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FINAL REPORT OF EVALUATION

EVALUATION OF THE CZECH REPUBLIC DEVELOPMENT COOPERATION PROJECT IN THE SECTOR OF AGRICULTURE AND RURAL DEVELOPMENT IN ZAMBIA

Final report

May 2021

Evaluation team

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ČESKÁ REPUBLIKA POMÁHÁ

Partner country (country of implementation): **Zambia**	Project locations: **Districts Monze and Choma**
Title of evaluated intervention in Czech and English: **Appropriate and stable fodder production for dairy cattle in the small-scale farms** **Zajištění udržitelné a stabilní produkce krmiva pro dojný skot drobných farmářů**	Specialization: **Agriculture and rural development**
Coordinator: **Czech Development Agency**	Implementer: **Mendel University in Brno**
Project Start Date: **11/2014**	Project End Date: **04/2018**
Total contribution utilised from Czech development cooperation funds (CZK): **15 864 644,- CZK**	Total funds utilised, including co-financing (CZK): **15 864 644,- CZK**
Other donors engaged in the project: **-**	
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Period of the evaluation: **05/2020 – 05/202105/2021**	
Date, signature(s):	

Management Summary

Project

Subject of this evaluation is a project "Appropriate and stable fodder production for dairy cattle in the small-scale farms", which was implemented in the target country, Zambia, by experts from Mendel University in Brno in November 2014 - April 2018. The aim of this project is to "ensure sustainable and stable fodder production for dairy cattle for small farmers in the two selected target cooperatives in Choma and Monze" in order to stabilize and develop the production of farmers of involved cooperatives, especially in relation to milk production.

Purpose

The main purpose of the evaluation is to obtain independent, objective and consistent findings, conclusions and recommendations valuable for making decisions by Ministry of Foreign Affairs (hereafter MFA), in cooperation with Czech Development Agency (hereafter CzDA), about the future orientation and implementation of the Czech Republic development cooperation in Zambia considering the 2030 Agenda for Sustainable Development and the Development Cooperation Strategy of the Czech Republic 2018 – 2030. Conclusions and recommendations should be relevant for further direction and financing of Czech development cooperation in Zambia and also for the implementation of similar projects in the sector of agriculture and rural development.

Objective

The overall objective of the evaluated project was to ensure sustainable and stable production of fodder for dairy cattle of small farmers in two selected target cooperatives in Choma and Monze.

The project was focused on three components in both of these communities / regions:

1. The first component was the **development of the capacity** of cooperatives members **for the production of fodder** to increase fodder production so as to ensure better quality feeding for cattle in times of drought, when farmers are experiencing a major decline in milk production. This was achieved in particular through training focused on key topics in the production, processing and storage of fodder and cattle feeding in general, individual support of fodder production on selected farms, workshops and demonstrations, etc.
2. The second component was **support for mechanization and efficiency**, mainly the supply of appropriate agricultural machinery to cooperatives and other accompanying investments, training in the use of this mechanization and, last but not least, support in introducing a sustainable economic model for managing this technology.
3. The third component was the **pilot implementation of the so-called holistic landscape and livestock management** (hereafter HLLM) in three communities in each of the target regions.
4. An additional activity of the project was the preparation for the provision of water resources for livestock, but the actual implementation of this part was the subject of another project.

Methodology and techniques deployed; limitations observed

Evaluation methodology included individual and group interviews with stakeholders at all levels of public governance, implementer, partner institutions, other donors and relevant stakeholders, etc. Furthermore, two surveys were conducted, one among the supported farmers and the other among non-supported farmers in four localities. These four localities were also visited by local expert and individual interviews as well as focus groups were conducted in the localities. Evaluation was seriously affected by the limitations related to pandemic of COVID-19; however, its successful implementation was enabled by means of distant communication and intensive employment of local evaluation expert, including broadening local evaluation team by junior experts.

Key evaluation findings

Relevance

Strategic fit of the project and its relevance has been assessed as **high**. Objectives and activities of the evaluated project are entirely in line with Zambia policies, namely with National Agricultural Policy 2004 - 2015, Second National Agricultural Policy 2016 - 2030, National Investment Plan 2014 - 2018 and also with the more general development strategy for 2017 -

2021. The project followed up on the long-term work of the Czech Development Cooperation (hereafter CDC) with Zambia in agriculture. The project is still relevant even in the new strategy of CDCCDC with Zambia for 2018 - 2023, which aims to "bring Zambia to the status of a middle-income country by 2030 and build a diversified economy in the country independent of development aid" through "intensification and the diversification of agricultural production".

Project implementation criteria were set appropriately, however, stronger emphasis should be put on qualitative assessment and a continuous presence of implementer of projects of this scale should be required.

Coherence

With regard to coherence, it has been observed that there is a multitude of stakeholders and other donors that are or have been active in the project region in dairy farming. Evaluated project did coordinate its activities with these stakeholders, however, coordination **was implemented rather on an ad-hoc basis and at operational level** rather than on the level of programming or even donors. This coordination and, to some extent, cooperation did enable to avoid duplicity in implemented activities. Moreover, in some instances mutual cooperation of different project teams was (again on an ad-hoc basis) achieved. The level of cooperation with other partners is, however, seen as insufficient by both members of CDC project staff at all levels (implementer, partner management, local staff) as well as representatives of other donors.

Based on these conclusions the coherence of evaluated project with other donor is assessed as **rather high**, however, potential of cooperation with other donors has not been fully taken advantage of mainly due to insufficient inclusion of synergies in the formulation phase. Stronger focus on cooperation with other donors would not only enable to leverage on each other's strengths, but would potentially also strengthen the sustainability of CDC project and thus overcome the crucial limitation of short time scope of implementation of CDC projects.

Efficiency

The overall evaluation of the project in terms of efficiency is positive. High efficiency is shown by activities focused directly on agriculture production and welfare of cattle. The implementer managed to significantly contribute to increasing the volume and quality of production of small farmers, which positively contributed to the cost-effectivity of the project. On the other hand, activities associated with the acquisition and use of agricultural machinery show rather low efficiency. The implementation of the project did not create a mechanism that would fully ensure long-term coverage of the increased costs of target beneficiaries for new mechanization.

Based on these conclusions the efficiency of evaluated project is assessed as **rather high**, however, efficiency of the purchase of machinery is **low**.

Monitoring activities and indicators

According to monitoring activities, all project outputs and outcomes have been fulfilled as the quantified target values of formulated indicators have been met:

- Fodder production capacity increased by more than 270 ha.
- Mechanized services provided by fodder production cooperatives generate income that minimally covers operating and service costs since 2017
- In April 2018, 61.3% of the total livestock population was involved in joint holistic daily grazing, and 37% of the total number of animals in night housing.
- The subcontractor of the project team identified a sufficient number of water sources.
- The share of farmers who produce fodder for their cattle on their own has, according to the project monitoring, increased to 79%% in 2017
- More than 74% of farmers produced milk during the 2017 dry season and the ratio of production during the rainy and dry periods decreased from 3.8 to 1.8

Relation between fodder and milk production; access to water as external risk

Three years later, in 2021, the evaluation concludes that supported farmers are still largely continuing to **produce their own fodder and a positive trend of milk production as well as incomes is reported** by these farmers, despite negative external events (drought in 2018-2019). However, qualitative research in the target region does not provide as convincing conclusion. Although it has confirmed the direct link between producing own fodder and milk productivity and, even more

importantly, it enables sufficient milk production also in dry season, stakeholders in the region have observed that **many farmers have stopped producing fodder nonetheless**. The following are the key reasons for such failures:

- The most crucial reason is access to water, which is a primary precondition to continuation of fodder production.
- Negative impact of drought in 2018 / 2019 that caused cattle frequently dying and also migration of herds too far away localities with more water. Naturally, project could not avoid or mitigate this external risk, however, once the water situation stabilized there was no support available to motivate and guide farmers to start over with fodder production again.
- Availability of seeds, which is seen as one of key reasons why many farmers stopped producing their own fodder. The project planned to work around this expected bottleneck by involving cooperatives / unions, which were supposed to buy seeds and distribute them among farmers, however, this plan did not succeed.

Similarly, to fodder production, stakeholders in the target areas see direct causal link between implementation of HLLM and increase in milk production. However, serious challenges to continued implementation of HLLM or at least its components have been encountered throughout the area:

- Accessibility to nearby water sources is again a primary precondition to implementation of HLLM.
- Negative effect of drought which has seriously limited or even stopped HLLM implementation throughout the project area.
- Lacking equipment for mobile kraals.

However, comparative analysis of two communities where HLLM has been introduced pointed out to lacking long-term support as significant reason why some communities did not sustain HLLM. Once the negative external effect (drought) has faded, there was **no stakeholder in the region that would facilitate reintroduction and/or strengthening of HLLM practices** in the supported communities. Furthermore, the importance of strong engagement of local informal authorities has proved to be one of decisive factors in sustaining or re-introducing of HLLM.

There is little evidence that delivered machinery significantly contributed to the increase of fodder production and incomes of small-scale farmers. Although empiric records of machinery usage are not available, it is evident that at least **some pieces of machinery are not being used at all due to lacking maintenance or its unsuitability** to local farmers. Even those pieces of machinery that are in operation are serving rather larger and more well-off farmers than small-scale farmers, for whose needs the machinery is not suitable due to its size as well as purpose.

Effectiveness

Based on these conclusions the effectiveness of evaluated project is assessed as **rather high**, the project has, at the end of its implementation, reached its objectives. However, significant portion of these achievements **could not be sustained**.

Supported farmers in their majority observe that the quality of their life has increased since 2018. In the course of qualitative research in various communities of the target region, strongly positive appraisals were formulated especially with regard to the implementation of HLLM, stating that implementation of HLLM has brought or at least has the potential to bring positive change to their lives. Besides its impacts on milk production a multitude of positive impacts in economical (higher yields on crops, lower consumption of fertilizers) and environmental (lowering overgrazing, stopping the practice of bush burning, lower application of fertilizers) areas as well as in the coherence of local community have been attributed to implementation of HLLM. It has been reported that in effect of HLLM the cooperation among community members has increased in general, leading to increase in mutual trust and mobilizing the community.

Impacts

However, it should also be pointed out that **poorest members of communities have little to no benefit from the project activities**. No specific outreach activities tailored to the needs of the poorest farmers have been implemented.
Important component of the project logic was the expectation that other farmers would replicate the innovation implemented with project support, namely the fodder growing for animal nutrition. Some trends in this regard have been observed, however, **data do not prove that replication of introduced practices would be widespread**. Data also clearly show that lack of information and continued support in fodder production is one of the key barriers to a more successful replication. In this regard the reliance on cooperatives to carry on with extension services has failed. Based on these conclusions **the impacts** of evaluated project are assessed **rather high.**

Exit strategy and sustainability

There was insufficient focus on exit strategy in the project formulation. **Exit strategy was not sufficiently formulated and planned and relied on the existing cooperative structure for sustainability of project outcomes**. Dependency on these structures in project implementation as well as sustainability is seen by the implementer as well as local partner as one of the biggest issues of the project as whole.

Respondents of evaluation in their characterisation of cooperatives agree on several problems which can be summarized into the following three points:

- Cooperatives are inherently unstable organizations – with regard to governance as well as financial stability;
- Cooperatives lack capacity and expertise;
- Cooperative activities beyond their key purpose, namely milk collection, are, to a large extent, donor driven.

As a result, the evidence shows that **cooperatives were rather not successful in sustaining services and outcomes of the project**. Cooperatives do not provide extension services (beyond ad-hoc consultations) and do not have capacity and/or knowledge to do so. Furthermore, they do not grow their own fodder and also renting machinery to small-scale farmers has been limited. Growing own fodder at cooperatives was supposed to help farmers who are not able to produce their own fodder or cannot afford to buy seed on the market.

In conclusion, the following parameters proved to be crucial for project sustainability:

- Insufficient exit strategy
- Reliance on cooperatives and insufficient involvement of other stakeholders to exit strategy (government structure of extension officers, other donors, business entities, etc.)
- Lacking long-term support (related to weak exit strategy and full reliance on cooperatives)
- Lacking access to inputs, most importantly seeds;

Last but not least, the most important factor of sustainability is access to water. This is a precondition of sustaining fodder production as well as HLLM in supported localities.

Based on the findings above the **sustainability** of evaluated project is assessed **rather low.**

Following findings and conclusions, a number of recommendations has been formulated.

Programme or sector recommendations:

Recommendation	Level of seriousness	Primary addressee
Strengthen emphasis on exit strategy, which must be formulated from the very beginning – in the formulation of project already; involve relevant stakeholders in exit strategy, including other donors and government structures (which may be underfinanced but stable). Require profound exit strategy in the design phase in grant applications and put emphasis on its implementation, including appropriate capacity building activities, in implementation criteria.	1	CzDA
Engage in coordination mechanisms / platforms in relevant sectors and, if possible, ensure permanent representation of CDC in priority sectors – do not rely on coordination at the level of implementers. In programme and project formulation leverage on other donors' strengths, based on profound stakeholder analysis, and focus on added value of CDC in this complex environment	2	CzDA, Embassy
Require that a profound stakeholder analysis and risk analysis precedes selection of local partners (especially in the case of partners who play role in the developed exit strategy). If relevant to the selection procedure, take advantage of external experts in identification phase so that operational, economic as well as human resources capacities of local partners are analysed. Require that in project formulation phase the results of such analysis are mirrored in appropriate approach to capacity building aimed at local partner.	1	CzDA / implementer (depending on the mode of implementation)

Project recommendations:

Recommendation	Level of seriousness	Primary addressee
Analyse in detail the added value of Czech expertise as well as locally available capacities.	3	implementers
Require that procurement (tender procedure) related to equipment and machinery is based on profound analysis of needs of target groups / final beneficiaries in local context.	1	CzDA / implementers
Transfer of ownership of procured equipment should be incremental and conditioned by (verified) establishment of sufficient capacities and processes	1	CzDA / implementers
Involve activities aimed at dissemination of good practice and innovation in broader community (outside the scope of directly supported farmers), such as awareness raising, field days, setting up of demonstration fields, training of trainers, etc. Include monitoring of the level of replication in supported communities into the monitoring system, at least as a pilot activity (baseline and endline surveys in selected locality).	2	CzDA, implementers
Require that the needs and limitations of poorest members of supported are taken into account in project design (tailored activities to this target (sub)group) in order to avoid increasing the gap between better-off and poor members of the community.	2	CzDA
Ensure that water component is secured in target areas prior to (or along with) the implementation of other water demanding or depending activities in the agricultural sector in the target country	1	CzDA

System or procedure recommendation

Recommendation	Level of seriousness	Primary addressee
Analyse options to ensure longer time frame for implementation of project in agriculture sector. Ideally enable an additional 2 years of phase-out period for activities of lower intensity aimed at refreshing of knowledge and couching of supported farmers.	2	MFA / CzDA
Analyse option to increase emphasis on continuous presence of implementer in projects of larger scale in this sector in the target regions in current legal framework.	3	CzDA

Content

1 Introduction

1.1 Evaluation context

Zambia is one of the priority countries for the CDC. The aim of the Development Cooperation Programme of the Czech Republic with Zambia, targeting single thematic priority “agriculture and rural development”, is to support the implementation of Zambia's development strategy "Vision 2030. Zambia's effort to:

- achieve the status of a middle-income country,
- emphasise reducing poverty and vulnerability of the poor by creating jobs, especially in rural areas,
- diversify the economy towards building a sustainable production and agricultural sector, incl. infrastructure expansion and education,

is understood as the strategic driver for the implementation of CDC policy. In order to meet its priorities in the target regions, the Czech Republic wants:

- to focus on strengthening the market access of small and medium-sized farmers
- to diversify and improve farmers production
- to generally improve the situation of the population, especially in agriculture and rural areas

These activities are intended to further reduce Zambia's dependence on development aid, reduce poverty and hunger, and sustain sustainable economic growth.

Subject of this evaluation is project "**Appropriate and stable fodder production for dairy cattle in the small-scale farms**", which was implemented in the target country, Zambia, by experts from Mendel University in Brno in November 2014 - April 2018. The aim of this project is to "ensure sustainable and stable fodder production for dairy cattle for small farmers in the two selected target cooperatives in Choma and Monze" in order to stabilize and develop the production of farmers of involved cooperatives, especially in relation to milk production.

1.2 Purpose of evaluation

The main purpose of the evaluation is to obtain independent, objective and consistent findings, conclusions and recommendations valuable for making decisions by MFA, in cooperation with CzDA, about the future orientation and implementation of the CDCCDC in Zambia considering the 2030 Agenda for Sustainable Development and the Development Cooperation Strategy of the Czech Republic 2018 – 2030.

Evaluation is to be performed in accordance with the internationally recognized OECD-DAC criteria, i.e. relevance, coherence, efficiency, effectiveness, impact and sustainability, and other criteria (visibility and crosscutting themes of the Czech development cooperation). Conclusions and recommendations should be relevant for further direction and financing of CDCCDC in Zambia and also for the implementation of similar projects in the sector of agriculture and rural development.

1.3 Information on the evaluators

Evaluation Advisory CE s. r. o. is a joint venture of established companies HOPE Group s. r. o. and Naviga 4 s. r. o., which has long been at the forefront of the market in the field of evaluation and consulting for ministries and state administration and self-government authorities in the Czech Republic. It is a dynamic consulting organization with more than twenty years of tradition on the Czech market. Since its establishment, the company has focused on consulting and expert activities in the field of implementation of public expenditure programs and projects. In this field, analytical and evaluation projects, strategic and project consulting projects, development of project plans, processing of analyses and specific inputs for EU structural funds projects are delivered by the company.

The key members of the implementation team, Lukáš Maláč (lead evaluator) and Radim Gill (senior expert) as well as Hikabasa Halwiindi, the local expert in Zambia, have extensive work experience with evaluations of development initiatives. Due to the on-going COVID-19 pandemic, local team was strengthened by junior members: during field research Ms. Ompy Hatwiinda and Mr. George Muziya assisted local expert. CATI survey was conducted by two local interviewers (Mr. Malungo Habombe and Mr. Chipo Shadelemu). Thematic expert in agriculture of the evaluation team,

Vojtěch Tamáš, has extensive experience in research and evaluation of agricultural development programmes and projects.

2 Information on evaluated project

2.1 Addressed intervention in wider context

The project was commissioned by the CzDA in 2014 in the form of **procurement procedure**. Therefore, the project identification has been done and the project was formulated predominantly by CzDA. The reason for this implementation choice can be seen in previous activities of CDC in the country and sector (animal husbandry). CzDA has supported initiatives aimed at improving the cattle breeding in the region strengthening the gene pool of local cattle breeds and their resilience.

The introduction of appropriate pasture management and ensuring quality fodder supply was seen as the necessary next step in support to strengthening the cattle breeding in the region. It was observed that ensuring year-round feed rations in sufficient quality and quantity was the main obstacle in the use of the genetic potential of cattle (mediated by artificial insemination), especially in times of drought, when milk yield decreases by up to 50%. The predominant extensive breeding method was highly dependent on uncontrolled grazing. However. However, this approach is highly inefficient and also very unbalanced – some areas were not sufficiently used whereas others were overgrazed – with negative impacts on quality and quantity of forage production.

On this basis, the evaluated project was formulated by CzDA and tendered. Its overall objective was ensuring sustainable and stable production of fodder for dairy cattle of small farmers in two selected target cooperatives in Choma and Monze.

Following outputs were planned in order to reach following objectives:

1. Developed Capacity for fodder production
2. Effective and sustainable use of agricultural machinery for forage production
3. Established Holistic Land and Livestock Management (HLLM) in one community of each target area (Choma, Monze)
4. Ensured water supply for cattle

2.2 Implementers and main stakeholders

The project has been implemented by the Mendel University in Brno.

Furthermore, the following stakeholders from the Czech Republic were chosen by the implementer as partner organizations (in the form of sub-contractors):

- NGO Njovu o. p. s. whose role was to provide the project with the main local coordinator, as well as advice on working with the community and target groups in Zambia, communication and networking, and the organization of trainings and workshops. A representative of Njovu o. p. s. was also supposed to serve as a project representative in the capital Lusaka in case of meetings with partners, supply, etc.
- Private company GEOtest a. s. with the task to provide technical supervision over the implementation of activities within Output 4 and their implementation in the field.

Following partnerships were established for this project in the target country (partnerships established during formulation of the project by CzDA):

- Choma District Dairy Co-operative Union and Monze Dairy Farmers Co-operative Society – key beneficiaries and partners of the project. Furthermore, the individual farmers who cooperate with the cooperatives also constitute the direct target group of the project.
- Provincial Headquarters of Ministry of Agriculture and Livestock[1], Department of Livestock Development, responsible for project support at the level of key actors and state institutions at the place of

[1] Later reformed into Ministry of Fisheries and Livestock

implementation, presentation of the project within state institutions at the national level, provision of available data and information and support of cooperatives in the form of seed and fertilizer supplies.

- Ministry of Agriculture and Livestock, Department of Livestock Development – tasked with provision of overall political support for the project and formalization of the cooperation in the form of Memorandum of Understanding.

During the implementation of the project a further partner was involved, namely the African Centre for Holistic Management in Zimbabwe, who provided expertise and lectors / experts for the implementation of Output 3 of the project as well as supervision of its implementation.

Table 1: Presentation of key stakeholders

Role	Institution(s)
Contractor	Czech Development Agency
Implementer	Mendel University
Partners of the Implementer	Njovu, o. p. s. GEOtest a. s. *African Centre for Holistic Management*[2]
Local project partners (selected by CzDA, overlap with target groups]	Choma District Dairy Co-operative Monze Dairy Farmers Co-operative Society Provincial Headquarters of Ministry of Agriculture and Livestock Ministry of Agriculture and Livestock, Department of Livestock Development

2.3 Logic of the project

As noted, the project was implemented in two districts at the level of existing cooperatives with hundreds of members - cattle breeders (from small to large). The project focused on three components in both of these communities / regions.

1. The first component was the development of the capacity of members of cooperatives for the production of fodder to increase fodder production so as to ensure better quality feeding for cattle in times of drought, when farmers are experiencing a major decline in milk production. This was achieved in particular through training focused on key topics in the production, processing and storage of fodder and cattle feeding in general, individual support of fodder production on selected farms, workshops and demonstrations, etc.
2. The second component was support for mechanization and efficiency, mainly the supply of appropriate agricultural machinery to cooperatives and other accompanying investments, training in the use of this mechanization and, last but not least, support in introducing a sustainable economic model for managing this technology.
3. The third component was the pilot implementation of the so-called holistic landscape and livestock management (HLLM) in three communities in each of the target regions.

An additional activity of the project was the preparation for the provision of water resources for livestock, but the actual implementation of this part was the subject of another project.

Detailed model of intervention logic reconstructed on the basis of implementer's bidding document is provided in Annex 6.

2.4 Key assumptions and risks of intervention

Project implementer has identified the following assumptions and risks of the intervention. Their validity and relevance (as well as occurrence) within the implementation of the project was subject of evaluation.

Key assumptions:

- Persistent high demand for milk in Zambia
- Cooperation of cooperatives and other partners will be implemented as planned
- Continuation of favourable security and political situation in Zambia

Key risks:

[2] Initially (at the point of the presentation of implementer's bid) not a formal partner, joined later.

- Lack of interest on the part of target and key farmers
- Unreliability of target groups
- Reluctance to change
- Risks related to utilization of delivered machinery

In the course of the evaluation four key risks, which have not been profoundly analysed and mitigated, have proved to have a serious impact on the implementation and sustainability of the project.

1. Availability of adequate water sources in target regions – in some areas where project activities were implemented. Local farmers had to travel significant distances with their cattle to nearest water source which significantly affected their willingness to adopt and sustain new practices.
2. Drought. A longer period of drought immediately followed the conclusion of the project. In effect, positive impacts have been to a large degree lost in some areas (e.g. implemented HLLM practices).
3. Risks related to local structures. Insufficient analysis of local structures that entered the project as local partners caused that a structure in deep economic crisis has been selected as one of the local partners, disabling to implement project activities in full scale in the initial phase of the project.
4. Risk related to utilization of machinery have proved justified. See chapters 4.3 and 4.4 for details.

3 Evaluation methodology

In order to process the project and answer the evaluation questions an evaluation methodology is proposed. Details of the evaluation methodology are presented in an evaluation matrix presented in Annex 3.

3.1 Methodology approach

Relevance:

The primary method is a detailed content analysis of the project. The evaluation matrix for the assessment of relevance was be prepared on the basis of a content analysis of all relevant strategic documents of the CDC and Zambia.

Questions focused on relevance have been the subject of IDI with representatives of implementers, who were asked to interpret the results of the content analysis of project documentation and also comment on the compliance of implemented projects with the needs of target groups.

At the level of the actors involved (especially target groups) an assessment of the **relevance of the needs** to which the project responded as well as verification of the **relevance of its objectives** was collected primarily applying focus group discussions and, to a lesser extent, questionnaire (testing the project's assumptions regarding target group needs).

The second evaluation question is directly related to the evaluation of relevance as such and will be answered on the basis of a synthesis of knowledge (findings) made in the application of the methods described above.

Coherence:

The analysis in relation to the coherence criterion is based on the analysis of relevance, presented above. In the first step, the strategies and projects of key donors involved in the agricultural sector in Zambia have been analysed and the (potential) synergies of the activities of these donors with the project, resp. with the CDC in Zambia in a broader context identified. On this basis a series of individual interviews with representatives of the Embassy in Zambia and with representatives of other donors or other relevant stakeholders has been implemented.

Efficiency

The efficiency criterion primarily monitors input efficiency, i.e. how economically the funds and other inputs are used in terms of project outputs (often referred to as "value for money"). The evaluation of project efficiency has focused on two aspects:

1. The first is efficiency (economy) at the level of unit costs - i.e. the question of whether the costs of individual items of project budget are economical and correspond to usual prices. Comparative methods and expert assessment have been applied in this regard.
2. The second aspect is the efficiency of expenditure in relation to the activities and objectives of the project - in other words, the relevance of budget items. In this sense, it has been analysed whether the individual costs were necessary to achieve the specified outputs and results.

Effectiveness

The questions relevant to effectiveness focus on individual levels of fulfilment of project objectives - i.e. at the level of outputs (EQ 7), results (especially EQ 9) and the overall goal of the project (EQ 8). Questions related to effectiveness lead to the verification of the validity of the causal relations of the theory of change. It is precisely the validity of these causal

links that presupposes - as a result of the fulfilment of outputs, there will be (among other things) an increase in feed production capacity and as a result of (not only) this trend to increase milk production, especially in times of drought - and thus stabilize and increase farmers' incomes. Due to this interconnectedness all three questions have been evaluated simultaneously in order to verify the validity of the outlined causal links. Aspects of the evaluation of effectiveness has been therefore analysed using logical frameworks, resp. **theory of change** tool**.** In order to test its validity various methods of evaluation have been implemented, including desk research, individual and group interviews and questionnaires.

Impacts and sustainability

Due to the fact that both processes are interconnected, they have been evaluated jointly. At the level of sustainability emphasis has been placed on the identification of sustainability conditions (parameters) and exit strategies, which are keys for long-term sustainability – and their fulfilment will be verified. Sufficient level of sustainability is the precondition of project bringing about the planned (as well as unintended) impacts.

3.2 Methodological and other obstacles

A key and at the time of bidding unforeseen obstacle are the measures put in place by individual governments in response to the spread of Covid-19 and more generally restrictions on travel, face-to-face meetings, etc. In order to mitigate this risk, the time scale of this evaluation has been modified multiple times, however, in February 2021 it was clear that measures will still limit travelling for at least several more months. For that reason, the approach has change in the following manner:

- Interviews with representatives of institutions, donors, implementers, partners, etc. have been implemented remotely by the use of video conferences or phone. More than 10 such interviews were held.
- Interviews and other data collection methods in the field were implemented by a local team, under remote direction of the lead evaluator.

These modifications have encountered a number of challenges. Interviews implemented remotely take generally more time to organize and are also limited when it comes to immediate interaction with the respondent. Using local team for data collection also proved to be significantly more time consuming than implementation of evaluation methods during a mission to the target region – all methodological inputs have to be elaborated in great detail and consulted on the go. Moreover, immediate interaction with the respondent, which is often crucial, cannot be relied on. However, due to highly experienced local evaluator inputs from the field of high quality have been achieved despite these limitations.

Another obstacle was the low response rate of a survey conducted with supported farmers due to outdated contacts. In the end only ca. third of the original sample has been reached in the survey. For that reason, the qualitative aspects of the survey have been strengthened and data collection was supplemented with more than planned qualitative interviews with farmers in the target region.

Last but not least, high turnout of cooperative management has also limited the scope of data collection. Moreover, due to the turnover and often rough transition records covering longer time periods could not have been acquired.

3.3 Evaluation team

Project team includes:

- **project manager and main evaluator** with extensive experience in project management and practice in the field of evaluation of programs / projects financed from public funds, including evaluation of development cooperation projects of the Czech Republic
- **senior expert and quality guarantor** with extensive experience with development projects in the field of regional and local development, local economic development and more generally policy consultancy for a large number of institutions and partners in the Czech Republic and abroad; In addition, the division of positions into a manager and a quality guarantor ensures their substitutability
- **local expert** with rich experience in evaluating development projects of foreign donors in the target country and a very good knowledge of the local context (comes from the target region).
- **thematic expert in the agricultural sector** with significant experience in evaluating development projects of the Czech Development Cooperation in this sector (Georgia, Ethiopia).

4 Evaluation findings

4.1 Relevance

EQ1: To what extent is the project relevant to the strategic objectives of Zambia, the CDCDC and involved individual actors?

Relevance to strategic objectives of Zambia

The project started in Zambia in 2014 and was directly linked to national and provincial plans for the development of agriculture and animal husbandry:

1. Within the **National Agricultural Policy 2004-2015**, the aim in the agricultural sector was to "facilitate and support the development of a sustainable and competitive agricultural sector that will ensure food security at national and household level and maximize the sector's share of GDP". The aim of the government's policy in the livestock sub-sector was to **increase production** with respect to sustainability and also to **support the market uptake of both livestock and animal products**, thus contributing to food security and income growth.

   Evaluated project fully complies with this national strategy: its main goal was to ensure stable and sustainable fodder production for dairy cattle by small farmers. The fulfilment of this goal was led by the fulfilment of outputs that are fully in line with the national strategy:

   - development of fodder production capacities
   - efficient and sustainable use of agricultural machinery for fodder production
   - established land and animal management
   - Securing a source of water for livestock
2. The next generation of this strategy, namely the **Second National Agricultural Policy 2016 – 2030** (SNAP)**,** follows up by stating, that livestock sub-sector is "increasingly important part of the agricultural economy and plays important (…) role in the livelihoods of particularly smallholder farmers" (SNAP, p. 6) and recognises a sharp increase in especially cattle population (almost doubled in 2008 – 2014 period). However, it also recognises key challenges to development of this sector, among others low production and productivity, inefficient agricultural extension service delivery and low level of agricultural mechanisation among smallholder farmers. In response to these challenges the SNAP formulates, among others, the following objectives related to livestock production (SNAP, p.10):
   - Promote the provision of water points for livestock
   - Promote conservation of fodder
   - Promote the use of improved pastures
   - Promote improved range management practices.

   Project objectives and activities are fully in line with these strategy objectives.
3. Similarly, project is relevant for the National Agriculture Investment Plan of Zambia (2014 – 2018) that was developed under the Comprehensive Africa Agriculture Development Programme by the Ministry of Agriculture and Livestock of Zambia. One of the objectives of this plan was to **improve the sustainable and efficient production, productivity and value-addition of diversified livestock sub-sector** by the means of (among other) livestock production, promotion of livestock health and construction of appropriate livestock infrastructure.
4. Project remains also in line with the more general development strategy for 2017 - 2021 (**7th National Development Plan**), where the goal is to improve water management and access to drinking water, as well as diversification of agricultural production and its focus on exports through **increased productivity and production**, **support for small farmers**, **development of cooperatives** and other groups of farmers of various types, support for the improvement of cattle breeds through the creation of breeding stations, diversification of animal production, **support for the mechanization of fodder production**.
5. Last but not least, project follows the overarching **national development strategy**, the **Vision 2030**, since it formulates goal to increase livestock population and productivity of agricultural production / husbandry in general. This is also the final objective of this project, along with the increase of income of small-scale dairy farmers.

Relevance of the project and, more general, approach of CDC to the development of the livestock sector in Zambia, has also been confirmed in the interviews with representatives of public governance (Ministry of Livestock and Fisheries, MoLF; Ministry of Agriculture, MoA) at national as well as provincial levels.

Relevance to the objectives of Czech Development Cooperation

The project followed up on the long-term work of the Czech Development Cooperation with Zambia in the field of agriculture, in recent years mainly supporting the increase of local availability of insemination doses and services in the field of artificial insemination of cattle and supporting the renewal of the gene pool of local breeds. In order to successfully introduce cattle breeding, it is necessary to introduce proper grazing management and ensure sufficient quality feed throughout the year. And this project thus directly followed on from previous activities and supports the sustainable management of small farmers.

The project is still relevant in view of the new strategy named Development Cooperation Programme of CDCDC with Zambia for 2018 - 2023, with the single thematic priority "agriculture and rural development", aims to "bring Zambia to the status of a middle-income country by 2030 and build a diversified economy in the country independent of development aid" through "**intensification and the diversification of agricultural production**, by introducing an integrated farm approach with a link between crop and livestock production, making maximum use of farm resources, but with due regard for available natural resources and taking into account the social aspects of rural development."

Relevance to SDGs

Intervention is directly in line with the SDG 8: Decent work and economic growth. Its final objective is to increase incomes and create new economic opportunities for small scale farmers in Zambia by raising the efficiency of dairy farming.

Furthermore, it is also relevant for SDG 15: Life on land since it is indirectly contributing to restoring the ecological balance to overgrazed areas of the target region by implementation of HLLM practices and promotes sustainable approaches to agriculture.

Last but not least, a connection to implementing of SDG 2: Zero hunger can also be traced in the supported project. By increasing of incomes, it also aims at increasing the nourishment value of meals of small-scale farmers.

Relevance to the needs of target groups

All stakeholders in the target county who were involved in qualitative research within the evaluation agree that the project and its basic logic is highly relevant to the needs of target population. No dissent from this assessment of high relevance has been registered during the interviews and field research. Naturally, relevance of implemented activities may vary (which will be dealt with below when evaluating effectiveness of the intervention), however, at the level of objectives the relevance is undisputed.

EQ2: Are the project implementation criteria appropriately set?

The project implementer has been chosen in a process of public procurement. Criteria of the public procurement can be divided into two categories:

- Qualification criteria which need to be met in order to qualify in the tender. These were defined as a mix of experience in implementation of development initiatives and minimal list of positions to be filled, including their expertise and experience. Criteria in this section were set appropriately to the content of the project.
- Selection criteria assessing the quality of bids. 5 criteria in two categories were set weighing from 4 to 10%% of the total score. The criteria were set appropriately, and the importance of presence in the region has highlighted by 10% weight of this criterion. Emphasis on permanent presence of the contender in the target regions could have been stronger, as this evaluation has identified this as one of the key factors of success of the project with regard to fulfilment of its goals, however, according to CzDA the legal framework of public procurement procedure does not allow to strengthen this factor any further[3].

In general, qualification and selection criteria were set appropriately, however, due to legal limitations the selection process could not fully guarantee that an implementer with sufficient presence in the region would be selected.

The following implementation criteria (target value of indicators to be achieved) have been formulated in the project:

- The overall objective of the project was to "Contribute to the increase income of small-scale dairy farmers". For this objective the following quantification has been formulated: "Increase the annual average of dairy milk production per cow". This indicator does not fully comply with the SMART requirements. Although it is measurable, it is not sufficiently specific, since it does not specify whether this change should be achieved by

[3] CzDA has pointed out in this regard that the formulation of selection and qualification criteria in this project have been set up after profound consultation with the Czech Office for the Protection of Competition and the highest possible emphasis on experience and local presence has been reached.

the directly supported farmers or in the project region (in aggregate) as whole. Moreover, it is also not entirely relevant to the objective since it implicitly presumes a clear link between increase in milk productivity (per animal) and increase in income – however, there is a number of external factors that have not been sufficiently taken into account in this causal link, such as milk price fluctuation, milk quality, costs of inputs, etc.

- The outcome of project, namely "Ensure appropriate and stable fodder production for dairy cattle on the small-scale farms" is formulated appropriately, however, with regard to the overall objective as well as activities it lacks stress on access to drinking water, which is a crucial factor. As for related criteria (indicators), limits in their specificity have been observed. First indicator requires that at least 75 % of participating farmers produce "sufficient" quality of production, however, it is not elaborated when a produced quantity can be seen as sufficient. The implementer therefore did not quantify when a quantity is "sufficient" and reported all farmers who produce their own fodder in this criterion. Similarly, second indicator requires that at least 60 % of supported farmers can report "stable" production of milk within the year, yet fails again to quantify what a "stable" production is.
- At the level of outputs 4 criteria have been formulated:
  1. Developed capacity for fodder production – quantified by an increase in area on which fodder is grown. This criterium and its quantification is in line with SMART methodology. However, failing to require specifically that certain volume of fodder production is being achieved at the level of cooperatives had, as it will be shown below, negative effect on sustainability to some extent. Insufficient capacity of cooperatives in fodder production has limited uptake in fodder production by small scale farmers as there are insufficient extension services available (especially when it comes to knowledge or availability of seeds).
  2. Effective and sustainable use of agricultural machinery for forage production. This output is not sufficiently linked to the outcome and overall objective of the project. These two criteria explicitly mention the target group of small-scale farmers. The causal link is therefore weak. As the evaluation shows further, even if profitable and sustainable use of agricultural machinery is achieved by the cooperatives, it may have no impact on small scale farmers if only large farmers benefit. See more details below.
  3. Introduction of HLLM in target region is highly relevant and appropriate with regard to the overall goal of the project. Initial quantification of this output was, however, too ambitious and not in line with HLLM principles since it required that at least 60 % of cattle in the selected communities would be involved in activities related to HLLM. Since there are hundreds of pieces of cattle in each community, achieving such goal is not realistic. For that purpose, a "target value" of 250 pieces of cattle in each community was set up later in the implementation.
  4. An output of "ensured water supply for cattle" is highly relevant to the project objective, however, activities implemented within the project were not sufficient to achieve this goal. Fulfilling the criterium was therefore completely dependent on outcomes of different project.

4.2 Coherence

EQ3: To which extent have the activities been coordinated with other donors?

Active donors that operate in the region:

A number of donors have been active in the field of dairy agriculture in the target region (region South) in the time of the project implementation as well as now. The most significant are the following (more information attached in Annex]:

- **Stichting Nederlandse Vrijwilligers** (hereafter SNV)
- **GIZ**
- **AgriTerra**
- **World Vision**

The cooperation between CDC and other donors is provided only on ad-hoc basis:

During the implementation of the evaluated project the coordination between those subjects was implemented **rather on an ad-hoc basis and at operational level rather than on the level of programming or even donors**:

1. Evaluated project has entered **into cooperation with SNV**, which, at the time of the project implementation, had a strong presence in target regions as well as larger scope and budget. Initial communication at the level of management did result in a MoU, however, actual coordination or cooperation rather took place at operational level and had rather a character of ad-hoc solutions than long-term partnership. The following were results of this ad-hoc cooperation:

- Local project teams did coordinate trainings and their target localities; local teams did communicate to avoid potential targeting of the same farmers and duplication of their efforts in general.
- Partial cooperation did take place on the level of input provision. Namely, SNV project provided CDC project with fertilizers necessary for growing of feed plant as CDC project budget did not have this component. Likewise, cooperation in provision of seeds for fodder growing took place.
- Local staff did informally exchange experience and materials related to trainings in fodder growing.
- It should also be mentioned that the focus of both donors was different to some degree. While SNV focused on working with the cooperatives / unions, CDC put stronger emphasis on working directly with the farmers in their communities. For that reason, no significant cases of duplication were identified. However, it should be stressed that this demarcation of activities was not a result of coordination of these stakeholders, but rather a result of different focus in project formulation.

2. Representatives of local partner organization also highlight the **cooperation with AgriTerra**. This was implemented on an informal basis and exclusively on operational level. However, respondents identify cooperation with AgriTerra as a good practice since extensive know-how of AgriTerra in cooperative management was taken advantage of in trainings and other activities directed at the cooperative level (e.g. activities 1.9, 2.5 and 2.6)[4]. Representatives of AgriTerra confirm this finding of productive cooperation between both institutions in practical implementation of their projects, however, also maintain that the full potential of cooperation was not taken advantage of.

3. Coordination efforts of operational nature were also identified with regards **to World Vision**. However, in this case, project staff of both organizations were rather only exchanging information and experience, some consultations also took place when identifying farmers to be directly supported and, more generally, knowledge of local context was being exchange if necessary.

The level of cooperation with other partners **is seen as insufficient by both members of CDC project staff at all levels** (implementer, partner management, local staff) **as well as representatives of other donors**. As noted above, the cooperation was rather ad-hoc and operational (reacting either to specific needs that arose during implementation or result of personal contacts of local staffs). Pointed out by respondents of IDI, **identification of other donors and stakeholders was not done sufficiently in the project identification and formulation stage**. CDC project was therefore formulated as a "stand alone" initiative not considering activities, expertise, presence in the region and, more generally, potential synergies with other stakeholders. Also due to the fact that project implementer was insufficiently involved in the process of project identification and formulation (since the project was, to a large extent, formulated before the public tender process was launched), his opportunity to significantly adjust the project logic and activities in order to take advantage of other stakeholders' activities on "strategic" level was rather limited. For that reason, coordination and cooperation was rather only operational[5].

The level of **coordination among activities** of various (and numerous) donors in the region active in dairy farming sector is, in general, perceived as rather unsatisfactory by the representatives of concerned donors themselves, although identifying a positive trend recently. Although direct duplication of activities occurs rather rarely, various donors have not been aware of each other's activities and did not build on achievements and outcomes of previous donors in the region. This issue is recognized not only by donors themselves, but also by representatives of cooperatives at commune/cluster levels or individual farmers.

This situation has **a negative impact on the district cooperatives that are in most cases the main channels of support to small scale farmers**. Their activity is, in result, becoming donor driven – cooperative management implement such activities that are supported by donors who recently target their regions and do not focus on strategic development of their organizations or long-term goals (besides milk collection). On the other hand, once a donor exits the locality, activities that were implemented and developed in the cooperative with its support are no longer continued. This issue therefore presents **significant challenges to relying on the cooperatives with sustainability** (for more details see chapter 4.5).

However, as suggested above, there is a trend in favour of higher coordination of various donors to be observed recently. A (informal) dairy stakeholder platform has been formed under the leadership of GIZ[6]. This platform organizes all major

[4] An example in this respect is given by representatives of AgriTerra: Local CDC project team has identified challenges / needs in governance and financial management when working with Choma cooperative. On that basis AgriTerra has prioritized trainings in these fields provided to the cooperative staff.

[5] It should be noted in this context that the follow-up initiative of CDC did seemingly rely on other stakeholders in the region to a much larger degree. AgriTerra officials even point out that they have been directly involved in identification and planning of the follow-up project of CDC, thus there is a potential of strong partnership to be formed from the initial project phase.

[6] However, this efforts has been originally initiated by the implementer of the evaluated CDC project.

stakeholders (donors) in dairy farming and is meant to facilitate exchange of information and coordination between these actors. Similar structure is being formed also at the province level. It should be noted that **CDC is encouraged to take part on these platforms as other donors recognize its significance and experience**. However, CDC has not, so far, participated on these coordination efforts on programme / donor basis.

EQ4: Which possibilities of cooperation with other donors do the project outputs offer?

As analysed in the chapter above, presence of a number of donors and other stakeholders presents a strong potential for synergies and in current status quo, there are already even institutional frameworks set up to maximise cooperation with other partners (namely the dairy stakeholders' platform at national as well as province level).

It will be shown in the following chapters that the scope of the evaluated project was too small to encompass the issue of strengthening small scale farmers in its complexity. Important elements were missing in the project design. Some examples of activities that are important in complex support to dairy farmers, however, were missing from the evaluated CDC project due to budgetary as well as time constrains are the following:

- Access to veterinary care;
- Breeding and introduction of more productive breeds / hybrids (many target farmers were actually owning beef cattle);
- Hygiene of milk collection;
- Increasing access to market, fostering value chains;
- Targeted capacity building of local extension staff;
- Outreach activities to poorest members of communities who benefit the least;

Efficient cooperation with other donors provides an opportunity to overcome these limitations of scope of CDC support. Various donors and other stakeholders put stress on different components of this complex system of dairy farming promotion. Therefore, this situation provides a significant opportunity to capitalize on other donors' / stakeholders' strengths and focus on activities that are underrepresented by other donors or where the added value of CDC is observed.

In this regard, respondents among other donors and public officials see the added value of CDC project compared to approaches of other implementers especially in high expertise when it comes to fodder production (especially processing and storage), outreach to community / household level (as opposed to other stakeholders focusing more at cooperative level) and testing implementation of HLLM principles[7]. However, these synergies can be effectively exploited only if activities of other donors are considered already in the formulation phase and formalized cooperation (ideally at the level of programme, not only implementer) is established even before a project is launched.

Increased cooperation with other donors also provides an opportunity to strengthen sustainability aspect of CDC projects and, at least to some extent, overcome the limitation of short time frame of CDC interventions. Existing capacities / structures of other donors in the field can be engaged and involved in the exit strategy of CDC intervention, thus preventing to rely solely on often rather instable, underfinanced and often donor-driven capacities of local institutions (especially cooperatives). See more on this issue in analysis of EQ 11.

It was not observed that know-how or even project outcomes of CDC project would be directly taken over and replicated by other donors. Similarly, it was not observed that other donors would directly follow up on outputs and outcomes of the evaluated CDC project. However, some of the donors state that they have looked into good practices acquired by the CDC project and, more specifically, requested methodological materials that were elaborated in the course of CDC project and consulted experience of CDC staff. One example of other donors directly taking over good practice from CDC project was mentioned by representatives of GIZ, who did include a component of construction of simple storage (shelter) for fodder on the premises of supported farmers.

4.3 Efficiency

EQ5: How can be evaluated (on the basis of the available information) the cost-efficiency of the project, in particular in terms of overall "value for money"?

The unit prices of project budget expenditures correspond to the usual prices:

Based on a thorough examination of the project financial reports from the years 2015 – 2018 experts of evaluation team have not identified serious problematic areas at the level of unit costs. In relation to the usual prices, the implemented

[7] In this regard it should be also highlighted that other donors / implementers are also attempting to implement complex approaches to husbandry, agriculture and environment, such as integrated agro-forestry approaches. This fact might present a unique opportunity to compare the effectiveness and impacts of these different holistic approaches to agricultural management.

project can be described as cost-efficient. Therefore, some specific areas in which is room for increasing the efficiency of the evaluated project have been identified, see below.

The budget items are mostly relevant to the objectives of project and do no significant redundant activities have been identified:

The budget items associated with agriculture production, welfare of cattle, water and holistic management are highly relevant to the objective of the project. Individual budget items were exemplarily justified in final reports (both in terms of volume and use) as well as in the course of IDIs with implementers and partners. Based on the interviews conducted, it can be said that most of the activities were efficient and led to the set project objectives.

However, efficiency of machinery delivery is rather limited

Contrary to what has been shown above, the acquisition and use of agricultural machinery shows rather low efficiency. The support of new mechanization was generally beneficial, it made possible to reduce production costs for local cooperatives, however, a shortcoming can be found in the ability of cooperatives to keep the equipment in working order after the end of the project.

Moreover, some pieces of equipment have not been relevant for the target group and were not used at all. This is especially the case of tedders (total cost 305 837,30 CZK, 13 792 USD) which were not used at all except for demonstrations provided by evaluation team members and never been used by the cooperatives or its members. Similarly in the case of bailers, at least in one of the cooperatives this machine is not operational due to lacking of maintenance and/or low financial capacity. Other pieces of machinery are used rarely or solely to the benefit of bigger dairy farmers and are not suitable for small-scale farmers. See below for details.

Therefore, although empiric records of machinery usage are not available, it is evident that at least **some pieces of machinery are not being used at all due to lacking maintenance or its unsuitability to local farmers**.

