



# **CLIMATE FINANCING AND GENDER AMONG SMALL-SCALE MINERS AND FARMERS IN SELECTED SITES OF TANZANIA**

**PREPARED FOR WOMEN ACTION TOWARDS  
ECONOMIC DEVELOPMENT (WATED)**

## **NOVEMBER 2023**

Acknowledgment:

We express our heartfelt gratitude to all contributors who played a pivotal role in completing this report, unraveling the intricate connection between small-scale mining, climate change, gender dynamics, and financing. This acknowledgment stands as a testament to the collaborative spirit that fueled our exploration of the challenges faced by small-scale miners and farmers, with a particular emphasis on the experiences of women.

Our sincere thanks extend to the dedicated experts who unwaveringly supported us throughout this journey. We also extend appreciation to our partner, WAEHEAL, in Mwanza for their valuable time and professional support. To the women small miners in Geita, your invaluable support and shared information are deeply appreciated. The financial backing from our partners at Both Ends has been instrumental, and we extend our heartfelt gratitude for their contribution.

The interest to learn the nexus between climate financing and gender within the realm of small-scale mining and farming is a multifaceted and often overlooked domain. This report explores the complex web of impacts that climate change imposes on the livelihoods of small-scale miners and farmers and access to financial resources, with a special focus on the vulnerabilities experienced by women within the small-scale mining sector.

WATED, our organization has a peculiar interest of linking women's rights, environmental justice, and policy-making in order to empowers us to document and share evidence of women's efforts to curb climate change in rural communities, urban areas, and the outskirts of cities. These testimonies serve as a gateway for discussions with policy-makers and parliamentarians, providing a transparent platform to address women's challenges, policy gaps, and project implementation issues related to climate financing.

We envision this baseline as a catalyst for further engagements and discussions with various stakeholders, fostering a holistic approach to addressing climate financing and gender with women in leadership across all spectrums of development to ensure no one is left behind.

Thank you for your support, and we wish you an enlightening reading experience.

***Maria***

Sincerely,  
Maria Matui – Legal Secretary Cum AG ED

## **Executive summary**

The relationship between small-scale mining and climate change has begun to receive increased attention. The intersection of this important sub-sector, gender dynamics, climate change, and financing has emerged as one of the most critical topics. However, limited attention has been put on the exploration of the linkages between climate financing and gender among small scale miners and or farmers. This report explores the impacts of climate change on small scale mining and farmers' livelihoods, examines the barriers they encounter in accessing financial resources, and highlights potential strategies for a just and sustainable transformation.

It has been found out that, women in Small Scale mining sector are among the most vulnerable groups to climate change especially linked to increasing extreme weather events (floods and droughts). Yet efforts to support their adaptation measures are still low. They have limited access to both weather and climate information and services and have no access to climate finance. Technologically, this group is still backward as well.

On the level of awareness and understanding of climate change, it was revealed that, about 97% have ever observed and experienced climate change events especially droughts and floods. The rising temperature and unpredictable rainfall were mentioned to be affecting both their mining activities, water access and food insecurity. Equally, agricultural activities which are practiced by majority women in rural areas face extreme weather events (especially droughts). The same has become a less dependable livelihood option and hence forcing more women and children to turn into small scale mining.

On climate finance, about 87% of the respondents have never received climate change related trainings and had no clue on climate finance. The reasons are linked to the fact that no programmes and projects that are developed to support these sectors. This indicates that, there is less work that link climate change adaptation and climate finance with small scale mining sector. Deforestation was mentioned as one of the challenges facing small scale mining and farming. At the beginning the deforestation is done to clear areas where mining and farming will take place. At the end this leads to erosion in the mining sites and other surrounding areas which affect land that would have been used for agricultural production and/or other livelihood activities.

