion. One of its agencies is the Zambia Agency for Persons with Disabilities.
Ministry of Green Economy and Environment (MGEE	The MGEE aims to promote sustainable environmental management and drive the transition to a green economy. Its mandate includes formulating and implementing policies and strategies that address climate change, biodiversity conservation and the sustainable use of natural resources.
Ministry of Technology and Science (MoTS)	The MoTS leads the country's efforts to harness science, technology, and innovation for sustainable development, industrialization and job creation. It oversees institutions such as TEVETA and the National Technology Business Centre and plays a central role in implementing the National Digital Transformation Strategy 2023–2027.
Technical Education, Vocational and Entrepreneurship Training Authority (TEVETA)	Operating under the MoTS, TEVETA is the regulatory body responsible for overseeing technical and vocational education and training in Zambia. It accredits training providers, develops curricula in collaboration with industry and promotes skills development and entrepreneurship, particularly among youth.
Ministry of Local Government and Rural Development (MLGRD)	The MLGRD is responsible for overseeing decentralization, local governance and rural development efforts. Through its mandate, the ministry coordinates infrastructure development, rural service delivery (including markets, feeder roads and sanitation), and the implementation of the National Decentralisation Policy, which aims to empower local governance structures and enhance accountability. The MLGRD also oversees the Constituency Development Fund, a key financing mechanism for local-level development, including youth empowerment, skills training and support for small-scale enterprises, particularly in rural areas.
Ministry of General Education (MoGE)	The MoGE is the government body responsible for administering and overseeing all primary and secondary education across the country. Among its key mandates is the implementation of the Home Grown School Meals programme. Launched nationally in 2003 and rebranded in 2011, this initiative provides nutritious meals sourced from smallholder farmers – such as maize, legumes and fortified oil – to primary schools.
Gender Division	Following the 2021 administrative reforms, the former Ministry of Gender was restructured into the Gender Division, now housed under the Office of the President. The division is charged with coordinating and monitoring the implementation of national gender policies and working with line ministries and development partners to drive progress on gender equity.
Zambia National Farmers Union (ZNFU) and Conservation Farming Unit (CFU)	ZNFU serves as a key representative body for smallholder and commercial farmers across the country, including those active in the soybean value chain. The union promotes climate-resilient and conservation agricultural practices among smallholder farmers through the CFU.
Youth networks with national coverage such as the Young Emerging Farmers Initiative (YEFI) and Youth Alive Zambia (YAZ)	YEFI and YAZ are two influential youth-led and focused organizations contributing to inclusive development in Zambia. YEFI promotes youth engagement in agriculture by supporting young farmers with training, mentorship and access to resources along various value chains, including soybean. It works to empower youth as agripreneurs and advocates for their greater inclusion in national food systems. YAZ focuses on empowering young people through integrated programmes in health, rights and livelihoods, with growing efforts to support youth economic empowerment, especially among vulnerable groups. Together, these organizations offer valuable platforms for mobilizing youth, strengthening skills and fostering inclusive participation in agriculture-focused initiatives.

Organization	Relevant Information
Financial service providers (FSPs)	Financial service providers in Zambia include banks such as the Zambia National Commercial Bank (Zanaco), Absa Bank, First National Bank etc., microfinance institutions (MFIs) such as Vision Fund and Umino, rural savings and credit cooperatives and emerging fintech platforms such as Digital PayGo or Airtel Money and MTN Mobile Money. These play a vital role in enabling youth participation in the soybean value chain. Some providers, such as AgLeaseCo and select MFIs, have started offering tailored solutions such as asset leasing or group-based lending that reduce collateral requirements. However, youth-specific outreach, flexible repayment terms and financial literacy support are still limited. Strengthening partnerships between FSPs and youth-focused initiatives can help bridge these gaps and create inclusive financing models that enable youth to invest in seed multiplication, mechanization, processing and other value-adding activities.
Business development service providers (BDS)/ incubators	BDS providers and incubators offer critical support to youth agripreneurs through training, mentorship, market linkages and sometimes access to finance. However, many operate largely through project funding, which can challenge their long-term economic viability. The most relevant to the soybean value chain include the Women's Entrepreneurship Access Center, Prospero, Bongohive, the Agribusiness Incubation Trust (AgBIT) and the Youth Entrepreneurs Association of Zambia.
Seed companies	Seed companies play a critical role in strengthening the soybean value chain in Zambia by ensuring access to quality planting material. Companies such as SeedCo, Community Markets for Conservation (COMACO), Good Nature Agro, Share Africa and Afriseed actively engage small-scale farmers – both individuals and groups, including youth – as outgrowers for certified soybean seed production. These contract arrangements provide a structured entry point for youth into the formal seed market, offering access to foundation seed, technical guidance and guaranteed markets for their harvest.
Large-scale soybean processors	Large-scale soybean processors include industrial animal feed manufacturers such as Novatek, Tiger Animal Feeds and Nutri Feeds and industrial food processors such as COMACO, Mount Meru, Parrogate, 260 Brands and Willowton Oils Zambia. Their operations require consistent volumes of quality raw or semi-processed soybean, creating opportunities for youth not only as employees in processing plants but also as aggregators, agents or suppliers of cleaned grain, soybean cake or oil.

Source: Interviews conducted for the Integrated Country Approach for boosting decent jobs for youth in the agrifood system, Phase IV.

ANNEX C

List of stakeholders interviewed

TABLE C1

Stakeholders interviewed

Stakeholder group	Role of the key stakeholder	Contact name	Location	Gender	Age
Input suppliers	Agro-input dealers	Agri Express – Business owner	Mumbwa	Female	youth
		C&S Agro Dealers – Business owner	Chibombo	Female	non-youth
		MC Sangwani Agro Dealer – Business owner	Petauke	Female	non-youth
		Tilo Agro Dealers – Business owner	Nyimba	Female	youth
		Zaliro trading limited – Business owner	Chipata	Male	non-youth
	Seed company	SeedCo Zambia – Regional Sales Manager	Mkushi	Male	non-youth
		Good Nature Agro – Head of Cooperate Affairs	Chipata	Male	youth
		Stewards Globe Limited Afriseed – Chief Executive Officer	Lusaka	Male	non-youth
		Share Africa – Research and Development Manager	Lusaka	Male	youth
		SeedCo Zambia – Sales Manager	Chipata	Male	non-youth
Subtotal for input suppliers					**10**
Production	Cooperative or association	Musengwa Kusenga Sengwa	Nangoma	Mixed	youth
		Moonbird Multipurpose Cooperative	Chibombo	Mixed	youth
		Mumushili Multi-cooperative	Katete	Mixed	youth
		Kabwe District Farmers Association	Kabwe	Mixed	youth
		Kabwe Ingenious Youths	Kabwe	Mixed	youth
		Mumbwa District Women Development Association	Mumbwa	Female	youth
		Tachokela Patali	Petauke	Mixed	youth
		Mwaiona Multipurpose Cooperative	Chipata/Kazimule	Mixed	youth
		Cholinga Cooperative	Chipata	Mixed	youth
		Tambalile Youth Group	Petauke	Mixed	youth
		Nyimba District Farmers Association	Nyimba	Mixed	non-youth
	Focus group discussion–women only	11 participants	Mumbwa	Female	youth
		6 participants	Kabwe	Female	youth
		9 participants	Mkushi	Female	youth
		7 participants	Mkushi	Female	youth
		18 participants	Mumbwa	Female	non-youth
		10 participants	Nyimba	Female	youth
		10 participants	Petauke	Female	youth

Stakeholder group	Role of the key stakeholder	Contact name	Location	Gender	Age
Production	Focus group discussion–mixed	12 participants	Mumbwa	Mixed	youth
		9 participants	Mumbwa	Mixed	youth
		12 participants	Mumbwa	Mixed	youth
		6 participants	Chibombo	Mixed	youth
		12 participants	Chibombo	Mixed	youth
		19 participants	Kabwe	Mixed	non-youth
		10 participants	Mkushi	Mixed	non-youth
		7 participants	Mkushi	male	non-youth
		15 participants	Mkushi	Mixed	youth
		10 participants	Mkushi	Mixed	youth
		18 participants	Mumbwa	Female	youth
		26 participants	Mumbwa	Mixed	youth
		10 participants	Mumbwa	Mixed	youth
		12 participants	Petauke	Mixed	youth
		11 participants	Nyimba	Mixed	youth
		10 participants	Chipata	Mixed	youth
		6 participants	Lundazi	Mixed	youth
	Individual youth farmers	Youth farmer	Mumbwa	Female	youth
		Youth farmer	Mumbwa	Male	youth
		Youth farmer	Chibombo	Male	youth
		Youth farmer	Chibombo	Female	youth
		Youth farmer	Kabwe	Male	youth
		Youth farmer	Mkushi	Male	youth
		Youth farmer	Petauke	Male	youth
		Youth farmer	Nyimba	Male	youth
		Youth farmer	Lundazi	Male	youth
		Youth farmer	Lundazi	Male	youth
	Seed grower groups (contract farming)	Combined Community Markets for Conservation (COMACO)-supported group of seed growers from Chakuluma Cooperative and LUSE Cooperative – Cooperative Chair	Lundazi	Male	non-youth
		Mumushili Multi-purpose Cooperative – Cooperative Board Member	Katete	Male	non-youth
	Biochar producers	Green Giraffe Zambia limited – Co-founder	Nyimba	Male	non-youth
		Solidaridad Zambia	Lusaka	Male	youth
		Nyimba District Farmers Association – District Coordinator	Nyimba	Male	non-youth
		Export Trading Group (ETG) Zambian Fertilizers – Senior Agronomist & consultant on biochar	Lusaka	Male	non-youth
		World Food Programme – Programme Policy Officer – Market Systems Development/ Smallholder Farmer Support	Lusaka	Male	non-youth
		Catalyst Development (CaDev) – CEO & programme manager	Lusaka	Mixed	non-youth

