International Labour Organization

the LAB
MARKET SYSTEMS DEVELOPMENT FOR DECENT WORK

RAPID MARKET ASSESSMENT OF KEY SECTORS FOR WOMEN AND YOUTH IN ZIMBABWE

APICULTURE
ARTISANAL MINING
MOPANE WORMS
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List of Acronyms

AfDB	African Development Bank
ASM	Artisanal and Small-scale Mining
BAZ	Beekeepers Association of Zimbabwe
BFFS	Bee Farmer Field Schools
COMESA	Common Market for Eastern and Southern Africa
CZI	Confederation of Zimbabwe Industries
DfID	Department for International Development
DLPD	Department of Livestock Production and Development
DVS	Department of Veterinary Services
EA	Environment Africa
EMA	Environmental Management Agency
FGD	Focus Group Discussion
FPMAZ	Fresh Producer Marketers Association of Zimbabwe
FPR	Fidelity Printers and Refiners
GDP	Gross Domestic Product
GoZ	Government of Zimbabwe
ILO	International Labour Organisation
KTBH	Kenyan Top Bar Hives
LFSP	Livelihoods and Food Security Programme
MAMID	Ministry of Agriculture, Mechanisation and Irrigation Development
MMA	Mines and Minerals Act
MMMD	Ministry of Mines and Mining Development
MSMEs	Micro, Small and Medium-sized Enterprises
MSMECD	Ministry of Small and Medium Enterprises and Cooperative Development
MWAGCD	Ministry of Women Affairs, Gender and Community Development
MYIEE	Ministry of Youth, Indigenisation and Economic Empowerment
NTFP	Non-Timber Forest Product
RDC	Rural District Council
RMA	Rapid Market Assessment
SADC	Southern Africa Development Community
TIZ	Transparency International Zimbabwe
TVET	Technical and Vocational Education and Training
VTC	Vocational Training Centre
WGC	World Gold Council
ZIMASSET	Zimbabwe Agenda for Sustainable Socio-Economic Transformation
ZIMSTAT	Zimbabwe National Statistics Agency
ZMF	Zimbabwe Miners Federation

All $ numbers are in USD.

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SUMMARY

This Rapid Market Assessment (RMA) was conducted at the request of the ILO to support the design and development of a 3-year project funded by the African Development Bank (AfDB) and scheduled to run from 2017-2019 in Zimbabwe. The project aims to support women and youth in rural livelihoods to generate better and more sustainable income and employment opportunities by strengthening production and value-addition in a number of key rural economic sectors. Based on discussions with key ministries and an initial assessment during 2016 the AfDB selected four sectors as the project's focus, namely, apiculture, artisanal mining, mopane worms and horticulture. The project outline received approval by AfDB board in December 2016, and so this RMA is intended to complement and strengthen the project's key agreed activities, as well as help determine more specific interventions. In addition, the ILO requested a wider scoping of other products that could potentially benefit the target groups as part of their wider country strategy.

This Rapid Market Assessment (RMA) was run between November 2016 and early March 2017 by Thomas Tichar, Simangaliso Chitate and Lynnette Tshabangu. The assessment was done through desk-based research, individual and group interviews with representative groups of smallholders, beekeepers, artisanal and small-scale miners, business leads, ministry and association representatives, NGOs and relevant research and legal organizations. A workshop was also run to confirm initial findings from key ministries and provide feedback; apart from discussing the shortlisted sectors it was also agreed that tomatoes, potatoes, sugar beans and onions had a high potential for sustaining improved livelihoods for the target groups. However, given the varied climate and services across the country, the success of the project would most likely be determined more by production capacity and securing stronger value chains than the specific selection of any one product. A final workshop was held in March with representatives from public, private and civic sectors to validate the findings, provide feedback on the recommendations and discuss next steps. The addendum summarises key feedback and recommendations provided during this final validation workshop.

1.1 Key findings

1.1.1 Rural livelihoods in context

Rural and agricultural sectors in Zimbabwe face a number of challenges to sustaining a level of livelihoods and employment opportunities that would provide poor people with adequate pathways out of poverty for themselves and their families. Over the past 17 years the country has seen a decline in quality of services and infrastructure provided by the public and private sectors. This peaked in 2009 with massive hyperinflation and a halving of the economy since 2000. Though to-date a number of reform packages have since resulted in hiccupping economic growth, 94.5% of Zimbabwe's working-age population are in informal employment and 72.3% of the total population are listed as poor or extremely poor. The majority of this population are in rural areas and rely on agriculture as both a source of subsistence as well as income. Rural households diversify their income sources, with agriculture generating just under 50% on average, while livestock, labour, remittances and home industries make up the other half.

The variety in geography, climate and rainfall patterns determine different types of livelihood options across the country. The southern and western parts are much drier and prone to drought, requiring more resilient crops and livestock management, while the north and far east parts of the country can also sustain horticulture, forestry and more intensive farming. All parts of the country are exposed to climate impacts such as erratic rainfall and drought caused by natural climatic processes, as well as steady temperature rises caused by climate change.

The collapse of the economy caused a decline in agri-business, depletion of public resources and thus the informalization of much of the agricultural sector. The deficit of available inputs (fertilizer, modern seeds, greenhouses) and services (irrigation schemes and technical support) means that rural communities generally have few resources to buffer against climatic variation, though the tropical north and eastern parts are generally more tolerant than the arid areas in the south and west, where a higher prevalence of extreme poverty is found.

Women and youth tend to represent a higher proportion of poor and extreme poor; while some household responsibilities are shared, the lack of social safety nets pushes the burden of unpaid care work predominantly onto the shoulders of women and girls so that, according to one measure, women spend 18 hours per day on unpaid care work versus 2.4 hours for men. By contrast, men control almost all assets and the majority of household income.

While due to these gendered differences young women and men face different hurdles, there are also commonalities; lack of assets and limited access to credit restricts their ability to invest in skills-building and micro-enterprises without state support. And being more mobile they tend to prefer seeking out non-agricultural livelihoods unless there is a clear value-addition or income-generating opportunity that balances out the risks inherent in smallholder farming.

1.1.2 Sector-specific findings

Below is an analysis and ranking of the key findings according to the ILO criteria, followed by a narrative summary of these findings per sector. The ranking is not designed to suggest prioritising one sector or removing any of them, but should be used as reference to better understand the constraints and so manage expectations of what the project can realistically achieve within the 3 year period. The rankings draw from the summary ILO criteria table 1.

CRITERIA	APICULTURE	ASM (GOLD)	MOPANE WORMS	HORTICULTURE
Relevance	**2/8**	**3/8**	**4/8**	**5/8**
No of group active	0	1	1	2
Nature of participation	1	1	2	1
Involvement & contribution	0	1	1	0
Enterprise composition	1	0	0	2
Opportunities for Inclusive growth	**4/4**	**3/4**	**1/4**	**4/4**
Sector growth	2	2	0	2
production & work conditions improve	2	1	1	2
Feasibility to stimulate change	**8/10**	**5/10**	**5/10**	**5/10**
Conduciveness of political economy	1	1	0	0
Market player availability	2	1	1	1
Willingness of players to change	2	1	0	1
Distortion likelihood (other projects)	1	1	2	2
Sustainability beyond project	2	1	2	1
Climate resilience	**1/2**	**2/2**	**1/2**	**1/2**
Climate impact	1	2	1	1

	APICULTURE	ASM (GOLD)	MOPANE WORMS	HORTICULTURE
Relevance	2/8	3/8	4/8	5/8
Opportunities for Inclusive growth	4/4	3/4	1/4	4/4
Feasibility to stimulate change	8/10	5/10	5/10	5/10
Climate resilience	1/2	2/2	1/2	1/2
TOTAL	**15/24 (63%)**	**13/24 (50%)**	**11/24 (46%)**	**15/24 (63%)**

Green / yellow / red = 2 / 1 / 0.

Red. This criteria result indicates that it could likely hamper the positive outcome of the project goals.

Yellow. This criteria result indicates that it is unclear whether it could lead to positive outcome of the project goals.

Green. This criteria result indicates that it will most likely support the positive outcome of the project goals.

APICULTURE

There is a clear domestic market for locally-produced honey given the sales in a DfID-funded project working on beekeeping capacity-building and strengthening of value-chain linkages through private sector processors. There is also a potential export market, though the barriers are high for European access given certification requirements.

Apiculture already plays an important role in people's lives and livelihoods given its long existence as a source of subsistence and, to-date, minor source of income. Under traditional methods of beehives in trees the sector has become male-dominated, though the introduction of the more modern Kenyan Top Bar Hives (KTBHs) that are on the ground, allows for women to manage them as well as produce more, and better quality, honey. Moreover, it has relatively low start-up capital costs and can be managed alongside other livelihood and household responsibilities, making it more accessible for both women and youth.

The key constraints are two-fold. First, a fragmented market; data on how much honey is currently being produced across the country, what quality and by whom varies widely which makes it a challenge for buyers and processors to do forward-planning. There are three reported processors in the country (Westale/Thornwood, Organo Seven and Natural Forests) and Westale/Thornwood (with DfID-funding) illustrate a strong willingness to build backward linkages to help build capacity and secure a pipeline for honey. Smallholders themselves also showed a real interest in apiculture given the relatively good returns on investment. There's also a potential market for by-products like candles and medicinal products, but this is unexplored.

Second, though honey has been prioritized by government to improve yields, district level officers are providing some support but not looking to connect beekeepers to formal markets. This acts as a disincentive for rural communities to produce more as they are not aware of the demand. There is real potential to help with this by supporting both on capacity as well as aggregation points.

Despite these constraints as well as other common ones (concern with side-selling, climate impact and competition from cheaper foreign imports), apiculture shows strong potential to benefit smallholders in general, and women and youth specifically; this is because of the relatively low start-up costs and time-management required, the fragmented but interested market players, and low-scale but existent public sector support.

ARTISANAL MINING

The gold mining sector is very different from the others as a non-agricultural product, meaning artisanal and small-scale miners (ASMs) can work in this sector throughout the year. It also has a guaranteed market insofar as, given the low current production versus global gold markets, Zimbabwean exports are just a small percentage. Gold markets are also estimated to rise in the coming period. Men, and especially young men, dominate in the sector and this is not likely to change given the laborious nature of the work. However, the Ministry of Women Affairs, Gender and Community Development have made impressive inroads by helping establish and register the claims of women's producer groups in the sector, and provide them with loans for equipment. This makes strategic sense from the Ministry's perspective given that gold-mining is considered a more viable alternative to smallholder agriculture, and that ASMs are already contributing so much gold to total production (34% in 2016) that the government is softening its stance to unregistered mining as a means to deter the black market and encourage sales into the formal chain.

The current constraints in the sector for ASMs are around costs of registering a claim, followed by a number of other steps which amounts to an average cost of $5,000 (according to the Zimbabwe Miners Federation). After that, the cost of equipment rental, transport, etc. requires a minimum of $10,000. The reality of these costs conflicts with the perception of poorer people, and especially young men, who are attracted by the prospect of a guaranteed income. The rising popularity of the sector versus the costs of entering it legally is causing a burgeoning informal labour market generally, and predatory behaviour specifically – wherein the rumour of a successful mine can prompt theft and violence. Some of this

behaviour is already being self-regulated however, through family members guarding mine sites, as well as mine owners, and especially women, hiring these 'makorokoza' to work for them; the young men do the manual labour of exploding and extracting the ore from mine shafts, and the owners and workers (after paying the milling station) divide up the profits, so turning potential thieves into working allies.

Another constraint is the current bad practice of most milling stations that are reported to extract as little as 40% of gold from the ore, as well as using harmful chemicals in the process. However, investments from Fidelity (a government-run entity) and Gold Genius (a private entity) to establish, respectively, additional funds for ASMs and provides improved milling equipment that extracts more gold, are encouraging signals. In short, the gold sector is most likely growing for ASMs and is in real need to be regulated and the bottom of the value chain to become more formalised so as to lower barriers to entry, improve working conditions and income, and remove use of hazardous chemicals. It is predicted that this would benefit both women and youth, as well as generate greater government funds.

MOPANE WORMS

The mopane worm sector is the least commercially developed value chain of the four assessed in this study, with relatively high involvement of women and youth reported at stages of production, processing and marketing – although men still dominate in more distant markets. Production and processing requires relatively little equipment and, where mopane worms are prevalent (in drier parts of the country) knowledge of how to manage them is passed on within the communities. They are recognised as a source of protein and so considered a good resource during periods of drought given its greater resilience to climate impact versus other foods.

Though they are sold commercially in restaurants, hotels and retail there was little evidence found of a real demand for the good in formal markets. Rather, peaks in recent years have come about through informal markets during heavier droughts when middle-men from outside of the communities in which they're grown have sought them out for sale. This has caused worrying depletions of the population in some areas, to below the amounts experts consider necessary for them to repopulate.

Beyond this, no government regulation was found specifically for the sector, and while processors are involved they are not mopane-focused as such but simply do packaging in general. Also, while there are some NGO-initiatives to build capacity, no enterprise-scale producers were found. Given its current key role in poorer communities as a buffer during drought, any interventions to commercialise the product and promote a market should be balanced with a strong focus on natural resource management and the long-term sustainability of mopane populations.

HORTICULTURE

Production of horticultural goods is predominant in the north-central, temperate areas that receive more rainfall. As a livelihood, horticulture is done as both a source of subsistence as well as income, and at production and processing includes all members of the household. Marketing to local, informal markets is done by both men and women, while more distant market are dominated by men.

In terms of demand, given the current low levels of production in historical terms, rates of imports of fruit and vegetables from neighbouring countries, and limited export levels to SADC, there is an enormous potential for growth in the sector.

This demand is not currently being met due to a number of constraints, some of which are already covered in the section above ('rural livelihoods in context'). Within horticulture, there are a number of specific products that were highlighted during interviews and FGDs that were more preferred given their ease and cost of production, relative resilience, and perceived market demand; these were potatoes, tomatoes, sugar beans and onions. However, a sector-wide analysis shows that the factors that mostly determine whether smallholders receive a 'good price' for their horticultural produce or not (or sell them at all) revolve, first around actually linking smallholders to buyers, and second an overall regulation of supply-and-demand

that manages the peaks and troughs of seasonal production and avoids excessive gluts in the market.

There are already a wide range of actors involved in the sector, including commercial and trade unions, ministries, private sector (such as Nhimbe Export, Cairns, Arda), non-profit and research organizations. And while some of their interventions are having a positive impact, the general trends still illustrate a mismatch between individual smallholder producers and producer groups' needs on the one hand, and the demands of the horticulture market on the other. This mismatch is inhibiting smallholders from connecting more consistently to formal markets and so being able to avoid the challenges they are now being exposed to in informal markets (rent-seeking middlemen, uncertainty of a market, and lack of registration/ recognition).

Apart from addressing systemic issues in horticulture, a number of products were highlighted in the RMA process and confirmed during the initial workshop as being 'high-value'. These are potatoes, tomatoes, onions and sugar beans. It was cautioned however that their value is determined both by their natural context (e.g. the ease with which they are grown in specific areas) and the market dynamics as highlighted above.

Table 1: summary of RMA according to ILO criteria

		APICULTURE	ARTISANAL MINING (GOLD)	MOPANE WORMS	HORTICULTURE
RELEVANCE					
1	**Number of target group active in the sector**	15,947 beekeepers estimated at national level, with young men dominating the sector (87%).	50,000 women estimated at national level – between 10-16% of artisanal and small-scale miners, depending on data sources.	No national statistics were found on number of women or young men and young women in the sector.	National statistics were not available. However, in Manicaland province, of the 1,043 youths on record as running livelihoods projects, 69% are in horticulture.
2	**Nature of target group's participation in the sector**	Production, limited processing.	Production. Income used for family, debt payment, investment.	Active in collection, processing (degutting), drying and marketing at local levels.	Primary production, limited processing though with little value-addition among women groups drying vegetables in Mashonaland East province.
3	**Involvement and contribution of target (and other) groups**	Sector is mostly male-dominated and have been targeted with skills training more than women (though ILO interventions to-date are balanced). KTBHs are more accessible for women.	Mining considered more 'masculine' trade given that it's heavy work, especially young men. Women involved as miner owners, alluvial mining and manually grinding ore, but typically less recognised. Work less as maintain care responsibilities alongside working.	Harvest and post-harvesting done by women and children. Men and male youths are involved in trading in areas that are a long distance from the areas of collection.	Ownership of land and resources is a determinant of participation in horticulture. People over ages of 31 dominate of which over 60% are men and less than 40% are women (Chiweshe irrigation scheme). Youth provide labour.

4	**Composition of enterprises**	Largely informal at PG level. Small scale beekeepers organised in self-selecting youth and women's groups in Mutasa, Chimanimani and Macheke, but producing and marketing as individuals. Some larger scale processing, but weak value chain.	Largely informal at PG level. Small scale beekeepers organised in self-selecting youth and women's groups in Mutasa, Chimanimani and Macheke, but producing and marketing as individuals. Some larger scale processing, but weak value chain.	Informal household collectors in areas where the worm thrives. No established enterprises had been found.	Combination of members of the old Commercial Farmers Union, the new Commercial Farmers Union of Zimbabwe who are large-scale producers, the Zimbabwe Farmers Union who are small-scale producers and the informal small and micro-enterprise level producers.
OPPORTUNITIES FOR INCLUSIVE GROWTH					
5	**Sector growth**	High growth potential given domestic and export demand. VC actors present but fragmented, 45%+ ROI for bee-keepers.	Growth likely given perceived income guarantee and, as the ASM formalises, reduction in operating fees for millers (from $8,000 to $5,000), more investment through actors like FPR, Gold Genius, Women Development Fund.	Limited, needs to be invested in and scaled up to become more viable. Sector development is also determined by the natural availability of the commodity.	Significant potential for both local and export market. None of local produce is anywhere near meeting export volumes.
6	**Prospects for productivity and working conditions improvements**	Productivity improvements likely with adoption of modern hives like KTBHs, support through backward linkages and access to credit. Working conditions improved with protective clothing.	Currently totally informal so no regulation, but potential to improve income and conditions given government interest to formalize the ASM sector. Health and safety would be key.	Productivity can be improved though environmental management is key. Introduction of protective clothing, such as gloves, and better equipment can improve work environment.	Trade unions and employment councils exist that cover the agriculture sector. Working conditions such as minimum income and contracting can be improved through these.
FEASIBILITY TO STIMULATE CHANGE					
7	**Conduciveness of political economy**	Weak – apiculture dept in Min of Ag, but extensions services shared between Extension and Veterinary Services depts. National target to increase annual production to 0.5mt/yr, led by Min of SMEs. National strategy to produce 500,000 litres per year, but limited financial commitment.	Undeveloped for artisanal mining, but there's a government push to formalize it. More widely, there's a push to include women and youth in 'inclusive growth', which includes the mining sector.	No policies are known to govern the sector per se, but the regulatory framework covers sustainable use of the natural environment in general.	Since the land reforms, there has been an increase in suppliers who are not organized for systematic production. This leads to swings of overproduction, market gluts and falls in prices of produce. There is no policy or recognized national association or body that governs the operations of the sector.

8	**Availability of market players**	There are three private sector companies (Westal, Organo Seven, Natural Forests), already engaging with smallholder beekeepers in rural areas across the country.	Gold Genius currently partnering with ZMF to establish 50 service centres in the country and are relatively innovative. Netherlands looking to link formal gold producers to EU markets through FPR.	There are formal large scale food packaging companies currently supplied by the informal middle-men when mopane is available on the market.	
9	**Willingness of market players to change**	Likely as currently private sector players willing to source unprocessed honey from producers and require more to meet processing capacity and market demand.	Likely; initiatives by MMMD to create a conducive operating environment. European companies, through linkages with Netherlands are willing to facilitate effective demand.	Unlikely as processors involved are not focused on mopane worms.	Limited as there is currently limited trusts between outcontracted producers and market players. But buyers like BrandsFresh, Freshtrade are potentially willing to work with target groups to improve quality, production volumes and provide market.
10	**Likelihood of distortion**	There are a number of other projects (EA, LFSP) active in the area so coordination is required.	There are other initiatives (Women in Mining programme, supporting women in Guruve, the ZMF & Gold Genius initiative mentioned above, and the FPR $20m facility) so requires coordination/collaboration.	Practical Action and Forestry Commission are running small-scale projects so it is simple to identify other communities.	There are other interventions, but not on a large scale; some NGOs provide starter packs but at times the inputs are not adequate for desired scales, such as IRC intervention in Mutasa district.
11	**Sustainability**	Likely if women's involvement can be improved, viable market linkages can be established, quality improved and climate issues managed.	It has potential, but requires real policy shift to formalise AMS sector, heavy investment into support of women PGs, access to credit and improvement of milling facilities.	Likely with enforcement of basic traditional beliefs in harvesting and managing the sector. Also education and awareness of sustainable use of NTFPs through agents that deal with natural environmental issues.	Possible, though requires investment in water sources in areas where there is reliance on natural rain seasons, value addition facilities (as mentioned in project interventions) and coordination of market actors.
CLIMATE RESILIENCE					
12	**Climate impact**	Dependent on good rains; drier conditions cause lower vegetation and pollen. Heavy rains can deter bees to pollinate in short-term, but brings higher vegetation and more nectar in medium term.	Usually not affected, though recent heavy rains have caused 70% of ASM mines to flood. Chemical use affects human health and environment, and mercury is especially unhealthy for women workers, causing abortion and foetal deformities.	Unstable weather patterns cause decline in mopane populations.	Varies – but generally climatic conditions are good for production of fruit, vegetables and cut flowers in the sector. Climatic conditions allow produce to ripen naturally without use of ripening chemicals.

2

INTRODUCTION AND GENERAL RECOMMENDATIONS

The International Labour Organization (ILO) is launching a 3-year project in Zimbabwe to support women and youth in rural livelihoods to generate better and more sustainable income and employment opportunities by strengthening production and value-addition in a number of key rural economic sub-sectors. The project has 3.79 UA (approx. US$5.2m) funding from the AfDB and will run from 2017-2019. The project is applying a market systems approach to ensure that both value-chain specific, as well as wider market systemic issues are highlighted and addressed within the project interventions. Four subsectors have been proposed during the initial stages to focus on; horticulture, apiculture, artisanal mining and mopane worms.

As part of the design stage of the project, the ILO funded this independently-run Rapid Market Assessment (RMA) to provide a more in-depth review of the identified sectors, as well as provide any recommendations of other sectors they could look at as part of the Zimbabwe office's wider, country-level strategy. The project is intended to focus on the following nine districts in Zimbabwe; Beitbridge, Mutasa, Marondera, Lupane, Guruve, Rusape, Marange, Chimanimani, and Muzarabani.

This RMA was run between November 2016 and early March 2017 by Thomas Tichar, Simangaliso Chitate and Lynnette Tshabangu. The assessment was done through desk-based research, individual and group interviews with representative groups of smallholders, beekeepers and artisanal and small-scale miners, business leads, ministry and association representatives, NGOs and relevant research and legal organizations (more detail is available in the methodology section).

