

Operation and Frames of Illegal Gold Mining in Ghana

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Abstract — Illegal gold mining in Ghana popularly called ‘galamsey’ is a complex environmental and social problem which requires urgent attention because its impact is alarming. This research was conducted to study ‘galamsey’ operation and frames associated with this phenomenon. The result would assist in the negotiation process which may lead to a collective action to curb the menace. A qualitative case study design was used for the research and data collection instruments were participant observation, focus group discussion and informal interviews. Seventy eight (78) persons were purposively sampled for the study. The research revealed that ‘galamsey’ operation, a money-spinning activity is socially organized and has resulted in varied challenges such as labour shortages and high labour wage especially in cocoa producing areas. Interestingly, ‘galamsey’ activity has enthused most cocoa and plantain farmers to be involved in minimum labour use projects. The research showed that people hold different frames about ‘galamsey’ which are associated with either agriculture, society or natural resources but lacks a collective action to control the situation. Since there is no collective action, a vigorous stakeholder analysis first to identify relevant stakeholders, their interests, relationship and frames on the situation to move toward a collective solution.

Keywords — Environment, Farmers, Frames, Ghana, Illegal Mining.

I. INTRODUCTION

Illegal gold mining widely called ‘galamsey’ is a complex environmental and social problem which requires urgent attention. The practice is regarded as illegal because most ‘galamseyers’ or illegal gold miners operate without mining permit as compared to certified mining companies. Additionally, ‘galamseyers’ are believed to operate on concessions of legitimate mining companies and in unfriendly places such as in rivers, flood plains, road sides and in farm lands. According to the World Bank Group, ‘galamsey’ is largely a poverty-driven activity, typically practiced in the poorest and most remote rural areas of a country by a largely itinerant, poorly educated populace with few employment alternatives [1]. This condition has resulted in pollution and land degradation [2] and conflicts of varied degree between ‘galamseyers’ and mining companies, ‘galamseyers’ and security officials and community members and many other problems that the authorities have struggled to address [3], [4], [5]. Unfortunately, this unlawful act is on the increase since ‘galamseyers’ do not only operate at night because of fear of apprehension by security officials but also during the day. The ‘tutu tutu’ sound from the stone crushers is certainly a nuisance to residence around these operation sites. Apparently, ‘galamsey’ has several

consequences on the ecosystem and human health yet this activity is wide spread particularly in gold mining areas of the country. It is believed that a number of people have varying degrees of interests which may be political or economic in illegal gold mining. The adverse consequences of galamsey in sub-Saharan Africa are well documented [6], [7], [8], [9]. In Ghana, recent research on illegal gold mining focused on the environmental and social impacts of illegal mining [10]. However, how people frame illegal gold mining which may lead to problem solving has not been giving attention. The purpose of this study is to determine the frames associated with ‘galamsey’ operation in Wassa Akropong. Thus, frames and framing play an important role in conflicting issue like ‘galamsey’ to finding a collective action.

II. THE PROCESSES OF ‘GALAMSEY’

The ‘galamsey’ operation involves series of processes before gold is extracted. The activity commences with land and equipment acquisition. Equipment such as shovel, pickaxe, water pumps, rubber hose, chinvan machine, generator, wooden boards are used. However, land is principal because ‘galamseyers’ or illegal gold miners usually borrow some of the equipment. Thus established ‘galamseyers’ provide a helping hand to up and coming operators until they are capable of operating fully. Upon acquiring land usually from families, farmers and sometimes Chiefs, the next step involves digging of trenches to obtain the soil which may contain gold deposits. Interestingly, most of the gold miners do not know beforehand whether gold exist in the supposedly purchased land but are optimistic of getting gold. Thus established ‘galamseyers’ provide helping hand to up and coming operators until they are capable of operating fully. Upon acquiring land usually from families, farmers and sometimes Chiefs, the next step involves digging of trenches to obtain the soil which may contain gold deposits. Interestingly, most of the gold miners do not know beforehand whether gold exist in the supposedly purchased land but are optimistic of getting gold. After land and equipment acquisition, the next step involves digging of trenches (about 80 meters deep to the earth) to obtain the soil which may contain gold. It is known that “galamseyers” dig trenches manually and are sometimes trapped underground due to land landslide and collapsed tunnels. In addition, excavators are hired to dig some of the tunnels. After getting the soil, soil sample test is undertaken to check for the presence of gold. Thereafter, the soil is taken into the chinvan machine (stone crusher or soil grinder) to obtain “black” which is the ground soil that