Stakeholder group	Role of the key stakeholder	Contact name	Location	Gender	Age
Production	Machinery service providers	SARO Agro Industrial – Regional Branch Coordinator and Sales and Service Engineer	Mkushi	Males	non-youth
		CAMCO Equipment Zambia – Regional Manager	Chipata	Male	youth
		KickStart International Zambia – Zambia focal point	Lusaka	Mixed	non-youth
		SARO Agro Industrial – Agricultural Adviser	Lusaka	Male	non-youth
	Commercial farmers	Commercial farmer	Mkushi	Male	non-youth
		Commercial farmer	Mkushi	Male	non-youth
		Commercial farmer	Petauke	Male	non-youth
		Commercial farmer	Nyimba	Female	youth
	Extension entities	Ministry of Agriculture, Department of Agriculture – Agriculture Extension Officer	Mumbwa	Mixed	non-youth
		Ministry of Agriculture – Extension Officer	Kabwe	Male	non-youth
		Ministry of Agriculture – Extension officer	Mkushi	Female	non-youth
		Ministry of Agriculture – Camp Officer	Petauke	Male	youth
		Ministry of Agriculture – Farm Management Officer	Nyimba	Male	non-youth
		Ministry of Agriculture – Camp Extension Officer	Chipata	Male	non-youth
		Ministry of Agriculture – Regional Coordinator	Nyimba	Male	non-youth
Subtotal for production					**69**
Financial Institutions	Financial service providers	Citizens Economic Empowerment Commission – Provincial Coordinator	Chipata	Male	non-youth
		Agora Microfinance Zambia – Branch Manager	Mumbwa	Male	non-youth
		AgLeaseCo Agricultural Leasing Company Zambia Limited – Field Operations manager	Lusaka	Male	youth
		Agora Microfinance Zambia – Branch Manager	Chibombo	Male	non-youth
		Agora Microfinance Zambia – Branch Manager	Petauke	Male	non-youth
		VisionFund- Branch Manager	Nyimba	Male	non-youth
		Umino Community Loan Services – Chief Executive Officer	Rufunsa	Male	non-youth
		Bank of Zambia – Manager of Financial Sector Development, Examiner from Financial Conduct Supervision Department, and Senior Economist	Lusaka	Mixed	non-youth
		VisionFund – Chief Operations Officer, Chief Financial Officer, and Agribusiness Manager	Lusaka	Male	non-youth
		First National Bank of Zambia – Chief Operations Officer, Chief Financial Officer, and Agribusiness Manager	Lusaka	Male	non-youth
		Zambia National Commercial Bank – Head, Agriculture Banking	Lusaka	Male	non-youth
		NATSAVE Bank – Director Corporate Banking	Lusaka	Male	non-youth
		Absa Bank Zambia – Head Agribusiness	Lusaka	Male	non-youth
	Insurance providers	Mayfair – Agriculture Manager	Lusaka	Male	non-youth
		Pula – Commercial Director and Commercial Manager	Lusaka	Mixed	non-youth
		Acre Africa- Chief Operation Officer and Regional Manager	Lusaka	Male	Youth
Subtotal for financial institutions					**16**

Stakeholder group	Role of the key stakeholder	Contact name	Location	Gender	Age
Training Institutions	Training Actors TEVETA	Mumbwa Youth Resource Centre – staff member	Mumbwa	Male	non-youth
		Chabota Skills Training NACRO – staff member	Chibombo	Male	non-youth
		Ngungu Youth Resource Centre – staff member	Kabwe	Male	non-youth
		University of Zambia – staff member	Lusaka	Male	non-youth
		Mulungushi University School of Agriculture and Natural Resources – staff member	Kabwe	Male	non-youth
Subtotal for training institutions					**5**
Processors	Processing micro-, small- and medium-sized enterprises	Wachi Milling Limited – staff member	Mumbwa	Male	non-youth
		Katete District Women Cooperative –Lead Project Manager, Coordinator, Data Entry and Monitoring Consultants, and Stores Officer	Katete	Mixed	non-youth
		ABM Horticultural Farm- staff member	Chipata	Male	non-youth
		Andrerol Trading Limited – Founder and production director	Lusaka	Male	youth
	Industrial Processing Companies	Willington Oils Zambia Limited – Manager	Kabwe	Male	non-youth
		COMACO – Extension Regional Coordinator and other staff members	Chipata	Mixed	non-youth
		Mt Meru – Marketing Manager	Lusaka	Male	non-youth
		COMACO – Monitoring and Evaluation Manager	Lusaka	Male	youth
		260 Brands (Seba Foods) – Chief Operations Officer	Lusaka	Male	non-youth
	Threshing service providers	Lundazi Kapichila – Manager	Lundazi	Male	youth
		Ausmiss Agro Dealers – Manager	Chipata	Male	youth
		Chito Agric Farm Services – Manager	Chipata	Male	youth
		Individual thresher	Chipata	Male	non-youth
		Individual thresher	Katete	Male	non-youth
Subtotal for processors					**14**
Marketing	Retailers of soybean food	COMACO – Staff member	Mumbwa	Male	youth
		Big Mama's Shop – Manager	Mumbwa	Female	non -youth
		Pali ba Daka – Manager and staff members	Kabwe	Mixed	youth
		Choppies – Manager	Petauke	Male	youth
		Katenga General Dealers – Manager	Chipata	Female	non -youth
	Aggregators of soybean	Louis Dreyfus Company (LDC) – Manager	Petauke	Male	non -youth
		Mwanida General Dealers – Manager	Nyimba	Male	non -youth
		JJVI General Dealers –Manager	Lundazi	Female	non -youth
		Individual aggregator	Mumbwa	Male	non -youth
	Warehousing	Zambia Commodity Exchange (ZAMACE) – Staff member	Lusaka	Male	youth
Subtotal for marketing					**10**

Stakeholder group	Role of the key stakeholder	Contact name	Location	Gender	Age
Governance	Broad youth networks	Youth Entrepreneurship Association of Zambia – President	Lusaka	Mixed	youth
		Young Emerging Farmers Initiative (YEFI) – Executive Director, Director Projects and Project Officers	Lusaka	Mixed	youth
		Youth Alive Zambia (YAZ) – Project Manager and staff members	Lusaka	Mixed	youth
		Zambia Young Emerging Farmers Association – Vice-president	Lusaka	Male	youth
		Green Agriculture Youth Organization (GAYO) – Executive Director and staff members	Chongwe	Mixed	youth
		Life Initiative for Change – Chief Executive Officer and Project Manager	Lusaka	Mixed	youth
		Consortium of African Youth in Agriculture and Climate Change (CAYACC) – National Coordinator and Regional Executive Coordinator	Lusaka	Mixed	youth
		My Helping Hands Foundation – CEO, Director of Programmes and M&E Director	Chipata	Mixed	youth
		Zambia National Farmers Union (ZNFU) – Vice Director	Lusaka	Male	non -youth
		Small Scale Farmers Union of Zambia – staff member	Lusaka	Mixed	non -youth
		Zambia Business Angels Network (ZBAN) – national coordinator and other staff member	Lusaka	Mixed	non -youth
Subtotal for governance					**11**
Policy and regulation	Government institutions	Ministry of Agriculture – Acting Crop Officer, Agriculture Supervisor and Block Officer	Mkushi	Male	non -youth
		The Seed Control and Certification Institute – Director	Lusaka	Male	non -youth
		Ministry of Agriculture, Department of Plant Quarantine and Phytosanitary Service – Director	Lusaka	Male	non -youth
		District Agriculture Coordinator	Chibombo	Male	non -youth
		Ministry of Agriculture – Senior Agriculture Officer and District Agriculture Coordinator	Kabwe	Male	non -youth
		Ministry of Agriculture Policy and Planning Department – Economist	Lusaka	Female	non -youth
		Ministry of Agriculture – Senior Agriculture Officer & Lusaka District Agriculture Officer	Petauke	Male	non -youth
		Cooperative Department – Cooperative Development and Entrepreneurship Inspector	Petauke	Female	non -youth
		District Labour Office – District Labour Officer	Petauke	Male	non -youth
		Department of Cooperatives and Entrepreneurship Development – District Cooperative Inspector	Nyimba	Female	non -youth
		Department of Agriculture – Agriculture Supervisor	Lundazi	Male	non -youth
		Office of the Senior Agriculture Officer – District Agriculture Information Officer	Lundazi	Male	non -youth
		Department of Agriculture –– Senior Agriculture Supervisor	Chipata	Male	non -youth
		Ministry of Youth, Sport and Arts – Chief Youth Development Officer	Lusaka	Female	youth
		Ministry of Agriculture, Agribusiness and Marketing Department – Acting Director	Lusaka	Male	non -youth
		Ministry of Labour and Social Security – Assistant Labour Commissioner and Senior Labour Officer	Lusaka	Female	non -youth
Policy and regulation	Seed certification bodies	Zambia Agriculture Research Institute – Principal/ Breeder	Kabwe	Male	non -youth
		Msekera Research Institute – Programmes Officer	Chipata	Male	non -youth
Subtotal for Policy and regulation					**18**
Total interviews					**162**

