

Schooling In The Midst of KHAT Growing, Chewing and Trading

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Abstract: *Khat, a cash crop is used for relaxation and alertness. It is exported with immense socio-economic benefits. Few studies have been conducted to associate Khat growing and chewing with schooling. The objective of the study was to explore the influence of Khat growing and chewing on the attitudes, perceptions and experiences of school going pupils. The study design was a Convergent parallel mixed methods study with the qualitative arm employing Phenomenology. Qualitative results were thematically analyzed and presented in narratives. Analysis revealed that the crop had positive and negative influences on schooling. Negative themes associated were school absenteeism and interruptions, school dropouts, attitudes and disregard towards schooling. Positive contributions were noted as financing education hence progressing schooling. While Khat growing cannot be de-linked from Khat chewing, its cultivation has immense negative impact to the education system where it is grown. This trend affects both male and female children in both primary and secondary schools. So as to present an accurate picture of the problem's magnitude, more research among school children to determine chewing prevalence in Khat growing areas should be carried out. Exploring the application of the social learning theory into substance abuse among children in Khat growing is key.*

Keywords: *Khat, Miraa, Perceptions, Schooling, Mixed Methods*

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I. Introduction

Khat refers to the young leaves and shoots of the plant *Cathaedulis Forsk* (CEF) of the family *Celastraceae*. It is a natural stimulant whose young buds and tender leaves are chewed to attain a state of euphoria and stimulation. The leaves have an aromatic odor and are slightly sweet. In Kenya it is referred to as Miraa or Mairungi among the Ameru, Muguka among Embu people, Qaat among the Somali and 'Veve' among the youth. It is an evergreen shrub cultivated as a bush or a tree [1]. In Kenya, it is a cash crop of immense economic value, and mainly grown in Meru and Embu Counties with smaller quantities grown in other parts of the country such as Mbooni and Koibatek.

The use of Khat is prevalent among all segments of the population in growing areas including school-going children. Studies have shown Khat chewing prevalence among school children as ranging from 19% to 22%. [2, 3, 4, 5]. Key reasons given by school-going children and students for khat chewing are better ability to review lessons and improved performance in exams [6, 7, 8]. While Khat chewing was viewed as helpful for some students and especially in subjects that need memorizing rather than critical thinking in the short term, in the longterm these effects are negated by its negative impact on cognition and schooling in general [2, 9]. Khat chewers, the risk of underperformance in universities in Saudi Arabia has been noted with 39.4% having poor grades, 40.9% being frequently absent from class and 39.6% being on probation as a result of poor grades [2].

Closer home, a study based on the social learning theory of Badura that investigated the influence of miraa farming on learners' discipline in public primary schools in Mutuati division, Igembe North district in Meru noted the involvement of learners with miraa farming has highly contributory to high indiscipline cases in schools. This was because pupils sneak out of schools to go earn easy money from miraa business [10]. Similarly, factors that were found to be major contributors to boys' dropout especially 10-14 year olds in Ndoleli division, Meru County included miraa farming [11].

II. Objective

To explore the influence of Khat growing and chewing on the attitudes, perceptions and experiences of school pupils.

III. Methods

3.1 Study Design

The full study employed a Convergent Parallel Mixed Methods design that entailed qualitative (QUAL) and quantitative (QUANT) data collection methods. This paper focuses on the qualitative aspects which employed a phenomenological approach.

3.2 Study Site

The study was carried out in Meru County (Igembe North, Igembe Central, Igembe South and Tiginia East Sub counties) and Embu County (Mbeere North and Mbeere South Sub counties) of Kenya. The selected study sites are some of the largest khat growing regions in Kenya.

3.3 Study Population

The respondents were drawn from selected school pupils in both upper primary and secondary schools as well as teachers in the same schools and community members.

3.4 Community entry, sensitization and mobilization

Authority to carry out the study which had several sub areas, was sought from relevant national authorities including office of the Director of Medical Services at the Ministry of Health, and from the Ministry of Education. Further, permission was sought from respective county governor offices, county commissioners and county executive offices (Health, Agriculture, Youth and Gender, Education). Sensitization workshops were held with sub-county and local administrators who included chiefs, assistant chiefs and *miraa* farmers' association representatives. Community health strategy officers, community development officers and relevant administrators assisted in community mobilization.

