

Report on Sex Workers Population Size Estimation in Seventeen Towns of Ethiopia



Social Marketing for a Better Life



Momentum Consultancy PLC



Yeka Sub City, CMC Street, Kebele 19, House No. New.

Ethiopian Economic Association (EEA) Building 2nd Floor, Room No. 209, P.O.Box 8898, Addis Ababa, Ethiopia

Tel: Office +251-011-6466035, Cell +251-911-157587/+251-911-576368, and Fax: +251-011-6466036

Email Address: bmarkos@momentumcg.com or marcobisri@gmail.com

Website: www.momentumcg.com

TABLE OF CONTENTS

1. INTRODUCTION.....	4
2. METHODOLOGY	4
2.1 Defining the Population and the Geographic Area.....	4
2.2 Method for the Population Size Estimate	5
2.3 Data Collection Tools and Data Sources	5
2.4 Data Analysis.....	6
2.5 Ethical Considerations.....	6
3. MAIN FINDINGS.....	7
3.1 Types of Sex Work Establishments.....	7
3.2 Peak days, Peak hours and Peak seasons for Sex Work	7
3.3 Age of Sex Workers.....	8
3.4 Knowledge about Wise UP and Its Services	9
3.5 Access to Services from Wise Up-Capture.....	9
3.6 Sex Workers who Received Services from Wise Up.....	10
3.7 Sex Workers Population size estimation.....	11
Annex: Summary Table of findings from mapping Exercise and capture-Recapture population size estimation	12

LIST OF TABLES

- Table 1: Type of sex work establishments in the 17 towns
- Table 2: Age of Sex workers by town
- Table 3: Knowledge about wise up and its services by town
- Table 4: Sex workers who accessed services from wise up in the last 12 months prior to the survey
- Table 5: Capture-Recapture Sex Workers Population Size

1. INTRODUCTION

Sex workers condition in the Ethiopian context requires an immediate attention and priority as the problems they face added with lack of friendly and effective interventions and services is challenging the HIV/AIDS prevention efforts of the nation. One of the programs being implemented in to prevent the spread of HIV/AIDS among sex workers in Ethiopia is the Wise up program. Wise up is a generic condom promotion and education activity targeting female sex workers (FSWs), their clients and gatekeepers. Wise-Up's goal is to reduce the transmission of HIV/STIs by increasing condom use among sex workers and clients. It is currently active in 18 towns: Addis Ababa, Assosa, Awassa, Bahir Dar, Dire Dawa, Gambella, Harar, Jijiga, Mekelle, Adama, Shashemane, Nekempt, Gonder, Logia, Dessie, Dukem, Assela and Sodo towns. In order to determine the outcomes and impact of the Wise Up program, it was found necessary to know who the program is reaching and what the program coverage of the target population is. This study was therefore carried out to fill the information gaps regarding the estimated population size of sex workers in the aforementioned towns.

The main objectives of the study were

- To estimate the size of the population of female sex workers by type (FSWs) in 17 Wise Up program areas
- To have complete mapping and census of establishments on which commercial sex work is taking place
- To identify and map the hot spot areas (streets) where sex workers pick up clients regularly.

2. METHODOLOGY

In this assessment, the "Guidelines on Estimating the Size of Populations Most at Risk to HIV" which was developed by UNAIDS/WHO Working Group on Global HIV/AIDS and STI Surveillance was used as a major framework. As per the recommendations of the guideline, the following methodological approaches were used

2.1 Defining the Population and the Geographic Area

This assessment targeted all female sex workers in the 17 Wise-Up Program areas i.e. Assosa, Awassa, Bahir Dar, Dire Dawa, Gambella, Harar, Jijiga, Mekelle, Adama, Shashemane, Nekempt, Gonder, Logia, Dessie, Dukem, Assela and Sodo towns. A comprehensive geographical mapping was made of the hotspot locations where female sex workers receive or solicit their clients, including bars and night clubs, hotels, streets and homes (for the home-based sex workers). During the geographical mapping, a very brief questionnaire was used together information on number of female sex workers usually present at peak hours and the peak hour and day for sex work. This information was gathered from bar owner, hotel managers, per educators etc. The information gathered through the geographic mapping process was used to develop various maps showing distribution of sex workers in each town using geographic Information System (GIS) software called ArcGIS. ArcGIS was utilized to produce maps that display all the Wise-

up project intervention towns in Ethiopia and illustrate the estimated number of FSWs in each town.

2.2 Method for the Population Size Estimate

In this assessment, the Capture-Recapture method was used to estimate the population size of female sex workers in the target areas. The information gathered from the geographical mapping was used to plan the capture –recapture methodology. Based on the information from the mapping assessment, the target seventeen towns were divided into smaller areas with a limited number of hotspots. Study teams consisting of peer educators, outreach workers and research assistants were assigned to a list of hotspots in identified locations. Then a capture was done on a day that was found to be a peak day for sex work from the geographical mapping exercise. The capture was done by peer educators who took a visit to each identified sex work establishment and approached each female sex worker individually, and obtained verbal informed consent for study participation. Consenting sex workers were asked few key questions and were given a “capture card”. The numbers of women who refuse to participate were recorded on a separate form. The re-capture took place after seven days. The same teams visited each hotspot of their assigned area at approximately the same time as the previous week and followed the same procedures. The population size estimation was done using the following standard formula for capture-recapture method.

$$N = MC / R$$

Where

N = Estimate of total population size

M = Total number of people “captured” and “marked” on the first visit

C = Total number of people “captured” and “marked” on the second visit

R = Number of people captured on the first visit that were then recaptured on the second visit