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ANNEX D

Youth targeting in national policies and strategies

TABLE D1

Main Zambian policies and respective youth-targeting measures

Main policies	Youth targeting
Vision 2030 (2006) (RoZ, 2006)	**Youth is recognized as a target group, with focus on increasing their access to education, skills training and nutrition.** There are specific goals under the Social Investment and Human Development area: (i) Increase net enrolment rates to 96 percent by 2010 and to 99 percent by 2030 at basic school level (Grade 1–9); and (ii) Increase university and skills training output by 2 percent per annum and increase equity of access while maintaining internationally recognized and locally validated standards of quality.
The Eighth National Development Plan (8NDP) 2022–2026 (MoFNP, 2022)	Expected outcomes **under Strategic Development Area 1: Economic Transformation and Job Creation** include the creation of employment opportunities for youth and women. Focus is on generating value addition in agriculture, mining and manufacturing. Attention is given to the development of micro-, small- and medium-sized enterprises (MSMEs). The plan includes several specific youth-focused strategies. Under Development Outcome 1 (An Industrialized and Diversified Economy), Strategy 9 aims at enhancing digital capacity, targeting youth and rural areas. Under Development Outcome 2 (Enhanced Citizenry Participation in the Economy), Strategy 1 aims at promoting local and diaspora participation in the economy, including specific programmes on empowerment of women, youth and persons with disabilities (PWD) and formalization of the informal sector formalization. Development Outcome 2, Strategy 2 aims to promote enterprise development, with a view to contributing to decent job and wealth creation, especially for youth and women. It incorporates relevant programmes on a) small and medium-sized enterprises (SMEs); b) cooperatives; c) business development services; d) enterprise development; and e) industrial yards. Strategy 3 under the same Outcome aims at promoting technical, vocational and entrepreneurship skills, with focus on women, youth and PWD. It includes programmes on: a) TEVET; b) up-skilling and reskilling; and c) mentorship and apprenticeship. Development Outcome 2, Strategy 4 aims to promote financial inclusion with focus on rural areas, women, youth and PWD. Youth also take a centre stage **under Strategic Development Area 2: Human and Social Development**. Under Development Outcome 1 (Improved Education and Skills Development), Strategy 1 aims to enhance access to quality, equitable and inclusive education. Strategy 2 focuses on improving technical, vocational and entrepreneurship skills (including for vulnerable youth). Strategy 3 aims to increase access to higher education, and Strategy 4 to enhance science, technology and innovation (including through a Technology and Innovation Youth Fund). Under Development Outcome 4 (Reduced Poverty, Vulnerability and Inequalities), Strategy 2 aims to enhance welfare and livelihoods of poor and vulnerable people (with focus on women and youth), and Strategy 3 aims at reducing developmental inequalities, including programmes on life skills development and resilience building and rural electrification. **Under section 8 on good governance environment**, Strategy 4 (Strengthen democratic and political governance) focuses on the participation of marginalized and underrepresented sections of society such as women, youth and PWD.
Comprehensive Agriculture Transformation Support Programme (CATSP) (RoZ, 2023)	**Youth is recognized as a priority group, specifically targeted in relation to access to credit, skills and overall participation in value chains (VCs). Soybean is one of the prioritized value chains**. The goal is to increase annual soybean production from 475 353 tonnes in 2022 to 1 million tonnes by 2027. Smallholder farmers' yields are expected to nearly double, from 0.79 tonnes per hectare to 1.55 tonnes per hectare, while commercial farmers' yields will increase from 2.76 tonnes per hectare to at least 3.2 tonnes per hectare. Additionally, crushing capacity will see significant growth. **Under Strategic Priority 3 (Promote inclusive local supply chains)**, the Government of Zambia (GoZ) will institutionalize the preparation and implementation of value chain development plan agreements for each priority commodity in partnership with industry associations. This includes promoting agricultural aggregation alliances as a mechanism for the inclusion of vulnerable people, youth and women. **Under Subprogram 2 (Innovative financial and risk-sharing facilities)**, Investment Area 2.2 includes the establishment of seven Zambia Innovative Financial Services for Agriculture Transformation facilities, including the Youth Agriculture Loans Facility. **Under Subprogram 4 (Agriculture research and production support), Investment Area 4.4** focuses on promoting youth skill-based training to boost their employment in crop, livestock, and fisheries VCs. Activities include the development of curricula for youth skill-based training and promoting youth access to skill-based training, with GoZ providing grants.

Main policies	Youth targeting
National Youth Policy 2024 (MYSA, 2024)	The National Youth Policy 2024 envisions healthy, engaged and productive youth by 2030. Among the policy objectives are to: • promote entrepreneurship, empowerment and job opportunities; • increase access to quality, equitable and industry appropriate education and skills development; • enhance youth access to information and communications technology; • facilitate youth access to social protection; • promote youth civic engagement and participation in leadership; • support youth participation in environmental protection and climate action; and • integrate gender equity and disability in youth development. According to the policy, the **ministry responsible for agriculture** shall: i. coordinate with the ministry responsible for youth development to increase youth participation in agriculture; and ii. provide extension support services to youth-led agricultural groups. The **ministry responsible for local government and rural development** shall: i. ensure that local government institutional structures are funded to facilitate youth empowerment; ii. collaborate with other service organizations and line ministries to equip marginalized youth with basic skills; iii. facilitate capacity building for youth at the local level to create employment opportunities within communities; iv. Raise awareness of available services in various local authorities; and v. incorporate youth into the structures of Ward Development Committees to enhance coordination in youth development.
National Lands Policy (RoZ, 2021)	The National Land Policy addresses a series of cross-cutting issues, such as the effects of climate change, gender, youth, disability and HIV/AIDS. Objective 8 (Achieve a gender sensitive and youth-friendly land sector) is inclusive of PWD and other socially marginalized groups. Measures include: i. Discourage discriminatory customary practices against women, youth and PWD in the land sector; ii. Ensure 50 percent of available land for alienation is allocated to women; iii. Ensure 20 percent of available land for alienation is allocated to youths; iv. Encourage progressive realization of empowerment of PWD in land allocation; v. Lower the contractual age for land acquisition from 21 to 18 years; vi. Promote sustained land and gender awareness campaigns using various channels of communication; and vii. Encourage Chiefs to allocate land to women, youths, PWD and other marginalized groups in their own right.
National Technical Education, Vocational and Entrepreneurship Training Policy (MoHE, 2020)	The TEVET policy includes especially relevant objectives related to youth. **A) Policy Objective 1: To increase access and participation in TEVET**, with measures that include: i. promoting innovative training methods such as open and distance learning; ii. competence-based modular training, e-learning, recognition of prior learning, apprenticeship training and workplace-based training; iii. enhancing the implementation of vocational training and entrepreneurship in secondary schools; iv. promoting the use of local languages in vocational skills training; and v. encouraging lifelong learning. B) **Policy Objective 3: To promote equity and inclusiveness at all levels of TEVET**, by: promoting the participation of female students in male-dominated programmes and vice versa; and promoting bursary support to vulnerable individuals and learners with special educational needs, including female learners and rural-based learners. C) Policy Objective 5: To promote innovation, research and development in the TEVET system, with measures that include fostering joint projects and linkages between TEVET and research and development institutions encouraging the utilization and documentation of indigenous knowledge and skills in TEVET.

Main policies	Youth targeting
The National Strategy on Financial Education 2019–2024 (NSFE II) (MoF, 2019)	The strategy emphasizes the importance of financial education for young people. **Strategic Objective 2** aims to provide financial education to youths, with measures including: i. financial education to be provided through careers guidance centres; ii. Broadening the entrepreneurship curriculum for technical and vocational institutions to incorporate personal financial education; iii. the establishment of savings and credit cooperatives in universities and colleges to provide financial education to their members and facilitation and encouragement of the provision of financial education through student representatives, clubs and informal self-help groups; and iv. financial education delivered through youth resource centres and sports clubs. Impact indicators in the results framework include the percentage of youth who are financially included, with a baseline of 55 percent and a target of 82 percent by 2024. The responsible entity for this indicator is the Ministry of Finance. Reporting is to be broken down by gender, age group, income, rural/urban status and district.
The National Financial Inclusion Strategy 2024–2028 (MoFNP, 2024)	The strategy focuses on the following thematic areas: 1) Financial inclusion for MSMEs; 2) Financial inclusion in rural areas; 3) Financial inclusion for the underserved population; 4) Financial inclusion for agriculture; 5) Environmental, social and governance; and 6) Digital financial services and financial infrastructures. Thematic area 3 (Financial inclusion for the underserved population) targets youth, women, senior citizens, PWD and refugees. Specific objectives and targets include: i. achieving universal access to affordable and regular usage of a broad range of financial products and services (Indicator: percent youth financially included [formal and informal] [baseline 67.6/target 85 percent]); and ii. ii. enhancing the quality of financial products and services (Indicator: % Youth entrepreneurs/MSMEs with loan or line of credits of total loan provision).
National Digital Transformation Strategy 2023–2027 (MoTS, 2023)	Objective 4 (promote digital literacy, skills and competencies for digital transformation) strategies include Strategy 2: Build the capacity of learning institutions to meet the current digital needs (including for the provision of e-learning and blended learning at primary and secondary levels in peri-urban and rural areas) and Strategy 3: Ensure digital learning programmes in learning institutions are inclusive by prioritizing scholarships and bursaries in information and communications technology studies to marginalized groups such as women. Policy Objective 5 is about creating an enabling environment for digital innovation and entrepreneurship.
National Employment and Labour Market Policy (NELMP) 2018 (MLSS, 2018)	The overall objective of the policy is to support inclusive economic growth and development through promotion of gainful and decent work in all sectors of the economy. Relevant objectives include those related to: • facilitating the creation of formal job opportunities especially in rural areas (including through skills development and promoting internships and apprenticeships); • promoting the transition of informal jobs to formal ones by a) implementing mechanisms to grow the SMEs sector especially in rural areas; b) implementing mechanisms aimed at increasing the supply of quality and relevant skills to SMEs; and c) increasing awareness among employers and workers on decent work); • a) reducing underemployment especially in rural areas and among women, youth and PWD by designing mechanisms to reduce dependency on seasonal agriculture; b) implementing mechanisms to increase non-farm employment opportunities in rural areas; and c) promoting investment and productivity in labour-intensive sectors; • increasing participation of women, youth and PWD in the labour market, including by promoting social security, occupation safety and health and labour standards in enterprises owned by women, youth and persons with disabilities; • strengthening the labour-market information system; and • promoting productivity improvement in agriculture, manufacturing, construction and tourism sectors.
National Social Protection Policy (MCDMCH, 2014)	One of the guiding principles of the policy is equity, recognizing that "The measures must also recognize the needs and status of different individuals such as age, gender, disability, health and socioeconomic conditions." The policy is structured along policy objectives, namely: Social assistance; Social security and social health insurance (including measures to extend social security coverage to the informal sector); Create employment opportunities through deliberate positive discrimination to PWD; Livelihood and empowerment (with focus on vulnerable populations); and Protection. Youth is only mentioned in only two contexts. The policy states that the Ministry of Youth, Sport and Arts shall: provide vocational, skills training and recreation facilities to youths; and provide youth empowerment funds. It further states that the Ministry of Labour and Social Security shall facilitate the elimination of harmful child labour and the employment of young persons.

Main policies	Youth targeting
Revised National Micro Small and Medium Enterprise Development Policy 2023 (MSMED, 2023)	The policy highlights youth among the cross-cutting issues, together with gender, disability, nutrition, HIV/AIDS and climate change. It requests that Ministry of Agriculture collaborate with the ministry responsible for MSMEs in providing extension services and farmer input support to small and medium-scale farmers and support to other small and medium-scale enterprises in the agricultural value chains.
Revised National Cooperative Development Policy (NCDP) 2024 (MSMED, 2024)	The policy indicates that gender, youth and environmental issues shall continue to be mainstreamed in all focus areas of the policy. Participation of youth and PWD is encouraged in cooperative activities. According to the policy, the Ministry of Youth, Sport and Arts will offer related support to youth, sport and art cooperatives.
National Agricultural Mechanization Strategy 2024–2028 (MoA, 2024)	The mission of the strategy is to create an enabling environment for the sustainable development of agricultural mechanization that meets the needs of stakeholders, including women and youth, considering economic, social and environmental sustainability. Thematic Area 2 is on strengthening agricultural mechanization demand for smallholder farmers, women and youth, including: Strategic Objective 2.1: Promote access to smallholder land development services; Strategic Objective 2.2: Promote financial products/mechanisms to enhance smallholder farmers' acquisition of agricultural machinery and equipment; Strategic Objective 2.3: Promote the use of agricultural machinery and equipment among women and youth smallholder farmers.