contains the pieces of gold. The operators mentioned during the interview that grinding of the soil is done continuously for nine hours before the operators rest. This is to obtain sufficient 'black' so that enough gold may be obtained after resting they may decide to continue grinding or close and continue later. In most cases, the working hours are divided among themselves, and each of them works for three hours then they change the roles. Usually one of them do the cutting of the heap of soil with shovel and the soil is moved closer to the 'chinvan' machine while another person puts the soil in the machine. The rest take care of the black, manage and direct rubber hose (water) from the machine. The grinding of the soil results in the production of 'black' which is then washed. This leads to the next process which is the washing of the 'black' with water. The washing is done by placing some amount of black on a wooden board which is covered with plastic and spongy carpet. This spongy carpet traps the gold deposits during washing. Thus, when an appreciable quantity of black is washed, the spongy carpet is removed and rinsed in a bowl of water. This water contains pieces of gold and fine soil particles (sediments) which are then

treated to obtain gold. An important process in gold extraction is the process of amalgamation where sediment (silt containing gold is allowed to stand and settle for some days and mercury is added and stirred vigorously until the sediment becomes solidified. The hardened sediment called amalgam is washed with water and squeezed in a cloth. The squeezing is done to get rid of water that may be left in the sediment after washing. The mercury or lead traps the gold from the sediment and bulk it to form a solid gold. At this stage, the gold which looks silver/white in colour is processed by roasting (putting the gold on paper in fire) for about 2-8 minutes to evaporate the mercury. This changes the silver colour to yellow and marketable gold is obtained. Interestingly, roasting or fire treatment process can be described as a refinery process, but it is not considered as such because the actual refinery is done in established gold refinery. Finally, the rest of the sediments after gold extraction called 'dead black' with mercury deposits are disposed off in the open and into water bodies which pollute the environment. Fig. 1 summarizes the processes of 'galamsey' operation.