3.5 Sampling

A total of 12 FGDs were conducted with various participants as shown in TABLE 1 while 13 IDIs were conducted as shown in TABLE 2. All participants for FGDs and IDIs were purposively selected with discussions and interviews being done to the point of information saturation. This was when no new information was expected to be elicited by conducting any new discussions/ interviews. On average, FGD interviews took 90 minutes while IDI interviews took 45minutes. Each FGD had a maximum of 10 respondents.

TABLE 1: FGDs Conducted

COUNTY	Number	PARTICIPANTS
Embu	3	Children
	2	Youth
	2	Community members
Sub Total	6	
Meru	3	Children
	1	Men
	2	Females
Sub Total	6	
TOTAL	12	

TABLE 2: IDIs Conducted

COUNTY	Number	PARTICIPANTS
Embu	3	Community members
	5	Teachers
Sub Total	8	
Meru	2	Community members
	3	Teachers
Sub Total	5	
TOTAL	13	

3.6 Qualitative data collection and analysis

All discussions and interviews were audio recorded. Recorded interviews were downloaded from audio recorders and stored in password protected laptops by the qualitative team leader daily. At the end of the study, these were transcribed verbatim together with translations where necessary. Data analysis involved both thematic and content analysis where reading through the material several times to identify the prime emerging themes and coding of the content was done so as not to miss relevant pieces of information. The following steps were followed during analysis: 'familiarization with the material', 'generation of codes', 'searching for themes',

‘revision of the themes’ and ‘interpretation’. Analysis was conducted manually by the study team members who were also involved in the qualitative data collection. Data was reported verbatim in narratives.

3.7 Ethical considerations

The discussions and interviews did not have any invasive procedures however some potentially sensitive information was sought from participants. No compensation was given to participants except for cash travel reimbursements for those who travelled to interview sites from other locations. Children in school did not receive any money however after the group discussions, they were given refreshments that were provided by the research team. Discussions and interviews were all audio recorded. All the above aspects of ethics were included in the Informed consent forms that each participant read and signed off. For children who were under 18yrs of age, school administrators signed informed consent forms while the children signed assent forms.

IV. Results

4.1 Participants’ Demographic Details

According to the findings, 86.8% of the children were involved in farm work with a majority of them (93.8%) working as a family responsibility. A total of 12 FGDs and 13 IDIs were conducted. The demographic profiles of participants is given in TABLE 3 for FGDs and TABLE 4 for IDIs.

TABLE 3: Demographic Profiles of Participants in Focus Group Discussions (FGDs)

County	Description	Ages	Gender	No. FGDs	Total participants
Embu/ Mbeere	Secondary school	17-22yrs	Mixed	2	20
	Primary school	12-15yrs	Mixed	1	10
	Youth	24-44yrs	Male	1	8
	Youth	24-44yrs	Female	1	10
	Community members	45-65yrs	Mixed	1	10
Meru/ Nyambene	Secondary & Primary school children	14-17yrs	Mixed	2	20
	Teachers	45-65yrs	Mixed	2	20
	Youth	24-44yrs	Female	2	16
Total FGDs				12	114

Table 4: Demographic Profiles of Participants for In-depth Interviews (IDIs)

Description	County	Gender	N	Total Informants
Community members & elders	Embu	Female	1	3
	Meru	Male	2	
	Meru	Female	1	
Teachers	Embu	Male	4	6
		Female	2	
	Meru	Male	1	3
		Female	2	
Total IDIs				13

4.2 Narrative Analysis

Almost all the study informants indicated that Khat is key in the education sector as its trade provides school fees and improvement of education for those that stay in school. The general theme that emerged over the involvement of children in Khat farming was school interruptions which led to challenges in retention, absenteeism and missing classes or completely dropping out of school. This engagement in the industry affected performance. Another major theme that emerged was in the area of child labor where children were reported as working in the farms as well as being lured to the industry because of easy money. Social disparities that emerged that had impacts on schooling included unsupportive parents/ guardians & neglect, the need to support other siblings, poverty, early marriages and leadership gaps. Change in attitudes of the children also emerged as a key theme in the study. The children involved in this industry showed disregard of their teachers as well as the education system as a whole.