In other words, the project contains budget items to teach beneficiaries how independently manage, operate and maintain agricultural machinery. Nevertheless, the implementation of the project (set up in this way) did not create a mechanism that would fully ensure long-term coverage of the increased costs of both target beneficiaries (selected cooperatives) for new mechanization (repairs, maintenance, etc.). It is clear from the final report of the project that the increased agricultural production itself (including new machinery rental) can cover only about 20% of the increased costs for cooperatives.

On the top of some pieces of machinery not being used at all due to lacking maintenance or their unsuitability to local needs, interview with the project implementer as well as other evidence from surveys and field research in four communities in the target area, it can be observed that mechanization was to a large extent used mainly by senior members of cooperatives (board members and management) and those who had the financial opportunity to rent this equipment.

This finding that points out at low efficiency of delivered machinery has been further confirmed by the fact that representatives of one cooperative explicitly admit that renting machinery has been a profitable business for these entities and incomes have been used not solely for maintenance and further investments, but to cover operational costs of the cooperatives.

Inconclusion, the component of machinery delivery as such is not perceived as redundant. However, the actual implementation of this component was rather inefficient due to delivery of pieces of equipment that are not suitable for a majority of the target group (small scale farmers) as well as insufficient management processes (low maintenance, redirection of revenues from machinery rental to cover operational expenses. For more detailed analysis of this component see the analysis of effectiveness in chapter 4.4.

No inefficiencies are identified in the processes related to project implementation / administration:

Individual activities were well administrated and implemented all personnel exchanges within the project staff went smoothly. The costs incurred were proportionally divided between the individual outputs and were adequate to the required project outputs, as it is shown in the table below:

Table 2: Structure of project budget

Project output / Chapters	Costs included	% of project costs
Management and expertise	Personnel costs for project staff, management, experts, etc.	25%
Logistics, organization and promotion	Rental of premises, transportation costs, office supplies, promotion, teaching materials	15%

Output 1: Increased capacities in forage production	Trainings in forage production, cattle management, shelter construction (including recurrent and follow-up trainings)	13%
Output 2: Mechanization	Delivery of machines and spare parts, work with the cooperative	25%
Output 3: Holistic management	Delivery of portable fences, work with communities, conferences	14%
Output 4: Identification of water resources	Water resources analysis – expert costs	8%

Generally speaking, this criterion can be assessed positively, with a few exceptions (not caused by the project implementer). It is clear from the final report that the implementation of the project was negatively affected by some external factors, such as lack of rainfall or unfavourable economic situation in Zambia. In 2015, the annual inflation rate in Zambia was 21.1%, which caused a significant increase in the prices of production inputs (seeds, agrochemicals, inorganic fertilizers, etc.). Based on interview with the project implementer the inefficiencies were found mainly in the transfer of new agriculture machinery to the cooperative in Monze. There were problems from the beginning with the solution of machines operation (purchase of fuel, repairs, etc.) and depreciation of machines, problems with opening an account (due to the indebtedness of the beneficiary in Monze). The difference in the overall level of selected cooperatives here played an important role (the cooperative in Monze was burdened with debts even before the start of the project, the cooperative in Choma was problem-free in this sense). It is also clear from the final report that the problem in implementation as part of an activity related to the construction of shelters for agriculture machinery. The chairman of the cooperative in Choma did not want the shelter to be directly in Choma, but he wanted to have it at Bwache, where he himself has his own farm. Finally, after a long meeting (6 months), he was outvoted by other board members and farmers. Any delay (in this case the construction of shelters) contributed to reducing the efficiency of the project.

EQ6: What are the main factors contributing to the in/efficiency of project in terms of both process and content?

Factors that generate gaps in the efficiency of the project implementation are identified:

The following factors that generated gaps in efficiency of project implementation were identified:

- The processes of using mechanization were strictly set for cooperatives, but they did not sufficiently work in accordance with the support of small farmers, who did not always have a chance to use the agriculture machinery.
- Weak setting of "ownership rights" and missing "sanction measures" in case of inappropriate use of agricultural machinery, see the section on sustainability for details.
- The implementer could not interfere in the selection of the purchased agricultural machinery during the project implementation.
- Selection of partner cooperatives for this project done in the identification without contribution of the implementer and no evidence of profound risk analysis being done before cooperative were involved as partners has been found (as evidenced by a cooperative in Monze that was, *de facto* bankrupt at the start of the project and did not have financial capacity to carry costs related to project implementation[8]).

Factors and good practices that increase the efficiency of the project are identified:

An example of good practice of the implemented project is the generally efficient targeting of activities for the improvement (in terms of volume and quality) of fodder production directly to the final beneficiaries (small farmers). The sharing of knowledge, training of farmers and facilitators had a significant effect on the efficiency of the project outputs. Evaluation of the project results from final report indicate achievement in increase of the capacity of farmers in the field of hay storage, increasing the capacity for feed production (production of fodder and bulk feed for cattle) even in times of drought.

A good practice that should be highlighted is also project relying on local capacities for implementation that enabled not only cost-efficient operation and implementation, but also ensured continuous presence of project team in target region throughout the whole implementation.

[8] However, it was pointed out by representatives of CzDA that the partner has not been in such dire financial situation in the time of project identification – about 1-2 years before the start of the project implementation.

Good practices with regard to efficiency of implementation are identified on the basis of comparation of implementation choices and patterns in supported localities / communities:

Based on interviews and final reports, the awareness about fodder production was raised through demonstrations for farmers in the vicinity of good practice farms (target farmers of the project). These demonstrations took place on the farms of selected farmers who co-financed the trainings together with the project staff. Procedures and achieved outputs were presented and positively received. The organization of an international conference on Holistic Management and positive recommendations from the African Center for Holistic Management can also be assessed positively - the project was recommended as an example of good practice. Based on the recommendation of African Center for Holistic Management, a documentary was created (a video for the Copperbelt community), which was screened on national television and in collaboration with the TED platform.

4.4 Effectiveness

EQ7: To what extent have the planned project outputs been achieved?

Outputs and outcomes of project at the end of implementation.

Project has been monitored on numerous occasions by the implementer as well as Embassy or CzDA. All the monitoring activities point to conclusion that project outputs and outcomes have been fulfilled as the quantified target values of formulated indicators have been met.

Target values of all outputs were reached at the end of implementation of the project. According to the internal monitoring the following outputs were registered:

- The capacity for forage production has been significantly increased. However, this effect has been observed only by individual farmers, an increase of forage production by the cooperative is low and has even decreased in one of the cooperatives between 2019 and 2020.
- Mechanized services provided by cooperatives generated an income that minimally covered operating and service costs (excluding additional promised spare parts) in 2017. However, in 2018 the total earnings were negative in one of the cooperatives (Monze) due to high costs of repairs).
- Requested share of cattle in localities where HLLM was introduced (after revision of the target value, see EQ2) has been involved in at least some practices of this approach. However, share of animals that took part on joint night housing is significantly lower.
- Sufficient number of water sources was identified by the subcontractor of the project.

On this basis it has been observed that Outcomes of the project have been achieved as well:

- Share of supported farmers who produce fodder for their cattle on their own has increased to 79 % at the end of the project, thus reaching the requested threshold of at least 70 % farmers. However, it the course of the monitoring it has not been analysed whether the volume of production is fully sufficient to cover fodder consumption during dry season or covers only a part of the total consumption of these farmers.
- Almost three quarters of supported farmers produced milk also during the dry season of 2017/2018 and the average volume of milk production has increased as well. On this basis it is stated that more than 60 % of supported farmers have stable milk production throughout the year.

Effectiveness of the project when it comes to fulfilling goals on the level of outputs and outcomes has also been confirmed by various monitoring missions performed by CzDA or representatives of the Embassy.

Further details with regard to outputs and outcomes of the project at the end of its implementation are published in Annex to this report. Outcomes of project in the time of evaluation is elaborated in the following chapter.

EQ8: To what extent does the project help increase the incomes of small-scale dairy farmers in Zambia?

EQ9: To what extent does the project lead to increased feed production capacities?

Effect of project activities in fodder production

Data for analysis of outcomes were collected by a survey among supported farmers who were reached over phone; however, turnout of the survey was low[9]. Analysis was therefore complemented by qualitative research in selected communities.

[9] In total 40 farmers have provided responses. The whole population of 115 supported farmers listed in project documentation was reached out to. Due to the long period of time since the project ended a large share of these farmers were not reachable. In almost half

Survey proved that **almost all respondents keep on producing their own fodder** three years after the project ended. There were only two farmers in the survey who do not produce their own fodder any more. Farmers keep on processing the feed in the form of both hay and silage, however, silage is applied by a smaller number of farmers.

However, only 60 % of these farmers answered that they **produce sufficient volumes of their own fodder to feed their cattle through the dry season**. The remaining 40 % of respondents have to take care of additional sources throughout the dry season – they usually buy the remaining volumes from other farmers or rely on free grazing.

The mortality of cattle has been recorded higher than at the end of the project. Our survey shows, that during the 2020 dry season only 23 respondents (59%) have not lost any piece of cattle due to unnatural reasons. On average one piece of cattle died per one respondent. Most of these deaths are attributed to diseases, however, malnutrition and dehydration was also mentioned among the causes.

As for milk production, more than half of the respondents answered that their overall yearly milk production has increased between 2018 and 2020 and the same share of respondents recorded an increase of milk production also in dry season. In average, yearly production of milk (of those farmers who did produce milk in both 2018 and 2020) has **increased by 30 % and production in dry season has increased by ca. 21 %**. Among those farmers who registered an increase of milk production overall and/or in the dry season the prevailing reason of the increase was **better feeding practices**. On the other hand, respondents who experienced a decrease in milk production attribute it primarily to the drought of 2019 during which many pieces of cattle died in the region and a significant number of farmers in the region lost their cattle altogether.

An increase in **yearly income from milk selling** has been recorded by 53 % of respondents of the survey, three of these respondents even did not have any income from milk in 2018 and are selling milk now. On average **respondents have experienced an increase of income from milk sales by about third.** This increase can be, at least partially, attributed not only to increases in milk production, but especially to a significant increase of milk purchase price on the market.

On aggregate it can be therefore concluded that **there is a positive trend of both, milk production as well as income generated by milk sale** among the respondents of the survey – farmers who were supported in the project.

In the course of qualitative research farmers in communities that were project implemented activities aimed at increasing the fodder production (trainings, demonstrations, building of shelters, etc.) confirm that **there is a direct link between fodder production and an increase in milk productivity**, confirming the results of the survey. Provision of quality and nutritious fodder **at least doubles milk yields** in experience of local farmers who took part in qualitative. Some farmers who took part in the FGDs even point out to the fact, that in effect of increased fodder supply for their cattle that has been brought about by the evaluated CDC project there was **even no difference in produced volumes of milk between dry and wet season**[10], another farmer pointed out that in effect of the fodder production cattle could be milked twice a day. Moreover, it has been observed that the **health of animals has improved in effect of the project activities**. It can be, therefore, stated that **significant number of supported respondents attribute positive trends in milk production and income generation to outcomes of project activities, namely to increased fodder production.**

However, farmers who participated in FGDs/IDIs as well as other stakeholders in the region (employees of local government structures, other donors, etc.) have observed that **many farmers have stopped growing fodder despite the perceived benefits**. To some extent this finding has been also observed in the survey with non-supported farmers: in the sample there were 35 respondents who did produce their own fodder in 2018, however, 11 of them did not continue this practice until 2020. The following are the key reasons for such failures:

- <u>The most crucial reason is access to water.</u> This is a **precondition for continuing to grow fodder** on the part of farmers. In case that access to water is not sufficient, farmers have to bring their cattle over long distances to the nearest water point (often over 20 km). In effect, any positive impact of better nutrition will be, to a large extent, nullified – the increase in milk production is not seen as sufficient (only small increase due to the distances that animals have to cross every day) and producing own fodder is not seen as profitable in such scenario (when compared to free ranging).
- <u>Negative impact of drought in 2018 / 2019.</u> As respondents of qualitative enquires as well as respondents of survey among farmers who were not involved in project activities confirm, many pieces of cattle have died in effect of the drought, especially in 2019. Some farmers even stopped with dairy farming altogether due to

of the cases the phone numbers were no longer in use or not reachable. In a smaller number of cases the phone number was wrong or not picked up. Therefore, although no farmer who was correctly reached by the interviewers refused to provide responses, the response rate reached only ca 35%.

[10] This claim has, however, not been confirmed in data – the volume of milk produced during dry season of 2020 was by all respondents lower than during wet season of the same year.

the drought. Moreover, farmers had to bring their cattle far away to Kafue Plains where there is water for the whole dry season, new fodder practices therefore could not be implemented. Naturally, project could not avoid or mitigate this external risk, however, once the water situation stabilized there was no support available to motivate and guide farmers to start over with fodder production again. Since no such supporting capacity was available, drought of 2018/2019 has significantly pushed back achievements of the project.

- Availability of seeds. Unavailable seed is identified by numerous stakeholders as one of key reasons why many farmers stopped producing their own fodder, this reason has also been highlighted by a number of respondents of survey among non-participating farmers as significant reason why they stopped producing fodder. The project planned to work around **this expected bottleneck by involving cooperatives** / unions, which were supposed to buy seeds and distribute them among farmers (allowing, if necessary, in-kind payments by delivered milk volumes). This component did however not launch in either of the cooperatives which did not establish sufficient / required capacity of extension services at all (see EQ 11 for details). To some extent this failure can be also attributed to formulation of **implementing criteria** – see EQ2 for details.

Additionally, it should also be mentioned that sustaining fodder production and, more generally, direct effect of project implementation on milk productivity was limited by too narrow character of the project. Naturally, project finances and scope has been limited in this regard, however, as it was should above (EQ4, chapter 4.2), **higher focus on synergies with other stakeholders / donors could have overcome some of these limitations**.

Effects of HLLM introduction

When analysing the effects and results of HLLM application on fodder production and income generation, apart from IDIs with district officials, representative of ACHM and other stakeholders present in the region a field research has been performed in two areas where HLLM was introduced, namely in Ncheema (Monze district) and Mutandalike (Choma district).

Similarly to fodder production, stakeholders in the target areas see direct causal link between implementation of HLLM and increase in milk production. Farmers especially notice that in effect of elaborate pasture plans overgrazing of specific areas was eliminated. In effect, animals have **sufficient pastures for grazing throughout the year** and are **much better fed than before**, resulting in higher milk yields.

However, serious challenges to continued implementation of HLLM or at least its components have been encountered throughout the area:

- **Lacking nearby water sources** have negative effect on proper implementation of HLLM, since cattle has to walk great distances to the nearest water source. Pasture plans cannot therefore be properly implemented.
- Even greater was the **impact of the drought** which has seriously limited or even stopped HLLM implementation throughout the project area. On the top of animals dying, cattle from many villages throughout the project area had to be led to distant pastures for dry season, disrupting pasture practices introduced by HLLM.
- Throughout the project area also the issue of box wire fence for mobile kraals has been repeated by farmers and other stakeholders. Box wire that was supplied by the project has been seen as low quality and decaying quickly. In a number of areas this led to farmers bringing their cattle back to their previous overnight places as farmers could not afford to buy new equipment on their own. **This issue has not been sufficiently dealt with in the course of the project formulation and identification as insufficient funds have been allocated.**

Among other barriers to successful HLLM implementation and/or sustaining also the following were mentioned by farmers:

- Fear of diseases spreading among animals;
- Fear of inter breeding – especially by farmers owning cattle of higher quality breeds;
- Traditional beliefs and religious practices related to cattle herding;

Especially in effect of the drought **the number of farmers practicing at least some elements of HLLM dropped significantly** in both localities that were studied in more detail. However, later development differed significantly:

- In Mutandalike the HLLM approach **failed and is no longer practiced**, according to the FGD with local farmers as well as other local stakeholders. Apart for what has been stated above, local farmers shared that implementation of HLLM led to further quarrels between cattle owners. Farmers with larger number of animals felt that they were not benefiting as much as those with fewer animals and stopped bringing their animals to joint grazing or overnighting. Further disagreements also arose from sharing the duties of watching over cattle in the night and the negative trend was further exacerbated by popular superstitions and supranational fears. Also disagreements over using of cattle manure were noticed.

- Many farmers of the community in Nceema also had to stop implementing most of HLLM elements during the drought, however, still recognized the benefit of this approach and **currently are reintroducing the management even with new farmers joining the cluster**, according to FGD and IDIs in the area. It can be noticed that many of the issues that drove the cluster in Mutandalike apart are observed in a rather positive light in Nceema. Farmers admit that cattle breeding has also been an issue in their community – with more wealthy farmers owning breeding bulls feeling that other farmers are within HLLM receiving the otherwise paid breeding for free. However, this issue has been resolved with the **help of local (informal) authorities** by farmers realizing that "enriching a relative is not a loss at all" (quotation from FGD). Similarly, Ncheema farmers recognize that division of watching duties may not be evenly distributed since these are the tasks of older male children. However, yet again farmers in this community see this rather as another benefit of HLLM – the practice of joined overnighting unburdens especially female farmers with no male children of their own, which is seen as positive impact.

Naturally, differing internal dynamics and relationships between farmers in those two localities play significant role in these different trajectories of approaching HLLM. However, as in the case of fodder production, it is evident that **lacking long-term support played a significant role in the fact that some communities did not sustain HLLM**. Once the negative external effect (drought) has faded, there was no stakeholder in the region that would facilitate reintroduction and/or strengthening of HLLM practices in communities. Therefore, only in some communities HLLM survived these external pressures.

Moreover, it should also be noted that in Mutandalike the failure of HLLM was to a large extent attributed to the fact that only a small part of the community was directly involved and, even more importantly, **local authorities (chiefs) were not included in these efforts**. On the contrary, **strong engagement of local informal authorities can be seen as one of the reasons why the community in Ncheema overcame internal pressures** related to implementation of HLLM practices.

Effects of machinery delivery on fodder production and increase of incomes

Evaluation team was not able to retrieve data on the management of machinery as the data is either not collected systematically or managements of the cooperatives state that previous managements did not collect data at all. Assessment of the effectiveness has to be, therefore, done only qualitatively.

As it was discussed in assessing efficiency, some pieces of delivered machinery are not operational or not used at all. Regarding remaining equipment, some evidence has been collected during field visits that tractors are to some degree being used to cut grass (although the cutter was not working during the evaluation visit to Monze) and, in Choma, for ploughing. Also evidence of the caff cutter for processing of maize stumps has been collected in one of the visited communities.

Cooperative members themselves admit that the range of farmers (cooperative members) for whom the equipment is suitable is rather limited. It is profitable and suitable only for larger farmers (or, as one cooperative chairperson put it, more "advanced farmers"). In Choma cooperative chairperson estimates that roughly 50 farmers use the machinery (ca. 8 % of cooperative members), in Monze the chairperson estimated that 20 farmers hire the machinery. Both numbers could not have been corroborated.

Choma cooperative representatives estimate that the annual revenue generated by machinery reaches ca. 80 – 90 thousand ZMW (ca. 3600 – 4000 USD with current exchange rate), in Monze the annual revenue is estimated to 45 thousand ZMW. Again, none of these figures can be corroborated. However, **these revenues have not been reinvested into purchase of new machinery** and, according to numerous observations, also **the maintenance is largely neglected**. Incomes generated by machinery is thus used for operational expenses of the cooperative. Operation of machinery cannot be, therefore, seen as sustainable. This conclusion can be confirmed also by the fact, that the cooperative representatives themselves admit that despite relatively high revenues that they claim **broken pieces of equipment have not been repaired**.

The component of machinery delivery to cooperatives is therefore not perceived positively by most respondents of the evaluation research. It has been assessed as rather ineffective investments since there is **little evidence that delivered machinery significantly contributed to the increase of fodder production and incomes of small-scale farmers**. Even those pieces of machinery that are in operation are **serving rather larger and more well-off farmers than small-scale farmers**, for whose needs the machinery is not suitable due to its size (efficient only at larger plots[11]) as well as purpose.

[11] This issue is not only related to the operation of the machinery which is not efficient at small plots, but also its cost: although the pricelist of renting machinery has been set up within the project and on the basis of profound economic calculation (thus rental costs are not unreasonably high), since these are large machines, the rental price is inevitably too high for small-scale farmers.

The qualitative research in communities as well as quantitative surveys corroborated these conclusions. Out of the four localities that have been visited during the field research **only in one a positive feedback regarding machinery was expressed**, namely in Bwacha. Representatives of local cooperative have even stated that as much as 75%% of local farmers have been renting the machinery from Choma union. Although this claim is not corroborated by survey with local farmers, qualitative interviews in the field with 3 farmers confirm that machinery is, to some degree, relevant in this community and have brought benefit with regard to increase of fodder production (in this respect the rotary cutter, chaff cutter and plough are explicitly mentioned). However, in the remaining localities no positive feedback with regard to machinery was expressed. Local respondents (farmers) have knowledge of the machinery being delivered to district cooperatives, however, often rather express their frustration that machinery is being used only by selected ("privileged") members of the cooperative.

Two reasons for this rather low effectiveness of machinery delivery to increasing of fodder production and incomes of small-scale farmers can be summarized from the IDIs.

1. **Insufficient needs analysis**. Selection of appropriate pieces of machinery has not been preceded by a profound analysis of needs and local context that would involve the target group, namely small-scale farmers. As result, machinery that does not fully respect the needs and capacity of small-scale farmers has been delivered. Moreover, the tedder machine has not even been used at all besides demonstrations by implementer.
2. **Machinery has been handed over too soon to the cooperatives**. The handing over took place at the very beginning of the project, which significantly decreased the volume of leverage that the implementer or donor might have over the cooperative to secure those conditions of handover would be met. Instead, a gradual handover conditioned by creation of sufficient and functioning capacity with regard to operation, maintenance as well as management of rentals would have been a better choice.

4.5 Impacts and sustainability

EQ10: What are the main development impacts of the project?

Main development changes:

Qualitative and quantitative methods of analysis confirmed that project activities **have directly contributed to increase in incomes and thereby also living standards of supported farmers**, provided that fodder production and/or HLLM farming was sustained. In the survey with supported farmers all but one of the respondents claim that **the quality of their life has definitely or rather increased since 2018**, the one remaining respondent shared that the quality of his or her life remains more or less the same. The causes of the increase of quality of life **are primarily associated with the project.**

In comparison, respondents of the second survey with **farmers who were not involved in the project** recognize that the quality of their lives has definitely or rather **increased in only 29 % of responses** and a significant portion of respondents (18 %) observe, that the quality of their life decreased. For most of the respondents (53%) the situation is more or less the same. Interestingly, if we look only on farmers who do produce their own fodder in this sample, the proportion of those respondents who recognize that the quality of their life has increased rises to ca 58 % whereas there are only 15 % respondents producing their own fodder whose quality of life has rather decreased. This comparison can be seen as further **proof of direct causal link between producing own fodder for cattle and increasing the living standard in effect of higher milk sales – despite disadvantageous external factors**.

In the course of qualitative research in various communities of the target region, strongly positive appraisals were formulated especially with regard to the implementation of HLLM. As it was shown above, local farmers and other stakeholders clearly observe that implementation of HLLM has brought or at least has the potential to bring positive change to their lives. Besides the impacts that have been already discussed, namely direct effect on milk production, the following benefits have been directly attributed to implementation of HLLM:

- In effect of rotating the cattle overnight stands on their fields (by the means of moving kraals) farmers from various neighbourhoods alike have observed an **increase in maize yields**.
- Moreover, in effect of this aspect of HLLM farmers experienced that they need to use **less fertilizers**, thus making the production of maize or other plants cheaper as well as more environmentally friendly.
- Significant further environmental impacts have been observed:
  - Farmers in various locations have confirmed that HLLM leads to decrease in overgrazing. Some farmers stated that in effect of HLLM there is again grass growing in areas where there was no grass left in the past
  - Application of HLLM has indirectly contributed to stopping the practice of bush burning – according to FGD with farmers in Nceema this was a result of the village informal authorities being involved in HLLM and **taking ownership of the concept.**

- Furthermore, significant social impacts of HLLM were observed within the communities:
  - The **cooperation among community members has increased** in general, leading to increase in mutual trust and mobilizing the community
  - Positive impact on the **position and tasks of women** was observed in effect of communal grazing
  - A number of farmers across different communities confirmed that HLLM led to a **decrease in cattle theft** – animals are not free grazing, but are pastured in bigger herds and attended by a member of community.

No direct negative effects of project have been observed by stakeholders involved in the evaluation (besides already discussed HLLM leading to increased tensions among farmers in the community if facilitation is not sufficient). However, several stakeholders at various levels have pointed out, that the **poorest members of communities have little to no benefit from the project activities**. **Consequently, project may have indirectly led to an increase of gap between better-off and poor farmers in supported communities**[12].

In some cases, the project has supported farmers to re-orient their business focus. During the field research it was pointed out that some farmers who did produce fodder for their animal have lost their cattle during the drought. Despite that they carry on producing fodder and sell it to other farmers. Project support has thus enabled them to **identify fodder production as profitable business orientation**.

Replication of activities firstly implemented by the project:

Important component of the project logic was the expectation that other farmers would replicate the innovation implemented with project support, namely the fodder growing for animal nutrition. The project has, however, not established any monitoring system to collect data on this issue, **neither was there (due to the short time period of the project implementation) established a formalized system of dissemination of knowledge and experience** with fodder production by supported farmers (such as, for example, a requirement on supported farmers to organize field days for their neighbours, establishing demonstration fields at supported farmers – these were, however, set up at some cooperatives; and in general, connecting the supported farmers into the established structures of provision of extension services). For that reason, a survey among non-supported farmers was **organized to collect data on replication of fodder production**. Four communities were included into this survey so that there would be a community with high support (i.e. community where many farmers who received direct support from the project have their farms) and community with low support (i.e. a small number or even no farmers from this neighbourhood were involved in the training activities) from each of the districts. In total 114 respondents took part on the survey.

The following findings have been observed:

1. **Only ca. 30% of respondents are currently growing their own fodder. This** ratio between farmers who do and do not produce their own fodder remains the same in targeted communities disregarding of the intensity of support.
2. **There is only a small number of respondents who indicated that they have started to produce their own fodder in the last 3 years**. Only 9 respondents provided this information. On the contrary, 11 respondents have produced their own fodder in 2018 but have stopped since. Again, it cannot be observed that the intensity of support had a big impact on these trends.
3. All of the respondents who did start to grow their own fodder admitted that they **first saw this innovation by their neighbours** and replicated as the neighbours experienced benefit of fodder production. This information supports the expectation regarding project triggering replication; however, the absolute numbers of these farmers is low.
4. Farmers who did grow their own fodder in 2018 and still carry on doing so were asked whether they **see other farmers in their neighbourhood who also started growing their own fodder in the last 3-4 years**. In this case more than 90% of farmers responded "yes", elaborating that on average the respondents have observed 3,5 farmers in their neighbourhood actually starting to produce their own fodder. This value rather confirms that there is replication occurring, however, low number of respondents in this question should be taken into consideration[13].
5. More than half of the respondents who grow their own fodder admit that **they do not have sufficient knowledge in this regard**. Moreover, more than half of these respondents also say that they usually **are not able to get the information they are missing** and mostly rely on advice of their neighbours.

[12] This conclusion is also indirectly confirmed by questionnaire data quoted above, showing that farmers who do (can afford to) produce their own fodder have significantly more often experienced an increase in quality of their lives than those who do not produce own fodder.

[13] Interestingly, similar values have been also observed in the survey with supported farmers – vast majority of them (80%) have observed that other farmers in their neighbourhood have in the last 3-4 years started to grow their own fodder.

The data presented above suggest that some trends in replication can be observed, however, data do not prove that replication of supported farmers would be widespread. Naturally, external influences, especially the drought of 2018 – 2019 should be taken into account here, it is reasonable to deduce that in more favourable circumstances the rate of replication would have been higher. However, data also clearly show that lack of information and continued support in fodder production is one of the key barriers to more successful replication.

No instances of replication of HLLM in other communities were recorded. However, project implementer points out that in direct effect of a successful implementation of final HLLM conference with broad (and high-level) attendance, replication of HLLM was launched in other region of Zambia.

EQ11: Which project parameters are crucial for its sustainability?

Most of involved stakeholders (implementer, partner as well as CzDA) agree that there was **insufficient focus on exit strategy in the project formulation**. Exit strategy was not sufficiently formulated and planned and relied on the existing cooperative structure for sustainability of project outcomes. Dependency on these structures in project implementation as well as sustainability is seen by the implementer as well as local partner as one of the biggest issues of the project as whole[14].

The assessment of cooperatives varies significantly among stakeholders engaged in data collection for this evaluation.

On the one hand, there are respondents (especially representatives of donors who focus on raising the capacity of cooperatives as well as representatives of the cooperatives themselves or some public officers) who highly value the potential of cooperatives to provide direct assistance to their members as well as other dairy farmers.

On the other hand, respondents in their characterisation of cooperatives agree on several problems which can be summarized into the following three points:

- Cooperatives are inherently unstable organizations – with regard to governance as well as financial stability;
- Cooperatives lack capacity and expertise;
- Cooperative activities beyond their key purpose, namely milk collection, are, to a large extent, donor driven.

Closely related to the later point is the question of motivation of cooperatives to introduce and sustain provision of services to their members (as well as other farmers) in long term. This motivation or lack thereof is one of the crucial factors of project sustainability. Its exit strategy relies on a logic that cooperatives are sufficiently motivated – and able – to provide extension services to their members, because they are keen on strengthening their business model, namely sell higher quantity and quality of milk to wholesaler. For that purpose, cooperatives should be motivated to provide assistance to small scale farmers – in effect of increased milk production the cooperative will have higher and more stable supply of milk and will therefore increase its business performance. Similar logic should also motivate the cooperative to provide assistance to farmers in the field of hygiene so that the quality of milk would increase, and the cooperative would, in effect receive a better price. However, if cooperatives are not sufficiently motivated in this regard (as one respondent phrased it "if they are not serious with the project activities") – thus if its board members and leadership are content with its recent performance and are not sufficiently motivated to develop economically, they will not have any motivation to sustain any services for farmers.

This key factor of sustainability of project, namely the motivation of cooperatives to sustain services for local farmers and to, more generally, develop their core business, has not been verified by any means in the project identification phase. No detailed analysis of cooperatives with regard to their capacity, expertise, stability, and motivation to be involved as partners entrusted with sustainability has been performed. This can be demonstrated by the fact that one of the cooperatives that entered into the project as partner was de facto bankrupt in effect of bad business decisions in the past and had therefore no financial capacity to perform even the basic activities in line with the signed MoU with project implementer. Identification phase should therefore put higher emphasis on rigorous analysis of partners that should be responsible for sustainability[15].

The evidence shows that the cooperatives were rather not successful in sustaining services and outcomes of the project. With regard to sustainability, the tasks of the cooperatives were responsible for the following:

1. Provision of extension services to the farmers with regard to fodder production (including cooperative purchasing agricultural inputs, such as seeds and fertilizers);

[14] It should be noted that a phase-out was phase was planned during the project implementation in the form of a follow-up project for 2 years. However, administrative delays in launching this follow-up project caused an abrupt end of implementation.

[15] Once again, the negative impact of implementation of the project in the form of public tender can be seen here: project implementer could not choose his partner organizations in the region as both cooperatives have been pre-selected in the identification phase.

2. Cooperative production of fodder to be sold to farmers who were not able to produce on their own;
3. Sustainable machinery use management, including maintenance and purchase of new applications.

1. With regard **to extension services** positions of extension officers were created in both cooperatives. However, currently there are no extension officers in either of the cooperative. Reasons for that can be traced back to the key problematic points of cooperative introduced above. There was a high turnout on the positions of extension officers and, according to observation of various stakeholders, staff members who held this position were not sufficiently qualified and were lacking key knowledge in forage production. Transition of these staff members were poorly managed, therefore, knowledge and know-how that was brought to the cooperatives by the project were not transferred to new staff members. Last but not least, cooperatives lacked financial resources to sustain these positions – therefore, once the direct funding of extension officers by CDC project or other donors (SNV, AgriTerra) stopped, the position was no longer sustained.

Questionnaires to some extent confirm this deficit of cooperatives in provision extension services. Among farmers who were directly supported by the project only four of 18 farmers who stated that their knowledge in fodder production is not sufficient entered that in such case they rely on cooperative officials. On the contrary, nine of these farmers said that in such situation they are not able to receive any information they require. Also, when it comes to seed for fodder plants, only 6 out of 38 respondents who answered this question do buy seeds from the cooperative. The result of questionnaire among farmers who were not directly supported is even less favourable for provision of extension services by the cooperatives.

As it was shown above, lacking extension services and generally a too "abrupt" exit has significantly lowered the effectiveness and impacts of the project. External effects, especially the drought of 2018-2019, have pushed back achievements of previous years of project implementation in both, fodder production as well as HLLM implementation. However, once the external conditions improved, there was no capacity in the region that would support and facilitate target groups to reinstate successful practices from the project period that needed to be, at least to some extent, abandoned. What could have been a temporary pause (until the drought passes) has in some cases turned into permanent dropping of good practice achieved in the project (even despite these farmers recognize added value of fodder production and/or HLLM) due to lacking knowledge and support. As one of the respondents in Mutandalike put it: "project was too short and phased out too quickly, before the farmers practically succeeded in growing all they had learnt; at the time that most of them were starting to grasp the gist of the project, the project closed".

2. When it comes to **own fodder production**, none of the cooperative currently produces its own fodder. Key reason for that is, according to cooperative representatives, the fact that cooperatives do not have their own land and need to have plots for fodder production allocated by the cooperative members – either rented or provided for free in exchange for later supply of fodder. However, mainly due to the above-mentioned instability (for example, in one case the former cooperative chair was renting his plots to cooperative and after the change in management this arrangement did not last) as well as poor governance, these arrangements as they were facilitated in the course of project implementation did not endure and cooperatives do not have land allocated for own fodder production. Other factors are drought and lack of motivation of cooperative to produce its own fodder.

3. Last but not least, **sustainability of machinery** has been seen by the majority of stakeholders involved in the evaluation as the most problematic issue of the project. Although cooperative members maintain that machinery is being used and is generating profit, independent observers confirm that at least a number of pieces of the supplied machinery is not being used at all or only to a limited extent due to lacking maintenance and its unsuitability for the needs of local farmers.

In conclusion, the following parameters proved to be crucial for project sustainability:

- **Insufficient exit strategy**
- **Reliance on cooperatives and insufficient involvement of other stakeholders to exit strategy (government structure of extension officers[16], other donors, business entities, etc.)**
- **Lacking long-term support (related to weak exit strategy and full reliance on cooperatives)**
- **Lacking access to inputs, most importantly seeds;**

[16] It this respect it should be noted that the shortcomings of cooperatives as sole institutions responsible for sustainability have been recognized also by other stakeholders. For example, representatives of the key stakeholder, GIZ, revealed during interview with evaluation team that in their projects they have changed the implementation model by engaging extension structures of the MoA to a much greater extent than initially planned. Reason for that was the recognition that cooperatives do not have sufficient capacity to ensure sustainability even despite being intensively targeted by project activities. Therefore, joint committees of cooperatives and public extension network, so called Extension committees, are being established by the donor in target localities in order to strengthen sustainability.

Last but not least, the most important factor of sustainability is **access to water**. This is a precondition of sustaining fodder production as well as HLLM in supported localities (see above). Access to water has been identified as critical precondition to implementation also by the monitoring mission of CzDA / Embassy in April 2021.

4.6 Cross-cutting criteria

In the area of **good governance** project did put, in cooperation with other donors (especially AgriTerra), emphasis on raising the capacity of cooperative leadership in management and good governance. In effect of the high turnout of cooperative leadership the actual outcomes and impacts of these activities are, however, questionable. As it was mentioned numerous times, the weak emphasis on exist strategy is seen as rather bad practice, since the project was not successful in establishing sufficient capacity or "ownership" of project outcomes at the cooperatives to ensure continuing activities in this regard. Project was, on the other hand, successful in mobilizing local communities and strengthened cooperation at local level, including establishing of bottom-up local structures within the concept of HLLM. This impact shows potential to increase participation of community members on local governance and decision processes.

Positive impacts of the project with regard to **sustainable development** and environmental issues. These impacts have been addressed in EQ 10 and are related to:

- Decrease of overgrazing
- Decrease in consumption of fertilizers
- Indirectly it also contributed to decreasing the practice of bush burning.

Project did not implement any specific activities **targeted at poorest** or otherwise disadvantaged community members. Although it has been recorded that implementation of HLLM did bring some benefits to these groups as well, overall, the project had little to no impact in this regard. On the contrary, it has been observed that project may have contributed to an increase of gaps between better-off and poor members of local communities.

Project did not have any direct effects on the **position of women** in target area. Two women were employed on positions in the cooperative that were created with the project support, however, due to high turnout and generally unsustainability of these components once project finished these impacts cannot be seen as lasting. Farmers have noticed that due to common herding and overnighting of cattle within the HLLM approach especially women in the communities benefit by being relieved of these duties.

5 Evaluation conclusions

Relevance

1. Objectives and activities of the evaluated project **are entirely in line with Zambia policies**, namely with National Agricultural Policy 2004 - 2015, Second National Agricultural Policy 2016 - 2030, National Investment Plan 2014 - 2018 and also with the more general development strategy for 2017 - 2021.
2. The project followed up on the long-term work of the Czech Development Cooperation with Zambia in agriculture. The **project is still relevant even in the new Czech development cooperation Programme with Zambia** for 2018 - 2023, which aims to "bring Zambia to the status of a middle-income country by 2030 and build a diversified economy in the country independent of development aid" through "intensification and the diversification of agricultural production".
3. Project implementation criteria are set appropriately, although ways how to strengthen the emphasis on qualitative assessment and a continuous presence of implementer of projects of this scale should be investigated.
4. Implementation criteria were, in general, formulated appropriately, however, higher emphasis should be put on causal logic linking outcomes to overall objective and formulated target group as well as more specific formulation.

Based on these conclusions the relevance of evaluated project is assessed as high

Coherence

5. Coordination between the evaluated project and other donors was implemented **rather on an ad-hoc basis** and at an operational level rather than on the level of programming or even donors.
6. The evaluated project has entered into cooperation with SNV, which, at the time of the project implementation, had a strong presence in target regions as well as larger scope and budget. Initial communication at the management level did result in a MoU. However, actual coordination or cooperation rather took place at the operational level and had a character of ad-hoc solutions than a long-term partnership.

7. Local partner organization also highlight the cooperation with AgriTerra, solely on an informal basis and exclusively on an operational level (i.e., between field officers of both teams). The representatives of AgriTerra confirmed that there is a potential for closer cooperation.
8. Exchanging information and consultations regarding identification of suitable farmers for support took place also between CDC and World Vision.
9. The l**evel of cooperation with other partners is seen as insufficient** by both members of CDC project staff at all levels (implementer, partner management, local staff) as well as representatives of other donors.
10. Although direct duplication of activities occurs relatively rarely, **various donors have not been aware of each other's activities** and did not build on achievements and outcomes of previous donors in the region. This issue is recognized not only by donors themselves but also by representatives of cooperatives at commune/cluster levels or individual farmers.
11. However, there is **a trend to higher coordination of various donors** to be observed recently.
12. Various donors and other stakeholders put stress on different components of a complex system of dairy farming promotion. Therefore, this situation provides significant opportunity to capitalize on other donors' / stakeholders' strengths and focus on activities that are underrepresented by other donors or where the added value of CDC is observed.
13. In this regard, respondents among other donors and public officials see the added value of CDC project compared to approaches of other implementers, **especially in high expertise when it comes to fodder production (especially processing and storage), outreach to community/household level (as opposed to other stakeholders focusing more at cooperative level) and testing implementation of HLLM principles**.
14. However, these synergies can be effectively exploited only if activities of other donors are taken into account already in the formulation phase and formalized cooperation (ideally at the level of programme, not only implementer) is established even before a project is launched.
15. Increased cooperation with other donors also provides an opportunity **to strengthen the sustainability aspect of CDC projects** and the short frame of its interventions.

Based on these conclusions the coherence of evaluated project with other donor is assessed as rather high, however, potential of cooperation with other donors has not been fully taken advantage of mainly due to insufficient inclusion of synergies in the formulation phase.

Efficiency

16. The overall evaluation of the project in terms of efficiency is positive. High efficiency is shown by activities focused directly on **agriculture production and welfare of cattle**, where the implementer managed to significantly contribute to increasing the volume and quality of production of small farmers, which positively contributed to the cost-effectivity of the project.
17. On the other hand, activities associated with the acquisition and use of agricultural machinery **show rather low efficiency.** The implementation of the project did not create a mechanism that would fully ensure long-term coverage of the increased costs of target beneficiaries for new mechanization.
18. The main factors that generate gaps in the efficiency of the project implementation are:
    - agriculture mechanization was strictly intended for cooperatives
    - weak setting of "ownership" and missing "sanction measures" to agriculture machinery
    - the implementer could not interfere in the selection of agriculture machinery (during the implementation of the project)
19. In some instances, the efficiency of involvement of Czech experts in training activities was questioned. Involvement non-local capacities should be justified by their added value.

Based on these conclusions the efficiency of evaluated project is assessed as rather high, however, efficiency of the purchase of machinery is low.

Effectiveness

20. According to monitoring activities, all project outputs and outcomes have been fulfilled as the quantified target values of formulated indicators have been met.
21. The evaluation, which took place in the year 2021, further detected that:
    - almost all addressed respondents keep on producing their own fodder three years after the project ended
    - however, only 60%% of these farmers answered that they produce sufficient volumes of their own fodder to feed their cattle through the dry season
    - the mortality of cattle has been recorded as higher than at the end of the project
    - more than half of the respondents answered that their overall yearly milk production has increased, and the same share of respondents recorded an increase in milk production also in the dry season

- on average, the yearly production of milk (of those farmers who did produce milk in both 2018 and 2020) has increased 30%, and production in the dry season has increased by ca. 21%. Among those farmers who registered an increase in milk production overall and/or in the dry season, the prevailing reason for the increase was better feeding practices
- on average, respondents have experienced an increase of income from milk sales by a third between 2021 and 2018

22. Therefore, it can be concluded that **there is a positive trend of both milk production and income generated by milk sale** among farmers who were supported in the project.
23. In the case of machinery management, both Choma and Monze cooperative representatives estimate that the annual revenue generated by machinery reaches ca. 45 – 90 thousand ZMW. However, these revenues have not been reinvested into purchase of new machinery and, according to numerous observations, also the maintenance is largely neglected. Incomes generated by machinery is thus used for operational expenses of the cooperative. **Operation of machinery cannot be, therefore, seen as sustainable**. This conclusion can be confirmed also by the fact, that the cooperative representatives themselves admit that despite relatively high revenues that they claim broken pieces of equipment have not been repaired.
24. There is a positive trend when it comes to milk production as well as milk sales among supported farmers which is attributed to the introduction and/or increase of feed production in their farms.
25. The project did directly increase the milk productivity and, in effect, household incomes. However, it was observed that many farmers have stopped growing fodder despite the perceived benefits due to various reasons (drought in 2018 and 2019, unavailability of seeds).
26. Additionally, direct effect of project implementation on milk productivity was limited by the too narrow character of the project. There are many other issues that limit the impact of better cattle nutrition on milk productivity and its quality, which were not addressed by the project due to its insufficient scope and resources. Higher focus on synergies with other stakeholders/donors could have overcome some of these limitations.
27. As in fodder production, lacking long-term support played a significant role in the fact that some communities did not sustain HLLM. Once the negative external effect (drought) has faded, there was no stakeholder in the region that would facilitate reintroduction and strengthening of HLLM practices in the supported communities. Therefore, HLLM survived these external pressures only in some communities.
28. Contribution of machinery to overall objective of the project is limited. Farmers in most communities often express frustration that the machinery is not available to them. Reasons for this rather low effectiveness of machinery delivery to increasing fodder production and incomes of small-scale farmers are the following:
    - Insufficient needs analysis.
    - Machinery has been handed over too soon to the cooperatives.

Based on these conclusions the efficiency of evaluated project is assessed as rather high, project has, at the end of its implementation, reached his objectives. However, significant portion of these achievements could not be sustained.

Impacts and sustainability

29. Supported farmers in their majority observe that the quality of their life has increased since 2018; farmers attribute this increase primarily to the increase of milk production and their ability to deliver milk throughout the whole year which has been the effect of project support
30. Local farmers and other stakeholders clearly observe that implementation of HLLM has brought or at least has the potential to bring positive change to their lives.
31. Multitude of positive impacts in economic and environmental areas as well as in the coherence of local community have been attributed to implementation of HLLM.
32. In some cases, the project has contributed to launching of new profitable business models by local farmers in fodder production.
33. Poorest members of communities have little to no benefit from the project activities. No specific outreach activities tailored to the needs of the poorest farmers have been implemented.
34. As for replication, some trends in this regard have been observed, however, data do not prove that replication of introduced practices would be widespread. Data also clearly show that lack of information and continued support in fodder production is one of the key barriers to a more successful replication. In this regard the reliance on cooperatives to carry on with extension services has failed.
35. Access to water has proved to be the key factor of sustainability of fodder production as well as HLLM. Lack thereof has directly led to farmers' dropping the promoted practices, despite recognizing their benefit.
36. Furthermore, low access to affordable seed has been also a key limiting factor in sustainability of fodder production.

37. Involvement of local informal leaders and more generally complex work with the community has proven as crucial in sustaining HLLM and should not be underestimated in implementation.
38. There was insufficient focus on exit strategy in the project formulation. Exit strategy was not sufficiently formulated and planned; moreover, it relied on the existing cooperative structure for the sustainability of project outcomes. However, instability, low capacity and donor-driven orientation of these structures limit their function in sustainability. Another key factor is the motivation of cooperatives to sustain services for local farmers and to, more generally, develop their core business.
39. In effect, none of the functions / tasks of cooperatives that were supposed to ensure sustainability of project outcomes are sufficiently performed. Cooperatives do not provide extension services (beyond ad-hoc consultations) and do not have capacity and/or knowledge to do so, furthermore they do not grow their own fodder and also renting machinery to small-scale farmers has been limited.
40. In conclusion, the following parameters proved to be crucial for project sustainability:
    - Insufficient exit strategy
    - Reliance on cooperatives and insufficient involvement of other stakeholders to exit strategy
    - Lacking long-term support (related to weak exit strategy and complete reliance on cooperatives)
    - Lacking access to inputs, most importantly, seeds and water

Based on these conclusions the impacts of evaluated project are assessed as rather high, whereas its sustainability is assessed as rather low.

6 Recommendations

6.1 Programme or sector recommendations

Recommendation	Level of seriousness	Primary addressee	Justification
Strengthen emphasis on exit strategy, which must be formulated from the very beginning – in the formulation of project already; involve relevant stakeholders in exit strategy, including other donors and government structures (which may be underfinanced but stable). Require profound exit strategy in the design phase in grant applications and put emphasis on its implementation, including appropriate capacity building activities, in implementation criteria.	1	CzDA	A deficit in exit strategy caused rather low sustainability of the project, especially when it comes to mechanization. Primary cause is reliance on cooperatives which do not have sufficient capacity for sustainability and exert donor-driven behavior. The potential of other stakeholders was not taken advantage of. Conclusions n. 15, 34, 36, 38 - 40
Engage in coordination mechanisms / platforms in relevant sectors and, if possible, ensure permanent representation of CDC in priority sectors – do not rely on coordination at the level of implementers. In programme and project formulation leverage on other donors' strengths, based on profound stakeholder analysis, and focus on added value of CDC in this complex environment	2	CzDA, Embassy	There is a multitude of other stakeholders involved in the sector and region. Taking these networks into account already at project formulation will enable to take advantage of synergies in order to support more complex approaches, limit donor-driven behaviour of cooperatives and strengthen the sustainability of project / programme. 5, 9, 13 – 15, 26, 34
Require that a profound stakeholder analysis and risk analysis precedes selection of local partners (especially in the case of partners who play role in the developed exit strategy). If relevant to the selection procedure, take advantage of external experts in identification phase so that operational, economic as well as human resources capacities of local partners	1	CzDA / implement-ter (depending on the mode of implementation)	Insufficient capacity and risk analysis of local stakeholders is one of the causes of deficits in effectiveness (mechanization) as well as sustainability of the project. 17, 18, 39, 40

are analysed. Require that in project formulation phase the results of such analysis are mirrored in appropriate approach to capacity building aimed at local partner.			

