



Social and Behavior Change in Agriculture and Natural Resource Management



Lessons from Two Studies in Zimbabwe

November 2022





About SCALE

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Background

The importance of incorporating social and behavior change (SBC) approaches within technical training has long been recognized by practitioners in the health and nutrition space. For example, care groups are neighbor-to-neighbor peer support activities that rely on interpersonal behavior change activities, emphasizing social and behavioral, rather than technical, solutions. This has been core to the success of those activities achieving impact, scale, and sustainability over time. The health and nutrition sectors have now established a series of industry-wide best practices¹ focusing on the promotion of behavior changes that are simple to roll out within a short time frame. However, SBC approaches have not been as widely incorporated into agriculture activities. Like health behaviors, regenerative agriculture practices require a change in how project staff, local partners, community leaders, and farmers work within the broader agricultural and natural resource ecosystem. Behavioral changes often are central to communities' abilities to build resilience and transform the systemic factors driving vulnerability in the first place. Behavior change is at the center of communities' abilities to sustainably protect wellbeing gains where, when effective, an ideal behavior persists even in the face of shocks, stresses, and prolonged crises.

The Amalima Loko program is a five-year United States Agency for International Development (USAID)/Bureau for Humanitarian Assistance (BHA)-funded Resilience Food Security Activity (RFSAs) designed to improve food and nutrition security in Zimbabwe through increased food access and sustainable watershed management. The program is implemented in Matabeleland North by a consortium led by Cultivating New Frontiers in Agriculture (CNFA). Identified as an information gap during its Refine and Implement phase², Amalima Loko designed and conducted a [Natural Resource Management \(NRM\) and Agriculture Barriers and Motivations Study](#) and an [Agriculture and Livestock Barriers and Motivations Study](#). Each study examined the barriers and motivations for behavior change in Amalima Loko's area of operation to understand what leads to or prevents the adoption of improved NRM and agriculture practices by households, communities, market actors, and government entities. The specific objectives of the NRM study were to:

- Identify the factors that contribute to, motivate, and hinder individual and community value of natural resources and cooperation in managing natural resources
- Increase understanding of the contextual factors and specific practices by government and market-actors that contribute to land degradation and unsustainable water use
- Determine the factors that will influence stakeholder groups with vested interests to adopt and support new actions that are necessary to restore watersheds
- Use the findings to inform the design of capacity building plans for strengthening the knowledge, skills, and abilities of individuals, households, and communities to adopt NRM best practices and better manage natural resources for the long-term future

¹ For example, those developed by USAID Advancing Nutrition: <https://www.advancingnutrition.org/what-we-do/activities/new-tools-high-quality-nutrition-social-and-behavior-change-programming>

² Refine and Implement (R&I) is an approach used to strengthen the quality and impact of USAID/BHA-funded RFSAs. The approach has two phases: a refinement phase and an implementation phase. The first year of a five-year award is the refinement phase, where RFSAs conduct studies and pilots that then inform and direct their program implementation over the following four years.

The agriculture study focused on understanding the motivations and barriers behind farmers' decisions, including:

- Identifying improved agriculture and livestock practices already adopted by farmers
- Identifying factors that motivated households to adopt new practices and technologies
- Identifying improved agriculture and livestock practices introduced to farmers but not adopted broken down by household types/profiles
- Identifying barriers to adoption for non-adopters
- Understanding the motivation for households/farmers to purchase livestock and what might motivate them to see livestock as a productive asset
- Identifying those agriculture and livestock management practices which have the highest potential for adoption and how farmers can be motivated (what farmers require) to adopt these practices

Implementers tend to think about the individual, household, or community-level barriers to change. But Amalima Loko's study findings indicate that, in addition to farmer and community-level barriers, important factors at the societal and enabling environment levels directly affect farmer decisions and adoption of practices, including structural challenges (e.g., lack of resources available) and/or driven by the behaviors and norms of the individual people who make up a governance structure. These factors point to the need for change at higher levels than the farmers and communities themselves. The studies also suggest some persistent myths or preconceptions of farmer attitudes and community dynamics that may interfere with NGO efforts to promote change at that level. This document summarizes these elements and highlights key insights from the Amalima Loko studies that may inform practitioners' approaches to applying SBC to these sectors.

