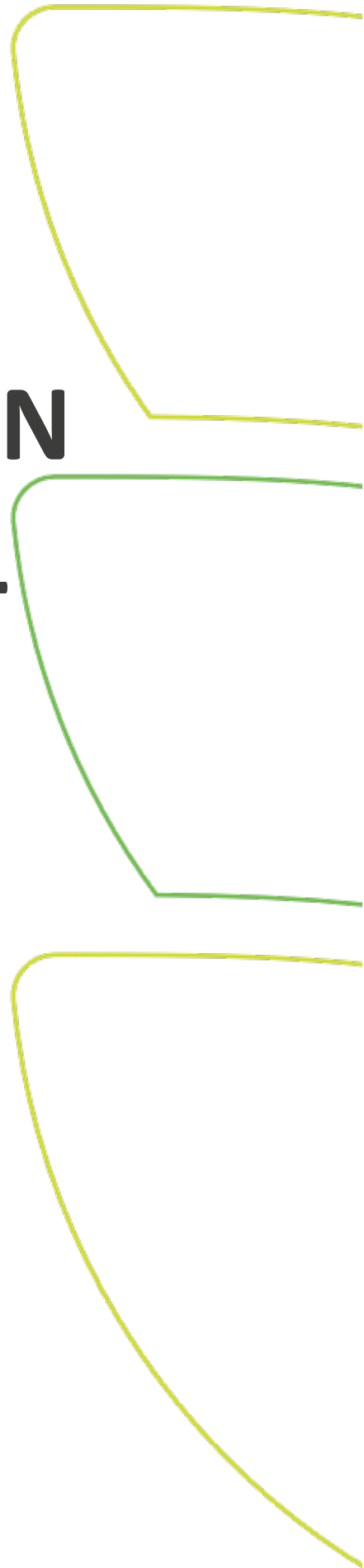


STARTING WITH WOMEN:

**FINDINGS FROM  
IMPLEMENTATION  
WITH ARTISANAL  
MINERS IN  
KARAMOJA,  
UGANDA**

August 2019





# Starting With Women in Karamoja

## Introduction

### Introduction and Theory of Change

Starting With Women (SWW) is an approach that centers women in design and implementation. Its starting point is the belief that women's land rights can be made more secure through an approach that starts with women. It is a pragmatic, adaptive framework and approach for understanding and taking action to strengthen women's land tenure security.

From 2018-2019, Resource Equity and Associates Research Trust implemented the Starting With Women approach with three mining associations<sup>1</sup> in one district in Karamoja in the northern part of Uganda. The long-term aim of the project was to establish a viable, evidence-backed, women-centered strategy for improving outcomes for women engaging in artisanal mining, by increasing the benefits artisanal miners<sup>2</sup> gained in mining activities and by ensuring that those benefits would be shared equally among women and men. A related long-term goal was increased protection of customary surface land use rights.

The theory of change of the project is that through the SWW process of needs identification and capacity development through groups, women would be able to overcome land tenure-based limitations in order to maximize benefits from their mining activities. The vision of the project was that artisanal miners would experience greater benefits from mining activities and that these benefits are shared equally.

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<sup>1</sup> A mining association is a group of miners who hold meetings and save money as a group. Mining associations can be registered with the government. In this case, all three mining associations were started by other development projects and were not formally registered. The associations are the 20-member Segelochoro Marble Mining Association in Katikekile, the 28-member Lopusak Gold Mining Association in Rupa, and the 30-member Nachan Limestone Mining Association in Tapac, which is an all-women group.

<sup>2</sup> Artisanal miners are small-scale, subsistence miners who work independently (not as employees of mining companies) to mine minerals.

This paper will detail the context of the project, how the SWW approach was adapted to that context, and key initial results. It draws primarily from the Baseline Study Report, Mid-Term Review Brief, and Endline Study Report.<sup>3</sup>

### Local Context

Karamoja is the poorest region in Uganda and has a history of armed conflict, though it is rich in mineral deposits such as gold, limestone, and marble. Although traditionally pastoralists, the people of Karamoja also engage in artisanal mining for those minerals, which is managed informally. There are also commercial mining interests in the area managed at the national level of government.

Traditionally, the area is dominated by customary, collective-based tenure, based on clan, sub-clan, and extended kin groups, which place women in a secondary position to men. Mining activities are gendered, and women tend to have a “double day,” caring for the family in addition to working at mining sites.