However few participants had contradictory opinions on the association, expressing that Khat growing and trade has been positive in social development of the residents and specifically schooling. This development was seen through providing fees for schooling and improvement of education facilities. This data was organized around the themes shown in TABLE 5.

Table 5: Analysis themes and sub themes

MAIN THEMES	SUB THEMES	REPRESENTATIVE NARRATIVES
Negative opinions on the Khat and schooling association		
School interruptions	Retention	<p>“...I was telling how Miraa has affected look at the form one class, in a population of 62 girls in form 1 we only have 14 boys and 48 girls. In form 2 we only have 23 boys against 31 girls 23; 31 girls. Form 3 a population of 9 boys in a population 27 girls 9:27. In a population of 36 so more 50% are not actually finishing school it’s only in form four that the girls have already gone. That’s why I cannot support.” (Female FGD participant, Mbeere)</p> <p>“...in fact it’s obvious. My school has a population of 987. For those who came in class one, eight years ago, they were like 80, but those who have reached class 8, there like 60 at most and in the 60 you find 40 are girls and 20 are boys. (male IDI respondent, Meru)</p>
	Absenteeism	<p>You know some Miraa is harvested during the day at around 4.00 am, may find that some children miss to go to school. (Mixed secondary school FGD participant, Mbeere)</p> <p>“Some who plant miraa use young children and that is a negative thing because some children refuse to go to school because of the money” (Young women FGD participant, Nyambene)</p>
	Missing some classes	<p>“To my opinion you may find that in those places where it is harvested at night this would possibly affects education since you are supposed to be in class at 8.00A.M and the more you become late at school the more you miss class and the more you get a lower grade in class” (Mixed secondary school FGD participant, Mbeere)</p> <p>Not really dropping but coming to school late because they go pick very first early in the morning and then report to school late ... (Male FGD participant, Nyambene)</p>
	Drop outs	<p>“The disadvantage that we have for Miraa is that if a school going children engages in Miraa business the chances of them dropping out of school is very high because of the money which is there in Miraa business” (Young Men FGD participant, Mbeere)</p> <p>...it’s like this, for the boys who drop out of school, they have families which are not very supportive, so they go out of the school so that they can sell the miraa and get their money so that they can stay with but if you have a family that is supportive you can stay in school because you are getting everything you need (Mixed Primary School FGD participant, Nyambene)</p>
	Difficulty in concentrating in schoolwork	<p>Initially children did not do this, but there can have a negative impact to the children when they dose in the class”(Female FGD participant, Nyambene)</p> <p>... but the problem is a boy who has tasted miraa he cannot sit and concentrate on home work because he knows the miraa work (Male FGD participant, Nyambene)</p>
Child labor	Involvement in income generating activities	<p>“Some who plant miraa use young children and that is a negative thing because some children refuse to go to school because of the money” (Young women FGD participant, Nyambene)</p> <p>Actually the whole family is involved but especially children and there can be issues where children will be engaged in the making of money by growing the crop and may lead to poor performance and dropping out from school (Female FGD participant, Nyambene)</p>
	The lure of money	<p>“Some (children) are involved because they get attracted to those people who have Miraa they are financially stable so the student gets attracted to such thing because they want to get rich quick and that why they are dropping out of school to go and growing Miraa and get rich” (Mixed secondary school FGD participant, Mbeere).</p>
Social inequalities	Early marriages	<p>For girls they are enticed by this money and they are more likely to drop from school for marriage (Mixed secondary school FGD participant, Mbeere).</p> <p>“Girls are lured by some young men who have money. So they marry at very young age and separate almost immediately. The challenge here is that the young men don’t finish school because of that quick money. Girls too don’t finish school because they are married by these men with money” (male IDI respondent, Embu).</p>
	Poverty	<p>...it’s like this, for the boys who drop out of school, they have families which are not very supportive, so they go out of the school so that they can sell the miraa and get their money so that they can stay with but if you have a family that is supportive you can stay in school because you are getting everything you</p>