Individual and Community-level Factors

Persistent Myths and Preconceptions

A key motivation behind Amalima Loko's studies was to avoid common assumptions about farmer behavior and better understand the real determinants of change and key behaviors for the program's priority participant groups. As a result, the studies surfaced some important insights around persistent misconceptions that have the ability to misdirect SBC efforts in agriculture and NRM.

Lack of Knowledge? Or Scarcity of Realistic Solutions?

Agriculture and NRM programming tends to emphasize increasing knowledge and awareness, as evidenced by the plethora of training and awareness materials generated by practitioners. This emphasis indicates a strong perception among practitioners that farmers and communities lack awareness of or knowledge about the value or function of natural resources and the effects of natural resource degradation. But as the Amalima Loko studies found, communities, farmers, and local leaders have a deep understanding of their environment and the consequences of negative impacts.

Despite this fact, farmers, and communities themselves often cited the need for training as almost a default solution for problems like soil erosion, deforestation, and declining agricultural yields. For example, one of the most frequently mentioned solutions in 12 of the 24 NRM study's focus group discussions and 28 of its 39 key informant interviews was more training and awareness raising of



natural resource management for communities³. However, interviewers pointed out that respondents seemed to be very knowledgeable already, based on the rich detail and insights they had already shared about their environment and practices in early sections of the NRM survey. All the study participants showed that they are very knowledgeable about natural resources—they value them, are aware of and concerned by resource degradation, and are aware of the regulations governing natural resources. Many also admitted they are contributing to resource degradation through their actions, such as clearing land for farming and resource extraction. Survey enumerators then dug deeper in their discussions with the focus groups, suggesting that a key factor for improving NRM and agriculture practices might involve solutions that go beyond training. However, when this was pointed out, focus group participants had few solutions to offer. Some said that they need help in coming up with ideas to address problems because they are so immersed in their daily struggles that they have limited bandwidth to take on additional problem solving, problems that to them often feel insurmountable.

The studies found that it is not lack of knowledge that influences communities' and farmers' behaviors but rather the lack of time, energy, and resources beyond what they need for the daily work of getting by.

"Communities showed that to some extent they have run out of ideas on how to address the problems and feel quite powerless. Some respondents felt that there were no solutions. An FGD in Hwange of middle-aged men stated: 'There is nothing that we can do as a community if there was a possible solution, we could have done that.'"

These findings suggest that the issue may be less about finding ways to change farmers' behaviors and attitudes around practices introduced by external actors and more about supporting farmers and communities to develop and drive their own home-grown solutions, including identifying positive deviants and amplifying their solutions.

The agriculture study notes that, in Zimbabwe, while government extension workers are the leading promoters of improved agricultural practices and technologies, small-scale farmers have not adopted most of the methods these agents recommend, such as conservation agriculture and the use of improved seed. Some research attributes this to farmers' dependence on indigenous knowledge that is what has worked for them and their predecessors in the past⁴. Extension agents tend to perceive this knowledge as an impediment to technology adoption. More generally, research in Zimbabwe shows that farmers are resistant to change and slow to accept outside help, including new and modern technology⁵. This finding underscores the need to prioritize participatory approaches, including farmer-driven approaches and adaptations, to ensure farmers are the ones deciding what they need. It provides insight into the importance of giving farmers options, letting them observe the effects of new approaches and then opt in/choose to adopt them, placing farmer agency and informed choice at the center of behavior change efforts. Individual and community ownership over and confidence in solutions is likely critical to their sustained uptake, as well as giving participants the bandwidth to get creative. It is possible too that some cognitive biases may be at play such as status quo bias and loss aversion, that make changing one's behavior more difficult. Practitioners should keep these in mind

³ See [Annex A](#) for summaries of each study's methodology.

⁴ T.P Masere and S. Worth, "Influence of public agricultural extension on technology adoption by small-scale farmers in Zimbabwe," *South African Journal of Agricultural Extension*, Volume 49, No 2, 2021.

⁵ T.P Masere and S. Worth, "Influence of public agricultural extension on technology adoption by small-scale farmers in Zimbabwe," *South African Journal of Agricultural Extension*, Volume 49, No 2, 2021.

when working with communities of interest, remembering that these behavioral barriers are natural human tendencies.