Sources:

MCDMCH (Ministry of Community Development, Mother and Child Health). 2014. *National Social Protection Policy.* Lusaka. https://tinyurl.com/3udtxfap

MLSS (Ministry of Labour and Social Security). 2018. *National Employment and Labour Market Policy (NELMP).* Lusaka. https://policyvault.africa/wp-content/uploads/policy/ZMB600.pdf

MoA (Ministry of Agriculture). 2024. *National Agricultural Mechanization Strategy 2024–2028.* Lusaka. https://tinyurl.com/4z7d2nyw

MoF (Ministry of Finance). 2019. *The National Strategy on Financial Education 2019–2024* (NSFE II). Lusaka. https://www.boz.zm/Zambia_NSFE_II_2019_24.pdf

MoFNP (Ministry of Finance and National Planning). 2022. *Eighth National Development Plan 2022–2026* (8NDP). Lusaka. https://faolex.fao.org/docs/pdf/zam210616.pdf

MoFNP. 2024. *The National Financial Inclusion Strategy 2024–2028.* Lusaka. https://www.boz.zm/NFIS_II_2024_-_2028.pdf

MoHE (Ministry of Higher Education). 2020. *National Technical Education, Vocational and Entrepreneurship Training Policy.* Lusaka. https://www.teveta.org.zm/archive/downloads/1607525522.pdf

MoTS (Ministry of Technology and Science). 2023. *National Digital Transformation Strategy 2023–2027.* Lusaka, Zambia. https://tinyurl.com/3p38d2bc

MSMED (Ministry of Small and Medium Enterprise Development). 2023. *Revised National Micro Small and Medium Enterprise Development Policy*. Lusaka. https://faolex.fao.org/docs/pdf/zam224533.pdf

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MYSA (Ministry of Youth, Sport and Arts). 2024. *2024 National Youth Policy: Accelerating youth participation and empowerment in Zambia.* Lusaka. https://tinyurl.com/4m3v93x8

RoZ (Republic of Zambia). 2006. *Vision 2030. A prosperous middle-income nation by 2030.* Lusaka. https://tinyurl.com/4htsjzwr

RoZ. 2021. National Lands Policy. Lusaka. https://tinyurl.com/45452jxk

RoZ. 2023. *Comprehensive Agriculture Transformation Support Programme. Lusaka. https://tinyurl.com/mrucbwtx*

ANNEX E

Estimates used in the value chain map

Estimates of the figures used in the value chain (VC) map (Figure 4) are based on desk research and primary data collection conducted with VC stakeholders in Eastern and Central provinces in November 2024 and January 2025. A summary of these VC map figures, together with the associated data sources and assumptions, is provided in Tables E1, E2 and E3.

TABLE E1

Soybean flows in the value chain in Zambia (annual averages 2019–2023)

	Tonnes/year (fresh weight equivalent)	Tonnes/year (feed, edible oils)	Notes
Production	450 000		Calculated using data from FAO (2025)
Processing			
Soymeal/cake – for animal feed	315 000	818 625	60%-70% of soybean is for animal feed (WFP, 2022; FAO and UNIDO, 2025). Conversion rates: • Soymeal to soybean ratio: 80% (Fraanje and Garnett, 2020, p. 4) • Soymeal to poultry feed: 25%–30% (CCPC, 2019; Kudu Consulting, 2021) • Soymeal to fish feed: 40%–50% (CCPC, 2019; Kudo Consulting, 2021)
Soybean oil – for edible oils	120 288	40 096	30% of national soybean is for edible oils and other food (WFP, 2022). Ratio of soybean to soybean oil: 20% weight (Fraanje and Garnett, 2020, p.4). Soybean accounts for 60% of locally produced edible oils (Kudu Consulting, 2021, pp. 15–16)
Soybean – other purposes	14 712		30% of national soybean is for edible oils and other food (WFP, 2022)

Sources:

CCPC (Competition and Consumer Protection Commission). 2019. *Animal-feed value chain study in Zambia.* Study carried out under the Zambia Agribusiness and Trade Project (ZATP). Lusaka. https://tinyurl.com/y8chrc6v

FAO. 2025. FAOSTAT: Crops and livestock products. [Accessed on 10 November 2025]. https://www.fao.org/faostat/en/#data/QCL. Licence: CC-BY-4.0.

FAO and United Nations Industrial Development Organization. 2025

Fraanje, W. & Garnett, T. 2020. Soy: food, feed, and land use change. Foodsource: Building Blocks. Food Climate Research Network, University of Oxford. https://tinyurl.com/33v8xa78

Kudu Consulting. 2021. *Soya beans, groundnuts and aquaculture value chains business modes analysis.* GIZ Global programme for Promotion of agricultural finance for agri-based enterprises in rural areas (AgFin). Lusaka.

WFP (World Food Programme). 2022. *Unlocking empowerment opportunities. A market systems analysis of the soyabean value chain in Central Province of Zambia.* Lusaka.

TABLE E2

National soybean production quantity in Zambia (in tonnes, 2019–2023)

Year	Quantity (t)
2019	281 389
2020	296 866
2021	411 115
2022	475 353
2023	760 067
2024	169 700
2019–2023 annual average	**444 958**

Sources:

Data for 2019–2023: FAO. 2025. FAOSTAT: Crops and livestock products. [Accessed on 10 November 2025]. https://www.fao.org/faostat/en/#data/QCL. Licence: CC-BY-4.0.

Data for 2024: Ministry of Agriculture. 2024. *Ministerial Statement on the Crop Forecast Survey for the 2023/2024 season* by the Minister of Agriculture (Mr Mtolo), MP. Lusaka. https://www.parliament.gov.zm/node/11744

TABLE E3

Number of farmers producing soybean in Zambia, 2018/19–2022/23

Year	Number of small- and medium-scale farmers	Number of large-scale farmers
2018/2019	205 909	No data
2019/2020	No data	No data
2020/2021	No data	No data
2021/2022	389 329	859
2022/2023	636 763	850
Average	**410 667**	**855**

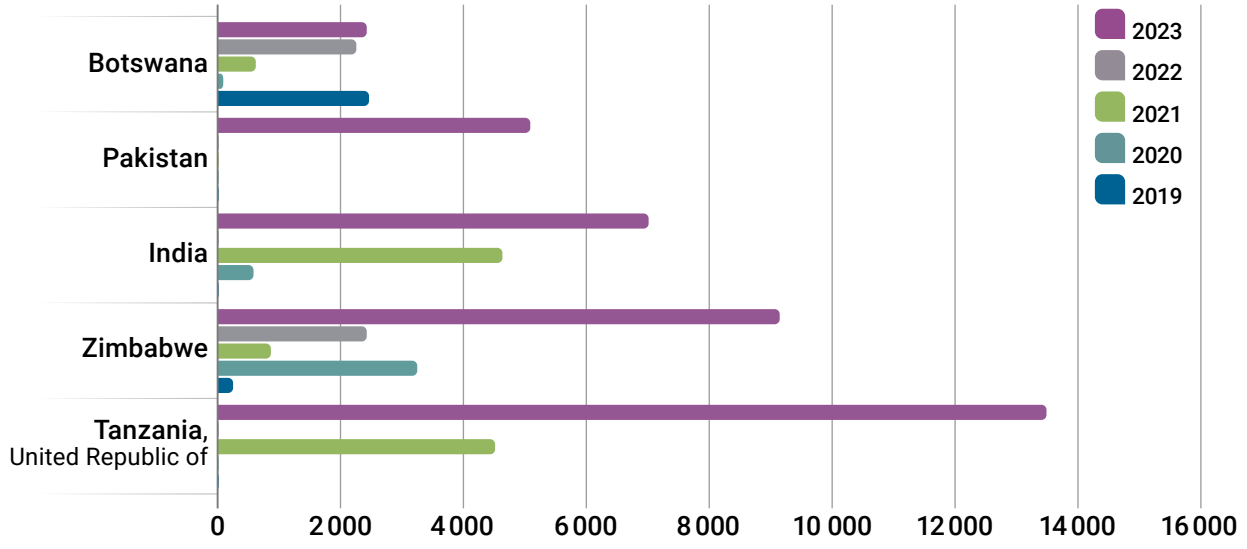
Source: **Zambia Statistics Agency.** 2025. Agriculture and environment – Crop forecast survey. In: Zambia Statistics Agency. Lusaka. [Cited 10 November 2025]. https://www.zamstats.gov.zm/agriculture-and-environment/

ANNEX F

Trends in soybean exports and soybean seed prices

FIGURE F1

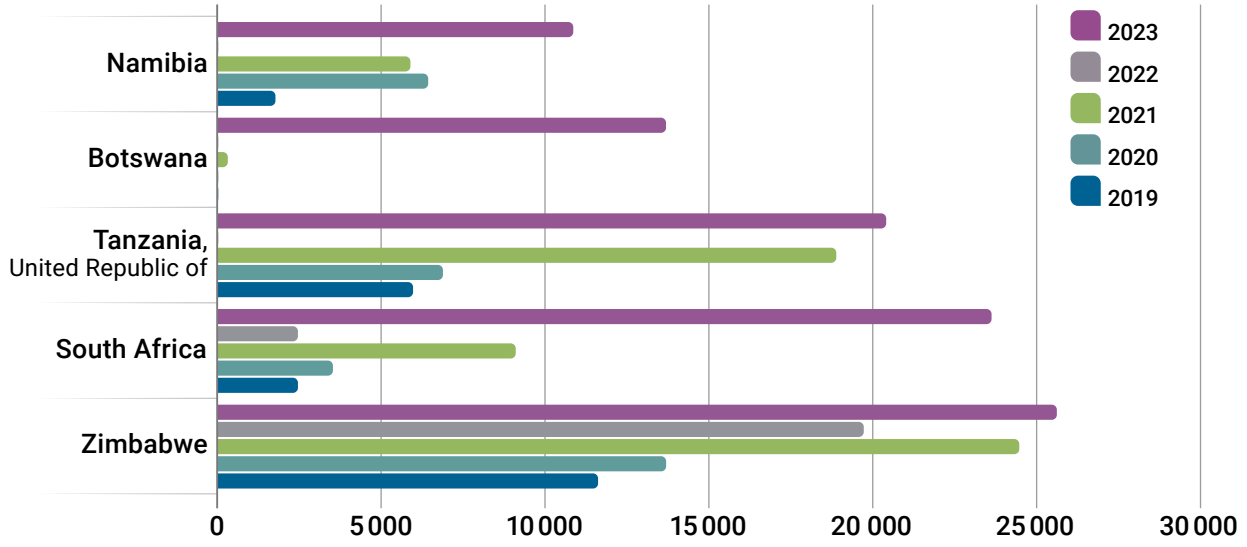
Export values of Zambia soybeans to main markets (in USD thousand)



Sources: Own analysis using data from International Trade Center. 2025. Trade map. [Cited February 10, 2025.] https://www.trademap.org/Index.aspx, using product code 1201 – Soya beans, whether or not broken.