A workshop was also run to confirm initial findings with ministry representatives and provide feedback. Apart from discussing the shortlisted sectors it was also agreed that the long-listed products of tomatoes, potatoes, sugar beans and onions had a high potential for sustaining improved livelihoods for the target groups. Goats were also discussed though didn't come out as strong. A key point of discussion during this workshop was that, given the varied climate and services across the country, the long-term success of any interventions in specific horticultural products would most likely be less determined by the selection

of the product itself, and more by the ability of the project to build capacity of production and securing stronger value chains from the smallholder through formal-market processors, to domestic and/or export markets. As such, this report was structured to reflect both key constraints in the horticulture sector as a whole, as well as providing some additional detail around the long-listed products. A final workshop was held in March with representatives from public, private and civic sectors to validate the findings, provide feedback on the recommendations and discuss next steps. The addendum summarises key feedback and recommendations provided during this final validation workshop.

2.2 General recommendations

While sector-specific recommendations are listed at the end of each section in chapter, the following three are provided as general, non-sector specific recommendations.

1. Establish producer groups as points of training, organization and backward linkages. During the field visits, smallholders across sectors responded in different ways as to the value-added of being organized as a group; receiving training collectively was generally considered positive, though responsibilities around production and sale of goods were generally preferred to be done individually. Larger groups (above 10) were reported to be more unstable than smaller ones (between 4-10).

Given experience from other projects and programmes, if managed correctly producer groups (PGs) have the potential to function as focal points for training, knowledge exchange, aggregation of goods, organizing and negotiating on price, and building confidence and changing attitudes of the members towards themselves and others. It is recommended that, regardless of the sector, PGs as a model be used as the framework for organizing to leverage their benefits. These could be semi-formal, such as in the mopane worm sector, or become formally registered as a group or cooperative, such as in the mining sector.

2. Monitor household distribution of labour. Many market intervention programmes that seek to economically empower smallholders unfortunately overlook gender and age household dynamics, as highlighted in the women and youth sector. Especially for women and girls, the risk of engaging them in projects while ignoring their existing care responsibilities can often increase their burden and create tension in the household.

It is recommended that any interventions that emphasise women's economic empowerment do the following: first, ensure husbands' and other male members of the community (especially those in power) are included in intervention design and receive their consent to promote acceptance and redistribution of responsibilities. Second, consider interventions that could reduce women's household responsibilities.[1] Third, monitor women's household responsibilities over time to ensure they're not being overburdened by engaging in the project, and take corrective action if they are.

1. Different organizations employ different approaches to this; Oxfam looks at four areas, or four Rs; Recognize, Reduce, Redistribute, Represent. For more information go to www.oxfam.org.uk/care.

3. Engage private sector expertise and/or enterprises to establish and run viable entities. Livelihoods projects are often overly optimistic when it comes to establishing start-up enterprises in what is in reality a very challenging context; as a number of the sector-specific recommendations highlight, it is advised to engage closely with existing private sector entities to identify sector constraints. It is also recommended to bring in outside expertise, either as mentors or for everyday management, of the processing units being established, to ensure a business approach is taken from the start. Finally, rural enterprises typically take at least 4-5 years to begin to break even (e.g. income outweighs management and maintenance costs, assuming all assets are purchased on a grant, rather than loan, basis), though setbacks – be it from internal mismanagement to external factors like climate – can regularly cause this to take longer, or the operation to be abandoned. The project should expect some PGs, enterprises and processing units to meet real challenges and still require support beyond the 3-year duration of the project.

4. Monitoring impact and adaptive programming through project cycle management. Livelihoods projects looking to address both local and market-systemic issues require a robust project cycle management (PCM) framework that allows for adaptive programming as the operating environment changes. Related to this the selection and monitoring of (proxy) indicators are key to maintaining oversight. The M&E report for the 2010-2015 'Skills for Youth Employment and Rural Development' programme noted some limitations in monitoring, notably an absence of standard monitoring tools and lack of sex and age-disaggregated data.[2] It is recommended that the officer being hired to oversee the project have a strong background in M&E, PCM and adaptive programming, or receive training and support on this when hired.

2. International Labour Organization (2015). Skills for Youth Employment and Rural Development Programme in Zimbabwe: A Compendium of Success Stories. ILO, Harare, pp10-12.

3

METHODOLOGY AND LIMITATIONS

3.1 Methodology and timeline

The RMA was conducted by Thomas Tichar (UK-based), Lynnette Tshabangu and Simangaliso Chitate (Zimbabwe-based) between November 2016 – February 2017 with the final report presented in early March 2017. The RMA can roughly be divided into 5 stages;

1. Work-plan development: During November an outline of the work-plan and timeline was developed, together with an adjustment of the criteria provided to use as reference for the data collection process. This was reviewed and approved by the ILO.
2. Methodology, and initial secondary and primary data collection: During December desk-based research was conducted to collect and begin to review available literature (including a portion being provided by the ILO country office). This was intended to provide a framework for the primary data collection process to be done through 1-1 interviews and focus group discussions (FGDs). However, given the limited availability of up-to-date literature on a number of sectors, 1-1 interviews with organization and ministry representatives were planned and conducted already in December to help frame further the data collection.
3. Interviews and field visits: desk-based research continued during the first half of January 2017, followed by a country visit by the UK-based consultant during the second half of the month. During this period interviews were conducted with ministries, NGOs and businesses in Harare as well as field visits to two locations; first to Mutare, Mutasa and Chimanimani, and second to Guruve. A third field visit to Macheke and Marondere was conducted by the Zimbabwe-based consultants. All visits included a blend of 1-1 interviews and FGDs with provincial- and district-level authorities, and representative groups of smallholders (men and women). When available, interviews were also done with local business leaders. A workshop of the initial findings was run to collect feedback from ministry representatives on 26 January, 2017.

4. Interviews and report preparation: During February a number of 1-1 interviews were conducted that were not able to be done earlier, while in parallel preparing the first draft of the report.
5. Final report submission and workshop. There were two rounds of feedback provided to the ILO followed by a validation workshop that included representatives from government, private sector, NGO and research institutions.

3.2 Limitations

There were a number of factors that limited the data-collection during the RMA, meaning not all of the ILO-requested criteria could be collected as according to the criteria list (see annex 5.1). The limiting factors were as follows;

Secondary sources. While a number of agricultural sectors in the country have been analysed and reported on regularly, others have limited amounts of secondary data available; by way of example, literature on mopane worms as a product, livelihood and sector are at least 6 years old. This meant more information had to be collected than originally planned from primary sources.

Primary data collection. There were two limitations to primary data collection, which related to budget and the nature of the RMA exercise; the limit of the budget meant the consultants were only able to conduct FGDs with farmers involved in apiculture, artisanal mining and some sectors within horticulture. Sites where mopane worm production and collection is common were too distant (and therefore over-budget) from Harare. This was substituted with interviews in Harare.

Second, the amount of 1-1 interviews and FGDs did not amount to statistically significant findings, meaning the results should be taken as an indicator, rather than a definitively representative sample, of the state-of-play in each of these sectors.

Organization of field visits. Field visits were to be organized through both the provincial- and then district-level authorities, who were requested to set up FGDs and 1-1 interviews with representative groups and individuals. Due to a misunderstanding of the request, on two occasions the incorrect type of group was organized, providing less useful information than was expected. Similarly, sometimes groups were less accessible than planned, limiting the amount of time the consultants could speak with them. There were also only a limited amount business leaders available during site visits.

Government data. Data on areas such as number of smallholders broken down by gender and age are in most sectors supposed to be systematically collected by district officers and collated at provincial and then central ministerial level. In practice this rarely happens however, both due to public-sector budgetary constraints and the informal nature of most agricultural production. As a result the consultants were only sporadically provided with numbers that provided an indication of the amount of smallholders involved in specific sectors and in some instances specific to certain locations only and not national.

4

RURAL MARKETS, LIVELIHOODS, WOMEN AND YOUTH IN CONTEXT

This chapter gives a short overview of a number of longer term macro-trends that provide the context within which value chain development of specific products are couched. Though not exhaustive, it highlights four thematic areas that are important to take into account given the project work of improving the livelihoods of women and youth in a predominantly rural context; the first covers the overall weakening of the economy in the last quarter century and the impact this has had on people's lives. Second, the particulars of the Zimbabwe's climate and projected climate trends. Third, the state of rural livelihoods and labour conditions. And fourth, a general description of how women and young people are perceived in society.

4.1 Development trends since 2000

According to the latest census data (2012), Zimbabwe has a population of just over 13 million of which 67% live in rural areas and 51.9% are women. By age distribution, the population pyramid is extremely bottom-heavy with 41% aged 14 or younger, 54% between 15-64 and the remaining 4% aged 65 and older. Of this, youths (aged 15-35) make up 37% of the total population.[3]

The economy is largely driven by agriculture, with 65% of the population's livelihood directly dependent on the sector.[4] A combination of domestic and external factors led to economic decline from 2000 to 2008, culminating in massive hyperinflation and a cumulative loss of 51% of the economy. Along with many businesses in the agricultural sector, various social sectors "including education, health, pension systems, and other social protection programmes, lost all financial support and were rendered dysfunctional," leading to unemployment rates of over 80% (and higher among youth), pushing the majority of the population into the informal economy and shifting many of the burdens from failed state systems to

3. Statistics drawn from Zimstat (2012) and provided by Ministry of Women Affairs, Gender and Community Development. Breakdown of the data from ages 18 and up could not be found.

4. Kanyenze G., Kondo T., Chitambara P., and Martens J., (2011). Beyond the Enclave: Towards and Pro-Poor and Inclusive Development Strategy for Zimbabwe. LEDRIZ, Harare, Zimbabwe, p75.

women, given traditional gendered household divisions of labour.[5] In response to this a number of reform packages were introduced which helped stabilize the economy, followed by medium term macro-economic and sector-specific national planning. While since 2009 macro-economic indicators show some positive signals of recovery (with a peak in real GDP of 11.9% in 2011) this predominantly came from a few key sectors such as mining – a capital-intensive but not typically high employment-generating sector. As an indication, during 2011-2014 a total 4,610 businesses were closed (a result of which 55,443 jobs were lost).[6]

The impact of this massive socio-economic decline is reflected in the number of MDG targets missed (running from 2000-2015) – some of those relevant for this ILO project are listed in the following table. Given the enormous amount of people below the poverty line and in informal employment, food security and jobs that would enable people to climb out of poverty remain accessible to only a small minority of the population, with the vast majority in the informal sector earning an income through informal and precarious work. Some of the indicators around gender-equality show a positive trend, though as reflected in section 3.4 (women and youth) a number of institutionalized and cultural barriers remain. Access to electricity in rural areas also remains extremely limited, meaning that any intervention around value-addition that would require mechanization should rely either on manual or solar power for it to be sustainable. Alternatively, the use of wood as a source of cooking for almost 90% of the population continues to put huge pressure on forestry in the country. Finally, despite high degrees of poverty, incredibly the literacy rates in Zimbabwe remain amongst the highest in Africa.

Table 2: Selected Zimbabwe MDG indicators

MDG	INDICATOR	BASELINE: 2000-2002	CURRENT STATUS	SITUATION AT A GLANCE
MDG 1: Eradicate extreme poverty and hunger	Population below the TCPL (total consumption Poverty Line) %	1995 75.6%	2011/12 72.3%	Target not achieved. Rural areas worse off.
	Employment-to-population ratio (15 years and above), total	2004 79%	2014 80.5%	However, quality of employment remains low in the form of informalised[7] employment. Women worse off.
	Population (15 years and above), in informal employment	2011 84.2%	2014 94.5%	Very high and increasing. Women worse off.
MDG 3: Promote gender equality and empower women	Literacy rates of population aged 15 years and above, %, both sexes	2002 97.0%	2014 97.6%	Has remained high, with gender parity, with women at 97.3 and men at 98.0 in 2014.
	Share of women in wage employment in the non-agricultural sector, %	2011 33.9%	2014 36.7%	Slight progress.
MDG7: Ensure environmental sustainability	Proportion of households using wood as main source of energy for cooking, %	2002 64.1%	2012 62.6%	Very little progress, remains high. Rural areas worse off at 88.5% in 2012, than urban areas at 15.7%.
	Proportion of households using electricity as main source of energy for cooking, %	2002 30.1%	2012 30.9%	Very little progress. Remains low. Rural areas worse off at 6.1% in 2012, than urban areas at 75.9%.

5. Ministry of Macro-Economic Planning and Investment Promotion, UNDP Zimbabwe, (2016), p35-40.

6. CZI Manufacturing Sector Survey Report, (2015). CZI, Harare.

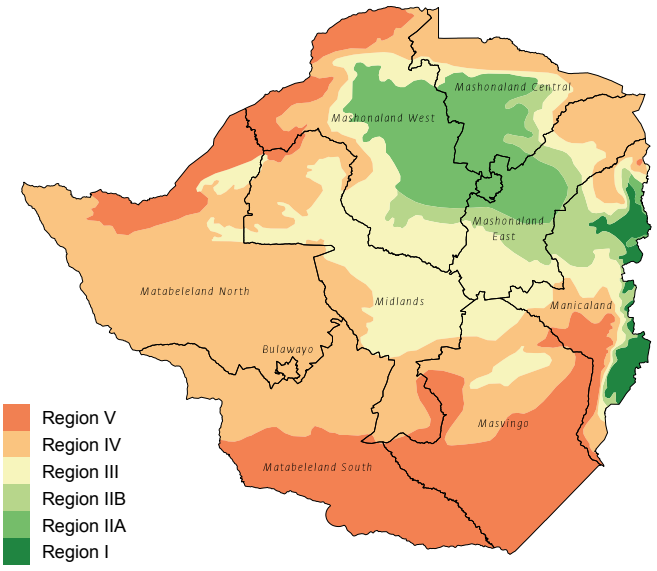
7. The full definition of informal employment can be found in: Ministry of Macro-Economic Planning and Investment Promotion, UNDP Zimbabwe, (2016), p54, though a shortened definition explains employment in the informal sector to include; "own account work and employment in one's own informal sector enterprise; unpaid family work in formal or informal sector enterprises; membership of informal producer cooperatives; and paid employment without entitlement to pension fund contributions by the employer, paid annual, maternity or sick leave or a written employment contract."

4.2 Climate conditions

The types of rural livelihoods available to households and communities varies considerably across the country due to the range in topography, altitude, rainfall and temperature. The map and accompanying table on the previous page illustrates this variation and the concomitant types of crops, livestock and NTFPs recommended – though it's important to note that these recommendations do not necessarily indicate commercial-scale production capacity (more detail on the diversity of agricultural production is provided under horticulture section 5.4).

Given this, while the typical rainy season is from November to late February, when and how much it rains is very much determined by both location and longer term global weather patterns, causing rainfall patterns to vary considerably from year to year; like other countries in southern Africa "[Zimbabwe] is often affected by droughts lasting from one to three years and occurring every five to seven years. This is a natural cycle, partly influenced by a climate pattern called the El Niño-Southern Oscillation, which originates in the Pacific Ocean."[8] This cycle explains the high variation of average annual rainfall patterns in Zimbabwe over the last 100 years as indicated in the green line in the graph above. However, the declining red line indicates a decreasing trend in rainfall which is attributed to climate change. Similarly "climate change is expected to bring an increase in average temperatures across the country of between 1°C and 3°C. Rainfall variability and distribution are expected to increase and climate-related hazard events, such as droughts and floods, are likely to become more frequent."[9]

This is expected to impact on all types of crops, livestock and other agriculture-related sources of subsistence (more detail on how this is expected to impact the specific subsectors assessed in this report are included in chapter 4), though with improved crop management systems, such as the introduction of irrigation practices, ecosystem management, and improved use of fertilizers, some of these impacts can at least be mitigated in the medium term. However, the likelihood based on long-term agri-climate projections is that staple crop yields such as maize will in particular be affected, while root crops (yams, cassava) and drought-resistant cereals (millets, sorghum) will perform better under declining rainfall and rising temperatures.[10]



Map 1: Zimbabwe's natural regions

Source: Brazier, A., (2015). Climate Change in Zimbabwe:Facts for Planners and Decision Makers. Konrad Adenauer Stiftung, Harare.

Natural region I: High rainfall (over 1,000 mm per year), low temperatures and steep slopes. It is suitable for high-value arable farming, dairy, horticulture and forestry.

Natural region II: Medium rainfall (750–1,000 mm per year). Temperatures are not extreme and soils are generally good. It is suitable for intensive farming, including horticulture and dairy.

8. Brazier, A., (2015). Climate Change in Zimbabwe: Facts for Planners and Decision Makers. Konrad Adenauer Stiftung, Harare, p6.

9. Brazier, A., (2015). Climate Change in Zimbabwe: Facts for Planners and Decision Makers. Konrad Adenauer Stiftung, Harare, pp7-8.

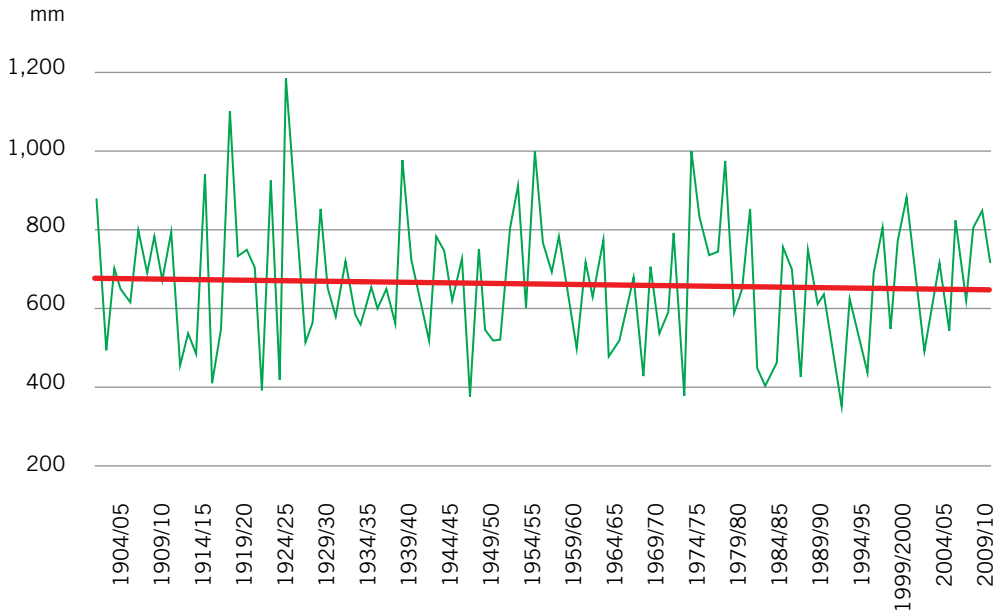
10. Rippke, U., et al. 2016, 'Timescale of transformational climate change adaptation in Sub-Saharan Africa,' Nature Climate Change, vol. 6.

Natural region III: Low rainfall (500–750 mm per year), with midseason dry spells and high temperatures. This is a semi-intensive farming region suitable for field crops such as maize, soya, tobacco and cotton as well as livestock.

Natural region IV: Low rainfall (450–650 mm per year) with severe dry spells during the rainy season and frequent seasonal droughts. Suitable for livestock and drought-tolerant field crops such as sorghum, millet, cowpeas and groundnuts.

Natural region V: Very low rainfall (less than 650 mm per year) and highly erratic. Suitable for livestock, wildlife management, beekeeping and non-timber forest products.

Communities living in natural regions IV and V (which make up about 64% of the land area) are at the mercy of climatic extremes, with few livelihood options. They tend to be the most vulnerable to poverty. These regions are already feeling the impacts of climate change and will be the hardest hit in the future. Many scientists propose that the natural region map be redrawn because of climate change, with regions IV and V taking up more area and I, III and IV less.



Graph 1: long-term temperature trends in Zimbabwe
Source: Brazier, A., (2015). Climate Change in Zimbabwe:Facts for Planners and Decision Makers. Konrad Adenauer Stiftung, Harare.

4.3 Rural livelihoods and labour conditions

The decline of the formal economy since the late '90s has seen a steady upward trend in informal employment, from 80% in 2004 to 84.2% in 2011, and a considerable jump since then to 94.5% in 2014.[11] Poverty in Zimbabwe is far greater in rural areas than in urban ones, whereby the rural poor are almost double that of urban poor, and the rural extreme poor are more than five times greater than the extreme poor in urban areas.[12] Internationally Zimbabwe's 72.3% poverty rate is far higher than the sub-Saharan average of 46.9%.[13] These create strong pull factors on those who are more mobile, namely younger people, to move out of rural areas (and agriculture) to either towns and cities, or to leave the country if they can.

'Informal employment' typically covers jobs which are low-skilled, completely unregistered, fixed term and without a contract, providing relatively low income and can be

11. LEDRIZ (2016). *Employment Creation Potential Analysis By Sector.* LEDRIZ, Harare, p13.
12. At the time of measurement the extreme poverty threshold was measured by an income below $1.25 a day and moderate poverty below $2 a day.
13. LEDRIZ (2016). *Employment Creation Potential Analysis By Sector.* LEDRIZ, Harare, p14.

precarious by nature. By contrast the ILO definition refers to decent work as "productive work for women and men in conditions of freedom, equity, security and human dignity".[14] The sectors evaluated in this report currently meet almost none of the criteria within this definition, nor are they likely to in the coming years.

Poorer, rural households tend to have multiple sources of income both because of the temporary nature of these jobs and as a means of spreading risk. Household spreads of income vary by location and time of year (given peaks during harvest seasons); a national-level survey measured average rural household income received 52% from sales of agricultural produce.[15] Another case study focused on households in Masvingo province measured 44% from agriculture, including dryland crops, gardens and woodland produce, followed by remittances and livestock each generating 21%, and wages and home industries 12%.[16] What this illustrates is that rural, poor households are extremely diversified in their income generating activities, and tend to hedge against investing greatly in any one of them, given their often temporary and precarious nature.

Moreover, rural households rely on agriculture as both a source of subsistence as well as income generation through predominantly informal markets. A number of factors have contributed to the decline in selling goods to formal entities; the land reforms since 2000 were not complemented with adequate public sector support, meaning with less access to inputs consistency of supply of both staples as well as higher value horticultural products has declined. With a large percentage of rural households being either poor or extremely poor, sales of produce into formal markets compete either with middlemen who have cash-in-hand (but purchase at lower rates) or with greater consumption needs. Finally, though there is less inflation since the dollarization of the economy in 2009, up until then farmers were extremely sceptical of cash given the rate at which it would devalue.[17]

The collapse of the agricultural sector and the land distribution has similarly made it prohibitive for any type of MSME to grow and become registered in the formal market; the beneficiaries of land distribution do not have title deeds and are not legally allowed to transfer land. Access to finance is similarly challenging whereby interest rates are relatively high (15-20% even for larger enterprises) and inflexible for small-scale agriculture.[18] Ease of doing business is also limited; Zimbabwe ranks 161 out of 190 in 2017, dropping by four since 2016.[19]

4.4 Women and youth

Young men, and women of all ages, tend to face additional barriers to sustaining a livelihood that can support themselves and their families. While specific sectors by their nature tend to have higher or lower barriers for women and youth, there are also systemically embedded constraints that prohibit them from creating opportunities to earning a more sustainable income, regardless of sector. The following sections highlight these key constraints.