The Role of Women and Youth in Driving Change

The studies highlighted that women and young people were perceived as key drivers of (both positive and negative) change in their communities when it comes to agriculture and NRM behaviors. However, these perceptions raised some interesting questions/contradictions that are worth consideration.

New Practices vs. Division of Labor

The study found that women have a high potential to influence and initiate change in practices and behaviors, in large part because they are so much more likely to attend training sessions. However, the study found that because men are in charge of heavy work such as clearing and laying out fields, when it comes to agriculture and NRM practices such as gully reclamation and conservation agriculture, women are less able to influence a change of practice.

The agriculture study in particular established that gender dynamics play a role in influencing the adoption (or non-adoption) of new behaviors depending on whether households are headed by women or men. In male-headed households, men decide which crops to plant while women do most of the farming work. Under labor intensive practices such as conservation agriculture, women dig the basins while men stump and clear the land. This separation of labor limits the uptake of new practices, especially labor-intensive practices such as conservation agriculture⁶, both due to differences between men's and women's ability to make decisions and because women's household obligations limit how much time they can spend in the fields. So while the study found that more women than men participated in training, women's ability to apply that training and implement new practices on their plots is limited by their available time and energy.

"Men tend to avoid the digging of basins."
-Key informant in Binga

Natural Resource Degradation: Are Youth Really the Problem?

Many respondents, unprompted, pointed to young people as significant drivers of natural resource degradation, particularly older respondents, citing the belief that youth desire quick returns on investment of time/labor and their youthful energy allowing them to do more damage more quickly. However, the scale of extractive activity by private sector actors (aided by their public sector partners) coupled with the fact that there are fewer and fewer young people remaining in rural areas, may indicate that this negative perception and blaming of youth is unwarranted/overblown and harmful to the prospects of including young people in the development of their communities. The NRM study's FGDs with young people revealed that they care deeply about NRM issues and that since elderly people are repositories of traditional knowledge about NRM, intergenerational knowledge transfer must be encouraged. Young people⁷, although fewer in number in rural areas, are still blamed for most of the degradation; however, the study clearly points to the possibility that more intentionally targeting youth

⁶ In Zimbabwe, Conservation Agriculture comprises a specific technique of digging and mulching basins, which is quite labor intensive.

⁷ FGD participants were selected from each study ward to include four demographic groups in the community: men over 35 years, women over 35 years, men 18-35 years, and women 18-35 years. Groups were segregated by gender and age to enable free expression of views on natural resources and avoid impedances related to cultural norms.



would not only address natural resource management issues but would increase their feeling of belonging in the community and help to protect them from exploitation by unregulated companies.

Farmer Perceptions

Amalima Loko's studies surfaced some important insights related to farmers' perception of changes in practices or behaviors proposed/promoted by external sources. These insights are good reminders that can help inform practitioners' approaches in this space.

Theoretical vs. Observed Change

Something that comes up often in training and extension work is the power of seeing techniques translated to beneficial changes. This is just common sense; most people, whatever their circumstances, are more convinced by what they see than what they hear, particularly when the evidence comes from those in their own community or neighborhood⁸. This tendency was found to be no less true in Amalima's study areas through the FGDs and KIs, underscoring the limitations of things like classroom-based training or standard/written SBC messages when it comes to agriculture and NRM, and highlighting the benefits of practical application (learn by doing) and demonstration of technical approaches. Amalima Loko staff have noted that most training by extension staff within the program's area of operation is classroom based, with minimal effort to engage in practicals. Many extension staff provide book-based knowledge and practices to farmers without having really experienced the practice themselves.

Further, the studies found that negative perceptions may be even more significant than positive ones. When farmers see new technologies or practices fail, many will very reasonably turn away from those practices, often without even trying them. Negative experiences need not have been directly experienced to have an effect; the study found that failed efforts can have an effect on decision making whether they happened to the farmer, to someone the farmer knows, or even through word of mouth from a neighboring community or district.

These findings also suggest that perceived or proven negative characteristics of a new practice or technology can outweigh positive benefits. For example, while features such as high yield potential make an improved seed attractive, if the crop is perceived to be susceptible to pests and diseases, is considered unpalatable, or has a poor shelf life, farmers will not plant it.