### **It has been recommended to:**

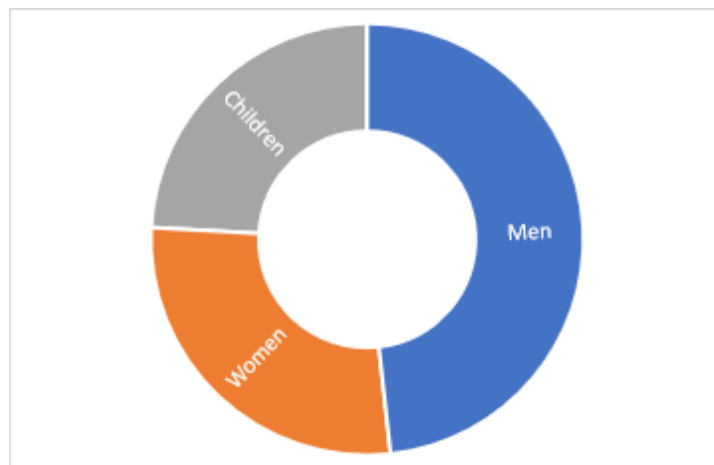
- i. Promote more climate smart mining that does not lead into deforestation instead reduces climate related risks and embrace resilience among women mining groups;
- ii. Proactively enhance discussion and dialogue at national and local levels on need for climate finance to reduce vulnerability among women working as small-scale miners. The debate should go further to include access and use of climate finance. The role of private sector should be clearly bought up.
- iii. Build and strengthen capacity to enhance adaptation amongst women small scale miners. The entry point should include understanding the impacts and how frequent shall be and agree on local and community owned interventions

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## 1.0 Introduction

In recent years, mineral sector has become one of the significantly emerging economies in Sub Saharan Countries, specifically its small-scale subsector supported by the multitasked women groups. Tanzania in particular ranks the fourth in Africa in terms of its mineral deposits and small-scale mining activities<sup>1</sup>. It is estimated that more than one million people are directly involved in artisanal and small-scale gold mining (ASGM), which is a mere subset of the artisanal and small-scale mining subsector. In this specific group alone, it is approximated that 48.27% are men, 27.60% are women and 24.13% are children<sup>2</sup> Figure 1.



**Figure 1:** Ratio of women involvement in mining sector



**Figure 2:** Women involved as washers

Further to that, the relationship between small-scale mining and climate change has begun to receive increased attention especially in research and policy, and occasionally on ground

<sup>1</sup> Rwiza et al. (2023). Artisanal and small-scale mining in Tanzania and health implications: A policy perspective

<sup>2</sup> Mutagwaba et al, (2018) Artisanal and Small-Scale Mining in Tanzania–Evidence to inform an action dialogue. Artisanal and Small-Scale Mining in Tanzania. Dar Es Salaam



## 1.1 Background

Small-scale mining and farming, characterized by its low capital intensity and labor-intensive practices, plays a significant role in Tanzania's economy, contributing to job creation, poverty alleviation, and foreign exchange earnings. However, the sector is often overlooked on how it is disproportionately affected by climate change and particularly women who participate in it. Women engage in various mining activities, including artisanal gold mining, gemstone extraction, quarrying and providing services and food, playing a crucial but marginalized role in the sector.

Geita region has abundant gold and the economy dependent on extractive activities. Still gold mining in Geita region provides a compelling context to examine the challenges faced by people engaged in small-scale mining activities, especially women, amidst the backdrop of climate change and limited financial resources. It has been established that, the number of women who are taking part in Small Scale Mining (figure 2) is increasing and are mostly affected by both climate change and mining activities, particularly in societies where women fulfil traditional gender roles related to agricultural production, energy provision, and caregiving. These women are typically most vulnerable to changes in the local environment and should be supported to access climate finance.

The role of small-scale miners in socio-economic transformation has been growing across the country and around sub-Saharan Africa. In most cases workers (especially women and children) come from rural areas and with limited capital and livelihood options. The miners, especially women, work under harsh climatic conditions and poor working equipment and environment.