4.4.1 Women

Women tend to face cultural and legal barriers to contributing more to household income, both within the household and within the value chain.

A. Household division of labour. Internationally it is becoming increasingly recognised that the burden of household responsibilities – typically defined as 'unpaid care work' – fall the most on women and girls, and that

14. International Labour Organization (2015). Value Chain Development for Decent Work – How to Create Employment and Improve Working Conditions in Targeted Sectors. 2nd Ed. ILO, Geneva, p5.

15. Zimstat, (2013). *Poverty Income, Consumption and Expenditure Survey 2011/12 Report.* Zimbabwe National Statistics Agency, Harare, p59.

16. OECD, (2008), *Natural Resources and Pro-Poor Growth: The Economics and Politics.* OECD, Paris, p39.

17. Chimhowu, A., (2010). *Moving Forward in Zimbabwe: Reducing Poverty and Promoting Growth.* Brooks World Poverty Institute, Manchester, p36.

18. Ministry of Economic Affairs, The Netherlands, (2014). *Agribusiness in Zimbabwe: Opportunities for Economic Cooperation.* Embassy of the Kingdom of the Netherlands, Harare.

19. Accessed 15 February, http://www.doingbusiness.org/data/exploreeconomies/zimbabwe

this is a symptom both of women's inequality as well as household poverty in developing countries. [20]While women's disproportionately high responsibilities within the household are a global trend, it is particularly heavy in poorer countries and households, given that increases in wealth and girl's education go hand in hand with the purchase of labour-saving devices (such as washing machines) or publicly-funded infrastructure (such as water-pumps and electricity poles).

Recent studies conducted by Oxfam are illustrative of this in rural households in Zimbabwe; a 2015 care survey[21] of households in Zvishavane district (Midlands province) showed that women spend 18 hours per day on unpaid care work versus 2.4 hours for men. The gendering of care activities begins at a young age, whereby around 40% of daughters are involved 'several times a day' in activities like collecting water, preparing meals and child care, compared to around 3% of boys. While a majority of men recognised that care work is a form of work and that it is valuable, it was concluded that the gendered norms established at such a young age likely contribute to husbands' tendencies to not take on more responsibilities.

This was corroborated by a 2016 series of workshops run by Oxfam on decision mapping within the household and value chain with smallholders from Gweru, Bindura and Mutare,[22] whereby it was generally agreed that, while there were some shared responsibilities between husbands and wives, women as a rule took on the majority of household responsibilities, in addition to contributing to the agriculture and livestock management that brought in some of the household income. However it was agreed that 70-80% of total household income was controlled by the husbands, meaning that even if women contributed more to household income through economic activities, cultural norms would still determine that men control how that income is allocated. This, together with the fact that women would be increasing their 'double burden' by taking on additional activities, can provide a strong deterrent for women (who have less household negotiating power) to become involved in new livelihoods work.

B. Barriers for women in value chains. The dynamics within the household are closely tied to structural issues within the value chain. The following provides a summary of key issues that emerged during the decision-mapping workshops (referred to above) along with a Harare-based Oxfam workshop on gender and markets[23] run in June 2016.

Pre-production. Men make decisions on pre-production activities (e.g. how to allocate investment of savings), while women have varying levels of influence depending on the scale and type of production. The authority that men have stems from the social norms and control over assets, while women would require permission from men to undertake production activities and to use household assets. Valued household assets are mostly registered in the man's name, who is the 'household head', even in instances where the assets were jointly acquired by both women and men in the family. The imbalance of power in decision making and subsequently over productive assets between men and women remains as a key gender barrier to economically empower women.

Production level. In most agricultural production activities, women and children perform much of the manual operations such as planting, weeding, watering, applying fertilisers and harvesting, while men periodically support with activities that involve the use of mechanised equipment such as ox-driven ploughs. If interventions do not critically analyse gender barriers and inequalities at this stage, this often affects the end result of the product produced in terms of quality and quantity. In some instances women are permitted to make use of the marginal pieces of land with limited productive resources, which often limits the scale of operations. In other instances, women tend to prefer giving their full effort to micro-level ventures where produce is sold in local, in-

20. A key example of this is a report submitted by the UN's Special Rapporteur on extreme poverty and human rights, Magdalena Sepúlveda Carmona. Accessed on 15 February, http://www.ohchr.org/EN/Issues/Poverty/Pages/UnpaidWork.aspx

21. Chipfupa, U., Moyo, B., (2015). *Household Care Survey: Zimbabwe Report*. Oxfam, Harare, p17.

22. Thomas Tichar and Lynnette Tshabangu co-facilitated these workshops for Oxfam as a contributing partner to the LFSP programme. The value chains assessed were groundnuts, goats, sugar beans, maize, poultry and cattle. The workshop selected participants and sectors to try to capture systemic gendered issues in a 'typical rural household'.

23. Led by Thomas Tichar and co-facilitated by Lynnette Tshabangu, for Oxfam as a contributing partner to the LFSP programme. A summary of the findings from this workshop are available in annex 6.5.

formal markets and they can retain some level of control over the proceeds. This stage therefore has great potential to contribute towards successful enterprise development if investment is channelled to facilitate for women's economic leadership or participation in decision making processes over the proceeds.

Marketing. Men typically participate in distant, more formal, markets ferrying larger volumes of produce, while women are more often involved in local markets for limited volumes of produce. Gender stereotyping of the market means men dominate these spaces and create social barriers for women to effectively negotiate for their participation in the markets. When income is generated, men tend to have more power over it; hence the chances are greater of men taking over from women once a venture proves to be profitable. Again, this tendency is rooted in the social belief that men are the sole-bread winners who should fend for their families.

Women's producer groups. Dynamics tend to change if women become more involved in production, ownership of the assets remain with them, and they gain confidence from being part of a producer group (PG) and negotiating on price when selling in markets. However, a number of barriers can emerge in this process; first, if attendance to trainings and meetings means either that women's time for household responsibilities is limited or distances are too great, can cause high drop-off rates. Second, PG membership can sometimes be considered a challenge to her husband's authority and she can be encouraged to step out.

Projects and programmes that illustrate greater success when measured in terms of women's empowerment have interventions that seek to address these household, production, sales and producer group dynamics from the start and during the project cycle to ensure that the men in the community are involved through consultation, consent and adoption of care responsibilities.

Legal policy and practice. With regards to legal provisions for gender and women's rights, Zimbabwe is a signatory to the 2003 Maputo Protocol to the African Commission on Human and Peoples' Rights on Women's Rights. The protocol indicates the need for African states to promote women's access to and control over productive resources such as land and guarantee their right to property. Moreover, the country constitution recognises men and women as equal citizens in every respect. While these instruments provide the framework for equal rights between men and women, mechanisms for implementing the provisions remain a constraint; the greater rural population in the country are under the Customary Law, which in principle is governed by patriarchal systems, and so raise social and cultural barriers for women to have access and control of productive economic resources such as land. As a result, women are mostly negotiating their access to economic assets, especially land, through the men – fathers, brothers, husbands, uncles or male-dominated traditional authorities. This limits their ability to engage in economic activities, such as accessing credit in their names, since assets which can be used as collateral are mostly registered in men's names.

4.4.2 Youth

There is a strong perception that youth are less reliable as they are highly mobile, and will migrate either domestically or to neighbouring countries to seek employment. However, during the FGDs with youth groups it was highlighted that this mobility is determined by pragmatic decision-making given the available opportunities and that, given the option to earn a living in their communities, young people will tend to remain where they are.

First, young people are more hesitant to get involved in agricultural activities that depend on natural rain seasons, weak infrastructure and public services because of its unreliable and slow source of income. Hence they tend to shun farming and instead explore non-agriculture opportunities, as the former does not provide them with any income security and there are no guarantees during droughts and dry seasons. However, in instances where youth are in irrigation schemes, they are kept busy throughout the year and there are high chances that their movements are more stable since they are assured of constant flows of income.

Second, most youths in the value chains tend to be providers of labour to enterprises

owned by parents, relatives or anyone with the means of production. With the current push by government to recognise youth as key players in all spheres of development, some youth groups and individuals now run enterprises in their own rights but it is not a significant number.

Third, youth groups that are producing something generally lack formal training in their chosen fields; those in farming tend to use knowledge passed down from older generations and apply whatever they have learnt in a household set-up. The youth interviewed in Mutasa, Chimanimani and Macheke generally agreed that they get support from extension workers on request but have not received proper training. They also lacked training in business management skills, hence their challenges in securing viable markets for their produce.

Fourth, due to mainly their age, most youths do not own or have access to resources, particularly land unless they inherit it from deceased parents. Young women are worse off in their situation as compared to their male counterparts; as explained in earlier sections on gender, female youths are in practice barred culturally from inheriting their deceased parents' land and other assets although the laws and national policies provide for this.

Finally, young people are considered a high risk for credit and finance provisions by finance institutions. A national-level study showed this often to be likely, wherein a $10 million Kurera-Ukondla Youth Fund was established as a revolving loan fund in 2011 by Old Mutual working to improve levels of employment and act as a stimulus for growth in the country.[24] Mid-2016 results by the fund-disbursing institutions showed that about 97% of the youths who benefited from the fund had not paid back the loans.

On the other hand, results from a past ILO-supported horticulture project in Mutoko, "Microfinance Takes Youth to New Levels" included a group of youths that managed to borrow from Microking, a microfinance institution, and repaid within a period of three months instead of four as originally agreed loan conditions. This earned the group of youths a second cycle of loans whose loan value increased by between 50 –150%.[25]

24. http://www.oldmutual.co.zw/news/newsdetail/2014/12/02/old-mutual-statement-on-kurera-ukondla-youth-fund-progress

25. International Labour Organization (2015). Skills for Youth Employment and Rural Development Programme in Zimbabwe: A Compendium of Success Stories. ILO, Harare.

5

SECTOR-LEVEL ANALYSIS

The following sections provide a sector-specific overview of three of the short-listed products and value-chains, namely apiculture, artisanal mining and mopane worms, followed by a review of the horticulture sector more widely.

Each of the sections gives an introduction to the sector, followed by and in-depth dive into the key value chain stages of production, processing, purchasing, distribution and sales (though not always in the same order) which corresponds to the respective market maps. Each section also contains a review of the political-economic context and is concluded with a summary in a SWOT table.

5.1 Apiculture

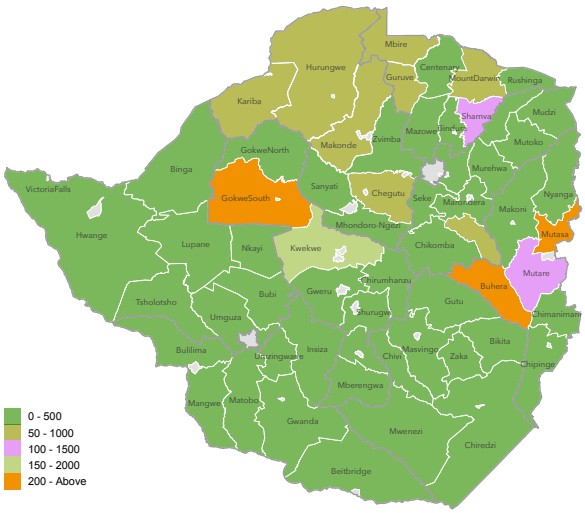
Beekeeping in Zimbabwe has the potential to improve the livelihoods of smallholder farmers, while at the same time provide substantial benefits to both crop production and conservation of trees and forests. The production of honey, beeswax and pollination services provides a secondary source of income for smallholder farmers, whose traditional source of income is predominantly from livestock, horticulture and cereals. Zimbabwe has a hive population of more than 85,794, with an estimated number of 15,967 beekeepers producing an average of 69,730kg

per year, against a potential of 427,000kg (Nyatsande, et al, 2014).[26] The current low production levels are largely due to the predominant use of traditional low yielding hives and the quality is generally poor. There is however a growing proportion of modern hives, especially the Kenyan Top Bar Hives (KTBH) which has been widely adopted in the country, with Mutasa, Lupane and Mudzi districts currently having the highest population, as shown on the map below.

In 2014 there was a national average of 20% KTBHs in the country. A 2015 study conducted by Environment Africa (EA) reported an increase up to 40% KTBHs on average in 6 districts – and though some of these districts were ones that already had relatively high amounts in 2014, it illustrates a positive trend in adoption rate, as well as a sector that has potential for growth. Moreover the government has set targets to produce 500,000kg of honey by 2018, as well as clear result areas of intervening to develop the sector.[27] This presents a great opportunity to build up on these aspirations and strengthen the beekeepers' organisation, production and marketing systems.

In apiculture, honey is the main product which is made for human consumption, though it has potential for other uses as a sub-product in non-consumable goods. Similarly, the wax can also be used for a variety of goods. Honey is popular both due to its sweet flavor as well as its health benefits, as an aid to strengthening the immune system and contains 'natural' sugars which are a better alternative to processed types.

Market demand for honey. The desk-based research and interviews suggested a strong potential for scaling up honey production to commercial-levels; the practical evidence is illustrated by the sale of smallholder honey through the DfID-funded LFSP programme (more details on this section 5.1.3.) that illustrate both an existing domestic demand as well as a potential export demand. Other research showed that it is recognised as a nutritious and healthy food, and so is sought after, especially during the winter period to strengthen people's immune systems.



Map 2: KTBH distribution across districts.
Source: Nyatsande S., Chitesa A., and Shayamano I., (2014). Beekeeping In Zimbabwe. A paper presented to the APIEXPO Africa 2014 held in Harare 6-11th October, 2014.

5.1.1 Women and youth in apiculture

Beekeeping in Zimbabwe is practised by both women and men across age groups from youth to adults. An ecological study conducted by EA in six rural districts of Zimbabwe (2015), revealed that beekeepers ranged from 18 to 93 years, with the majority of them in the 40 to 49 year range. The study further revealed that around 87% of beekeepers involved in apiary management were men. However, with the adoption of modern technology, including KTBHs, which does not require beekeepers to pitch their hives in trees, women are increasingly participating in apiary management, which includes hive inspection/monitoring and fire protection through establishment of fire guards around the apiaries.

Given the physical nature of managing traditional hives, men have been predominantly involved in honey production and, as a result of which they have more often been targeted for training and capacity building programmes than women; in Chimanimani, women revealed that they rely on men to acquire beekeeping skills such as hive-making, inspection and harvesting. The biggest motivation for women to engage in honey production was mostly the low capital requirements, as well as the seasonality of production, al-

26. However other respondents dispute these figures, including the chair of the recently established APEX platform who was involved in the research done for the 2014 Apiculture Expo; they indicated that the research was not comprehensive and done too quickly.

27. Government of Zimbabwe (2013). *Zimbabwe Agenda for Sustainable Socio-Economic Transformation (Zim Asset): Towards an Empowered Society and a Growing Economy. October 2013-December 2018.* GoZ, Harare.

lows for women to effectively manage their time in terms of meeting other household care responsibilities. The women highlighted that their collective power through group organisations to manage forest based apiaries helps them support one another informally, complementing the more formal training.

The current use of forest areas designated by local authorities in both Mutasa and Chimanimani to set up apiaries, has meant that there are no barriers for both youth and women to have access to land or forests required in beekeeping. However, as the market system for honey is being established, considerations should be made to ensure that equal access for both men and women is maintained.

5.1.2 Environmental impact

Beekeeping is a climate-sensitive practice, being vulnerable to both drought and heavy rains; drought causes a decline in flowering and therefore nectar for bees, which in turn yields lower amounts of honey. Similarly, even if flowering is sufficient, bouts of heavy rainfall deters bees from going out to collect the nectar. Finally, forested areas are usually preferred as not all plant types (including most crops) yield honey that is preferred for human consumption.

On the other hand, beekeeping can be a great incentive for communities to better manage forestry; selling wood or charcoal is a common alternative source of income for poor, rural communities. Beekeeping encourages the maintenance of forested areas including managing veld fires. As such, apiculture can promote a greater awareness and sustainability of the ecosystems required for honey production.

Pollination services using bees also has great potential to generate income for beekeepers, especially in the horticulture sector as this is currently limited to areas such as Nyanga where stoney fruits are produced. The Livestock Production Department has recently demonstrated that bees are beneficial in improving crop yields through crop pollination.

5.1.3 The market for apiculture

The following description of the apiculture value chain corresponds to market map 1.

A. Production. Honey production is traditionally done for consumption and sales into local markets or wholesalers (e.g. middlemen) as a means to generate an income for immediate consumption or purchase of goods. There is little recent history of small-scale beekeepers independently producing and selling into formal markets. However, projects being run by EA over the last 4 years and Thornwood/Westale (with DfID funding through the LFSP programme) since October 2015 have begun to push up the scale of production and quality of honey to try to meet market standard requirements (see section C for more detail).[28]

Beekeeping is generally considered a good opportunity as a complementary source of income; start-up costs are relatively low, with protective clothing and tools, such as smokers, estimated at around $95 and, given the timber availability, KTBH costing $12-15 – or even just $5 if purchasing the wood, plastic and nails separately and building it oneself. By comparison the cost of another modern beehive, the Langstroth hive, is estimated at around $200 (without start-up kit) which largely explains why its adoption in the country has remained very low (see table below). Currently most of the beekeepers are using indigenous techniques to smoke the hives during harvesting, some of which are harmful to the bees and the environment.

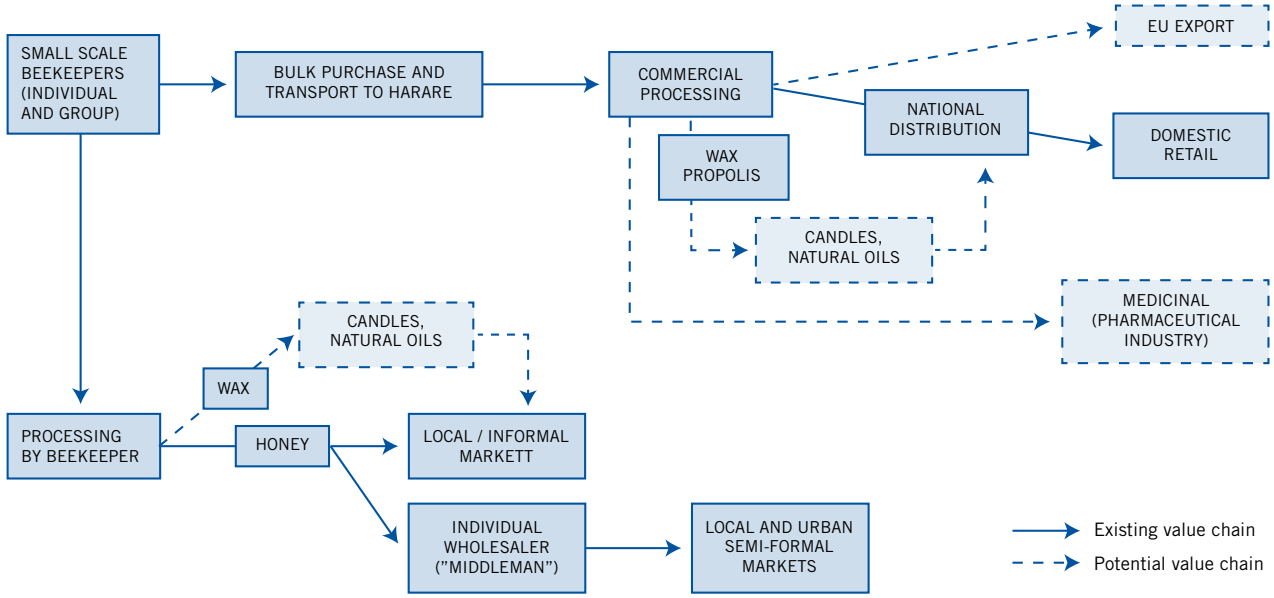
Smallholder production of honey is predominantly made using traditional beehives. This is considered inferior to the KTBH as the design of the latter allows for beekeepers to check on honey maturation without breaking the hives and disturbing the bees. The KTBH is the model being introduced to almost all beekeepers through NGO and public sector extension institutions.

28. Thornwood and Westale are both private companies. They have both been receiving funding from Palladium, a consultancy that is part of the Livelihoods and Food Security Programme (LFSP) funded by DfID and managed by FAO. For more information see https://lfspzim.com

Table 2: Selected Zimbabwe MDG indicators

PROVINCE	TRADITIONAL HIVES	KENYAN TOP BAR	LANGSTROTH HIVES	TOTAL PER PROVINCE
Manicaland	10,098	1,324	135	11,557
Mashonaland East	1,530	1,337	10	2,877
Mashonaland Central	5,054	274	15	5,343
Masvingo	2,160	435	23	2,718
Matebeleland North	64	11	954	1,029
Matebeleland South	38	130	15	183
Mashonaland West	16,793	3,531	1,100	21,424
Midlands	33,586	7,062	1,540	40,663
NATIONAL TOTAL	**67,172**	**14,124**	**2,215**	**85,794**

Source: Nyatsande, et al, 2014



Market map 1. Apiculture value chain

While honey production can in principle be done throughout the country, the amount of vegetation and flowers required to produce for commercial scale limits it to more forested areas that receive more rainfall. The above normal rains predicted for the 2016-2017 agriculture season is causing decreased honey production in the short term – as excessive rains cause bees to migrate or collect a limited amount of nectar – though this is expected to produce higher yields later on in the year. Smallholder farmers indicated that production of honey is also affected by ants which kill the bees for food.

Honey is typically harvested during 2 seasons a year, December – January and May – June, though harvesting is relatively flexible and can also be done outside of the season. An ecological study by EA in 2015 revealed that average productivity is around 15kg of honey per hive located within 3km from an orchard against an average of 10kg per hive produced by hives located beyond 3km from an orchard. This is very low compared to the estimated potential of 40kg per KTBH per year if optimally functioning.

Where development partners are working closely with beekeepers, they facilitate their organisation using the concept of Bee Farmer Field Schools (BFFS) approach. This approach facilitates for each BFFS to have a lead beekeeper with an apiary where farmers meet periodically to exchange and share knowledge, bulk produce, host honey buying days (where buyers are invited) and field days. As a result, the BFFS is a key platform for engaging on apiculture issues for the participating beekeepers at community level.

B. Purchase and/or processing (informal). Interviews indicated a high variation in price per kg of honey, from as low as $1,20 up to $2,50 p/kg. The lower prices tended to come from 'middlemen', e.g. informal purchases from individual beekeepers who hadn't been trained on honey-grading and so weren't aware of the scale of quality. Despite honey being a non-perishable good, producers complained that they would have to sell at the quoted price as the middlemen took it as a 'take it or leave it' offer, given that they were mobile and both parties know that there is no other readily available market for producers to sell into. These middlemen will often add sugar or water down the honey and sell them by the roadside or on the street.

Alternatively, beekeepers can process and jar their honey by using a simple cloth to separate the honey from the wax. Within local markets a 350ml jar could be sold directly to a consumer for $2 (or to a shop owner for $0.80). Discussions during the FGDs with Mutasa and Chimanimani communities revealed that honey sales for most rural households is contributing an average of 7 to 10% of total household income.

In terms of capacity-building, a number of departments with ministries are involved (see section E for more detail) as well as training provision through NGO activity – see case study box 1 in the section below.

Case study 1: Spillover of training in apiculture by Thornwood and Environment Africa.