Ownership of minerals is vested in the state, but the Mining Act requires developers to acquire exclusive rights to the land through leases or title-conferring interests. Mining licenses have been issued by the central government for large expanses of land for companies and individual investors, in ways that are unclear to both the local government and to local communities. Local communities who hold surface rights to the land under customary tenure report being excluded from the decision-making processes related to granting of mining rights.

Each association targeted by the project worked with a different mineral. The Segelochoro Marble Mining Association sells marble by the truckload to middlemen, the Lopusak Gold Mining Association sells gold to traders in the area, and the Nachan Limestone Mining Association sells limestone to Tororo Cement Company, which holds a mining license and engages in large-scale mining in the same area.

### Project Approach

The project followed the Starting With Women approach, modified for the context. The project team was made up of researchers, practitioners, and a lawyer from Associates Research Trust and Resource Equity. As part of the project, the team hired a Community-Based Facilitator (CBF) from the area, who was primarily in charge of implementation.

The project began with a baseline and needs assessment. The team then validated the needs assessment and developed an engagement plan largely centered on a weekly curriculum. The CBF led implementation of that plan over a six-month period. Finally, the three associations graduated. Ongoing monitoring and evaluation included a qualitative mid-term evaluation and an end line.

First, the team assessed the area, by meeting with district leaders and other stakeholders and carrying out an inventory of existing mining associations. Although it had been reported that many mining associations existed (largely started by other projects), the inventory process found that few actually existed. In fact, there were only four functioning associations in the project area. The team therefore chose the three associations for the intervention based on which associations had a leadership structure, a history of regular meetings, and at least half women.

After choosing the associations, the research team chose control group members and conducted a baseline survey. This consisted of interpersonal survey interviews to develop quantitative parameters for the study and of focus group discussions with each group. The focus group discussions contributed to both the baseline and the needs assessment.

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<sup>3</sup> Thanks to the Associates Research Trust team of Herbert Kamusiime, Christine Kajumba, Thomas Kanooti, Paul Ntegeka Mwesige, Emmanuel Asiimwe, and Kerisa Paska for their work on the project, upon which this brief draws.

The team validated the needs assessment with each group, in sessions where the CBF was introduced. Before the validation, the team determined the key findings of needs and aspirations from the assessment. In sessions with each group, they validated whether the groups agreed with these key findings and then used the SWW action points tool to identify how to address each identified need and aspiration.

The team then used those action points to create an engagement plan for each group, focused on weekly meetings with the CBF. The main component of this engagement was a weekly curriculum. The curriculum had a legal component with sections on governance/the Constitution, land laws (including women's land rights), mining laws (including women's rights), laws on how to obtain mining licenses, and environmental laws. The curriculum also included sessions on financial management, mediation, alternative livelihoods, public speaking, lobbying/advocacy, and marketing.

In addition to the written curriculum, the CBF was responsible for conducting functional adult literacy training in each session, and for arranging for guest speakers. The associations were also assisted to register at the district level.

For six months, from November 2018 to May 2019, the CBF implemented the curriculum. The curriculum was drafted in English, and the team worked with the CBF to ensure she understood each component and that it was appropriate for the associations. The CBF was then responsible for translating and presenting it. The curriculum was drafted to be interactive, with a focus on adult learning methodologies. To ensure that the CBF understood the legal components, she attended a training that Associates Research Trust held for government officials on the law.

To incentivize attendance and compensate attendees for the time they could not spend working, each attendee was given lunch and a ration of dry food to take home. This incentive was agreed upon by all attendees during the curriculum creation phase.<sup>4</sup>

In February and March of 2019, the research team carried out a qualitative midline assessment, using individual interviews with group leaders and other identified resource persons and question-facilitated focus group discussions for the groups. For the two mixed-gender groups, separate focus group discussions were carried out for women and men.

Finally, in May 2019, the three intervention groups graduated. The graduation ceremonies included presentation of certificates and of a copy of the curriculum. The research team then carried out an endline assessment, consisting of focus group discussions and interpersonal survey interviews, with the objective of establishing what changes took place as a result of the project.