### 1.1.1 Climate change context

Climate change poses significant challenges to small-scale miners in Tanzania. Increased temperatures, irregular rainfall patterns, and extreme weather events directly impact the mining sites and surrounding ecosystems. Shifts in rainfall patterns can lead to flooding or droughts, disrupting mining operations and causing economic losses. In this context, small-scale mining often takes place under extreme weather conditions where the miners have limited access to weather and climate information as well as limited access to climate finance, especially among women. Too much water due to heavy rains lead to flooding of mining sites and related infrastructures resulting to livelihood destructions and sometimes death of people.

On the other hand, the sector and related activities are among the causatives of climate change while at the same time, vulnerable to its impacts. There are continued concerns that mining and small-scale mining included contribute to climate change due to neglected environmental practices in the sector<sup>7</sup>. Degradation of natural resources<sup>7</sup> and environmental pollution resulting from mining activities contribute to climate change, exacerbating the vulnerability of

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<sup>7</sup> Landrigan et al. (2022). Environmental Health. Reducing disease and death from Artisanal and Small-Scale Mining (ASM) - the urgent need for responsible mining in the context of growing global demand for minerals and metals for climate change mitigation. <https://doi.org/10.1186/s12940-022-00877-5>

these miners and their communities. It is possible to conclude that, with good governance and access to climate finance, small scale mining can play a significant role in promoting socio-economic transformation.

Yet, the small-scale miners especially those owned by women, are facing difficulties in maintaining their mining sites due to weather extremes such as floods and droughts that affect food security. They also face challenges of poor infrastructure and limited social services. The impacts on children and women themselves are often severe, including hazardous exposures and limited capacity to access technologies and climate financing. Linked to that, is the fact that women small scale mining sector is dependent on natural resources especially water, small scale farming and pastoralism to access food. However, farmers and pastoralists especially those located in semi-arid areas have been facing poor harvest due to climate change and related risks that lead to poor harvest thereby exacerbating poverty among people. This has in turn led to increased food prices that affect lives of women small-scale miners. In terms of energy, small scale miners are heavily dependent on the surrounding forests to access undeveloped fuel woods that end up causing degradation. It is important to keep reminded that, local forests are home for water resources and other ecosystem services so their degradation means destroying all these services. During floods and or droughts, local forests act as a buffer for the likely impacts. However, degraded and deforested places are expected to be among the areas that will face severe climate change related impacts and shall play insignificant role in supporting adaptation actions.

In the mining sector and especially in small scale mining sites where women are the majority, well enhanced adaptation actions should be supported by access to climate finance, technology and capacity building among small scale miners. If the three are well done and governed shall reduce vulnerability among women and other human systems (i.e., communities, areas or sectors) to climate change. In order to reach this stage, appropriate and integrated policies and practical actions should be in put in place.

Some few questions to ask are:

1. How women in small scale mining and farming are affected by the changing climate?
2. What related livelihood options are the most affected?
3. How can we protect the livelihoods of those who depend on small scale mining from the impacts of climate change?

Even though small-scale mining sector has continued to employ majority of Tanzanians and especially women, the impacts of climate change are projected to negatively affect the sector due to projected increase of extreme weather events. On the other hand, the Tanzania mining policy of 2009 aimed among other things to promote sustainable exploitation and development of mining activities through enhanced local content and improved small-scale miners for poverty reduction among the majority in the country, the practical experience on the ground towards achieving these policy objectives has remained a challenge to time<sup>8</sup>.

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<sup>8</sup> Maliganya and Bengesi (2018). Policy Enabling Environment of Mining Sector in Tanzania: A Review of Opportunities and Challenges. *Journal of Sustainable Development*; Vol. 11, No. 4; –ISSN 1913–9063 E–ISSN 1913–9071

There is a growing public debate on whether women in the small-scale mining sector are able to access or already have access to climate finance. This is among the reasons for having this analysis. The public debate is also linked to the fact that, the sixth assessment report of the Intergovernmental Panel on Climate Change (IPCC-AR6) has indicated how smallholders in the Eastern Africa will increasingly become vulnerable to climate change impacts and experience more losses and damages<sup>9</sup>. For instance, the frequency and intensity of extreme weather events and especially droughts and floods (Figure 4) have been increasing in recent years and will double in the coming years.