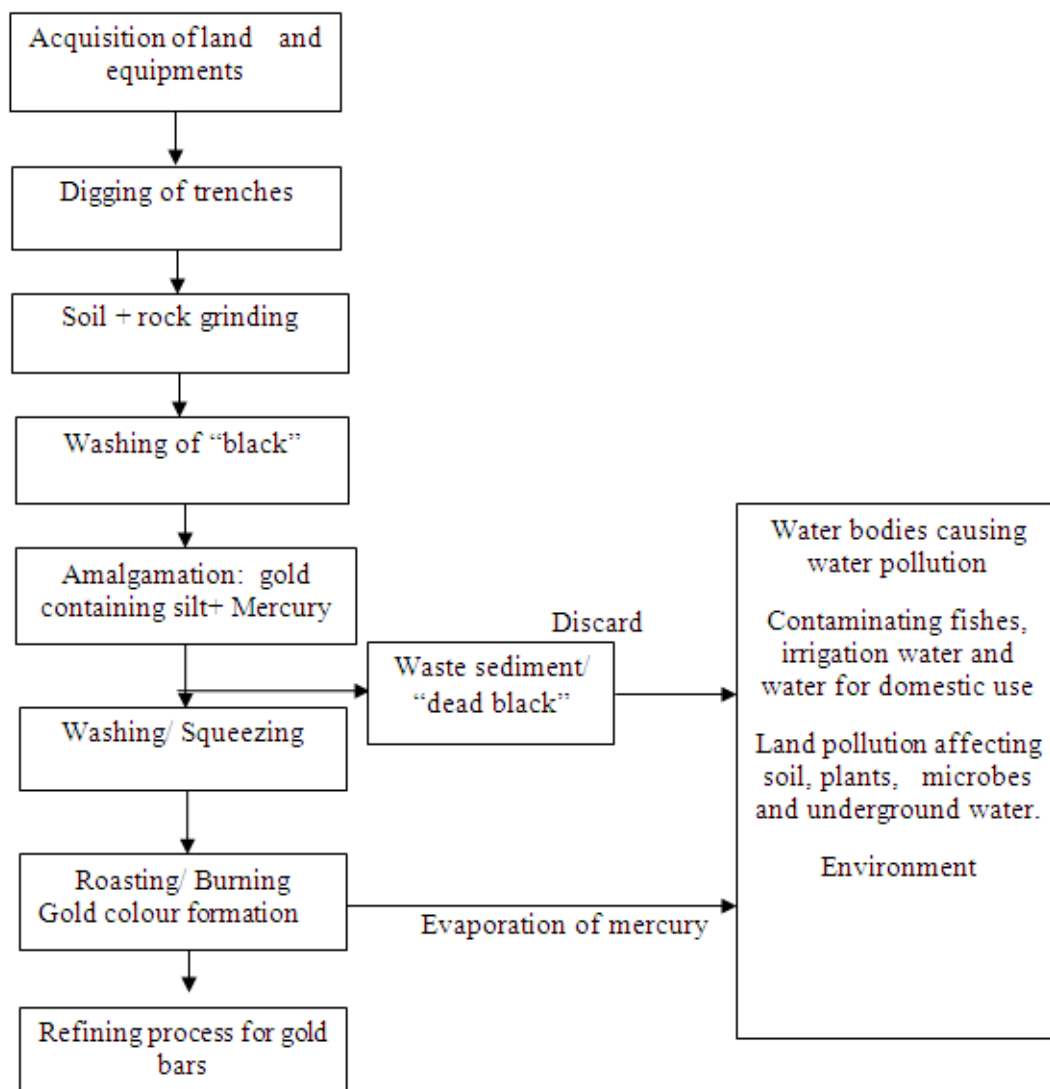


Fig.1. A flow chart of the processes of 'galamsey' operation.

III. METHODOLOGY

The study was conducted in Wassa Akropong in the Western Region of Ghana. This location was selected for the research because illegal gold mining was widespread and coincided with another research on plantain improvement in the area. A qualitative case study design was employed to get insight into the problem and data collection instruments were participant observation, focus group discussion and informal interviews. A total of seventy eight (78) persons were purposively sampled for the study. This sampling technique allowed people with adequate information about the problem to be part of the research. The research findings were analyzed using the concept of frames and framing by [11].

IV. RESULTS AND DISCUSSIONS

A. Frames about 'galamsey'

This section focuses on perceptions of people about 'galamsey'. This entails how different persons frame 'galamsey' operation, how they frame themselves and other people. It appeared during the interview that people hold similar, conflicting as well as positive and negative views about 'galamsey'. The perceptions of farmers, 'galamsey' operators, District Assembly and Ministry of Food and Agriculture are considered. The perceptions are presented by making use of the concept of frames and framing [11] which is relevant for studying conflict, negotiations and inter-group interactions. In addition, [12] indicates that to frame is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation. This brings to light that frames determine how people may construct, define, understand and remember problem, diagnose causes and make moral judgment or propositions. According to [11], three general categories of items can be framed. These are issue, identity, relationship and interactive process. However, issue, identity and relationship frames may be prominent in discussion of this section. The details about the type of frames surrounding 'galamsey' is presented below.

B. Issue frames

According to [11] the issue frames are meanings people attach to events, agenda item or problem in the relevant context. Inferring from the above, issue frames in this context indicate the meanings people attach to 'galamsey operation'. That is frames on what 'galamsey' is. Issue frames about 'galamsey' in this situation are categorized into agricultural frames, social problem frames and natural resources frames. It is worth mentioning that the meanings or frames of 'galamsey' may be positive and negative depending on who is speaking.