6.2 Project recommendations

Recommendation	Level of seriousness	Primary addressee	Justification /
Analyse in detail the added value of Czech expertise as well as locally available capacities.	3	Implement-ters	Higher utilization of local capacities and taking full advantage of clear added value of Czech expertise will increase the effectiveness of the project. Using local capacities for HLLM implementation is seen as good practice. 19
Require that procurement (tender procedure) related to equipment and machinery is based on profound analysis of needs of target groups / final beneficiaries in local context.	1	CzDA / implementers	Delivered mechanization is rather not relevant to the needs of small-scale farmers (key target group), equipment is used almost exclusively by big farmers. 23, 28
Transfer of ownership of procured equipment should be incremental and conditioned by (verified) establishment of sufficient capacities and processes	1	CzDA / implement-ters	Too early transfer of ownership is seen as one of the causes of problematic sustainability – processes guaranteeing and enforcing reinvestments of profits from machinery could not have been set up sufficiently. 17, 18, 23
Involve activities aimed at dissemination of good practice and innovation in broader community (outside the scope of directly supported farmers), such as awareness raising, field days, setting up of demonstration fields, training of trainers, etc. Include monitoring of the level of replication in supported communities into the monitoring system, at least as a pilot activity (baseline and endline surveys in selected locality).	2	CzDA, implement-ters	Rather low level of replication of project activities in the field of fodder growing / production in local communities has been recorded. Project did not focus sufficiently on targeted support to or facilitation of replication (also due to short time frame). 34
Require that the needs and limitations of poorest members of supported are taken into account in project design (tailored activities to this target (sub)group) in order to avoid increasing the gap between better-off and poor members of the community.	2	CzDA	Project as whole has positive impact on the quality of life of the target group, however, its benefit for the poorest members of local community is low or none. In effect, project indirectly contributes to growing disparities withing supported communities. 33
Ensure that water component is secured in target areas prior to (or along with) the implementation of other water demanding or depending activities in the agricultural sector in the target country	1	CzDA	Availability of water is a necessary precondition of the relevance of the project intervention logic at the level of supported communities – if not met, other components of the intervention logic are not relevant. 35, 40

6.3 System or procedure recommendation

Recommendation	Level of seriousness	Primary addressee	Justification /
Analyse options to ensure longer time frame for implementation of project in agriculture sector. Ideally enable an additional 2 years of phase-out period for activities of lower intensity aimed at refreshing of knowledge and couching of supported farmers.	2	MFA / CzDA	Lacking longer time frame of support limits the sustainability of project, especially in the context of negative external influences (drought). No support for "restart" of beneficial activities after these external influences fade away is available. 27
Analyse option to increase emphasis on continuous presence of implementer in projects of larger scale in this sector in the target regions in current legal framework.	3	CzDA	Continuous presence of implementer team in the target region (local coordinators) has proved to be one of the factors of success of the project in reaching its objectives as well as in impacts. 3

7 Annexes

1. Summary in Czech language
2. List of abbreviations
3. List of studied documentation and other resources
4. List of interviews and group discussions
5. Analysis of the results of surveys
6. Comparison between supported and not supported farmers
7. Evaluation matrix
8. Intervention logic visualization
9. Additional texts
10. Scripts of IDI and FGD
11. Questionnaire for non-included farmers (in separate file)
12. Evaluation of individual crosscutting themes (in separate file)
13. Terms of reference (in separate file)
14. Comments and suggestions of the reference group, implementers and other stakeholders (in separate file)
15. Presentation of Final Report to the reference group (in separate file)
16. Checklist of mandatory requirements of the evaluation contract (in separate file)

Annex 1: Summary in Czech language

Projekt

Předmětem tohoto hodnocení je projekt „Zajištění udržitelné a stabilní produkce krmiva pro dojný skot drobných farmářů“, který byl v cílové zemi Zambie realizován odborníky z Mendelovy univerzity v Brně v období listopad 2014 – duben 2018. Cílem projektu je „zajistit udržitelnou a stabilní produkci krmiva pro mléčný skot pro malé farmáře ve dvou vybraných cílových kooperativách v Choma a Monze“ za účelem stabilizace a rozvoje produkce zemědělců zúčastněných kooperativ, zejména ve vztahu k produkci mléka.

Účel

Hlavním účelem hodnocení je získat nezávislá, objektivní a konzistentní zjištění, závěry a doporučení hodnotná pro rozhodování Ministerstva zahraničních věcí (dále jen MZV) ve spolupráci s Českou rozvojovou agenturou (dále ČRA) o budoucí orientaci a implementaci Zahraniční rozvojové spolupráce České republiky v Zambii s ohledem na Agendu udržitelného rozvoje 2030 a Strategii rozvojové spolupráce České republiky na období 2018–2030. Závěry a doporučení by měly být relevantní pro další směřování a financování české rozvojové spolupráce v Zambii a také pro implementaci podobných projektů v oblasti zemědělství a rozvoje venkova.

Cíle intervence

Celkovým cílem hodnoceného projektu bylo zajistit udržitelnou a stabilní produkci krmiva pro dojnice malých farmářů ve dvou vybraných cílových kooperativách v Choma a Monze.

Projekt byl zaměřen na tři složky v obou těchto regionech:

1. Prvním prvkem byl **rozvoj kapacity** členů družstev na produkci krmiva **pro zvýšení produkce krmiva** tak, aby bylo zajištěno kvalitnější krmení skotu v období sucha, kdy zemědělci zažívají výrazný pokles produkce mléka. Toho bylo dosaženo zejména školením zaměřeným na klíčová témata ve výrobě, zpracování a skladování krmiva a krmení dobytka obecně, individuální podporou výroby krmiva na vybraných farmách, dílnami a demonstracemi atd.
2. Druhou složkou byla **podpora mechanizace a efektivity**, zejména dodávka vhodných zemědělských strojů kooperativám a další doprovodné investice, školení v používání této mechanizace a v neposlední řadě podpora při zavádění udržitelného ekonomického modelu pro řízení této technologie.
3. Třetí složkou byla pilotní implementace tzv. Holistického managementu krajiny hospodářských zvířat (dále HLLM) ve třech komunitách v každém z cílových regionů.
4. Další aktivitou projektu byla příprava na zajištění vodních zdrojů pro hospodářská zvířata, ale skutečná realizace této části byla předmětem jiného projektu.

Zavedené metodiky a techniky; dodržení omezení

Metodika hodnocení zahrnovala individuální a skupinové rozhovory se zúčastněnými stranami na všech úrovních veřejné správy, realizátorem, partnerskými institucemi, dalšími dárci a příslušnými zúčastněnými stranami atd. Dále byly provedeny dva průzkumy, jeden mezi podporovanými zemědělci a druhý mezi nepodporovanými zemědělci ve čtyřech lokalitách. Tyto čtyři lokality navštívily také místní experti a v těchto lokalitách byly provedeny individuální rozhovory a byly rovněž provedeny fokusní skupiny. Hodnocení bylo vážně ovlivněno omezeními souvisejícími s pandemií COVID-19; jeho úspěšnou implementaci však umožnila komunikace na dálku a intenzivní zaměstnávání místního experta, včetně rozšíření místního týmu o junior experty.

Klíčová zjištění evaluace

Relevance

Strategická vhodnost projektu a jeho relevance byla hodnocena jako **vysoká**. Cíle a aktivity hodnoceného projektu jsou zcela v souladu se zambijskou politikou, konkrétně s Národní zemědělskou politikou 2004–2015, Druhou národní zemědělskou politikou 2016–2030, Národním investičním plánem 2014–2018 a také s obecnější rozvojovou strategií pro roky 2017–2021. Projekt navázal na dlouhodobou práci Zahrančiní rozvojové spolupráce ČR (dále jen ZRS) se Zambií v zemědělství. Projekt je stále relevantní i v rámci nové strategie ZRS se Zambií na období 2018–2023, jejímž cílem je

„přivést Zambii do roku 2030 do stavu země se středními příjmy a vybudovat diverzifikovanou ekonomiku v zemi nezávislé na rozvojové pomoci“ prostřednictvím „intenzifikace a diverzifikace zemědělské produkce“.

Kritéria pro implementaci projektů byla stanovena vhodně, avšak větší důraz by měl být kladen na kvalitativní hodnocení a měla by být vyžadována nepřetržitá přítomnost realizátora projektů tohoto rozsahu.

Koherence

Pokud jde o koherenci, bylo zjištěno, že existuje mnoho zúčastněných stran a dalších dárců, kteří jsou nebo byli aktivní v regionu projektu v chovu mléčných výrobků. Hodnocený projekt koordinoval své aktivity s těmito zúčastněnými stranami, avšak koordinace byla realizována spíše ad hoc a na operativní úrovni než na úrovni programování nebo dokonce dárců. Tato koordinace a do určité míry spolupráce umožňovala zamezit duplicitě v realizovaných činnostech. V některých případech bylo navíc dosaženo (opět ad hoc) vzájemné spolupráce různých projektových týmů. Úroveň spolupráce s ostatními partnery je však považována za nedostatečnou jak ze strany zaměstnanců projektu ČRS na všech úrovních (realizátor, vedení partnerů, místní zaměstnanci), tak ze strany zástupců dalších dárců.

Na základě těchto závěrů je koherence hodnoceného projektu s dalšími dárci hodnocena jako **spíše vysoká**, avšak potenciál spolupráce s dalšími dárci nebyl plně využit především z důvodu nedostatečného začlenění synergií do fáze formulace. Silnější zaměření na spolupráci s dalšími dárci by nejen umožnilo využít vzájemné silné stránky, ale potenciálně by také posílilo udržitelnost projektu ČRS a překonalo tak zásadní omezení krátkodobého rozsahu realizace projektů ČRS.

Efektivita

Celkové hodnocení projektu z hlediska efektivity je pozitivní. Vysokou efektivitu ukazují aktivity zaměřené přímo na zemědělskou produkci a dobré životní podmínky skotu. Realizátorovi se podařilo významně přispět ke zvýšení objemu a kvality produkce drobných farmářů, což pozitivně přispělo k nákladové efektivnosti projektu. Na druhé straně činnosti spojené s pořízením a používáním zemědělských strojů vykazují poměrně nízkou efektivitu. Realizací projektu nevznikl mechanismus, který by plně zajistil dlouhodobé pokrytí zvýšených nákladů cílových příjemců na novou mechanizaci.

Na základě těchto závěrů je efektivita hodnoceného projektu hodnocena jako **spíše vysoká**, efektivita nákupu strojů je však **nízká**.

Monitoring aktivit a ukazatele

Podle monitoringu byly splněny všechny výstupy a výsledky projektu, protože byly naplněny kvantifikované cílové hodnoty formulovaných indikátorů:

- Kapacita pro produkci krmiva se zvýšila o více než 270 hektarů.
- Mechanizace poskytovaná kooperativami na výrobu krmiv generují od roku 2017 příjem, který minimálně pokrývá provozní a servisní náklady.
- V dubnu 2018 bylo do společné holistické denní pastvy zapojeno 61,3 % celkové populace hospodářských zvířat a v nočním ustájení 37 % z celkového počtu zvířat.
- Subdodavatel projektového týmu určil dostatečný počet vodních zdrojů.
- Podíl zemědělců, kteří si sami produkují krmivo pro dobytek, se podle monitorování projektu v roce 2017 zvýšil na 79 %.
- Více než 74 % zemědělců produkovalo mléko v období sucha 2017 a poměr produkce v období dešťů a období sucha se snížil z 3,8 na 1,8.

Vztah mezi krmivem a výrobou mléka; přístup k vodě jako vnější riziko

O tři roky později, v roce 2021, hodnocení dospělo k závěru, že podporovaní zemědělci stále do značné míry pokračují **v produkci vlastního krmiva a tito zemědělci vykazují pozitivní trend produkce mléka i příjmy**, a to i přes negativní vnější události (sucho v letech 2018–2019). Kvalitativní výzkum v cílovém regionu však nepřináší tak přesvědčivý závěr. Ačkoli to potvrdilo přímou souvislost mezi produkcí vlastního krmiva a produktivitou mléka a co je ještě důležitější, umožnění dostatečné produkce mléka i v období sucha, zúčastněné strany v regionu zjistily, že **mnoho zemědělců přesto přestalo vyrábět krmivo**. Níže jsou uvedeny hlavní důvody těchto selhání:

- Nejdůležitějším důvodem je přístup k vodě, který je primárním předpokladem pro pokračování výroby krmiva.
- Negativní dopad sucha v letech 2018/2019, který způsobil častý úhyn skotu, a také migrace stád do příliš vzdálených lokalit s větším množstvím vody. Projekt se přirozeně nemohl vyhnout ani zmírnit toto vnější riziko,

ale jakmile se situace ve vodě stabilizovala, nebyla k dispozici podpora, která by motivovala a vedla zemědělce, aby znovu začali s produkcí krmiva.

- Dostupnost osiva, která je považována za jeden z klíčových důvodů, proč mnoho farmářů ukončilo produkci vlastního krmiva. Projekt plánoval obejít toto očekávané úzké místo zapojením družstev / svazů, které měly nakupovat semena a distribuovat je mezi zemědělci, avšak tento plán neuspěl.

Podobně jako u krmiv vidí zúčastněné strany v cílových oblastech přímou příčinnou souvislost mezi implementací HLLM a zvýšením produkce mléka. V celé oblasti však došlo k vážným výzvám v pokračující implementaci HLLM nebo alespoň jejích složek:

- Přístup k blízkým vodním zdrojům je opět primárním předpokladem implementace HLLM.
- Negativní účinek sucha, který vážně omezil nebo dokonce zastavil implementaci HLLM v celé oblasti projektu.
- Chybějící zařízení pro mobilní ohrady.

Srovnávací analýza dvou komunit, kde byla zavedena HLLM, však poukázala na to, že chybí dlouhodobá podpora jako významný důvod, proč některé komunity HLLM neudržely. Jakmile negativní vnější účinek (sucho) ustoupilo, v regionu nebyl **žádný stakeholder, který by facilitoval znovuzavedení a / nebo posílení postupů HLLM** v podporovaných komunitách. Kromě toho se ukázala důležitost silného zapojení místních neformálních orgánů jako jednoho z rozhodujících faktorů pro udržení nebo opětovné zavedení HLLM.

Existuje jen málo důkazů o tom, že dodané stroje významně přispěly ke zvýšení produkce krmiva a příjmů drobných zemědělců. Ačkoli empirické záznamy o používání strojů nejsou k dispozici, je zřejmé, že alespoň **některé části strojů nejsou vůbec používány z důvodu chybějící údržby nebo nevhodnosti** pro místní farmáře. Dokonce i ty stroje, které jsou v provozu, slouží spíše větším a lépe situovaným zemědělcům než malým zemědělcům, pro jejichž potřeby není strojní zařízení vzhledem ke své velikosti a účelu vhodné.

Efektivnost

Na základě těchto závěrů je efektivnost hodnoceného projektu hodnocena jako **spíše vysoká**, projekt na konci své realizace dosáhl svých cílů. Významnou část těchto úspěchů však **nebylo možné udržet**.

Podporovaní zemědělci ve většině pozorují, že kvalita jejich života se od roku 2018 zvýšila. V průběhu kvalitativního výzkumu v různých komunitách cílového regionu byla formulována silně pozitivní hodnocení zejména s ohledem na implementaci HLLM s uvedením, že implementace HLLM přinesla nebo alespoň má potenciál přinést do jejich životů pozitivní změnu. Kromě jejích dopadů na produkci mléka existuje řada pozitivních dopadů v oblastech ekonomických (vyšší výnosy plodin, nižší spotřeba hnojiv) a životního prostředí (snížení nadměrné pastvy, zastavení praxe spalování keřů, nižší používání hnojiv) a také v soudržnosti místní komunity byla přičítána implementaci HLLM. Bylo hlášeno, že s účinkem HLLM se obecně zvýšila spolupráce mezi členy komunity, což vedlo ke zvýšení vzájemné důvěry a mobilizaci komunity.

Dopady

Je však také třeba zdůraznit, že **nejchudší členové komunit mají z aktivit projektu malý nebo žádný užitek**. Nebyly provedeny žádné aktivity přizpůsobené na míru potřebám nejchudších zemědělců.

Důležitou součástí logiky projektu bylo očekávání, že ostatní zemědělci budou replikovat inovace realizované s podporou projektu, konkrétně pěstování krmiva pro výživu zvířat. Některé trendy v tomto ohledu byly pozorovány, **údaje však neprokazují, že by replikace zavedených postupů byla rozšířená**. Data také jasně ukazují, že nedostatek informací a chybějící trvalá podpora při výrobě krmiva je jednou z klíčových překážek úspěšnější replikace. V tomto ohledu projekt spoléhal na kooperativy, které měly pokračovat v poskytování služeb zemědělské extenze, toto očekávání ale nebylo naplněno. Na základě těchto závěrů jsou dopady hodnoceného projektu hodnoceny **spíše vysoké**.

Strategie odchodu a udržitelnost

Ve formulaci projektu nebylo dostatečné zaměření na strategii odchodu. **Strategie odchodu nebyla dostatečně formulována a plánována a spoléhala se na stávající strukturu kooperativ pro udržitelnost výstupů projektu**. Závislost na těchto strukturách při realizaci projektu i udržitelnosti je realizátorem i místním partnerem vnímána jako jeden z největších problémů projektu jako celku.

Respondenti hodnocení se při charakterizaci kooperativ shodují na několika problémech, které lze shrnout do následujících tří bodů:

- Kooperativy jsou ze své podstaty nestabilní organizace – s ohledem na správu a finanční stabilitu;
- Kooperativům chybí kapacity a odborné znalosti;
- Aktivita kooperativ, která jde nad rámec jejich základního účelu, totiž výkupu mléka, jsou do značné míry motivovány donory (donor-driven).

Ve výsledku tak evaluace ukazuje, že **kooperativy nebyly příliš úspěšná při zajišťování služeb a výsledků projektu**. Kooperativy neposkytují služby zemědělské extenze (kromě ad hoc konzultací) a nemají k tomu kapacitu ani znalosti. Kromě toho si nepěstují vlastní krmivo a omezil se také pronájem strojů malým zemědělcům. Pěstování vlastního krmiva v kooperativách mělo pomoci farmářům, kteří nejsou schopni produkovat vlastní krmivo nebo si nemohou dovolit koupit osivo na trhu.

Závěrem se ukázalo, že pro udržitelnost projektu jsou klíčové následující parametry:

- Nedostatečná strategie ukončení
- Spoléhání se na družstva a nedostatečné zapojení dalších zúčastněných stran do ukončení strategie (vládní struktura pracovníků pro rozšíření, dalších dárců, podnikatelských subjektů atd.)
- Nedostatek dlouhodobé podpory (související se slabou strategií ukončení a úplnou závislostí na družstvech)
- Chybějící přístup k vstupům, nejdůležitějším semenům;

V neposlední řadě je nejdůležitějším faktorem udržitelnosti přístup k vodě. To je předpoklad udržení produkce krmiva i HLLM v podporovaných lokalitách.

Na základě výše uvedených zjištění je **udržitelnost** hodnoceného projektu hodnocena jako **spíše nízká**.

Na základě zjištění a závěrů byla formulována následující doporučení.

Programová a sektorová doporučení:

Znění doporučení	Stupeň závažnosti	Hlavní adresát
Posílit důraz na strat. odchodu, která musí být formulovaná od začátku; zapojit do strategie relevantní stakeholdery, včetně jiných donorů a veřejných struktur (které mohou být podfinancované, nicméně jsou stabilní). Vyžadovat podrobnou strategii odchodu ve fázi designu projektu v žádostech o grant a zvýšit důraz na její implementaci, vč. odpovídajícího budování kapacit, v kritériích realizace.	1	ČRA
Zapojit se do koordinačních mechanismů / platforem v relevantních sektorech a zajistit stálou reprezentaci ZRS ČR v prioritních sektorech – nespoléhat se na koordinaci pouze na úrovni realizátorů. Ve formulaci programu a projektů využít silných stránek jiných donorů a zaměřit se na přidanou hodnotu ZRS ČR v tomto komplexním prostředí.	2	ČRA, ZÚ
Požadovat, aby výběru místního partnera předcházela podrobná analýza stakeholderů a analýza rizik. Pokud je to pro aplikovanou proceduru výběru realizátora relevantní, využít ve fázi identifikace spolupráce s externími experty tak, aby byly ekonomické, operační i lidské kapacity místních partnerů podrobně analyzovány. Požadovat, aby byly ve fázi formulace projektů zrcadleny výsledky těchto analýz v aktivitách zaměřených na odpovídající budování kapacit místních partnerů	1	ČRA / realizátor (v závislosti na způsobu implementace)

Projektová doporučení:

Znění doporučení	Stupeň závažnosti	Hlavní adresát
Detailně analyzovat přidanou hodnotu českých expertů a v místě dostupné kapacity pro vzdělávání	3	realizátor
Požadovat, aby byla specifikace vybavení a mechanizace, které má být pořízeno, založena na podrobné analýze potřeb cílových skupin / konečných příjemců v místním kontextu	1	ČRA / realizátor

Převádět vlastnictví pořízeného vybavení postupně a podmínit jej (ověřeným) vytvořením dostatečné kapacity a procesů na straně místního partnera	1	ČRA / realizátor
Zahrnout do projektů aktivity na diseminaci dobré praxe a inovací v širší komunitě (mimo přímo podpořené farmáře), jako jsou například osvětové kampaně, polní dny, demonstrační plochy, atd.. Zahrnout do monitorovacího systému projektu monitoring úrovně replikace v komunitě alespoň jako pilotní aktivitu (sběr baseline a endline dat ve vybrané lokalitě).	2	ČRA / realizátor
Požadovat, aby byly v projektovém designu brány v potaz potřeby a omezení nejchudších členů místních komunit (cílené aktivity na tuto část cílové skupiny) s cílem zamezit zvyšování nerovností mezi bohatějšími a chudými členy komunit.	2	ČRA
Klást důraz na to, aby byla dostupnost vody zajištěna před nebo alespoň současně s implementací dalších aktivit v sektoru zemědělství, které jsou na vodě závislé	1	ČRA

Systémová a procesní doporučení:

Znění doporučení	Stupeň závažnosti	Hlavní adresát
Analyzovat možnosti prodloužení časového rámce pro implementaci projektů v sektoru zemědělství. Ideálně umožnit dodatečné 2 roky pro období pahse-out s aktivitami nižší intenzity zaměřenými na obnovu / oživení znalostí a koučink podpořených farmářů.	2	MZV / ČRA
Analyzovat možnosti zvýšení důrazu na stálou přítomnost realizátora v cílovém regionu ve větších projektech v tomto sektoru dle možností současného legislativního rámce.	3	ČRA

Annex 2: List of abbreviations

ACHM	African Centre for Holistic Management
CDC	Czech Development Cooperation
CzDA	Czech Development Agency
CZK	Czech crown
DAC	District Agricultural Coordinator
DFID	Department for International Development (United Kingdom)
EU	European Union
EQ	Evaluation question
FGD	Focus group discussion
GART	Golden Valley Agricultural Research Trust
GIZ	Gesellschaft für Internationale Zusammenarbeit
HLLM	Holistic Land and Livestock Management
IDI	In-depth Interview
IFAD	International Fund for Agricultural Development
MCC	Milk Collection Centre
MFA	Ministry of Foreign Affairs
MoA	Ministry of Agriculture
MoLF	Ministry of Livestock and Fisheries
NEPAD	New Partnership for Africa's Development
NGO	Non-governmental Organization
ODA	Official Development Assistance
OECD-DAC	Organization for Economic Co-operation and Development's Development Assistance Committee
SDG	Sustainable Development Goal
SNAP	Second National Agricultural Policy
SNV	Stichting Nederlandse Vrijwilligers
UNZA	University of Zambia
USAID	United States Agency for International Development
USD	US Dollar
UNICEF	United Nations Children's Fund
WFP	World Food Programme
WFO	World Farmers' Organization
ZMW	Zambian kwacha (local currency)

Annex 3: List of studied documentation and other resources

Primary sources

- Project documentation
- Project outputs – materials, reports, etc.
- Terms of Reference of the project
- Web pages of implementer, partners, etc.

Strategies, context information and evaluations

- Strategy of CDC 2018 – 2030
- Concept of CDC 2010 – 2017
- Development Cooperation Programme of the Czech Republic to Zambia 2018 – 2023
- OECD: Evaluation Systems in Development Co□operation (peer review), 2016
- *CzDA* Annual reports
- Evaluation of CDC in agriculture in Ethiopia, 2016

Strategic documents and other documents of Zambia

- National Agricultural Policy 2004-2015
- Second National Agricultural Policy 2016 – 2030
- National Agriculture Investment Plan of Zambia (2014 – 2018)
- Draft Livestock Development Policy (2012)
- 7th National Development Plan
- Vision 2030: A prosperous middle-income nation by 2030
- Draft Livestock Development Policy, 2012
- *WFO:* Zambia country strategic plan 2019-2024
- African Union / NEPAD: Zambia Comprehensive Africa Agriculture Development Program
- *UNDP*: Zambia - Country Profile of Human Development Indicators, http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/ZMB.pdf

Methodological and context sources

- *OECD:* Quality Standards for Development Evaluation (2010)
- *UNDP:* Handbook on planning, monitoring and evaluation for development results (2009)
- *UNDP:* Project-level evaluation – Guidance for conducting terminal evaluations of UNDP-supported GEF-financed projects (2012)
- *The World Bank*: Handbook on impact evaluation – quantitative methods and practices (2010)
- *The World Bank*: User-friendly handbook for mixed method evaluations (1997)
- *Bamberger, M – Rugh, J. – Mabry, L.:* Real World Evaluation (2006)
- *INESAN:* Methodology for the Evaluation of Cross-Cutting Themes in Development Cooperation (2017)
- *Rogers, E.M.:* Diffusion of Innovations, 5th edition (2003)
- *FAO:* Participatory Training and Extension in Farmers' Water Management (2001).
- *FAO:* Smallholder farmer participation in modernization of a food system—The dairy value chain in Zambia (2017)
- IAEA. Improving Artificial Breeding of Cattle in Africa. Guidelines and Recommendations (2005)
- Dutilly, C. at al.: *Multi-scale assessment of the livestock sector for policy design in Zambia*, Journal of Policy Modelling, Vol 42, Issue2 (2020)
- *World Bank:* Zambia: Livestock Development and Animal Health Project, https://projects.worldbank.org/en/projects-operations/project-detail/P122123?lang=en
- *Independence Evaluation Group:* ZM:Livestock Develop & Animal Health Project – Implementation Completion Report Review

- *IFAD:* Republic of Zambia - Enhanced Smallholder Livestock Investment Programme, final design report
- *Daka, D.:* Livestock Sector in Zambia – Opportunities and Limitations
- *Diederen, P. et al.:* Innovation Adoption in Agriculture: Innovators, Early Adopters and Laggards (2003)
- *Burrows, E. - Bell, M. – Rutamu, N.G.:* Extension & Advisory Services in Zambia: Understanding Structures, Services, Roles & Incentives for Reaching Farmer Households as a Basis for Discussing Potential for Scale (2017)

Annex 4: List of interviews and group discussions

Interviews or group discussions were, by the means of remote communication, held with representatives of the following stakeholders:

- Ministry of Foreign Affairs
- Mendel University
- Njovu – 3 separate interviews with management and field officers
- Czech Development Agency
- Former desk officer for Zambia at the Czech Development Agency
- Embassy of the Czech Republic to Zambia
- Ministry of Livestock and Fisheries of Zambia
- GIZ
- SNV
- AgriTerra
- ACHM

Field research was realized with the following stakeholders:

DATE	District	Place	INTERVIEWEE
SUNDAY 26/4/2021			(travel)
MONDAY 27/4/2021	Choma	Province and district	Field officer (implementer)
			Extension officer from provincial office
TUESDAY 28/4/2021	Choma	Mutandalike	FGD Farmers who are cooperative members
		Mutandalike	FGD farmers non cooperative members
		Mutandalike	IDI with cooperative board member/model farmer
		Mutandalike	In-depth interview with former cooperative board chair
WEDNESDAY 29/4/2021	Choma	Bwacha	IDI with Headman
		Bwacha	FGD with farmers who are cooperative board members
		Bwacha	IDI with local cooperative chairperson
		Bwacha	IDI with a local farmer non cooperative member
		Bwacha	IDI with a local farmer a cooperative member
		Bwacha	FGD with farmers non cooperative members
THURSDAY 30/4/2021	Choma	District	Choma district dairy cooperative chair (union)
	Monze	District	Senior District Livestock officer

DATE	District	Place	INTERVIEWEE
FRIDAY 1/5/2021	Monze	Nceema	Local Veterinary assistant
		Nceema	Farmers cooperative and non-cooperative members
		Nceema	Village Headman
		Nceema	FGD with Cooperative board members
SATURDAY 2/5/2021	-	-	-
SUNDAY 3/5/2021	Monze	District	Monze Dairy Cooperative Chair
		Kayuni	FGD Kayuni cooperative board members
		Kayuni	FGD Farmers cooperative

Annex 5: Analysis of the results of surveys

SURVEY WITH SUPPORTED FARMERS

Identification questions

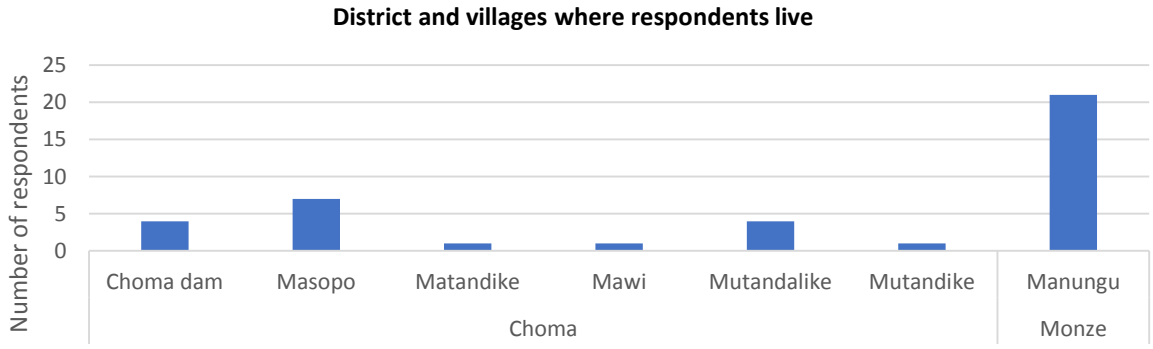
The whole group of supported farmers with available contact details (115 farmers) was addressed with this questionnaire, in accordance with requirements in the Input Report. With regard to limited contact details (besides name and phone number) and also with regard to the pandemic situation CATI method was chosen as the most appropriate. A web form was used for recording the responses by trained interviewers.

In total, 40 relevant responses were obtained in the questionnaire. Due to the long period of time since the project ended a large share of these farmers were not reachable. In almost half of the cases the phone numbers were no longer in use or not reachable. In a smaller number of cases the phone number was wrong or not picked up. Of the 40 valid responses 6 respondents completed the questionnaire only partially.

Geographical origin of respondents

Regarding the districts where respondents live, the structure of respondents is balanced (Figure 1). The difference in the representation of districts is only 4 respondents in favour to Monze district. Nevertheless, on the level of villages, the structure is a bit more polarised. While the Choma district is represented by respondents form different villages, the Monze district is solely represented by the Manungu village.

Figure 1: Structure of respondents by their geographical origin

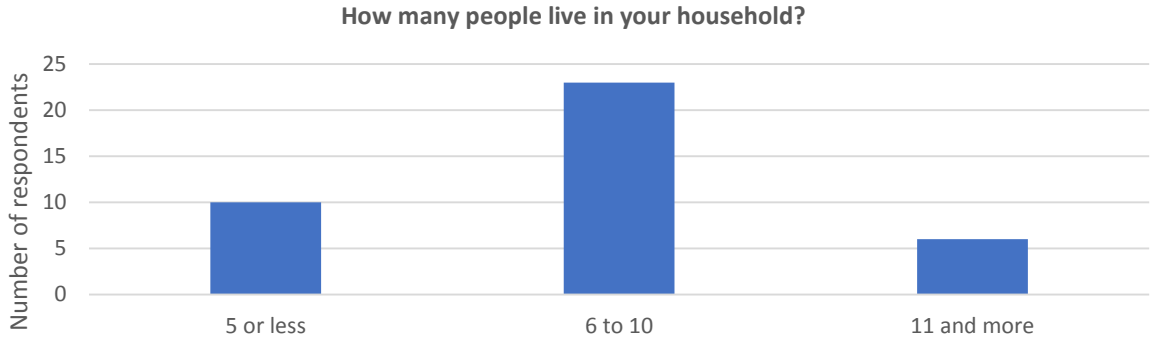


Source: Own questionnaire (sample size: 39)

Households' size of respondents

Respondents primarily come from households with numerous family members (Figure 2). **The median value amounts to 9 persons in the households**, which is also the most common size of a household among respondents.

Figure 2: Size of respondents' households.

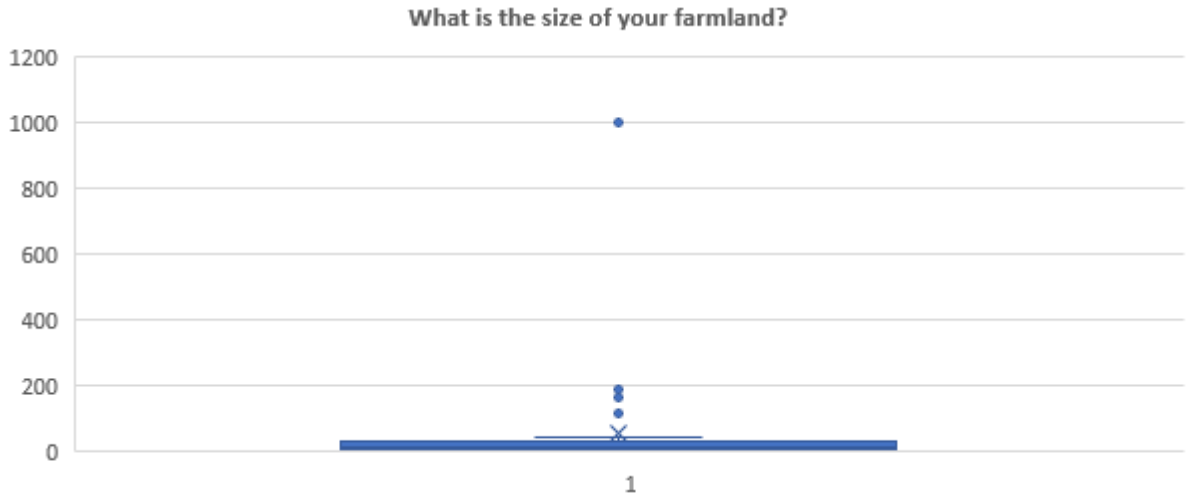


Source: Own questionnaire (sample size: 39)

Area of respondents' farmlands

The size of farmlands where respondents work does not usually exceed 20 ha – exactly 70% of respondents owns such an area of farmland (Figure 3). **The average size of farmland is 58 hectares**. Nevertheless, the size is greatly influenced by the biggest farmland, which has an area of 1 000 ha. The more relevant median value illustrates that the farms rather have around 14 hectares. A larger share of the area of farms is set aside for arable land. The median value is higher by 1.5 ha.

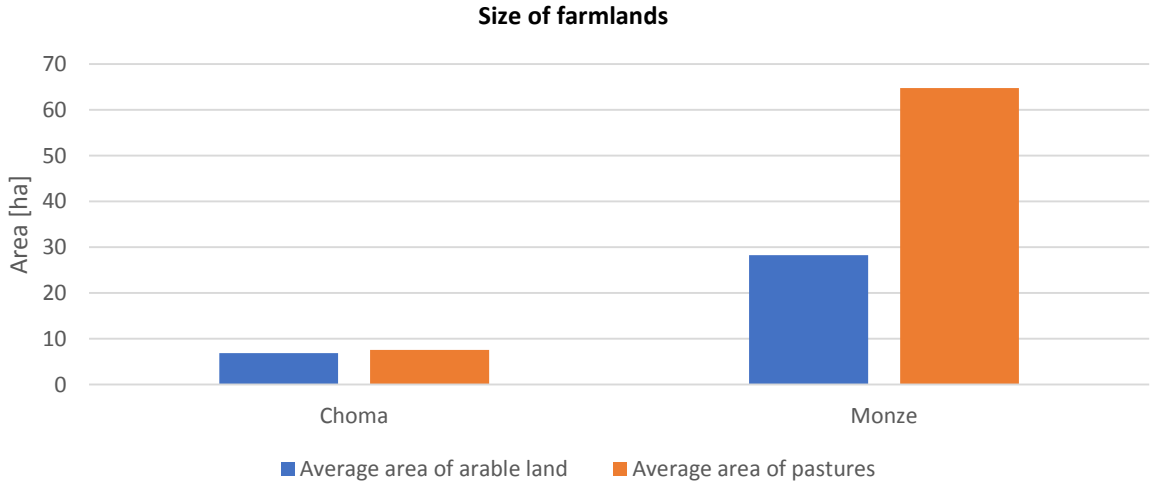
Figure 3: Size of respondents' farmlands (arable land and pastures)



Source: Own questionnaire (sample size: 40)

The Figure 4 below illustrates that **farmers in Monze district have significantly bigger farms**. Nevertheless, the extreme difference is significantly influenced by the respondent with an extraordinary farmland that amounts to 1 000 ha. Specifically, the farmer comes from Manungu village.

Figure 4: Average size of farmlands according to target districts



Source: Own questionnaire (sample size: 40)

Finally, all respondents, who answered, which is 37, are members of cooperatives in the districts.

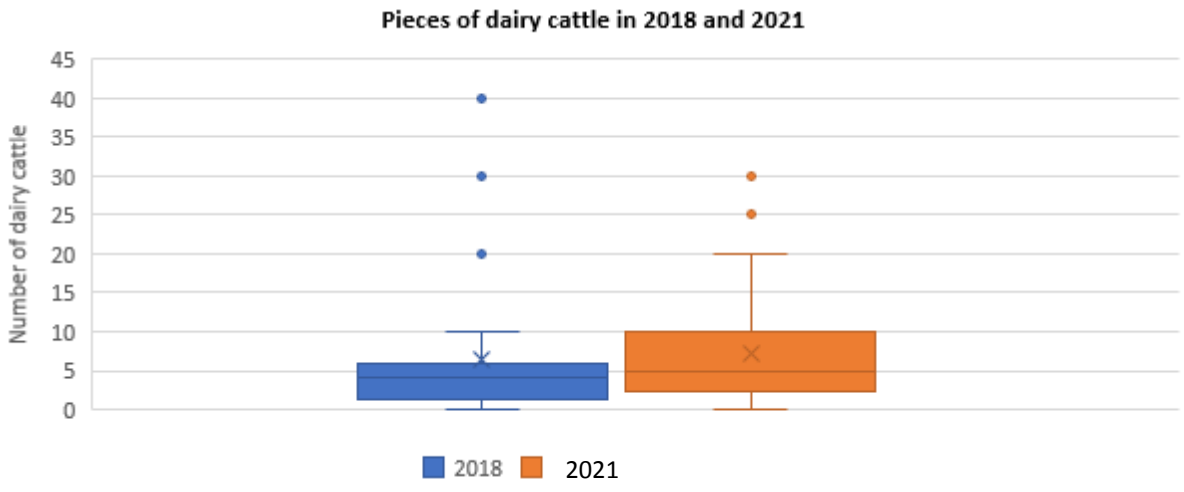
Own production of fodder

Change in livestock

According to the information from respondents, it is difficult to determine whether the implementation of project led to the increase of pieces of dairy cattle. **In general, the average number of cattle has increased: from 6.3 to 7.3 (including respondents with no cattle; Figure 5). Nevertheless, only 21 (53%) farmers increased their numbers and one more respondent do not have any dairy cattle in 2021. The decrease primarily has occurred among farmers who had a higher number of pieces of dairy cattle**: the average number of pieces of cattle is 9.5 while farmers whose number have increased had, on average, 3.4 pieces of dairy cattle in 2018. In absolute numbers, the pieces of cattle increased from 252 to 292 (16% increase).

Regarding the origin of respondents, the average increase of pieces of dairy cattle have occurred in both districts. The more significant increase can be observed in the case of Choma where the pieces increased by 1.4 times instead of 1.1 times in the case of Monze. On the lower level of villages, the decrease has only occurred in the case of Matandike and Mutandike – only two respondents, however, come from this villages.

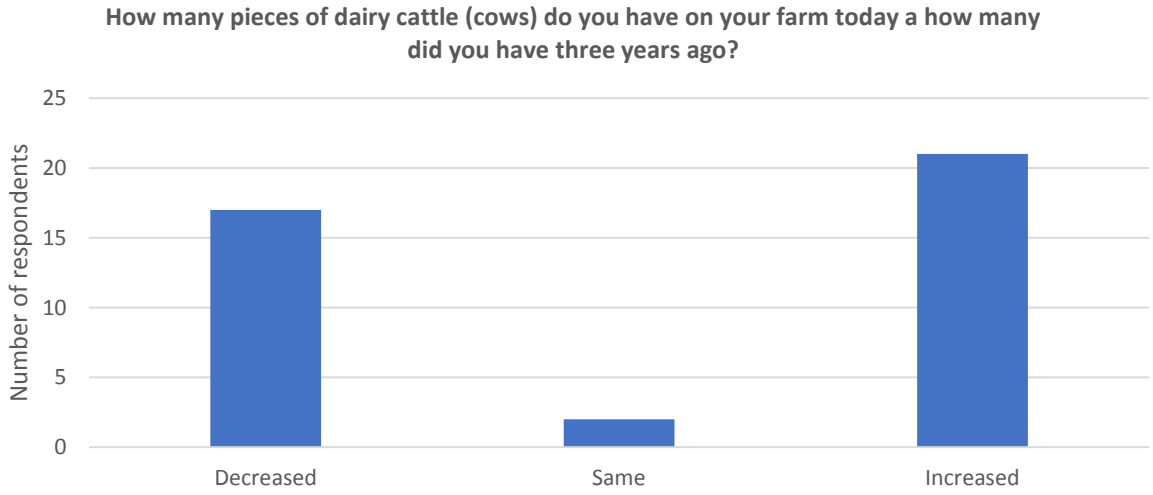
Figure 5: Change in pieces of dairy cattle between 2018 and 2021



Source: Own questionnaire (sample size: 40)

The decrease and increase are relatively balanced (Figure 6). Among farmers who experienced decrease and at the same time bred dairy cattle in 2018 and 2021, the average percentual decrease is by 36%. On contrary, the increase is exactly 170%.

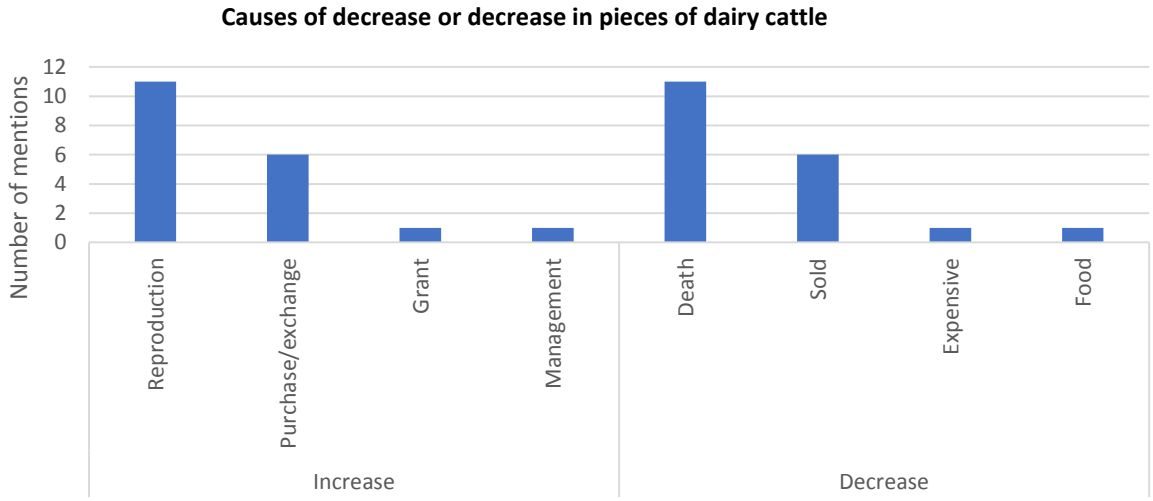
Figure 6: Increase or decrease in pieces of dairy cattle



Source: Own questionnaire (sample size: 40)

The most common cause of the increase is the reproduction of cattle (Figure 7). Two, out of six respondents who purchased new pieces, stated that they could buy because of personal saving from selling milk. **On contrary, even though one of the main aims of the project is to limit deaths of cattle, 11 respondents stated that some of their cattle died during since 2018.** Some of respondents said that they sold a specific amount of their cattle, but they do not specify why they did so. According to one of respondents, the breeding of dairy cows was too expensive compared to keeping local cattle. Therefore, they could sell the cattle because it is too expensive for them.

Figure 7: Causes of increase or decrease in pieces of dairy cattle

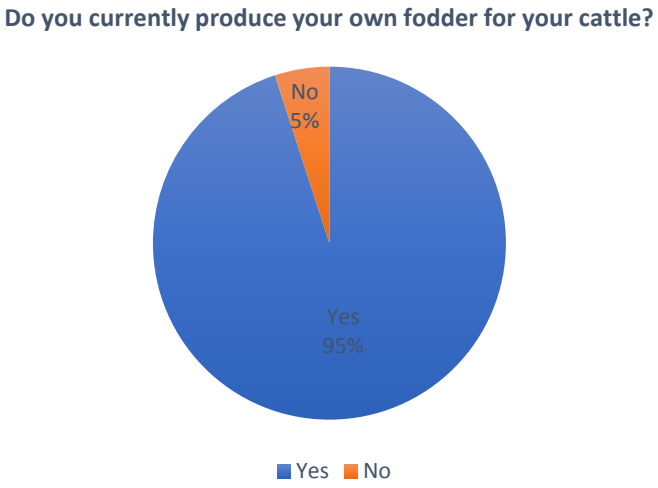


Source: Own questionnaire (sample size: 39)

Production of own fodder

Almost all respondents (95%) produce their own fodder (Figure 8) – out of two respondents who do not, the first never produced fodder in the last 5 years (due to lack of time) but **the second stopped his/her production because of lack of rains.** The ways these two respondents feed their cattle during dry seasons are: purchase of fodder on the market and grazing cattle on seasonal pastures during dry season.

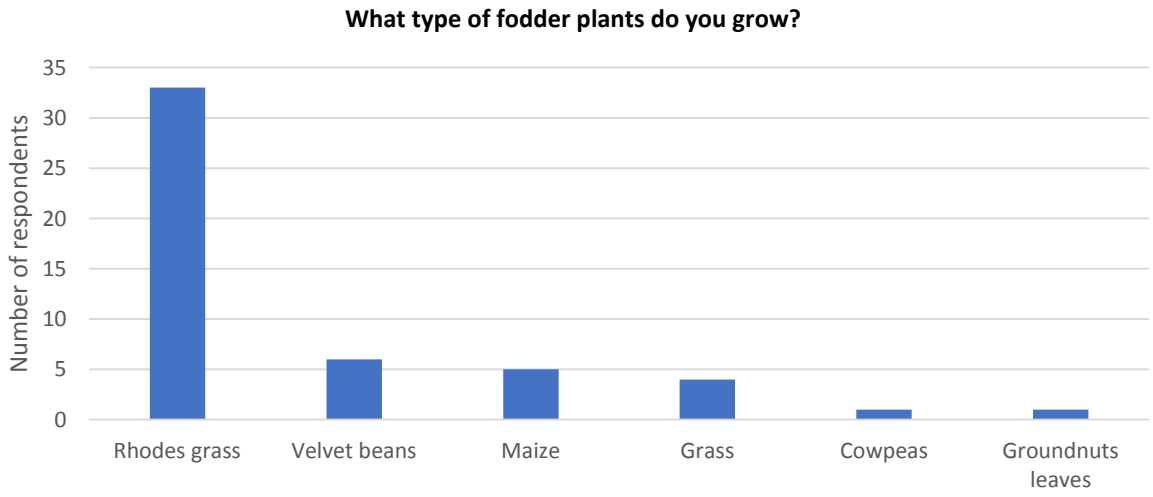
Figure 8: Production of own cattle among respondents



Source: Own questionnaire (sample size: 40)

None of respondents stated that the fodder he/she produce is Moringa. **Rhode Grass which is significantly more popular since it is produced by 83% of respondents.** Respondents further had an opportunity to identify other fodder they produce. It turned out that farmers produce various types of fodder. However, Rhodes grass is still by far the most popular (Figure 9).