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<sup>4</sup> Note that all respondents to the endline survey noted this provision of rations as a positive, and associated especially the provision of food with increased health and decreased domestic violence. Women said, for instance, that they most liked the "food ration and lunch because it relieved us from hunger." However, these weekly rations ended when the project did, and it is unclear what, if any, ramifications will stem from this. While these rations were key in driving regular attendance and interest in the project, it is not clear what the consequences will be in the aftermath of project closure, including the precedent set.



# Key Results

## Land Rights Results

### 1. Knowledge of land rights increased

Understanding land rights can help lay the foundation for seeking redress when rights are threatened. In Uganda, surface rights to land and rights to underlying minerals are not connected, and it is the responsibility of the miner to acquire surface rights to land. Understanding who has those rights, and how they are transferred, is key to community's ability to seek compensation, redress, and assistance from mining companies and within the community.

A major focus of the trainings was therefore on land rights, and specifically on women's rights to land. After the project, there was a substantial increase in knowledge of land rights generally. At the beginning, only 17.56% (13 of 74) of the respondents said they knew their land rights. This increased to 97.01% (65 of 67) respondents by the end of the project.

This increase was true for both men and women, although the two respondents who didn't know their land rights were women.

When asked what "land rights" meant to them, respondents mentioned many of the rights they had learned about in the training, including the right to document their land, the right to sell and bequeath, the right to own, the right to use the land to grow food, the right to protect land boundaries, the right to compensation during eviction, and the right to protect the land if there is a conflict.

In qualitative interviews, respondents noted that land can be protected through having marked boundaries and by having documents such as agreements or titles which can be obtained through processes involving local leaders like the local councils and the area land committee.

Men in Segelochoro noted that they now know that "land is owned individually and also land rights can be protected by having licenses. We have learned that there's actually some land that is owned by the government such as the forests and the mountains. We now know that a person can buy or inherit land." In Nachan, women said that "land rights means I can go to the government and get a land title for a piece

of land. Land rights means that if my parents die, I can inherit that piece of land.” Men in Lopusak said “we have known that people have rights to own their land but the government also has a right to own the minerals but any mineral under the land belongs to the government but the people have a right of surface if the mineral is under his land.”

It is clear that the land rights component of the project did change beneficiaries’ knowledge of their rights to land, especially around documentation, sale, and inheritance. However, the assessment did not find a change in whether beneficiaries actually obtained legal documentation for their land. It is unclear why this was, but may point to a need for more training and facilitation to help people access the government.

## **2. Knowledge of women’s rights to land increased**

A major focus of the Starting With Women approach and of the trainings was on women’s rights. In Karamoja, customarily women’s rights to access and use land are dependent on their relationships with their husbands and fathers. The project aimed to teach the association members about protections women have under the formal law, and to shift attitudes about what rights women have to land.

While only 6.8% of the respondents mentioned specifically that wives have land rights when asked what land rights mean, qualitatively researchers saw a shift in the perception of land rights. At the baseline, respondents said things like “land belongs to men,” but by the endline they said both a husband and a wife have rights to land and that women as individuals have rights to land. For instance, a woman in the Lopusak Association said “land rights means that when a husband has given a piece of land to a woman to cultivate, nobody should come to chase her from that land.”

Association members planned to use this knowledge proactively. For instance, women from Segelochoro said “we plan to use our knowledge to teach the elders who control land about women’s rights to land that elders should allow women to own land. We are planning to protect our land by demarcating it and building some houses in it because we cannot afford the payment for the legal papers like land titles.” Men said “We shall share the knowledge we have acquired with other elders in the community and tell them that land belongs to both men and women because it’s the elders who control land.”

These findings point to a need to train the traditional leaders in the area on women’s land rights. While shifts in perception have happened within the associations, a cultural shift will require buy in from traditional elders, who control the land. However, within the limitations of the project, the feedback from beneficiaries shows clearly that the training has increased the knowledge of women’s land rights, and understanding of their importance, of both women and men.

## **Women’s Status**

One goal of the project was to ensure that benefits from mining activities were shared equally among women and men. One major finding is that women were included more in decision-making both in their associations and at home. The evaluation also found some preliminary evidence that domestic violence reduced.

## **3. Associations became more inclusive of women in their decision-making**

Women and men must have an equal voice in the association if both are to benefit from activities equally. At the beginning of the project, only 58.11% of the beneficiaries (43 of 74) felt the association decision-making process was inclusive of all members. By the end, this had increased to 97.06% of the beneficiaries (66 of 68).