**Figure 4:** Mercury-contaminated water flooding in Geita

The most affected are the rural areas characterized with poor and marginalized populations. In Geita, Bahi and Muheza districts, this study found out that, smallholders that include farmers, pastoralists and small-scale miners and their livelihood options are already affected by weather extreme events especially droughts and floods and these are putting women and their families into more poverty and climate change vulnerabilities. As a result, mining sites in these districts are experiencing reduced availability and access to both food and water and hence hinder efforts to achieve just sustainable development. This situation increases gender inequality vulnerability to thousands of women. Limited availability and access to food compounded by decreased diet diversity shall lead to increased malnutrition in many communities, including women working in small-scale mining.

### **1.1.2 Financial Challenges**

Challenges of climate change need enormous amounts of finance to solve, hence the current topic of climate finance. Climate finance refers to local, national or transnational financing,

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<sup>9</sup> IPCC, 2022: Summary for Policymakers [H.-O. Pörtner, D.C. Roberts, E.S. Poloczanska, K. Mintenbeck, M. Tignor, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem (eds.)]. In: *Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 3–33, doi:10.1017/9781009325844.001.

drawn from public, private and alternative sources of financing that seeks to support mitigation and adaptation actions, capacity building and technology transfer, with the view to addressing climate change. Of recent, the scope of climate financing will be extended to cover climate induced losses and damages.

Access to information and finance is a fundamental challenge faced by small-scale mining and farmers women in Geita, Bahi and across Tanzania. Limited financial resources restrict their capacity to adopt climate-resilient technologies, implement sustainable practices, meet market demands and improve their living conditions. Traditional financial institutions often perceive small-scale mining and farmers as a risky sector, resulting in limited access to formal loans and banking services. Informal financing options, such as exploitative lending practices, may further marginalize these women and hinder their economic empowerment. The best practices should include ensuring decentralized and progressive financial sector that shall provide financial loans to women owned small scale mining. Linked to that, government policies could be reframed to ensure that there is VAT exemptions on small mining equipment.

There has been a growing movement on climate change since 2015 when the Paris Agreement was concluded. In Tanzania, it is even clear that, the relationship between climate change and small-scale mining will become more noticeable in the next decades due to the fact that the mining sector can exacerbate climate change and at the same time be affected by climate change impacts. The fact that majority people and especially the smallholder group characterized by more women, are employed in the small-scale mining sector, further amplifies the present and projected impacts due to low adaptive capacity. The sector is already affected by climate change impacts and need to be supported to build its climate resilience. One of the important areas that needs special attention is attracting climate finance in the small-scale mining sector and related livelihood activities. There should be answers on how small-scale farming can be improved to produce enough food to support those in need; supply food at reasonable prices to the small-scale mining sector. Equally, the impact of their deforestation and land clearing practices which is damaging the ecosystems need to be looked at holistically.

## **2. Objectives of this study**

The objective of this study are threefold:

- 1) Assess the impacts of climate change on women in the small-scale mining and farming in selected sites of Tanzania.
- 2) Analyze the financial barriers encountered by these women in accessing resources for sustainable development.
- 3) Identify potential strategies and interventions to enhance climate resilience and financial inclusion for small-scale mining women.

## **3. Methodology and approach**

This analysis pays attention to small scale miners found in Geita region, small-scale farmer's semi-arid area (Bahi District) and small agrobusiness communities in northern eastern Tanzania (Muheza district). This study applied mixed methods to collect information that

included one scoping field visit in Geita (Geita Region) where both Focus Group Discussion (FGDs) (Figure 5 and 6) and Key Informant Interviews (KIIs) were conducted. Before field work, list of questions for FDGs and KIIs were developed and tested. Thereafter, the researcher met 3 women led small scale miners' groups. Seven FGDs were conducted with women lead small scale miners' groups. Other group leaders who were involved in the value chain were interviewed to get their comments on the same. Equally, leaders from Non-Governmental Organizations (NGO) who are involved in small scale mining work were interviewed. The intention was to get information from different stakeholders which complement the discussion. Remote study was done in Bahi and Muheza districts. At selected sites a total of 98 participants took part in the study related discussion. A desk review of various documents such as books, journals articles and other electronic policies were reviewed to complement data from sites and to inform remote study in Bahi and Muheza.