Figure 9: Type of fodder farmers produce

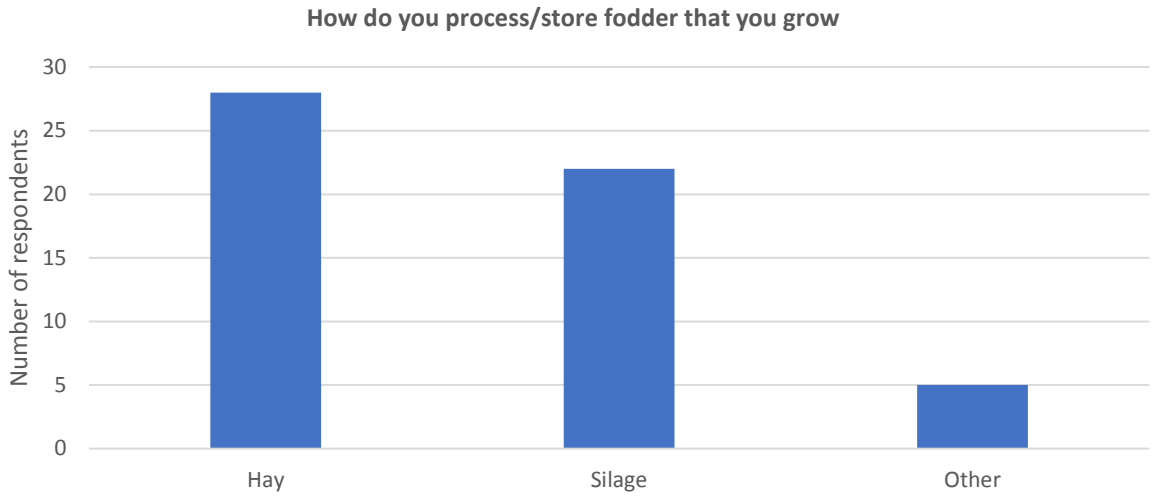


Source: Own questionnaire (sample size: 38)

The fodder is mostly processed or stored as a hay – in total, by 60% of respondents (Figure 10). The hay is primarily used in the context of Rhode grass. Except for silage, other processes are represented by marginal share of respondents. On of

respondents stated that the fodder is processed and stored in bundles, after grinding it. Other two respondents, who grow maize, stated that they use maize stocks and maize stoover.

Figure 10: Processing of fodder

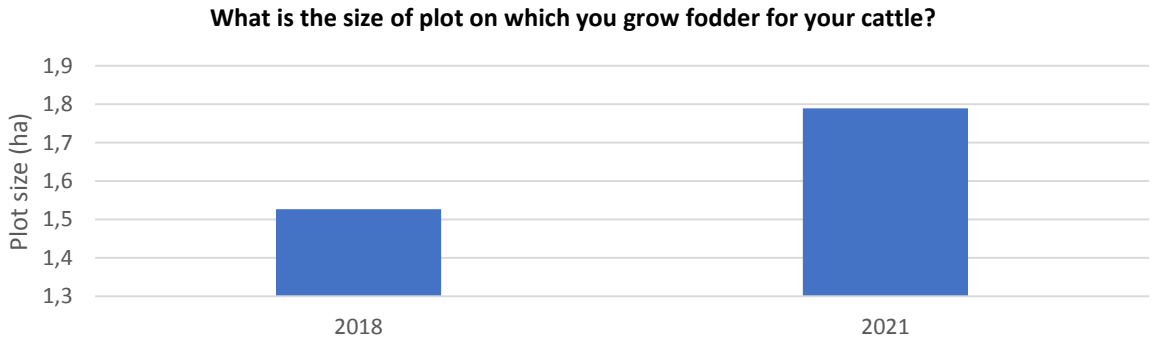


Source: Own questionnaire (sample size: 38)

Plot size of respondents

On average, the plot size for the fodder production has increased by 0.3 ha (Figure 11) from 1.5 in 2018 to 1.8 in 2021. On the contrary to the development of pieces of cattle, the plot size has increased or remained the same in almost all respondents. Only five respondents (13%) stated that their plot size decreased: in three cases from 2 ha to 1 ha and in two cases from 1 ha to 0 ha. The decrease of fodder production does not correlate with the decrease of pieces of cattle.

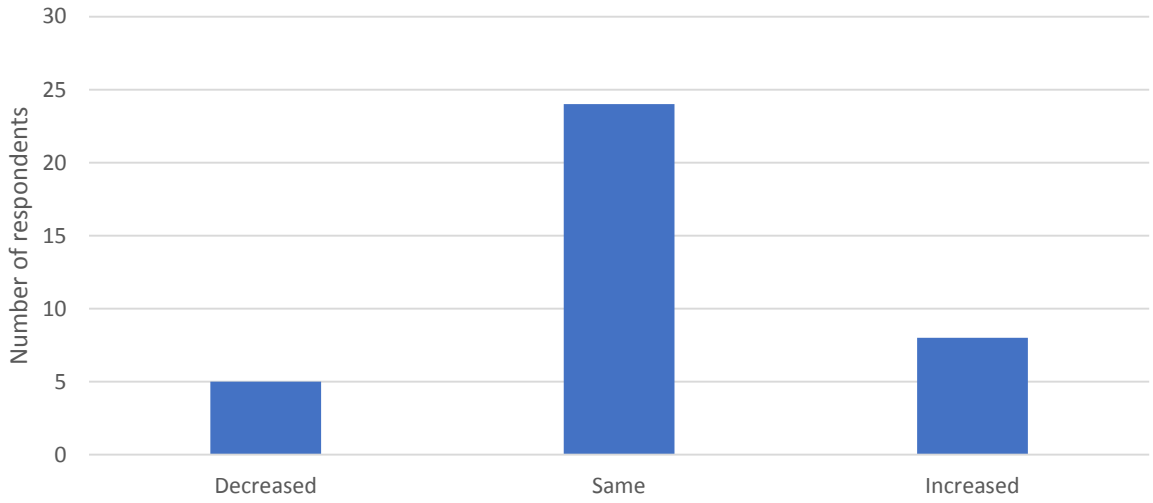
Figure 11: Change in average plot size



Source: Own questionnaire (sample size: 38)

As the Figure 12 shows, in majority, the plot size of respondents increased. Nevertheless, only three more respondents experienced the increase in plot size compared to those who experienced decrease.

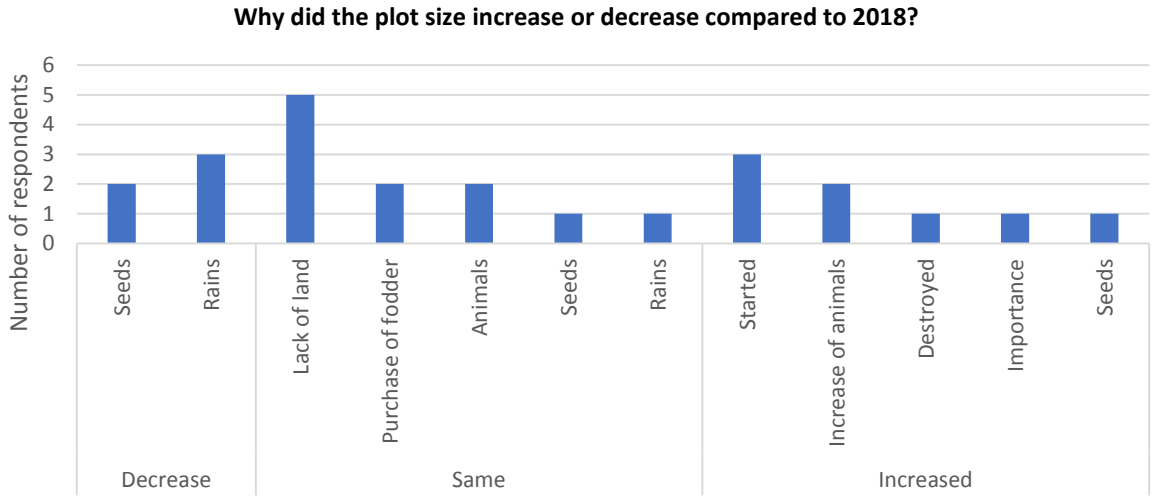
Figure 12: Decrease or increase in plot size



Source: Own questionnaire (sample size: 37)

The causes of change in the plot size are relatively repeated whether the plot size decreased, increased, or remained the same (Figure 13). For instance, the change in the number of seeds conditioned the change in the plot size. The same effect can be observed in the case of rains – if there were not enough rains, the plot remained the same of decreased. **Among respondents whose plot size increased, the main cause is that they just started to produce their own fodder**. Also, increase of animals, destroyed fodder by animals, importance of fodder and higher number of seeds were catalysts for the plot size increase.

Figure 13: Causes of change in the plot size

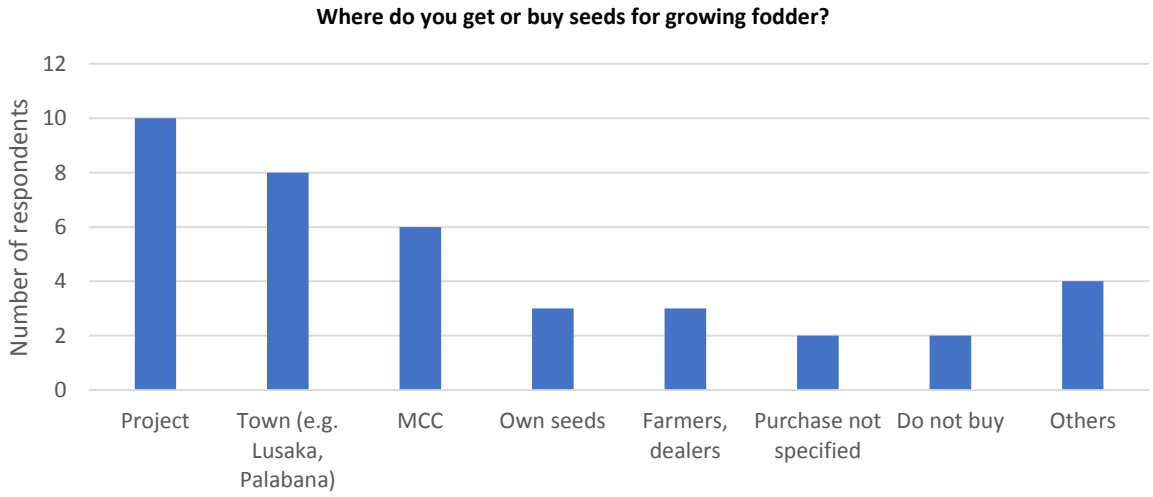


Source: Own questionnaire (sample size: 36)

Source of seeds for growing own fodder

The source of seeds for growing fodder is various across respondents (Figure 14). **However, ten out of 38 respondents, who answered this question, stated that they get the fodder from project activities – this source contains answers such as Czech Republic or Czech NGO**. Among Others are included following answers (all of these were mentioned just once): FNV, Government, Choma Dairy, Vet. Unfortunately, the Town category was not further specified. **The MCC is a source of seeds solely for respondents from Monze district**.

Figure 14: Source of seeds for growing fodder

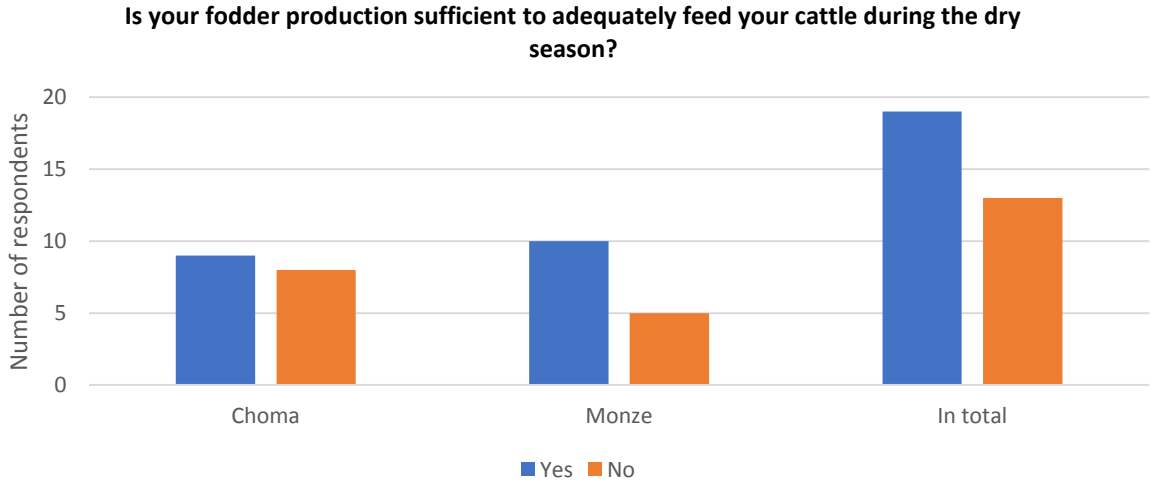


Source: Own questionnaire (sample size: 38)

Sufficiency of own fodder production

According to the respondents, the fodder production seems to be sufficient to adequately feed their cattle during the dry seasons for the majority of farmers (Figure 15). Nevertheless, the results significantly differ in the geographical context.

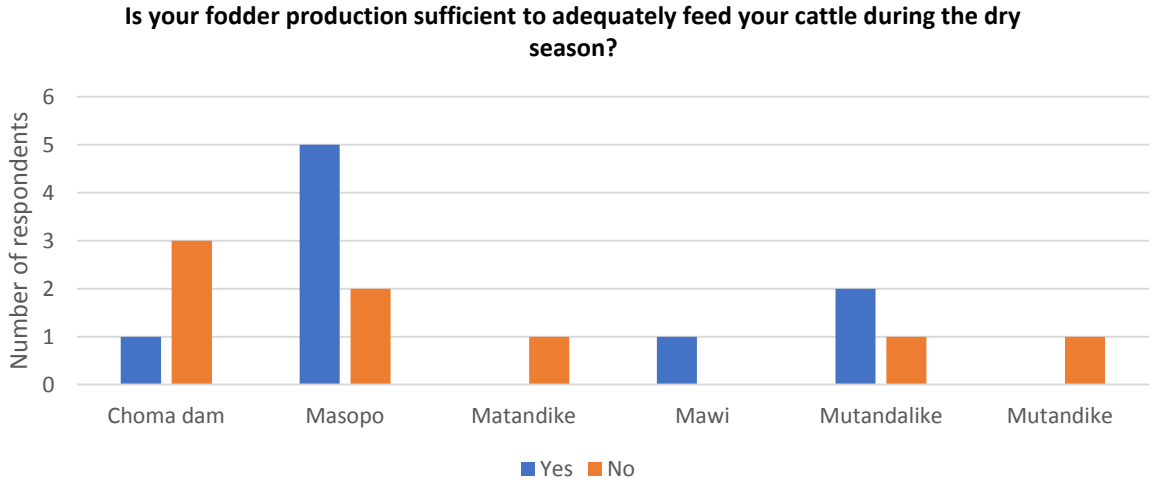
Figure 15: Sufficiency of fodder production



Source: Own questionnaire (sample size: 32)

The specific origin of respondents from Choma district illustrates that the insufficient amount of fodder production is primarily among the farmers from the villages Choma dam, Matandike and Mutandike (Figure 16). However, the relevance of this output is significantly reduced by the low number of respondents.

Figure 16: Sufficiency of fodder production in the Choma district

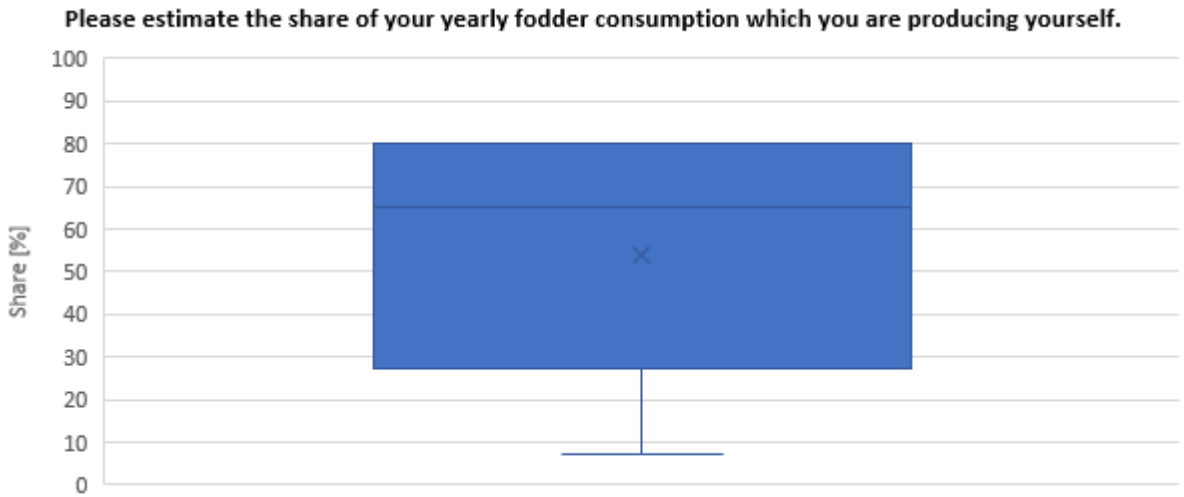


Source: Own questionnaire (sample size: 17)

Respondents, who do not produce sufficient amount of fodder, had an opportunity to further specify the share of their consumption covered by their own fodder production. Only ten answers were obtained, of which two respondents probably did not understand the question since they stated they produce 100% of fodder required to cover their consumption. **In general, the median coverage of fodder consumption by own fodder productions amount to 65% (Figure 17).** The lowest listed value is 7%.

The most common practice how to obtain remaining fodder is to purchase it from local farmers – six out of eleven respondents use this source. Two of respondents receive the fodder from cooperative and one buys it from Zambeef company. Of the remaining two, one did not specify where the fodder is bought, nevertheless both of them take the animals for free range grazing. One respondent did not specify his previous answer.

Figure 17: The estimation of fodder consumption covered by own production



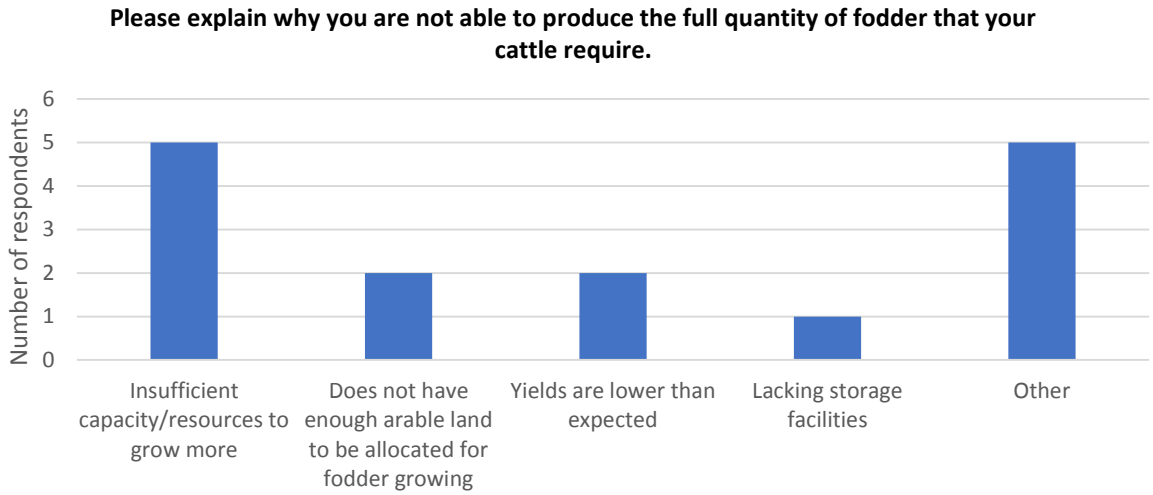
Source: Own questionnaire (sample size: 10)

The same number of respondents (12) further specified the causes of insufficient fodder production. **It was revealed that the main reason is the Insufficient capacity/resources to grow more** (Figure 18). Remaining answers only have a marginal share. Category Other contains following answers:

- Lack of machinery;

- Lack of water;
- Sometimes not having enough money to buy seed;
- Not having enough seeds;
- Rains are not enough.

Figure 18: The causes of insufficient quantity of fodder production



Source: Own questionnaire (sample size: 12)

Fodder production knowledge

The perception of own knowledge of fodder production significantly differs in the districts (Figure 19). **While the respondents from Choma district fell that their knowledge is completely sufficient, the Monze respondents rather feels that their knowledge is mostly sufficient. Even though 17 respondents stated that they have a completely sufficient knowledge how to produce and store fodder production, only 10 of them stated that they do not produce a sufficient amount of fodder during dry season**.

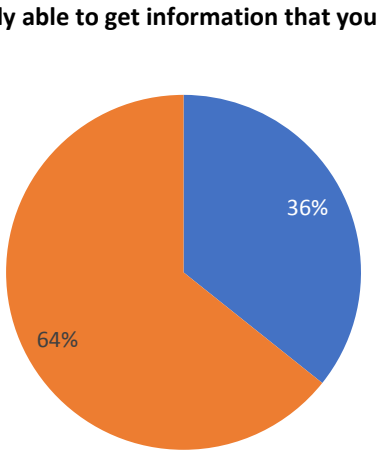
Respondents had an opportunity to further specify what skills do they lack. In total, 17 respondents specified their **problem. Respondents usually do not have the knowledge in the field of growing and storage of fodder.** This was mentioned in 10 cases. **Other answers are mostly associated with the storage – farmers do not know how to make hay or silage**. Out of the remaining two, the first stated that he/she does not know how to keep it safe from animals and the second stated that he/she would appreciates continuous general reminders or training on fodder production.

Figure 19: Sufficiency of knowledge of production and storage of own fodder

Source: Own questionnaire (sample size: 36)

Respondents are usually not able to get information they are missing (Figure 20). But when they do, the mostly rely on cooperative officials. Only one respondent stated that he/she rely on neighbours and another one on internet.

Figure 20: Ability of respondents to obtain missing information



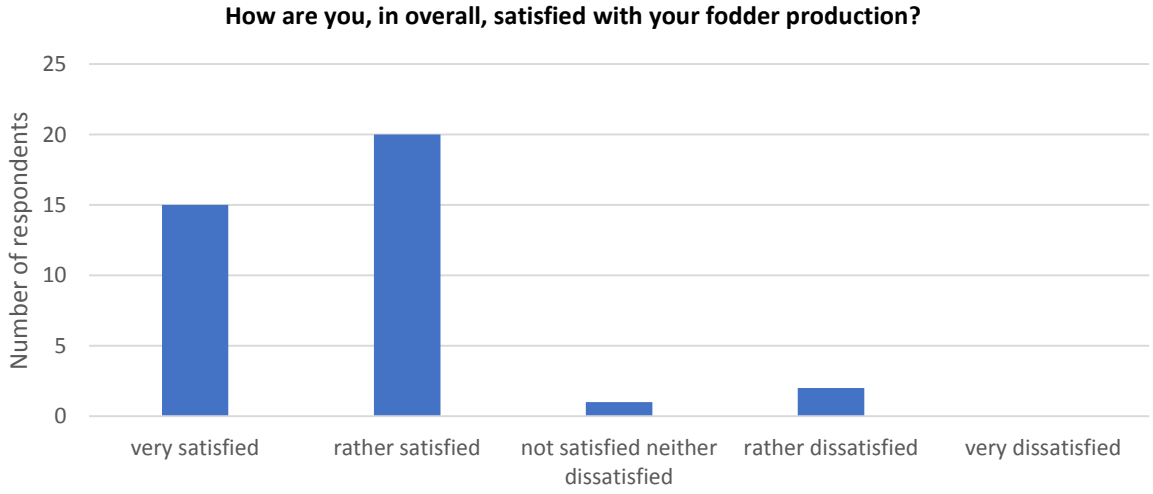
Source: Own questionnaire (sample size: 14)

Satisfaction of own fodder production

A relatively high level of satisfaction with the own fodder production is observed among respondents (Figure 21). Only 8% of respondents stated that they are rather dissatisfied or not satisfied neither dissatisfied.

The less satisfied respondents added an additional comment to this question. **The lesser level of satisfaction is primarily conditioned by the lack of knowledge – the respondents urge to organize trainings which would increase their skills (how to grow and manage fodder).** It would be beneficial, if the **trainings were continuous** – some knowledge may be lost in time. Also, two respondents stated that acquiring molasses is challenge.

Figure 21: Satisfaction of own fodder production



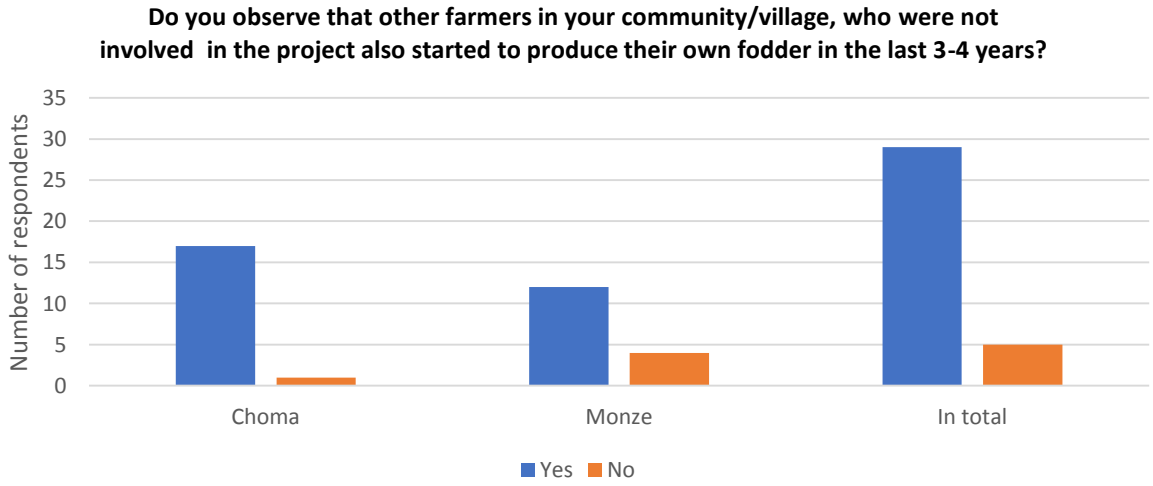
Source: Own questionnaire (sample size: 38)

Production of other farmers in community

It seems that the implemented project had an extensive impact on the farming in both district since the majority of respondents observes that the number of farmers in the community increased in the last 3-4 years (Figure 22). On average, the number of farmers increased by 16 (according to 12 respondents). The highest estimate amount to 90 – respondents come from Masopo village in Choma – other respondents from Masopo however estimated the increase only from 10 to 20.

The main cause for the increase of farmers in the community is that they observed that farmers who participated in the project can produce cheaper fodder and that they have a sufficient amount of fodder for the dry season. Furthermore, it is observed that there, in both districts, is a lack of grazing area due to higher number of animals – farmers thus need to secure the fodder by their own production.

Figure 22: Change in the number of farmers in community



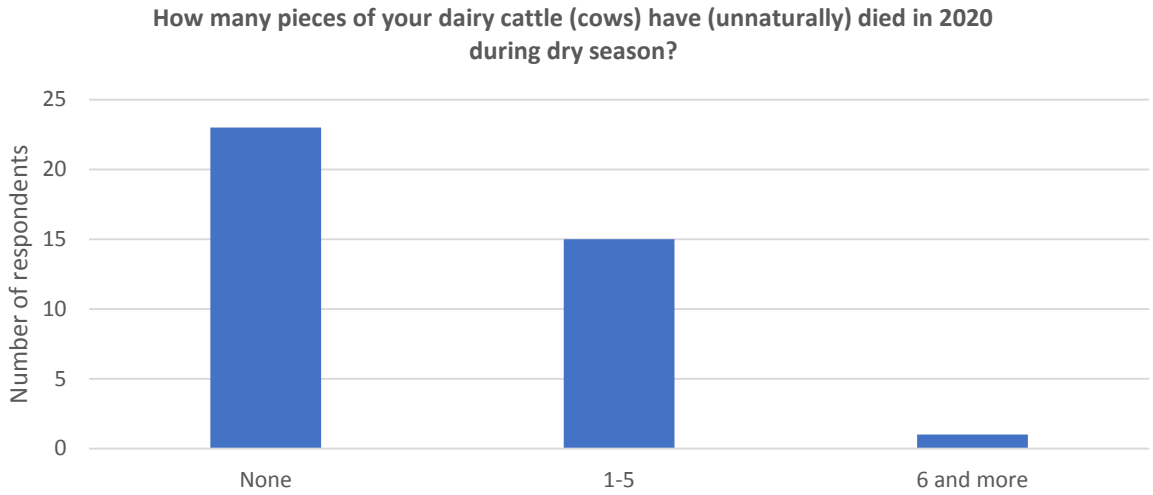
Source: Own questionnaire (sample size: 34)

Mortality of livestock

On average, one cattle/cow died in the 2020 dry season (Figure 23). However, for some farmers, the loss is higher than three pieces of cattle**. In total, 23 respondents (59%) stated that they none of their cattle died in the mentioned season. The main reason is disease(s) – 9 out of 16 farmers who lost at least of piece of their cattle stated this type of death**.

Other, not so significant causes are malnutrition (3 respondents), dehydration (3), climate change, giving birth and broken leg (1).

Figure 23: Number of died cattle in dry season 2020



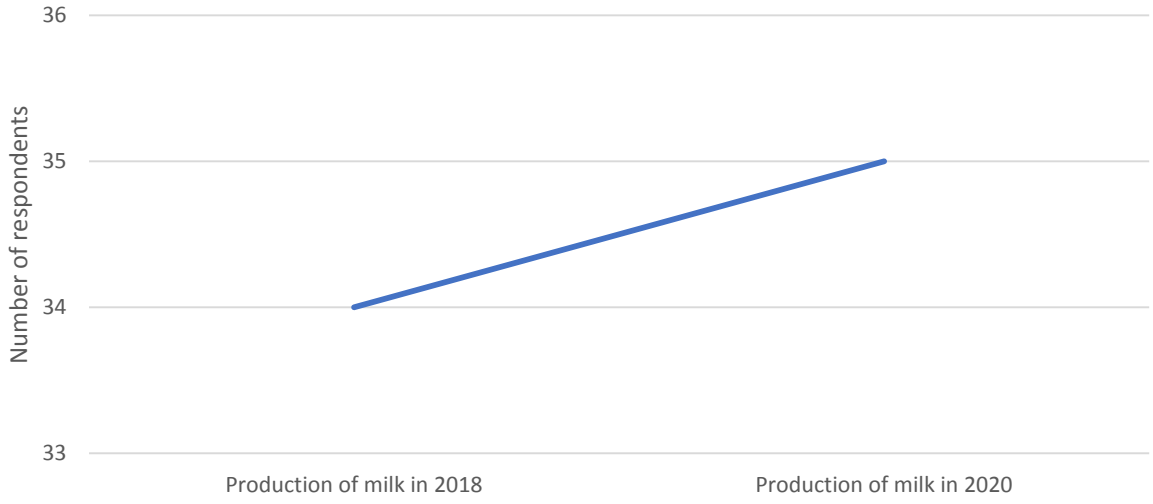
Source: Own questionnaire (sample size: 39)

Own production of milk

Milk production

According to results, **the number of farmers who produce their own milk slightly increased by one respondent**. In 2020, 35 respondents produced their own milk (Figure 24).

Figure 24: Number of respondents who produce their own milk



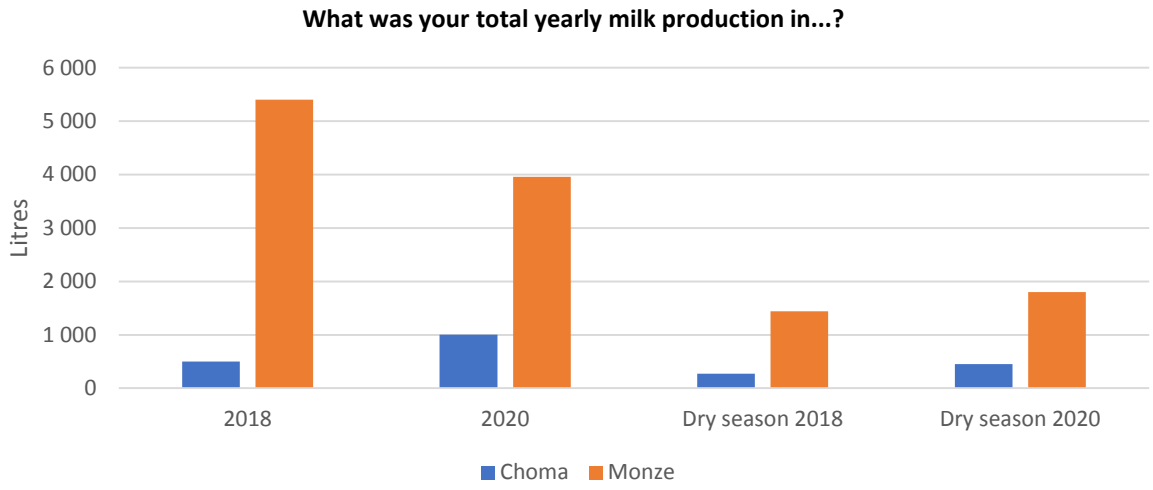
Source: Own questionnaire (sample size: 37)

The questionnaire revealed that neither the annual nor seasonal milk production increased, which is in contradiction with the project aims. Among respondents who produced milk at least either in 2018 or 2020, **the annual production decreased by 360 litres and the seasonal production decreased by 240 litres (median values). In total, 20 farmers (59%) experienced increased annual milk production while 17 farmers experienced decreased annual milk production.** To be

noted, the amount of milk of two farmers were corrected since they stated that their milk production increased, but their comment indicates that their milk production decreased – the mentioned amount thus was probably reversed.

The median values of milk productions in given periods significantly differs regarding the district from which respondents come from (Figure 25). The difference is decreased in the long term.

Figure 25: Median value of milk production in given period in districts



Source: Own questionnaire (sample size: 37)

As Figure 26 illustrates, in most cases, **respondents rather experienced an increase in milk production from 2018 to 2020**. In the case of respondents who produce milk both in 2018 and 2020 and at the same time experienced decrease of milk production, the amount of milk decreased on average by 40% while the respondents with increased production experienced more significant increase, which is 94%.

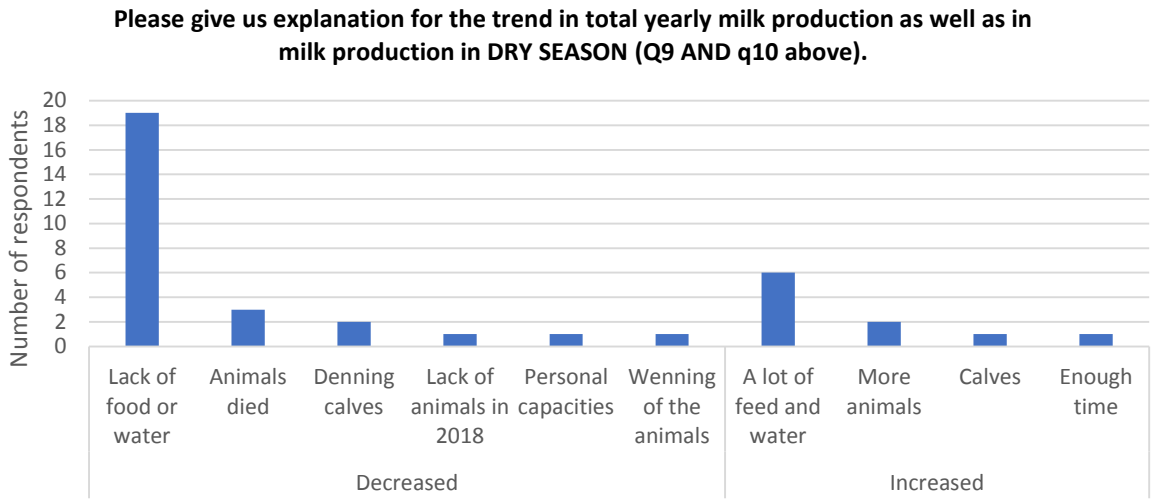
Figure 26: Change in milk production

Source_ Own questionnaire (sample size: 37)

The Figure 27 below illustrates the main causes of change in milk production. It has to be noted that these findings represent the decrease either in annual or seasonal period. Thus, the total amount of answers, which indicates the decrease, is higher compared to that 17 mentioned above.

The main cause of decrease of milk production is the lack of food or water – this aspect was mentioned by 19 respondents. Other aspects have a marginal share. The number of respondents who stated that their milk production increased due to a sufficient number of feeds is three times lower.

Figure 27: Causes of increase or decrease in milk production

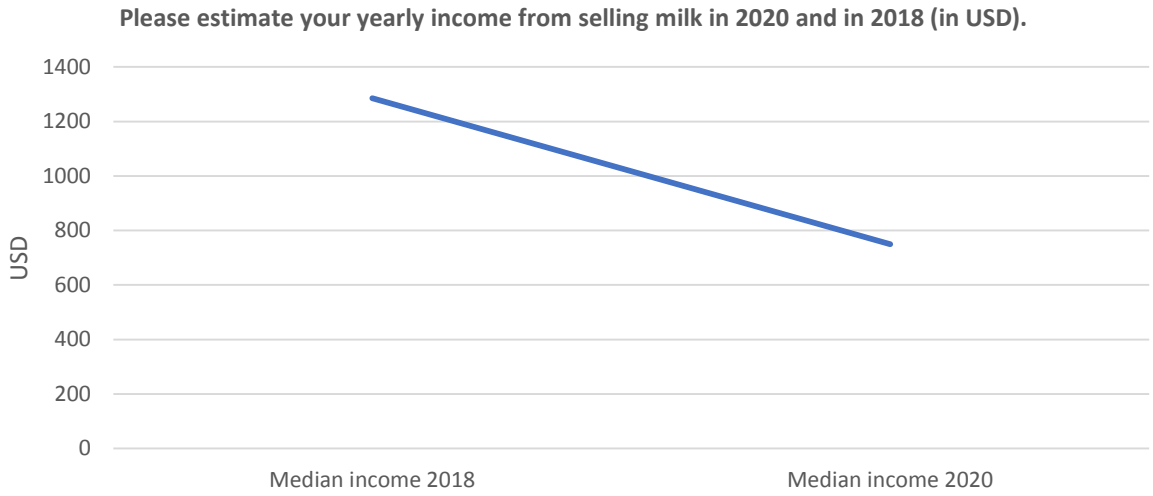


Source: Own questionnaire (sample size: 37)

Income from milk production

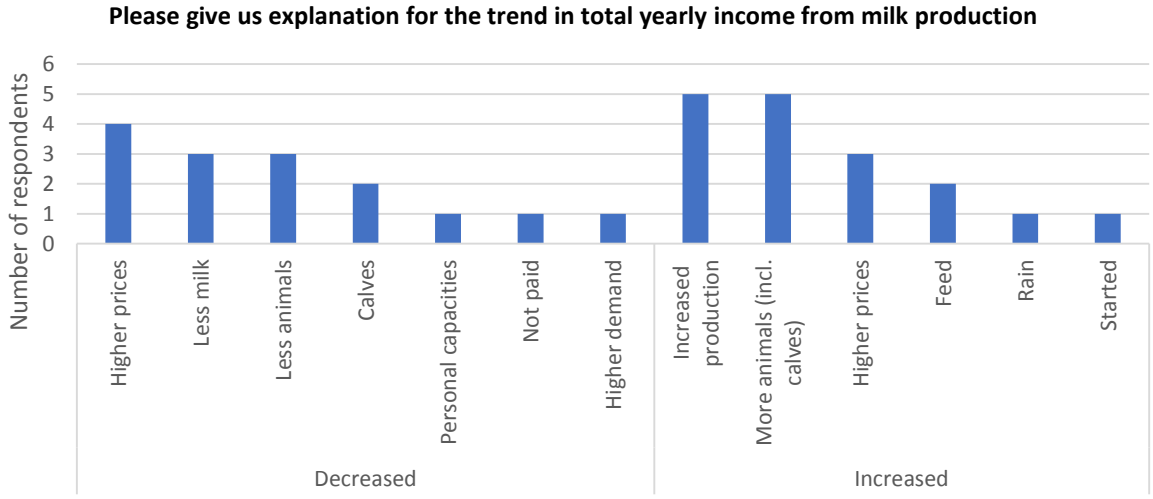
The income data shows disappointing findings – among respondents who report milk income at least either in 2018 or 2020, **it was revealed that the median income decreased by 535 USD**, specifically from 1 285 in 2018 to 750 USD in 2020 (Figure 28. The decrease is comparable in both districts.

Figure 28: Estimated income from selling milk



The causes of increase or decrease were not well explained by the respondents. However, some important findings are acquired by the questionnaire. **It seems that the higher prices (value of money, prices set by MCC) have different effects (Figure 29).** Other causes are rather instinctive – the cattle produced more/less milk in the period, which is related to number of animals (calves), since the milk production is conditioned by pregnancy of cattle.

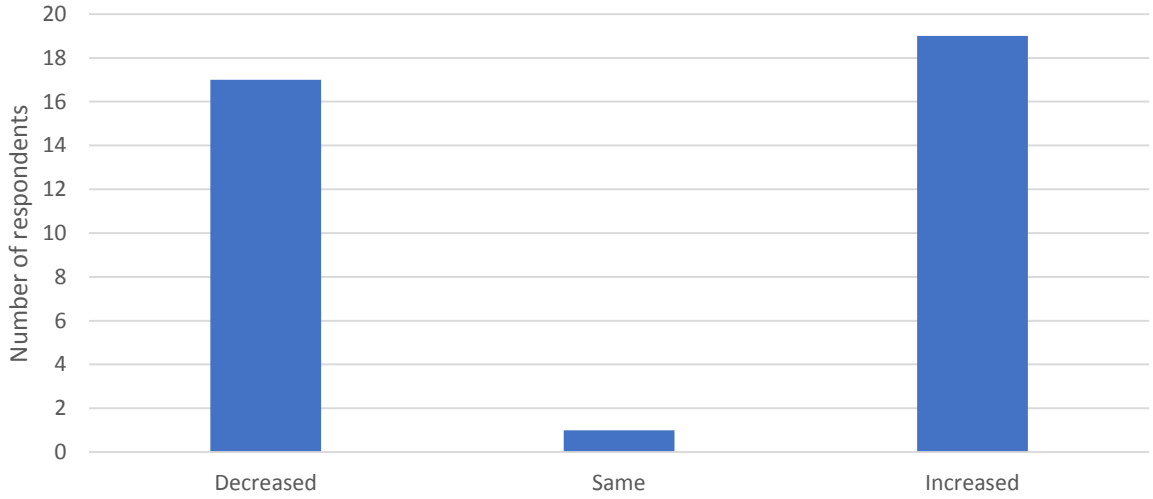
Figure 29: Causes of increased/decreased income from milk



Source: Own questionnaire (sample size: 35)

In total, the income increased among 19 farmers (53%) which is comparable with farmers whose income decreased (Figure 30). Respondents who reported an income both in 2018 and 2020 on average increased their income by 101% and, on the contrary, decreased their income by 36%. The increase in income is thus more significant.

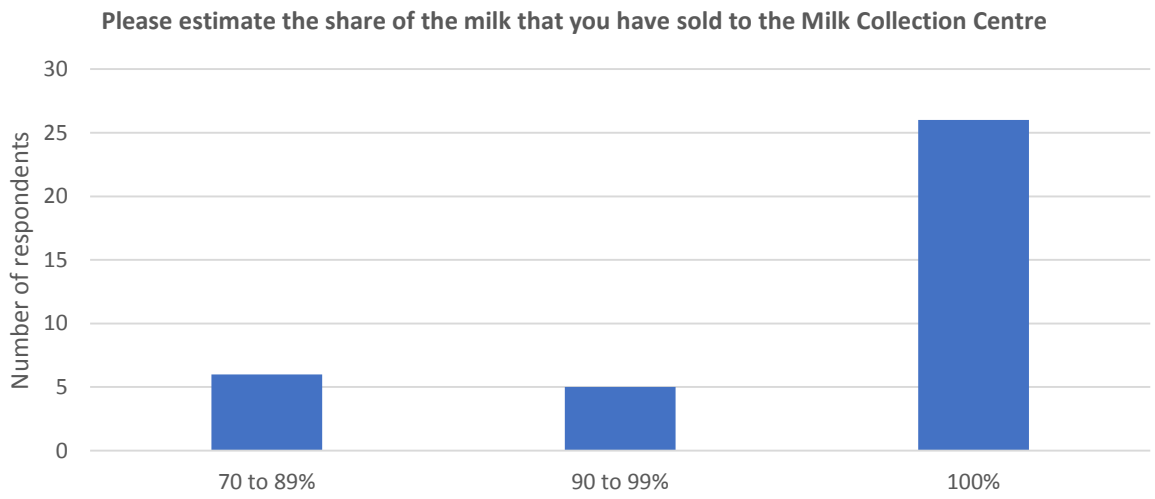
Figure 30: Change in income from milk production



Buyers of respondents' milk production

Respondents' client is primarily Milk Collection Centre (MCC). Only 11 out of 26 respondents, do not sell all the milk to MCC. Therefore, the median value for the estimation of share of milk sold to MCC is 100% (Figure 31). Moreover, only three respondents tried to find other buyers for their milk. According to two respondents, **the MCC offer good conditions**. So, they do not have a reason to find other buyers. The lower level is however observed in the case of Monze district – 8 out of 11 respondents is come from this district. **Except MCC, the most common clients are local farmers and villagers**. Only one of the respondents specified why he/she sell milk to other clients – because of better prices.

Figure 31: The estimation of milk sold to MCC

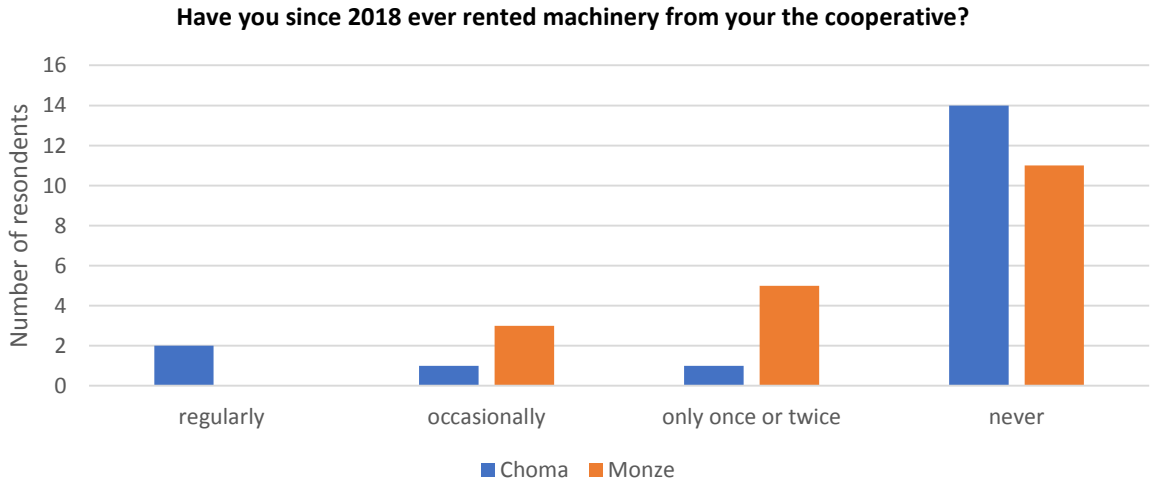


Source: Own questionnaire (sample size: 37)

Renting of Machinery

Only a marginal share of respondents regularly rents machinery (Figure 32). **In total, 68% of respondents stated that they have never rented a machinery.**

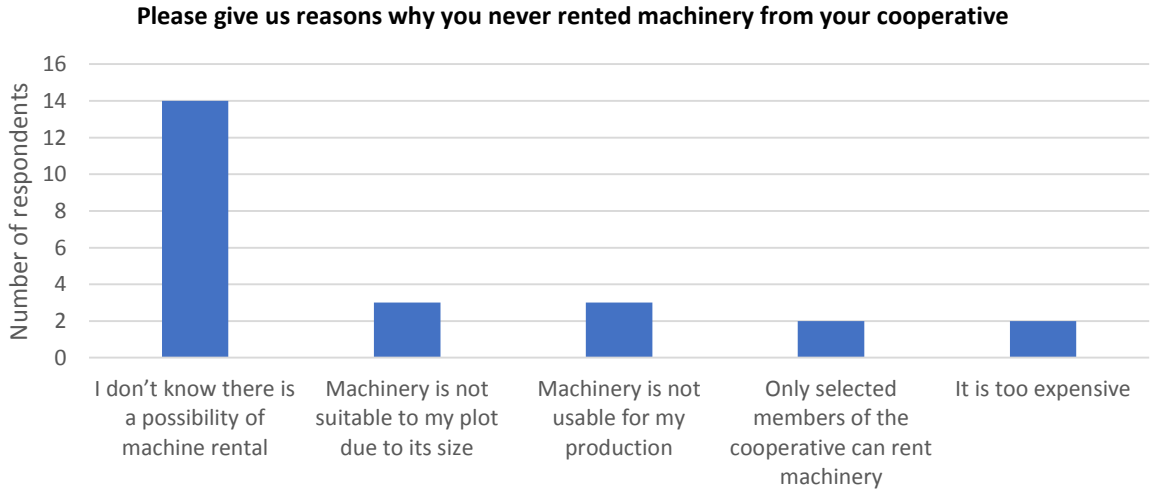
Figure 32: Renting of machinery



Source: Own questionnaire (sample size: 37)

Respondents who never rented machinery had an opportunity to specify the reasons behind it (Figure 33). **The most important reason is that respondents do not have such knowledge**. Other reasons are represented by marginal share of respondents.