In part, this was attributed to the trainings on public speaking and on women’s rights. Women from Segelochoro said “We have liked the training on the protecting of women’s land rights because we now know that there is equality between men and women on land. Also, as women, we can now stand in front of men and talk.” Women from Lopusak noted that “We have learned how to speak in public.”

This combination of trainings ensures that participants learn how to advocate for themselves and participate in discussions and leadership. In a context where women are culturally discouraged from speaking in meetings or taking leadership roles, trainings on advocacy and public speaking help overcome those cultural barriers to having a voice in the association. Similarly, trainings on women's rights and the importance of inclusion help all association members see the benefit of creating space for inclusive decision-making.

#### **4. More women were included in decisions about spending in the home**

One of the primary benefits of artisanal mining is family-level income. Therefore, having an equal say over that income is key to equal sharing of benefits.

The evaluation found that decisions about how to spend income at the family level had in general become more inclusive. This was clearest in Segelochoro, the marble-mining area, where by the end of the project five of the 20 beneficiaries (four men and one woman) changed from making expenditure decisions singly to jointly.

#### **5. The project may have contributed to a reduction in domestic violence**

One unforeseen effect of the project was on domestic violence. This was not measured quantitatively, but the mid-term evaluation found qualitatively that the training had a positive impact on domestic relations. For instance, the women in the Nachan Marble Association stated that "As a result of the training, there is reduced domestic violence in families because the training has made us seek and reach mutual understanding with our husbands in families, which is helping us live harmoniously." They also said "We have taught our husbands harmonious living and there are less punches now, there is reduced gender based violence at home, understanding now."

However, this effect may have been due more to the food ration that was given at each session than due to the trainings themselves.<sup>5</sup> In endline interviews, women in Nachan again mentioned domestic violence but related it to the provision of food. This may mean that the removal of this weekly food allowance could, in fact, trigger further violence. "Because of undergoing the training, we no longer fight and quarrel as couples because most of the quarreling and fighting are caused by hunger when the husband is hungry. Since the beginning of SWW, the husbands don't quarrel or fight because they know that every Thursday the wife will bring home the dry food ration. Our husbands were the ones who were waking us up in the morning to go for training...because they knew that from the lessons, the woman would come with food and this was happening every week. The husbands even started to buy soap for their wives to wash their clothes and become smart to attend the training."

Similarly, women in Lopusak said "The food rations women were taking home during the training improved the diet for the family, every Friday was always guaranteed. There was reduced domestic violence in the family because the training was providing food which is the main cause of fighting at home and the training place."

This warrants further investigation. It is possible that the trainings themselves had an effect, but because the men involved were husbands of women in the associations and therefore not directly receiving training, it seems likely that the reduction was in fact tied to the provision of food. It is unclear what long-term effect this might have, if any.

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<sup>5</sup> Each participant receives some maize flour and beans intended to incentivize training attendance and compensate participants for the time they lost to the trainings.

### **Viability of Miners' Associations**

A key aim of the project was to increase the benefits miners received from mining activities. Associations were chosen as the way to engage with miners, and improving those associations was identified by participants as a way to increase the benefits members received. While overall there was no change in how happy beneficiaries were with how their associations were run, there were a number of changes in the associations that resulted in benefits, including registration and an increase in focus on savings.

#### **6. Registration of the associations provided tangible benefits**

At the start of the project, all of the associations were unregistered community-based organizations that had been initiated by past unrelated development projects. The project assisted all three of the groups to register with the Moroto District local government. This included helping them to draft or revise their constitutions, helping them to access the government office, and paying registration fees.

All associations said they benefited from this. The Nachan Limestone Association said that a lobby effort partly assisted by their formal status had resulted in the company they work for, Tororo Cement Company, giving them equipment that could aid their extraction efforts. It also resulted in a partnership with the Human Rights Network (HURINET) to sensitize the local communities on land rights had been secured. The local government gave the Segelochoro Marble Association the bee keeping equipment in January 2019 because they were a fully registered group. Finally, the Lopusak Gold Association went on to get registration at the Uganda Cooperative Alliance, enabling it to have a stronger operational presence and leverage opportunities.