C. Agricultural frames

Agricultural frames about 'galamsey' are the frames people hold that the activity has effects on agriculture. This is centered on labour shortages, land use conflict and destruction and as an alternative source of livelihood to

support cocoa farms. Based on the interviews most of the farmers framed 'galamsey' as the cause of labour shortage for farming in the communities. The farmers think labour may be readily available for farming if there is no 'galamsey' and wages may not be very high because there may be people to work on their farm. Other farmers explained that when migrants come to the communities to work, they work on people's farms or as labours for a maximum of one month and join 'galamsey' activities. In this situation, hiring labour for farming activities becomes expensive and the labour that may be available for hiring demand high wages.

In addition, a number of farmers perceive 'galamsey' in terms of competition with them for arable lands. According to farmers and some staffs of the Customary Land Secretariat, some Chiefs give land for 'galamsey' activities in return for huge sums of money and other benefits. They mentioned that migrants' farmers pay an annual fee for an acreage of land used for cocoa farming to the district's Office of Administration of Stool Lands, but this fee is not paid by native farmers who practice sharecropping. Most of the farmers alleged that "*some Chiefs do not want to give land to migrants so that the fee is paid to the stool lands at the district level but will give it for galamsey and take all the money*". The focus group discussion revealed that apart from chiefs who release land for 'galamsey' activities other native farmers also give part of their land for 'galamsey'. One of the farmers explained that native farmers give part of land for 'galamsey' because of family responsibilities and anticipation of quick monetary returns. Some farmers lamented that they used to grow rice, but now only few of them grow rice because the water areas are used for 'galamsey'. This is a clear indication of land use conflict for rice cultivation and 'galamsey' in the area. The land conflicts are usually between farmer and farmer, family members, family members and Chiefs, 'galamsey' operators and mining companies. The conflict between farmer to farmer is about boundary of land entitled to 'galamsey' operation and the fact that one farmer receives the benefits/ money while the other farmer bears the problems that are associated with 'galamsey'. In addition, conflicts over benefits or returns from the sale of land for 'galamsey' occasionally erupt between family members because each member of the family has legitimate right to own part of the land which is given out. The immense economic conflict is with the certified mining companies and 'galamsey' operators over legitimacy of owning land and gold extraction.

Besides 'galamsey' competing with farmers for land, it is also framed by farmers as "*a destructive activity*". The majority of the farmers' indicated that 'galamsey' activities have contributed to destruction of farms close to the operation sites. They lamented "*when their area of operation is close to your farm, you have problem. They will trespass the boundaries and dig into your farm*". Other farmers mentioned that "*when their activities destroy your farm, some Chiefs say that the plants are yours but the land is mine*". The land is virtually destroyed because there are often lots of large uncovered

tunnels, flood and depletion of vegetation. Hence the land cannot be used again as one of the 'galamsey' operator's puts it "after galamsey the land cannot be used for anything not even to build houses". My observations at "galamsey" sites revealed that plants (cultivated and uncultivated) near 'galamsey' sites have died. This confirmed what a farmer said that "galamsey water kills cocoa, oil palm, plantain and other plants because of the presence of mercury"

According to farmers 'galamsey' is also a way of cheating them because they (galamsey operators) have money and we are poor, we give part of our land to them for money, but they will keep on eating from the land for long time and the money they give us would have finished.

In spite of the negative frames about 'galamsey', other farmers have opposed perceptions. Most of the farmers perceive 'galamsey' as "a source of livelihood for young people and an alternative source of income to support cocoa farm and family". The 'galamsey' operators share similar views with farmers. They see it "as the main source of livelihood for the youth, a great source of employment, a work for school drop-outs and people who did not attend school because it does not require much skill. It is also seen as a means to become rich though they think it is a dangerous and difficult work". The District Assembly has similar but also opposing outlook about 'galamsey'. This is what the District Assembly says about 'galamsey' "it is a big problem in the district but a source of livelihood for most young people. The activity is deadly, you see, people die from it. It is an issue of security and the District Security Committee (DISEC) has been meeting on it. Reports have been submitted to the Regional Coordinating Council to help us deal with the issue, but we are yet to hear from them. Recently, a task force of police and military officials came to arrest illegal gold miners but you know this action is not solving the problem because after some days the miners come back to work. Illegal mining is a threat to the security of the district. Indeed, the issue is beyond the District Assembly". MoFA however framed 'galamsey' in a different way. It is framed as "a challenge to food security because arable land is used for mining. They claim that youth in galamsey communities is not very interested in farming". This is because most youth in 'galamsey' communities sees the activity as lucrative compared to farming.