With DfID funding from Palladium under the LFSP programme, Thornwood have provided training both in Harare as well as in the field to groups of around 25 beekeepers. The field trainings are combined with collecting unprocessed honey. The training is tailored to more experienced beekeepers, so as to 'top up' their knowledge rather than introduce an entirely new practice for them. They are mandated to provide training to at least 25% women and as of the latest December 2016 report have trained 628 beekeepers, of which 257 (or 41%) are women. This report also stated that during the last quarter of 2016 field trainings have temporarily been stopped until more honey is available, so that the training days can be combined with buying days.

Thornwood provides the initial training, which is mostly technical (rather than about business or environmental practices) covering beekeeping management and input service provision, such as how to make smokers and clothing that can then be sold to other beekeepers, as well as how to build a KTBH. In addition they have also trained women's groups on how to use honey to preserve food.

As part of the initial training, agreements are made with the experienced beekeepers to then introduce beekeeping to other community members. Environment Africa (EA) follows up with them by organizing a beekeeper farmer school day, where these more experienced and trained beekeepers train novice beekeepers or those with no prior experience. This aims to reach 75 people per session. EA also includes training on ecosystem management and use of wax to make and sell candles, as well as other potential uses such as making natural oils.

An officer from the Department of Livestock (DoL) indicated that about 25 district-level livestock officers in Mutasa

had also attended either Thornwood or EA training on apiculture, and since August 2016 had themselves trained about 100 farmers a month on apiculture management. In the short term he said that they plan to go back to these 500 or so beekeepers that they've already trained to build on their knowledge before continuing to train new ones. He noted that, while there was an initial perception that women may not want to get involved, the training changed women's own attitudes about safety and their opportunity to be involved. Apart from sales of honey, women were especially interested in the potential to make and sell candles an oils into local markets.

C. Purchasing and processing (formal). There are reportedly few commercial-scale honey processing plants in Zimbabwe, which include Westale, Organo Seven[29] and Natural Forests. There are indications of backward linkages from some of the private sector players such as Westale which is currently working together with a training and transport company specialized in apiculture called Thornwood. With funding from Palladium they are providing training to beekeepers to improve the yields and quality of their produce, and offer a guaranteed price of $2,25/kg of A grade honey. For more details see case study box.

Since the training-and-purchase project was launched in October 2015 a total of 12,103kgs of honey has been purchased from 135 beekeepers – though they indicate the amount of beekeepers is likely higher as the lead beekeepers also act as aggregators and sell on behalf of others. At the start of the project they offered sales of $2,50 but given competition from imported honey had to drop bottle prices, which in turn meant they had to decrease kg prices by $0,25 in August 2016.

With the support of development organisations such as EA and Zimbabwe Farmers Development Trust, honey processing centres have been established to support honey production in communal areas. However, the inability of beekeepers to evolve beyond production to run the centres commercially when a funded project exits or at the end of a project funding phase (which withdraws technical expertise in business development and management) means the collapse of a lot of these centres. EA has established honey processing plants in Chimanimani (Bumba with a capacity to process 35-45mt/yr) and Wedza (Chigondo with a capacity to process upto 5mt/yr), which was established using COMESA standards. The centres are reported to have been running, though by the time of the field visit in January 2017, the Bumba centre was closed due to internal conflicts and failure by beekeepers to manage it profitably. However, there is great potential if appropriate stakeholders are engaged in the establishment of the processing centres to create decent employment, especially for youth, raise the standard of living of farmers and significantly contribute towards food and nutrition security amongst the small holder farmers.

D. Distribution, domestic and export markets. Westale, together with Windward[30], have developed a branded bottle for the honey it processes called 'BeeWell'. Working through national distributors Netrade and Warpack, BeeWell is currently being sold in 167 retail stores throughout Zimbabwe (including TM, OK, Choppies, Spar and Molden Marketing) for $3,89 per bottle. As of latest reporting (December 2016) they had sold an overall total of 21,360 bottles (7.3MT) and are confident they could sell more with a higher supply of quality honey. An import ban on South African honey due to an outbreak of foul brood disease has meant less competition from potentially cheaper imported honey, though reportedly Zambian honey is currently also available in some retail stores at a higher price than BeeWell.

Westale is also working with Windward to explore the potential of exporting to the EU. The main barriers to this market concern quantity and certification; on quantity, according to Windward, European buyers would require at least 20MT of processed honey per shipment, or simply wouldn't want to do business. At current rates of supply this isn't feasible.

29. Organo Seven Private Limited is an Agro-processing company dealing in organic foods. They process honey and are suppliers of the KTBHs, beekeeping equipment and accessories.

30. Windward Commodities is a UK-based company with a for-profit and social-impact model; it works in a number of developing countries with local partners to support the establishment and strengthening of supply chains that originate from smallholders.;

On certification, there are two constraints; first, to enter the EU market Zimbabwe would require both 3rd country status for honey as an animal product (which it currently doesn't have[31]), as well as becoming HACCP certified (a food safety standard) which costs around $200,000 and can take at least a year to go through. Second, the relatively high cost of Zimbabwean honey production would make only niche markets such as fair trade and/or organic potentially viable, and which have additional certification costs. Given this, Palladium were initially considering to fund a more thorough national review of the actual amount of beekeepers and their productivity currently in Zimbabwe (given no reliable data is currently available) to ascertain whether it would be worth pursuing various certifications. However, given the lack of honey in the market at the moment it has been determined that this review cannot currently be justified (as late February, 2017).

E. Enabling environment. Beekeeping and honey production in Zimbabwe is regulated by the Bees Act which is administered by the Department of Veterinary Services (DVS). According to the Act, the DVS is mandated to deploy inspectors of surveillance and monitoring for the bee health and diseases, as well as the prevention of entry, establishment and spread of exotic diseases and pests through movement of bees, honey and related by-products and equipment through trade. The Department of Livestock Production and Development (DLPD) is mandated to mainstream apiculture in extension services in order to improve productivity and quality standards. The Forestry Commission also has a key role in the promotion of beekeeping through the training of beekeepers to enhance the conservation of trees and forests. However, for the development of honey processing centres as well as its corresponding business operations and management, collaboration will be required with other ministries such as the Ministry of Industry and Commerce, as well as the Ministry of Small to Medium Enterprises.

With regards to organising the beekeepers in the country for effective engagement with key stakeholders, there is a Beekeepers Association of Zimbabwe (BAZ) whose mandate is to promote and develop productive beekeeping, including trade, adoption of appropriate technologies that are environmentally friendly, and create linkages between honey producers and relevant stakeholders locally, regionally and internationally. It currently has around 2,000 registered members, against a estimated population of more than 15,000 beekeepers in the country. The association is currently closer to the government departments than it is with the beekeepers, as they lack the resources to build closer ties and stronger representation in targeted areas, though the willingness is certainly there.

5.1.4. SWOT summary and recommendations

The following is a summary of the key strengths, weaknesses, opportunities and threats of the sector based on the above analysis, followed by recommendations.

STRENGTHS
Non-perishable
KTBHs accessible for women (being on the ground)
Relatively low start-up capital (hive, protective clothing, hive tools around $100)
Prioritised by government and donor investment
Encourages forest management (no cutting, minimizing veld fires) and doesn't need additional land
Big domestic demand
OPPORTUNITIES
More women can participate in the sector with ease, and can be done alongside care work
High potential for economic sector growth
Sector earmarked for growth and development in the economic blueprint ZIMASSET
High potential for youth employment creation through processing centre development
WEAKNESSES
Exploitation by individual wholesalers (as low as $1.20 kg) while for quality can be up to $2,50
Uncompetitive by comparison to foreign markets (Zambia $0,90, S Africa $1,10)
Training and follow-up required
Organization to connect to markets
Affected by veld fires and climate
Potential for theft (not close to homestead)

31. This status is required to ascertain the country has complied with the residue monitoring requirement, which ensures potentially harmful pesticide residues aren't in honey imports.

THREATS
Climate change impacts negatively affect honey production
Insecure land tenure threatens women and youth's access and control of land for bee-keeping
Poor organisation of beekeepers across organised groups and their subsequent linkage to the national association threatens their ability to engage with markets effectively
Poor colonisations of hives and limited research and technology development affect productivity

Recommendations.

1. Complement existing initiatives. There are already a lot of initiatives being implemented by private, public and non-profit entities in the areas where ILO is looking to work on apiculture, but that are far from being commercially viable. The following recommendations are made on the basis that ILO would add greater value to the apiculture sector as a whole by building on the existing research and data that exists in the field (especially given that some of the figures are disputed), and working with others to help establish a viable market.

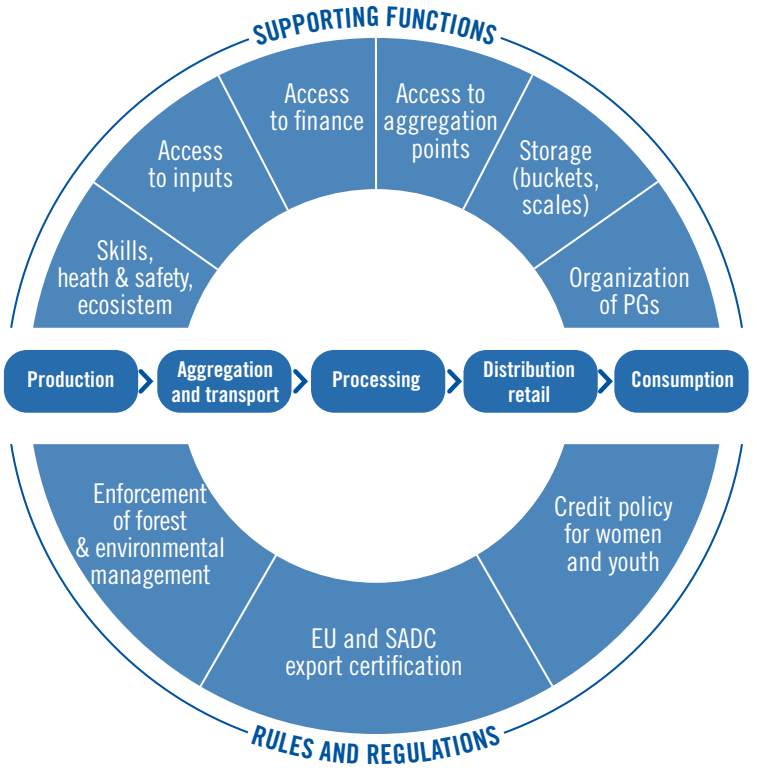
One example of this would be to support investing in research and technology development, and building on existing ecological studies such as FAO-funded floral and disease evaluation studies – especially in the targeted areas. This type of study can generate the evidence necessary to further assess the feasibility of establishing viable apiculture enterprises, as well as validating the extent of baseline investment in the districts.

2. Engage with key private sector processors. Alongside raising capacity, it is recommended to help establish more consistent ties between smallholder groups and formal processors. This can be initiated through on-going engagement with key processors, namely, Westale/Thornwood, Organo Seven and Natural Forests to identify what constraints they face and support they may require to create stronger ties to smallholders. This process should also help establish national pricing for honey (based on grading). A likely outcome will be developing regular locations and times for collecting honey, either through establishing physical stations, or working with IT services like that of Ecofarmer (an sms service through Econet, a local private mobile telecommunications company) to coordinate timing and location, or both.

3. Work with government to strengthen public services. Potential areas to invest in would be strengthening the capacity of the BAZ to be able to regulate business operations, especially for the community based processing centres. Equally, consideration should be made to ensure that governments departments are able to help deliver on the national ZimASSET strategy.

4. Explore potential for export in the medium term. Given the high cost of certification to enter the EU (and post-Brexit) UK markets, it is recommended that the project focus on strengthening the domestic market and explore the potential of regional SADC and COMESA export before looking further afield. This is because minimum requirements for quality, quantity and traceability (for niche markets like fairtrade), are quite high and are unrealistic in the short term. However, it should be kept in mind for the longer term as, according to Windward commodities, they are confident there is a niche market available in the UK and Europe.

Apiculture market system



5.2 Artisanal mining

The mining sector currently contributes 53%[32] (US$10.5 billion) of national total exports, supports 45,000 formal jobs and, anywhere between 200,000 to more than 500,000 artisanal miners, based on available data. Gold accounts for the bulk of the total mineral output value, which by 2016 stood at 40%.[33] The sector consists of large-scale and small-scale mining, with the small-scale miners mostly consisting of two types; the registered and formal, and the unregistered informal miners. The majority of these informal miners are involved in very small-scale manual mineral extraction using basic tools such as picks and shovels, and are often referred to as artisanal miners or 'makorokoza' in Shona. Alongside this, alluvial gold-panning along the river-beds has been a fall-back for the greater majority of the rural and peri-urban productive people, especially the youth who are faced with a shrinking job market, extreme weather events hitting hard on the agriculture sector, as well as limited employment opportunities in-country and abroad. One key informant interviewed in Mutare during the RMA exercise referred to gold-panning as "an open cheque" sector, where one is guaranteed of generating some income.

Table 4: Amount of gold originating from ASM

YEAR	2009	2010	2011	2012	2013	2014	2015	2016
Gold (t)	2.4	2.6	2.7	2	2	3.9	7*	9.7*

*Source: ZMF Presentation by Mr Takavarasha, 2015 *from news articles*[35]

This section will focus on these types of miners in the artisanal and small-scale mining (ASM) sector. Over the years this sector has come to play an increasingly critical role in mining – as evidenced in the table below – with the sector reporting to have contributed 34% of the gold produced in the country in 2016.[34] Trend analysis of the growth of the ASM sector indicates that there has always been an upsurge of players in gold-panning during the drought years as well as the dry season. While this is true on a broader contextual scale, there has always been a significant percentage of artisanal and small-scale miners in the gold sector who are well established and full-time in terms of their operations.

Around 70% of ASM miners in the gold mining sector, are reported to be working all year round.[36] However, the majority of people in the ASM sector typically lack the capital to invest, affecting their ability to acquire titles to mines and legal work contracts, and failing to meet required environmental and occupational safety and health standards. As a result they are pushed to mine marginal and/or very small deposits. The sector largely relies on family labour to work around the mining activities, in a bid to maximise returns.

In view of organising and supporting the ASM sector, the Ministry of Mines and Mining Development (MMMD) has facilitated the establishment of the Zimbabwe Miners Federation (ZMF), which represents and contributes to the development, growth and empowerment of the artisanal and small scale miners in the country. It has 26 regional and district miners associations affiliated to it, and has a total membership of 25,000 miners registered with the ZMF. The

32. Acessed 6 February 2017, http://www.chamberofminesofzimbabwe.com/wp-content/uploads/2016/05/CHAMBER-OF-MINES-2016-SPEECH.pdf

33. Accessed 16 February 2017, http://263chat.com/2016/10/economy-leverage-mining/

34. ZELA interview during RMA.

35. Accessed 28 February 2017, from http://www.sundaynews.co.zw/mines-forced-to-shut-down/ and http://www.herald.co.zw/2016-gold-production-increase-expected-form-small-scale-miners/

36. PACT Institute, 2015.

ZMF highlighted that about 30,000 small scale miners are legally registered as mine owners, with only a third of these (11,000), reported to be active by end of 2016.[37] The figures for miners in the ASM sector is currently difficult to establish since there is no centralised system in place to consolidate the existing data at provincial level in a systematic way.

Market demand for gold. There is almost always a demand for gold in the market, with the question being for how much, rather than whether, one can sell it. There has been no reporting of Fidelity refusing to purchase gold from ASMs because of a lack of demand further up the chain. More generally, Zimbabwe has arguably the second largest gold reserves per square kilometre in the whole world, with 13 million tonnes of gold surveyed to be underground.[38] By contrast, the country has only managed to mine 580 tonnes since the 1980s.

According to the World Gold Council (WGC) 2017 outlook, gold demand is expected to be driven by global economic trends such as opening of new markets, currency depreciation, rising inflation expectations, inflated stock market valuations and long-term Asian growth. One specific reported example was discussions with the Netherlands on gaining access to European markets.[39] The country needs to work on the supply side and guarantee that the mineral is being extracted in a way that respects the laws as well as the environment. In turn, the companies in the Netherlands would work on the demand side and promote that European markets distinguish between licit and illicit gold. Currently, Zimbabwe is out of the London Bullion Market Association since 2007, due to depressed gold output levels. There are thus a number of incentives to improving the legality and quantities of gold being produced.

5.2.1 Women and youth in artisanal mining

Men dominate the mining sector as they occupy levels of decision-making, especially in mining boards and large scale mining. One key informant interviewed in Harare referred to ASM gold mining as a "mafia" sector, characterised by a lot of high risk technicalities along the value chain. A study done by Transparency International in Zimbabwe (TIZ) in 2012 on the gold value chain, noted that women constitute only 10% of the small scale miners in the sector. However, there are indications that more women might be involved as illegal miners, partly due to gender barriers associated with accessing credit or loan facilities, thereby making them less visible compared to men. Additional details of the gendered barriers to women in mining are included in section A of '4.2.3. The market for artisanal mining' below.

With regards to youth involvement in the gold ASM sector, there are general indications that youth, who are mostly young men, dominate the sector. One study by TIZ indicated that 60% of miners in the ASM gold sector range from 16 years to 40 years, making them the bulk players in the sector.[40] Another study by PACT revealed that about three-quarters of the gold miners in the ASM sector completed secondary education, and only 3% has no formal education.[41] As a result, the sector is dominated by educated young people who have a potential for skills growth.

5.2.2 Environmental and health impact

The gold mining sector is considered a buffer to climate impact on agricultural production, perceived to providing a more reliable and consistent income alternative. As a non-agricultural practice ASM can be done year-round, so either complementing, or even replacing, farming practices (though small-scale kitchen gardens are maintained as a source of subsistence income). Both

37. Interview held with Mr Takavarasha, CEO Zimbabwe Miners Federation, on the 13th of February 2017
38. Accessed on 26 Feb 2017 https://www.theindependent.co.zw/2017/01/23/increased-demand-gold-spur-zim-output/
39. Accessed on 26 Feb 2017 http://gmaz.org/wp/netherlands-seeks-to-market-zim-gold/
40. Transparency International Zimbabwe, (2012). *Annual State of Corruption Report. A Look At The Mining Sector in Zimbabwe - Gold, Platinum and Diamonds.* Harare, Zimbabwe, p47.
41. PACT Institute, 2015

typical annual climate cycles and longer term climate change trends are not generally perceived to have an impact on ASM, other than that heavy rains can on the one hand prompt gold-panning as swollen rivers dislodge micro amounts of gold buried in river beds, and on the other can cause flooding of mines.[42]

On the other hand, both large- and small-scale mining are having a negative impact on the environment despite existing environmental regulations. An example of this was given during an interview with Zimbabwe Environmental Law Association (ZELA); a Marange diamond mine was found to be contaminating a river with the chemicals it uses to process ore. Downriver this makes it impossible for communities to use the water for agriculture, washing, cleaning and consumption, meaning that income gained through involvement in mining activities can negatively impact in other aspects of their lives and livelihoods. In a similar vein, mercury is used to separate out other minerals from gold in milling stations. It is however highly toxic and the Ministry of Environment, Water and Climate have investigated cases of mercury effluence being injected into rivers. Within milling stations miners have to stay relatively close to the ore processing to monitor and ensure as much gold as possible is extracted, but which can cause exposure to mercury. There has been a push (thus far unsuccessfully) to ban mercury use in mining under the UN Minimata Convention due to its environmental and health impact.[43] On the other hand, improved technology such as the Chilean or round mills, which do not require the use of mercury in gold processing, are already being adopted in the country. Current investment by Gold Genius in the Bubi district where a gold service centre has been established, is a good example of a gold processing centre that utilises improved technology and optimises gold production using environmentally friendly practices.

Case study 2: How the Ministry of Women's Affairs, Gender and Community Development supports women in artisanal mining

With government-backing the MWAGCD has been active in supporting women's income generating activities, both in sectors that are considered 'women-friendly' as well as those wherein they are heavily under-represented. As an alternative income source for rural poor, ASM is increasingly important, and a sector wherein the ministry has been supporting women's involvement at multiple levels;

Women's Development Fund and women's groups. Established in 2010, the Women's Development Fund (WDF) is a revolving fund which supports women in multiple sectors, including mining. The fund provides low interest loans (10% on annual basis), varying from $500 to $10,000, and have thus far funded 476 women's groups (with membership varying between 5-10 women) across all 72 districts of the country. The MWAGCD have also collaborated with the MMMD to support women's groups registering claims that are closer to their homes, so as to be able to combine household responsibilities with mining activities. Women's groups working in the mining sector have typically received the maximum loan given the costs involved in registration, operations and equipment – though recognize that these are still insufficient funds to properly scale up mining activities. As a revolving fund it was initially established with $20m and experienced low repayment rates when they started out (below 50%). However by 2016 they brought this up to 90% by, for example, coordinating with local chiefs to communicate that, without repayment, other women's groups would not be able to benefit from the fund. During interviews it was indicated that a shortfall of funds is the main constraint to scaling up.

42. At least 70% of small scale and artisanal miners across the country have been forced to stop operations as mine shafts are getting flooded by excessive rains. Accessed on 28 February, 2017 from http://www.sundaynews.co.zw/mines-forced-to-shut-down/

43. http://www.mercuryconvention.org/

Women's mining service centre. The Ministry has also established a women's mining service centre as a pilot project in Gwanda in September 2016. The centre provides equipment for hire, and ore transport and milling services, including cyanidation, for a fee. Women in particular face cultural barriers in the mining sector, making it more challenging to access these services and travel longer distances to milling stations that are located further away. Furthermore the service centre is looking to improve the amount of gold extracted from ore given the widely held belief that currently only 30-40% is extracted, with the remainder left in the left-over ore at the milling stations. This initiative is expected to go a long way in facilitating increased returns for women, at the same time ensuring that all the gold produced is channelled to FPR, which is the sole buyer of gold in the country. Based on the learning from this pilot project the Ministry is planning to fund additional milling stations around the country to benefit women's groups in mining.