Assisting the associations with registration was not originally an aim of the project. However, it became clear during the needs assessment and validation that this help would lay the groundwork for the associations to become self-sustaining after the end of the project. This was in keeping with the framework of the SWW approach, which ensures that the articulated needs and aspirations of participants are the focus of the project.

#### **7. Savings as the main focus of the associations increased**

An identified aspiration of the associations was to increase their ability to save, through increasing livelihoods activities and through learning more about how to budget and manage money. The project therefore provided trainings on budgeting, saving, and alternative livelihoods.

The associations were all founded primarily as savings groups, and at baseline 67.57% of respondents said this was one of the group's main activities. By the end of the project, this number had increased substantially, to 97.05% beneficiaries.

Men from the Segelochoro Marble Association noted that "We have liked the training on the topic of how to save money because it taught us to save." Similarly, men from the Lopusak Gold Association said they most liked the "teaching about savings because it has made the members to know the use of saving the money in the association box." Women from the Nachan Limestone Association said "We shall sit as a group and save money using our new knowledge on savings."

Trainings on savings went beyond group activities. Women from Segelochoro said "We are planning to use the knowledge on financial management and saving to budget for family spending. We are getting old and we need to pass on this knowledge to the entire family members for long term use," and "we want to use the knowledge by buying a savings box for a family to start savings in it because we have knowledge on management." Men, similarly, said "We shall buy savings boxes for our families and use the knowledge on financial management to save money as a family."

This increased focus on savings ensures that the benefits of mining will accrue to the individuals and families involved. However, further investigation is needed to determine if the training on budgeting and



on alternative livelihoods change how these savings are spent, or if further assistance or training is needed to help the associations use the money they save productively.

### **Increased Benefits from Mining**

The primary focus of this project was on increasing participants' benefits from their mining activities. While there were no findings about a direct increase, the project did impact how well participants were able to track their mining activities, and what they planned to do with their earnings in the future.

### **8. Literacy and numeracy increased**

Although this was not a primary focus of the project when it was designed, during the curriculum creation phase all associations identified a need for literacy and numeracy training. Although it seemed unrelated to the goals of the project, in fact, increased literacy and numeracy helped the project beneficiaries to keep track of their mining sales.

At the beginning of the project, the vast majority of beneficiaries could neither read nor write. Most had not attended school and even 6 of the 21 beneficiaries who had attended school could not read or write.

By the end of the project, all 21 of those beneficiaries who had attended school could read and write, and 97.01% (65 of 67) respondents could count, an increase from the 52.05% who could count at the beginning of the project.

Respondents ranked the focus on functional literacy as one of the most important parts of the project. The Segelochoro respondents even suggested that the time spent on this should have been increased. They noted "we have liked FAL [functional adult literacy] because we did not go to school when we were young yet we have learned how to write and read," and "one of the major benefits of the training sessions is that the beneficiaries are now able to write certain figures, some numbers and their names which they never used to do. This benefit has been a result of literacy classes."

Similarly, men from the Lopusak Gold Association noted that "we have got knowledge to read the figures on the notes of money to know how much the money is. We have known how to write our names and read numbers. The LC1 chairman of the beneficiaries here, Mr. Maruk Locuge, has learned how to write his name." Women from the Nachan Limestone Association said "we have learned how to count and how to write, we can now count one, two, three, four up to ten."

The Lopusak Gold Association found these skills particularly critical, as trading gold requires being able to read the scales used by gold traders and compute from the amount they are owed. Women in the group said "knowing how to count is a benefit related to women miners because it helps them to count the grams of gold and count the money that should come from those grams." Women also said "women liked the knowledge on how to start a business because it helps them to know how to make money. Women have liked knowing how to read and write because they can now write their names. Women liked the counting of numbers because it taught them how to count their money."

Similarly, literacy was important in the marble area, because participants could now read the number plates of the trucks that loaded their stone and could count the number of truckloads of stone that were sold, in order to calculate their earnings.

A key finding here is that many of the other trainings on topics like savings and alternative livelihoods rely on participants either having functional literacy (e.g., the ability to count) or access to someone who is literate. While ultimately the associations continue to rely on literate members to do the work of tracking savings, providing functional literacy training gives every member, especially women (who are less likely to have attended school), the ability to advocate for themselves.