**Figure 5:** Focus Group Discussions going on at Mgusu village in Geita District



**Figure 6:** Focus Group Discussions going on at Mgusu village in Geita District

## **4. Findings and results**

### **4.1 Demography and education levels**

The age of participants ranged between 26-64 years and most (92%) have primary education. Only 4% had an education above primary level while 4% did not have any formal education. About 65% of the participants/ miners reported to be coming from neighboring regions of Mwanza, Shinyanga, Kagera and Mara. 80% of all participants had about 5-7 dependents with ages ranging between 1- 18 years. The lower level of education indicates that, majority of these women are providing cheap labour and if not supported may not be able to achieve their goals. Also, the age group between 46-55 had the highest number of women participating in the small mining activities. It has also been found out that, about 65% of the

interviewed women were coming from other regions and or districts, a situation that signifies immigration to look for opportunities. Some of these women have once been farmers and some have been engaged in other livelihood options which they reported to have been affected by prolonged droughts and related losses for so many seasons.

**Table 1:** Age groups and education levels of participants

Age Group ↓	Education		
	Non formal (%)	Primary (%)	Secondary (%)
16-26		16	
26-35	4	22	
36-45		24	2
46-55		26	2
56-64		2	
65+		2	

#### 4.2 Small scale mining situation

Information from both FGDs and KIIs revealed that, all (100%) of the respondents indicated to be engaged in gold related activities. On a question as to whether they had license to operate, majority of respondents (67%) indicated that they are working to provide labour to those with license. Some of the reasons for not having license was mentioned to be related to administrative delays and or lack of qualifications such as having certain capital. Majority (85%) of these women were engaged as diggers while the remaining percent was reported to be washers.

These groups were found also to be engaged in other livelihood activities apart from mining. Some these activities include farming, cooking porridge, selling vegetables and collecting and selling firewood in the mining camps. Others (15%) were also participating in selling clothes. Responses from both FGDs and KIIs indicated that, these groups have limited access to technology and are providing labour. Because of limited technology and capital are heavily dependent on natural resources such as water, forest and land to support their work and livelihood options. For instance, they reported to use firewood to get energy for cooking and sometimes heating. This is also linked to the other illegal forest harvest to get construction materials in the mining camps and sites a situation that has caused serious deforestation around small scale mining sites.

#### 4.3 Climate change and sustainability

Small Scale miners are among the most vulnerable groups to climate change, yet efforts to support their adaptation measures are still at an infantile stage and are hindered by the lack of information on how they are experiencing and responding to climate change<sup>10</sup>. There are still clear gaps at decision making levels on how this specific group is affected and how it is responding to the impacts of climate change. To be supported, policy makers, climate change practitioners and donors are interested in well informed support and institutional responses, and strategies for small scale miners. All these should be context specific with information on

<sup>10</sup> Harvey et al (2018) Climate change impacts and adaptation among smallholder farmers in Central America. Agriculture & Food Security. <https://doi.org/10.1186/s40066-018-0209-x>.

what climate change impacts this group face and how they are responding across levels of operation.

On the level of awareness and understanding of climate change among the mining groups, it was revealed that, about 97% of all participants in FGDs and KIIs have ever observed and experienced climate change events especially those related to prolonged droughts and floods. The rising temperature and unpredictable rainfall were mentioned to be affecting both their mining activities, water access and food insecurity. In the case of farming, maize and beans were mentioned to be the most affected crops. Through FGDs it was clearly mentioned that poverty do exist among these small scale miners and have limited access to both capital and livelihood options. Respondents revealed to have limited access to finance to support their livelihood activities and for investment. Even though these groups could engage in agricultural activities and go back to mining activities during agricultural off seasons, most of small-scale miners reported that in recent years agriculture is increasingly facing prolonged droughts and hence becoming unreliable. The surveyed groups mentioned that it was because of agricultural failure they have decided to move into small scale mining so that they can sustain their living.