Figure 33: Reasons behind respondents never rented machinery



Source: Own questionnaire (sample size: 24)

Respondents who rented machinery once stated that their experience was good – the machinery was very helpful for the fodder production. Also, it was noted in one case that machinery is not rented but rather borrowed since there are no payments. **Two respondents stated that they used machinery just once because it is not available when they would need it**. One of these respondents stated that he/she bought own machinery. last respondent expressed that he did have enough food for animals.

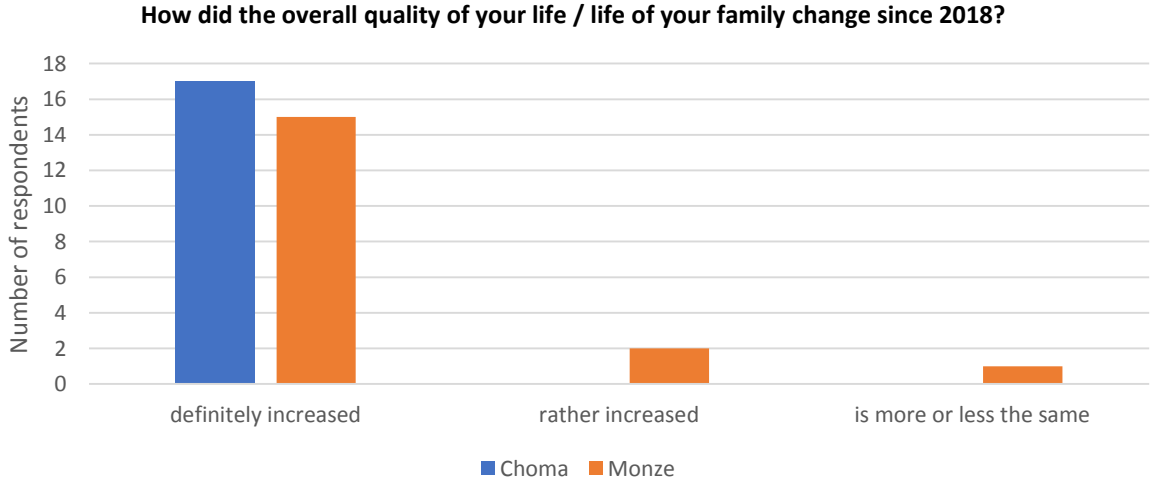
Respondents who rent machinery regularly or occasionally also assess the experience as good and helpful – two of the respondents however criticizes that sometimes the queue is too long to wait for his/her turn. They usually rent tractor, chaffcutter, beller and mower (stated by two respondents). The frequency of renting is various:

- Once every harvesting season;
- Once when he wants to make silage;
- Several times per year.

Quality of life

Since 2018, the subjective quality of life of residents increased (Figure 34). Only three respondents believe the life quality did not significantly increased. The lower improvement is not related to the milk or income increase. Respondents from Monze district assess their life quality slightly worse.

Figure 34: Change in life quality



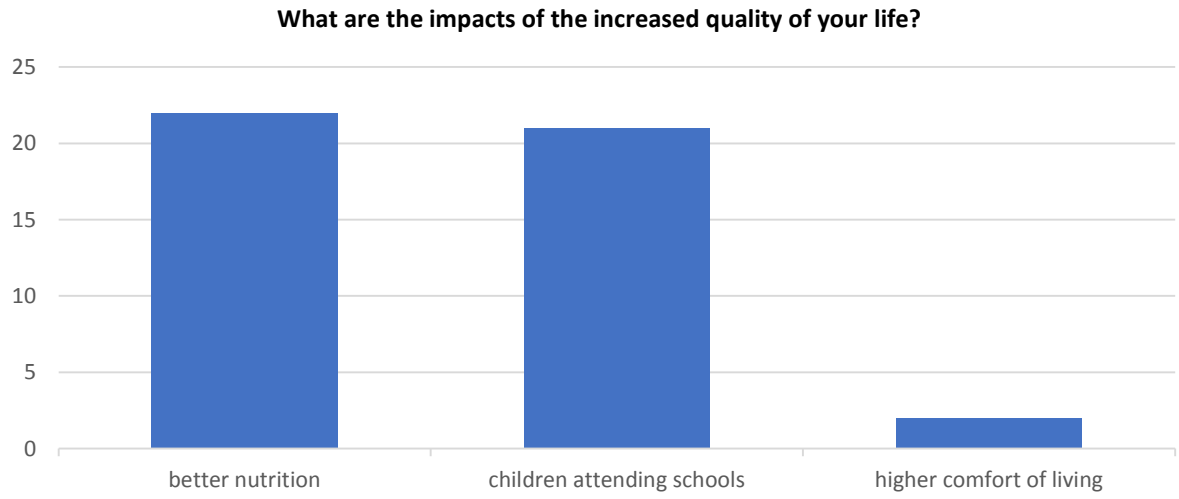
Source: Own questionnaire (sample size: 35)

The causes of life quality increase are primarily associated with project – it can be stated that all the 31 open responses are related to the project. Respondents praise the increased milk production and that they can sell the milk throughout the year (even in the dry seasons). Also, the milk production conditioned the higher amount of money respondents have. Another important aspect of higher income is the production of own fodder.

Nevertheless, according to the respondents' estimates of milk production in 2018 and 2019, the milk production decreased. Also, the median income decreased. This shows some inconsistency in respondents' responses.

As the main impacts of better life quality are perceived better nutrition – respondents' food is more diverse, is of better quality and higher nutritional value (contains more milk; Figure 35). Almost the same number of respondents said that children are attending schools now (at least more regularly). One of the respondents also added that he/she has enough money to buy other things for his/her household.

Figure 35: Impacts of the increased quality of life



Source: Own questionnaire (sample size: 32)

SURVEY WITH NON-SUPPORTED FARMERS

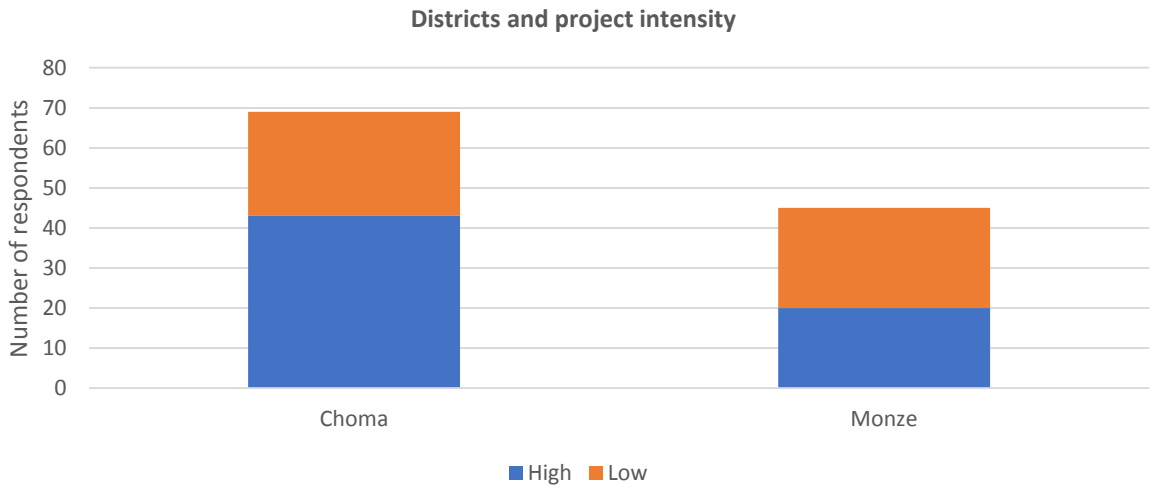
Identification questions

In total, 114 relevant responses were obtained in the questionnaire. Further 18 responses were deleted due to lack of contained information.

Geographical origin and intensity of support

Regarding the districts where respondents live, the questionnaire is more represented by respondents from Choma district (Figure 36). The difference amounts to 21 respondents. However, the number of respondents who were supported with low intensity is almost the same in both districts. In Choma district, there is a significantly higher share of respondents who were supported with high intensity. In total, number of respondents with high support is higher by 23.

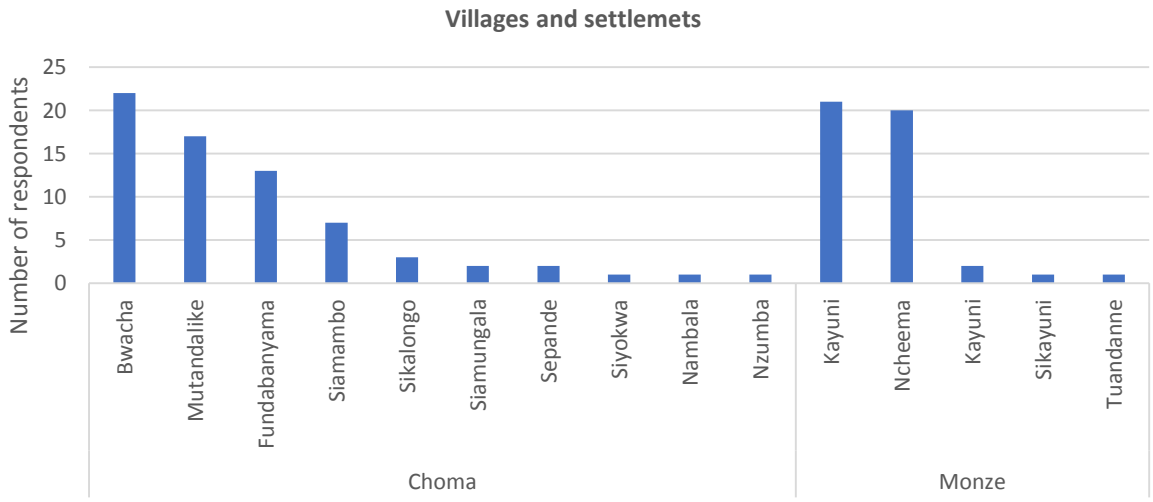
Figure 36: Districts where the respondents come from and intensity of support



Source: Own questionnaire (sample size: 114)

Figure 37 below shows specific areas where respondents come from.

Figure 37: Villages and settlements where respondents come from



Source: Own questionnaire (sample size: 114)

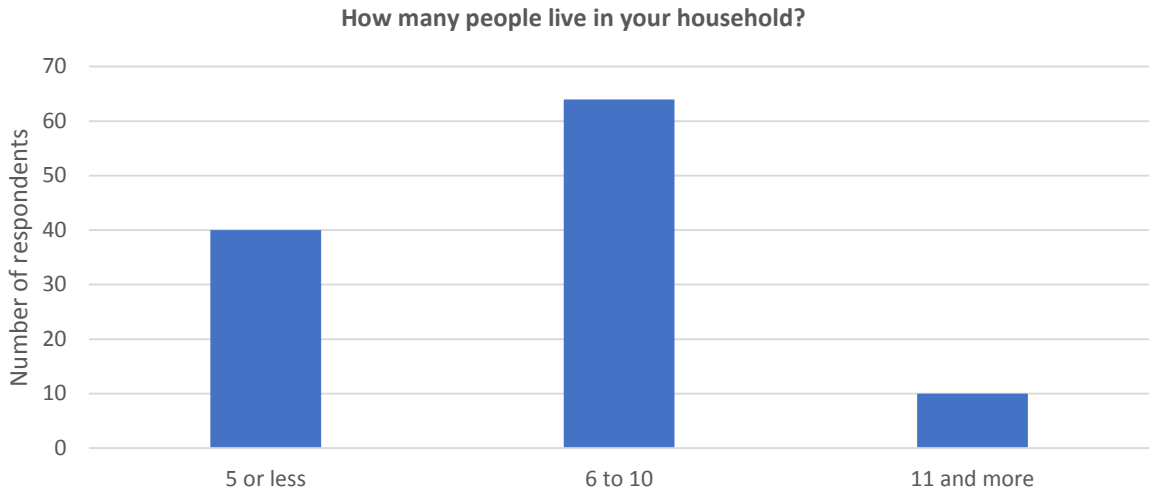
Support from the project supported by Czech Republic

None of respondents or member of his/her household received any support from the project supported by Czech Republic in growing fodder between 2015 and 2018.

Household size of respondents

According to respondents' answers, the average size of households among respondents is 7.0, which is identical to median value. Maximum value amount to 22 and, on the contrary, the lowest value accounts to just 3 members. The highest share of respondents come from households where 6 to 10 people live (Figure 38).

Figure 38: Size of respondents' households

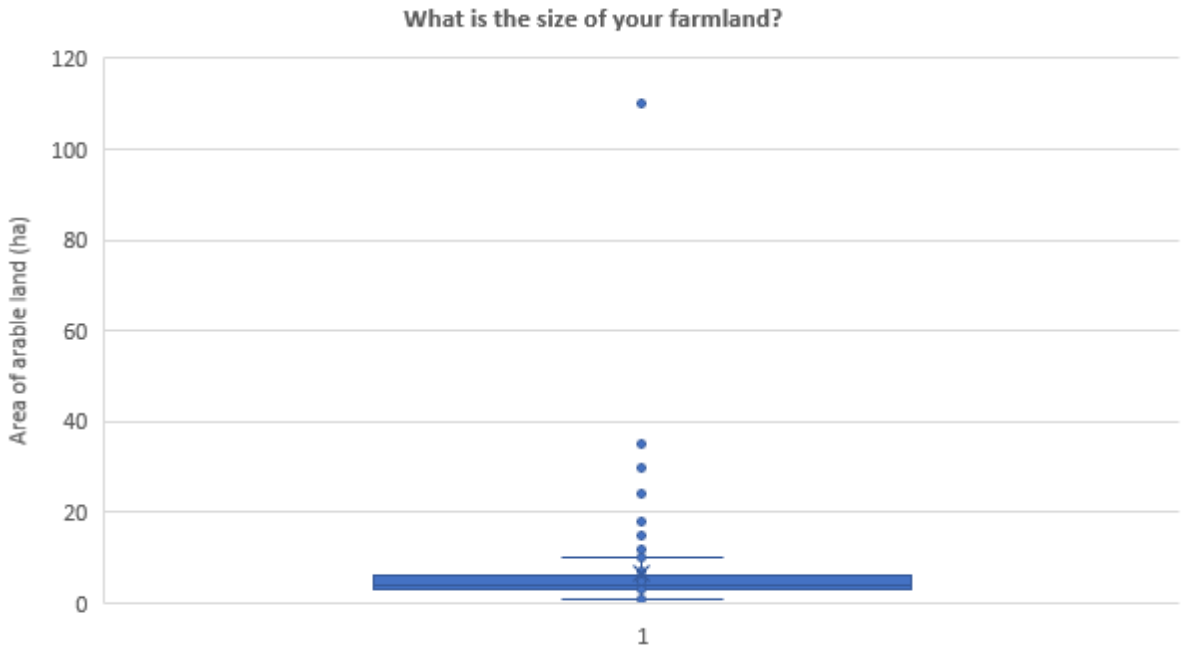


Source: Own questionnaire (sample size: 114)

Area of respondents' farmlands

Usually, the size of farmland is not higher than 10 hectares. In total, 105 (92%) respondents have farmland in an area of up to 10 hectares (Figure 39). **Only 16 respondents stated that they have pastures on their farmland – the median area of pastures amounts to 3 hectares**.

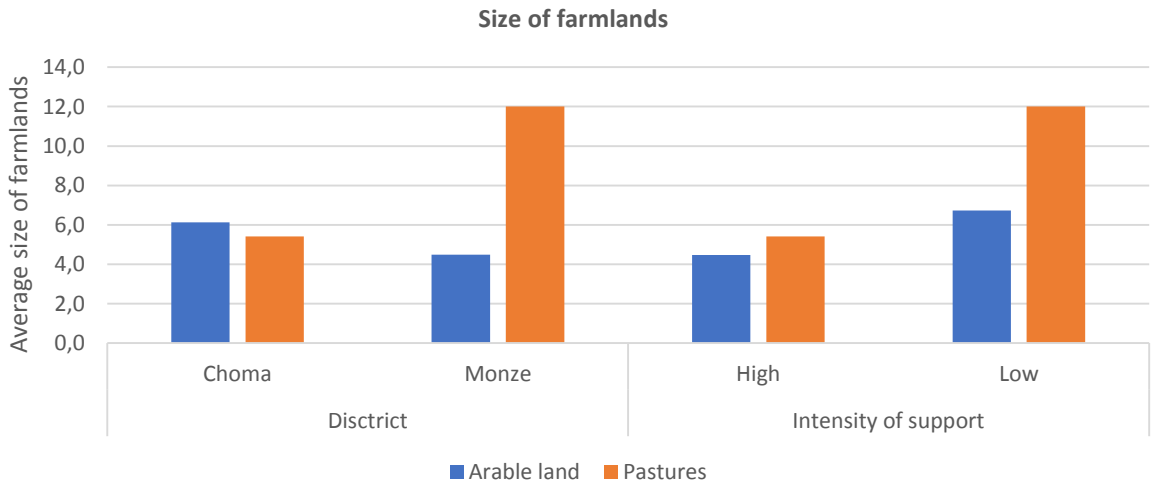
Figure 39: Size of respondents' farmlands (arable land and pastures)



Source: Own questionnaire (sample size: 114)

There is a significant difference between the size of farmland in Choma and Monze district. **On average, respondents from Choma district have a farmland 2.7 hectares larger (Figure 40)**. Regarding the intensity of support, the difference is smaller – **the project supported localities where the size of farmland is rather smaller** by 1.1 hectares.

Figure 40: Average size of farmlands according to districts and intensity of support



Source: Own questionnaire (sample size: 114)

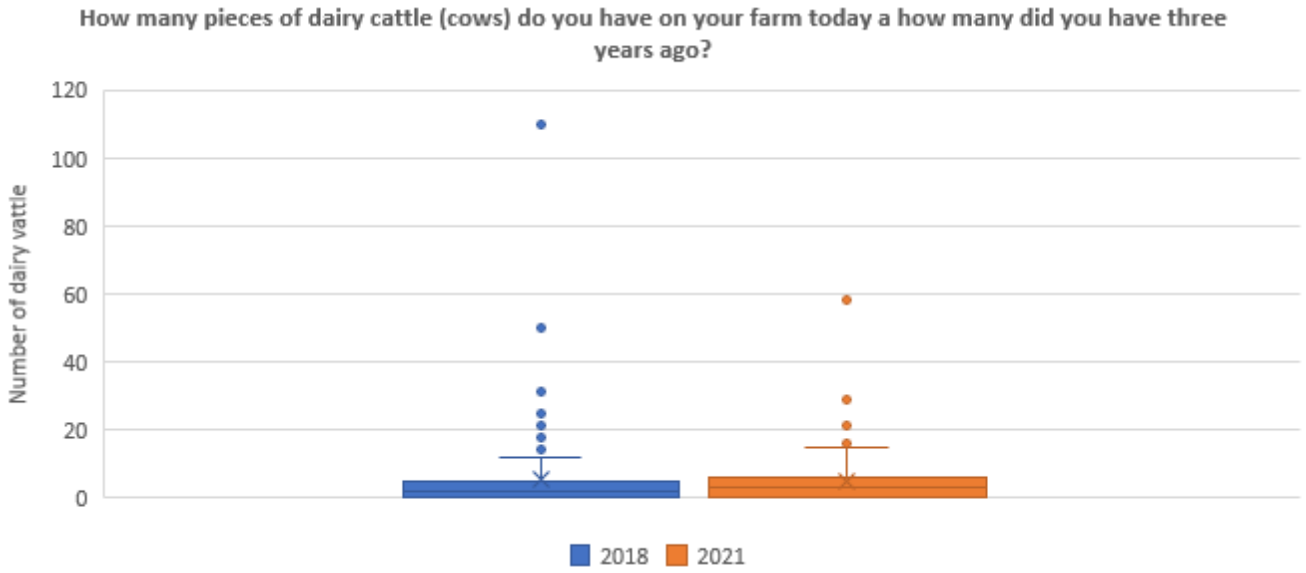
Own production of fodder

Change in livestock

The questionnaire data revealed rather consistency in pieces of dairy cattle (Figure 41 and Figure 42). The average number increased (by 0,8 pieces), nevertheless the increase is caused primarily by extreme value of 110 pieces. **Median**

value, which is more relevant indicator, decreased by 1 from 3 in 2018 to 2 in 2021 (including respondents with no dairy cattle).

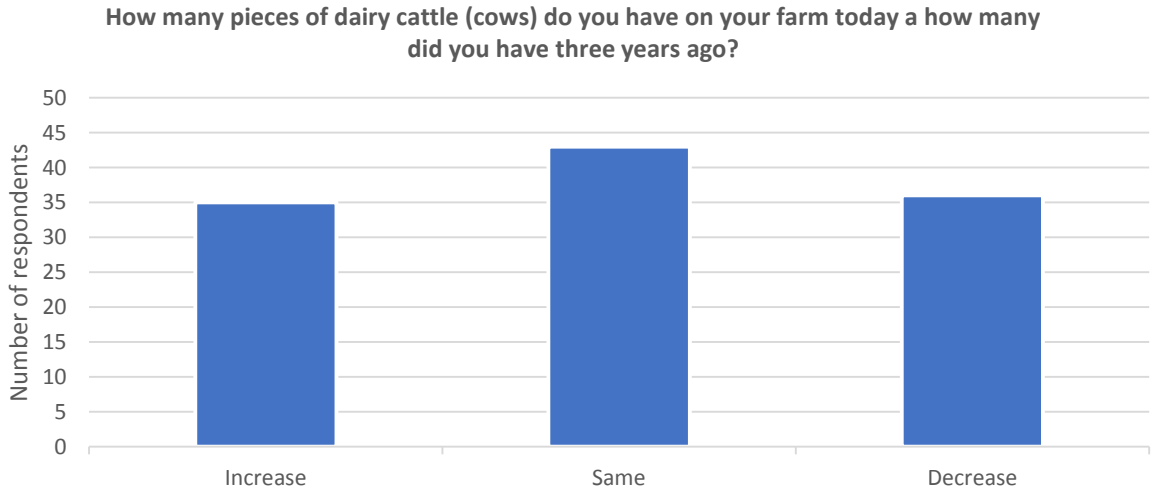
Figure 41: Change in pieces of dairy cattle in 2018 and 2021



Source: Own questionnaire (sample size: 114)

The structure of respondents in regard to decrease and increase in number of dairy cattle is almost consistent – the decreasing trend occurred in 36 respondents compared to 35 who experienced increase in pieces of dairy cattle. Compared to supported farmers, the average percentual decrease is almost the same (42%) while the increase is significantly lower, almost twice (97%).

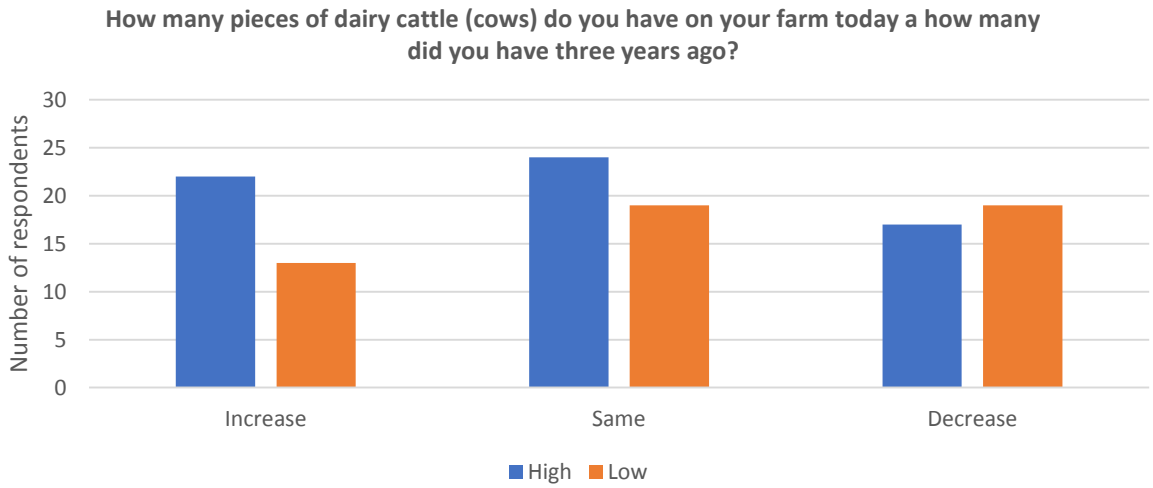
Figure 42: Increase or decrease in pieces of dairy cattle



Source: Own questionnaire (sample size: 114)

Regarding the intensity of support, the number of dairy cattle increased rather in the case of localities with high intensity support (Figure 43). On the contrary, the localities with support of low intensity rather show decreasing trend.

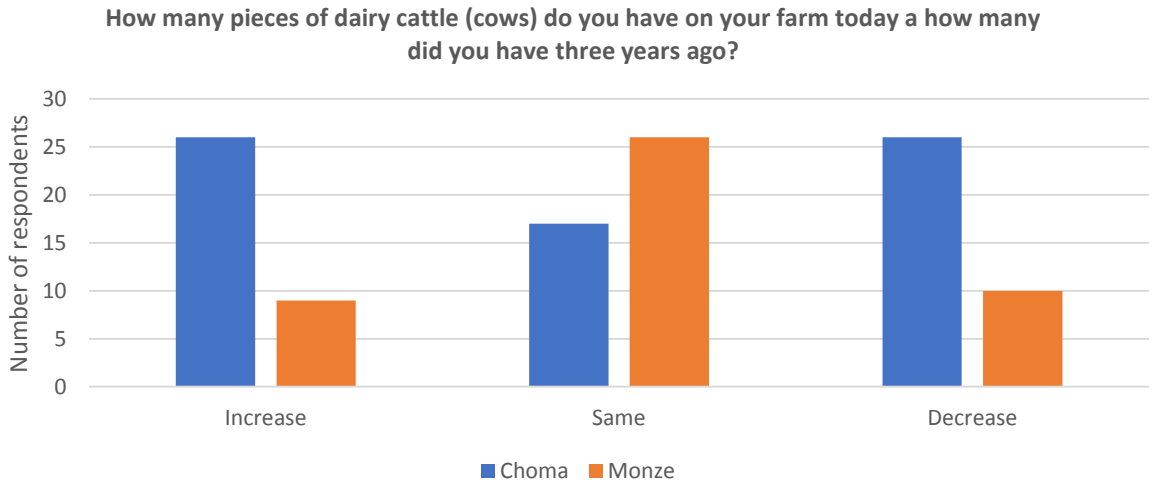
Figure 43: Pieces of dairy cattle with regard to intensity of support



Source: Own questionnaire (sample size: 114)

Regarding both districts, the structure of answers is almost even (Figure 44).

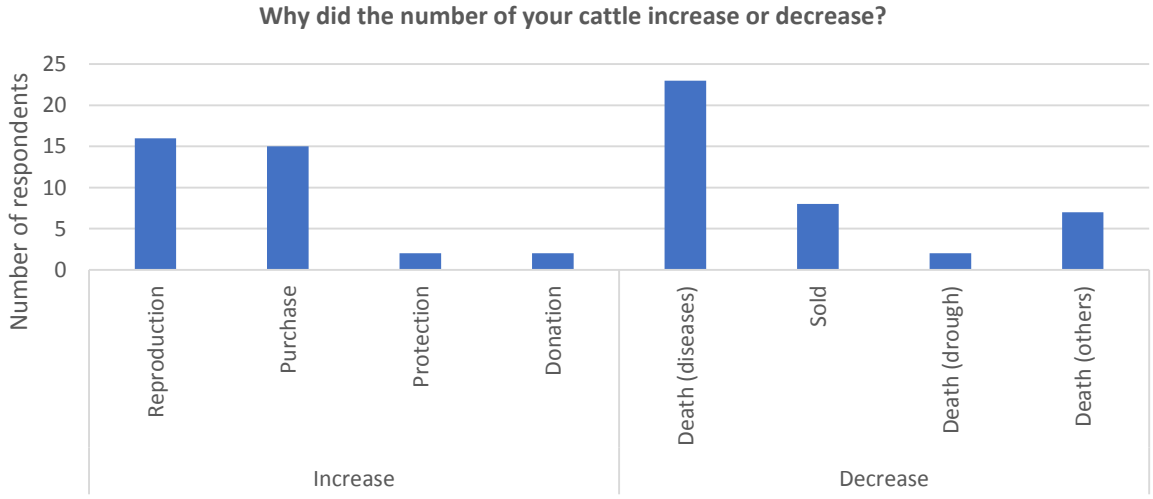
Figure 44: Pieces of dairy cattle with regard to districts



Source: Own questionnaire (sample size: 114)

Respondents further have an opportunity to specify the trend they stated. According to their answers, **the most common reason behind the increase is natural reproduction and purchase of new ones** (Figure 45). Reproduction is probably included also in the category of protection. One farmer stated that the number of cattle increased due to vaccination and the other respondent stated that none died. On the contrary, **the primary cause of decrease in dairy cattle is death caused by diseases**. Among others are e.g., not specified answers or deaths caused by car crash. The sale of cattle was primarily catalysed by occurred financial challenges (school fees).

Figure 45: Causes of increase or decrease in pieces of dairy cattle

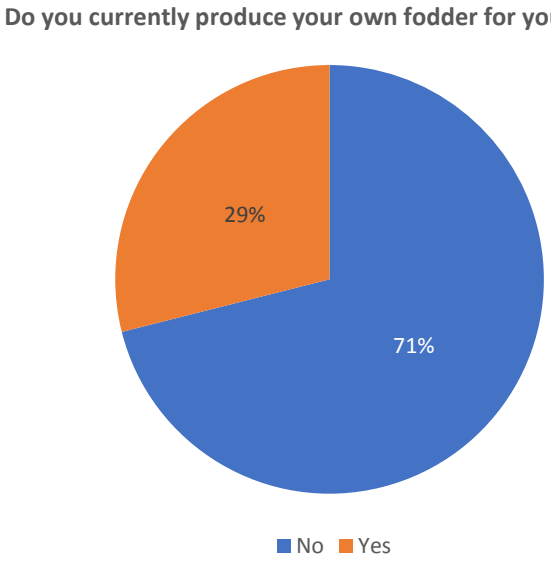


Source: Own questionnaire (sample size: 71)

Production of own fodder

Almost three quarters of respondents stated that they do not produce their own fodder (Figure 46). Following findings and figures in this chapter are based on answers of respondents who produce own fodder.

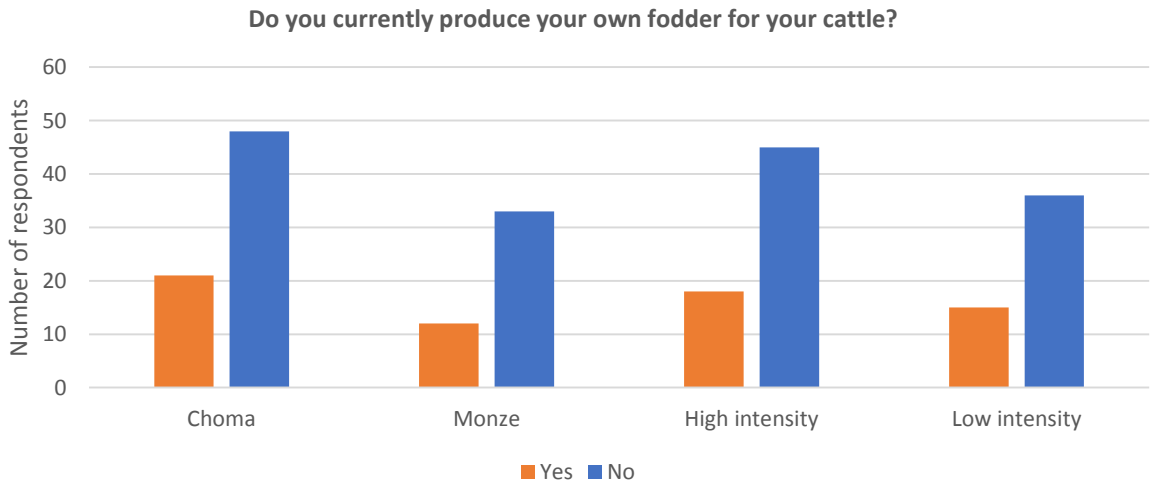
Figure 46: Production of own cattle among respondents



Source: Own questionnaire (sample size: 114)

Those respondents who produce their own fodder are primarily from Choma district and from localities with high intensity of support (Figure 47).

Figure 47: Production of own fodder according to district and intensity of support

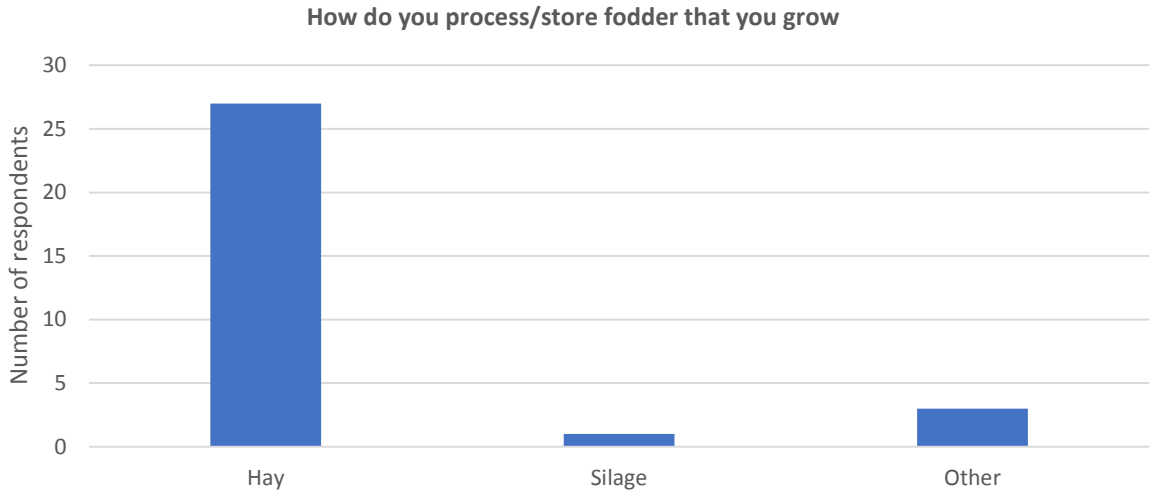


Source: Own questionnaire (sample size: 114)

The fodder is primarily processed in the form of Hay – in total, 27 out of 33 respondents stated that they use this process. Silage was mentioned just once (Figure 48). Other ways are: storing underground, in shelter and one of respondents stated the following: dry maize mixed with morasses and urea.

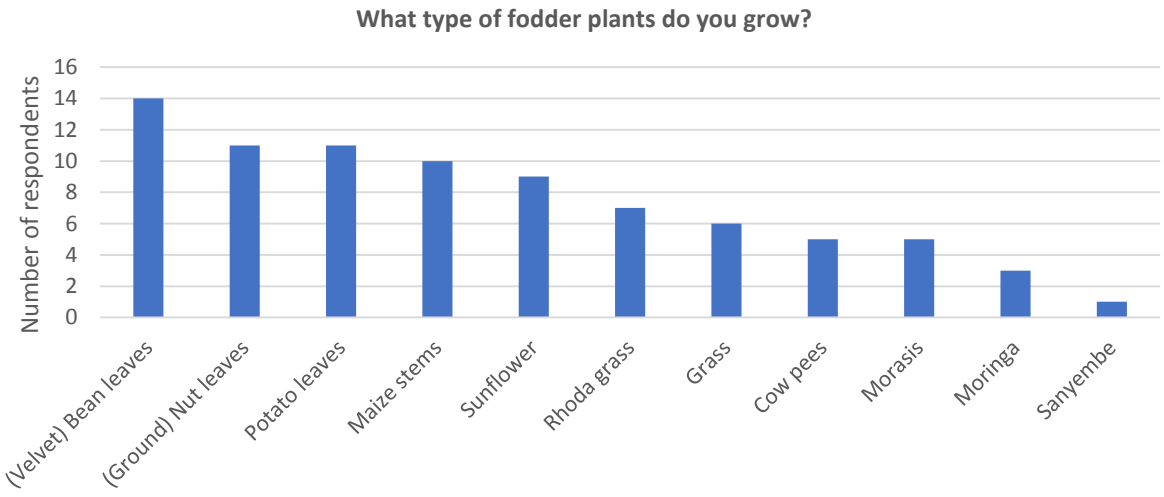
Respondents produce various types of fodder. **Almost half respondents, who produce own fodder, grow (Velvet) bean leaves** (Figure 49). Further, around one third of respondents grow (Ground) nut leaves, potato leaves and maize.

Figure 48: Processing of fodder



Source: Own questionnaire (sample size: 31)

Figure 49: Type of fodder

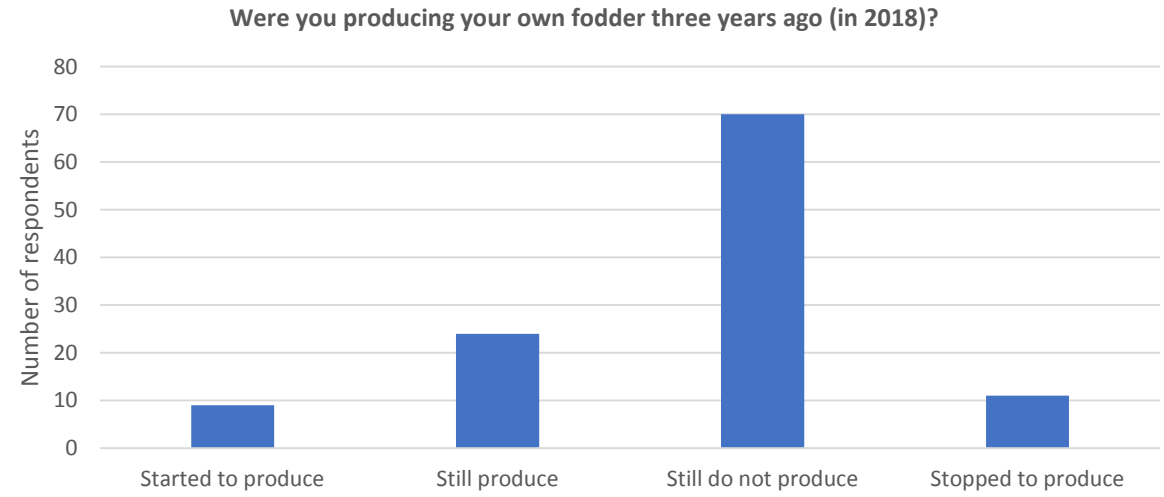


Source: Own questionnaire (sample size: 30)

Start or stop of own production

In three years, there is almost no change in production of own fodder among respondents. **The number of respondents who stopped to produce is almost the same with those who started to produce** (Figure 50). In total, 94 respondents still produce or still do not produce.

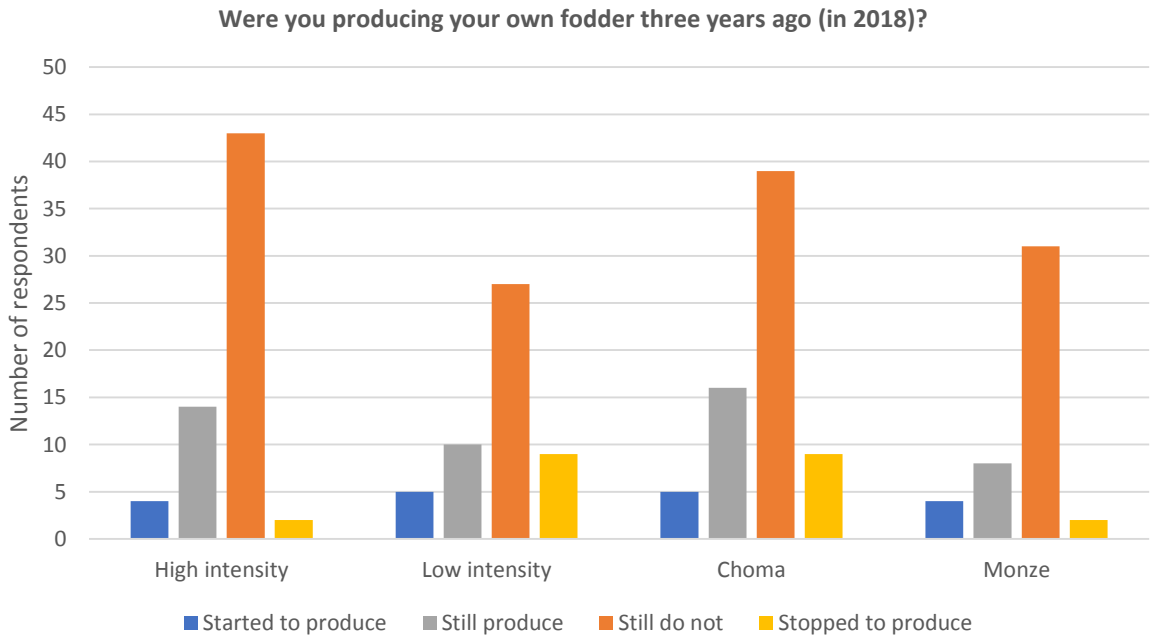
Figure 50: Production of own fodder in 2018 and 2021



Source: Own questionnaire (sample size: 114)

Regarding the district where respondents live and intensity of support, **the production stopped (rather slightly) among respondents from Choma district and from areas with low intensity of support.** The start of production is not influenced neither by district, nor intensity of support. Following chapters refers to this groups of respondents (Figure 51).

Figure 51: Change in status of own fodder production

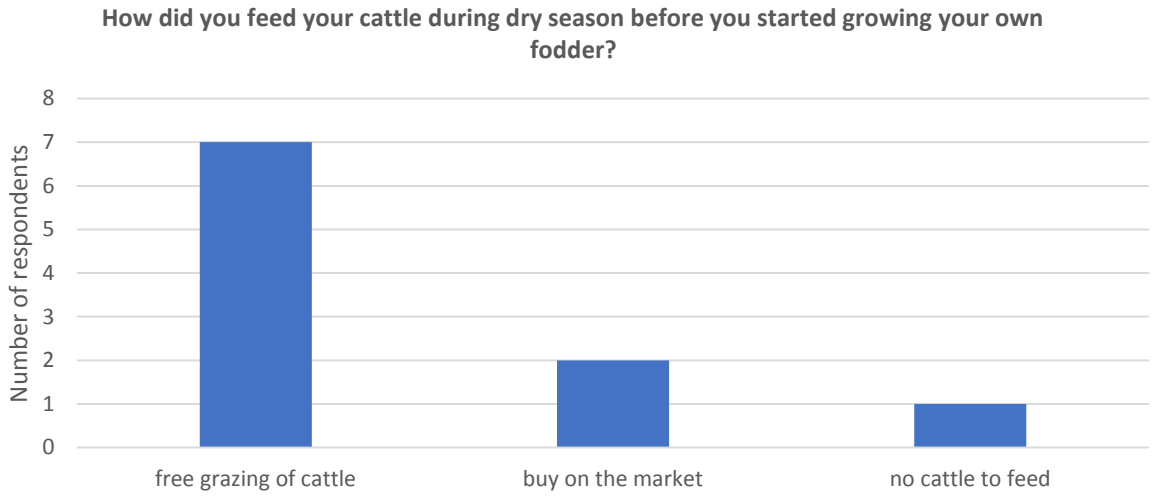


Source: Own questionnaire (sample size: 114)

Those respondents who started to produce own fodder (9 respondents) were asked to further deliver some additional information. **In 2018, when they did not produce own fodder, they primarily fed their cattle by free grazing** (Figure 52). One respondent stated that he/she did not have any cattle to feed.

The only reasons why they started to produce own fodder is that they attended training and observed that other members of our community (neighbours) profited from own growing.

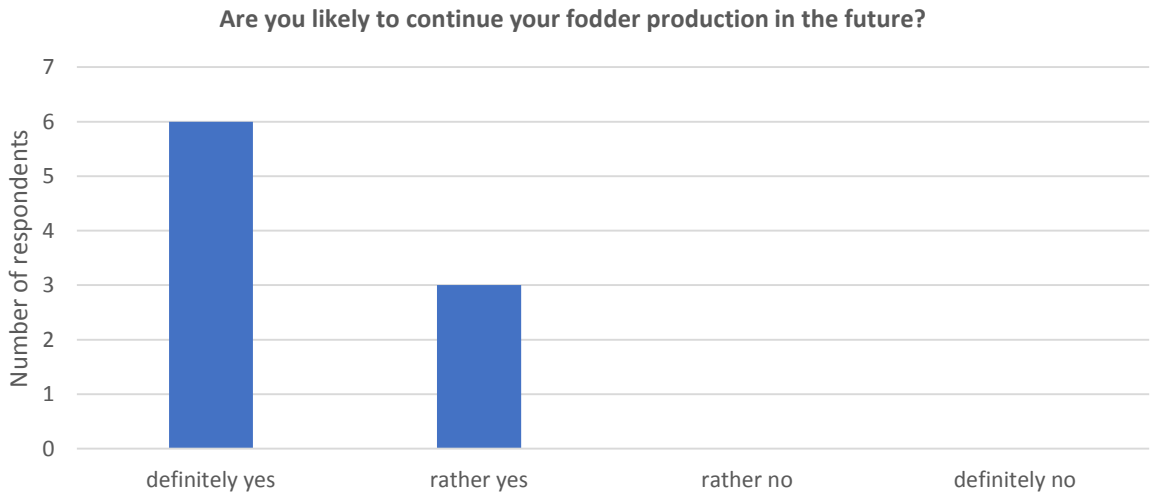
Figure 52: Feeding own cattle before starting own production



Source: Own questionnaire (sample size: 10)

Question on the probability of future production is positive – **it indicates that all respondents who started their production between 2018 and 2021 will likely continue their production** (Figure 53). In additional comment, two respondents stated that the production is very helpful in terms of feeding their animals.

Figure 53: Production of own fodder in the future



Source: Own questionnaire (sample size: 9)

Plot size of respondents

Respondents had an opportunity to specify the plot size on which they grow fodder for their cattle. **However, only six respondents took this opportunity and specified the plot size reserved for fodder. The average plot size for growing fodder amounts to 1,3 hectares**.

The same respondents further specified the plot size for growing own fodder in 2021 – the size remained the same. **Moreover, another 4 respondents stated that their plot size remained the same**.