## **9. Respondents planned to use the business training to start small businesses**

In the needs assessment, respondents expressed a desire to learn more about alternative livelihoods, and specifically how to use money they made from mining to engage in other productive activities. Some of the weekly sessions were therefore focused on saving, budgeting, and alternative livelihoods.

A major qualitative finding from all groups was a future commitment to use the knowledge from these trainings to start small businesses. In Nachan, women said “after selling the local brew, we shall remove the money for buying food and save the rest of the money to start other small businesses until we get profit. We shall go to the Kenyan border and buy maize and come and make local brew and sell it to get more money. The facilitator called Okwang taught us that business is doing something until we get profit.”

Women in Lopusak said “we shall use the knowledge from business training to start small income generating activities to get money by going and buy some maize from Kenya border and brewing local brew. We shall use our knowledge to calculate and be able to know if we are making profit or not. Some of us will use our knowledge from training in entrepreneurship to start selling bread and cakes at Nakomolowarent trading center. We shall start trading in charcoal. We shall start selling tomatoes but after we have finished paying children’s school fees.”

Men from Lopusak said “people are going to use the knowledge they have got to start small trading businesses. We shall start buying chicken from one market and selling it in another market to make some profit, because the people have got new knowledge on how to start a business or income generating activities. The members of Lopusak Mining Association who are loaders of marble stones will start employing other members of the community to work for them because loaders have been trained on how to make profit.”

It is clear from these interviews that both men and women believe they have learned enough about business and alternative livelihoods to begin other activities outside of mining. However, the evaluation period was too short to find out if these plans came to fruition, and follow-up on whether the trainings were enough or if additional support should be provided is needed.

## **10. Beneficiaries were unable to obtain mining licenses**

Although a stated desire of all of the associations was to acquire licenses to mine or to deal minerals, ultimately the barriers to obtaining licenses were too high.

There were two training sessions focused on the law around mining licenses. These were crafted with the goal of helping the associations determine which licenses they might have the right to apply for, and with practical guidance for doing so. However, the project team met with local officials where it was made clear that there were insurmountable barriers for getting any kind of license, including cost, administrative requirements, and the fact that licenses had already been issued to companies or individuals in many of the project areas.

However, in the end line the Segelochoro Mining Association still identified the training on mining licenses as beneficial, saying “we have liked the training on the mining licenses because it empowered us with knowledge on how to get a license so as to get the authority of dealing in minerals.”



# Conclusion

Knowledge, especially about land rights, savings, and alternative livelihoods, increased, as did functional literacy. However, participants did note that a longer implementation period would have been ideal. For instance, women in Nachan said “The duration of engagement should be increased to 12 months.” Similarly, the endline assessment took place at the close of the project, so long-term effects of the project remain unknown.

The SWW approach was originally focused on women’s land rights specifically, and had to be adjusted to fit in this context. These adjustments included the necessity of focusing on mixed associations of men and women, focusing on specific trainings the participants requested, and focusing on mining and rights to minerals, in addition to land rights.

Many of the key components of the SWW approach were used, however. The implementation strategy of using a local community resource person (CRP) who came from the community and was therefore fluent in the local language and familiar with local customs was key to ensuring that the curriculum was translated correctly and that the project stayed relevant to beneficiary interests and needs.

Similarly, using the approach of a needs assessment, validation, and co-creation of an implementation plan meant the project was relevant to the needs and desires of participants.

Finally, the assessment shows some of the limitations of the SWW approach. Where the underlying law is unclear or is a barrier to getting rights (as with mining licenses) the project can’t provide full assistance, and other methods, like legal reform, may need to be explored.



# Annex One:

## Summary of Key Statistical Test Results

Variable	Baseline	Endline	Comment
Number of gold pits.	At 95% confidence interval, a one-way ANOVA test revealed that whether the respondent was a project beneficiary or not was not a statistically significant determinant of the number of pits they operated. (p=0.1436)	At 95% confidence interval, a one-way ANOVA test reveals that whether the respondent was a project beneficiary or not was not a statistically significant determinant of the number of pits they operated. (p=0.9026).	No change.
Size of land around the pits used in the operation.	At a 95% level of significance, one way-Anova revealed that whether the respondent was a project beneficiary or not was not a statistically significant determinant of the land area around used by the gold mining respondents in their mining operations. (p=0.9742)	At a 95% level of significance, one way-Anova revealed that whether the respondent was a project beneficiary or not was not a statistically significant determinant of the land area around used by the gold mining respondents in their mining operations. (p= 0.083)	No change.
Earnings per day.	At a 95% level of significance, the one way-Anova test revealed that whether the respondent was a project beneficiary or not was not a statistically significant determinant of the earnings from gold. (p= 0.7323).	At a 95% level of significance, the one way-Anova test revealed that whether the respondent was a project beneficiary or was a statistically significant determinant of the earnings from gold. (p= 0.000). Those who were beneficiaries of the project were on average earning more than the respondents in the control category.	Positive change