FIGURE F2

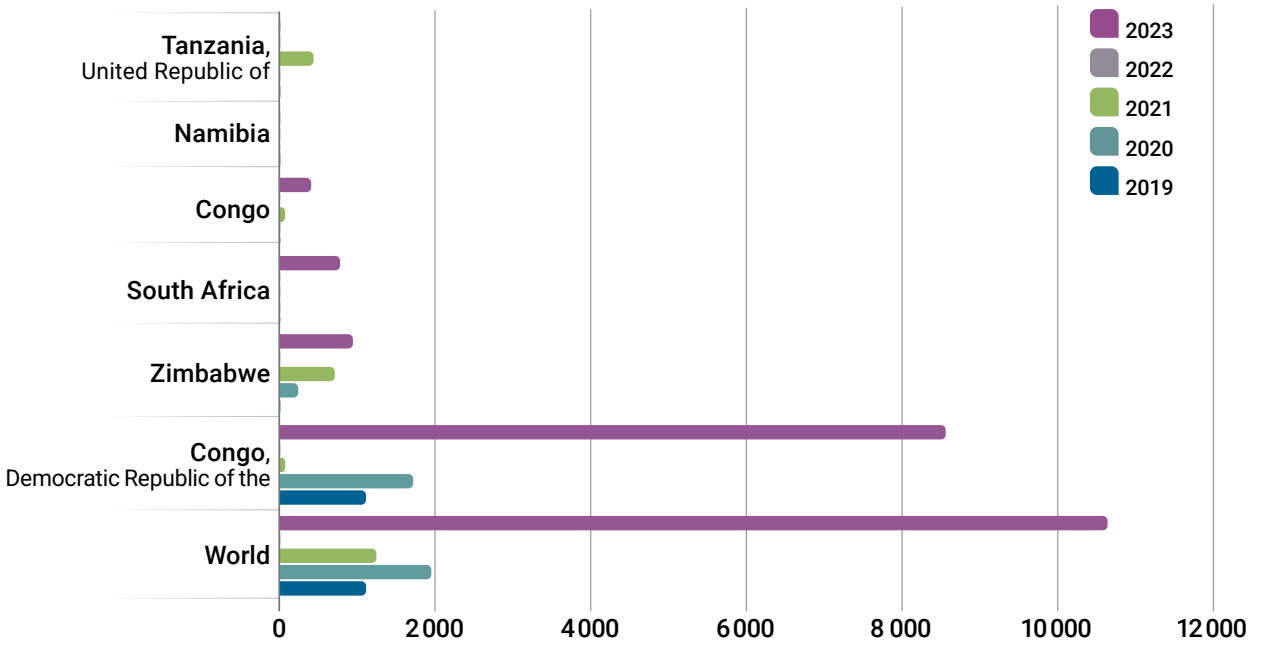
Export values of Zambia soybean cake to main markets (in USD thousand)



Sources: Own analysis using data from International Trade Center. 2025. Trade map. [Cited February 10, 2025]. https://www.trademap.org/Index.aspx, using product code 2304 – Oilcake and other solid residues, whether or not ground or in the form of pellets, resulting from the extraction of soya bean oil.

FIGURE F3

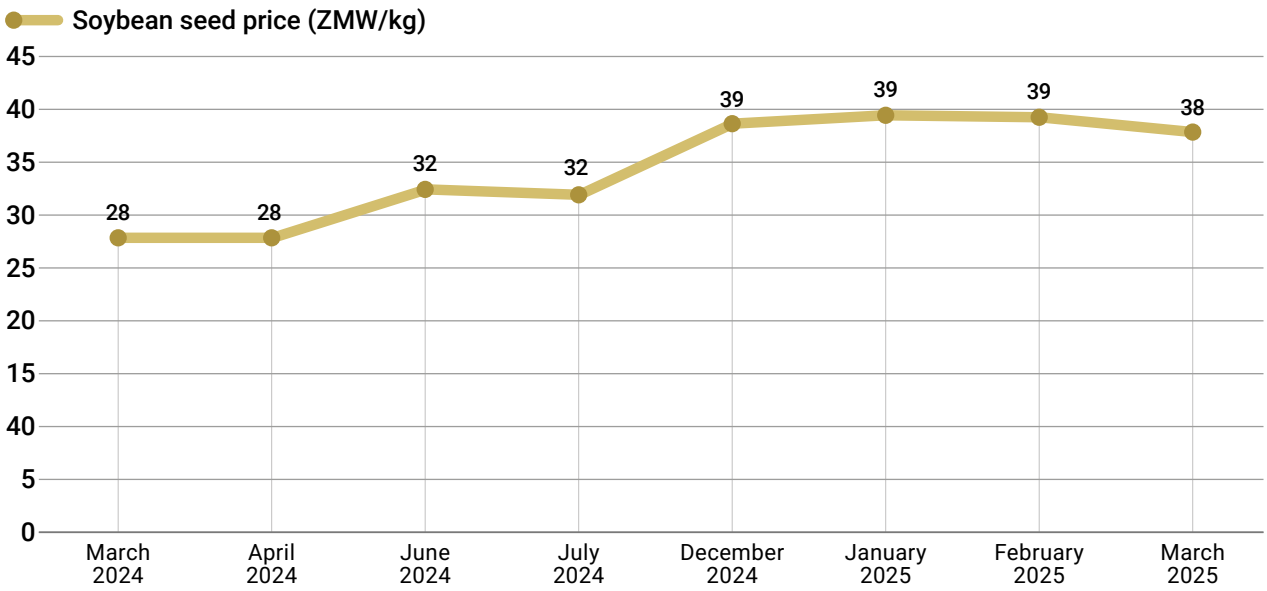
Export values of Zambia soybean oil to main markets (in USD thousand)



Sources: Own analysis using data from International Trade Center. 2025. Trade map. [Cited February 10, 2025]. https://www.trademap.org/Index.aspx, using product code 1507 – Soya-bean oil and its fractions, whether or not refined (excl. chemically modified).

FIGURE F4

Trend in soybean seed prices in Zambia (March 2024–March 2025)



Note: The prices included in this figure are national average prices.

Sources:

Ministry of Agriculture. 2024a. *Monthly market information bulletin. Bulletin* No. 020424. - 30 April 2024. Lusaka.

Ministry of Agriculture. 2024b. *Monthly market information bulletin. Bulletin* No. 070424 - 31 July 2024. Lusaka.

Ministry of Agriculture. 2025a. *Monthly market information bulletin. Bulletin* No. 010425 - 31 January 2025. Lusaka.

Ministry of Agriculture. 2025b. *Monthly market information bulletin. Bulletin*No. 020425 - 28 February 2025. Lusaka.

Ministry of Agriculture. 2025c. *Monthly market information bulletin. Bulletin* No. 010425 - 31 March 2025. Lusaka.

ANNEX G

Overview of financial service providers (FSPs) assessed in Zambia

TABLE G1
Main FSPs and service offered

FSP	Description	Services offered
Zambia National Commercial Bank (Zanaco)	Commercial bank serving 2.5–2.8 million customers, with specialized units focused on agriculture. Its total exposure to agriculture is approximately 14–15 percent. The bank adopts a value chain financing approach, primarily financing farmer offtakers who have collateral. Zanaco maintains partnerships with the European Investment Bank and African Development Bank, leveraging these relationships to access guarantees that help derisk their agricultural portfolio. It does not have specific products for youth and would like to address their needs better.	The bank offers value chain financing, village banking services, mobile banking, collateralized term loans, invoice discounting and purchase-order financing. • Zanaco's **Emergent Farmer Credit Facility** finances working capital with loans for up to 12 months and provides medium-term loans to finance capital expenditure for loan amounts ranging between USD 1900 and USD 76 000. Requirements are stringent, including three-year records of farm performance, a good credit history, a well-prepared business plan and an annual turnover of USD 15 000. Interest rates range between 12 percent and 27 percent per year. • **Agripay** is a digital platform connecting farmers to various services and enabling mobile money transactions, although rural adoption faces challenges due to connectivity and affordability issues. • **The Green Outcome Fund**, launched in 2022 in collaboration with World Wildlife Fund for Nature and Kukula Capital, is a USD 34-million facility aiming to enable investments in Zambian companies that can achieve both financial and socioenvironmental returns across four main thematic areas: climate-resilient agriculture, sustainable forestry, cleaner energy sources and sustainable use of natural resources. The fund's primary objectives are to create 5 000 green jobs directly and indirectly, mitigate climate change, improve water and waste management and promote sustainable agriculture in Zambia by 2030. • **Specific products for women in business (not just agriculture)** have reduced the minimum operating time for a business from three years to one year.
First National Bank (FNB)	Fourth largest bank in Zambia, operating for 15 years with 23 branches and more than 3 000 agents nationwide. The bank serves approximately 315 000 customers, including 82 000 business clients. Agricultural lending represents 30 percent of FNB's portfolio, with a current non-performing loan rate of 4 percent – a significant improvement from 70 percent in 2016. It does not have specific products for youth and considers that its products are already applicable to this group.	The bank offers a comprehensive range of services including loans, savings, fixed deposits, insurance, digital banking and foreign exchange. FNB's lending portfolio consists of three main categories: Commercial loans (above ZMW 10 million); small and medium-sized enterprise (SME) loans (capped at ZMW 0.5 million); and personal loans (ZMW 700 to ZMW 5 million). Commercial loans require detailed documentation including three years of business registration, financial statements and fixed collateral. SME loans require six months of operational history and accept both movable and fixed collateral. Interest rates range between 21 and 26 percent for commercial loans, 22–33 percent for SME loans and 21–26 percent for personal loans, with women borrowers receiving a 0.5–1 percent interest rate reduction. The bank is developing new digital solutions, with a banking app and mobile banking platform planned for release in 2025.