Some farmers chose not to plant improved seed after noticing the poor germination of the seed distributed under the Presidential Input Scheme. The negative perception reinforced the farmers' belief in retained seed and discouraged them and other farmers from planting hybrid seed varieties.

The margin for error in promoting new agricultural or NRM approaches, practices or behaviors is extremely thin and practitioners do well to remember it when planning the introduction and, in particular, the scaling/cascading of new techniques. Once a new approach has been rolled out unevenly or poorly, farmers' loss of trust or confidence may not be a matter of behavior change; the resistance to change has in part been baked in by the same actors that seek to change it. This finding also highlights how important it is for programs to take the time to build a solid body of evidence around each recommended practice prior to scaling.

⁸ Best Practices: Cascading Resilient Agriculture Approaches within Food Security Programs, 2022.

The agriculture study proposes ways to motivate non-adopters to adopt improved behaviors by emphasizing practical, hands-on activities such as look-and-learn visits and demonstrations and by providing farmers opportunities to “see” or “hear” about the benefits of a practice from their neighbors and peers. Extension agents, local leaders, and social networks (relatives, friends, and neighbors) were found to play important roles in shaping farmers’ attitudes toward new practices, which underscores the importance of equipping these actors with the right information and support because of their ability to exert influence like this. Farmers also reported that working in groups helps motivate non-adopters to take up improved behaviors, particularly labor-intensive conservation agriculture, and NRM practices. Organized group labor is already a customary practice in Amalima Loko’s operational area (called *ilima*), providing an opportunity for the project to be led by local adaptations and solutions. Group labor can also serve as a valuable space for youth and elders to interact and learn from each other.

“A female farmer in Lupane (IDI, ward 18), for example, said she took up supplementary feeding after observing its benefits on a neighbor’s homestead. In three years of providing supplementary feeding to his cattle, the neighbor had not lost a single animal to drought. Seeing the benefits in person motivated the farmer to adopt supplementary feeding despite the high cost of commercial feed. Other farmers concurred and added that it helped to see cattle in good condition and health. Observed protection from predation and resistance to notifiable disease similarly cultivated positive attitudes toward practices such as ‘use of improved livestock housing’ and ‘vaccination of cattle, goats, and chickens against common diseases.’”

The Cost of Change: Free Inputs vs. Drudgery

The agriculture study indicates that the uptake of new technologies may have less to do with knowledge or awareness of benefits and more with perceived cost of adoption in that farmers are more likely to adopt low-cost, subsidized, or free technologies. The studies found that regardless of the benefits associated with improved practices, if the cost of implementing a practice (financial, time, physical effort) is perceived to be high, farmers are less likely to adopt it. And yet the two most common ways practitioners try to mitigate the cost of adoption, subsidy and low-input approaches, were found to have significant tradeoffs in practice.

“Conservation farming was the most frequently listed best practice. This was widely promoted by the government last year and seems to have taken off in all districts last season, mainly thanks to the presidential inputs scheme. FGD participants also mentioned increased yields as a result of conservation farming.

However, the study suggests that the government and nongovernmental organizations (NGOs) giving inputs is the biggest incentive for taking up this practice.”

Free input schemes and food for work were found in the studies to encourage greater near term adoption of practices such as the use of improved seeds and conservation agriculture when linked to free inputs, but drop off when direct support ends. Study respondents also noted that these immediate term incentives can contribute to dependency issues. Low-input approaches that focus on the use of those resources that are already available to farmers such as gully reclamation, contour ridges and mulching also tend to be labor intensive and are not readily taken up without incentives like food for work or group work schemes. As the agriculture study found, 83 percent of the surveyed farmers acknowledged that although they are well-versed with soil and moisture conservation techniques, the desire to avoid drudgery was a major reason for not adopting these labor-intensive practices. Over 85 percent of in-depth interview (IDI)



respondents report that they have not fully adopted conservation agriculture techniques because they are labor-intensive. Findings from IDIs revealed that some farmers who had taken up conservation agriculture under the government program had stopped. Beyond the plots needing “too much work,” farmers reported a lack of manure and mulch. The constraints of labor-intensive practices were mentioned most frequently by women and older men, likely related to time demands (for women) and physical ability (aging men). From the agriculture report:

“Cost plays a similar role in the adoption of recommended livestock practices. For instance, some farmers in Binga reported having built improved housing for cattle and goats thanks to the almost ‘zero’ cost of building materials such as logs and stones. Similarly, almost all the interviewed farmers in Binga and Lupane said they vaccinate their livestock against notifiable diseases such as anthrax (cattle) and Newcastle disease (chickens) because the government provides the vaccines for free. Another example: More than 90 percent of surveyed farmers use crop residues to supplement feed their cattle because the crop residue from their fields is ‘free.’”