5.2.3 The market for artisanal mining

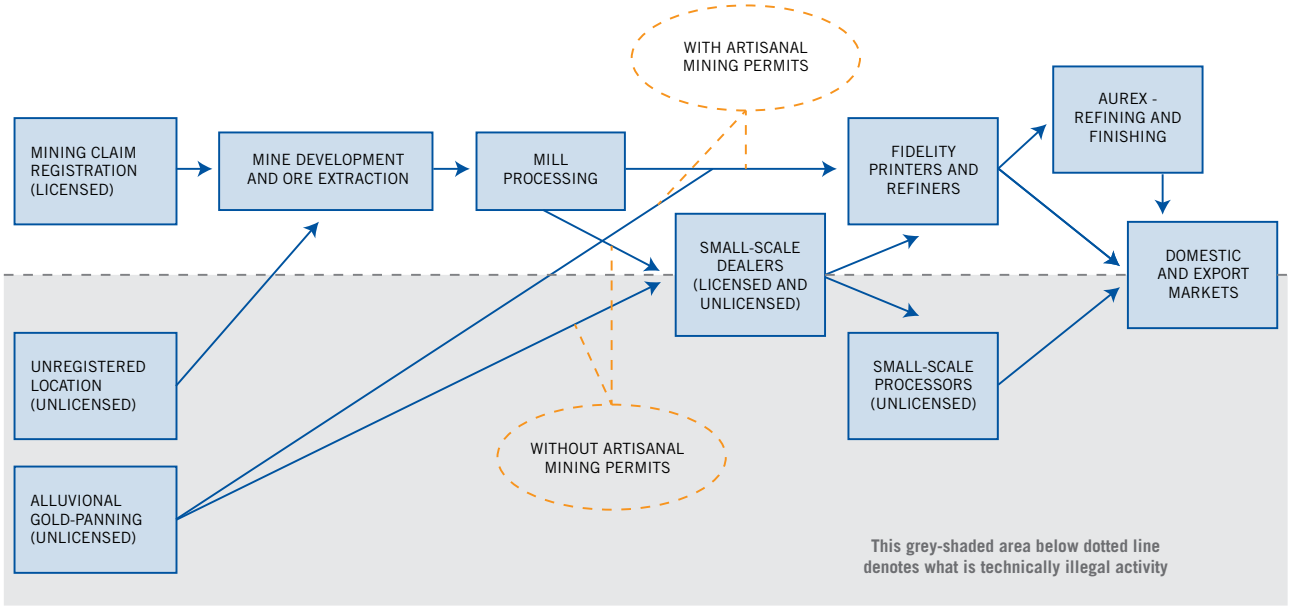
The following description of the artisanal mining value chain corresponds to market map 2.

A. Registration and production. According to the Ministry of Mines and Mining Development (MMMD), the key entry point to sustainable mining operations is on "title" or tenure security which is obtained through a process of registering a mining claim. As a result, any activity done in mining without a license is considered illegal and subject to penalty by law. Consultations with both miners and key stakeholders during the RMA process revealed that the cost of registering a mine claim is relatively affordable (around $700 - acquisition of prospecting license, hiring a prospector and registration of claim). While the registration provides security of tenure to the mining claim, the law requires for an Environmental Impact Assessment (EIA) to be conducted prior to mining operations. The costs associated with the EIA requirement are around $2,150 (minimum), pushing the entire costs expected to facilitate for legal mining to not less than $2,850. The table below shows these costs.

Table 5: Minimum costs associated with registering to be a formal miner

	PROCEDURE	DESCRIPTION	COST (US$)
1	Acquisition of prospecting license	A prospecting license can be acquired by a person over 18 years, and is not transferable. It entitles prospecting and pegging of only one block of claims for precious metals or base minerals on land set for prospecting, which includes communal land, state land, and privately owned land. The license is valid for two years.	$200
2	Hiring an approved prospector	This entails engaging an approved prospector (AP) who is registered in the Register of Approved Prospectors or a geologist. This is normally a free lancer and the fee is negotiated.	$300 minimum
3	Registration of claim	A certificate of registration must be obtained from the mining commissioner within 31 days of the day a registration notice is posted.	$200
4	Environmental Impact Assessment (EIA)	This is a legal requirement to be conducted and approved by the Environmental Management Agency (EMA) before any mining operations takes place.	$2,000 minimum
5	Review and approval of EIA	EMA charges a fee to facilitate the review process of the EIA and its approval.	$150
	TOTAL		**$2,850 minimum**

Source: Consolidated from field interviews, KII and literature review, RMA 2017.



Market map 1. Apiculture value chain

The ZMF estimates the average total cost for registering to become a formal miner is currently around $5,000.[44] Once the mining activities take off, additional charges required according to various regulatory frameworks and policies include income taxes for miners with contract employees, a carbon tax to EMA for the use of generators, an EIA review fee of $250, charged every quarter, as well as an annual $250 license fee to MMMD. Other fees charged to registered miners include a fee of 5.5% of gold sold to Fidelity Printers and Refiners (FPR), and a unit tax to the Rural District Council, which varies across districts.

In addition to these costs, a miner would also require capital to start the actual mining activities which can be roughly estimated at a minimum of $10,000. The capital is required to cover the cost associated with procuring or hiring mining equipment such as compressors, generators, explosives for blasting hard rock, milling services and transport costs. As a result, close to 75% of the artisanal and small scale miners in the gold sector nation-wide are operating with either the registration of claim certificate only, or without registering completely, which renders both cases illegal according to the law. The high costs associated with EIA, coupled with limited education around the importance of registering, were flagged as the main deterring factors for artisanal and small scale miners to properly register their mining operations.

As an initiative to support women to actively participate in the gold mining sector, the Ministry of Women Affairs, Gender and Community Development (MWAGCD) in 2016, supported 48 women (28 groups of 6 women each) to register mining claims in Guruve district (for more information on the MWAGCD see the case study box 2 above). Some of the women miners supported to register their claims indicated that this has helped them to engage effectively with gold production activities without fear of losing their claims to the state. They however indicated that their current challenge is associated with procuring of mining services as they still need to source inputs such as explosives from licensed buyers, hire compressors at a minimum cost of $80/ day, as well as hiring generators and transport to ferry the ore to registered millers in Shamva, which is around 170km from Guruve.

While there are initiatives in the mining sector by FPR – the only officially licensed company able to purchase gold in the country[45] – which is currently rolling out a $20 million dollar credit facility to support miners in gold mining operations, ZMF regards the facility as beyond the reach of small scale miners in view of the conditions set to access the credit. Limited access to credit facilities has

44. Interview held with Mr Takavarasha, CEO Zimbabwe Miners Federation, on the 13 February, 2017.
45. FPR is a subsidiary company of the country's central bank.

therefore created a conducive environment for 'sponsors' or middlemen, who are not registered miners, to inject funds into highly productive mines to facilitate mining operations. According to ZMF,[46] 'sponsors' have become a challenge for the artisanal and small scale miners, as their financial muscle gives them leeway to detect rules of engagement, and subsequently detect how the proceeds from the mine are shared between the mine owner, miners and the sponsor. Their informal engagement in the sector, which is mostly short term and unpredictable, does not facilitate for mine owners to invest in mine development operations such as creation of decent working conditions for mine workers and environmental management.

The absence of affordable credit facilities for miners also compromises small scale miners' ability to deter 'makorokoza' from encroaching into their mining sites. Indications from women miners in Guruve district were that they are finding innovative ways of co-existing with 'makorokoza', who would have initially invaded registered mines, to jointly work together. In this setup, the 'makorokoza' are regarded as 'temporary share-holders', as the mine owners regard the option of taking a legal route to evict the 'makorokoza', to be costly. The incentive for the 'makorokoza' to work under such arrangements is the guarantee that they will get an equal share of the proceeds as the mine owner. This arrangement is reported to facilitate for increased transparency and trust between the "makorokoza" who goes underground to dig the ore, and the miner who facilitates the processing and selling of the gold produced – see case study 3 below as for further details.

Case study 3: Employment of 'makorokoza' in mining

Emmanual Mongoni, a youth officer in Guruve, described an example of a medium-scale mine run by an individual male close to Guruve. About 50 male youths (or 'makorokoza') are employed in his mine, broken down into five groups of 10. Each of these groups works on one shaft of the mine. A typical day starts around 8 o'clock in the morning whereby the group of young men both manually excavate smaller portions of rock as well as lay explosives down to break down a larger portion of hard rock. The mine is cleared of people and the explosives are set off. The workers must wait for a few hours before going back into the mine for the release of dust and toxins in the explosives to settle, during which time they usually stay around the mine. Lunch is provided by the mine owner. They then extract the 'ore' in large blocks of rock and load this up on a truck to be taken to a milling station. This may take a few days before sufficient ore is extracted to go to the milling station. The owner of the mine goes to the milling station to monitor the processing of the ore.

The division of the profits is about 1/3 each for the mine owner, milling station and workers. The final amount of gold can vary tremendously, but with a reasonable location and good equipment an estimate was made of anywhere between 200-500 grams/week. Taking a lower average of 300 grams and assuming impurities to be mixed in and so pricing to be set around $30 p/gram, this makes a total of $9,000; $3,000 of this would go as payment to the 50 young men, making a total of $60 per person after about 5 days of work.

Scoping studies done around the ASM sector have revealed that more women than men are unskilled, and as a result women tend to work fewer hours at the mine compared to men. The household and reproductive responsibilities which women tend to bear the most further reduces their ability to spend more time around the mining activities. While this is generally true, findings from a focus group discussion with women in Guruve, indicated that women who are mine claim holders work more hours around the mine compared to women who are employed by the registered miners. The preference to spend more time at the mining site by women who are mine claim holders was largely motivated by the need to safe-guard the gains from the mine by keeping an eye on the actual mining process done by male youth - mostly 'makorokoza – as a way of ensuring accountability. The role of overseeing

46. Interview held with Mr Takavarasha, CEO Zimbabwe Miners Federation, on the 13 February, 2017.

the mining processes at times is delegated to a male family member, who can equally go down the mining shaft to get an appreciation of the actual mining progress. The poor health and safety standards around the mining shafts that 'makorokoza' work under currently deter most of the women miners to go under-ground.[47]

B. Mill processing. Following gold ore extraction, it is taken to millers for processing. The cost of registering a mill for gold processing which meets all the statutory requirements is currently at least US$15,650, as illustrated in the table below.

Table 6: Minimum costs associated with registering to operate a formal gold mill

PROCEDURE	DESCRIPTION	COST (US$)
Registration of claim	This is issued by the mining commissioner and at least covers an area equivalent to three mining claims (about 20ha)	$3,500 minimum
Environmental Impact Assessment (EIA)	This is a legal requirement to be conducted and approved by the Environmental Management Agency (EMA) before any mining operations takes place	$2,000 minimum
Review and approval of EIA	EMA charges a fee to facilitate the review process of the EIA and its approval	$150
Submission of a site works plan	This entails engaging exports to map out all the required technical specification for a milling centre that meets the required operating standards	$5,000 minimum
Acquisition of a custom milling license	This is an annual licensing cost charged by MMMD	$5,000
TOTAL		**$15,650 minimum**

Source: Consolidated from KII and literature review, RMA 2017.

As of 2016, the annual cost for a milling license was pegged at $8,000, which was too high for most millers, pushing them to operate illegally. As a result, this made it difficult to establish the number of millers in Guruve district, as the majority are operating illegally and prefer not to be recognised. The greatest cost of establishing a milling centre is in procuring the equipment required for gold processing. A study done by PACT (2015), indicated that at least US$80,000 is required to put up the necessary facilities. However, a lot of the milling centres in the country are reported to be ripping off miners as they tend to retain up to 70% of the gold in the dump due to use of inefficient equipment. As a result, reports on the use of mercury and cyanide to recover the gold from the dump has been documented, as well as its negative impact on the environment and health (see section 4.2.2. above).

On the other hand, more innovative companies such as Gold Genius (a South African company) are providing improved services; having signed a contract with ZMF in 2016 they are in the process of establishing 5 gold service centres that provide equipment (jack-hammers, explosives), technical experts (geologists, engineers) and primary jaw crushers and hummer mills that do not use mercury and cyanide. Apart from not using chemicals, this equipment is reported to have a 60% recovery of gold.

The economic blue print document, ZIMASSET, has set targets in view of supporting sustainable development and social equity anchored in indigenization, empowerment, and employment creation. In relation to supporting the ASM sector, the government has set a target, by 2018, to establish 8 provincial gold processing and buying centres and the registration of 500 syndicates,[48] which can translate to around 2,500 small-scale miners.

The country has in the past established models for gold service centres, such as the Shamva Milling Centre, established in the early '90s by Practical Action. Its success hinged on the partnership between government, development organisations and the miners association, in this case the Small-Scale Miners Association of Zimbabwe (SSMAZ). This partnership was able to address the real needs of small-scale miners for improved access to processing technology, gold buying points and training – especially around mining methods, geology, mine pegging, environmental management, health and safety, and business plan-

47. Please note that this was what was reported during the FGD in Guruve, which were predominantly middle-aged women and so not physically fit to go underground in poorly developed shafts. There are reported cases of women going directly into mines, though based on the findings this is a small minority of women involved in mining.

48. A group of individuals or organizations combined to promote a common interest. In ASM sector, up to six people can form a syndicate led by one representative - the staking agent.

ning and management. In the early phase of SMC operations, incomes rose by up to 30%.[49] The sustainability of the SMC was affected when funding ended, taking away with it the project management and other technical expertise as well as financial support, which presented challenges to the community to sustain the operations viably.

C. Purchasing. Access to gold buyers for the illegal artisanal and small scale miners has been mostly through intermediates or the black market. This lowers the bargaining power of miners to get a good price and has contributed to gold 'leakages' in the system. In order to address some of the market barriers and challenges in the ASM sector, a PACT (2015) study noted that in 2014 the government introduced Artisanal Mining Permits (AMPs) through gold service centres, FPR sites and licensed millers. The permit allows for artisanal miners to be formally recognised in the gold marketing system as they sell their gold to FPR. The permit is issued for free and is meant to deter the sale of gold into the black or informal market. This move however needs to be backed up by law, given that the current Mines and Mineral Act, which is the principal regulatory act, does not recognise the artisanal mining activities as legal. More details on this contradiction are in section E.

D. Refining and retail. Some gold is sold on to Aurex, a jewellers company and subsidiary of the Reserve Bank of Zimbabwe, for further refinement and processing to final products for retail. Some of these products are sold domestically but most are exported, as is gold which is also sold directly from FPR to foreign markets. Export markets are typically preferred by the government as it provides a source of foreign cash, especially US dollars which is currently in low supply.

E. Enabling environment. The Mines and Minerals Act (MMA) is the principal legislation governing the mines and minerals industry, which provides regulations for prospecting for claims, mining activities, maintaining health and safety, and abandonment of claims. The Act has been criticised for turning a blind eye on the ASM operations, especially in view of the high costs associated with licensing and conducting an EIA. Analysis done by PACT in 2015 highlights that the implementation of the MMA has disadvantaged the ASM sector, especially with regards to acquiring exclusive prospecting orders, which are associated with high fees beyond the reach of artisanal and small scale miners. As a result, ASM sector players' access to areas of rich gold deposits is constrained while these are readily accessible to large scale mining organisations, whose huge capital base enables them to hold onto large tracts of land for periods exceeding 10 years. This leaves artisanal and small-scale miners with access to low mineral deposit areas, or having to wait for the large scale claims to be forfeited to access them.

Implementation of the MMA has also been affected by the non-computerisation of the registry of claims. The MMMD is making use of an out-dated registry of claims, which leaves room for double or multiple allocation of claims, a phenomenon which has led to disputes over claims. ZMF (2017), highlighted the urgent need for a complete Mining Cadastre Information Management System (which is currently at 40% of development[50]), to facilitate the mapping out of who is on the ground in terms of mining and milling, in order to facilitate for transparency and formalisation.

While the MMA remains the most powerful act in the area of natural resource management, and seems to override all other acts related to mining activities, it has provisions that allows for land conflict management. Under section 31[51] of the MMA, it highlights conditions for ground not open to prospecting, such as the indication that for all land less than a hundred hectares a miner would need the consent of the farmer to prospect the land. The establishment of mechanisms for the arbitration of competing land-use options, proposed in the Draft Minerals Policy[52] (DMP), will also be critical, especially in mediating disputes between rural smallholder farmers and artisanal miners who fail to rehabilitate farming land after degrading it through mining activities.

49. PACT Institute, 2015.
50. Interview with Deputy Director, Mr Sibanda, Ministry of Mines and Mining Development, 9 February, 2017.
51. Mines Mineral Act, (Chapter 21:05)
52. PACT Institute, 2015

Case study 4: The current legal dispute around ASM versus their gold

Zimbabwe's central bank has 'decriminalized' gold possession, which contradicts the government's outlaw of artisanal gold mining. So while this can be viewed as a step towards formalising the ASM sector, stakeholders are questioning the sustainability of this initiative given the confusion between the current practice of FPR purchasing gold from artisanal miners with no questions asked, while on paper the government still has a ban on illegal gold mining; they argue that, despite the short term benefits of increased productivity and sales, it is unsustainable in the long run to set policy measures which have no legal backing.

While this debate has been going on, an announcement was made by the Reserve Bank governor Dr John Mangudya in the Monetary Policy statement on adoption of measures to boost export earnings and accumulate foreign exchange reserves. Part of the policy measures will see FPR (the official gold buyer) purchasing gold from artisanal miners on a no questions asked basis, notwithstanding government's standing ban of illegal gold mining. Under this initiative FPR will buy gold from artisanal miners through mobile buying centres to be deployed across the country, and RBZ will issue permits for buyers to cover mining areas with a high activity of artisanal miners, while in the long term the central bank will develop a database of artisanal miners to monitor production.

As questions rage over the sustainability of acquiring gold illegally and selling it legally dominate debate in the artisanal mining sector, stakeholders are calling for a more holistic approach that incorporates measures for increasing productivity in the gold sector, while at the same time legally recognising the ASM sector.

Case study source: Accessed on 16 February 2017 from http://263chat.com/a-closer-look-at-artisanal-mining-in-zimbabwe/

5.2.4 SWOT summary and recommendations

The following is a summary of the key strengths, weaknesses, opportunities and threats of the sector based on the above analysis, followed by recommendations.

STRENGTHS
Gold ASM is a growing economic sector
Has a greater proportion of the youth target group already engaged
Allows for full-time enterprise engagement all year round for the target group
Not affected by recurrent droughts and dry spells
OPPORTUNITIES
Greater scope for increasing target group employment
Increasing interest by both government and private sector players to support and link with the ASM sector
Scope to facilitate for decent work through formalisation
WEAKNESSES
Mining cadastral system currently at 40% computerisation
Prohibitively high registration fees prompting miners to remain informal
Lack of a legal and regulatory framework for ASM
Not a traditional sector for women, therefore has less documented numbers of women engaged in the sector
THREATS
Prone to environmental and occupational safety and health hazards
Unpredictable policy environment, reducing investor confidence
Lack of accountability and transparency in the sector
Easy entry for transient illegal gold miners

Recommendations.

1. Work with ministries related to mining, youth, women's affairs and environmental management to promote improved policy, transparency and regulation. Given the current mismatch between the existing policy frameworks and reality for the growing amount of artisanal and small-scale miners in the country, it is recommended that the ILO focus primarily on working with the relevant ministries to improve the following areas;

f. Registration fees for both individuals and groups are prohibitively high, especially given the operational costs that are also required to actually do mining. Creating greater transparency around these costs and working with representative ASM groups to determine what are more manageable fees that would help improve registration and legalisation.

g. Despite being able to register claims, the existing Mineral Cadastre Information Management System makes it difficult for claimants to prove ownership in disputes around land. Accelerating the completion of this system will help promote greater transparency and encourage more effective exploration and development of new mineral deposits.

h. The MWAGCD already have considerable experience in working with women's groups in the mining sector. It is recommended to collaborate with them in the following areas: further promote establishment of women's groups that have proper governance models (providing services and saving schemes to members); better understand the constraints women face between balancing mining and unpaid care work, and as a potential intervention, designate areas for access-to-mining for women only that are closer to homesteads to encourage more women's involvement; capture lessons-learned of the WDF over the last five years and use these to help develop the fund's strategy going forward.

i. There are on-going issues around environmental and health impacts given the expansion of a predominantly unregulated sector that makes use of hazardous chemicals. Organizations such as the EMA and ZELA are both involved in promoting improved regulation around this, as well as introducing alternative processing methods that don't require use of hazardous chemicals. It is recommended to support the enforcement of regulations such as the UN Minimata Convention and the use of improved processing models like Chilean or round mills. This of course will need to be balanced with capacity constraints of the small-scale miners.

2. Any investment in service centres should be done with a robust business and social-impact model. The Shamwa Milling Centre failed as a result of bad management by miners who were unable to turn a profit, while having a higher than anticipated demand of its services. Given this, the following are recommended;

a. Rather than simply investing in a single service centre, work with the MWAGCD and MYIEE to identify multiple locations where service centres could potentially be established given the needs of women and youth groups they are working with.

b. Develop a more robust business model on how these centres will need to be run given the needs of miners in general and women and youth specifically. This should be with a view to ensuring that they run as private entities, and provide services to both project and non-project beneficiaries. A component of this should be providing access to credit given the high start-up costs.

c. Experience can be drawn from the mining industry itself like current initiatives by Gold Genius, and the ZMF, which can facilitate linkages with experts necessary for a gold service centre. Additional services can include; the WDF for access to credit; providing support on governance and management of PGs; building awareness around unpaid care for the husbands.

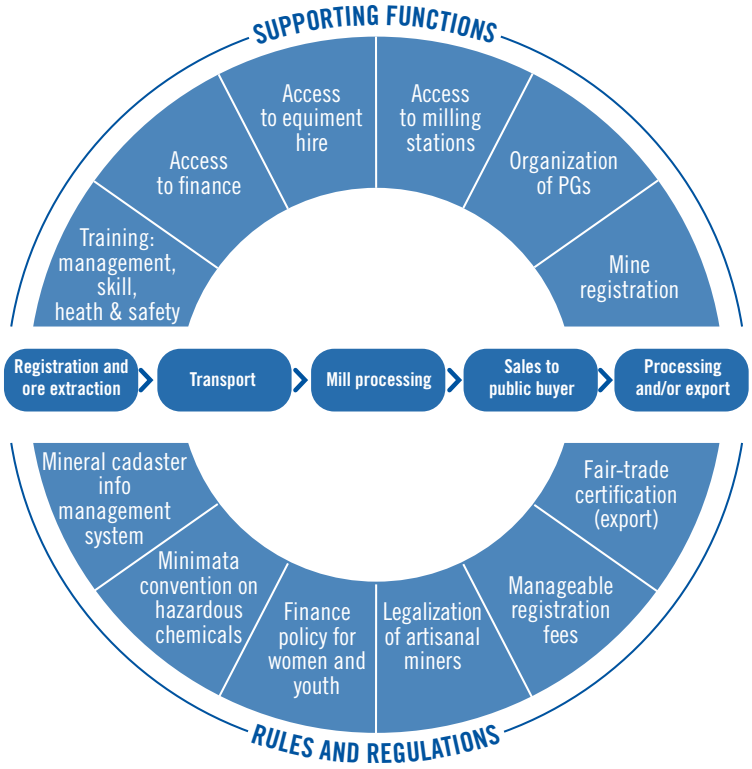
d. Consider requesting co-investment from Fidelity and women's groups themselves as an incentive to keep the service centres running. Related to this, it is recommended that they promote how much gold they extract by comparison to other mills to incentivise those other mills to extract a greater percentage of the gold for the miners (e.g. higher than the 30-40% now reported).

3. Youth-focused initiatives. Given the attraction of the sector for young people, and especially young men (who are given the name 'makorokoza' if they work illegally on land or are employed by those with claims), a large majority of which have secondary level education, there is a huge opportunity to lev-

erage this to promote a generation of technically skilled miners; TVET programmes can be tailored to develop technical (around mining and use of hazardous chemicals), social awareness (gender balance in the home and the mines), and leaderships skills (how to run a PG or SME including good labour practices). This could be linked to providing access-to-credit, which during FGDs and 1-1 interviews was commonly noted as a particular issue in mining given the high start-up costs.