Source of seeds for growing own fodder

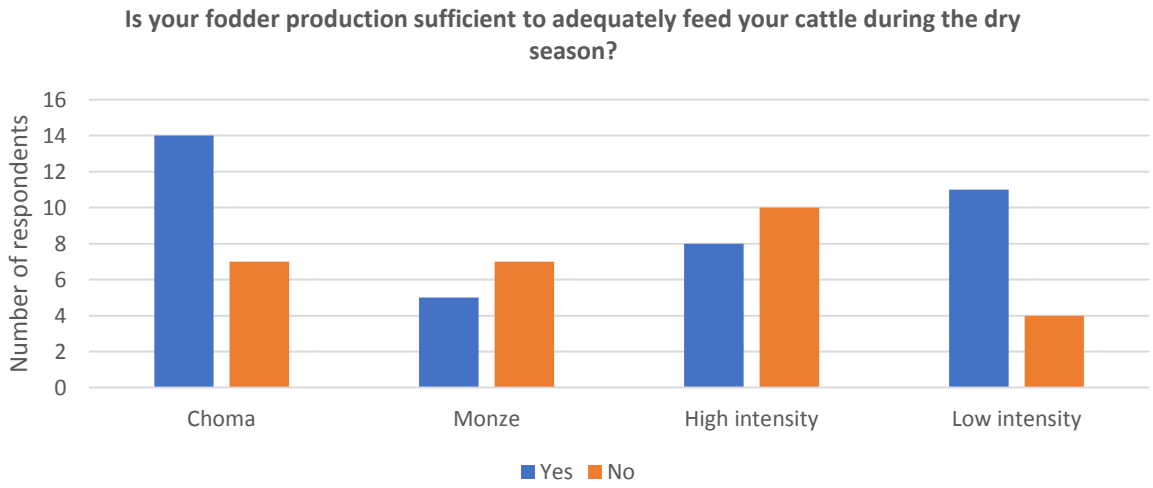
The source where respondents get seeds from varies and the number of answers is just eight. Therefore, all the answers are copied below:

- Am a seed grower
- Bought from agro dealers in choma
- From choma cooperative Union
- Choma town (stated by two respondents)
- I don't buy
- Locally in choma shops e.g. cow pees
- Received the seed from ceec

Sufficiency of own fodder production

Answers, which refer to sufficiency of fodder production, bring some interesting findings. **Farmers whose locality was supported by low intensity argue that their fodder production is rather sufficient to feed their cattle during dry season** (Figure 54). On the contrary, farmers from areas supported by high intensity are, in majority, not able to sufficiently feed their cattle. **The difference is also determined by geography – farmers from Choma district are significantly more able to feed their cattle**.

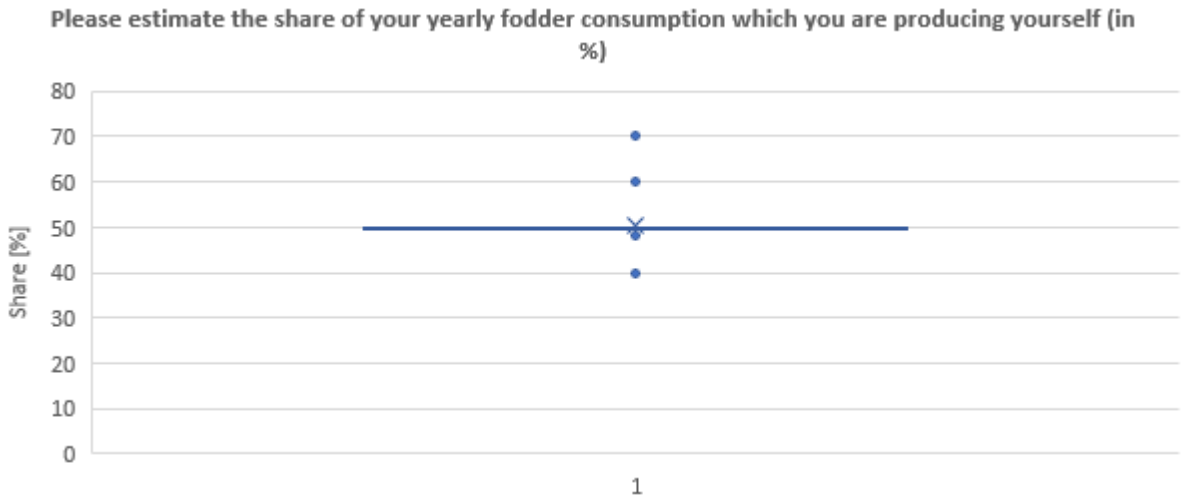
Figure 54: Sufficiency of fodder production to feed own cattle during dry season



Source: Own questionnaire (sample size: 33)

Respondents who do not produce a sufficient amount of feed (14 respondents) were asked whether they can estimate the share of their yearly fodder consumption which they are producing themselves. **According to their answers, respondents produce between 40 to 70% of their yearly fodder consumption**. Median value amount to 50% - in total, 9 respondents estimated this share (Figure 55). **Ten of out eleven respondents who presented where they had acquired remaining fodder stated that they let their cattle to feed on available pastures**. One respondent purchases the fodder.

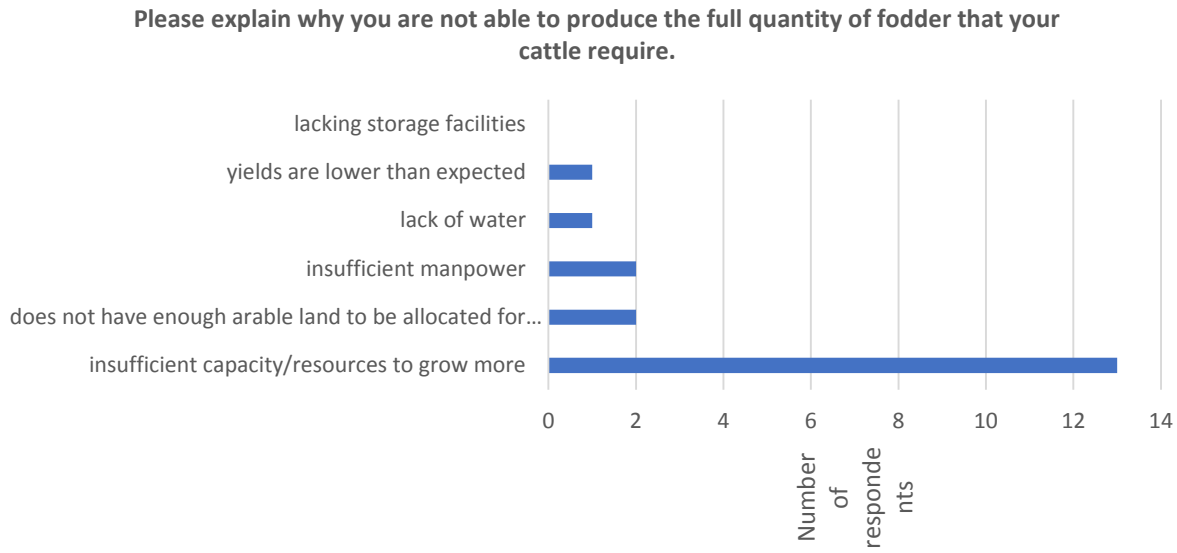
Figure 55: The estimation of fodder consumption covered by own production



Source: Own questionnaire (sample size: 14)

The main cause why respondents are not able to produce the full quantity of fodder is that they have insufficient capacity or resources to grow more (Figure 56). The other causes are rather of secondary importance.

Figure 56: The causes of insufficient quantity of fodder production



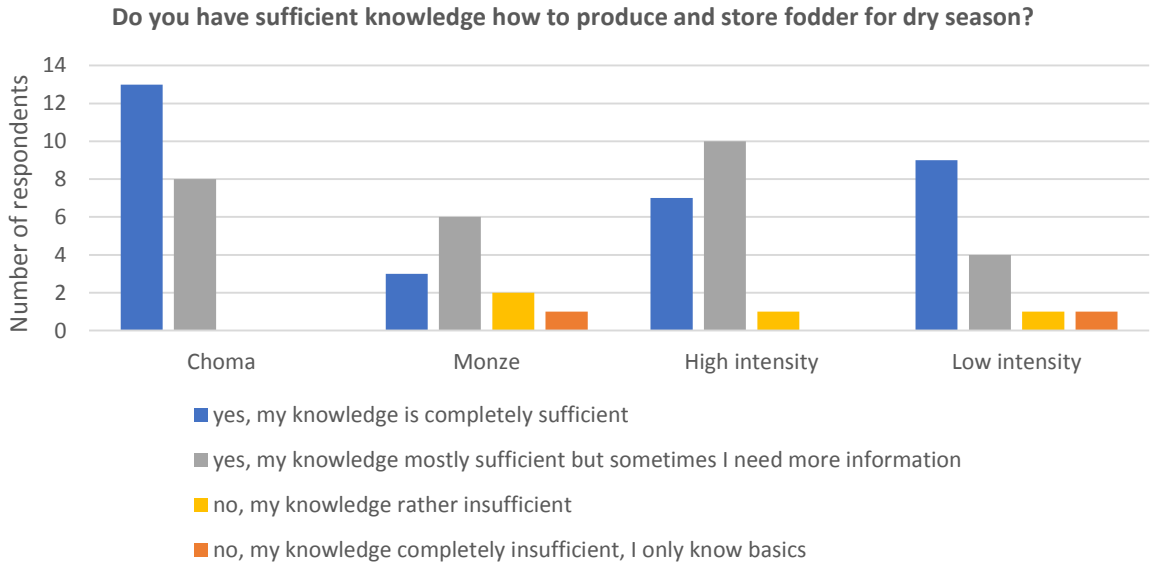
Source: Own questionnaire (sample size: 14)

Fodder production knowledge

Respondents who produce own feed (33 respondents) ask if they can evaluate their knowledge of fodder production.

Even though there is a lower number of respondents from areas with low intensity support, they rather feel that they have completely sufficient knowledge. Higher share of respondents with negative answers is present in Monze district. However, in majority, they also feel that they have at least mostly sufficient knowledge (Figure 57).

Figure 57: Sufficiency of knowledge of production and storage of own fodder

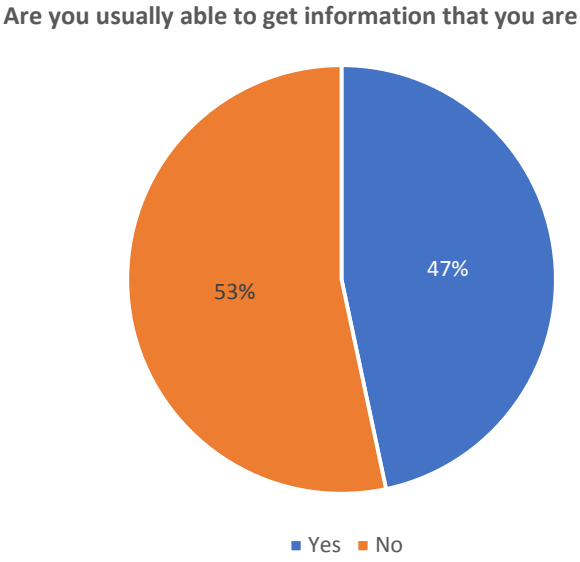


Source: Own questionnaire (sample size: 33)

Sixteen respondents who do not have completely sufficient knowledge were asked to specify which information they lack. **Respondents primarily lack knowledge of how to produce better quality feed (so it will be more nutritious) and general information**. They would also welcome some information about how to store fodder, how to mix ingredients, how to plant Rhode grass and where to purchase seeds.

Unfortunately, in a slight majority, these respondents are not able to get information they are missing (Figure 58). **Respondents mostly rely on advice from neighbours** – five out of seven respondents stated this. Both, cooperative officials and local extension officer were mentioned just once.

Figure 58: Ability of respondents to get missing information

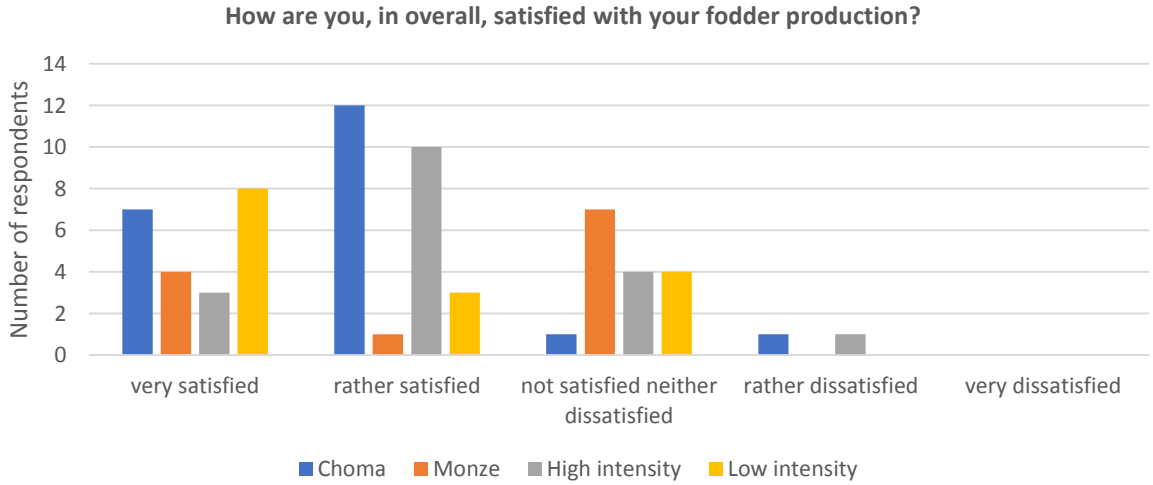


Source: Own questionnaire (sample size: 15)

Satisfaction of own fodder production

Assessment of satisfaction of own fodder production revealed that the **least satisfied respondents come from Monze district**. However, none of respondents from Monze stated that they are very dissatisfied. When the intensity of support is considered, **very satisfied are primarily respondents from areas with support of low intensity** (Figure 59).

Figure 59: Satisfaction of own fodder production



Source: Own questionnaire (sample size: 33)

Only five respondents further commented their answer. All comments are copied below:

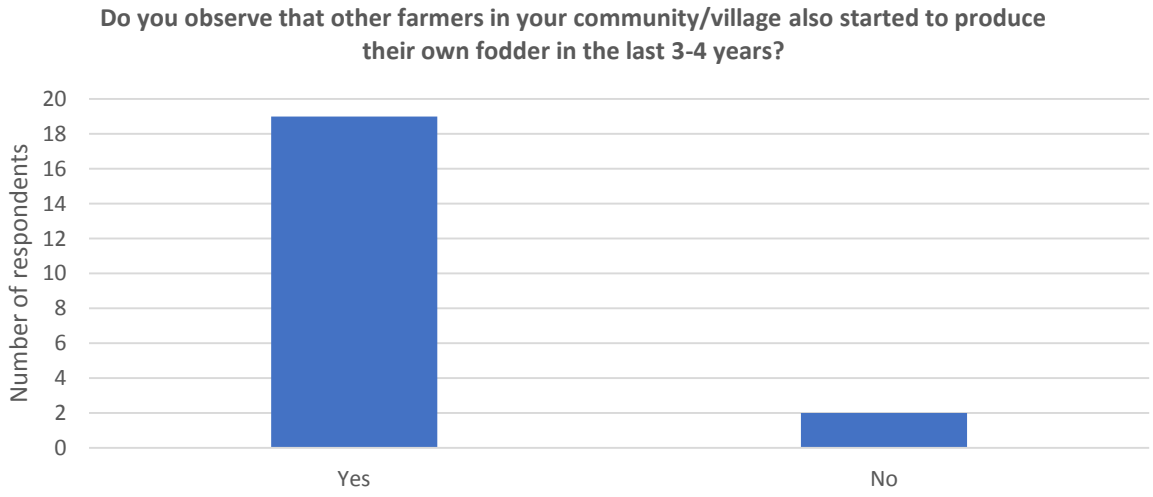
- Am okay with the way my fodder

- I am only use whatever is available
- I don't have enough water and land to plant Rhodes grass
- I need more information
- Just need a recap

Production of other farmers in community

According to respondents who produced own fodder in 2018 and still produce it in 2021, **the number of farmers who produce their own fodder perceptibly increased – such development was observed by 19 respondents** (Figure 60). Respondents who do not observe an increase of farmers who produce own fodder are from Choma district and from areas of support of high intensity. On the contrary, **the proliferation of farmers in community primarily occurs primarily in Choma and in areas of support of high intensity**. On average, **3.5 farmers have started to grow their own fodder in the last 3 years**. Highest number of farmers (10) occurred in Choma district, Bwacha village, which is an area of support of low intensity. **The production of farmers in the community is an outcome of that they realized that they can feed their animals when there is no pasture**. The improved production of milk also determined the start of new production of fodder in the community.

Figure 60: Production of own fodder among farmers in the community



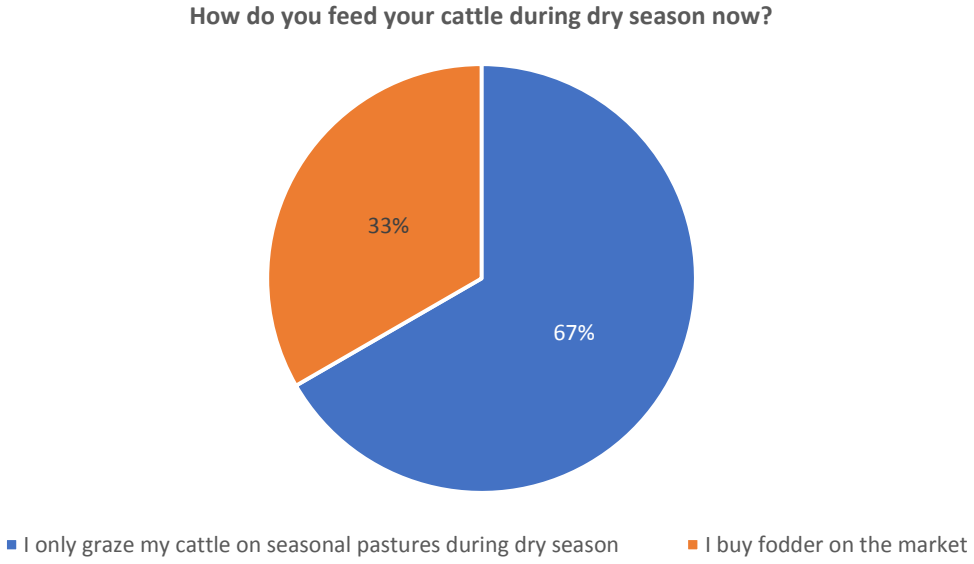
Source: Own questionnaire (sample size: 21)

Stopped production of own fodder

In this chapter, findings reflect those respondents who had produced own fodder in 2018 but stopped in following 3 years (11 respondents complete this part of the questionnaire).

The causes of stopped production varies. **Nevertheless, the most common cause of stopped production is death and reduction of cattle**. Among other causes are: lack of manpower, time, family problems, lack of water, lack of money to buy seeds, inability to meet expenses of coming up with good fodder. **The production of own fodder during dry season was primarily substituted by grazing cattle on seasonal pastures** (Figure 61). Buying fodder on the market is more beneficial for farmers due to lack of time. One respondent stated that buying fodder on the market is beneficial due to lack of water.

Figure 61: Ways of feeding own cattle during dry season (stopped production)



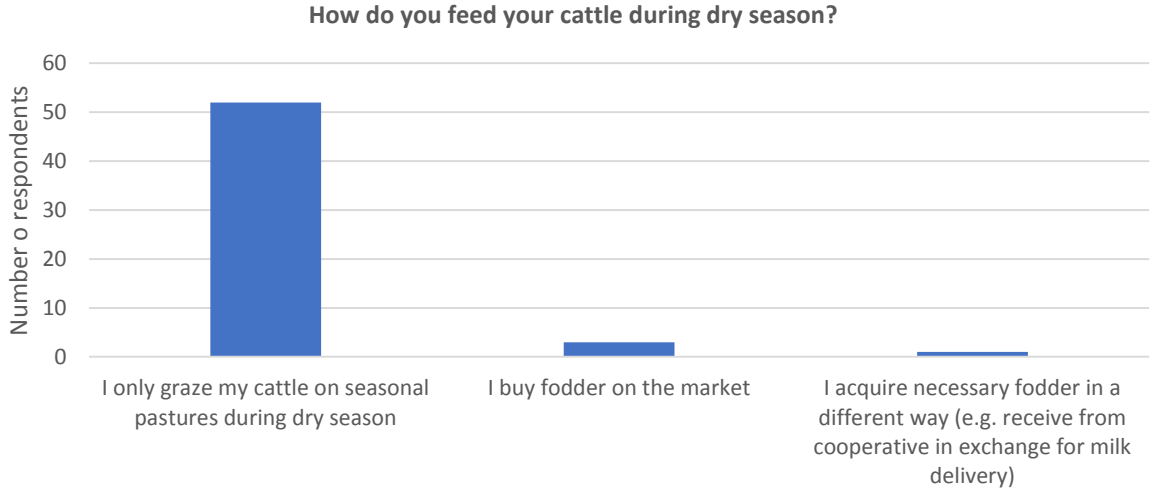
Source: Own questionnaire (sample size: 11)

No long-term production of own fodder

A couple of following questions were addressed to those respondents who still do not produce their own fodder in 2021. As it was observed among farmers who stopped their production, **the most common way to feed own cattle during dry seasons is to graze cattle on seasonal pastures** (Figure 62). As he/she stated in the voluntary comment window, one of respondents makes fodder for himself/herself in this way:

- I cut grass and the remaining maize stem after harvest then deep them in salty water to feed cattle.

Figure 62: Ways of feeding own cattle during dry season (no long-term production)

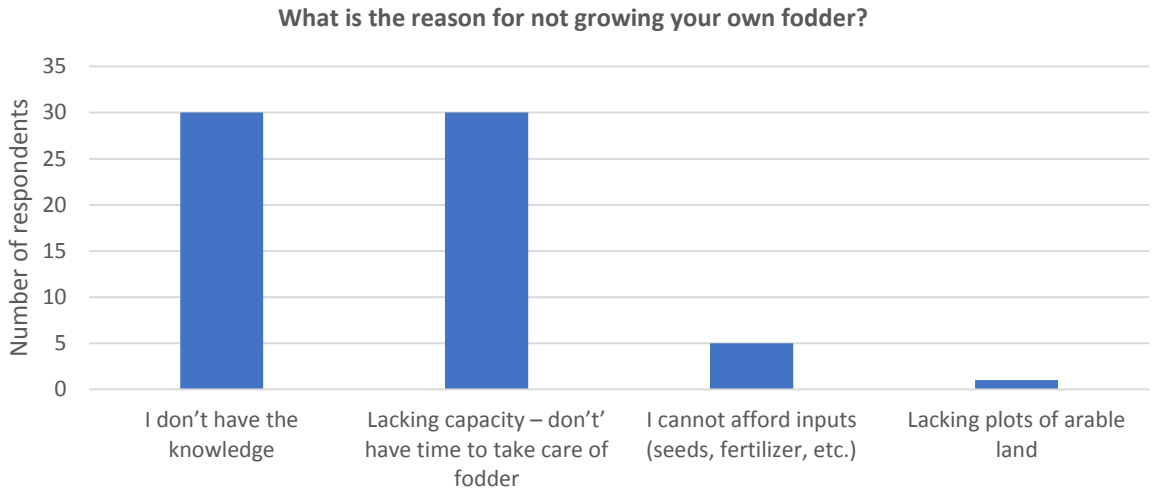


Source: Own questionnaire (sample size: 70)

Respondents primarily argue that they do not have a time capacity to take care of fodder and that they do not have a sufficient knowledge (Figure 63). One of respondents will start his/her own production this year. Two respondents demand some activities to learn how to produce own fodder and another two do not have cattle to feed. The lack of

capacity could also be caused by that the farmers do not have enough manpower – however, only one respondent stated this in an additional comment.

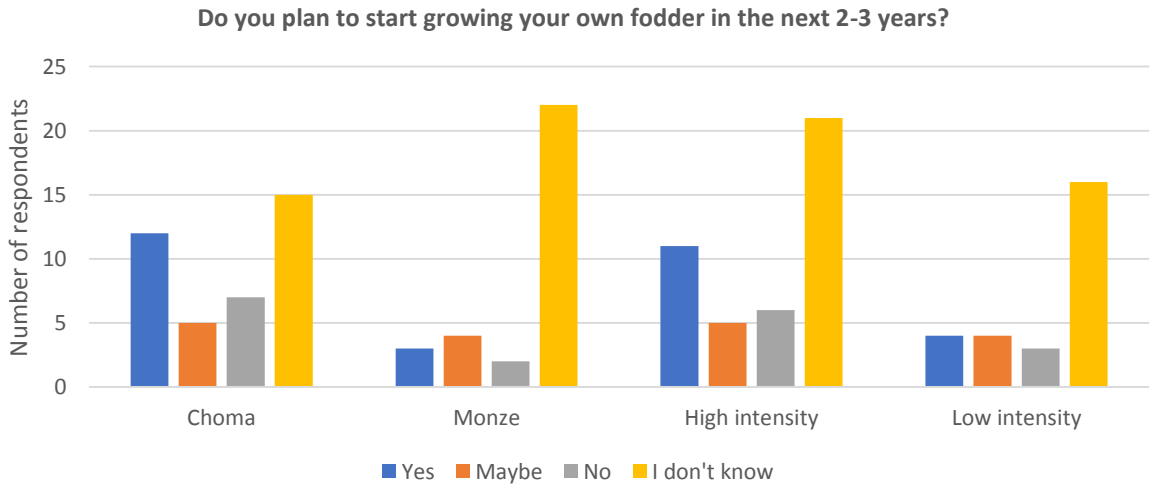
Figure 63: Reasons behind not growing own fodder



Source: Own questionnaire (sample size: 70)

Respondents were further asked whether they plan to produce their own fodder in the next 2-3 years. **Mostly, respondents have no opinion whether they will grow own fodder** (Figure 64). The intensity of support and district seems to have partially significance since **the difference in number of respondents between those who plan to start to grow own fodder and those who do not is higher in the case of Choma district and the areas of high intensity support.**

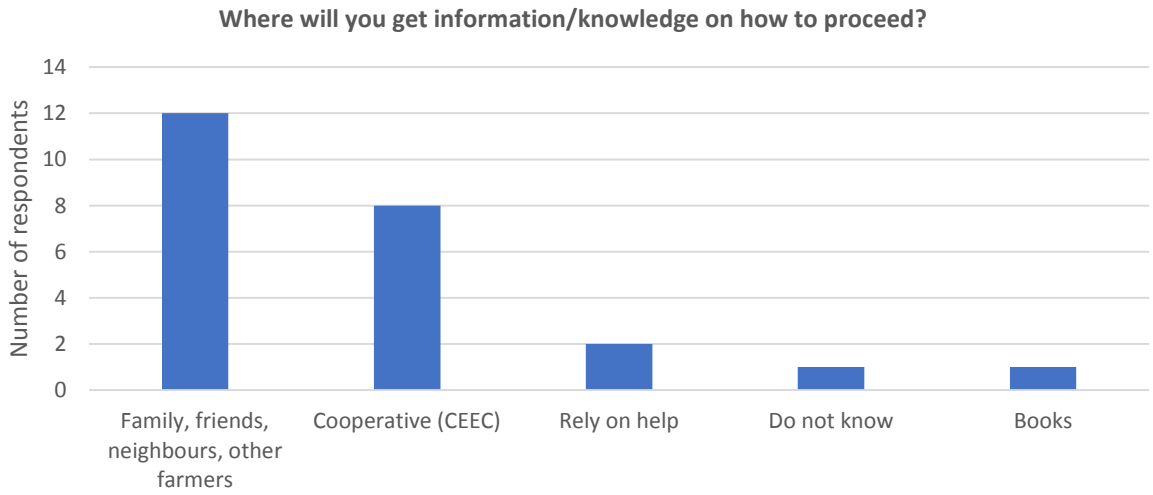
Figure 64: Plans to grow own fodder in the next 2-3 years



Source: Own questionnaire (sample size: 70)

In the case of respondents who plan to start own production of fodder, they primarily rely on information provided from community such as friends, neighbours, family, and other farmers (Figure 65). Second, Cooperative (CEEC) is also relevant source of information for respondents. Two respondents rely on non-specified help.

Figure 65: Source of information in order to start own production of fodder



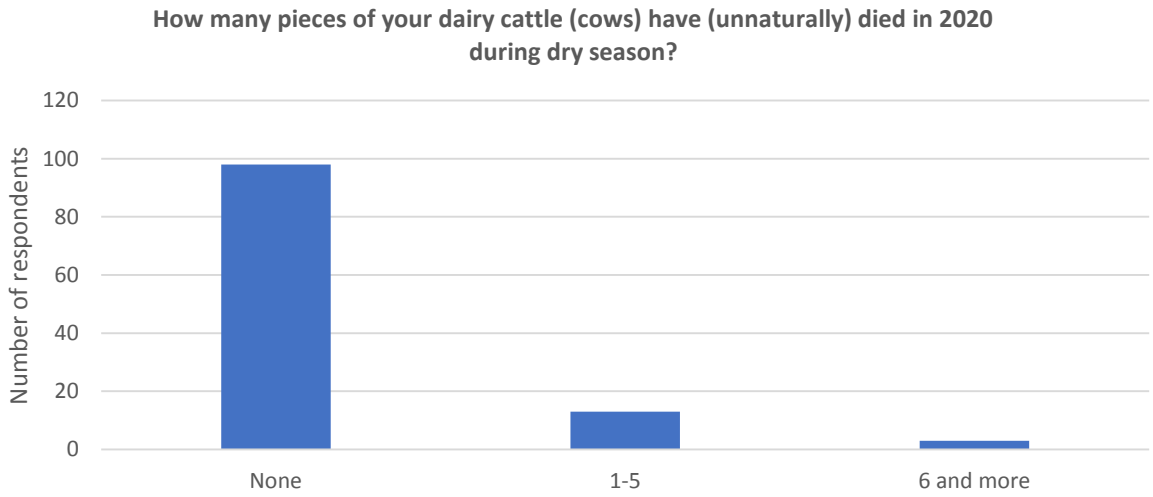
Source: Own questionnaire (sample size: 24)

The respondents are mostly worried because of financial problems associated with growing own fodder – 17 out of 21 respondents stated such worry. Among the remaining respondents, lack of manpower was mentioned twice and lack of knowledge and lack of land was mentioned just once.

Mortality of livestock

Only 16 out of 114 respondents experienced that some of their cattle unnaturally died during dry season in 2020 (Figure 66). Out of these 16 respondents, the average of died cattle amounts to 4.6 pieces, nevertheless, the value is influenced by the maximum value which is 19 pieces of cattle that died. The more relevant median value amounts to just 2 pieces of cattle.

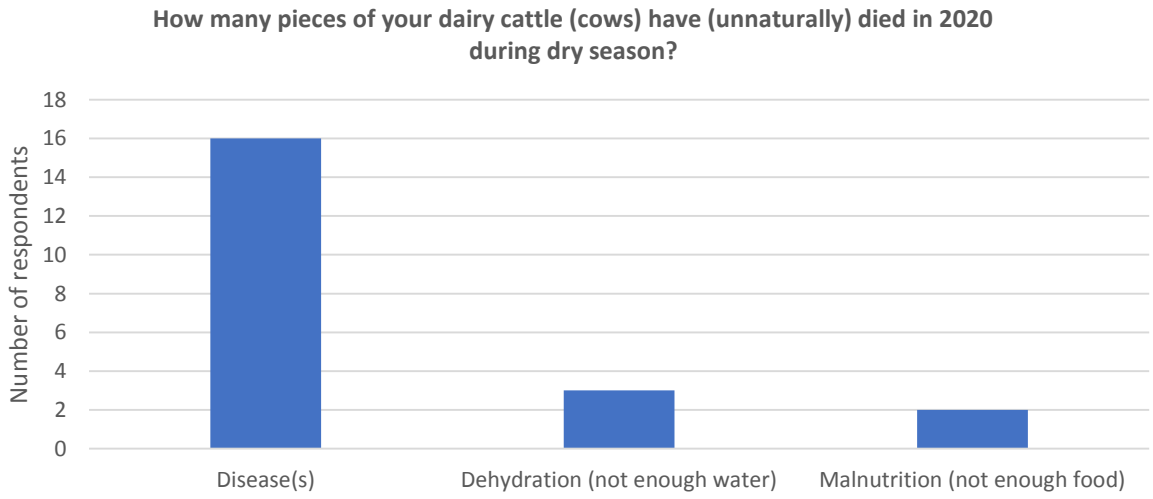
Figure 66: Number of died cattle in dry season 2020



Source: Own questionnaire (sample size: 114)

The most common cause of death of respondents' cattle is disease(s) – this cause of death mentioned all the respondents whose pieces of cattle died during dry season 2020. Two respondents specificized their responses, stated that the cattle died because of **heart water diseases**.

Figure 67: Causes of death of cattle during dry season 2020



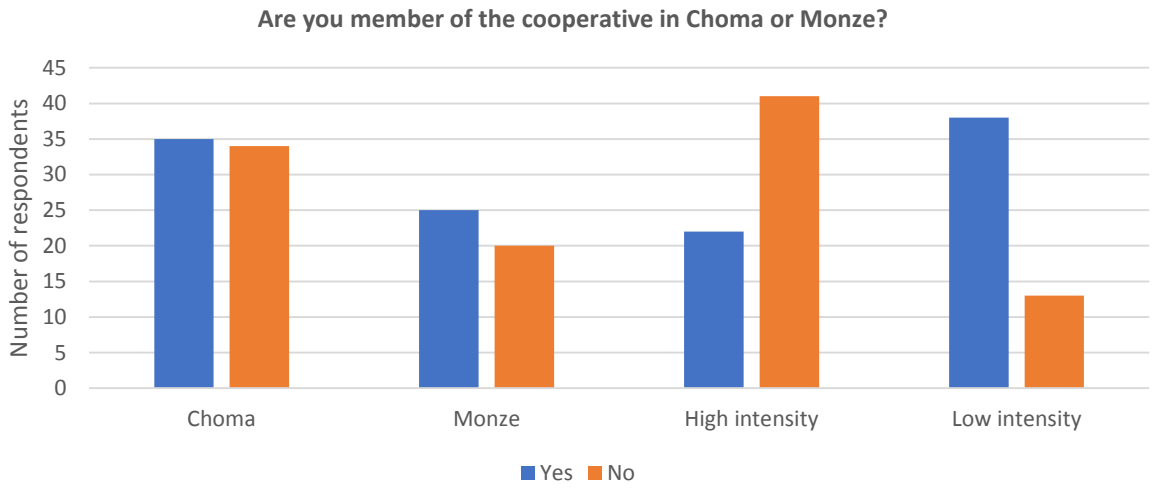
Source: Own questionnaire (sample size: 16)

Production of own milk

Membership in cooperative in Choma or Monze

In total, 60 respondents are members of cooperatives in Choma or Monze. It was revealed that respondents are members rather in the areas of low intensity support. In the case of district, the difference is not significant (Figure 68).

Figure 68: Membership in cooperative in Choma or Monze

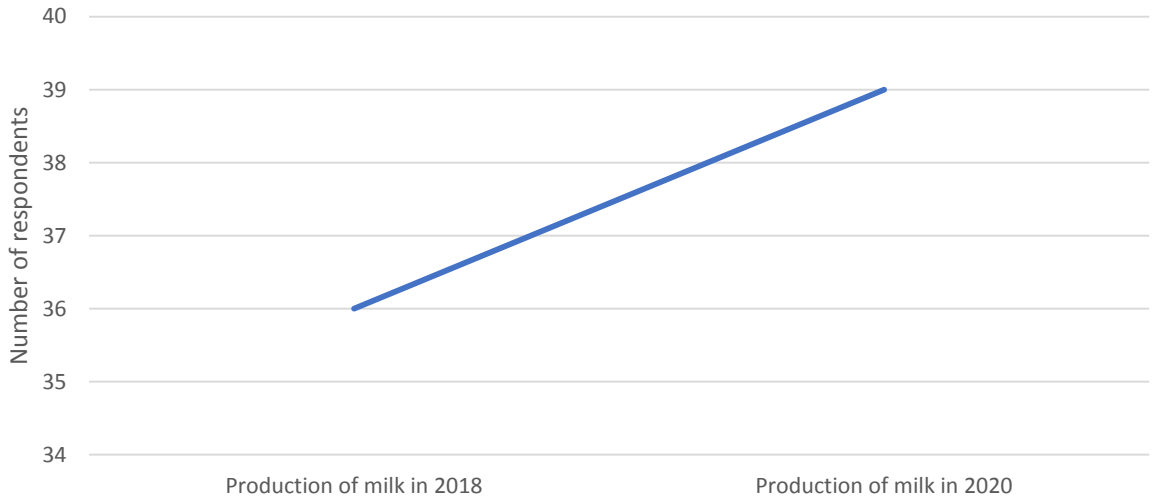


Source: Own questionnaire (sample size: 114)

Milk production

The number of farmers who produce their own milk slightly increased between 2018 and 2020 (Figure 69). **Nevertheless, the average milk production remained the same when median value is considered (excluding respondents with no production in both years)**. Milk production decreased in the case of 15 respondents, increased in the case of 19 respondents and for the others remains the same.

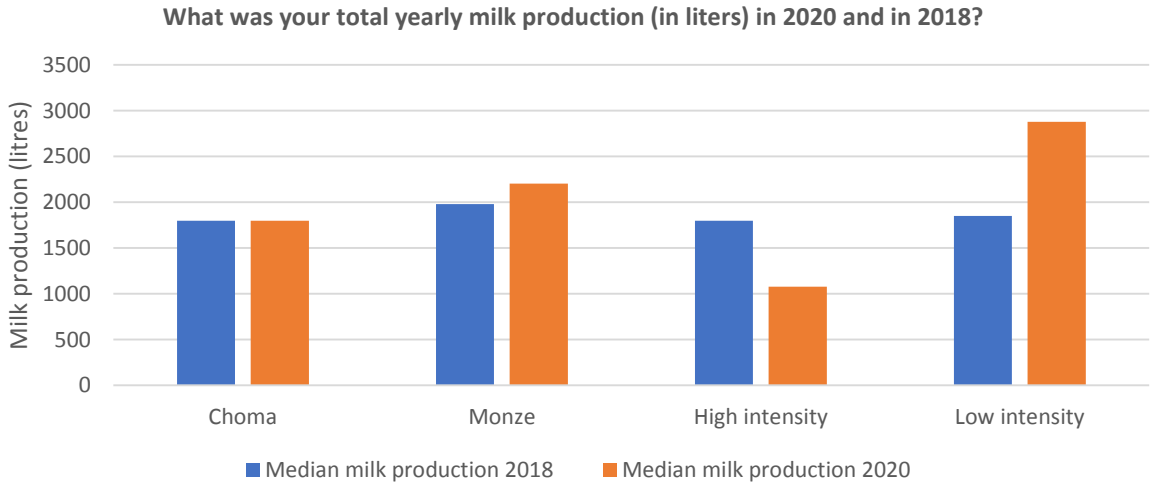
Figure 69: Number of respondents who produce their own milk



Source: Own questionnaire (sample size: 113)

Due to occurrence of extreme values, the milk production is only compared in regard to median value. **Findings revealed that decrease of milk production occurred in areas of high intensity support** (Figure 70).

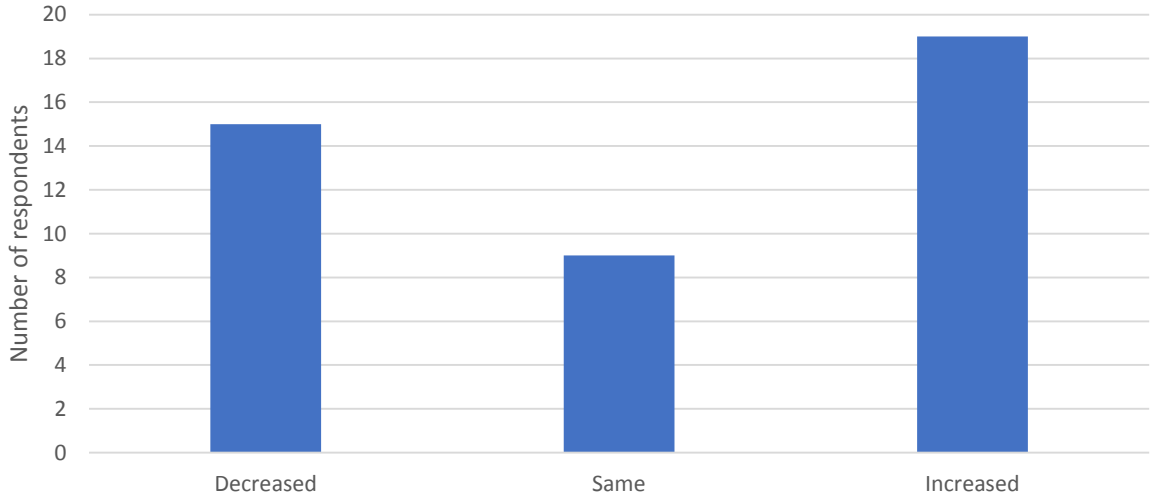
Figure 70: Median value of milk production in 2018 and 2020



Source: Own questionnaire (sample size: 113)

Out of respondents who produce milk at least either in 2018 or 2018, the milk production rather increased in majority of cases (Figure 71). Among respondents who produced milk both in 2018 and 2018, the average increase amounts to 127% and the average decrease amounts to 39%.

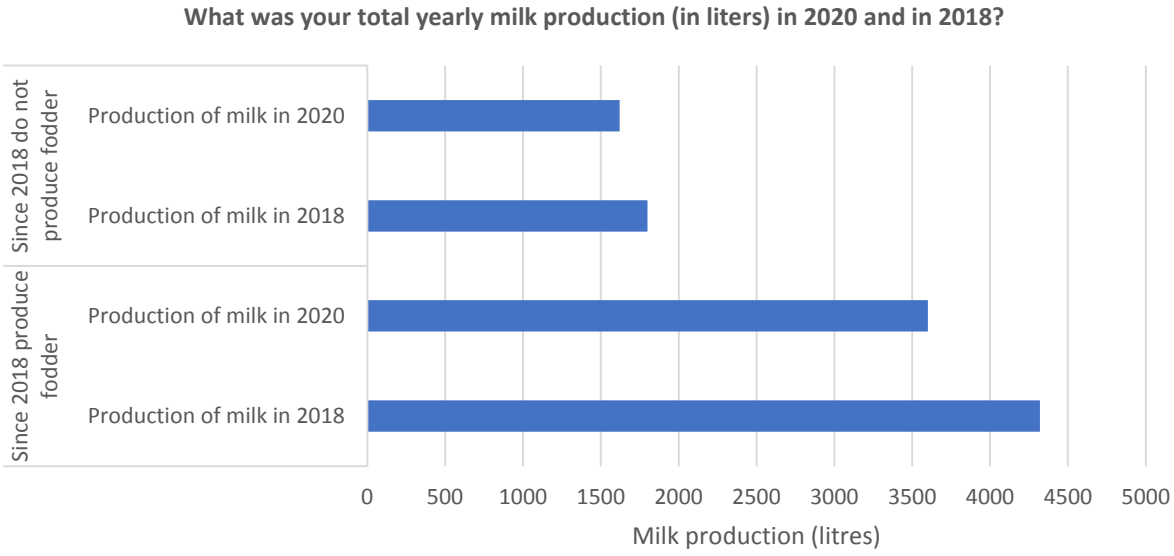
Figure 71: Change in milk production



Source: Own questionnaire (sample size: 43)

Further, the findings of milk production were compared between those respondents who produce their own fodder since 2018 and those who not and at the same time produced milk both in 2018 and 2020. **It was revealed that the production of own fodder has rather negative impact since the production of milk decreased more abruptly in the case of respondents who grow their own fodder since 2018 (Figure 72)**.

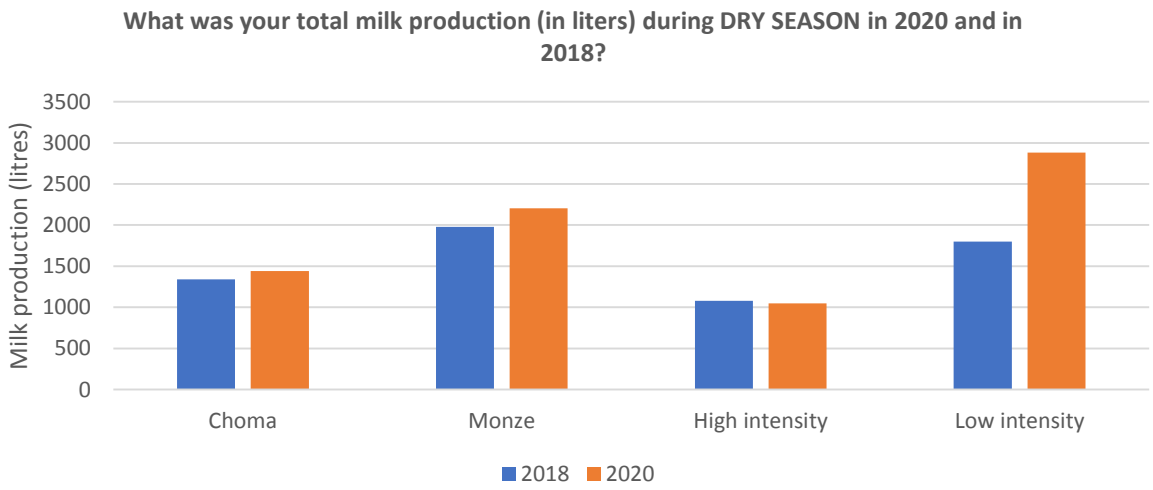
Figure 72: Median value of milk production regarding growing of own fodder



Source: Own questionnaire (sample size: 11)

The same development of milk production can be observed in the case of dry seasons (Figure 73). Even though there are more farmers who produce milk, **the median milk production decreased by 190 litres – from 2 440 to 2 250 litres**. **The decrease occurred in the case of areas of high intensity support**.

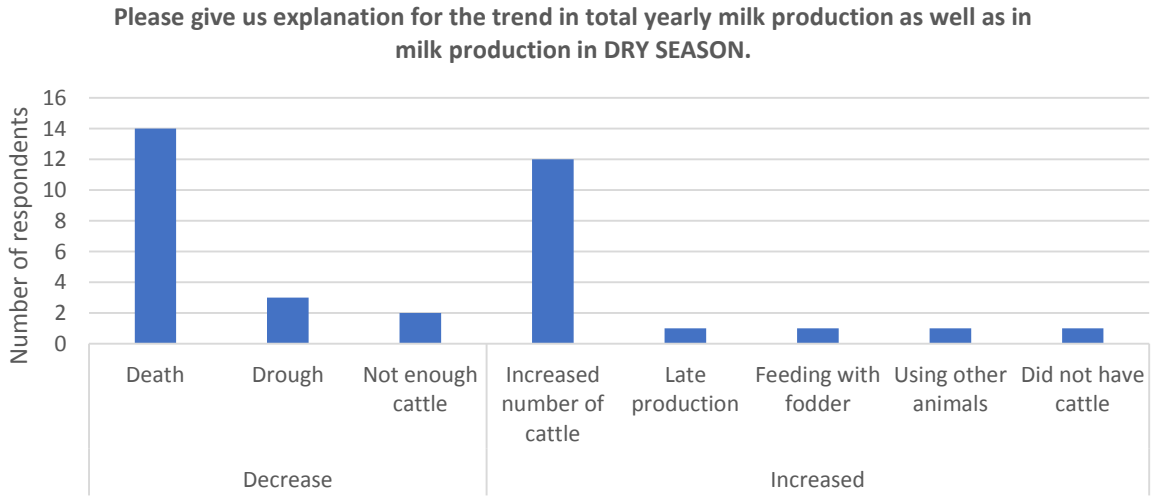
Figure 73: Median value of milk production in dry season 2018 and 2020



Source: Own questionnaire (sample size: 113)

The specification of causes of increase or decrease is contained in Figure 74 below**. The main cause of increase of milk production is increased number of cattle and the main cause of decrease is death of some pieces of cattle**.