D. Social problem frames

In the 'galamsey' context, social issues frames are people's perceptions that 'galamsey' has social repercussions which include health problems. Most of the farmers framed it as the reason behind the increased economic activities such as petty trading in the communities, increase in drinking and eating spots. This is because there are lots of buying and selling in 'galamsey' communities especially cooked food in the early hours of the morning around 6-7 o'clock when 'galamseyers' are getting ready to start the day's operation and also in the evening after work. Other farmers perceived it as the cause of social problems such as school drop-outs, teenage pregnancy, divorce and theft in the communities. They explained that "because any person can work as labour to

earn high wages, young girls are enticed by the high wages and they stop attending school. In one of the communities, the farmers think that 'galamsey' operators exert pressure on their bore holes such that it spoils almost every week.

Moreover 'galamsey' is framed in terms of human health hazards by most of the actors. According to farmers and galamsey operators, human lives have been lost through 'galamsey' activities. They indicated that people lose their lives by drowning when they accidentally fall into the uncovered tunnels that resulted from galamsey activities. Such tunnels may be described as death traps in the area. Also, "galamsey operators may be trapped underground or in the earth during the course of work. Apart from death threats, 'galamsey' is framed as harmful to human health. It is noted that mercury is added to gold containing silt to extract gold and the vapour are usually inhaled during the amalgamation process. According to [13] mercury has effect on the nervous system, heart, circulatory system and may be harmful to the development of brains especially in unborn babies and the International Agency for Research on Cancer (IARC) has tagged methyl mercury as possibly carcinogenic to humans [13]. It is possible that 'galamsey' operators have health problems although the actual effects of mercury in gold extraction on their health are not known to them. Inquiring about any health related problems, 'galamsey' operators mentioned headaches, red eyes and dizziness, skin rashes, malaria and sleeping disorder. This is consistent with [13] that the inhalation of mercury vapour can cause neurological and behavioural disorders such as tremors, emotional instability, insomnia, memory loss, neuromuscular changes, headaches and high exposure have also led to deaths.

E. Natural resource frames

These are also frames concerning 'galamsey' on natural resources such as water bodies and the environment. Human activity is the main source of mercury to the atmosphere, water and soil [13] and 'galamsey' is not an exceptional human activity. During gold extraction, the 'dead black' (left over sediment) is thrown away in the open/ vegetation and in rivers especially with alluvial mining. When disposed off in the open, sediments containing mercury are washed and transported by rainfall and are deposited into water bodies or rivers and may also contaminate other soil. In this situation, most of the farmers frame 'galamsey' as the cause of pollution of River Ankobra and other water bodies. They reckoned that "River Ankobra used to be our main source of water, we used it for farming and washing, but we cannot use it anymore because it is full of chemicals". Besides mercury pollution, I observed that flood plain 'galamsey' distorts the flow of rivers because of heaps of soil at river banks. In a study by [13], it was noted that fishes and other sea foods are easily contaminated by mercury and may be hazardous to the health of people.

According to [13] mercury combines with carbon and other elements to form organic mercury compounds such as methyl mercuric chloride. They indicated that methyl mercury is commonly found in the environment and of

major concern because it becomes accumulated in the food chain to reach high concentrations. The different frames about the issue (galamsey) indicate that people assign different meanings and understanding to same problem or issue. This may largely depend on the interest or stake of the person who is speaking.

F. Identity frames

These frames capture the meanings about oneself and other actors [11]). They noted that it looks into how one sees/ presents and labels him/ herself as well as others with or without a group. In the 'galamsey' situation, farmers see themselves as poor people who need money to support their farms and family and therefore join 'galamsey' for money. They again used the same label "poor people" and added that now farming requires money and because they do not get financial assistance from the bank, they resort to giving part of their land for galamsey in return for money. It is generally known that people say good things about themselves, but this does not apply to the farmers who perceive themselves are poor.