		<p>need. When you need pocket money you are given. You know in Meru County some families are not rich (male IDI respondent, Meru).</p> <p>....some drop out of school to support their brothers or sisters. Maybe they are orphans or from a single parent. Or maybe their parents have no business so they drop to do that business; you can risk your education to support your brothers and sisters (Primary School children FDG participant, Nyambene).</p>
	Parental/ guardian neglect	<p>... the problem with Miraa and school going children are caused because of the negligent from the parent for instance primary kids are young and sometime they don't know what they are doing if the parent does not give advice to such a kid definitely that kid will drop out of school and start Miraa business and people will generalize a single case to tarnish Miraa business (Women FDG participant, Mbeere).</p>
Change in attitudes towards schooling	Disregard for education	<p>"It has affected the youth in education the number of youths in schools has really gone down because they say why go to school and we get money from Miraa"? (Female FDG participant, Mbeere).</p> <p>"...Miraa affect children in that when they pick it, they are paid Ksh.100 per paper bag or whatever agreement. Then one will have about Ksh.600 a day. Because of that easy flowing money, you find that our youths in the area disregard education" (IDI, male, respondent, Embu).</p>
	Disregard for teachers	<p>"The disadvantage of it is that the boy child is threatened and will not be able to concentrate in school and the flow of money of Miraa will not allow the boy child to learn and even you may hear he has more money than the teacher himself and because of this money they leave a very extravagant life (Male FDG participant, Mbeere).</p> <p>"In areas where it is grown in plenty it is a big problem because one thing about miraa is that there is easy money that is flowing around and all the time now you can imagine a child who is under eighteen years with thirty thousand in the pocket he will not even respect the teacher nor obey the school rules so even if they say it a cashcrop or they say the advantages that is a very big disadvantage because it is destroying school aged children" (Teachers FGD participant, Nyambene).</p>
Contradictory opinions on the Khat and schooling association		
Social development	Supporting schooling	<p>"Our children are doing very well and I assure you that you can't find our children chewing miraa. We advocate for this and they should not be involved in this activity" (IDI, female, respondent, Meru)</p> <p>... also in school harambees we go with miraa money (Youth FDG participant, Nyambene)</p>
	Building local economics	<p>Miraa is the economic backbone of this society (Mixed primary school children FDG participant, Nyambene)</p> <p>"...miraa is a plant that we adore so much especially in this area. It has been our economic stronghold... I think 80% of buildings you see around here are built by miraa money and they don't depend on loans. These traders earn a lot of money" (IDI, female, respondent, Meru)</p>

V. Discussions

5.1 Introduction

A local study noted that Khat chewing impacted negatively on educational performance of pupils where the boys were more adversely affected than the girls [12]. In southwestern Ethiopia, Khat Studies have shown that overall Khat chewing prevalence among upper secondary school students was 64.9% [13]. The prevalence was significantly higher among males, at 33.1% (95% CI: 31.16–35.08), than among females 4.3% (95% C.I.: 3.39–5.31; P,0.001) [2]. Commensurately, in Igembe District, Meru, Kimondo observed that the dropout rate of male pupils in primary schools was higher than that of the females however he did not explain what caused that situation [14]. Gatere [15] stated that the male child was endangered due to mass dropout from school. Similarly to all these, this study revealed the same and went further to note that male children were more negatively affected by Khat growing, chewing, trade and its association with schooling as supported by this narrative from a Key Informant interview in Meru.

"...in fact it's obvious. My school has a population of 987. For those who came in class one, eight years ago, they were like 80, but those who have reached class 8, they are like 60 at most and in the 60 you find 40 are girls and 20 are boys. When I go to the village, the people involved in early marriages are these boys. Once they graduate from childhood to adulthood, and start earning from Khat business, they think now they are men and buy Toyota Probox....."

5.2 School Interruptions

The chemical cathinone that is the active ingredient in khat, works through the same mechanism as the powerful stimulant called amphetamine to impair learning and memory [16, 17]. Our findings on the influence of Khat growing, chewing and trade agrees with a previous study conducted in the same area of Mbeere (Embu) region that focused on the relationships between Khat cultivation and school performance by primary school pupils. The study determined that from an initial total enrollment of 760 students in Std 1 in 2011, the numbers steadily but surely fell to 718 in Std 2, 614 in Std 3, 630 in Std 4, 618 in Std 5, 616 in Std 6, 551 in Std 7 and 447 in Std 8. According to Ngeranwa the pupils who chewed Khat did so to feel good (66.7%), to score high marks (0.7%) - a misconception according to Ngeranwa, and to emulate their peers (2.0%), noted that it impacted negatively on their educational performance where the boys were more adversely affected [18]. Our study realized, school interruptions as school retention, dropping out of school, difficulty concentrating in class, school absenteeism and pupils missing classes.