A pair of observations in the studies may point to the way forward. Respondents and key informants noted often that these agriculture and NRM projects had been mostly initiated by NGOs or government through food for work schemes rather than by the community. And, when probed later in the sessions for their ideas and solutions, communities cited the need for collective action, both in the very practical case of carrying out labor intensive work and in addressing issues and concerns with the management of their communal areas. Amalima Loko staff are optimistic that such collective action has the potential to produce long-term sustainability benefits, especially when it encourages communities to pool and use their own resources rather than rely on free hand-outs. Participation in groups such as village savings and loan and livestock groups, although established through the program, was found to be one way to promote collective action around a specific set of goals. Participation in groups can help individuals pool resources to reduce costs and boost confidence by providing security in numbers when trying out new technologies.

The second observation is the importance of immediate, tangible benefit to communities of any new technology or practice. When new approaches take time, often many seasons, to show results (especially when they come with a high labor requirement), uptake is often limited and therefore relies more heavily on factors like observed benefits, as discussed in the previous section.

Systemic and Society-level Factors

The NRM study included many insightful sections on the effects of systemic factors linked to local governance and the legacy of colonialism that are likely applicable to many of the countries where practitioners work. These factors directly influence farmer and community perceptions of changes promoted by external actors and the likelihood of/possibility for change in behaviors and practices.

The Lasting Effects of Colonialism

Zimbabwe gained independence in 1981 after more than 90 years of colonial rule. The NRM study points to a legacy of colonialism that influenced some key informants and stakeholders (including local authorities and leaders) to frame farmers’ behavior as lazy, jealous, pitted against each other, and/or

ignorant, even while focus group discussions and interviews with farmers revealed the depth of existing farmer knowledge and the value of community⁹.

“A group of village heads from Binga explained: ‘People do not understand the long term consequences of their actions. People do not really know that the side effects of their actions like pulling of sleighs results in soil erosion. *Some people think that when we warn them against activities that degrade the environment, we do not want them to succeed in life. People are ignorant and some do it out of jealousy and hate.*’” Similarly, an Agritex officer from Binga noted: “*Some people in the community are too lazy to take the initiative. They have the knowledge but it’s a behavioral problem.*”

Key informants from Binga noted: “*Community initiatives succeed only when there is a great need and a direct benefit to them.*”

The dominance and influence of Christianity (brought to Zimbabwe by British colonizers) was also linked to the subsequent decline of indigenous beliefs, values, and their influence in natural resource management. The rise of Christianity was mentioned in several FGDs and KIIs as a key reason for the decline of traditional resource governance approaches and the role of traditional leaders. One EMA officer stated: “Cultural rules are no longer followed due to Christian religion. Now people do not listen to the cultural values or even believe in them anymore. The older people still respect traditional ways for natural resource management however they are outnumbered and out powered by the younger generations who have a different value perspective for natural resources.”

It is also worth noting that colonial-era policies based in Christian “stewardship”¹⁰ that removed local communities from their traditional lands¹¹ in the name of conservation have had a deeply negative impact on communities’ perception of these efforts and made them deeply unpopular¹². The study indicates that these negative perceptions of conservation can be a barrier when it comes to discussing natural resource management and conservation with communities, and has implications for designing SBC strategies around NRM. This factor may be present in many of the countries where practitioners seek to improve NRM and should be considered seriously when engaging with communities, underscoring the importance of community-led stewardship approaches.

Local Governance

Overall, post-colonial systems of governance and oversight in Amalima Loko’s study area often lack real authority, accountability, and resourcing. The NRM study found that many governance mechanisms have devolved into self-serving and/or corrupt institutions where natural resources are “managed” for the benefit of those agencies. Due to critical lack of resources, there is almost no monitoring, regulation, or punishment for environmental abuses by the EMA or Forestry Commission although departments are aware of the problems and various acts and frameworks lay out policies that seek to govern the use and exploitation of natural resources¹³. These institutions were seen by

⁹ The [NRM study](#) includes a detailed discussion of the history of colonialism and its lasting impact on Zimbabwean society, norms, and governance.