Length of the mining day.	Variable not investigated	At a 95% level of significance, the one way-Anova test revealed that whether the respondent was a project beneficiary or not was not a statistically significant determinant of length of the respondents mining day. (p= 0.1254).	Not applicable.
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Table 19: Gold bivariate investigation.<sup>6</sup>

Variable	Baseline	Endline	Comment.
Number of limestone sites.	At a 95% level of significance, the one way-Anova test revealed that whether the respondent was a project beneficiary or not was not a statistically significant determinant of length of the respondents mining day. (p=0.1846)	At a 95% confidence interval, a one-way Anova revealed that whether the respondent was a project beneficiary or not was not a statistically significant determinant of the number of sites operated by the respondent (p=0.1686)	No change.
Size of land around the site used in the operation.	At a 95% level of significance, one way-Anova revealed that whether the respondent was a project beneficiary or not was not a statistically significant determinant of the land area around the pit used in mining operations. (p=0.3338)	At a 95% level of significance, one way-Anova revealed that whether the respondent was a project beneficiary or not was not a statistically significant determinant of the land area around the pit used in mining operations. (p= 0.8735).	No change.
Earnings per truck.	For limestone miners, at a 95% level of significance, one way-Anova reveals that whether the respondent was a project beneficiary or not was not a statistically significant determinant of the earnings per trip of limestone when compared with the control group. (p=0.0014) Beneficiaries were earning more per trip than non- beneficiaries on average	For limestone miners, at a 95% level of significance, one way-Anova reveals that whether the respondent was a project beneficiary or not was not a statistically significant determinant of the earnings per trip of limestone when compared with the control group. (p= 0.734)	Negative change.
Length of the mining day.	Variable not investigated.	At a 95% level of significance, the one way-Anova test revealed that whether the respondent was a project beneficiary or not was not a statistically significant determinant of length of the respondents mining day. (p=0.3976)	Not applicable.

Table 20: Limestone bivariate investigation.<sup>7</sup>

<sup>6</sup> This bivariate investigation is done with whether or not the respondent was a project beneficiary as a factor variable.

Variable	Baseline	Endline	Comment
Number of Marble sites.	At a 95% level of significance, one way-Anova reveals that respondent's categorization as beneficiary or control group was a statistically significant determinant of number of sites the respondent operated. (p=0.0284) selected beneficiaries were operating more sites on average.	At a 95% level of significance, one way-Anova reveals that respondent's categorization as beneficiary or control group was a statistically significant determinant of number of sites the respondent operated. (p=0.2005)	Negative change.
Size of land around the site used in the operation.	Bivariate investigation revealed that whether the respondent was a project beneficiary or not was not a statistically significant determinant of the size around the site used in mining operations. (p=0.2227)	Bivariate investigation revealed that whether the respondent was a project beneficiary or not was not a statistically significant determinant of the size around the site used in mining operations. (p= 0.1379)	No change.
Earnings per truck.	Bivariate investigation revealed that whether the respondent was a project beneficiary or not was not a statistically significant determinant of the earnings per truck. (p=0.1755)	Bivariate investigation revealed that whether the respondent was a project beneficiary or not was not a statistically significant determinant of the earnings per truck. (p= 0.9036).	No change.
Length of the mining day.	Variable not investigated.	At a 95% level of significance, one way-Anova revealed that respondent categorization as beneficiary or control group was not a statistically significant determinant of the length of the respondent's mining day. (p= 0.6018).	Not applicable.

Table 21: Marble bivariate investigation.<sup>8</sup>

<sup>7</sup> This bivariate investigation is done with whether or not the respondent was a project beneficiary as a factor variable.

<sup>8</sup> This bivariate investigation is done with whether or not the respondent was a project beneficiary as a factor variable.