Another opportunity to explore would be to work with ZELA which are working on the following initiatives; a summer school project that is due to be launched in 2017 to provide training to youth in mining in ASM in Bubi, Gwanda, Kwekwe and Penalonga; an annual indaba for youth from various parts of the country to discuss challenges they're facing in mining; researching options to try to work with Aurex to get fair trade certified gold for export, given human rights issues currently in the sector.

Artisanal and small-scale mining market system



5.3 Mopane worms

Mopane worms are a caterpillar, or larvae, of the mopane emperor moth that is classified as a non-timber forest product (NTFP). It derives its name from the mopane tree on which it gestates, consuming the leaves. Mopane trees are only found in southern Africa, including Zimbabwe, Botswana, Namibia, South Africa and Zambia, and grow in hot, dry, low-lying areas. In Zimbabwe the mopane worms (amacimbi in siNdebele, madora in Shona and mashonja in Kalanga) are mostly found in the southern districts of Chivi, Mwenezi, Mberengwa, Beitbridge, Chiredzi and Gwanda given the mopane woodlands found there. Communities in areas where mopane worms thrive use their indigenous knowledge and traditional practice to harvest and manage sustainability of the production of mopane worms. The knowledge is passed down from generation to generation. Harvest of mopane worms is mainly done on a small-scale basis by collectors, and revenue generated from the business is used to supplement family income.

Mopane worms are increasingly recognized as a significant contribution to household food security given their high protein content and nutritional value. This is becoming more important given that the areas where mopane trees grow are more drought-prone. Furthermore, mopane worms are becoming a source of income as a semi-commercial commodity in a number of southern African countries, though they are often undervalued and as yet not included in national statistics.[53]

The mopane worm outbreaks are seasonal and come during the rainy season, with up to two outbreaks per season – in November to January and in April to May. While it has traditionally been women and children that take part in collection and sale of the worms, in recent years, men have become more involved, given the income-earning opportunities that have arisen from the sector.[54] This increased commercial interest, together with harvesting for consumption in the last few years due to drought, has begun to cause concern of over-harvesting; by way of example, a recent report on the Bulilima district cited overharvesting and massive deforestation as a reason why the mopane worm has become almost extinct in an area that was once rich with the NTFP. The communities in the district did not harvest much in December 2016 except for the less liked green worm, and the next expected harvest in April/May is likely to be affected by the current poor rains in the area.[55] Good practice states that at least 10% of the worms should be left on the trees to allow the population to regrow.[56]

Practical Action, which is running a livelihood enterprise project there, indicated a similar concern; "Mopane worm is a viable and profitable enterprise. The only challenge that communities are facing is the availability of the product. In Bulilima district the quantities that they are harvesting are very small to create market linkages. Over the past two years limited mopane worms were harvested. They are nearing extinction in the district."[57] As a result, Practical Action had to drop working on the mopane value chain before the project was implemented three years ago and instead worked on the marula value chain. Practical Action had however, identified gaps in the mopane value chain such as in packaging and the limited selling /trading power of the collectors. Other studies indicate that the sustainability

53. Maviya J. and Gumbo D. (2005). *Incorporating Traditional Natural Resource Management Techniques in Conventional Natural Resources Management Strategies: A case of Mopane Worms (Amacimbi) Management and Harvesting in the Bulilia-mamangwe District, Zimbabwe.* Journal of Sustainable Development in Africa, vol. 7.

54. http://bio-innovation.org/work/mopane-worms/

55. Bulilima hit hard by Macimbi Extinction in The Herald of 20 December 2016, http://www.herald.co.zw/bulilima-hit-hard-by-macimbi-extinction/

56. http://bio-innovation.org/work/mopane-worms/?portfolioCats=4

57. Quote from interview with Reckson Mutengaruru, Practical Action Programme Officer for Plumtree, Zimbabwe.

of harvesting of NTFPs, particularly, the mopane worm, at community level for commercial purposes is also threatened by inter and intra-community conflicts generated by the enterprises.

5.3.1 Women and Youth in Mopane worms

A 2003 study of distribution of labour in mopane worm production and processing indicates it to be a relatively women-and-youth 'friendly' sector; the table below indicates a green-yellow-red / first-second-third most involved group by row in collection, processing and selling (coloured cells not in original). The main observations from this are as follows;

- Collection is relatively evenly spread across age groups, though by gender boys and men tend to dominate.
- However, when asked about processing, women heavily dominate, regardless of age except for the very young.
- Similarly for selling, age is less a factor than gender, whereby adult women tend to dominate over men, except for teenagers where it is more evenly spread.

Table 7. Mwenezi Study on mopane worm Involvement by gender and age.

MOPANE WORM ACTIVITY	ADULTS OVER 33 YEARS		ADULTS 18–33 YEARS		YOUTH 12–17 YEARS		CHILDREN 5–11 YEARS	
	M N=22	F N=39	M N=21	F N=28	M N=39	F N=40	M N=17	F N=17
Collection only (%)	27.3	5.1	4.7	3.5	30.7	2.5	29.4	0
Collection & processing (%)	41.5	89.7	28.6	92.9	66.7	92.5	23.5	70.6
Selling (%)	4.5	76.9	33.3	75.0	64.1	70.0	17.6	35.3
Buying (%)	0	25.6	14.3	25.0	12.8	12.5	5.9	5.9
Consuming (%)	95	94.9	76.2	85.7	92.3	87.5	82.4	70.6

Source: Stack J. et. al (2003)

However, a 2002 study[58] concludes that due to high unemployment in that period, there was a rise in the amount of young men becoming involved in the collection of worms. Furthermore, adult men tended to be involved in the more lucrative long distance and large volume trading chains of the mopane worm while women were confined to collecting, processing and selling to the local markets and sale of small volumes. They cite the reason that women have many other social obligations to fulfil such as working in the fields, harvesting, cooking, fetching water and generally looking after their families. These findings correspond to gendered results found in other value chains (see women and youth section 4.4).

5.3.2 Environmental Impact

A 2005 study[59] highlights that over the previous decade there had been warning signs in southern Africa over the potential over-exploitation of mopane worms. This was due to multiple factors; first, over-harvesting (similarly to the more recent report noted above), as well as a decline in selective harvesting (e.g. selecting both baby as well as fully grown larvae), the general increase in pressure on the mopane woodlands through deforestation, and changing weather patterns.

To mitigate against this negative impact, Maviya and Gumbo (2005) suggest that use of small scale mopane cultivation methods could assist families and villages retain their source of cheap and sustainable food and income. Awareness on the sustainable use of the environment as promoted by government and partner organisations promoting community based natural resources management (CBNRM) approaches needs to be increased in communities harvesting NTFPs. Similarly to apiculture, mopane collection could be a means to train awareness of forest management and a wider ecosystem approach.

58. Kozanayi W. and Frost P. (2002) *Marketing of Mopane Worm in Southern Zimbabwe.* University of Zimbabwe, Harare.

59. Maviya J. and Gumbo D. (2005). I*ncorporating Traditional Natural Resource Management Techniques in Conventional Natural Resources Management Strategies: A case of Mopane Worms (Amacimbi) Management and Harvesting in the Bulilimamangwe District, Zimbabwe.* Journal of Sustainable Development in Africa, vol. 7.

5.3.3 The market for mopane worms

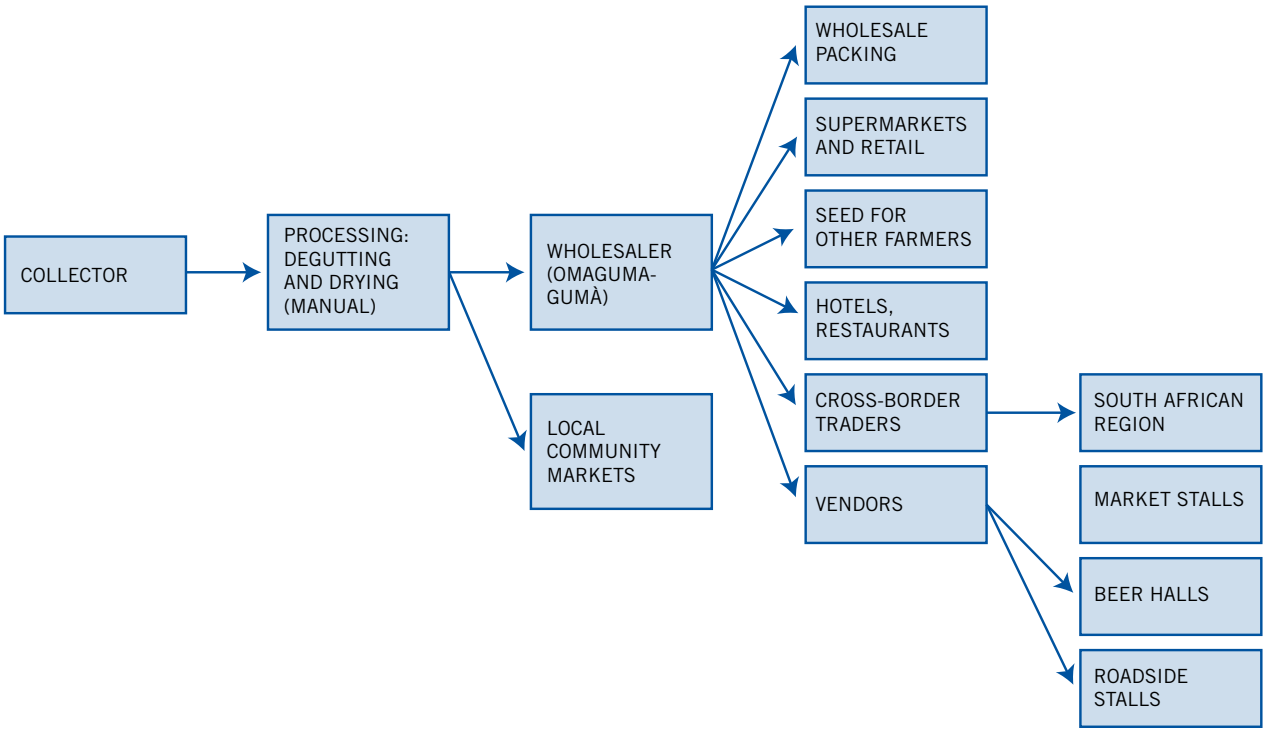
The following description of the mopane worm value chain corresponds to market map 3.

A. Input services, training and production. As mentioned before, mopane worms' natural breakout occurs twice a year (November/December and April/May). No formal training is required or done for the collection and processing of the worms, relying instead on knowledge which is handed down by each generation. The enterprise is not labour intensive when compared to other livelihood ventures. After harvesting the processing involves degutting – that is squeezing the worm to remove gut contents, par-boiling with salt to preserve the product and drying. The drying can be done by roasting the worms over heat or using the sun. Drying the worms prolongs the shelf life by at least a year. Collectors often work without the necessary protective clothing and gloves during degutting, which can cause cuts from the pricks on the worm.

Households use their usual utensils to process the mopane worms. As such, there is minimal upfront capital investment required in the processing stage. Depending on location, climatic conditions and vegetation, mopane worms can be either black or green. The latter has no thorns and is seemingly relatively easier to process. Buying either is dependent on the customers' personal preferences.

In terms of output a 2010 study stated that a mopane woodland of 4,000 hectares supports 19 million mopane worms which translate to 193 tonnes in weight.[60] And on a daily basis it is estimated that, during peak periods, individual collectors can harvest between 25-50 kgs of mopane worms per day. However, with the decline or even extinction of worms in a number of areas, collectors may have to travel over 10 km to other wards to collect mopane worms and in some instances even camp for days while collecting the worm. Transport from collection points is usually by head or, if there are long distances involved, ox-drawn carts are used to transport the collected worms for processing.

A number of not-for-profit organizations have come in to train rural producers, mainly on the sustainable use of the natural environment; in an FAO-funded project, Practical Action and the Forestry Commission are educating communities in the Bulilima district, that harvests NTFPs, including mopane worms, on the importance of looking after the woodlands to sustain the continued ex-



Market map 3. Mopane worms value chain.

60. Dube S and Dube C (2010), *Towards improved utilization of macimbi Imbrasia belina Linnaeus, 1758 as food and financial resource for people in the Gwanda district of Zimbabwe.*

istence of the non-timber produce such as mopane worm, marula and the baobab fruit.

B. Processing and/or purchasing. After degutting and drying, the mopane worms are at times sold mixed without any grading, and at times graded according to size. In collecting communities, the mopane worm is mostly sold unpacked using different measures such as various sizes of tea cups and plastic containers, and are sold either within the local community, or to middle-men. According to a Practical Action study[61], a 500 ml container – translating to about 250g of the worm – is sold for $1.00 within location of the collection area (by comparison in urban markets, the mopane worm is sold for $10 per kg on average). The collectors also engage in barter trade with mopane worms in exchange for basic grocery items and second hand clothing items.

While research findings did not reveal any evidence of value addition beyond drying and packaging in the country, a 2015 study suggests[62] that the worm is ground into flour and fed to children to curb malnutrition due to its nutritional values compared to beef and fish of the same size. They state that mopane worms contain 61% of crude proteins, 17% crude fats and the rest are carbohydrates and have a higher energy value compared to maize, soybeans and similar beans.

C. Distribution, domestic and export markets. Mopane worms have a long marketing chain. The points of sale for the mopane worms after collection seem to be diverse. Collectors on the ground usually sell mopane worms to local communities as well as to middle-men known as 'omaguma-guma' (translated as 'cheats') because they bargain for low prices and exploit collectors in the business (typically purchasing at $1/kg and selling at $10/kg). The middlemen buy the product in 50kg bags and sell to a number of players in the value chain that include large wholesale/packing companies, supermarkets, retail outlets, hotels, restaurants, vendors and cross-border traders. Vendors sell mainly in the informal market that include market stalls, beer halls and do roadside sales along main highways.

Some of the food packaging companies involved in the wholesale distribution of mopane worms in Zimbabwe are listed below. In most instances, these packers are supplied by middle-men who buy directly from collectors in the producing areas, put a mark-up on the prices and sell to the packaging companies. The wholesale companies pack the mopane worms in 250g, 500g and 1 kg packs for distribution to local retail outlets.

COMPANY	CITY/TOWN
Matemba Sales (Pvt.) Ltd	Bulawayo
Jasbro Foods (Pvt.) Ltd	Bulawayo
Quality Foods (Pvt.) Ltd	Bulawayo
National Foods Ltd	Bulawayo
Savonuts Products (Pvt.) Ltd	Harare
Monaken Marketing (Pvt.) Ltd	Harare
Danwin Enterprises (Pvt.) Ltd	Harare
DNA Wholesalers (Pvt.) Ltd	Bulawayo
Neshuro Packaging Co.	Triangle
Star Packers & Agents (Pvt.) Ltd	Harare
Kays Butchery (Pvt.) Ltd	Harare

The export market for mopane worms is highly informal as it involves cross-border traders. The product is sold in neighbouring SADC countries that know the product such as South Africa, Botswana, Zambia, Namibia and the Democratic Republic of Congo. Export trade statistics on mopane worms are not available due to the informal nature of the transactions as the product in most instances is not declared at the border entry points.

D. Enabling Environment. There are no specific governance laws on the mopane worms sector. The Practical Action study (2005) indicates that the sector is regulated by default by the laws governing NTFPs in general such as those set by village heads, chiefs, the rural district councils. In addition, the Forest Act Chapter 19.05 which was revised in 1996 regulates the management of forest woodlots, including the mopane woodlands which includes use of firewood to process the mopane worms.

61. Samhutsa P. (2015). *Value Chain Analysis Report Non-Timber Forest Based Products Marula, Mopane Worms, Honey.* Practical Action Consulting Southern Africa, Harare.

62. Mfandaedza E., Moyo D. Z and Makoni P. (2015) Management of Non-Timber Products Harvesting: Rules and Regulations Governing (Imbrasia Belina) access in South-Eastern Lowveld of Zimbabwe. Midlands State University, Gweru.

5.3.4 SWOT summary and recommendations

The following is a summary of the key strengths, weaknesses, opportunities and threats of the sector based on the above analysis, followed by recommendations.

STRENGTHS
Rich nutritional source of animal protein
Harvested during the hunger season providing relief
Natural NTFP
Not labour intensive to harvest and process
Can be easily stored for future use
Not much inputs required for value addition in relative terms
OPPORTUNITIES
Found in southern parts of the country characterised by significant rural poverty giving a chance for commercialisation
Available local markets in urban areas
Regionally known and room for expanding trade to SADC countries
New research and knowledge for semi wild-farming of mopane
WEAKNESSES
Seasonal sector with two harvests per year
Depends on climatic conditions and good rainfalls
Occurs during farming season and labour has to be split between working in the fields and worm collection
Unpredictable income from the sector
THREATS
Extinction of the species through over-harvesting
Climate change and recurrent droughts
Deforestation of natural forests
Disease brought about by climate change

Recommendations.

1. Prioritize natural resource management and sustainable collection over a purely commercial focus. Given the recent over-harvesting which has been triggered by year-on-year drought, the heavy rains this year should be able to create a 'window' to allow mopane populations replenish themselves. It is recommended to capitalise on this by focusing on developing a livelihoods strategy around the mopane worm sector that blends education around food security (mopane worm collection and storage) with marketing (forming of PGs, book-keeping, price negotiation, etc). In the short-to-medium term the emphasis should remain on conservation however, to ensure that any commercial intervention does not risk triggering over-harvesting of mopane worm populations.

To reduce or avert intra-community conflicts, it is recommended to develop and implement tools that will assist traditional leadership and law enforcement agents to solve conflicts over communal use of natural resources.

2. Further research on market vs. food security. Given the primarily informal nature of the subsector, together with the budget constraint to visit field sites, it was challenging during the RMA to find formal (research) or informal (interviews) data – both on market demand and how important mopane worms are as a food source for communities. Given this the following is recommended;

- Conduct further research within the specific target communities on how mopane worms are used (e.g. consumed immediately or stored), how much would be feasible to sell and what the scale-up potential could be.
- Evaluate the market for mopane worms within the districts/provinces vs. connecting to more formal value chains that supply to urban buyers.

3. Support the mopane sector as a complementary enterprise. Communities that collect mopane worms are ranked as poor or extremely poor and so may not have the resources to invest in much more than rudimentary equipment, or want to take the risk of investing in one sector more than any other. So it is recommended that the proposed support for the mopane value chain be pursued, though not as a stand-alone project but complementary to any other viable rural livelihoods enterprise. For example if the VTCs earmarked for the mopane processing units have reliable water sources nearby, or if it is within cost to provide the water under the project agreement, then a horticulture project could be established in the target district of Beitbridge to comple-

ment the investment in the mopane worm sector. Other possible interventions to complement mopane worm enterprises could be in the current livestock production and small grains production.

4. Direct interventions. Unlike in other sectors, capacity at production level is still low and requires more focus in the short-term, in addition to building market opportunities. Given this, gaining a better understanding of mopane production from both an environmental as well as technical perspective is recommended; research is available on mopane worm farming (such as http://bio-innovation.org/work/mopane-worms/) as well as reaching out to Practical Action and the Forestry Commission (who already assist communities in Bulilima district involved in NTFP livelihoods enterprises). The following suggested interventions come from literature research and input from interviewees, and can be implemented in partnership with identified development agents or CBOs in the target districts whose activities can accommodate the sector with minimal capacity-building.

Production

- Environmental management
- Enforcing and encouraging use of indigenous knowledge
- Promoting community or organized harvesting
- Pursuing acquisition of harvesting rights for respective districts

Processing

- Low cost improvements in processing such as protective clothing, training in post-harvest handling hygiene.
- Low cost innovations to increase efficiency such as roller drying racks, solar dryers or even ways of degutting.
- Organised collective action to manage and protect the resource.
- Development of appropriate processing technologies to enhance product value.
- Formation of PGs, say post collection, to share common facilities or capital investments such as cleaning equipment/ utensils, improved cookers, solar driers, improved storage facilities among others.

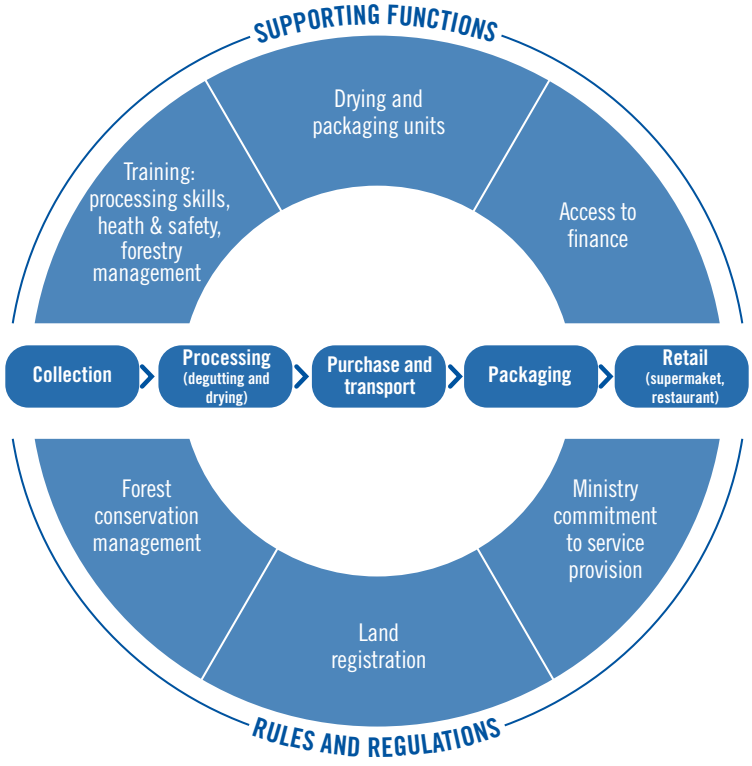
Marketing

- Empower collectors by providing appropriate skills training in negotiating, price searching and marketing.
- Reduce marketing costs through group marketing whether informal or formal. Increase market power of collectors through local institutions.
- Develop niche markets that provide fair trade price and/or enhance net value to the collector.
- Skills training in small business management.

5. Indirect / sector-level interventions. The policy environment for mopane worms as a sector is practically non-existent at the moment so, beyond local-level interventions to build capacity to produce and market, it is recommended to work with key ministries to develop policy around

- mopane tree and worm conservation and management.
- public-sector support on training, input services and education on their rights to mopane producers.
- monitoring and enforcement of existing and new conservation practices.

Mopane worms market system



5.4 Horticulture

The following section provides an overview of the horticultural sector as a whole, followed by additional detail on four selected products that are considered high-value, namely, potatoes, tomatoes, onions and sugar beans. The overview, SWOT summary and recommendations focus on horticulture sector-wide for two reasons; first, Zimbabwe's natural climate is so diverse there is no set of horticultural products that stands out country-wide. Rather, the range of sub-tropical climates and good soil types allow for a naturally diverse agricultural sector that includes both temperate and tropical crops, fruits and vegetables – an overview of this is available in the map and explanation in section 3.1.

Second, and related, any selection of produce as an income-generating activity for smallholders is more dependent on the input services and season in general, than on whether that product is inherently viable or not for smallholders.