¹⁰ Mapara, 2009

¹¹ Page and Page, 1991

¹² Whitlow, 1988

¹³ Zimbabwe has established several relevant acts and frameworks, including the Natural Resources Management Legislative and Regulatory Framework and acts such as the EMA Act, Water Act, Traditional Leaders Act, RDC Act, and Forest Act.



respondents to lack the political will to support stakeholders in implementing their NRM and agricultural conservation mandates. From the NRM study:

“The Environment or Natural Resources Department in RDCs (where they exist) seem to focus on resource exploitation for the benefit of the council rather than management for the benefit of communities. Private sector companies (including mining, timber, fishing, and sand extraction companies) can exploit natural resources without accountability or any clear benefit to source communities and they can degrade and pollute with impunity.”

Government departments also often compete with one another for resources and authority over different areas and sectors, contributing to an overall lack of coordination. These factors often result in communities being cut out of benefit streams from natural resource use/extraction, the sidelining of traditional authorities, and the further eroding of farmers’ and communities’ trust in these institutions.

Importantly, these effects are also felt by the local authorities themselves, who reported a pervasive sense of despondency and hopelessness. From the NRM study:

“Some of the representatives from these departments were utterly depressed about the situation. For example, one Forestry Commission respondent said: ‘I feel like we’re letting the traditional leaders down because when they bring up those reports some of them are so passionate about the environment but sometimes you really get ashamed when they tell you please come but the policies don’t really allow you. Sometimes I end up using my own resources to come - you see this person is so dedicated and needs your support if you don’t come tomorrow, he won’t come back to you he’ll just say you’re useless. It really tears me apart. You can’t really do anything about it; they will have done their part...you get despondent.’”

The NRM study points to the need to improve governance through better coordination of stakeholders, enforcement of rules, and monitoring with improved accountability and transparency in terms of benefits due to communities. Study participants also saw capacity building for traditional leaders as key to improving NRM. These approaches underscore the need to develop approaches that focus on higher level actors, beyond farmers and communities, to create real change in NRM and agriculture practices.

Conclusions and Considerations

Myriad psychological, social, and structural factors interact to impact how people perceive and relate to their surroundings, make decisions, and, ultimately, behave. Humans generally regard themselves and others to be rational actors who make consistent and deliberate decisions by weighing costs and benefits. But, in reality, we tend to jump to conclusions, even with insufficient information¹⁴. We may overweight knowledge we already have or resist information that is unfamiliar or conflicts with our worldview. We are also particularly attuned to social influences¹⁵.

Social and behavior change approach helps explain the interaction of these factors. Often program designers and policy makers make assumptions about which factors have the biggest influence on people’s behaviors. But acting on assumptions, however well meaning, can lead to less effective or even harmful solutions if we misdiagnose people’s willingness and ability to modify their actions in the face

¹⁴ [Kahneman \(2003\)](#)

¹⁵ [Tomasello \(2014\)](#); [ideas42](#); [Schultz, Nolan, Cialdini, Goldstein and Griskevicius \(2007\)](#)

of crisis. The two barriers and motivations studies conducted by Amalima Loko have highlighted important insights around some of these assumptions when it comes to working within the agriculture and NRM space with the aim of changing practices and behaviors. A few useful considerations for practitioners can be drawn from their work and are included here.