In a study by [11] it was noted that framing others usually takes the form of stereotypes what [14] termed as characterization frame. Characterization frames may be positive, negative or neutral descriptions of actors [14]. I realized that people do not say good things or have negative perception about 'galamsey' operators. The farmers hold the following views about 'galamsey' operators: *"Galamsey operators are thieves, violent and drug addicts. They are bad and are not very free with people. They may speak with you nicely, but the next minute if you go to them, you may be beaten. Galamsey operators do not respect anybody because they smoke, drink and have money. They chase women and school girls with their money because the next day they will get gold. They are wasteful, only few of them are wise; who use their money to buy cars and build houses in their hometown. We (farmers) say they are bad people because when your farm is close to their site, they can physically assault you to abandon your farm for them. They even uproot, spoil the cocoa trees and dig the farm for gold. You know that not all of them come from here. Some do not have places to sleep, so they walk about during the night until day time but others have rented rooms. In addition, others sleep in class rooms and they create problems for students. They are dangerous to deal with"*.

The galamsey operators described themselves with the following statements:

"We are doing this work because most of us did not attend school; others like me completed senior high school. We are not good people, I mean we are wicked, rascals and hustlers. Most of us drink and smoke. We are guys and have to enjoy ourselves. We have money to spend but very soon will be rich. We are sometimes under attack by soldiers and policemen, but they cannot arrest us, we have been working here, and we know corners and where to pass when they come. We do not fear anybody".

G. Relationship frames

These entail frames about one's relationship with other persons [11]. Although other farmers join 'galamsey' activity, they claimed to be careful with 'galamsey'

operators. They stated that *"we are always careful with them because they can change any moment. We go there to work with them when we need money and not to interfere in their business because they may think we came to spy and report them to be arrested"*. 'Galamsey' operators have different understanding about their relationship with farmers. They stated *"it is true that farmers are helpful, some give us part of their land but we do not trust them because they can complain to people such as the Ministry of Food Agriculture and even police. We do not talk to them that much about our work because they can be our enemies"*. The relationship between farmers and 'galamsey' operators is more of carefulness and mistrust. In addition, the relationship of other organizations such as NGO's in the district and 'galamsey' operators seemed not to be good. It was mentioned during an interview that one of the NGO's invited media to cover 'galamsey' activity which was broadcast on television and print media and the NGO (Director and staffs) were threatened. Thus, the relationship as at now can be described as enmity.

V. CONCLUSION

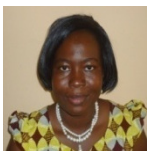
The 'galamsey' issue is a very dicey one because different actors with varying interests are involved and livelihood of a great number of young people is at stake as well as the environment. The 'galamsey' activity is framed differently by farmers, 'galamsey' operators, the District Assembly and MoFA. The overriding issue frames of farmers about 'galamsey' is it being the cause of labour shortage, high labour wage and other social problems such as theft and teenage pregnancy. Not only are the frames negative, positive ones exist such as for booming economic activities in the communities. The image of 'galamsey' operators in the area is associated with negative connotations as most of the actors' perceived operators with words such as drug addicts, wicked and lawless people. Strikingly, 'galamsey' operators acknowledge the negative frames about their identity and are proud to be associated with the labels. Relationship with people matters to the 'galamsey' operators, farmers and organizations in the district. However, it is that of mistrust and carefulness for operators and farmers and threats to enmity for operators and organizations in the area. The different frames that surrounding 'galamsey' enrich and provide diverse meanings to the activity which can be looked in trying to solve the problems. Although it is not clear how a collective solution may be reached, a vigorous stakeholder analysis to first identify relevant stakeholders, their interests and relationship is important to arrive at a collective solution and in such situations local and scientific knowledge should be integrated to provide a complete understanding of the socio-ecological system which may lead solution finding.

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