FSP	Description	Services offered
NATSAVE	Government-owned financial institution established in 1972, it has 38 branches nationwide. Working closely with the Food Reserve Agency and the Farmer Input Support Programme, NATSAVE provides financing to farmers' cooperatives and SMEs.	The bank's product portfolio includes government-supported loans and in-house loans. It also supports agricultural enterprises through a group-lending model, where five members provide mutual guarantees, with successful groups' members becoming eligible for individual loans after three cycles. With regard to the government-supported loans, NATSAVE exclusively manages Consortium of African Youth in Agriculture and Climate Change high-demand concessional loans at 5 percent interest and the Government of Zambia's Sustainable Agriculture Financing Facility (SAFF) with an interest of around 16.5 percent per year. Under the NATSAVE Asset Plus financial loan for agricultural equipment, NATSAVE finances equipment such as hammer mills, tractors and irrigation tools using the equipment itself as collateral. For NATSAVE's loans, applicants must have an active account which has operated for at least six months. The interest rate is around 30 percent per year plus 6 percent arrangement fees and 2.5 percent insurance charges. The term of the loan is limited to 36 months.
Agora Microfinance Zambia (AMZ)	Established in 2011 as a non-deposit-taking financial institution, AMZ maintains branches across the country. During field research, branches in Central Province (Mumbwa and Chibombo) and Eastern Province (Petauke) were interviewed, each serving between 5 300–7 200 active clients. AMZ operates with support from key partners including FMO (Dutch entrepreneurial development bank), OikoCredit, Fondation Grameen Crédit-Agricole, Global Partnership and the Rural Finance Expansion Programme, with operations funded through a combination of internal (60 percent) and external (40 percent) sources. Its agricultural portfolio represents 29–35 percent of AMZ's total lending, with branch managers noting that while agricultural lending carries climate-related risks, strong monitoring and support systems make it manageable. While AMZ does not specifically target youth or have gender-specific products, about 25 percent of their clients are youth and 66–70 percent are women, according to interviews.	Village banking services (Flexi 1 and Flexi 2) target traders and households aged 18–70 with consistent monthly cash flows. These products offer loans ranging from ZMW 500 to ZMW 6 500 at 4 percent monthly interest. They require no physical collateral but do require social guarantees among group members. AMZ provides several specialized products for agricultural entrepreneurs, including Lima Individual loans (ZMW 10 000–ZMW 50 000) targeting subsistence and semi-commercial farmers; Lima Group loans (ZMW 1 000–ZMW 10 000) for groups of 10–15 members with loan duration of 3–12 months; and Makina Lease (ZMW 5 000–ZMW 75 000) supporting acquisition of agricultural equipment with lease duration of 6–36 months. Loans for micro-, small- and medium-sized enterprises range from ZMW 10 000 to ZMW 200 000 for established businesses with consistent monthly cash flows. Interest rates generally range from 4 to 4.5 percent monthly on a reducing balance. The institution requires businesses to have been operational for at least two years with proper registration before accessing larger loans, although some products accept businesses with six months of operation and council levy payments. The institution accepts various forms of collateral, including livestock, farm machinery, vehicles and household property for their secured loans, with credit scoring through the Credit Reference Bureau influencing loan terms. While AMZ has piloted digital solutions including Unstructured Supplementary Service Data (USSD) platforms for loan transactions and maintains an online presence, it currently prefers direct cash transactions to avoid fraud risks. AMZ provides comprehensive financial literacy training before loan disbursement in partnership with organizations such as Acre Africa and Synergy, covering topics including financial literacy, insurance, climate-smart agricultural practices and business management.

FSP	Description	Services offered
VisionFund Zambia	Established in 2003, VisionFund is a deposit-taking microfinance institution that is part of the VisionFund network. The institution serves approximately 58 000 clients through a network of 12 branches and nine sub-branches across eight provinces. While not specifically targeting youth, VisionFund maintains a strong focus on women's inclusion, with a policy targeting 80 percent female participation across loan products.	VisionFund's credit products fall into two main categories: universal loans and business loans (Chitukuk). Universal loans include loans to individual SMEs (micro loans, agricultural loans, recovery loans, savings group loans) and community banking products. Community banks operate with groups of 15–30 members who collectively guarantee loans, while smaller solidarity groups of 5–10 members serve those engaged in similar economic activities. Business loans provide working capital and asset financing for expansion of production and income-generating activities. Interest rates are set at 66 percent per year (5.5 percent monthly on reducing balance) plus initial processing fees of KMW 50–100. Loans typically run for 3 to 12 months, but are extendable to 24 months, with borrowers aged 18–70 eligible. The institution accepts various forms of collateral including movable assets and land held under traditional title. Agricultural loans are structured around specific commodity cycles using balloon payments to align with seasonal income patterns. While not supporting complete startups, businesses with six months of operations can qualify. The institution provides mandatory financial literacy training during client onboarding, delivered face-to-face by field officers. The institution is exploring digital solutions to expand agripreneur access to financial products.
Umino	Established in 2017, Umino is a small financial institution operating under a moneylender's licence. It currently serves 2 500 SMEs. It has provided loans to over 10 000 clients, with nearly 15 000 loans disbursed. While 30–40 percent of its portfolio supports agricultural activities, it does not specifically target value chains or youth segments. Field interviews indicate positive experiences with young entrepreneurs in value addition, particularly in cooking oil processing where it has provided machinery financing. Youth represent only about 5 percent of its clientele. Women constitute 50 percent of its target market, with field staff noting women's growing financial independence and excellent repayment performance. However, they observe that cultural upbringing often discourages both young men and women from seeking business financing, instead emphasizing formal employment. The institution is currently navigating a two-year process to register with the Bank of Zambia, aiming to expand beyond current moneylending-licence limitations, which it identifies as a key regulatory constraint to growth.	Umino offers loans ranging from ZMW 5 000 to ZMW 200 000 at 40 percent interest on reducing balance. It offers two distinct products: loans for clients with regular cash flows and loans for those with irregular cash flows, the latter offering biannual payment options to accommodate seasonal income patterns. The institution requires at least two years of operational history and proven cash flows, explicitly excluding startups due to risk considerations. Umino employs a digitized approach, using tablet-based financial assessments that sync with their central tracking system when network coverage is available, enabling real-time monitoring and expedited credit decisions. It has implemented a USSD platform for remote payments, reporting a reduction in transaction charges following recent mobile money tax changes. Its operational structure includes branch managers, loan officers and cashiers, with officers using motorbikes to serve clients within a 100-metre radius. The institution emphasizes record-keeping training to help clients assess business profitability. Its particular concern is with rainfall-dependent agricultural activities, noting increased risks from drought occurrences.
Agricultural Leasing Company Zambia Limited (AgLeaseCo)	AgLeasCo is a licensed, non bank financial institution established in 2018. It is supported by the German Government through KfW and the Africa Agricultural Trade and Investment Fund. It offers asset-based leasing solutions for machinery such as tractors, irrigation systems, two- and four-wheel cultivators and processing equipment. It has a current portfolio of USD 6 million.	The only collateral required by AgLeaseCo is the asset being financed (e.g. the equipment or asset that the finance lease is being applied for). However, requirements include a minimum of three years of experience in farming and/or agroprocessing and a deposit – generally 25–30 percent of the value of the lease – as down payment. Interest rates are 32 percent per annum.

Sources: Own development based on ICA-4 field interviews and market research.

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ANNEX H

Detailed operating accounts

Seed multiplication model

The proposed seed production model focuses on expanding the multiplication of seed of soybean varieties through contract farming. The overall strategy is to expand and strengthen the existing contract-farming mechanisms for seed production operated by seed companies by including more youth groups as contracted seed growers. The upgraded seed production model introduces new elements not used in existing models, specifically the use of irrigation, insurance and climate-smart production practices.

The upgraded scenarios include the following changes.

- Key investments in irrigation include drilling boreholes (except in locations with easy water access, such as close to streams), water tanks, solar pumps, solar panels, water pipes and sprinkler and/or drip irrigation to distribute water.
- Seed growers who farm near each other are expected to combine their land into larger plots, with about four growers working together on each plot. Assuming an average farmers' group has 40 growers, each of whom has around 1 hectare, this arrangement would create ten subgroups each comprising four growers. Out of these ten subgroups, only five are expected to invest in irrigation. Of those five, two will use boreholes while the other three will not, based on the assumption that they can access water without the need for drilling boreholes.
- It is estimated that only about 10 percent of irrigation costs will be dedicated to soybean. This is mainly because soybeans are usually cultivated during the rainy season, thus requiring irrigation mainly during droughts. Other crops, such as horticultural crops, are better suited for off-season cultivation, thus benefiting more consistently from irrigation.
- Seed growers will use a threshing service rather than manual threshing as currently, thereby reducing seed loss.

Table H1 presents the key parameters that are expected to change due to interventions by the Integrated Country Approach for boosting decent jobs for youth in the agrifood system, Phase IV (ICA-4), which in turn will lead to the changes in the upgraded accounts. Table H2 presents the operating accounts of a seed grower group, while Table H3 presents the operating accounts of a seed company and presents accounts for both the current and the upgraded scenario.

TABLE H1

Key parameters for the soybean seed multiplication model in Zambia

Items	Unit	Current (2024)	Upgraded	Source/assumption
Seed rate	kg/ha	100	100	Interviews with seed grower groups
Seed productivity	t/ha	2	2.5	Interviews with seed grower groups. Increased productivity result of improved irrigation and production practices
Seed loss	% of total seeds produced	30	5	Reduced loss due to improved harvesting and post-harvest handling practices (e.g. using threshing service)
Price of soybean seed (output)	ZMW/kg	34	27	Current price based on interviews; price in upgraded scenario is own assumption (see section 6.2.1)
Total seed growers' groups contracted	Number	115	125	10 additional groups contracted, all of which are youth groups
Number of seed growers per group	Number	40	30	Current group size based on interview with seed companies. Group size under upgraded scenario is smaller because new groups joining the scheme will start at smaller scale.
Number of hectares per seed grower group	ha	40	30	Based on the interview with seed companies and contracted seed growers, each grower cultivates on average 1 ha
Number of subgroups in a seed grower group	Number	10	10	The whole group of seed growers is divided into ten subgroups. Growers consolidate land to reach a size that makes investment in irrigation feasible
Number of subgroups within a group that will pilot irrigation	Number	None	5	During pilot, only five out of the ten subgroups will try out irrigation
Number of boreholes needed per group	Number	None	2	During pilot, only five out of the ten subgroups will try out irrigation. Of these five subgroups, only two will drill boreholes
Financing cost for seed company	%	91% repayment (9% financing cost)	95% repayment (5% financing cost)	Current rate is taken from FAO and UNIDO (2025). The repayment rate in the upgraded scenario is increased because some of the production risks are covered by the crop insurance bundled with advanced inputs
Crop insurance	% of the value of the inputs insured	0	5.1	Meetings with insurance companies
Solar pumps	ZMW/piece	n/a	12 000	SARO
Solar pumps lifespan	year	n/a	5	SARO
Solar panels	ZMW/farm		19 200	SARO: 6 panels, each costing ZMW 3 200
Solar panel lifespan	Year	n/a	20	SARO
Water pipe	ZMW/farm	n/a	3 400	SARO
Water pipe lifespan	Year	n/a	10	
Drilling borehole cost	USD/hole	n/a	1 000	Meetings with a machine supplier and a water service provider

Items	Unit	Current (2024)	Upgraded	Source/assumption
No. of boreholes needed per group (40 ha)	Number	0	5	Not every farm would need a borehole drilled
Borehole lifespan	Year	n/a	50	SARO
Sprinkler	ZMW/pivot	n/a	190 000	SARO
Sprinkler lifespan	Year	n/a	5	
Water tank (5 000 litre)	ZMW/piece	None	6 000	Own research and assumption
Water tank lifespan	Year	n/a	5	Own research and assumption
Drip lines	ZMW/ha	None	15 000	Own research and assumption
Drip line lifespan	Year	n/a	5	
Share of soybean in irrigation costs	Percentage	0	10	Interview with Good Nature Agro

Note: n/a = not applicable.