Considerations for SBC in Agriculture and NRM

- The findings of these two studies suggest that the issue may be less about finding ways to change farmers' behaviors and attitudes around practices introduced by external actors and more about supporting farmers and communities to develop and drive their own homegrown solutions. Identifying positive deviants and amplifying those homegrown solutions may be key to these efforts. Programs that promote local ownership over and confidence in solutions as well as provide farmers and communities the space and resources to creatively problem-solve and iterate may make significant inroads.
- The immediate, tangible benefit to communities of any new technology or practice is key to sustained adoption of agriculture and NRM practices. When new approaches take time to show results, uptake relies more heavily on factors like observed benefits. Designing programs that support people long enough so that they see the long-term benefits and then amplify those results is likely an important first step. Longer time horizons may also mitigate farmers' negative perceptions in instances where practices are employed correctly, but climate factors still limit impact.
- As cited earlier in this document, research in Zimbabwe shows that farmers are resistant to change and slow to accept outside help. This finding reemphasizes the importance of demonstration and allowing space and time for farmers to practice, iterate, and fail without risk to their own livelihoods. The studies underscore how important proof of impact is to farmers, and if they can see something works better, research has shown farmers can be very open to change.
- Several respondents noted short term or one-off interventions, such as government input schemes, that lacked follow up and showed mixed or poor results, had a negative effect on their willingness to adopt new practices. Practitioners must be mindful of other programs in their operating area that have been rolled out unevenly or poorly, be aware of the impressions those programs have left on targeted populations and actively learn from and mitigate those negative experiences.
- The NRM study points to the need to improve governance through better coordination of stakeholders, enforcement of rules, and monitoring with improved accountability and transparency in terms of benefits due to communities. These approaches underscore the need to develop approaches that focus on higher-level actors, beyond farmers and communities, to create real change in NRM and agriculture practices. Practitioners should keep gender dynamics in mind as well; if programs focus on existing community governance structures, which are not particularly inclusive, they may inadvertently exclude vulnerable populations.
- The NRM study clearly points to the possibility that more intentionally targeting youth would not only address natural resource management issues but would increase their feeling of



belonging in the community and help to protect them from exploitation by unregulated companies. Placing greater emphasis on coordinated cross-theme or cross-sector programming may be particularly valuable in addressing this gap.

- Extension agents, local leaders, and social networks (relatives, friends, and neighbors) were found to play important roles in shaping farmers' attitudes toward new practices, which underscores the importance of equipping these actors with the right information and support due to their ability to influence behaviors.

Annex A: Study Methodology Summaries

NRM Barriers and Motivations Study Methodology

The study was conducted in Nkayi, Binga, and Hwange. These were selected as being most representative of the five project districts. A team of eight researchers, accompanied by the consultant, collected data through 39 key informant interviews (KIIs) at district and ward level and 24 focus group discussions (FGDs) in the selected study wards during September 2021. Within each study district, two wards were randomly selected as study sites.

Key informants were purposely selected from each district and ward and included representatives of government departments, private sector companies, market actors, and traditional and church leaders. FGD participants were selected from each study ward to include four demographic groups in the community: men over 35 years, women over 35 years, men 18-35 years, and women 18-35 years. Groups were segregated by gender and age to enable free expression of views on natural resources and avoid impedance related to cultural norms.

In total, 24 FGDs (12 women and 12 men) were conducted, transcribed, and coded for analysis. There were 199 total focus group participants (105 women and 94 men). Eleven of the 24 total FGDs involved only youth. Two of the men's FGDs had both youth and middle-aged adults. One women's FGD had both youth and middle-aged adults. Most key informants at both district and ward level were middle aged men. In this study, "youth" refers to those 18-35 years of age and "middle-aged" refers to those over 35 years of age.

The consultant trained the research team on the study methods and the data collection tools were tested at a site in Lupane district. The team collected data in September 2021, carried out transcription and translation in October, and analyzed the data in October/November. The team then developed a codebook and coded the data using Dedoose software, which enables systematic and thematic data analysis.

Agriculture and Livestock Barriers and Motivations Study Methodology

Amalima Loko conducted the study in two project districts in northwestern Zimbabwe, Binga, and Lupane. The study used purposive sampling because it helped the research team easily identify subjects that fit into the study objectives. Specifically, this sampling approach guaranteed that the researcher examined farmers that have either adopted or not adopted the promoted practices ("doers" or "non-doers," respectively)¹⁶. The Amalima Loko research team conducted 72 in-depth interviews (IDIs) at the household level (48 in Binga, 24 in Lupane), 24 focus group discussions (FGDs) (16 in Binga, 8 in Lupane), and ten key informant interviews (KIIs) (six in Binga, four in Lupane). The research team collected and transcribed data from January 19 to February 9, 2022. Data coding and analysis began on February 19 and ran through March 1, 2022.

¹⁶ Doers are farmers who practice in full or in part any one of the recommended crop or livestock practices. Non-doers are those who do not practice any of the recommended practices after exposure to them.