Figure 74: Causes of increase or decrease of milk production

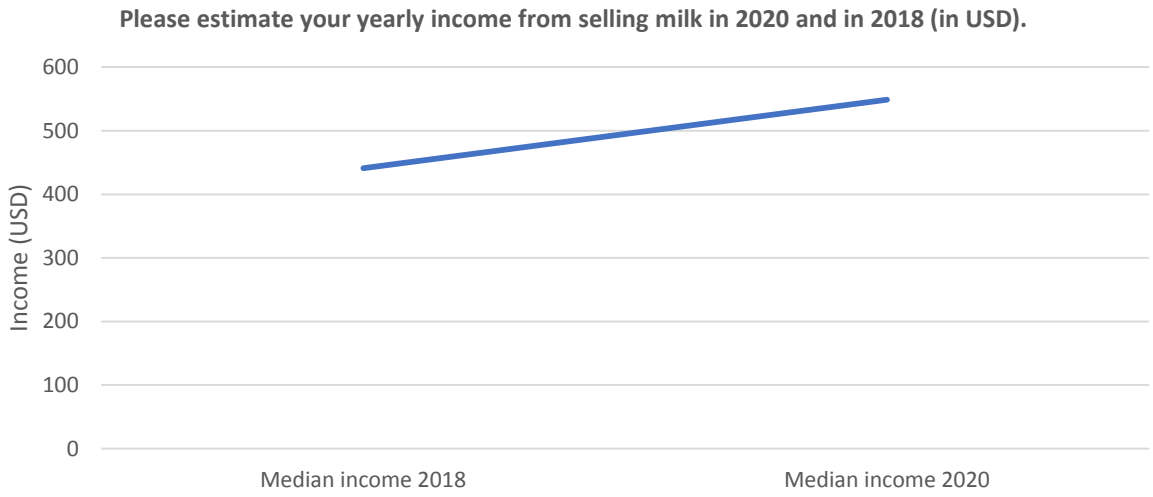


Source: Own questionnaire (sample size: 33)

Income from milk production

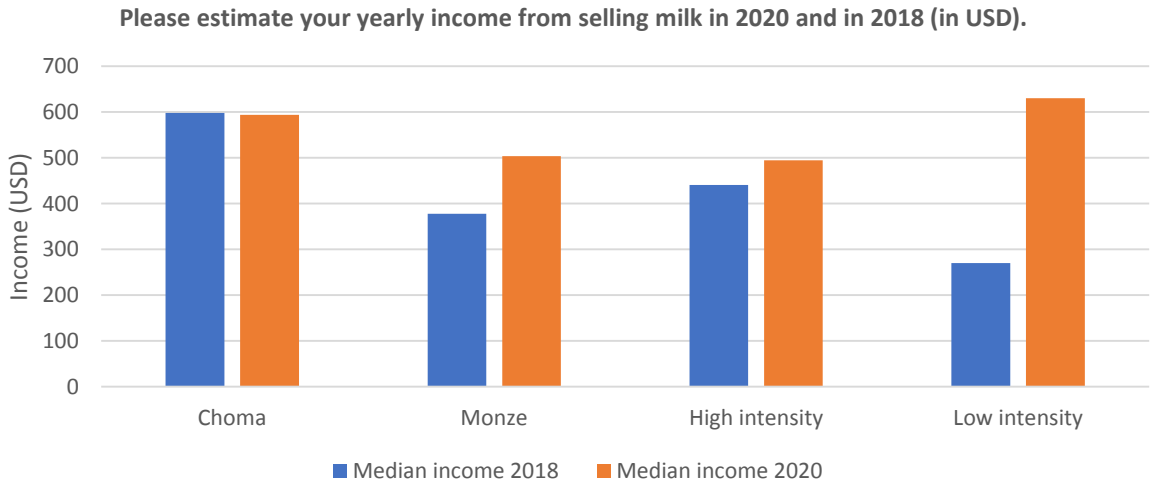
Contrary to volume of milk production, **the median income from selling milk increased between 2018 and 2020** (Figure 75). The decreased income occurred only in Choma district (Figure 76).

Figure 75: Estimated income from selling milk



Source: Own questionnaire (sample size: 38)

Figure 76: Estimated income from selling milk in regard to district and intensity of support



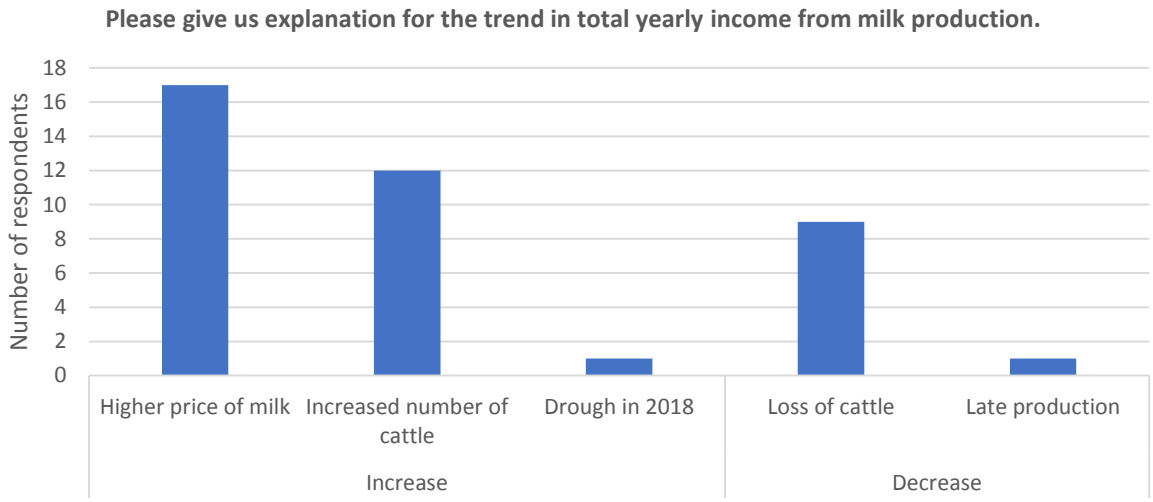
Source: Own questionnaire (sample size: 38)

Naturally, out of respondents who produce milk at least either in 2018 or 2018, the milk income increased in majority of cases (Figure 77). The average increase is more significant compared to average decrease - specifically, the average increase amount to 103% while the average decrease amount to 35% in the case of respondents with income both in 2018 and 2020.

Figure 77: Change in income from milk production

According to respondents' statements, **the price of milk increased which stimulated the higher income from selling milk**. Also, the increased or decreased number of cattle seems as a relevant aspect (Figure 78).

Figure 78: Causes of increase or decreases in income from selling milk



Source: Own questionnaire (sample size: 36)

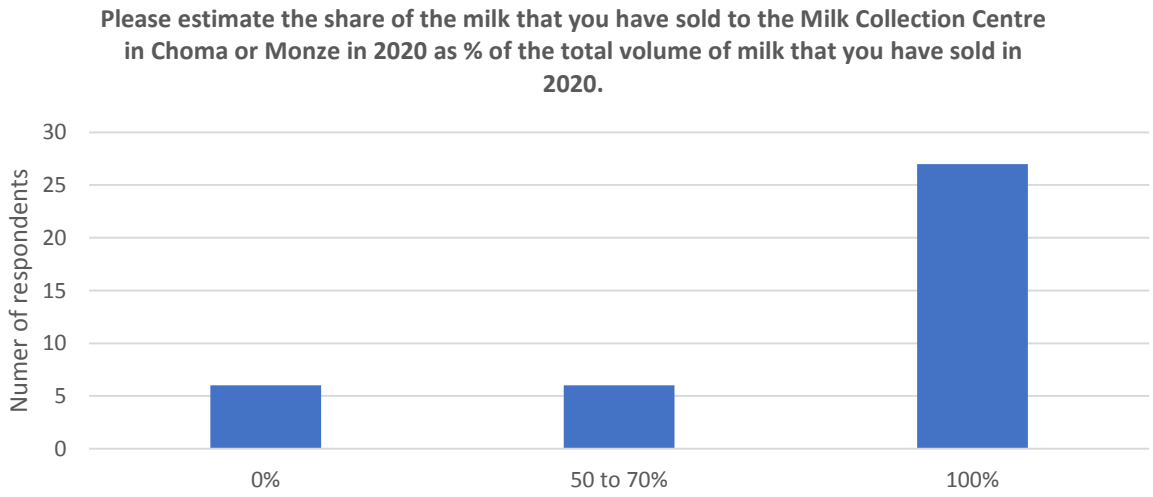
Buyers of respondents' milk production

Respondents' client is primarily Milk Collection Centre (MCC). Only 12 out of 39 respondents, do not sell all the milk to MCC (Figure 79). Only 6 respondents stated that they do not sold to MMC any of their milk. Except MCC, respondents sold their milk to general public (community). One of respondents stated that they use the milk in their family. **Further, almost all respondents, 21 out of 28, who sold all the milk to MCC come from areas targeted by low intensity**.

Respondents who sold their milk to other buyers did not specificized why do they sold the milk to other buyers except MCC. Only one respondent stated that other buyers offered more favourable conditions and further argue that **union did not pay farmers on time**.

Those respondents who sold all the milk to MCC were further asked whether they have tried to find other buyers. **Out of 28 respondents, only one stated that he/she tried to find other buyers – because of low price the MCC offered**.

Figure 79: The estimation of milk sold to MCC

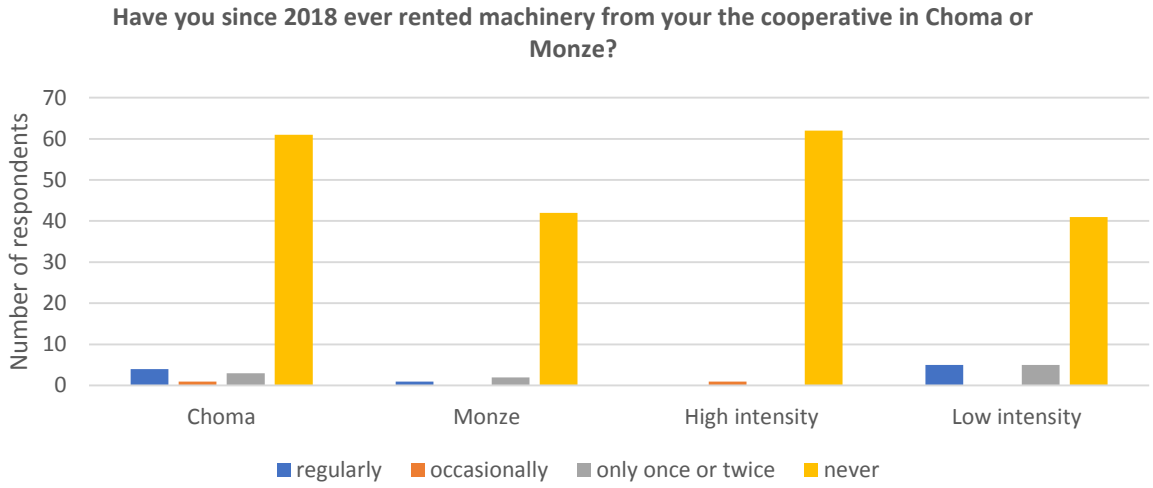


Source: Own questionnaire (sample size: 39)

Renting machinery

Respondents have rented machinery just sporadically (Figure 80).

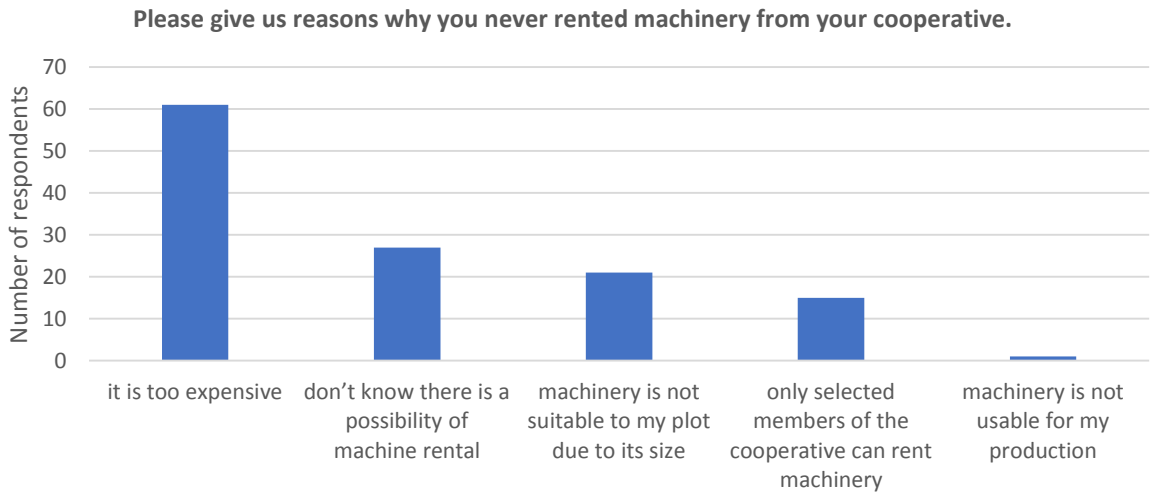
Figure 80: Machinery renting



Source: Own questionnaire (sample size: 114)

Respondents who never rented machinery (103 respondents) had an opportunity to specify the reasons behind it. **The main reason is that machinery is too expensive for them**. Other aspect is rather of secondary importance (Figure 81) compared to the aforementioned price.

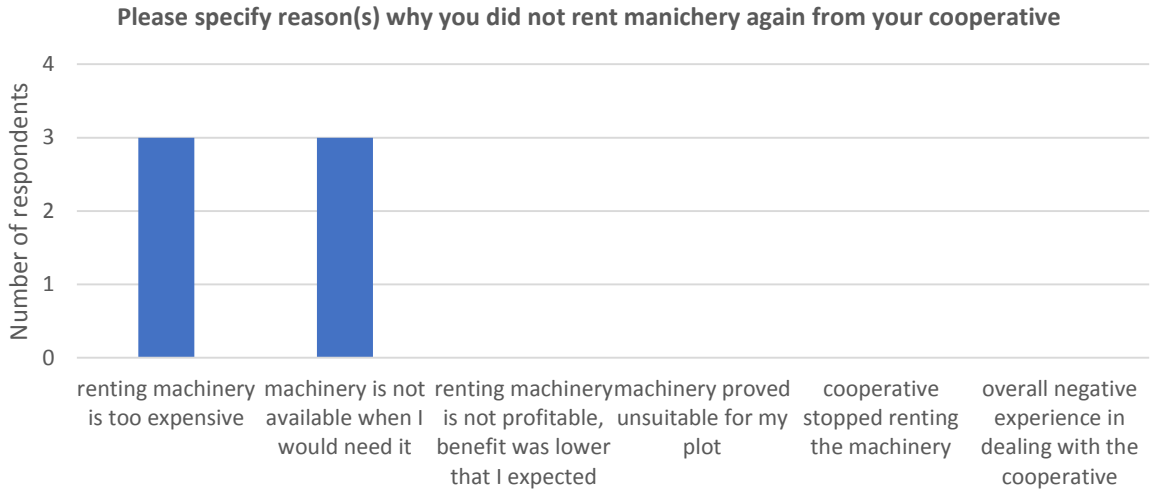
Figure 81: Reasons why respondents never rented machinery



Source: Own questionnaire (sample size: 103)

Secondly, respondents who rented machinery just once were also asked for additional information. **Out of five answers in the open question, only two were positive in regard to assessment of their experience** – even though the machinery helped to cultivate the land, it seems that the rental is too expensive, and that the rental was delayed. **The high price for rental was further confirmed in the following question** (Figure 82) since it is the only reason along with not available machinery why respondents have not rented machinery again.

Figure 82: Reasons why respondents did not have rented machinery again



Source: Own questionnaire (sample size: 5)

Third, respondents who rent machinery occasionally or regularly were asked (6 respondents). It is difficult to determine how often they use the rental; hence all the answers are presented below:

- Every farming seasons
- Every time
- Every year
- Every year since 2018
- From 2018 to 2020
- Once every year

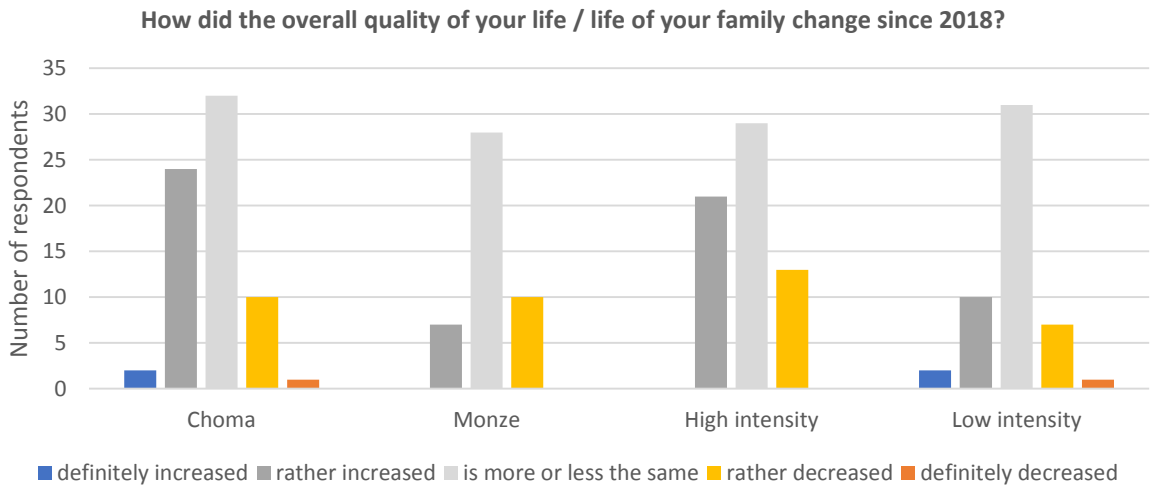
In total, four respondents assessed the experience with rental positively. However, another two assessed the experience negatively due to high price and in overall not favourable conditions.

Quality of life

Quality of life

Respondents do not feel that quality of life significantly decreased or increased (Figure 83). Nevertheless, **slightly increased quality of life can be observed in the case of areas targeted by support of high intensity and in the Choma district**.

Figure 83: Change in quality of life



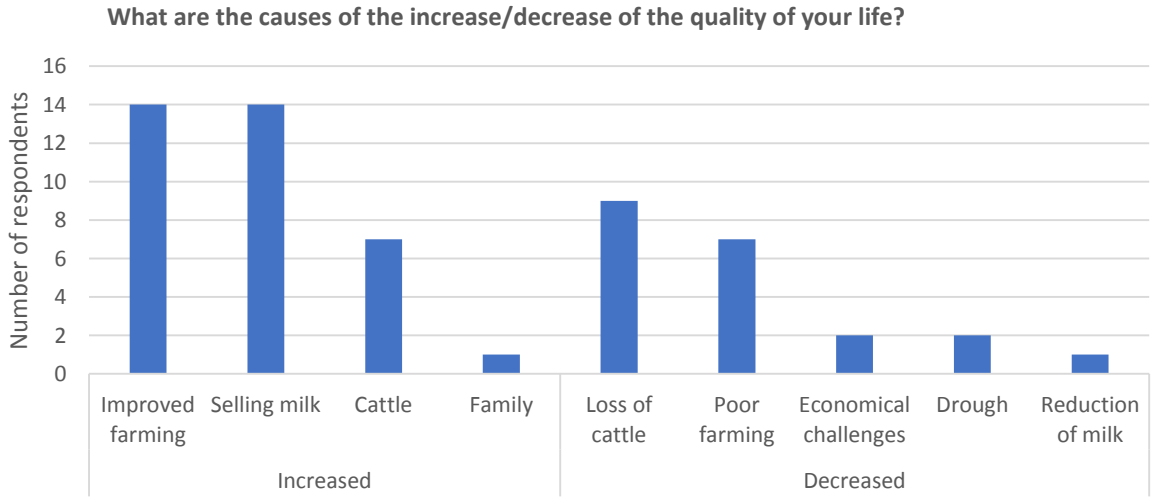
Source: Own questionnaire (sample size: 114)

Respondents perceive change of quality of life primarily in connection with farming (Figure 84). Among the Improved farming and Poor farming were included answers which are not focused on specific issues, such as:

- Am able to use my cattle to farming easy,
- Farming yield was not good,

Among Economic challenges belongs price of fertilizer.

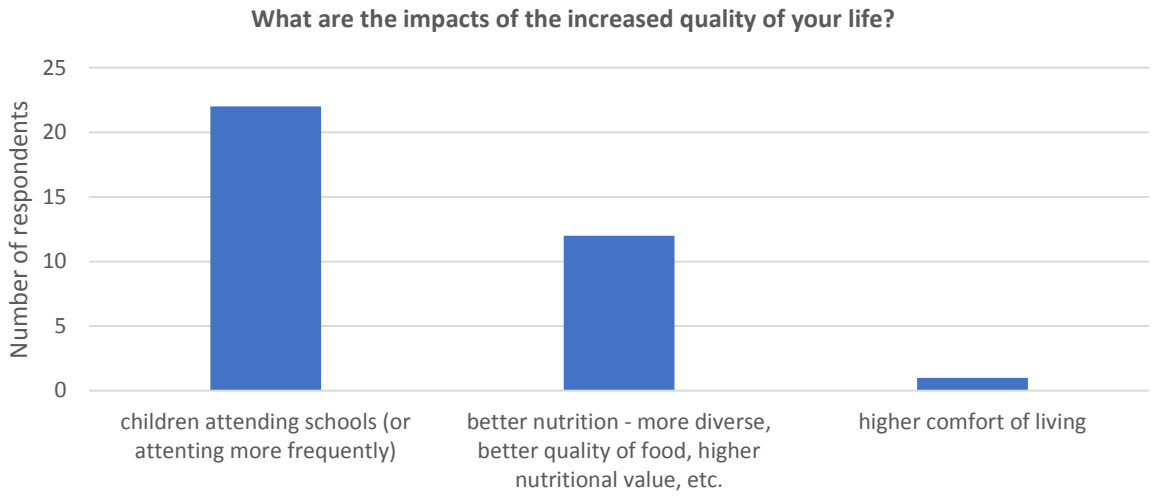
Figure 84: Causes of decrease/increase of quality of life



Source: Own questionnaire (sample size: 33)

Further, respondents whose quality of life increased were asked how the increased quality of life implied their living. **The main impact of increased quality of life is that children attend school** – 67% (22 out of 33) respondents mentioned this impact (Figure 85).

Figure 85: Impacts of increased quality of life



Source: Own questionnaire (sample size: 33)

Annex 6: Comparison between supported and not supported farmers

Following table illustrates difference between the results obtained among supported and not supported farmers. The table contain only selected indicators which were identified as the most relevant.

Identification of questionnaires' sample		
Question	**Supported farmers**	**Not supported farmers**
Number of respondents	40	114
Average size of households	8.4	7.0
Median size of farmland (ha)	14	4
Pieces of dairy cattle		
Median in 2018	4	2
Median in 2020	5	3
Share of respondents who had dairy cattle in 2018	90%	71.9%
Share of respondents who had dairy cattle in 2020	87.5%	71.1%
Share of respondents whose number of dairy cattle increased	52.5%	30.7%
Number of respondents whose number of dairy cattle decreased	42.5%	31.6%
Average increase	170%	97%
Average decrease	36%	42%
Main cause of increase	Death	Death
Main cause of decrease	Reproduction	Reproduction
Fodder production		
Share of respondents who produce own fodder	95%	28.9%
Most frequently produced fodder	Rhode grass	(Velvet) Bean leaves
Share of respondents who assess their amount fodder production as a sufficient	59.4%	57.6%
Estimated median share of own fodder production among farmers who perceive their production as insufficient	80%	50%
Main cause of insufficient fodder production	Insufficient capacity/resources to grow more	insufficient capacity/resources to grow more
Share of respondents who perceive their knowledge as sufficient or mostly sufficient	94.4%	90.9%
Share of respondents who are able to obtain information they lack	35.7%	46.7%
Share of respondents very and rather satisfied with own fodder production	92.1%	72.7%
Mortality of dairy cattle		
Average number of died pieces of dairy cattle	0.92	0.65

Main causes of death of dairy cattle	Diseases	Diseases
Milk production		
Share of respondents who are members of the cooperative	100.0%	52.6%
Share of respondents who produced milk in 2018	91.9%	68.1%
Share of respondents who produced milk in 2020	94.6%	65.5%
Median production of milk in 2018 (litres)	2 880	1 800
Median production of milk in 2020 (litres)	2 520	1 800
Share of respondents whose milk production increased	56.8%	44.2%
Share of respondents whose milk production decreased	40.5%	34.9%
Average increase	94%	127%
Average decrease	40%	39%
Main cause of increased milk production	A lot of feed and water	Increased number of cattle
Main cause of decreased milk production	Lack of feed or water	Death
Median income in 2018 (USD)	1 285	441
Median income in 2020 (USD)	750	549
Average increase	101%	103%
Average decrease	36%	35%
Main cause of increased income	Increased production	Higher price of milk
Main cause of decreased income	Higher prices	Loss of cattle
Share of respondents who sell more than 90% of milk to MCC	83.8%	62.8%
Machinery renting		
Share of respondents who never rented machinery	68%	90.4%
Reasons behind not renting machinery	Did not know about such possibility	It is too expensive
Quality of life		
Share of respondents who perceive that their quality definitely or rather increased	97.1%	28.9%
Main cause of increased life quality	Better milk production	Improved farming
Main impact of increased life quality	Better nutrition	Children attending school

Annex 7: Evaluation matrix

Evaluation question	Indicators	Data sources	Data collection tools	Data analysis tool
EQ1: To what extent is the project relevant to the strategic objectives of Zambia, the Czech development cooperation and the involved individual actors?	• Objectives of supported project are in line with strategic goals of Zambia • Objectives of supported project are in line with strategic goals of CDC • Objectives of supported project are in line with SDGs • Projects respond to needs of target groups as identified by implementer / partners. • Project implementer / partners have identified relevant needs of target groups.	• Project document, interim, yearly and final reports • Terms of reference of the project • Strategic, sectoral, operational and other relevant documents of Zambia (Vision 2030, National Agriculture Investment Plan, etc.) • Strategic documents of CDC • Strategic documents of other relevant donors in Zambia • SDGs • Implementer and partners of evaluated project\ • Representatives of Embassy of CR to Zambia • Representatives of relevant public governance institutions in Zambia • Other relevant local stakeholders at national and regional level (associations, R&D institutions, etc.) • Target groups / final beneficiaries	• Desk research • IDI • Questionnaire • Focus groups – district level (verification)	• Theory of change analysis • Content analysis • Synthesis
EQ2: Are the project implementation criteria	• Implementation criteria are formulated clearly and comprehensively.	• Project document, interim, yearly and final reports	• Desk research • IDI	• Content analysis • Synthesis

appropriately set?	• Application of implementation criteria is clearly described and verifiable. • Criteria have the capacity to select projects with highest potential to fulfil the formulated objectives of project.	• Terms of reference of the project • Representatives of CzDA • Representatives of Ministry of Foreign Affairs of the CR • Representatives of Embassy of CR to Zambia • Evaluation team experts	• Expert assessment	
EQ3: To what extent have the activities been coordinated with the activities of other donors?	• Synergies with projects / programmes of other donors have been analysed and identified. • Formal and/or informal processes of coordination of donor activities in the sector of agriculture are in place in the target country. • CDC is involved in donor coordination processes in the sector of agriculture in Zambia and / or at regional level. • Evidence of specific outputs or outcomes of coordination is found.	• Project document, interim, yearly and final reports • Strategic documents of other relevant donors in Zambia • Other relevant documents related to donor coordination processes • Implementer and partners of evaluated project • Representatives of CzDA • Representatives of Embassy of CR to Zambia • Representatives of other relevant donors • Representatives of relevant public governance institutions in Zambia	• Desk research • IDI	• Content analysis • Process analysis • Synthesis
EQ4: Which possibilities of cooperation with other donors do the project outputs offer?	• Potential synergies between project outputs and activities of other donors identified. • Good practice gained within the project suitable for upscaling within programmes of other donors identified. • Evidence of specific project outcomes being applied in	• Responses to EQ 3, 7-9 and 11 • Implementer and partners of evaluated project • Representatives of CzDA • Representatives of Embassy of CR to Zambia • Representatives of other relevant donors	• Desk research • IDI • Workshop with project implementers, CzDA and Ministry of Foreign Affairs	• Content analysis • Synthesis

	initiatives of other donors is found. • Follow-up initiatives of other donors directly linked to the project outcomes are identified.			
EQ5: How can be evaluated (on the basis of the available information) the cost-effectiveness of the projects, in particular in terms of overall "value for money"?	• The unit prices of project budget expenditures correspond to the usual prices; • The evaluation team's experts consider the budget items to be relevant to the objectives of project; • Implementers and partners adequately justify budget expenditure items and their volume; • Partners and target groups do not identify any redundant activities or activities that would not lead to the set project objectives; • No inefficiencies are identified in the processes related to project implementation / administration;	• Project document, interim, yearly and final reports • Documents related to financial management of supported project • Implementer and partners of evaluated project • Representatives of CzDA • Representatives of Embassy of CR to Zambia • Representatives of relevant public governance institutions in Zambia • Target groups / final beneficiaries • Evaluation team experts	• Desk research • IDI • Expert assessment • Focus groups – district level (verification)	• Content analysis • Process analysis • Synthesis
EQ6: What are the main factors contributing to the in/effectiveness of project in terms of both process and content?	• Factors that generate gaps in the effectiveness of the project implementation are identified; • Factors and good practices that increase the effectiveness of the project are identified; • Good practices with regard to	• Evaluation findings and conclusions related to EQ 5 • Implementer and partners of evaluated project • Representatives of CzDA • Representatives of Embassy of CR to Zambia • Representatives of relevant public governance institutions	• IDI • Focus groups – district level (verification)	• Comparative analysis • Synthesis

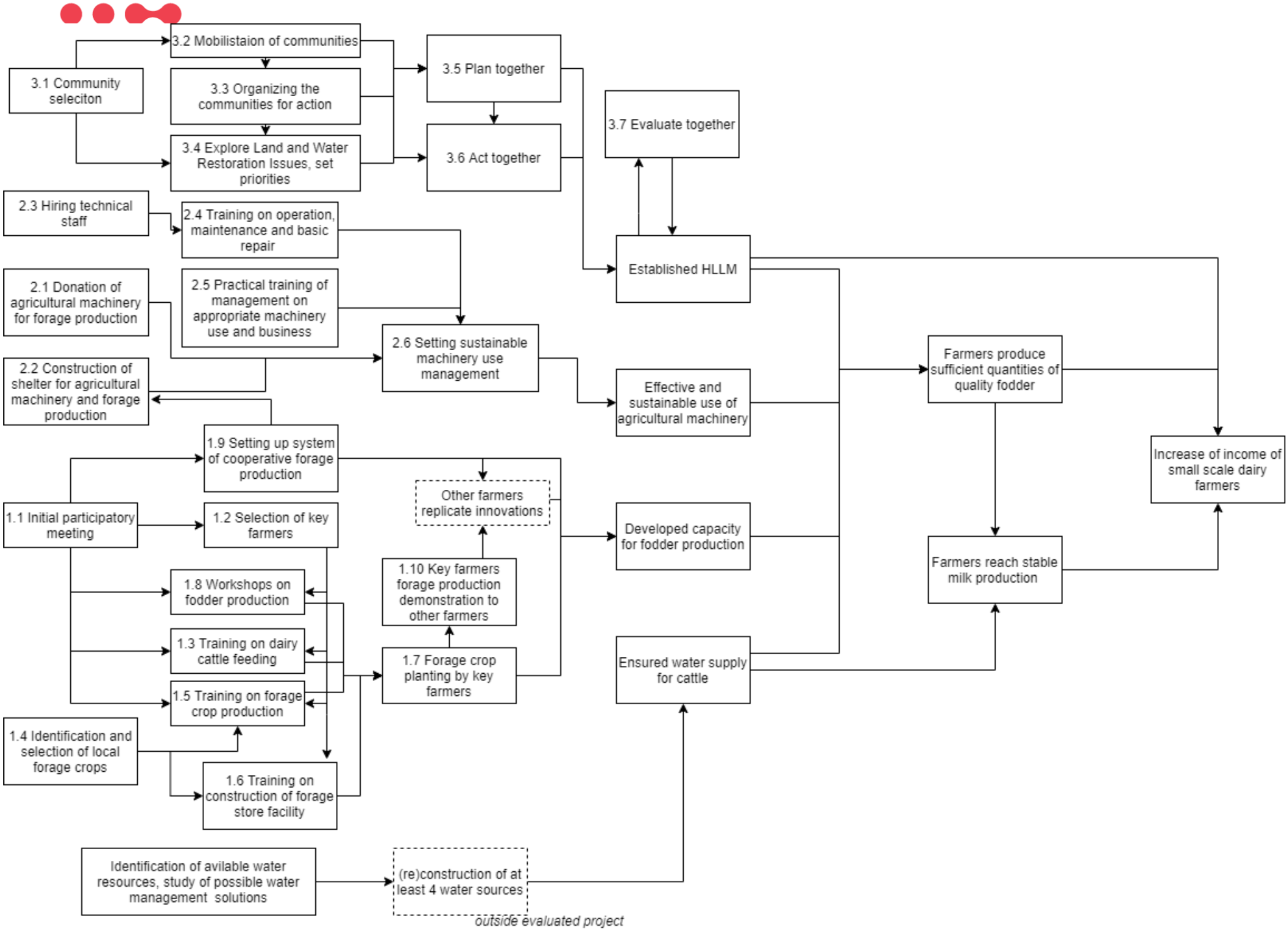
	effectiveness of implementation are identified on the basis of comparation of implementation choices and patterns in supported localities / communities.	in Zambia		
EQ7: To what extent have the planned project outputs been achieved?	• Planned target values on the level of project outputs have been achieved. • Project implementer and partners were able to identify obstacles to achieving project outputs and implemented sufficient measure to overcome them. • Intervention logic of the project (action plan) has sufficiently considered conditions and external factors of achieving planned outputs.	*(common for EQs 7 – 9)* • Project document, interim, yearly and final reports • Project monitoring outputs (Embassy, CzDA) • Implementer and partners of evaluated project • Representatives of relevant public governance institutions in Zambia • Other relevant local stakeholders at national and regional level (associations, R&D institutions, etc.) • Local extension and consultancy services • Representatives of African Centre for Holistic Management • Target groups / final beneficiaries • Representatives of CzDA • Representatives of Embassy of CR to Zambia • Available secondary data sources and statistics collected by local cooperatives	*(common for EQs 7 – 9)* • Desk research • IDI • Focus groups at community level • Focus groups – district level (verification) • Evaluation visit, observation, transect walk • Questionnaire	*(common for EQs 7 – 9)* • Content analysis • Statistical analysis • Theory of change analysis • Comparative analysis • Synthesis
EQ8: To what extent does the project help increase the incomes of small-scale dairy farmers in Zambia?	• Annual average daily milk production has increased by participating farmers. • Incomes of small-scale dairy farmers participating on the project have increased. • Observed change of income of participating farmers is directly attributed to project outcomes, direct causalities are objectively confirmed. • Intervention logic of the project has sufficiently taken into account external factors that positively or negatively			

	affected achieving overall project outcome; appropriate activities mitigating external risks and/or taking advantage of positive externalities have been implemented. • Target groups attribute the observed trend in their overall incomes to project activities and outcomes. • Good practices with regard to increasing the incomes of participating farmers in effect of increasing their fodder production capacities are identified on the basis of comparation of implementation choices and overall approach applied in supported localities / communities.			
EQ9: To what extent does the project lead to increased feed production capacities?	• Participating farmers produce sufficient quantities of quality fodder; • Participating farmers register stable milk production throughout the year, especially during dry period. • No redundant activities that would not contribute to the increase of incomes as whole have been identified. • No activities have been identified whose absence in the project has negatively affected the level of increase			

	of incomes directly caused by the project. • Target groups attribute the capacities of participating farmers in fodder production to project activities.			
EQ10: What are the main development impacts of the projects?	• Respondents observe the success (or lack thereof) of project in meeting its overall objective and justify this view. • Intended impacts on the part of implementers, partners, target groups and other project actors are identified. • Respondents identify unintended impacts of supported project. • Supported project caused a change in behaviour on the part of partners, target groups and/or other involved actors. • Critical mass of implementers (participating farmers) has been reached in analysed communities; this critical mass is sufficient to spread implemented innovations among the majority of non-participated farmers in analysed communities. • Replication of project activities and good practice is observed in communities that were not directly participating in the project.	• Project monitoring outputs (Embassy, CzDA) • Implementer and partners of evaluated project • Representatives of relevant public governance institutions in Zambia – national, province, district level • Other relevant local stakeholders at national and regional level (associations, R&D institutions, etc.) • Representatives of African Centre for Holistic Management • Local extension and consultancy services • Target groups / final beneficiaries • Representatives of CzDA • Representatives of Embassy of CR to Zambia • Available secondary data sources and statistics collected by local cooperatives	• Desk research • IDI • Focus groups at community level • Focus groups – district level (verification) • Evaluation visit, observation, transect walk • Questionnaire	• Content analysis • Statistical analysis • Synthesis
EQ11: Which project	• Exit strategies have been	• Implementer and partners of	• Desk research	• Content analysis

parameters are crucial for its sustainability?	formulated and appropriately implemented in both districts respecting local conditions and specifics. • Participating farmers are able to sustain levels of fodder cultivation and milk production after the termination of direct support. • No major new external factors critically affecting project outcomes have occurred. • Principles of holistic management are sustained and further developed in supported communities after the termination of direct support. • Capacity of structures responsible for sustaining project outcomes (participating cooperatives) is sufficient to ensure sustainability, especially with regard to human resources, level of knowledge and quality of management. • Specific parameters crucial for sustainability of project outcomes are identified on the basis of comparation of implemented exit strategies in supported districts.	evaluated project • Representatives of relevant public governance institutions in Zambia – national, province, district level • Other relevant local stakeholders at national and regional level (associations, R&D institutions, etc.) • Representatives of African Centre for Holistic Management • Local extension and consultancy services • Target groups / final beneficiaries • Representatives of Embassy of CR to Zambia • Available secondary data sources and statistics collected by local cooperatives • Secondary data collected by supported cooperatives / Milk Collection Centres or the African Centre for Holistic Management	• IDI • Focus groups at community level • Focus groups – district level (verification) • Questionnaire	• Statistical analysis • Comparative analysis • Synthesis

Annex 8: Intervention logic visualization


3.2 Mobilistaion of communities
3.1 Community seleciton
3.3 Organizing the communities for action
3.4 Explore Land and Water Restoration Issues, set priorities
3.5 Plan together
3.6 Act together
3.7 Evaluate together
2.3 Hiring technical staff
2.4 Training on operation, maintenance and basic repair
2.1 Donation of agricultural machinery for forage production
2.5 Practical training of management on appropriate machinery use and business
2.6 Setting sustainable machinery use management
2.2 Construction of shelter for agricultural machinery and forage production
Established HLLM
Effective and sustainable use of agricultural machinery
Farmers produce sufficient quantities of quality fodder
Increase of income of small scale dairy farmers
1.9 Setting up system of cooperative forage production
Other farmers replicate innovations
1.1 Initial participatory meeting
1.2 Selection of key farmers
Developed capacity for fodder production
Farmers reach stable milk production
1.8 Workshops on fodder production
1.10 Key farmers forage production demonstration to other farmers
1.3 Training on dairy cattle feeding
1.7 Forage crop planting by key farmers
Ensured water supply for cattle
1.5 Training on forage crop production
1.4 Identification and selection of local forage crops
1.6 Training on construction of forage store facility
Identification of avilable water resources, study of possible water management solutions
(re)construction of at least 4 water sources
outside evaluated project

Annex 9: Additional texts

Outputs and outcomes of project at the end of implementation.

Project has been monitored on numerous occasions by the implementer as well as Embassy or CzDA. All the monitoring activities point to conclusion that project outputs and outcomes have been fulfilled as the quantified target values of formulated indicators have been met. The following findings and conclusions have been made by internal as well as external monitoring.

Outputs:

Output 1: Increased fodder production capacity

All activities under Output 1 were completed as planned. They thus contributed to the achievement of output 1 and the fulfilment of its indicator: new production of feed for cattle for at least 100 ha by target cooperatives / farmers. The following table indicates the total new production:

Table 3: New forage production

Forage production (ha)					New forage production
		2015	2017	2018	
Choma	Cooperative	0	50	5[17]	5
	Individual farmers	99	224	238	139
Monze	Cooperative	0	25	25	25
	Individual farmers	62	132	164	102
Total					271

Source: Final Report of the project

Output 2: Sustainable use of agricultural machinery

Output No. 2 focused on achieving efficient and sustainable use of agricultural machinery for forage production. The goal of the output was formulated as follows: "Machinery is profitable as of 2017".

The cooperatives received agricultural machinery suitable for forage production, mostly in 2015. Cooperatives have taken full responsibility for the management and maintenance of machines, looking for ways to further use the machines in order to stabilize or increase profits. Mechanized services provided by fodder production cooperatives generate income that minimally covers operating and service costs (excluding additional promised spare parts) since 2017, therefore the output indicator has been met, see the table below.

Table 4: Project results

	Choma			Monze		
	2016	2017	2018 (01-04)	2016	2017	2018 (01-04)

[17] A drop in cooperative fodder production was, according to interviews with cooperative representatives as well as field officers of the project team, primarily due to mismanagement and resulting application of wrong agricultural practices. Institutional instability of the cooperative caused that there was no one in the cooperative structure who would assume responsibility of the production and ensure that proper practices are applied in proper time schedule. In effect, cooperative *de facto* ceased its own fodder production – apart from using machinery to mow grass on plots of other cooperative members and keeping a share of the produced hay as in kind payment.

Transfer from the previous year		5544.5	11174.5		16125	915.5
Income from rent	48344.5	69730	23290	61895	9590.5	12650
Own field use (non-financial)	31900	29440	3260	42350	5000	2500
Spare parts and service paid by the cooperative	12320	20300	6600	19970	6000	3000
Repairs paid by the cooperative	3480	11800	14000	13800	6800	12000
Costs of new machines	15000	20000	0	0	0	0
Operator salary	12000	12000	4000	12000	12000	4000
TOTAL EARNINGS	**5544.5**	**11174.5**	**9864.5**	**16125**	**915.5**	**-5434.5**
Spare parts and service paid for by the project	18000	15190	0	16850	9434	0
Repairs paid for by the project	0	0	0	0	1300	15000

Source: Final Report of the project

Output 3: Implemented Holistic Land and Livestock Management in 1 community in each area

In April 2018, 61.3% of the total number of livestock was involved in joint holistic daily grazing, and 37% of the total number of animals in night housing. The pilot phase of the implementation of holistic management lasted from September 2015 to April 2018, the implementation started in August 2016. Target value of the output was to include 60% of the total cattle number in respective localities into HLLM, thus the goal was achieved.

Table 5: Data on HLLM implementation

Cluster	Number of cattle in the whole area	Target number	Number of cattle - daily grazing		Number of cattle - night housing	
			April 2018	%	April 2018	%
Mutandalike cl.	831	250	160	64	50	20
Siakayuwa	599	250	143	57.2	86	34.4
Ben Mulalu	914	250	190	76	95	38
Makala	689	250	157	62.8	101	40.4
Nchema	973	250	130	52	120	48
Tushomane	911	250	140	56	97	38.8
Total	4917	**1500**	**920**	**61.33**	**549**	**36.6**

Source: Final Report of the project

As for Output 4, sufficient number of water sources were identified by the subcontractor of the project team, Geotest s. r. o. However, construction of these water sources was not a part of this project.

Outcomes

Project has defined two following outcomes. Neither of these indicators is, however, sufficiently operationalized. Most importantly, it is not defined, what is understood as "sufficient volume" and as "stable production".

1. **75% of 200 farmers produce sufficient volume of quality fodder for their animals**.

Regarding the first indicator, implementer weighs three factors. Firstly, the share of farmers who produce fodder for their cattle on their own. This share has, according to the project monitoring, increased to 79% in 2017 (in 2015 this share reached only 29%). Secondly, implementer points out that at least 75% of involved farmers produce milk also in the dry season – and having sufficient volume of fodder is a necessary prerequisite for production of milk in dry season. According to data shown in table below, no more than ca 40% farmers did produce milk in the dry season at the beginning of the project. Last but not least, internal monitoring found out

that at least 62% of involved farmers (124) provide appropriate fodder to their cattle with respect to its composition. On this basis, it is concluded that the first outcome was reached.

2. **Stable milk production for at least 60% of farmers.**

Stability of milk production is operationalized by the following indicators:

- Producing milk in dry season
- Trend of ratio of milk production during wet and dry season.

Milk production is deemed as stable if farmer produces milk in dry season and the volume of milk produced in dry season does increase relatively to volumes produced in wet season. Data on these two sub-indicators are provided in the following table:

Table 6: Outcomes of HLLM

Year	Dry season (September - December)				Rainy season (Jan. - March)	
	Average daily milk production per cow	Average daily milk production per farmer	Animals killed due to poor management	Number of farmers producing milk in the dry season	Average daily milk production per cow	Average daily milk production per farmer
2015/2016	1.7	8.5	4	78	6.5	32.5
2016/2017	2.9	14.5	3	137	7	35
2017/2018	4.3	21.5	1	149	8	40

Source: Final Report of the project

As the table above shows, 74.5% of farmers also produce milk during 2017 dry season and the ratio of production during the rainy and dry periods decreased from 3.8 to 1.8. Second goal at the level of outcomes has therefore been also reached, according to data collected by the implementer.

These conclusions have been confirmed by independent monitoring performed by CzDA and the Embassy. The monitoring report from 2018 confirms that all goals have been fulfilled on the level of qualitative assessment as well as quantitative results. It further states the following:

- **Forage production by individual farmers:** no shortcomings were found. The involved farmers on their farms implement the knowledge they gained during the training, not only for the actual production of fodder, but also for example to increase the quality and hygiene of milk. The increase in the quality of milk supplied is also confirmed by the representatives of cooperatives, stating that the evaluation of milk quality increased from a score of B in 2017 to a score of A in 2018.
- **Fodder production by cooperatives:** the Monze cooperative is more successful in fodder production than the Choma cooperative, which did not harvest a single package from the cooperative field last year, but buys fodder from individual farmers for further sale. This year (2018), however, the fodder was sown again by both cooperatives, albeit on different areas (Choma only 5 ha, Monze 25 ha).
- **Management and rental of agricultural machinery:** the cooperative in Monze has greater shortcomings in the management of mechanization than the cooperative in Choma. Although both cooperatives have an approved business plan for the use of machines, they have not yet started to implement it in Monze, they do not advertise the possibility of renting equipment and it takes them a disproportionately long time to repair broken machines. Cooperative in Choma, on the other hand, manages the delivered equipment more successfully - with the help of a loan they bought two new accessories, promptly responded to the need for repairs, advertised the possibility of renting on the radio and regularly performed maintenance.
- **Holistic landscape management:** even if farmers know and see with their own eyes the positive benefits of common grazing and night housing, it is difficult to get them to change their traditional ideas and change their behaviour. Less problematic is the common grazing of the day, which farmers

and their cattle participate more willingly, persuading them to live together at night is difficult, especially due to persistent stereotypes and ideas, long distances and the need to milk cows early in the morning. The solution may be to 1) reduce clusters from whole communities to neighbourhoods; 2) increase in the number of enclosures in individual clusters; 3) greater involvement of traditional structures and government extension officers in overseeing implementation, and 4) further continuation of the project in the communities concerned. It should be noted that the benefits of holistic landscape management go beyond the benefit of the individual, who still benefits from participating in HLLM in several ways (improving livestock health, reducing labour requirements, increasing the productivity of impacted fields); Community-wide HLLM contributes to the sustainable management of natural resources, landscape restoration, reduces the effects of desertification and contributes to community cohesion and the peaceful resolution of disputes.

Short description of activities of other donors

- **Stichting Nederlandse Vrijwilligers** (hereafter SNV),), implementing activities supported by GIZ in the time of the implementation of evaluated CDC project in both districts (Choma and Monze). Activities of SNV were fairly similar to those of CDC project, namely supporting an increase of milk production by implementing and strengthening of better farming practices, including (and most importantly) fodder production and storage for dry season. SNV activities in this regard put higher emphasis on the cooperatives/MCC which were supposed to be the main drivers of change at the level of small-scale farmers. Besides activities directly linked to fodder production, SNV put focus on strengthening the governance of cooperatives overall. Delivery of machinery, on the other hand, was not a part of the SNV project. Currently, SNV implements another project / programme in the target region with the support of SIDA, which is also focused (among other) on dairy sector and again puts emphasis on cooperatives / MCC as the key drivers of change in the region.
- **GIZ** continues supporting the dairy sector in Zambia in general with a complex and comprehensive approach and is considered by other stakeholders to be the key actor in this sector. The approach of GIZ focuses on the dairy value chain as whole and aims at increasing the farmers' milk production as well as quality and on strengthening their climate resilience. In the field GIZ projects focus on introduction of small-scale innovations regarding animal husbandry practices, milk hygiene, nutrition or breeding as well as promotion of access to financial services. Cooperatives play again a key role in accessing farmers in this programme.
- **AgriTerra** is a professional cooperatives and farmers organization from Netherlands that implements its own programme in Zambia. It is exclusively concerned with development of capacities of cooperatives – their institutional development, business development, access to market, etc. It has been providing its services to Choma dairy union during the time of implementation of CDC project.
- **World Vision** aiming primarily at food security (through support to agriculture), water and sanitation, etc.