Sources:

Own assumption based on desk research and consultations with stakeholders in 2024.

FAO & UNIDO (United Nations Industrial Development Organization). 2025. *Zambia's soya bean value chain analysis and strategy design 2024–2033*. Rome, FAO and Vienna, UNIDO. https://openknowledge.fao.org/handle/20.500.14283/cd4967en

TABLE H2

Annual operating accounts of a typical single soybean seed grower group in Zambia (current and upgraded scenarios)

	Current scenario (2024)	Upgraded scenario with sprinkler irrigation	Upgraded scenario with drip irrigation
Item	**Total (ZMW/year)**	**Total (ZMW/year)**	**Total (ZMW/year)**
Revenue			
Sales of seeds to contracting seed company	782 000	860 625	860 625
Total revenue	782 000	860 625	860 625
Costs			
Pay back the basics seed and inoculum advanced by seed company	168 000	126 000	126 000
Non-seed inputs			
Fungicides	10 000	10 000	10 000
Herbicides	26 000	26 000	26 000
Booster	20 000	20 000	20 000
Labour			
Land preparation	20 000	20 000	20 000
Weeding	20 000	20 000	20 000
Planting	20 000	20 000	20 000
Harvesting	20 000	20 000	20 000
Services (not covered in the contract-farming agreement)			
Tractor service (ripping)	60 000	60 000	60 000

	Current scenario (2024)	Upgraded scenario with sprinkler irrigation	Upgraded scenario with drip irrigation
Item	**Total (ZMW/year)**	**Total (ZMW/year)**	**Total (ZMW/year)**
Tractor service (moving sprinkler pivot between farms in the group)	n/a	204 000	n/a
Threshing service	0	45 000	45 000
Training	10 400	20 800	20 800
Insurance	0	6 426	6 426
Rent/lease of land or equipment	2 500	3 125	3 125
Water tank depreciation	n/a	600	600
Solar pump depreciation	n/a	1 200	1 200
Solar panel depreciation	n/a	480	480
Water pipe depreciation	n/a	170	170
Borehole depreciation	n/a	112	112
Centre-pivot sprinkler depreciation (solar powered)	n/a	3 800	n/a
Drip irrigation depreciation	n/a	n/a	6 000
Total costs	**208 900**	**481 713**	**279 913**
Operating profit (gross)	**573 100**	**378 912**	**580 712**
Direct tax on gross profit	**0**	**0**	**0**
Net profit	**573 100**	**378 912**	**580 712**
Return on sales (or net profit margin)	**73%**	**44%**	**67%**
Return on investment	**274%**	**79%**	**207%**

Note: n/a = not applicable.

Sources:

Own analysis using data from:

(i) FAO and United Nations Industrial Development Organization. 2025. *Zambia's soya bean value chain analysis and strategy design 2024–2033.* Rome, FAO and Vienna, UNIDO. https://openknowledge.fao.org/handle/20.500.14283/cd4967en

(ii) field research by Musika in November 2024 and January 2025, and

(iii) consultations with seed grower groups and seed companies through workshops and bilateral meetings.

TABLE H3

Annual operating accounts of a typical soybean seed company for a single grower group in Zambia (current and upgraded scenarios)

	Current scenario (2024)	Upgraded scenario
Item	**Total (ZMW/year)**	**Total (ZMW/year)**
Revenue		
Sales of seeds	1 564 000	1 721 250
Seeds repaid by contracted growers	340 000	202 500
Seed growers' payment of training fee	10 400	20 800
Total revenue	**1 914 400**	**1 944 550**
Costs		
Cost of buying basic seeds to advance to seed growers	168 000	126 000
Cost of buying the seeds multiplied by seed growers	782 000	860 625
Cost of training seed growers (manual development, training delivery)	27 990	27 990

	Current scenario (2024)	Upgraded scenario
Item	**Total (ZMW/year)**	**Total (ZMW/year)**
Labour		
Land preparation	20 000	20 000
Field agent	24 000	24 000
Manager/admin support	60 000	60 000
Field supervisor	6 000	6 000
Other outgrower scheme management costs	33 588	33 588
Other cost for seed production (e.g. packaging materials, inoculum, storage, seed inspection)	111 960	111 960
Transportation	94 046	116 382
Depreciation (facility, equipment)	1 825	1 825
Rent/lease of land or equipment	360 000	360 000
Breeding/R&D	36 509	33 588
Financing cost (assume 9% write-off of advanced input costs due to grower default)	30 600	10 125
Total costs	**1 736 519**	**1 772 084**
Operating profit (gross income)	**177 881**	**172 466**
Direct tax on gross profit	**7 115**	**6 899**
Net profit	**170 766**	**165 567**
Return on sales (or net profit margin)	**9%**	**9%**
Return on investment	**10%**	**9%**

Sources:

Own analysis using data from:

(i) FAO and United Nations Industrial Development Organization. 2025. *Zambia's soya bean value chain analysis and strategy design 2024–2033.* Rome, FAO and Vienna, UNIDO. https://openknowledge.fao.org/handle/20.500.14283/cd4967en

(ii) field research by Musika in November 2024 and January 2025, and

(iii) consultations with seed grower groups and seed companies through workshops and bilateral meetings.

Small-scale processing model

The upgraded small-scale processing business model focuses on producing two primary products – animal feed and soy chunks – and one by-product – soybean oil, which is generated during the processing of the primary products. The target market for all three products includes local areas within the communities where youth processors are located and nearby regions.

The introduction of new products – soy chunks and soybean oil – represents a significant upgrade to the current situation, where processing businesses typically produce a single product (mainly animal feed). With these new products, the upgraded business model will have new elements compared with the current one, including the adoption of new or improved processing technologies and associated machines and improved practices to ensure quality standards are met, especially food safety standards for food products.

Table H4 presents the key parameters that are expected to change due to ICA-4 interventions, while Table H5 presents the operating accounts of a small-scale processing business under current and upgraded scenarios.

TABLE H4

Key parameters for small-scale soybean processing model in Zambia

Items	Unit	Current – Scenario 1: Animal feed only (2024)	Upgraded – Scenario 2: Animal feed + soy chunks + soybean oil as by-product	Upgraded – Scenario 3: Soy chunks + soybean oil as by-product	Upgraded – Scenario 4: Animal feed + soybean oil as by-product	Source/assumption
Conversion rate of raw soybean to soymeal	n/a	0.8	0.8	0.8	0.8	1 kg soybean is processed into 0.8 kg soymeal; the rest (20%) is soy oil
Conversion rate of soymeal to animal feed	n/a	4	4	n/a	4	Soymeal makes up 25% of animal feed, so 1 kg of soymeal is needed to produce 4 kg of feed
Conversion rate of soymeal to soy chunks	n/a	not in baseline	1.2	1.2	n/a	1 kg of soymeal converted to 1.2 kg of soy chunks after extrusion (Increase due to water added during extrusion)
Conversion rate of raw soybean to soybean oil	n/a	not in baseline	0.2	0.2	0.2	1 kg soybean produces 0.2 kg of oil
Own consumption of animal feed	% of total feed produced	5	5	n/a	5	Assuming the processor also engages in livestock production using their own produced feed
Animal feed loss	% of total feed produced	5	0	n/a	0	Current loss is taken from interviews with small and medium-sized enterprise (SMEs) processors. Assumes no loss in upgraded scenarios thanks to improved training
Machine repair service	ZMW/month	500	500	500	500	Current cost is taken from interviews with processing SMEs. Assumes no change in upgraded scenarios
Feed processing machine (mixer)	ZMW	80 000	80 000	n/a	80 000	Price taken from SARO quote
Feed processing machine useful life	year	5	5	n/a	5	Meeting with SARO
Pellet machine	ZMW	46 000	46 000	n/a	46 000	Price taken from SARO quote
Pellet machine useful life	year	3	3	n/a	3	Meeting with SARO
Hammer mill	ZMW/piece	67 000	67 000	n/a	67 000	Price taken from SARO quote
Hammer mill useful life	year	5	5	n/a	5	Meeting with SARO
Price of soybean (raw material)	ZMW/kg	10	10	10	10	Current price is taken from interviews with processing SMEs. Assumes no change in upgraded scenarios
Quantity of raw soybean purchased	kg	41 250	41 250	41 250	41 250	Current quantity is taken from interviews with processing SMEs. Assumes no change in upgraded scenarios

Items	Unit	Current – Scenario 1: Animal feed only (2024)	Upgraded – Scenario 2: Animal feed + soy chunks + soybean oil as by-product	Upgraded – Scenario 3: Soy chunks + soybean oil as by-product	Upgraded – Scenario 4: Animal feed + soybean oil as by-product	Source/assumption
Raw soybean used for feed	kg	41 250	30 938	n/a	41 250	In scenario 2, assumes that 75% of raw soybean is used for feed because soy chunk is a new product and its processing will start with a small quantity (25% of raw soybean procured)
Raw soybean used for soy chunks	kg	Not in baseline	10 313	41 250	n/a	As mentioned above
Amount of animal feed produced	kg	125 000	99 000	n/a	125 000	Estimated based on the quantity of raw soybean used and the conversion rates above
Amount of soy chunks produced	kg	Not in baseline	9 900	39 600	n/a	Estimated based on the quantity of raw soybean used and the conversion rates above
Amount of soy oil produced	kg	Not in baseline	8 250	8 250	8 250	Estimated based on the quantity of raw soybean used and the conversion rates above
Amount of soy oil produced	litre	Not in baseline	8 250	8 250	8 250	Estimated based on the quantity of raw soybean used and the conversion rates above
Animal feed price	ZMW/kg	14	16	n/a	16	Current quantity is taken from interviews with processing SMEs. Assumes increased price in upgraded scenarios thanks to improved quality
Soy chunk price	ZMW/kg	Not in baseline	33	33	n/a	Estimated based on the current prices taken from interviews with retailers
Soybean oil price	ZMW/l	Not in baseline	50	50	50	Estimated based on the current prices taken from interviews with retailers
Oil mill	ZMW	Not in baseline	120 000	120 000	120 000	Price taken from SARO quote
Oil mill useful life	year	Not in baseline	5	5	5	Meeting with SARO
Oil filter	ZMW	Not in baseline	60 000	60 000	60 000	Price taken from SARO quote
Oil filter useful life	year	Not in baseline	5	5	5	Meeting with SARO
Extruder	ZMW	Not in baseline	150 000	150 000	n/a	Price taken from SARO quote
Extruder useful life	year	Not in baseline	5	5	n/a	Meeting with SARO

Note: n/a = not applicable.