“Those places where muguka is harvested at night this would possibly affect education since you are supposed to be in class at 8.00am and come morning the child is sleeping...the more you become late at school the more you miss class and the more you get a lower grade in class”

“...in a population of 62 in form one class, we only have 14 boys and 48 girls. In form 2 we only have 23 boys against 31 girls. Form 3 a population of 9 boys in a population 27 girls. So more than 50% of them are not actually finishing...”

Lack of concentration in class was determined as 76% by Njeru and Mwangi in their study of contributors towards school dropouts. Absenteeism and lateness to school due to oversleeping hence missing some classes were also seen because of being involved in the Khat trade noting that these interruptions were mainly affecting the boy child; ‘boys in Kangeta Division started chewing Khat and also left school at a very young age’ [12]. Hence Muthaa recommended affirmative action for the boy child, abolishing of drugs such as miraa in school, child labor and initiation of boys after completion of primary school as strategies that could address dropout among male pupils and tame the problem [19].

5.3 Child labor

International Labor Organization ILO differentiates between child labor and child work; both of these emerged in the study. Child work is light work of certain types carried out under certain conditions especially in developing countries, whose economies, educational and administrative facilities are insufficiently developed while child labor is defined as work which is detrimental to children's physical and mental development, such as work in hazardous work environments, exploitative conditions, work in servitude (slavery or bondage) and work performed by very young children less than 12 years of age especially of children, who are physically and emotionally more vulnerable [20]. Child labor however which is negative defines the use of children to provide labor in commercial situations. In terms of child labor, the study revealed that children are used in the farms to cultivate, tender and even sell Khat. Although Khat was considered as key in the education sector by providing school fees and improvement of education, major concerns on involvement of children in the growing of Khat emerged.

“Some who plant miraa use young children ...it is a negative thing because some children refuse to go to school because of the money”

This worrying trend was also noted by Muthaa as child labor and being contributory towards school drop outs in the same area- Igembe (Meru) Kenya. According to Muthaa, 94.4% of the dropouts were either picking miraa or doing petty trade involving miraa. The observation schedule added more weight on that point since most boys of school age seen around the schools' catchment areas were either picking miraa, preparing/ packaging miraa, carrying miraa from farms to towns and or doing petty trade in miraa [19]. The involvement of children in income generating activities through Khat trade was another major concern of this study as captured by a respondent in Embu;

‘The young boys miss school one day and go to water the muguka because it's the only economic source of the area.’

The lure for easy and quick money influenced children especially boys into getting into the Khat trade. 80% of respondents strongly agreed with the association between Khat trade and the lure for easy money in a study by Njeru and Mwangi, also done in Kenya where 81% of the boys who dropped out of school being seen working Khat farms and engaging in Khat trade Peer pressure, Khat chewing, and easy money from Khat trade forced boys to leave school [12]. The current study also noted the appeal of money that the miraa trade presented as making both boys and girls drop out of school; boys from poor backgrounds to make money while girls marry the boys with money.

‘The disadvantage that we have for Miraa is that if school going children engage in Miraa business, the chances of them dropping out of school is very high because of the money which is there in Miraa business’

5.4 Social inequalities

From responses of the population, the children who were noted as participating in the Khat industry were from poor backgrounds and were mostly orphaned hence requiring supplementary finances to sustain themselves and their families including siblings. Child neglect refers to the failure of a parent to provide for the development of the child which include education when the parent is in a position to do so. In circumstances of abject poverty where the parent is not able to provide, this is not termed as parental neglect. The contradiction between the respondents' perspectives that the Khat business provided for their families yet it was observed that children were not in school was noted. From this study, we therefore noted the phenomenon of parental irresponsibility rather than neglect by accepting their children to be involved in Khat growing and trade.

In Mutha's study in Igembe, irresponsible parents were noted as contributing towards interruptions in child schooling and dropping out of school associated with Khat trade and growing [19]. Similarly, this study noted the enticement of the Khat money as contributing towards social problems such as early marriages, poverty and parental/ guardian irresponsibility.

'... for girls, they are enticed by this money and they are more likely to drop from school for marriage.'