5.4.1 Horticulture as a sector

Agriculture forms the backbone of the Zimbabwean economy. Statistics from the Government of Zimbabwe (GoZ) show that agriculture provides a livelihood to 80% of the country's population and employs 23% of those in formal employment. Agriculture contributes an average of 14 to 19.5% of the country's annual Gross Domestic Product (GDP) while accounting for about 33% of the country's export earnings.[63]

Due to the suitable climatic and soil conditions in the country, the horticulture sub-sector of agriculture produces fruits, vegetables and cut flowers for both local and export markets. For export markets, the main temperate fruits produced include apples, pears, apricots, nectarines and grapes. Tropical fruits and vegetables grown in Zimbabwe for export are baby corn, butternut, gem squash, chillies, citrus, lychee, mango, passion fruit, kiwi and pineapple. Cut flowers for export include roses, protea, chrysanthemums among others. A huge opportunity also exists for export of out of season fruits and vegetables such as asparagus, baby carrots, fine beans, cherry tomatoes, mange tout peas, melon, strawberries and sweet corn among others that are produced mainly by commercial farmers and in some instances with involvement of small-scale producers under out-grower schemes.

The horticulture sub-sector was one of the best performers in the 1990s but its performance declined during the land reform programme from the 2000s.[64] Then, the sub-sector contributed about 4.5% of the country's GDP and was the second highest contributor after tobacco in the agricultural sector. However, from 2009, agriculture has been on a recovery trend. The emergence of small to medium scale farms through the land reform seems to be ideal for horticultural production, though there are many variables that are critical for a farmer to be successful in this sector that need to be addressed.[65]

63. http://www.moa.gov.zw/index.php/2-uncategorised/8-welcome-to-our-ministry

64. Proctor, S., Henson, S., Loader, R., Masakure, O., Brouder, A., Bhila, L. and Sigauke, N. (2000). *Facilitating The Effective Production And Marketing Of Processed Food Products By Small-Scale Producers In Zimbabwe*. ITDG, Harare.

65. Matondi P.B. and Chikulo S (2012). *Governance over Fruit and Fresh Vegetables in Zimbabwe - Market Linkages and Value Chain Study*. Ruzivo Trust, Harare.

Market demand for horticulture produce. There is a significant and unsatisfied demand of the produce both locally and in the export market for all sub-sector produce in the horticulture sector. According to Zimtrade, the national trade promotion body, the European Union consumes the bulk of Zimbabwe's horticulture exports with the Netherlands being the biggest single buyer of Zimbabwe's fresh produce, accounting for 45% of total horticulture exports over the years. Zimbabwe's horticultural exports amounted to $72.1 million in 2015. This was a significant increase from $49 million recorded the previous year yet this was still about half of the country's peak of $143 million registered in the 1999/2000 season. The trade figures prove a huge export market for the local produce if the fundamental market systems are addressed.

Fruit. Findings from Manicaland and Mashonaland East provinces pointed out that the areas produce a lot of fruit and berries in the latter province. Fruit from the small scale producers does not usually meet the quality standards for export yet neighbouring countries offer export market opportunities for the produce. Export produce needs to comply with food quality and safety standards in order to be competitive.

In a 2015 Standard Newspaper report, the Mauritian trade promotion body released figures in global imported fresh fruit from US$23.9 million in 2010 to US$31 million in 2015. This was a 30 % increase in fruit imports by Mauritius and the trend showed a continued upward growth. Zimtrade states that the major fruit export to Mauritius in the period were citrus, apples, peaches, grapes and nuts and none came from Zimbabwe. Mauritius and Zimbabwe are members of COMESA and are also governed by the SADC trade protocol and as such have favourable trade relations where goods can be traded duty-free between countries based on the rule of origin. The SADC region provides a huge potential export market for horticultural produce. In 2015, South Africa imported fresh produce worth $2.1 million from Zimbabwe.[66]

5.4.2 Women and youth in horticulture

In both Manicaland's Mutasa district and in Marondera's Macheke area falling under Murehwa district, the RMA found out that an equal number of males and females among youth participated in the horticulture projects among the groups that the researchers interviewed. However, a study conducted at the Negomo irrigation scheme in Mazowe district found that more men (60.5%) than women (39.5%) are involved in the production of fresh fruit and vegetables. The research found out that men take the leading role in the organisational activities at farm levels, while the women and the rest of the family provide labour. They concluded that the ownership of land was a key determinant of gender participation in the sector. Just like the land tenure set-up in communal lands, where men have customary ownership of land at Negomo irrigation scheme, land was principally allocated to men on establishment and has since not changed. Based on this thesis, private sector companies purchasing produce, and therefore engage men as the main custodians of the farm activities. Despite being the majority in Zimbabwe, cultural constraints have hindered women from getting equal representation in this scheme. This has also meant fewer women are involved in marketing efforts.

In terms of age groups participating at the Negomo scheme, there are more middle-aged smallholders as compared to the younger age group and this is attributable to the fact that the 31-50+ group has been practising farming in the district over a long period of time while the 30 and below points to the generation of emerging farmers succeeding their parents/guardians.[67]

On analysis of the statistics shared by the PIC relating to the province of Manicaland, it was noted that the province works with 1,043 youths whose groups in livelihood enterprises are recorded and known to the relevant government ministries. Of these youths, 723 (or 69%) youths are involved in horticulture enterprises in the various districts as per table below:

66. http://source.co.zw/2016/10/zimbabwe-horticulture-exports-top-72mln-netherlands-main-buyer/

67. Matondi P.B. and Chikulo S (2012). *Governance over Fruit and Fresh Vegetables in Zimbabwe - Market Linkages and Value Chain Study*. Ruzivo Trust, Harare

Table 8: Youth Groups in Horticulture Sector in Manicaland

NAME OF DISTRICT	NO OF YOUTHS (DATA WAS NOT GENDER-DISAGGREGATED)
Mutasa	43
Makoni	150
Nyanga	202
Chimanimani	74
Chipinge	0
Buhera	217
Mutare	37
Total	723

Source: Manicaland PIC – submitted by Min of Youth

While the data above was not gender disaggregated, field visits to Mutasa and Chimanimani showed that a somewhat equal number of males and females participate in the enterprises.

5.4.3 The market for horticultural produce

A. Input services, training and production. Information gathered from literature reviewed as well as field interviews from producer groups and key informants consulted, it is clear that small scale producers find the cost of inputs unaffordable. The inputs range from the production facilities, seeds, fertilizers and pesticides required in the production. Due to the relatively high costs, the producers find themselves using less of the required inputs such as chemicals and fertilizers and thus compromise on the quality of the final produce and in the process push themselves out of the market and out of competition.

Other than the issue of inputs, it also came out strongly that the producers do not have adequate technical expertise to produce, relying mostly on information gathered from those that have been in the field longer. They also get limited extension services from agriculture extension workers from the Ministry of Agriculture, Mechanisation and Irrigation Development (MoAMID). The large scale producers such as Nhimbe Export in Marondera that use out-growers also provide agronomists to work with the small-scale producers. However, the Nhimbe facility was halted in 2016 due to lack of funding. BrandsFresh, a local market wholesale distributor of fruits and vegetables also assigns agronomists to catchment areas with quantities that meet their demand. They currently have an agronomist based in Hauna, Honde Valley to work with banana producers where BrandsFresh provides transport for bananas only.

BrandsFresh Senior Buyer, William Samujange, stated that the key to success for small-scale producers is agronomy planning and identifying a niche in high value crops and when to grow these. He pointed out that annually, for periods of six or so months, the government lifts the import ban on many frost-sensitive fruits and vegetables, particularly in winter and during the rainy season. The seasonal nature of almost all fruit and vegetables gives rise to different prices during peak season and low season. Prices of frost-sensitive varieties such as germ squash, tomatoes, cucumber, butternut, courgettes, pumpkin among others, generally double in winter. However, the winter period, from the beginning of April up to September, is the most favourable period for the production of the bulk of the vegetables. A 28 year old tomato producer in Macheke, Mr. Elton Godobo, specialises in production of tomatoes. From February each year to August, he produces his tomato crop from Banket, North-west of Zimbabwe where it is relatively warmer in winter than in Macheke. For the rest of the year, he produces from Macheke.

Small-scale producers tend to grow the wrong varieties for the market. Mr. Samujange gave an example of carrots which he said the retailers have to rely on imported varieties because the locally produced variety does not have a long shelf life and the shape Is often not the correct shape. BrandsFresh would positively consider an out-grower production scheme for its requirements should resources be available.

B. Processing and/or purchasing. There is not much processing done by small-scale producers. Most fruit and vegetable produce is sold in its primary state. This has the main challenge of lack of appropriate storage facilities given that by nature the produce is highly perishable. The small farmers face challenges in storing and preserving their fresh produce while waiting to deliver to buyers. This

further affects the quality of the produce as the storage facilities used will not be ideal for keeping the produce in the right condition.

The pricing in the fresh produce market is very competitive and is sensitive to the forces of supply and demand. As stated in earlier sections, horticultural produce supply is seasonal and this gives rise to different prices during peak season and low season. Other variables affecting the pricing include transport cost to the markets and quality of produce. Producer prices are high at the beginning of the season, become average at full season and rise again out of season.[68]

Opportunities exist to collaborate with quasi-government and private sector players in processing produce from small farmers and value-addition, and increase income for producers. In a May 2016 news report, [69]the Agriculture and Rural Development Authority (ARDA), under the name Best Fruit Processors, opened a tomato processing plant in Norton, 40 km west of Harare, with a capacity to process 100 metric tonnes of tomatoes a day. They have established an out-grower scheme with small scale farmers in Chegutu, Kadoma, Bindura, Mazowe, Shamva and Goromonzi. The company also has plans to open a fruit processing plant to extract purees, juices, produce jams and preserves from mangoes, granadillas, guavas, lemons, oranges and is financing an out-grower scheme for the fruits. Their target market is local and export within the SADC region.

C. Distribution, domestic and export markets. The small-scale farmers market their fresh fruit and vegetables through wholesalers in urban markets, municipal markets such as Mbare Musika (Harare) in urban areas, direct selling to retail outlets, hotels, restaurants, schools, hospitals and similar institutions, roadside stalls/kiosks and street vending.

The sector has experience of opportunistic middlemen who take advantage of the need for cash by farmers and tend to approach the farmers at their production units to offer prices that are not viable for the farmer in the long run. Initially the farmer, out of desperation, is forced to sell his/her produce to get cash for survival. This point is corroborated by a study conducted by Matondi and Chikulo who found that over the recent years, there has been an emergence of too many middlemen resulting in the horticultural produce moving through too many hands to get from one point in the value chain to another before finally reaching the consumer. The middle persons the researchers saw in the field included those who use their own trucks or public transport (buses, taxis) to get the produce to the market. All these have developed their unconventional rules, with the bottom line being to make as much money from the farmer as possible.[70]

Transport costs for the produce remain a huge challenge for small farmers. In Macheke, the youth that participated in the FGD, the Tabudirira Youth Group, raised transport issues as one of the major constraints they face in their enterprises. Another major constraint was highlighted as the identification and securing of markets, particularly, for their informal set-up as retailers preferred to trade with registered enterprises.

D. Enabling Environment. It was evident from gathered data that the small-scale producers have poor sub-sector representations. They do not belong to any formal organisation to help them advocate for any policies or a regulatory environment that meets their needs. The sector is disintegrated and as such there is no co-ordination on production and this often leads to either too much production that leads to a glut and low prices or it can lead to the other extreme of shortages due to non or inadequate production.

68. Matondi P.B. and Chikulo S (2012). *Governance over Fruit and Fresh Vegetables in Zimbabwe - Market Linkages and Value Chain Study*. Ruzivo Trust, Harare

69. https://www.theindependent.co.zw/2016/05/20/arda-ventures-tomato-processing/

70. Matondi P.B. and Chikulo S (2012). *Governance over Fruit and Fresh Vegetables in Zimbabwe - Market Linkages and Value Chain Study*. Ruzivo Trust, Harare

5.4.4 SWOT summary of the horticulture sector

The following is a summary of the key strengths, weaknesses, opportunities and threats of the sector based on the above analysis, followed by recommendations.

STRENGTHS
Good climatic and soil conditions for horticultural produce
It is a wide and diverse sector covering fruits, vegetables and flowers
Allows active participation of small-scale and large-scale producers
Allows productive engagement throughout the year where water sources are permanent giving target beneficiaries full-time occupation

OPPORTUNITIES
Availability of local and export markets
Untapped regional export markets in Mauritius, South Africa and semi-arid Botswana and Namibia
Value addition opportunities – processing, drying, freezing, etc.
Out-grower opportunities with large-scale producers and ARDA

WEAKNESSES
Highly perishable product with limited shelf life if sold as a primary product
Small-scale producers not organised/co-ordinated
Limited training and lack of needed expertise available for small-scale producers
Smallholder farmers currently more linked to “middlemen” than formal markets
Absence of a body/association handling horticulture issues in the country after the closure of the Horticulture Promotion Council (HPC) a few years ago.

THREATS
Cheap imports from neighbouring South Africa and elsewhere
Lack of policy implementation that allows for porous boarders
Trans-boundary pests and disease

5.4.5 Selected horticultural produce

During the desk-based research, one-to-one interviews and FGDs a selection of horticultural products were identified that were considered preferential due to a number of reasons – the main one being that they are considered as ‘high-value’ produce and so have a guaranteed market. While the ILO may consider focusing on some of these products in the AfDB-funded project or others within its country strategy, it is cautioned that any product-specific intervention should be accompanied by addressing wider system-wide constraints as highlighted in the general horticultural section above.

Potatoes. A youth group producing potatoes was interviewed through a FGD during the study in Mutasa district. The group, Kushinga Youth Project, of Ward 23 Sinara Village, was formed in 2014 with over 60 youths expressing interest to join the group for purposes of running a horticulture project. Due to delays in the project set-up, the group disintegrated and currently only 12 (6 females and 6 males) members remain. The group has access to 3 hectares of land availed by a member of the community. The youths received training in production of potatoes in 2014. They also took initiative to learn from a Catholics institute, JD, producing potatoes in an area near their village. They have not received any business training nor have they received loans for their project.

Inputs from the International Rescue Committee (IRC) were received in 2016 and they consisted of 48 bags of seed potato and 16 bags of fertilizer, for the project. With these, the group has only managed to use half a hectare of the land to grow potatoes which they planted in August 2016. For water supply to the project plot, the group relies on gravity/flood irrigation flowing through the plot.

The youths managed to harvest 70 bags weighing about 10 kilograms each from the first harvest. These were sorted into 3 grades - large, medium and small and sold for between $7 to $10 per bag depending on the grade. Total revenue form the potato crop was $723. The group sold all its produce locally. The market was readily available at the main Mutare-Nyanga main road. They believe that with increased production

they will still be able to market locally as well as spread to other towns.

On division of labour, male group members prepare potato ridges, fumigate the crops with pesticides while female group members fetch water for filling up the knapsack sprayer. Harvesting and marketing is done by both males and females in the group. Women indicated that they have no time constraints when it comes to the project as they take turns to carry out any required tasks.

After selling their first potato harvest, the group had plans to grow sugar beans, tomatoes and winter maize as a way of diversification. The group identified other opportunities outside horticulture that they thought were viable and would be manageable in addition to their current activities. These opportunities were given as piggery, broiler management project and free-range/roadrunner chicken projects.

Recommendations from the FGD

- For the horticulture project, the group needs a reliable and consistent source of water. A nearby dam could be the steady source if a pump and piping are installed.
- Start-up costs in the form of inputs, particularly pesticides, are unaffordable for the group without assistance.
- Identification for a site to value-add produced potatoes to fresh chips. Assistance with equipment such as chip-fryers would be useful.

Tomatoes. A group of youth tomato producers in Macheka, in the district of Murehwa, participated in a FGD. The 13 youths (7 males and 6 females), produce from Craiglea Farm and Maryland Farm/Chitsanza as individual farmers. They highlighted that it is easier to work as individuals in production than to be in groups. They cited that PGs face challenges that include, among others, contribution of resources; division of labour; communication; delays in decision-making and co-ordination of necessary project activities. Much information gathered from the FGD therefore pertains to individual experiences. Other than tomatoes, the farmers also produce butternut, cucumbers, onions, peas, green mealies, sugar beans, sweet potatoes, and covo.

Tomatoes are mainly sold at Mbare market in Harare and to vendors in Macheke along the main road to Mutare. Retail shops in nearby Marondera town require company registration of producers to be able to enter into trade contracts with them. For the Mbare market, transport hire costs between $90 – 120 for trucks or they charge $2 per vegetable crate of tomatoes transported. A crate weighs between 18 – 20 kg. In a good season, tomatoes are sold for $35 - $40 per crate. However, if there is oversupply of tomatoes in the market, prices drop to as low as $8 per crate. Other costs include market fees of $12 per day at the Mbare market.

The youths are aware of the existence of large wholesale and corporate buyers, and have individually sold to Cairns. One of the youths engaged Freshtrade, a wholesale buyer targeting the export market, but got stuck because the buyer required an agronomist to have offered expertise during product and wanted the correct inputs used for a quality product.

Recommendations from the FGD

- An intervention that will provide assistance with market identification.
- The training provided should go beyond just production, it should cover all stages of the business including business management.
- Groups are ideal beyond production for purposes of volumes and transportation of produce.
- Appropriate inputs at start-up to get youth groups set-up.

Onions. BrandsFresh indicated that they require 20 tonnes of dried onions a week to supply all the major retail chain shops in the country. For 6 months in a year, the wholesaler has to rely on imports because there will be none in the market. In Zimbabwe, there are no proper drying facilities and the current product does not have a long life shelf, hence the need to import mainly from neighbouring South Africa.
Indications from Fresh Producer Marketers Association of Zimbabwe (FPMAZ) are that Manicaland province, especially Nyanga district, has potential to produce a significant amount of dried onions, which can significantly reduce the current onion import levels. The FPMAZ indicated that establish-

ing processing facilities to support smallholder farmers, especially drying facilities, coupled with strengthening the governance systems to protect farmers from cheap imports through import bans or high tariffs on imported horticultural produce that can be produced in the country, will go a long way in facilitating the growth of the onion value chain in Zimbabwe. Currently there are opportunities to explore new strategic partnerships for the onion value chain with the PUM Netherlands Senior Experts organisation working with Zimtrade, which can invest in developing a vibrant market systems that can meet export standard requirements.

Sugar Beans. During field visits, sugar beans was frequently cited as a recommended product for smallholders to invest in for a number of reasons; first, it can be grown and harvested up to three times a year (given the right climatic conditions), so generating a more regular income and avoiding the market flood that drives down prices that is more common with single-annual harvest products. Second, the beans require no processing, but just the preservation conditions, for them to be stored over a period of weeks or even months before being either eaten or sold. Third, they have a high protein content, so being a good alternative to meat (for those that cannot afford it). Finally, they are relatively resilient to rising temperatures and infrequent rainfall, making them more appropriate for any impacts of climate change.

Speaking to a youth officer in Mutasa, the sugar bean has both informal and commercial demand; at local level he referred to village market demand to purchase beans both for consumption as well as replanting by other smallholders. At commercial level, he said that commercial buyers were active, though he couldn't confirm which ones and subsequent desk-based research found that establishing formal value chains has been challenging. Plan International ran a project in 2013 that helped smallholders grow sugar beans and sell to market in Mutasa, Mutare and Mutoko,[71] and similarly the LFSP programme has been working with Super Seeds company (Dec 2015 – Feb 2017) to provide inputs to smallholders for commercial-scale production in Mutasa and Makoni.[72]

5.4.6 Recommendations

Given the wide array of activities already evident in the horticulture sector, it is recommended that the project not develop stand-alone interventions, but try to capture and share lessons-learned and so help strengthen areas around processing, market linkages to formal processors and improving awareness of market needs during the year to avoid the 'peaks and troughs' of seasonal production. Specific recommendations within this are as follows;

1. Focus on a selection of produce rather than single products. Evidence from reports and first-hand discussions illustrated that smallholders select a range of products to grow throughout the year, rather than focusing on any single one. As such it is recommended that at intervention locations a crop-cycle calendar is developed that highlights the range of produce that can be grown throughout the year – which in turn is determined by factors such as climate, water resource availability and smallholder preference. These crop-calendars can be provided as part of training manuals that are written up by agronomy experts and developed for district-level officers. This could also link to wider initiatives to begin to promote better market linkages between producers and processors.

2. Outsource capacity-building for youth and women post-production. Despite the services provided by district-level officers at the moment, women and youth groups illustrated a frustration with this support as they were not able to produce for commercial-level requirements. As a pilot model for capacity-building, it is recommended that the project identifies and enters into a grant agreement with an intermediary organization (IO) in the sector applying a 'payment by results' model to build greater participation of youth and women smallholder producers in the value chain. Emerging issues such as lack of co-ordinated production, market linkages, identifying and planning for a known market, a niche market during the lucrative winter season could be among the issues tackled by the identified IO. The assumption is that the production side will continue to be addressed by MAMID extension workers and agronomists.

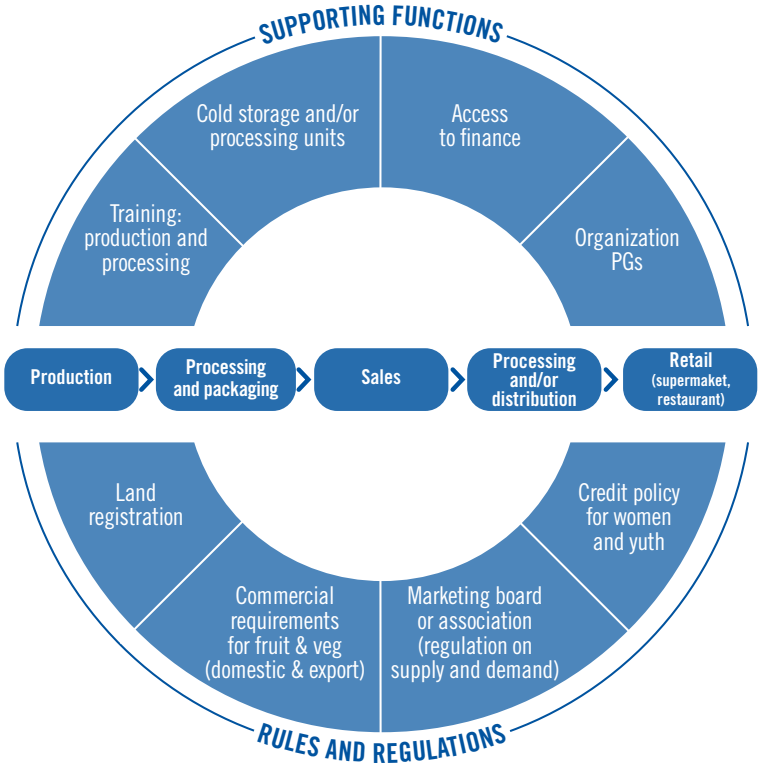
71. http://thezimbabwean.co/2014/01/organisation-builds-a-better-future/
72. https://lfspzim.com/what-is-lfsp/background/projects/commercialisation-of-smallholder-seed-production/

3. Establish processing facilities that can manage a wide selection of fruits and vegetables. There are currently two processing plants proposed for Mutasa and an additional two facilities for Marondera. Given the range of produce that can be grown there, it is suggested that each of the two districts have processing plants that can handle fruits and vegetables respectively;

- Fruit processing plant: able to handle multiple value addition processes for various fruits such as fruit purees juice extraction, fruit drying, canning, jams production, fruit packaging, etc.
- Vegetable processing plant: able to handle multiple type of vegetables such as carrots, peas, beans, potatoes, etc. – for probably vacuum packing, individual quick freeze (IQF), canning, drying, etc. to add value to the produce.