Limited access to local specific climate and weather information and services are among the limiting factors. Majority of both women miners and farmers have access to general weather and climate information not linked to related services. It was reported that in most cases they don't harvest and have limited access to weather and climate information to guide their agricultural activities. Recently, both in mining villages and other nearby areas have been facing the challenges whereby climate change interacts with non-climate drivers and stressors to exacerbate vulnerability of agricultural systems, especially among poor households. The failure of agricultural activities affects income sources to small scale miners who are also dependent on agricultural activities. Also, food prices have been increasing, forcing small scale miners to spend much money on food.

``..... this took almost my entire capital as I spent too much money to buy food. **One of the participants reporting, March, 2023`**``

Equally, as agricultural activities which are practiced by majority women in rural areas continue to face extreme weather events (especially droughts) women groups become more dependent economically and vulnerable. The same has become a less dependable livelihood option and hence forcing more women and children to turn to small scale mining. Depending on one type of livelihood increases their levels (especially women) of vulnerability. Also, most of youth have reported to abandon farming to join small scale mining.

Further, some respondents engaging in small scale agricultural activities revealed the impact of climate change associated with migration of disease vectors to newer sites thereby spreading uncommon diseases while at the same time exacerbating the impact of the common ones. The burden of diseases affects both humans and crops, resulting in an overall impact in production, leading to food insecurity. Diseases like malaria, dengue fever were mentioned as affecting humans while for crops, a viral disease affecting vegetables and maize known as

katangaze and some worms were mentioned. Also, Fusarium Wilt Disease which affects banana and cotton was mentioned as one of the newly emerged diseases.

Other extreme weather-related event reported by both KIIs and FGDs was ever increasing floods that affect mining activities. It was reported that, due to poor infrastructure and climate change more rains in the mining camps lead to flooding which sometime lead into death and serious property losses. It was also reported that, in a situation where the mining camp experience flooding it has to be closed and workers will have to find other options to sustain their living. According to FGDs, the critical role women can play in addressing climate change in the small-scale mining is always overlooked and as such have no updates on what is going on.

The negative impacts of small scale mining on agriculture is linked to the fact that the labour force needed to work in the farming are leaving and joining mining camps. As a result, there will be shortage of labor in agriculture<sup>11</sup>. In addition, some farmers who are closer to mining sites turn their farms into mining sites because their fields were located in mineral-rich areas. This step has led to the loss of existing agricultural land, to soil degradation and, ultimately, to the disintegration of rural economies and increased vulnerability to the impacts of climate change. The most affected are the women.

Both KIIs and FGDs mentioned the adaptation measures used by women. Some of these were to postpone mining activities at a time when the mining sites are flooded. Other adaptive measure was use of local equipment to take out water from the mining sites. In case of droughts, small scale miners mentioned to have been importing food from other places but at high cost that include cutting down the share of food to be consumed per day. On water they mentioned that, sometimes the budget for water and at a serious scenario some of the operations that require more water are postponed.

#### **4.4 Access to climate change trainings and related finance**

About 87% of the respondents from both KIIs and FGDs reported to have never received climate change related trainings and had no clue on climate finance. The reasons for not receiving climate related finance and trainings were linked to the fact that no programmes and projects are developed to support this sector. This indicates that, there is less work that link climate change adaptation and climate finance with small scale mining sector<sup>12</sup>. In this, women were mentioned to be the most affected and vulnerable to the impacts of climate change. Increasing number of vulnerable groups, already lack resources for climate adaptation and there is an increasing need to undertake robust measures to ensure there is access to climate-resilience information and climate finance. Consultation with small scale miners and other groups operating in the mining sites indicated that, although the women group is the most vulnerable group there are no dedicated plans and measure to raise their awareness and prepare them for climate change adaptation and access to climate related finance.