Sources:

Own assumption based on desk research and consultations with stakeholders in 2024.

TABLE H5

Annual operating accounts of a typical small-scale soybean processing business in Zambia (current and upgraded scenarios)

	Current scenario 1 (2024)	Upgraded – Scenario 2	Upgraded – Scenario 3	Upgraded – Scenario 4
	Animal feed only	Animal feed + soy chunks + soy oil as by-product	Soy chunks + soy oil as by-product	Animal feed + soy chunks + soy oil as by-product
	Total (ZMW/year)	*Total (ZMW/year)*	*Total (ZMW/year)*	*Total (ZMW/year)*
Revenue				
Animal feed – sales	1 597 500	1 469 061	n/a	1 854 875
Animal feed – own consumption	88 750	77 319	n/a	97 625
Soy chunks – sales	n/a	330 000	1 320 000	n/a
Soybean oil – sales	n/a	412 500	412 500	412 500
Total revenue	1 686 250	2 288 880	1 732 500	2 365 000
Costs				
Inputs				
Soybean (procured from within the value chain)	412 500	412 500	412 500	412 500
Other raw materials for feed	692 000	692 000	n/a	692 000
Electricity	24 000	72 000	24 000	48 000
Packaging bags	37 500	75 000	37 500	56 250
Services				
Transportation	15 000	15 000	15 000	15 000
Machine repair	6 000	6 000	6 000	6 000
Fees	20 000	20 000	20 000	
Fee paid to Zambia Bureau of Standards	10 000	30 000	20 000	20 000
Labour				
Operator	36 000	72 000	36 000	36 000
Caretaker	12 000	12 000	12 000	12 000
Guard	12 000	12 000	12 000	12 000
Loader	6 150	6 138	6 150	6 150
Pellet production	31 250	24 750	n/a	31 250
Depreciation	2 500	3 125	3 125	
Feed processing machine (mixer)	16 000	16 000	n/a	16 000
Pellet machine	15 333	15 333	n/a	15 333
Hammer mill	26 800	26 800	n/a	26 800
Extruder	n/a	30 000	30 000	n/a
Oil mill	n/a	24 000	24 000	24 000
Oil filter	n/a	12 000	12 000	12 000

	Current scenario 1 (2024)	Upgraded – Scenario 2	Upgraded – Scenario 3	Upgraded – Scenario 4
	Animal feed only	Animal feed + soy chunks + soy oil as by-product	Soy chunks + soy oil as by-product	Animal feed + soy chunks + soy oil as by-product
	Total (ZMW/year)	*Total (ZMW/year)*	*Total (ZMW/year)*	*Total (ZMW/year)*
Total costs	1 352 533	1 553 521	647 150	1 441 283
Operating profit (gross income)	333 717	735 359	1 085 350	923 717
Direct tax on gross profit	13 349	29 414	43 414	36 949
Net profit	320 368	705 944	1 041 936	886 768
Return on sales (or net profit margin)	19%	31%	60%	37%
Return on investment	24%	45%	161%	62%

Note: n/a = not applicable.

Sources:

Own analysis using data from:

(i) FAO and United Nations Industrial Development Organization. 2025. *Zambia's soya bean value chain analysis and strategy design 2024–2033.* Rome, FAO and Vienna, UNIDO. https://openknowledge.fao.org/handle/20.500.14283/cd4967en

(ii) field research by Musika in November 2024 and January 2025, and

(iii) consultations with seed grower groups and seed companies through workshops and bilateral meetings.

Mechanization service provision (mainly threshing)

The upgraded mechanization service business model focuses primarily on providing soybean threshing services, with the possibility of expanding to other crops. Under this model, youth-led businesses will offer mobile threshing, using a tractor to transport the thresher from farm to farm. The threshing service business will thus require both a tractor and a thresher. Investing in a modern, high-quality tractor represents a significant additional cost compared with the current scenario, where older tractors and machines are used. However, this investment is justified for two key reasons. First, many existing service providers struggle to move their equipment between farms due to the unreliability of their tractors, which limits their ability to serve multiple clients. Second, tractor ownership creates additional income opportunities: outside the harvesting period, when threshing is not needed, the tractor can be rented to farmers or other service providers for land preparation and planting activities.

Another difference between the current and upgraded scenarios concerns the share of threshing in total costs.

- In the current scenario, apart from threshing, the business provides other services (such as production-related services). The revenue from threshing makes up only about 25 percent of total earnings, and this proportion is used as a proxy for the share of total costs attributable to threshing.
- In the upgraded scenario, the business operates exclusively in threshing, so all costs are fully attributed to threshing activities.

Table H6 presents the key parameters for a small-scale soybean mechanization service provision model in Zambia that are expected to change due to ICA-4 interventions, while Table H7 presents the operating accounts of a small-scale soybean mechanization service provider in Zambia under current and upgraded scenarios.

TABLE H6

Key parameters for small-scale soybean mechanization service provision model in Zambia

Items	Unit	Current – threshing using old machines (2024	Upgraded – threshing using improved machines + provide tractor renting	Source/assumption
Quantity of soybean threshed per day	50 kg bag	25	40	Current quantity is taken from interviews with threshing service providers. Upgraded scenario assumes higher quantity due to improved machines and practices
Threshing fee	ZMW/bag	30	40	Current price is taken from interviews with threshing service providers. Upgraded scenario assumes higher fee as improved machines and practices will reduce soybean loss in terms of quantity and quality
Number of threshing days per year	day/year	120	120	Current number is taken from interviews with threshing service providers. Upgraded scenario assumes same number of days
Tractor insurance	ZMW/year	1 200	1 200	Current number is taken from interviews with threshing service providers. Upgraded scenario assumes same cost
Machine maintenance/ repair	ZMW/month	1 000	330	Current cost is taken from interviews with threshing service providers. Upgraded scenario assumes lower cost due to improved machines and practices
Thresher machine	ZMW/unit	35 000	83 970	Current price is taken from interviews with threshing service providers. Price in upgraded scenario is taken from interview with SARO
Thresher useful life	years	2	3	Current lifespan is taken from interviews with threshing service providers. Upgraded scenario assumes longer lifespan because newer machines have longer lifespan
Tractor	ZMW/unit	50 000	361 071	Current price is taken from interviews with threshing service providers, who received tractors at a subsidized price. Price in upgraded scenario is taken from interview with SARO (unsubsidized price).
Tractor useful life	years	8	15	Interview with SARO
Soybean share in total cost	%	25	100	Current share is taken from interviews with existing threshing service providers, who provide threshing services for soybean and other crops. Upgraded scenario assumes youth-led service providers will provide threshing service for soybean only.
Tractor renting fee	ZMW/day	n/a	4 250	Own research and assumption
Number of days per year for renting out tractor	days/year		30	Own estimate based on the potential numbers of days that tractor can be rented out, specifically during land preparation and planting periods (October–November)

Note: n/a = not applicable.

Sources:

Own assumption based on desk research and consultations with stakeholders in 2024.

TABLE H7

Annual operating accounts of a typical small-scale soybean mechanization service provider in Zambia (current and upgraded scenarios)

	Current (2024)	Upgraded
Item	***Total (ZMW/year)***	***Total (ZMW/year)***
Revenue		
Threshing service fee (soybean)	90 000	192 000
Tractor renting fee	n/a	127 500
Total revenue	**90 000**	**319 500**
Costs		
Inputs		
Fuel	4 950	9 900
Engine oil	2 400	4 800
Services		
Telecommunication	6 000	9 900
Transport	1 588	6 350
Machine maintenance/repair	1 000	1 650
Insurance		
Tractor insurance	300	1 200
Labour		
Thresher machine operator	7 000	8 750
Manager	6 000	24 000
Marketing	6 000	24 000
Rent		
Office/warehouse	16 500	66 000
Depreciation		
Thresher	17 500	27 990
Tractor	1 563	24 071
Total costs	**70 800**	**208 611**
Operating profit (gross income)	**19 200**	**110 889**
Direct tax on gross profit	**768**	**4 436**
Net profit	**18 432**	**106 453**
Return on sales (or net profit margin)	**20%**	**33%**
Return on investment	**26%**	**51%**

Notes: This table presents only the costs and revenues related to threshing. In the current scenario, the business also provides other services (such as production-related services), so threshing represents only about 25 percent of total revenues and expenses. Many costs—such as tractor purchase, insurance, and managerial or marketing labour—are therefore shared across multiple activities. In the upgraded scenario, the business would focus exclusively on threshing. Because no costs would be shared with other services, these expenses appear higher in the upgraded scenario than in the current one.

n/a = not applicable.

Sources:

Own analysis using data from:

(i) FAO and United Nations Industrial Development Organization. 2025. *Zambia's soya bean value chain analysis and strategy design 2024–2033.* Rome, FAO and Vienna, UNIDO. https://openknowledge.fao.org/handle/20.500.14283/cd4967en

(ii) field research by Musika in November 2024 and January 2025, and

(iii) consultations with seed grower groups and seed companies through workshops and bilateral meetings.

This publication summarizes the results of a youth-sensitive analysis of the soybean value chain in Zambia, which was conducted under the project "Integrated Country Approach for boosting decent jobs for youth in the agrifood system, Phase IV (ICA-4)".

Drawing from the analysis of constraints and youth employment opportunities, the publication outlines potential intervention areas for the ICA-4 project, and overall recommendations for a youth-inclusive soybean value chain.

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