There is a number of other stakeholders that are active in this sector and have been mentioned by some respondents of interviews. These include, among others, the Enhanced Smallholder Livestock Investment Programme by IFAD, business entities, such as milk off-takers, sellers of agricultural inputs (seeds, fertilizers, etc.) or research institutes that have historically cooperated with local farmers / cooperatives (such as GART). Also, the governmental structure of extension services (District offices of MoA, field extension officers) is relevant in this regard.

Annex 10: Scripts of IDI and FGD

Representatives of implementer / partners

Identifikace

- Odkud přišla iniciativa realizovat projekt? Šlo o iniciativu partnera projektu, nebo vaši?
- Na jakém základě byly definovány cíle a zaměření projektu?
    - Jak jste identifikovali a analyzovali potřeby cílových skupin?
    - Byly reflektovány relevantní rozvojové strategie, jak na straně Česka, tak Zambie?
- Co jste od projektu a jeho aktivit očekávali – ve vztahu k cílovými skupinám i obecněji v co se týče rozvoje venkova v cílové zemi?

Cíle a potřeby

- Na jakém základě byly definovány cíle a zaměření projektu?
    - Jak jste identifikovali a analyzovali potřeby cílových skupin? (*Realizovala se nějaká vstupní analýza potřeb cílové skupiny?*)
    - Zohledňovali jste při formulaci relevantní rozvojové strategie, jak na straně Česka, tak Zambie? Jak?
- Z jakého důvodu jste se rozhodli projekt realizovat ve dvou lokalitách? Proč právě tyto lokality, na základě, čeho jste je vybrali?
- Když zpětně můžete zaměření projektu, jakým potřebám cílové skupiny projekt nevěnoval dostatečnou pozornost?

Efektivita

- Jak hodnotíte finanční efektivitu projektu? Pozorujete, že v některých oblastech mohl být projekt efektivnější (např. vyšší využití lokálních kapacit atd.)?
- Jak byste celkově ohodnotil/a poměr mezi přínosy projektu a celkovými výdaji? Jsou nějaké výdaje, které zpětně vnímáte jako nadbytečné nebo nepřinesly efekt, se kterým jste počítali?
- Naopak, jaké výdaje na aktivity projektu vnímáte zpětně jako spíše finančně podhodnocené? Jak tato skutečnost, ovlivnila efektivitu projektu?
- Jak hodnotíte efektivitu řízení a administrace projektu?
    - Existovaly nějaké překážky, které bránily plynulé realizaci projektu?
    - Souvisejí zmíněné překážky se zapojením či nezapojením dalších donorů?
    - Naopak, jsou nějaké faktory, které se zlepšovaly efektivitu řízení realizace projektu?
- Probíhala realizace (co se týče efektivity řízení) projektu v obou lokalitách obdobným způsobem? Nebo probíhal v některé z lokalit probíhal efektivněji?
    - Co bylo příčinou rozdílné efektivity realizace?
- V čem se realizace projektu odlišovala od plánu, který jste formulovali v projektové dokumentaci? Co vás překvapilo (a proč vás to překvapilo) a jak jste na to reagovali? S jakými nepředvídatelnými obtížemi jste se při realizaci projektu setkali?

Spolupráce a synergie

- Koordinovali jste své aktivity s jinými donory? Pokud ano:
    - Kdo a jak spolupráci inicioval?
    - Docházelo k nějaké „dělbě práce“ s jinými donory / institucemi, nebo spíše šlo jen o výměnu zkušeností? Pokud ano, jak to ovlivnilo váš původní projektový plán?
    - V čem spatřujete přínos této spolupráce a v čem naopak slabé stránky?
- Domníváte se, potenciál synergie s jinými donory byl ve vašem projektu dostatečně využit?
    - Pokud ne, kde spatřujete příčinu? Jaké překážky intenzivnější spolupráce s jinými donory a institucemi obecně vnímáte?

  - V čem konkrétně by se, dle Vašeho názoru, přínosy a dopady Vašeho projektu posílily, pokud by byla spolupráce s jinými donory a institucemi intenzivnější?
- Lze nějaké postupy realizace Vašeho projektu použít jako příklady dobré praxe pro realizaci projektů dalších donorů? A děje se to, podle vašich informací? (Máte povědomí o tom, že na výsledky projektu navazovala realizace dalších projektů s podporou jiných donorů?)

Efektivnost, dosažení cílů

- Jak osobně hodnotíte dosažení cílů projektu? Dosáhl projekt očekávání a cílů, které jste plánovali?
- Ve kterých oblastech se domníváte, že projekt nenaplnil očekávání, která jste do něj vkládali?
  - Co bylo příčinou? Samotná logika projektu nefungovala přesně tak, jak jste předpokládali (projekt se například nevěnoval konkrétní aktivitě, která se ukázala jako klíčová pro úspěch)? Nebyly dostatečně zahrnuty externí faktory? Nebo se objevily nové externí vlivy, se kterými jste nepočítali?
  - Jakým způsobem jste se snažili o tyto překážky a omezení řešit?
  - Setkali jste se s překážkami implementace, jejichž vliv nebylo možné v rámci projektu překonat? Domníváte se, že s takovými překážkami byste se setkali i u dalších zemědělských projektů v Zambii?
- Jak obecně hodnotíte platnost „teorie změny“, se kterou jste při plánování projektu počítali (tedy kauzální vztah mezi realizovanými aktivitami a cíli, kterých chcete dosáhnout)? Naplánovali byste dnes projekt jinak? V čem konkrétně?
  - Domníváte se, že byly nějaké postupy či aktivity mohly být nadbytečné? Jinými slovy, byly součástí projekty takové aktivity, které neměly vliv, či jen marginální, na dosahování cílů? Proč?
  - Ukázaly se naopak nějaké aktivity, které mohly zvýšit pozitivní dopady projektu? Z jakého důvodu jste je neimplementovali do akčního plánu projektu?

Dopady

- V čem konkrétně, jakým mechanismem, projekt přispěl ke zvýšení produkce mléka a ke zvýšení příjmů farmářů? Co z projektových aktivit a případně dalších faktorů se, dle Vaší zkušenosti, ukázalo jako klíčové v tomto směru?
- Naopak, jaké faktory a vlivy dopady projektu omezovaly v tomto smyslu omezovaly, pokud nějaké pozorujete (tedy: domníváte se, že za určitých podmínek mohlo být zvýšení produkce mléka a příjmů ještě vyšší?)?
- Odlišovaly se výsledky projektu ve vztahu ke zvyšování produkce mléka a příjmů farmářů v obou lokalitách?
  - Pokud ano, co považujete za rozhodující faktor, který odlišné působení projektu vysvětluje? (viz předchozí otázka)

- Lze tyto výsledky srovnat s jinými oblastmi? Došlo k navýšení příjmů jen u podpořených farmářů a v podpořených lokalitách, nebo to vnímáte jako obecnější trend?
- Do jaké míry považujete aktivity projektu za „replikovatelné“? Mohl by projekt podobně fungovat i v jiných lokalitách, nebo v čem by případně musel být upravován?
- Víte o tom, že by docházelo k rozšíření inovací i mezi farmáře, kteří do projektu zapojeni nebyli, případně do jiných komunit?
  - Jaké případně pozorujete překážky takového rozšiřování inovací?
- Postřehl/a jste, že způsoby práce, které farmáři v rámci projektu adoptovali, jsou již praktikovány v územích, na které se projekt nebyl zaměřen?
  - V jakém časovém úseku došlo k rozšíření naučených způsobů práce?

- Jsou v jiných územích získané poznatky identické? Nebo naopak jsou např. přizpůsobovány lokálním podmínkám?

Celkové hodnocení

- Které dopady projektu považujete za nejvýznamnější? Které z krátkodobého a které naopak z dlouhodobého pohledu?
- Co považujete obecně za největší úspěch projektů? A co je naopak největší zklamání?
- Zaznamenali jste nějaké negativní dopady? Jak jste se poučili?
- Vnímáte, že projekt nějakým způsobem změnil zažité pracovní návyky cílových skupin a partnerů projektu? Jak?

Udržitelnost, odchod realizátora

- Jakým způsobem jste plánovali a provedli předání výstupů a samotný „odchod“ z podpořených lokalit tak, aby výsledky projektu zůstaly zachovány a případně se dále rozvíjely?
- Lišily se tyto „strategie odchodu“ v obou lokalitách? Jak a proč?
- Provedli byste dnes tento „odchod“ a předání v něčem jinak? Co se při předávání a odchodu ukázalo jako klíčové pro udržení výsledků a co bylo případně nadbytečné?
- Jsou lokální instituce, které převzaly zodpovědnost za udržení (kooperativy) dostatečně silné, zkušené atd.? Případně v čem ne a jak to ovlivňuje udržitelnost? Bylo možné při realizaci projektu udělat něco jinak ve prospěch posílení těchto institucí, a tedy udržitelnosti?
- Jsou farmáři schopni po ukončení projektu dlouhodobě udržovat nebo případně dále zvyšovat produkci krmiv a mléka? Co se v tomto ohledu, dle Vaší zkušenosti, projevilo jako klíčové.
- Lze pozorovat nějaké rozdíly v udržitelnosti? Ať již na geografické úrovni, či z pohledu řízení?
- Dochází, dle vašich informací, k udržení principů holistického zemědělství i po ukončení projektu? Proč ano nebo proč ne?
- Jaké jsou, dle vaší zkušenosti, dnes nejzásadnější hrozby a překážky pro udržitelnost výsledků projektu?

IDI - Representatives of contracting authority

Identifikace

- Odkud přišla iniciativa realizovat projekt? Jaká byla geneze projektu?
- Na jakém základě byly definovány cíle a zaměření projektu?
    - Jak jste identifikovali a analyzovali potřeby cílových skupin?
    - Byly reflektovány relevantní rozvojové strategie, jak na straně Česka, tak Zambie?
- Co jste od projektu a jeho aktivit očekávali – ve vztahu k cílovými skupinám i obecněji v co se týče rozvoje venkova v cílové zemi?
- Proč jste se rozhodli projekt realizovat formou veřejné zakázky?

Cíle a potřeby

- Na jakém základě byly definovány cíle a zaměření projektu?
    - Jak jste identifikovali a analyzovali potřeby cílových skupin? (*Realizovala se nějaká vstupní analýza potřeb cílové skupiny?*)
    - Zohledňovali jste při formulaci relevantní rozvojové strategie, jak na straně Česka, tak Zambie? Jak?
- Z jakého důvodu jste se rozhodli projekt realizovat ve dvou lokalitách? Proč právě tyto lokality, na základě čeho jste je vybrali?
- Když zpětně můžete zaměření projektu, pozorujete, že některým potřebám cílové skupiny projekt nevěnoval dostatečnou pozornost?

Efektivita

- Jak hodnotíte finanční efektivitu projektu? Pozorujete, že v některých oblastech mohl být projekt efektivnější (např. vyšší využití lokálních kapacit atd.)?
- Jak byste celkově ohodnotil/a poměr mezi přínosy projektu a celkovými výdaji? Jsou nějaké výdaje, o kterých se domníváte, že byly nadbytečné nebo nepřinesly efekt, se kterým jste počítali?
- Naopak, jaké výdaje na aktivity projektu vnímáte jako spíše finančně podhodnocené? Jak tato skutečnost, ovlivnila efektivitu projektu?
- Jak hodnotíte efektivitu řízení a administrace projektu – na straně realizátora i ČRA?
    - Existovaly nějaké překážky, které bránily plynulé realizaci projektu?
    - Souvisejí zmíněné překážky se zapojením či nezapojením dalších donorů?
    - Naopak, jsou nějaké faktory, které se zlepšovaly efektivitu řízení realizace projektu?
- Pozorujete, že implementace projektu probíhala (co se týče efektivity řízení) v obou lokalitách obdobným způsobem? Nebo probíhal v některé z lokalit probíhal efektivněji?
    - Co bylo příčinou rozdílné efektivity realizace?
- V čem se realizace projektu, z Vašeho pohledu, odlišovala od plánu, který jste formulovali v projektové dokumentaci? Co vás překvapilo (a proč vás to překvapilo) a jak jste na to reagovali? Zaznamenali jste, že implementace projektu musela čelit nějakým nepředvídaným obtížím?

Spolupráce a synergie

- Byly aktivity projektu koordinovány s jinými donory, a to zejména při jeho identifikaci a plánování? Pokud ano:
    - Kdo a jak spolupráci inicioval?
    - V čem jste spatřovali přínos této spolupráce a pozorovali jste také nějaká omezení nebo hrozby plynoucí z takové spolupráce? Pokud ano, jak jste řídili / předcházeli?
- Domníváte se, potenciál synergie s jinými donory byl v projektu dostatečně využit?

  - Pokud ne, kde spatřujete příčinu? Jaké překážky intenzivnější spolupráce s jinými donory a institucemi obecně vnímáte?
  - V čem konkrétně by se, dle Vašeho názoru, přínosy a dopady projektu posílily, pokud by byla spolupráce s jinými donory a institucemi intenzivnější?
- Lze nějaké postupy realizace Vašeho projektu použít jako příklady dobré praxe pro realizaci projektů dalších donorů? A děje se to, podle vašich informací? (Máte povědomí o tom, že na výsledky projektu navazovala realizace dalších projektů s podporou jiných donorů?)

Efektivnost, dosažení cílů

- Jak osobně hodnotíte dosažení cílů projektu? Dosáhl projekt očekávání a cílů, které jste plánovali?
- Ve kterých oblastech se domníváte, že projekt nenaplnil očekávání, která jste do něj vkládali?
  - Co bylo příčinou? Samotná logika projektu nefungovala přesně tak, jak jste předpokládali (projekt se například nevěnoval konkrétní aktivitě, která se ukázala jako klíčová pro úspěch)? Nebyly dostatečně zahrnuty externí faktory? Nebo se objevily nové externí vlivy, se kterými jste nepočítali?
  - Jakým způsobem jste se snažili o tyto překážky a omezení řešit?
  - Setkali jste se s překážkami implementace, jejichž vliv nebylo možné v rámci projektu překonat? Domníváte se, že s takovými překážkami byste se setkali i u dalších zemědělských projektů v Zambii?
- Jak obecně hodnotíte platnost „teorie změny“, se kterou jste při plánování projektu počítali (tedy kauzální vztah mezi realizovanými aktivitami a cíli, kterých chcete dosáhnout)? Naplánovali byste dnes projekt jinak? V čem konkrétně?
  - Domníváte se, že byly nějaké postupy či aktivity mohly být nadbytečné? Jinými slovy, byly součástí projekty takové aktivity, které neměly vliv, či jen marginální, na dosahování cílů? Proč?
  - Ukázaly se naopak nějaké aktivity, které mohly zvýšit pozitivní dopady projektu? Z jakého důvodu jste je neimplementovali do akčního plánu projektu?

Dopady

- V čem konkrétně, jakým mechanismem, projekt z Vašeho pohledu přispěl ke zvýšení produkce mléka a ke zvýšení příjmů farmářů? Co z projektových aktivit a případně dalších faktorů se, dle Vaší zkušenosti, ukázalo jako klíčové v tomto směru?
- Domníváte se, že za určitých podmínek mohlo být zvýšení produkce mléka a příjmů ještě vyšší? Jaké faktory omezily nebo zabránily dosáhnout ještě lepších výsledků / dopadů?
- Pozoroval jste, že by se výsledky projektu ve vztahu ke zvyšování produkce mléka a příjmů farmářů v obou lokalitách v něčem odlišovaly?
  - Pokud ano, co považujete za rozhodující faktor, který odlišné působení projektu vysvětluje? (viz předchozí otázka)
- Lze tyto výsledky srovnat s jinými oblastmi? Došlo k navýšení příjmů jen u podpořených farmářů a v podpořených lokalitách, nebo to vnímáte jako obecnější trend?
- Do jaké míry považujete aktivity projektu za „replikovatelné“? Mohl by projekt podobně fungovat i v jiných lokalitách, nebo v čem by případně musel být upravován?
- Víte o tom, že by docházelo k rozšíření inovací i mezi farmáře, kteří do projektu zapojeni nebyli, případně do jiných komunit?
  - Jaké případně pozorujete překážky takového rozšiřování inovací?
- Postřehl/a jste, že způsoby práce, které farmáři v rámci projektu adoptovali, jsou již praktikovány v územích, na které se projekt nebyl zaměřen?
  - V jakém časovém úseku došlo k rozšíření naučených způsobů práce?

- Jsou v jiných územích získané poznatky identické? Nebo naopak jsou např. přizpůsobovány lokálním podmínkám?

Celkové hodnocení

- Které dopady projektu považujete za nejvýznamnější? Které z krátkodobého a které naopak z dlouhodobého pohledu?
- Co považujete obecně za největší úspěch projektů? A co je naopak největší zklamání?
- Zaznamenali jste nějaké negativní dopady? Jak jste se poučili?
- Vnímáte, že projekt nějakým způsobem změnil zažité pracovní návyky cílových skupin a partnerů projektu? Jak?

Udržitelnost, odchod realizátora

- Jakým způsobem měl být, dle vašeho plánu, realizován samotný „odchod“ realizátora z podpořených lokalit tak, aby výsledky projektu zůstaly zachovány a případně se dále rozvíjely?
- Bylo nutné v obou lokalitách tyto strategie nějak upravovat – odlišovaly se? Jak a proč?
- Co se, dle Vaší zkušenosti, při předávání a odchodu ukázalo jako klíčové pro udržení výsledků a co bylo případně nadbytečné? Plánovali byste dnes tento exit nějak jinak?
- Jsou, dle Vaší zkušenosti, lokální instituce, které převzaly zodpovědnost za udržení (kooperativy) dostatečně silné, zkušené atd.? Případně v čem ne a jak to ovlivňuje udržitelnost? Bylo možné při realizaci projektu udělat něco jinak ve prospěch posílení těchto institucí, a tedy udržitelnosti?
- Jsou farmáři schopni po ukončení projektu dlouhodobě udržovat nebo případně dále zvyšovat produkci krmiv a mléka? Co se v tomto ohledu, dle Vaší zkušenosti, projevilo jako klíčové.
- Lze pozorovat nějaké rozdíly v udržitelnosti? Ať již na geografické úrovni, či z pohledu řízení?
- Dochází, dle vašich informací, k udržení principů holistického zemědělství i po ukončení projektu? Proč ano nebo proč ne?
- Jaké jsou, dle vaší zkušenosti, dnes nejzásadnější hrozby a překážky pro udržitelnost výsledků projektu?

IDI – representative of Embassy

1. Co se z Vašeho pohledu v projektu povedlo, co považujete za dobrou praxi
2. Co naopak úspěšné nebylo a proč?
3. Jakou máte zpětnou vazbu ve vztahu k hodnocenému projektu se státních institucí na různých úrovních? Do jaké míry ministerstva na centrální úrovni vnímají český projekt a jeho dopady?
4. Jak ze zpětného pohledu hodnotíte to, jak projekt reflektoval potřeby cílových skupin? Pozorujete například, že se nevěnoval některým důležitým potřebám? Jak to projekt ovlivnilo?
5. Jak efektivní byla, ze zpětného pohledu, implementace projektu? Pozorujete, že v některých oblastech mohl být efektivnější co se týče nákladů a přínosů?
6. Jsou některé výdaje, o nichž se zpětně domníváte, že byly nadbytečné?
7. Byly naopak některé výdaje podhodnocené?
8. V čem spočívá, dle Vašeho názoru, přidaná hodnota českých expertů?
9. Které ze svých cílů projekt, při pohledu zpět, splnil a jsou některé, jejichž naplnění se nepotvrdilo? Proč?
10. Jak dobře fungovala logika projektu, vedly aktivity skutečně bezprostředně k cíli?
11. Upravovala se nějak logika projektu v následných projektech – jiný sled a význam aktivit, některé aktivity nebyly implementovány, a naopak byly zavedeny nové aktivity? Jak se obecně praxe s logikou fungování projektu projevila v následných projektech?
12. Co vše mělo vliv na zvýšení dojivosti a lepší fyzickou kondici zvířat v projektovém regionu? Jak významné jsou v tomto smyslu projektové aktivity?
13. Domníváte se, že za určitých podmínek mohlo být zvýšení produkce mléka a příjmů ještě vyšší? Jaké faktory omezily nebo zabránily dosáhnout ještě lepších výsledků / dopadů?
14. Odlišují se dopady v jednotlivých projektových lokalitách? Jaké jsou příčiny.
15. Monitorujete nějak další pokračování projektu? Pokud ano:
    a. Lze pozorovat, že změna způsobu hospodaření byla u farmářů trvalá, nebo se postupně vytrácí? CO je případně příčinou?
    b. Jak je to s technikou? Je využívaná? Kým?
    c. Zaznamenáváte, že změny v hospodaření zavádějí i farmáři, kteří nebyli součástí projektu? Je příčinou nápodoba podpořených farmářů? Za jakých podmínek k této nápodobě dochází a kdy ne?
16. Jak hodnotíte složku HLLM v projektu? Jde o dobrou praxi, kterou využíváte i v nových projektech? Nebo to byla spíš slepá ulička? Proč?
17. Považujete kooperativy za vhodné instituce k zajištění udržitelnosti projektu? Proč ano nebo ne? Co kooperativy skutečně motivuje k tomu, aby pomáhaly farmářům zvyšovat kvantitu produkce?
18. Jsou kooperativy skutečně schopny podporovat i zvyšování kvality? Nebo by to pro ně mohlo být nebezpečné (vyšší kvalita mléka = větší možnosti výkupu)?
19. Spolupracujete na podpoře farmářů s dalšími organizacemi? Jak tato spolupráce probíhá a na jaké úrovni – ad-hoc v projektovém regionu mezi field officers, koordinace mezi realizátory nebo koordinace na úrovni donorů? Jaká je v tom role ambasády?
20. Účastníte se nějakých koordinačních platforem?
21. S jakými donory v daném sektoru spolupracujete? Jak tuto spolupráci hodnotíte? Přínosy vs. omezení?
22. Máte pocit, že v projektu i návazných projektech je plně využito synergií s dalšími donory?
23. Mají jiní donoři zájem o dobrou praxi, která v projektu vznikla? Pozorujete, že by se pokoušeli aplikovat podobné přístupy, chodí si k vám „pro rady“?
24. Jak byste projekt celkově zhodnotil?
25. Jak projekt celkově ovlivnil další aktivity v sektoru v Zambii?
26. CO by se mělo příště udělat lépe?

IDI with representatives of public institutions in Zambia (national)

Introduction:

1. Please describe your position and tasks with regard to dairy sector in Zambia.

General assessment

2. Are you aware of the Czech Development Cooperation project supporting local dairy farmers in region South?
3. If yes, please ask the following:
    a. Are you aware how the project was initiated?
    b. What were your personal expectations regarding the project?
    c. Give us please your general assessment of the project and general approach of the project staff to the issue of increasing milk production by local farmers
    d. How do you assess management of the project and communication with institutions and other key stakeholders? What could have been done better in this field?
    e. How do you assess the effectiveness of the project / approach of CDC? Did you observe any deficits in effectiveness (e.g. costs that were not entirely essential, ineffective use of available funds, insufficient utilization of local resources, etc.)?
    f. In general, are you rather satisfied or dissatisfied with the project and its activities?
4. To what extent is the support of CDC in dairy sector in Zambia in line with strategic goals of your country in this sector? In which aspects was the support not fully aligned, if you observed any?

Relevance to needs

5. What are, from your experience, the most significant barriers for local farmers to increase their milk production, especially during dry season?
6. If it was your decision, what kind of activities would you implement in order to increase the milk production and/or quality of local farmers, especially during dry season?
7. What are, more generally, the barriers of local farmers to increasing their incomes and quality of their lives?

3. Who provides farmers with support in growing / processing their own fodder? What kind of support is available to the farmers?
4. What is the role of district cooperatives / Milk Collection Centre in provision of support to farmers in growing their own fodder?

5. From your point of view, is the cooperative / Milk Collection Centre in your district motivated to support farmers in increasing the quantity and quality of their milk production?

Other donors

6. What other donors or institutions were or are active in the region who are also aimed at raising the milk production especially in dry season?
7. Please compare Czech project to the approach of other donors: what did Czech project do better, what did they do worse?
8. Did you observe effective coordination or cooperation between donors and Czech project? Please elaborate – why do you see the coordination as effective or ineffective? What should have been done better in this regard?
9. Was there any duplication of activities of Czech project and other donors observed? What was the impact – positive, negative…? How was this solved?
10. Would you say that the potential synergies were sufficiently taken advantage of? Why yes or no?
11. Whose role is it to coordinate donors in this sector in general? What is the role of your institution in this regard?

HLLM

12. Are you aware of introduction of holistic management in some villages within the project? If yes, please give us detailed feedback.

Impacts in general

13. What kind of direct impacts of Czech support have you observed? What did change by the supported farmers in direct effect of the project?

14. Have you observed any indirect impacts of Czech support?
    a. Impacts at the level of communities
    b. Impacts of implementation of HLLM in supported communities

15. Were there any unintended impacts? Something that surprised you both positively and negatively?

16. Do you have any closing remarks?

IDI with representatives of other donors and NNOs

1. Please describe shortly your organization and your activities with regard to (small) farmers in Zambia / project region (region South).

Assessment, cooperation, synergies

2. Please describe whether you are aware of Czech support provided to dairy farmers in Choma and Monze districts in 2015 – 2018 and also the level of your coordination / cooperation, if any.
3. Give us please your general assessment of the Czech project and general approach of the project staff to the issue of increasing milk production by local farmers, if you feel you are sufficiently informed.
    i. *Were the activities well planned and necessary from your point of view?*
    ii. *Were there any activities that were not really useful or even redundant?*
    iii. *On the contrary, was something important missing in the project?*
    iv. *What could have been a better approach from your point of view?*
    v. *Compare to other donors, government's actions or your own activities. What did the Czech project do better, what did they do worse from your point of view?*

4. Please give us details regarding your cooperation (IF ANY) with Czech project or Czech ODA in Zambia more generally:
    a. Who and how did initiate communication?
    b. Did you coordinate your activities (informed each other, exchange experience) or did you actually cooperate? (e.g. divided work in the project region, exchange experts, take advantage of each other's trainings, share costs of inputs, etc.)
    c. Would you say that the potential of cooperation with Czech project was sufficiently taken advantage of in your activities? If not, what was the cause?
    d. How did you benefit from the cooperation, if any was taking place?

5. Are there any lessons learned for you from your cooperation with Czech projects? Good practice as well as practice to be avoided?

Needs of farmers, barriers

6. What are, from your experience, the most significant barriers for local farmers to increase their milk production, especially during dry season?

7. If it was your decision, what kind of activities would you implement in order to increase the milk production and/or quality of local farmers, especially during dry season?

8. What are, more generally, the barriers on the part of local farmers to increasing their incomes and quality of their lives?

9. What kind of support would, from your point of view, have to be provided in order to significantly increase the number of farmers who grow their own fodder and process / store it for dry season?

Role of cooperatives, exit strategy

10. Who provides farmers with support in growing / processing their own fodder? What kind of support is available to the farmers?

11. What is, from your experience, the role of cooperatives / Milk Collection Centres in provision extension services to farmers in growing their own fodder?
    i. What kind of services do cooperatives / MCCs provide?

ii. What is their motivation to provide farmers with these services?
iii. What is your assessment of the efficiency and effectiveness of cooperatives providing extension services?

12. Who is, from your point of view, the most appropriate organization to take over project activities aimed at strengthening farmers in their own production of fodder? Why?

13. What are, from your point of view, advantages and disadvantages in getting the cooperatives involved at this stage (i.e. when handing over project outputs / outcomes to local authorities)? What should be their role in this regard?

Final assessment

14. What are, from your point of view, the best available practices when aiming to raise the milk production and/or its quality by small farmers in Zambia?

15. What are the obstacles and barriers to these approaches? What does a donor or implementer need to take into account in order to be effective in these objectives?

16. What would your advice for a donor or implementer entering this sector?

IDI with local officers of project partner

Introduction

- How did you get involved in the project?
- What were your responsibilities and tasks?
- What were your initial expectations when entering the project – with regard to target groups or rural development in Zambian context in general?

Objectives, needs

- How did you assess the formulated objectives of the project?
- Do you feel that the needs of target groups, as you know them, were in line with how the project understood them?
    - If not, what was missing? Any needs / context that is relevant in the scope of this project, but was not sufficiently taken into account?
- If you look back on the analysis of target groups needs know, having experience from implementation, do you see any gaps in how the needs were analysed, was anything of substance overlooked? Were you asked today to identify needs of target groups in the field of cattle husbandry, would you do it differently?

Efficiency

- How would you assess the ratio between benefits and total costs of the project? Were there any expenses that you, in hindsight, see as redundant or not bringing the effect you hoped for?
- On the contrary, are there any expenses on project activities which you, in hindsight, see as financially unsatisfactory? How did it affect the efficiency of the project?
- What was, from your point of view, the added value of the involvement of Czech experts?
- How do you, from your point of view, assess the efficiency of project management and administration?
    - Did you see any significant drawbacks in management that hindered smooth implementation of the project?
    - On the contrary, which factors have contributed to increasing the efficiency of the project?

Cooperation, synergies

- Did you coordinate your activities with other donors? If yes, please specify:
    - Who did initiate the cooperation?
    - Did you coordinate your activities (informed each other, exchange experience) or did you actually cooperate – divided your work with other donors? What was the impact on the project?
    - Where did you see the benefits of this cooperation and were there any drawbacks?
- Would you say that the potential of cooperation with other donors was sufficiently taken advantage of in your project?
    - If not, what was the cause – what were the obstacles to a more intensive cooperation with other donors?
    - In what way do you think that the benefits and impacts of your project would have been strengthened had you cooperated with other donors more intensively?
- Did you experience that your project was perceived as good practice by any other donors? If so, did they replicate your approach, as far as you know?

Effectiveness, achieving goals

- How do you personally assess the achievement of project objectives? Did the project fulfil your expectations?
- In which areas did the project not fulfil your expectations, if any?
    - What was the cause of its failure in these areas? Did the project logic fail to work as planned? Was any important activity missing in the project? Or was it the impact of external factors which you did not take into account sufficiently?
    - How did you try to mitigate these shortcomings?

- Did you experience any obstacles to satisfactory implementation of the project that you were not able to overcome? Do you think that other projects in the field of agriculture would have to encounter the same obstacles?
- What else did surprise you during the project's implementation and how did you react?
- If you were to plan the same project today, with knowledge you gained during implementation, would you plan it differently? In what way?
    - Do you see that any activities of the projects were redundant – i.e. they had little or marginal contribution to achieving the objectives?
    - On the contrary, were there any activities missing – activities that could have increased the positive impacts of the project had they been implemented?

Impacts

- How exactly did the project contribute to increasing the milk production and raise in farmers' income from your experience? Which project activities and / or other factors were decisive in this regard?
- On the contrary, what were the factors and other influences that hindered this impact, if you see any? (I.e.: do you think that if circumstances were different, the project could have caused even higher increase in milk production and income)
- Did the impacts differ between the villages in your area?
    - If so, what do you see as key factors that explain different impacts?
- How do you assess the impacts of HLLM?
    - What were the impacts you actually saw in the localities?
    - Which activities worked well and which did not work that well?
    - What might be done better next time?

- To what extent do you see the activities of project as replicable? Could it work similarly in different regions or would it have to be adjusted in any way?
- Did you experience that the innovations brought about by your project would spread among farmers that were not directly involved?
    - Do you see any obstacles to this diffusion of innovations?

Overall assessment

- What do you personally see as the most important impacts of the project? Which are essential in short term and which in long term?
- Did you encounter any negative impacts of the project in your project region? What lessons did you learn from this?
- Did you experience that the project has, in any way, changed work habits of target groups and/or project partners? In what way?

Sustainability, exit

- Who did take over the outputs of your project? To your knowledge, is or was this institution about to carry on with project activities – especially in extension?

- How do you assess your exit from the localities? Was it, from your point of view, sufficient to sustain the results of the project and their further development?
- Would you have done the exit and handing over of the project differently if you could? How?
- Were local institutions that took over the responsibility for sustainability, from your point of view, strong enough, did they have sufficient capacity? If not, how does it affect the sustainability?
- Are farmers, in your experience, able to sustain or even increase their fodder and milk production in long term as well as HLLM? What are the key factors?
- Do you have information whether the principles of holistic management were sustained or even spread further after the project finished?
- What are, from your point of view, key threats and obstacles to sustainability?

IDI - Local extension officers and local authorities

Introduction:

8. Please describe your position and tasks. (Also: how long has he or she been working in the region, etc.)

General assessment

9. Are you aware of the Czech Development Cooperation project supporting local dairy farmers in your region?

10. If yes, please ask the following:

    a. Are you aware how the project was initiated?

    b. What were your personal expectations regarding the project?

    c. Give us please your general assessment of the project and general approach of the project staff to the issue of increasing milk production by local farmers

    d. How do you assess management of the project and communication with local institutions – formal as well as informal? What could have been done better in this field?

    e. In general, are you rather satisfied or dissatisfied with the project and its activities in your region?

    Were his or her expectations fulfilled? Which were not and why?

Relevance to needs

11. What are, from your experience, the most significant barriers for local farmers to increase their milk production, especially during dry season?

12. If it was your decision, what kind of activities would you implement in order to increase the milk production and/or quality of local farmers, especially during dry season?

13. What are, more generally, the barriers of local farmers to increasing their incomes and quality of their lives?

Fodder production

14. Have you observed, that in the last 3-5 years an increasing number of farmers is growing and processing their own fodder for their cattle?[18]
    1. *Respondent does not observe – no further probing necessary*
    2. *Respondent observes growing trend. It such case ask:*

[18] Since these are not experts in agriculture, we do not distinguish growing plants for animal fodder and processing – storing hay or silage for the winter. However, if you feel the respondent can make this distinction, feel free to divide the question.

a. ***If respondent knows the project:*** *To what extent is this the impact of Czech project?*
b. *What other factors are the reason for this increase?*
c. *Is there a difference across the region? In some villages there are more farmers growing their own fodder more often than in others? If so, what are the reasons?*

17. *Respondent responds that there was a growing number but now it is decreasing again. In such case ask on reasons for this trend (why was it increasing and why does it decline).*

15. What kind of support would, from your point of view, have to be provided in order to increase the number of farmers who grow their own fodder and process / store it for dry season?

Extension, sustainability

16. Who provides farmers with support in growing / processing their own fodder? What kind of support is available to the farmers?
17. Does the cooperative / Milk Collection Centre provide support to farmers in growing their own fodder?
    a. If yes, please ask what kind of support:
        - Training, consultancy, knowledge? *(if not, why? Don't they have sufficient knowledge? Please try to verify here information you received from cooperative officers!)*
        - Selling seeds?
        - Providing cooperative fields for joint production of fodder?
        - Any other support?
    b. If not, please ask for reasons.

18. From your point of view, is the cooperative / Milk Collection Centre in your district motivated to support farmers in increasing the quantity and quality of their milk production?

Machinery

19. Are you aware that the cooperative / Milk Collection Centre is renting machinery to farmers with relation to growing / processing fodder?

Other donors

20. Are there or were there other donors or institutions active in your region who are also aimed at raising the milk production especially in dry season? If yes, please ask for details – what organizations, what kind of support are they providing?

21. Ask only if the respondent responded that he or she knew about the support from Czech Republic at the beginning of the interview:
    - Compare Czech project to the approach of other donors: what did Czech project do better, what did they do worse?
    - Was Czech project in general more or less effective than other donors in bringing the desired change? Why?
    - Did the donors sufficiently coordinate? Or not at all? Did the respondent see any negative impact of lacking coordination? Or, on the contrary, benefit of coordination?
    - Was there any duplication of activities of Czech project and other donors observed? What was the impact – positive, negative…?

HLLM

22. Are you aware of introduction of holistic management in some villages in your district? If yes, please ask the following:
    a. What is the experience of locals with introduction of the HLLM principles?
    b. What were the benefits of this approach, if any? Were there, on the contrary, any drawbacks?
    c. Did the communities where HLLM was introduced sustain the management? Why yes or why not
    d. Do you observe that HLLM is getting more widespread in your region?
        - Are more households joining the clusters that were established in 2016/2017? Why yes or no?
        - Has the approach been introduced also to other communities? Why yes or no?
        - If other communities were interested in introducing HLLM, is sufficient support available for them? Who provides the support?
    e. Please give us your personal assessment of the introduction of HLLM in your region.

Impacts in general

Ask only if the respondent responded that he or she knew about the support from Czech Republic at the beginning of the interview:

23. What kind of direct impacts of Czech support have you observed / experienced on the side of supported farmers? What did change by the supported farmers in direct effect of the project?

24. Have you observed any indirect impacts of Czech support?
    a. Impacts at the level of communities
    b. Impacts of implementation of HLLM in supported communities

25. Were there any unintended impacts? Something that surprised you both positively and negatively?

26. Do you have any closing remarks?

Cooperatives:

Talking to representatives of cooperatives is crucial. Research at cooperatives has three parts:

1. IDI cooperative management or employees
2. Group interview - cooperative members (ca 5-8 farmers, if it is feasible)
3. Checking reports and status quo of machinery

I. Cooperative management

Current status quo of machinery:

1. Is it operational? Why yes or no? Check physically if possible

2. Is it still stationed at designated places, i.e. in shelters / garages that were built within the project? Check physically

3. What is the current renting model of the machinery?
   - Is rent collected at all? Or is the machinery lent for free?
   - Are price lists developed in the project still used? Or did prices change since 2018? Why?
   - Is renting for in-kind payments enabled (i.e. farmer pays back in quantities of milk delivered)?
   - Is in some cases rent not collected (renting "pro bono", e.g. to poor farmers)? If so, what are the rules and who takes advantage of it?
   - Is there a different approach for members and non-members of the cooperative? (e.g. different prices, members borrowing for free whereas non-members paying, etc.)

4. How many farmers are renting the machinery? How is reporting of rentals done? Ask for records, bookkeeping for rental has been developed within the project, should be maintained!

5. What is the share of members of your cooperative who rent the machinery regularly (i.e. more than once a year)?

   Follow-up questions:
   - Why don't more farmers / cooperative members rent the machinery?
   - Are you motivating other farmers to use machinery? How (*e.g. demonstrations in villages?)*
   - What would need to be done in order for more farmers to benefit from the machinery?

6. Is operating the machinery by cooperative profitable? How much does the renting earn annually? If possible, check in records.

7. How much was invested in maintenance of machinery since the project finished? If possible, ask for records

8. Were any new pieces of machinery / applications purchased?
   - If yes:
     - What new pieces of machinery were bought?
     - Were revenues from rental used for that investment?
     - Who and on what basis decided what is to be purchased?

9. In what other ways did you use the net profit of renting machinery, if generated?
10. What obstacles have you encountered in managing, operating, maintaining and renting machinery since 2018? How did you overcome these obstacles?
11. Are there any other lessons you learned (positive as well as negative) from machinery operation and rental? What would you do differently the next time?

Cooperative growing of animal fodder

12. Does the cooperative produce any fodder?
    - If yes:

- What plot sizes (on how many hectares)?
- Who provided the fields and on what basis?
- Do they process fodder during dry season (hey, silage)?
- Are you selling the fodder on the market or only to cooperative members? Do you accept in-kind payments from farmers? How much do you earn annually from sale of fodder?
- Is the production of fodder economically rentable / profitable for the cooperative?

- If not, what is the reason?

13. Do you collectively buy fodder seeds for cooperative members? Are in kind payments for seeds accepted?

Extension services

14. Does the cooperative employ extension officers / field officers to help farmers (coop. members) with fodder production?
    - Why yes or no?
    - *If yes, please let the respondent elaborate>*
        a. If yes, what are their tasks and responsibilities? What services are they providing?
        b. What activities are they organizing regularly?
        c. Does the cooperative have a demonstration plot to provide field trainings? Or do they cooperate with demonstration farm?
        d. Do they have sufficient capacity and knowledge?
        e. What is the demand from famer on their services?
        f. What is the financial model (providing for free or paid services, incl. in-kind payments?)
        g. What is the relationship with governmental extension officers stationed in the villages? How do they coordinate and avoid duplication?

Other donors

15. Are there or were there other donors or institutions active in your region who are also aimed at raising the milk production especially in dry season?
    If yes, please ask for details –
    - What organizations, what kind of support are they providing?
    - What is the cooperation of the cooperative with these donors?
    - Compare Czech project to the approach of other donors: what did Czech project do better, what did they do worse?
    - Was Czech project in general more or less effective than other donors in bringing the desired change? Why?
    - Did the donors sufficiently coordinate? Or not at all? Did the respondent see any negative impact of lacking coordination? Or, on the contrary, benefit of coordination?
    - Was there any duplication of activities of Czech project and other donors observed? What was the impact – positive, negative…?

Impacts of project perceived from the cooperative's point of view

16. Do you perceive that Czech support has directly resulted an increase in quantity / quality of milk delivered by farmers? Please elaborate.
17. Do you see replication of project activities – does an increasing number of farmers grow their own fodder in sufficient volumes? If yes, please elaborate:
    a. To which extent is this a direct impact of the Czech projects
    b. What are the factors that contribute to higher number of farmers producing their own fodder?

c. Are there, on the contrary, any limitations? What are the barriers preventing more farmers to grow their own fodder?
d. What does the cooperative do to support these innovations?

18. What kind of direct impacts of Czech support have you observed / experienced on the side of supported farmers? What did change by the supported farmers in direct effect of the project?

19. Have you observed any indirect impacts of Czech support?
    a. Impacts at the level of communities
    b. Impacts of implementation of HLLM in supported communities

20. Were there any unintended impacts? Something that surprised you both positively and negatively?

21. Do you have any closing remarks?

II. FGD with Cooperative members – not involved in management

If a group interview is conducted, the questions should be shorter and the respondents should be encouraged to react to each other. For that reason, the interview is less structured – questions are broader and discussion encouraged.

1. What is the trend of milk production on your farms or in your region more general? Is the milk production increasing, decreasing or no clear trend is observed (i.e. trend differs across individual farmers)?

2. Please give us explanation for that trend. What are the key factors from your point of view?
   Encourage discussion among attendees.

3. Is there a connection between producing own fodder and the trend you described? Is this a significant factor? How does it contribute.
   Again, encourage discussion. Possibly encourage attendees to agree on how important a factor this is (most important, second most important, etc.), record if attendees are unable to agree on importance of factors and why.

4. Did you personally start to grown your own fodder in the last 3-5 years?
   Possibility of a round-table to engage farmers who did not speak too much so far.
   If yes, please share your experience:
   - Why did you start, what motivated you?
   - Where did you receive information / knowledge / know-how? Was it sufficient?
   - What was the impact on your farm and on your livelihood?

   If not, please explain why.

5. Are you aware of the Czech project that aimed to increase the milk production, especially in dry season? Please give us feedback.
   Try to encourage discussion again.

6. Can you see that more farmers in your villages start to produce their own fodder? Please share your experience:
   - If yes, why? What motivates them?
   - What are the conditions that need to be met so that others start too?
   - On the contrary, what are the barriers? Why are not more farmers doing that?

7. How did your incomes and overall quality of life of your household change in the last 3-5 years? What are the key factors that caused this change – positive as well as negative. And give us examples how your lives change in effect.

8. What were other impacts of Czech project on your villages, communities or families?
   Also probe environmental impacts.

9. Was in your community / village introduced holistic management within the project? If yes, please give us feedback:
   a. Impact on farmers;
   b. Impact on community – are farmers cooperating more? Negative impact on community life?

c. Was in, overall, beneficial? And did other farmers in the community join or were clusters started in close by villages as result?

IDI with village / community authorities

1. How did the life in your community change in the last 3-5 years? What were the most significant changes with regard to incomes, living standards and quality of life?

2. What do you attribute these changes mostly to?

3. How important is husbandry of cattle and milk selling as a source of income in your community?

4. How did this field (husbandry, milk sector) change in the last 3-5 years in your country / region as whole and how did it affect your community / village? What were the most important factors / events / other influences that affected life in your village?

5. Were there any new or growing trends that you observed in your community when it comes to cattle and milk production in your village / community?

6. How likely are farmers in your village / community to adopt such new approaches? ….
    a. Under what circumstances and conditions and how does such change in general difuse?
    b. What support needs to be provided in order to speed up the adoption of new approaches among farmers?
    c. And what needs to be done in order to persuade most of the farmers (i.e. also the poorer ones) to adopt change?

7. What were the impacts of these changes on your community, its coherence and cohesion. Were there any negative impacts?

8. What were the environmental impacts of these changes? Positive as well as negative.

9. Are you aware of activities that the Czech Republic supported in your region?
    a. If yes, please give us feedback
        i. What did they do well, from your point of view, and what was not that good?
        ii. How do you assess the approach of Czech supported experts to your community, what was the communication like?
        iii. What could have been done better?
        iv. What is your overall assessment regarding the benefits of Czech support?

10. Please give us your final thoughts regarding future development in your community. What are its biggest needs when it comes to farming and income generation? What kind of support would be necessary?

IDI – representatives of ACHM

17. Please describe shortly your organization and your activities with regard to the project region.
18. How did you get involved in the Czech project in Zambia? Who initiated the inclusion of HLLM into the project, if you are aware of that?
19. Please describe your activities in the project briefly. Focus on:
    a. What were the biggest challenges for you?
    b. What was the approach of the farmers in target communities?
    c. Was there any difference to how you would proceed with HLLM implementation in different context? How did it affect the implementation?
    d. Generally negative or positive external factors that affected your implementation.
20. Give us please your general assessment of the Czech project and general approach of the project staff to the issue of HLLM implementation, if you feel you are sufficiently informed.
    a. Were the activities well planned and necessary from your point of view?
    b. Were there any activities that were not really useful or even redundant?
    c. On the contrary, was something important missing in the project?
    d. What could have been a better approach from your point of view?
    e. How do you assess the communication and general cooperation with project staff?
21. What were, from your point of view, the biggest barriers for the target group (local farmers) to:
    a. Enter into HLLM;
    b. Fully implement all components of HLLM;
    c. Take advantage of the full potential of HLLM?

    How did you overcome or mitigate these barriers?
22. Did you experience any synergies of your activities with other activities of the project (fostering the fodder production by farmers, capacity building at cooperatives, etc.) or other donors in the region?
    a. If there were synergies, would you say that they were fully taken advantage of?
23. On the other hand, did you experience any contradictions or clashes with other activities in the region implemented by the project and/or other donors? If so, how did you mitigate?
    a. Focus especially on biogas production that was supported in the region by SNV – potential contradiction to implementation of HLLM from our point of view.
24. What are, for you, the most important lessons learned from this project (good practice as well as bad)? Did your experience from this project change your approach in other localities in any way?

Impacts, sustainability and replication

25. What kind of impacts of your activities did you experience and would like to highlight?
26. Did you observe a change in the farmers' attitudes and behaviour when it comes to herding practices and cattle husbandry in general?
27. What impacts on the level of supported communities did you observe? Positive as well as negative.
28. Did the involved farmers have, from your point of view, sufficient knowledge and capacity to sustain HLLM once the project ended (2018) in full scope?
    a. If only partially, which activities would be sustained and which would not and why?
    b. What kind of further support would, from your point of view, be necessary in order to fully sustain the implemented management?
29. What were the crucial factors that were decisive when it came to sustainability of HLLM in supported localities?
30. What would you, in general, do differently when it comes to finalizing the project and exiting the supported localities if you had the chance?

31. Did you perform any follow-up monitoring after the project ended? Or do you have any other information with regard to the supported communities? If yes:
    a. What trends did you observe with regard to membership in the clusters?
    b. Were these trends different across supported clusters?
    c. What do you see as the key factors explaining these trends?
    d. Did you experience that HLLM as whole or some of the components were implemented in other localities – replicating clusters supported in the project?

Final assessment

32. Did the project fulfil your expectations with regard to HLLM implementation? Please elaborate if some of your expectations were not fulfilled and why.
33. What would your advice for a donor or implementer planning to implement HLLM or its components in new project region?