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<sup>11</sup> Machacek J (2019). Typology of Environmental Impacts of Artisanal and Small-Scale Mining in African Great Lakes Region. Sustainability. doi:10.3390/su11113027

<sup>12</sup> Adelphi, L, R., (2016)Climate Change and mining, A Foreign Policy Perspective.

This study found low levels of understanding and information related to climate change adaptation among small scale miners<sup>13</sup>. As the extreme events are projected to increase if no dedicated efforts from different groups the costs to adapt among this group will be high to meet in terms of finance and timing. It is true that both small scale miners and other institutions and policy makers are still not able to link climate change and ever-increasing weather extremes. Still the costs and vulnerabilities have been on increase time after time. In mining sites where flooding has happened, the costs to rescue people and properties have been above average and affecting the whole investment and operation plans. In all cases, everything takes months to come back to normal.

#### **4.5 Other related challenges**

Respondents mentioned that during rainfall no mining activities could be conducted especially among small scale miners and are facing lack of permanent places for mining as well as operating under loss especially under climate change scenario. It was further reported that, climate change also affects the owners of the mining sites to the extent that they are not able to pay salaries and wages to those working in the camps. They also lack modern tools to support mining especially during heavy rains.

Deforestation was mentioned as one of the challenges facing small scale mining. At the beginning the deforestation is done to clear areas where mining will take place. At the end this leads to erosion in the mining sites and other surrounding areas which affect land that would have been used for agricultural production and/or other livelihood activities.

Due to limited sources and access to affordable and clean energy more forests are cleared to make charcoal and get building materials. During the rain seasons most of the degraded areas become worse and affect the mining activities. The continuous and long-term deforestation lead to soil degradation and affect water quality in rivers. When these happen the most affected are the women who have to pay high price to access these resources or have to travel long distance looking for the same.

## **5. Conclusion and recommendations**

### **5.1 Conclusions**

- i. The small-scale mining sector is increasingly facing many challenges including limited capital and now frustrated by climate change impacts that are more linked with extreme weather events especially frequent droughts and floods. These are affecting productions and put women who are engaged in a more vulnerable status.
- ii. Even though small-scale miners are more vulnerable to the impacts of climate change, efforts to address these impacts and raise awareness among these stakeholders have not been stated. This situation limits the critical role women would have played in enhancing adaptation in the sector.

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<sup>13</sup> Mason, L and Giurco, D (2013). Climate change adaptation for Australian minerals industry professionals, National Climate Change Adaptation Research Facility, Gold Coast, 62 pp.

- iii. Climate finance has not been linked with small scale miners and efforts to ensure this is happening soon are yet to be observed. As a result, the women groups are becoming poorer without understanding what and when they should do what to take themselves out of the current situation.

## **5.2 Recommendations**

- I. Promote more climate smart mining that does not lead into deforestation and greenhouse gas emissions instead reduces climate related risks and embrace resilience among the society and especially for women groups;
- II. Proactively enhance discussion and dialogue at national and local levels on need for climate finance to reduce vulnerability among women working as small-scale miners. The debate should go further to include access and use of climate finance. The role of private sector should be clearly bought up.
- III. Build and strengthen capacity to enhance adaptation amongst small scale miners led by women. The entry point should include understanding the impacts and how frequent shall be and agree on local and community owned interventions.
- IV. As part of cooperate social responsibilities large mining companies should support local research and provide financial resources for climate adaptation among women small scale miners and their livelihoods.
- V. Strengthen decentralized climate finances that will support women small scale miners
- VI. Local Government Authorities should train local communities engaging in agriculture in their areas of jurisdiction to implement Climate Smart Agriculture.
- VII. Government should support adaptive measures to Small Scale Miners as part of Corporate Social Responsibility since the sector contributes to the national economy.
- VIII. There should be an organization charged with the guidance of small scale miners so that they will register miners groups and give them environmental protection and climate resilience education.

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