'... some drop out of school (and engage in Khat business) to support their brothers or sisters. Maybe they are orphans or from a single parent. Or maybe their parents have no business so they drop to do that business; you can risk your education to support your brothers and sisters.'

'There is nothing which has advantages and does not have disadvantages. The problem with Miraa and school going children are caused because of the negligent from the parent; for instance primary kids are young and sometime they don't know what they are doing, if the parent does not give advice to such a kid definitely that kid will drop out of school and start Miraa business'

5.5 Change in attitudes towards schooling

Conflict naturally and normally occurs in society, schools included. Failings in the teacher-student relationship such as those unearthed by this study, may cause these teacher-student conflicts. Worryingly, involvement in the Khat business and earning money for students presents such conflicts, student attitude change and outright disregard of the teacher by the student involved in Khat trade. This has been linked to the easy money available to students. Muthaa's study also done in Meru, Kenya noted Khat as leading to rebellion against school environment and subsequent dropouts especially for boys [19]. This is noted as an emerging influence on the educational system;

"You find that the children get to school at 9am and 10am when they are supposed to arrive at 6am. When asked where he has been by the teacher, he tells him to stop bothering him because the salary he gets from the government at the end of the month is half of the money he gets from miraa business. He even removes the money from the pocket and ask him (teacher): Do you think these are flowers? You find there is conflict between the teachers and the children and this affect performance"

In contradiction to the identified negative influence of Khat on schooling, few respondents noted the positive contribution of Khat to schooling through social development. Khat growing and trade was noted as supporting schooling through provision of infrastructure as well as school fees. This was noted as developing the education trends for children. Khat was also noted as improving local economies through investments, and successful growth of businesses.

'Our children are going to school up to universities because of miraa. The food we eat and dressing is all because of miraa even the children who are born nowadays are bright because of miraa'

'Not only the person with miraa benefits but other business people like someone with a hotel, one selling arrowroots and also porridge where people can eat while arranging the miraa and so when miraa has a problem it affects everyone'

'...miraa is a plant that we adore so much especially in this area. It has been our economic stronghold... I think 80% of buildings you see around here are built by miraa money and they don't depend on loans. These traders earn a lot of money'

VI. Conclusions and Recommendations

6.1 Conclusion

In achieving the universal literacy cause, in the study areas, Khat trade has been identified as a social as well as an economic factor that unfortunately negatively affects schooling. However the negative influences of Khat growing and chewing far outweighed the benefits of the trade as has been discussed above. The boy child is emerging as disadvantaged because of the Khat trade with their schooling being hampered and or completely discontinued as the child engages himself in the miraa chain whether farming, selling or chewing. The following recommendations are made to accelerate this cause.

6.2 Practice recommendations

- Regulation, enforcement and monitoring of currently available restrictions on child labor and irresponsible parenting by community and county leadership to include punitive measures where required.
- As several studies have recommended, public education targeted at school children to create awareness of the negatively that Khat presents to schooling. Such programs should be school as well as community based and begin as low as in primary school in the areas adversely affected by the Khat trade such as the study covered and scaled up to include other areas involved in Khat growing and trade.
- Community involvement especially community administrators (chiefs and elders) in management of Khat farming, handling, sale and use to check on child involvement.
- More research to be conducted in other khat growing and trading areas in Kenya to explore and arrest the issues that have emerged in this study.

6.3 Policy recommendations

- Guiding policies and commensurate laws and guidelines to remove school children from the Khat chain (from growing to chewing) completely and reprimand parents/ adults who involve children in the trade in whatever way.
- Curriculum amendment that gives knowledge on association of other substances of abuse other than just alcohol, tobacco and hard drugs and employment of full time counsellors in all schools in the areas to assist in the curbing of Khat and other 'soft' substances/ drugs' abuse and related issues in schools.
- Policies against and laws to curb child labor in Khat and other crop growing areas.

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Disclaimer

The findings and conclusions in this paper are those of the authors and do not necessarily represent the official position of KEMRI and or the GOK. The authors declare no conflict of interests in the subject.

Abbreviations

CEF	Catha Edulis Forsk
Dr	Doctor
FGD	Focus group discussion
IDI	In-depth Interview
KII	Key informant interview
QUAL	Qualitative
QUANT	Quantitative
SERU	Scientific ethical Review Unit
SSC	Scientific Steering Committee

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