The Marondera fruit processing plant could service the entire province (fruit-growing Murehwa and Mutoko included) as long as the market constraints on transport and cold chains are addressed. Similarly the Mutasa one could process fruit produce from Nyanga and Honde Valley areas.

Horticulture market system



The vegetable processing plants could also widen their catchment areas beyond the project districts; it is recommended that tomato processing be linked to ARDA that recently opened a plant in Norton with a capacity to process 100 metric tonnes of tomatoes a day. Other private sector processors of tomatoes such as Cairns, Cashel Valley, and Four Seasons also need to be explored.

4. Further research on connecting informal livelihoods and formal markets to minimize mismatch. The potential for smallholders to generate sufficient income to support their families and invest in scaling up seems less related to the choice of specific product and more to mismatch between supply-and-demand and therefore the lack of access to formal domestic and export markets. It is therefore recommended to either work with existing multi-stakeholder platforms, or establish a new one, to identify and promote investment in practical means to improving supply chains. Stakeholders should include relevant ministries, business leads and relevant embassies (such as the Netherlands) looking to promote fruit and vegetable exports. Based on the field research findings the following can be used as a starting point for areas to intervene:

- Improved production in terms of quality and output through engaging experts to work with identified/mobilized youth and women groups.
- Development of collection points for produce from small-scale producers, particularly youth and women and establish market links that will eliminate the current 'makoronyera' (middle-men).
- Where there are no collection points, facilitate transport arrangements with haulage system players to ensure produce is delivered to markets on time.
- Leveraging synergies with public and private sector processors.
- Facilitate out-grower schemes between groups under the project and commercial producers.
- Formation and training of producer groups to share common facilities or capital investments for value-addition.

6

ADDENDUM: FEEDBACK ON RECOMMENDATIONS FROM FINAL VALIDATION WORKSHOP

The final half-day workshop took place on 13 March with participants from government ministries, private sector and national platforms for the apiculture and mining sectors. Some specific feedback on the results were incorporated into the final report, and the following suggestions were provided and discussed by participants;

Apiculture

1. In addition to honey as the main product, by-products of wax can be explored for their market potential, such as in candle-making. Honey itself can also be used as a component in other products, such as honey-wine.
2. "The story" of bees can be better promoted, e.g. not just as a pest or cause for concern close to the homestead, but as a source of income. This perception needs to be changed to encourage more adoption. Related to this, promoting honey as a commercial product and not just for subsistence.
3. The MAMID have a division dedicated to technology and value-addition in processing, which can be included in improving the apiculture sector.

Artisanal and Small-scale mining

1. The ministry of mines has indicated that a million hectares of land will be released for mining, though when this is taking place remains unclear.
2. The ZMF are working to help artisanal miners become registered through the establishment of syndicates, which can act as a stepping stone to becoming formally recognized and registered. This can help with the ILO project's strategy on formalizing and improving working conditions.

Mopane worm sector

1. Consider including other edible insects under this sector. As these are usually known and accepted in specific parts/regions of the country, just like mopane worms are found in southern parts of the country, the use of these nutritious insects could be promoted in areas where they are found. For example, nhowa worms in Uzumba Mar-

amba Pfungwe (UMP) areas and harati in Masvingo areas. There is need to research some more on these edibible entomon insects, map them according to regions of their existence and periods when they are in abundance to see viability of adding them to the project.

2. Look at the national forest policy to see how it can influence and enhance enforcement of existing regulatory framework to promote sustainable use of forests and natural resources. Explore working with Rural District Councils (RDCs) that already have by-laws on forests management and capacitate them to enforce the by-laws. Veld fires are also a threat to the sector. There is need to put in place mechanisms that will eliminate this problem – fireguards, education of communities among others.
3. Protection of forests from other competing sectors. For instance, mining requires timber to support its underground shafts. In southern parts of the country, small scale miners use mopane trees for their mining operations. The project needs to work towards education of miners and other alternatives to forest use where possible.
4. Use communities in mopane worm areas to educate peers on sustainable collection and environmental management.

Horticulture sector

1. The national horticulture policy is near completion and is being sponsored by the Ministry of Agriculture, Mechanisation and Irrigation Development. Project needs to be aware of this and educate the target group so as to benefit from its provisions.
2. To improve quality and consistent/ regular volumes as required by the market, the project needs to put in place investment such as the following among others:
   - Greenhouses
   - Irrigation facilities/drip irrigation for efficient use of water resources
   - Small dams
3. Implement a project that will address the gaps caused by shortages at any time of the year. Value addition assists in covering the gap. For instance in the tomato value chain, drying, tomato powder, canned/crushed tomato can cover the gap during non-tomato seasons/ Promote planned and coordinated production as evidence shows that haphazard production results in large losses. A consistent and good production promotes profitability to producers and healthy eating/living among consumers
4. Government approach is to ban imports of horticulture product to protect local producers and also protect local consumers against exposure to genetically-modified foods.
5. Research is silent on the role consumers play in the VC. At the end of the day, customer tastes and preferences will determine if value is added based on attributes of the produce across any of the sectors of the project. It is important to research further on this.
6. Project needs to work with local seed houses to improve quality of produce. An example of a seed house in Bulawayo that produces carrot seed that matches imported carrots' quality and standards was given.

7

ANNEXES

7.1 ILO Criteria

Criteria 1: Number of the target group active in the sector

How many women and men are estimated to be engaged in the sector and where?

- Disaggregate by poverty status where feasible, and focus on the number of young women (18-35 years), women (35+ years) and young men (18-35 years). Where possible, draw figures on age ranges 15-24 (UN definition) and 18-35 (Zim government definition). Only use African Union numbers if age breakdown is available, as their definition is 10-35.
- What is their geographic location/concentration?

Criteria 2: Nature of target group's participation in the sector

In which sectors are women, young women and young men more active, and in what way, e.g. as producers, processors and/or workers? Note that some types of work may be less visible or not be typically recognized as work.

- Is the product used for both income generation as well as subsistence? If so, how much is used for each on average (in %)?
- What are the major working condition problems being experienced by those in poverty?[73]

Criteria 3: Involvement and contribution of target (and other) groups

How are people in this sector particularly disadvantaged due to gender and/or age constraints, ethnicity, race, (remote) location or other factors?

- To what degree are other household responsibilities a constraint to the target groups contributing to these sectors?
- What are typically those groups' other main household and/or care responsibilities?
- How much of the household income comes from each sector they are involved in?

73. For example: job insecurity, irregular wages, long working hours, discrimination, hazardous environment, presence of child or forced labour etc.

Criteria 4: Conduciveness of political economy

What are the relevant government policies and programmes which influence these sectors and to what degree are they known and effective?

- What are the specific labour laws for these sectors and/or in general?
- Consider gender and youth specific policies at national, regional and local levels, and specific areas such as (on gender) equal pay, inclusion of women, addressing gender violence.
- Are provisions in laws relating to women's rights and youth known and enforced?
- What else affects age and women/men relations? Consider customary law and religion and how this affects freedom of choice, access to resources and to benefits.
- Has there been a change in attitude and/or behaviour towards women and men's roles in these sectors recently or in rural livelihoods more generally?

Criteria 5: Climate impact

To what degree are changes in climate trends affecting the quality and quantity of yields of this crop or livestock? (not sure if this applies to artisanal mining)

- Are yields and quality improving or decreasing over the last 5 years?
- Are yields and quality predicted to improve or decrease in the coming 10 years?
- What are smallholders' attitudes towards these changes? Especially youth.
- How would these changes affect quality of labour conditions, especially for women?

Criteria 6: Composition of enterprises

- What is the make-up of enterprises in the sector (covering the number, distribution, location and nature of micro, small, medium and large firms)[74]?
- What are the levels of formality in the sector?
- In which type of enterprise are the majority of (poor) women and youth engaged?

Criteria 7: Sector growth

- What is the overall size of the market with respect to volume and value of output, demand (real/latent) and supply interactions, and employment share?
- What is the job creation potential based on industry growth, size, employment elasticity, and number of and relative value added by SMEs in the sector? Would these jobs benefit women, young women and young men?
- What is the previous (past 5 years) and forecast (next 5 years) growth (or access) trajectory of the sector?
- What are the current levels of innovation, productivity and competitiveness and/or collaboration in the sector?

Criteria 8: Prospects for productivity and working conditions improvements

- What are the main issues in relation to working conditions facing enterprises, and are there opportunities to address them?[75]
- Do enterprises face particular barriers to accessing markets – if so, what are they?[76]

Criteria 9: Availability of market players

- Which organisations (private/public) have a good track record of innovating and investing in this sector?
- What significant investments have recently been made or are planned for the near future?
- Are there any public/private providers already providing training and/or counselling services targeted at labor market outcomes for the target group?
- Are there public/private organizations in these sectors already focused on gender main-

74. This can include a simplified value chain or market system map

75. In addition to the above list of working conditions, this would also include labour disputes, labour turnover/absenteeism/ accidents and the economic impact of these on business performance etc,

76. local, regional, national, international. Include buyer and labour law

streaming and/or youth inclusiveness? If so, what services do they offer and what resources do they have (such as staff)? Are those services in line with the objectives of the project?
- Are there any firms or relevant service providers that are currently overlooked by existing public or donor support programmes?
- What is the presence and interest (existing and potential) of industry associations?

Criteria 10: Willingness of market players to change

- Are there market players willing to change their business models/adapt new practices?
- Ares there any significant political or economic trends affecting the sector (e.g. changes in prices, number of new entrants, production costs, withdrawal of protection policies etc.) that can be leveraged – or that would pose a particular risk to intervening?

Criteria 11: Likelihood of distortion

- Which donor programmes are present, where, and what are they doing/funding?
- Are there any existing sector programs or initiatives with similar working conditions/productivity objectives in the sector?

Criteria 12: Sustainability

- To the extent that it's possible to predict, how far can the project interventions in this sector go towards increasing sustainable employment for women, young women and young men?
- Will these three sub-groups in the sector benefit equally from employment creation and economic growth?

7.2. Interview guides

7.2.1. Key Informant Interview guide 1

Interview template – to be adapted depending on interviewee
General introduction of assessment and interview.

Sector and enterprise opportunities (criteria 1, 2, 4, 9)

1. Do you consider there to be any specific sectors that are more beneficial to women and young people? Why is this? Consider sector growth (c7), resilience to climate impact (c5).
2. Which types of enterprises do you see as most beneficial to women and youth (differentiate between these groups). Why is this? Can include producer group or simple processing utility (micro-enterprise) to employment in processing companies (medium business).
3. What do you see as the main barriers and opportunities to rural enterprise development? Aim for 2-3 each.
4. Are these barriers / opportunities sector-specific or due to wider systemic characteristics? If sector-specific, which are those.
5. To your knowledge, which organizations (private/public) have a good track record of innovating and investing in specific sectors?

Rural development (criteria 4, 5)

1. What do you consider key policy that would support women and youth groups to improve income generation? Do you differentiate between sectors?
2. What sectors / products are more resilient to climate impact? Why is this? Could be because of nature of crop, or that crop management is better in some areas.
3. Do you see evidence of good labour practices? Which policies help ensure these?

Gender (criteria 2, 3, 9)

1. Where and how do you see women typically involved in income generating activities? Can you differentiate between age groups (loosely, younger and older)?
2. What do you consider the main constraints to women (young and old) and young men's involvement in rural enterprise? Are there any sectors or work opportunities that allow for them to accommodate these constraints?
3. What do you consider a key means of improving women's access (young, old) to contributing to household income?
4. Are you aware of companies and/or public bodies incorporating gendered or youth practices into their business model? E.g. to employ or otherwise somehow benefit these groups.

Employment (criteria 6, 9)

1. Given that almost all employment is informal, what labour aspects do you consider most realistic to focus on?
2. Are there sectors that provide better than average employment? This can include self-employment, and criteria can be amount of income and/or consistency, or other definition of a good job.

7.2.2. Key Informant Interview guide 2

Education Status

What are the education levels for most young people in this community? (facilitator please probe (primary, secondary, tertiary)

Employment status

What is the general employment status for young people in this community?

What do young people in this community do for a living?

Are there any young people in this community who are or have undertaken livelihood projects?

- In which sectors?
- What are/were they doing?
- Are they better off compared to others not involved? In what ways?

Identified Opportunities

What opportunities are available for young people in this community for entrepreneurship?

What kind of interventions are recommendable for women and youth in this community?

Are there known impediments for involvement of youth? Women? In the identified opportunities? Elaborate

Enterprises

What are main types of enterprises in this district? Please describe size, e.g. micro (1-2), small (3-5), medium (5-30), large (30+) in terms of employment.

What products/sectors do they cover? Please list. These may include agriculture or services.

Who do they employ? Women, men, young, old.

Are they registered companies? If so, how are they registered?

Of the sectors you listed which products/sectors have decreased / stayed the same / increased in supply?

Which sectors would you recommend as most valuable to focus on? Why? Consider both product demand and employment potential.

Enterprises - specific

MAP OUT A SPECIFIC VALUE CHAIN TOGETHER WITH STAKEHOLDERS, KEEP TO LOWER END, AND USE THIS AS A REFERENCE. PREFERABLY ONE OF THE SHORTLISTED SECTORS.

What are the main constraints for enterprises?

Leave open or suggest market linkages, credit access, skills capacity.

Have you seen examples of enterprises that have managed to overcome these constraints? If so, how have they done this?

Can you describe example of innovation in enterprises? If so, what are they?

Operating environment

Of the key constraints you listed, which public or private bodies would you expect to provide this input/service/support? Please list specific names of organizations and, if possible, contact details.

Are there policies which you see as beneficial or as a barrier to supporting small-scale enterprises? Please list them.

Looking at the value chain, please point to specific support you would prioritise for the ILO project to support women and youth in enterprise development.

Other institutions /Programmes that Offer Livelihood Opportunities

Are there any other programs that deal with young people in this area in the livelihoods and entrepreneurship?

What services do they provide?

Are there any costs to beneficiaries for these services?

Recommendations

What recommendations would you offer to ILO in its proposed intervention targeting women and youth?

7.2.3. Focus Group Discussion guide for Women and Youth 1/2

(Change in line with group being interviewed whether its women only or youth with both males and females)

FOCUS GROUP DISCUSSION GUIDE FOR WOMEN/YOUTH

Education Status

1. What are the education levels for most young people in this community? (facilitator please probe (primary, secondary, tertiary)
2. Are there any young people in this community who have undertaken post-school training? (Probe for nature of training – business, skills, TVET, other?)

Employment status

1. What is the general employment status for young people in this community?
2. What do young people in this community do for living?

Available Opportunities

1. What opportunities (entrepreneurship, employment) are available in the community for young people? (Probe for sectors, potentiall prompt with specific sectors)
2. What opportunities do you consider most and least risky? Why? (probe for specifics such as market buyers, climate, access to credit)
3. In your experience, what opportunities are most convenient to combine given your other responsibilities? Which are least convenient?
4. If you had choices, what would you do to be productively engaged? Is time as a resource available to you to undertake this? What are your other responsibilities and how do these constrain you?
5. What resources do you have or are in place for you to exploit the identified opportunities?
6. What nature of support would you require to exploit the opportunities? From who? Priority? (Facilitator list/classify the support required)

ILO Programmes

1. Have you participated in ILO programmes? (Probe and list)
2. What has been nature of your involvement in the ILO programme?
3. What is your opinion on its impact on you as a community
4. What do you think ILO could have done differently? What recommendations would you have to scale up impact? (Probe for specifics)

Other Organisations/Programmes that Offer Livelihoods Opportunities

1. Are there any other programmes that deal with young people in this area in the domain of entrepreneurship, employment-creation? Which organisations are involved? (probe to include public / private sector support)
2. What activities are they supporting?
3. What are the successes or challenges of these programmes?

Constraints in the Identified Opportunities

1. Check availability of required resources – infrastructure, skilled human, training, financial/credit, inputs, equipment, facilities, time etc)
2. Markets – availability?
3. Would you be able to give up other responsibilities if there was an opportunity to earn more income? What would those be?

Recommendations

What other recommendations would you offer to an institution like ILO wishing to launch a value addition intervention for youth and women in your district?

7.2.4. Focus Group Discussion guide for Women and Youth 2/2

FOCUS GROUP DISCUSSION GUIDE FOR WOMEN/YOUTH

Value Chain Questions

1. What are the different processes in the value chain and what are the flows of the product?
2. Who are the actors involved in these processes and what do they actually do? (identify where women are and are not)
3. What are the flows of market services such as extension, market information, finance, transport, etc in the value chain? How accessible and available are these to women?
4. What is the volume of products, value of output and demand for the product?
5. Where does the product (or service) originate from and where does it go?
6. How does the value change throughout the chain?
7. What types of relationships and linkages exist?
8. What types of (business) services are feeding into the chain?
9. What are the specific labour laws for the sector and how do these affect women? What other laws, regulations, customs and norms affect women in this sector and in what ways?

Economic Viability

1. Establish the competition, who else is doing the same, and to what extent?
2. Are there market opportunities? Is there demand for the commodity?
3. Is the market growing?
4. Do women have access to the necessary assets and working capital? (check for constraints and opportunities)
5. Can women make the transition to the formal economy from cash in hand? (check for constraints and opportunities)

6. What value addition is possible?
7. Will the group be able to scale up to meet the demand?
8. What hazards or risks are there?

Education Status / Women Economic Leadership

1. Do women have or can they gain skills (probe to check education levels and post school training)
2. What is the nature of women's participation in the value chain?
3. How much of the household income comes from the sector?
4. What level of control do women have in decisions relating to the market?
5. Are men's attitudes conducive for this? Will the choice of product help men's attitudes to be more accepting? E.g Will men hijack the product if it proves to be viable?
6. How much time do women currently have for economic activities?
7. Are there multiple channels to allow women to start from low value but less risk and progress to high value with more risks?
8. Does the value chain allow flexible organisation of women?

Employment status/ Working conditions

1. What are the main issues in relations to working conditions facing women, enterprises and are there opportunities to address them?
2. What employment opportunities are there for women along the value chain (this aspect will look at the full time, part-time employment)
3. What constitutes decent employment for the potential jobs along the value chain?

Past Women Empowerment Programmes

1. Have you participated in women programmes? (Probe on nature of activities, when, who supported and results both +ve & -ve)
2. What has been nature of your involvement in the programmes?
3. What is your opinion on its impact on you as a community
4. What do you think should be done differently in future women empowerment programmes? What recommendations would you have to scale up impact? (Probe for specifics)

Recommendations

What other recommendations would you offer to an institution like ILO wishing to launch a value addition intervention for youth and women in your district?

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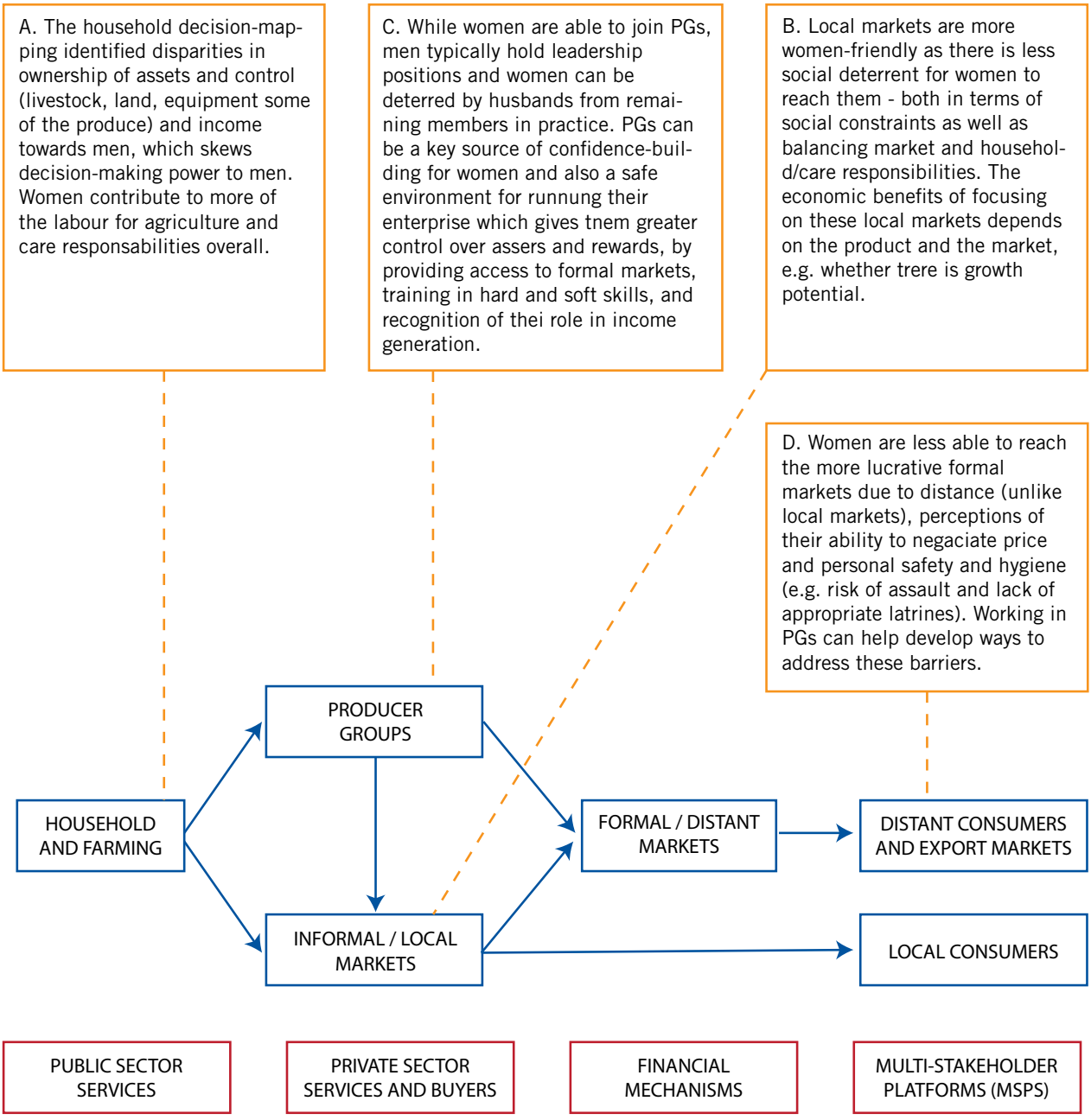
7.4. Mapping of gender and markets results



E. There is a wide array of actors in the public, private and financial sector that provide input and credit services and make purchases from smallholders. It is unclear how much they are coordinated though a number of MSPs exist and/or are being developed. These can provide a space to highlight smallholder consraints, build trust between suppliers and buyers, and a common understanding amongst market actors on the barriers and opportunities in specific VCa as well as more generally. A key theme would be gendered barries to increasing and sustaining productivity.

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