2.3 Data Collection Tools and Data Sources

The main data collection tools used are the following

2.31 Questionnaire: A brief questionnaire was used to collect basic information about the hot spot locations during the geographic mapping exercise. Information was gathered on the types of sex work establishments, their addresses, number of sex workers in that area at peak hours, the peak days, peak season for sex work and the like. The information gathered through this questionnaire was used to develop a geographical mapping and to plan the capture- recapture exercise

2.32 Capture Card: A capture card was given to all sex workers who were approached during the capture visit. Each card had an attachment that has questions regarding their age, whether they have ever heard of wise up and its services and if they have ever accessed any service from wise up in the last 12 months prior to the study

2.33 Recapture Card: A recapture card was used during the recapture. The recapture card had an attachment which contained questions on whether they have received a similar card few

days before, their age, if they have ever heard of wise up before and if yes they have ever accessed services from wise up in the last 12 months.

2.4 Data Analysis

Data was analyzed using Statistical Package for the Social Sciences (SPSS) version 19. The data analysis was supported by Arc GIS software to map the establishments and hot spot streets in which commercial sex work is taking place in the 17 Wise Up program areas.

2.5 Ethical Considerations

In many cases, HIV surveillance target populations are vulnerable populations. Collection and storage of data on individuals and their risk behaviors may place excess risk of harm to these populations due to stigmatization, economic loss or legal liability. Therefore the following ethical considerations were made to minimize or possibly avoid such harm

- The respondents consent was ensured during the data collection process.
- Peer educators and facilitators ensured that data confidentiality measures are in place.
- Peer educators and facilitators provided information about HIV and AIDS, services provided in wise up offices, benefits of condom use, counselling and treatment services and the like and invited all respondents to visit wise up using their card

3. MAIN FINDINGS

3.1 Types of Sex Work Establishments

In this assessment a comprehensive geographical mapping of sex work establishments was carried out in the seventeen woredas and a total of 1414 sex work establishments were mapped. These establishments were categorized as home based, venue based, street based, phone based and other. As the following table indicates, out of the total of the sex work establishments in the seventeen towns, 51.8% of the establishments were venue based followed by home based establishments (25.5%). The hot spot streets comprised of 19.3% of the total and 3.5% of the total were other kinds like Khat bets, shisha bets and the like.

Table 6: Type of sex work establishments in the 17 towns

	Street based		home based*		Venue based		Other*		Total count
	Count	%	count	%	count	%	count	%	
Asosa	0	0	10	25.0%	30	75.0%	0	.0%	40
Shashemene	0	.0%	12	26.1%	34	73.9%	0	.0%	46
Nekempt	7	9.9%	17	23.9%	47	66.2%	0	.0%	71
Gonder	36	12.9%	164	58.8%	78	28.0%	1	.4%	279
Desse	6	15.8%	5	13.2%	27	71.1%	0	.0%	38
Dukem	3	5.5%	15	27.3%	22	40.0%	15	27.3%	55
Assela	0	.0%	23	60.5%	15	39.5%	0	.0%	38
Sodo Town	0	.0%	7	21.9%	25	78.1%	0	.0%	32
Sodo Town	3	11.5%	2	7.7%	21	80.8%	0	.0%	26
Hawassa	1	1.4%	18	26.1%	45	65.2%	5	7.2%	69
Bahirdar	0	.0%	1	1.5%	65	98.5%	0	.0%	66
Diredawa	2	2.6%	5	6.6%	58	76.3%	11	14.5%	76
Gambella	3	5.8%	22	42.3%	23	44.2%	4	7.7%	52
Harar	4	12.5%	0	.0%	27	84.4%	1	3.1%	32
Jijiga	0	.0%	28	47.5%	31	52.5%	0	.0%	59
Mekelle	206	69.6%	0	.0%	89	30.1%	1	.3%	296
Adama	2	1.4%	31	22.3%	95	68.3%	11	7.9%	139
Total	273	19.3%	400	25.5%	732	51.8%	49	3.5%	1414

* "Home based" includes phone based sex workers

* "Other" included Khat bets, shisha bets etc

3.2 Peak days, Peak hours and Peak seasons for Sex Work

Regarding the peak days of sex work, 51% said that Saturday is the peak day for sex work followed by 29.3% who mentioned Sunday as a peak day and 7% of them mentioned Thursday among other days of the week. Generally, Saturday and Sunday are the peak days for sex work. This assessment also tried to identify the peak hours for sex work. 42.6% of the participants indicated that the peak hours are from 8 to 10 pm followed by 29% who mentioned that it is from 6-8 pm. 22.6% of them also indicated that it is from 10 pm-2 am. Regarding the peak season 52.3% mentioned "Bega" followed by 11.5 who mentioned holidays.

3.3 Age of Sex Workers

The assessment indicated that most of the sex workers (44.3%) from the capture exercise were within the age ranges from 20-24 followed by 15-19 years olds who represented 25.3% of the sex workers mapped during the capture exercise. Those within age range from 25-29 years represent 21.5% of the total followed by 30-34 year olds who were 6.8%. Though it was very insignificant, the mapping exercise also found girls who were between 10-14 years old.

Table 7: Age of Sex workers by town

	10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 & above		Total ct
	Ct	%	ct	%	ct	%	ct	%	ct	%	ct	%	
Assossa	0	.0%	50	27.8%	105	58.3%	21	11.7%	3	1.7%	1	.6%	180
Awassa	11	1.2%	140	15.3%	507	55.2%	202	22.0%	41	4.5%	17	1.9%	918
Bahardar	0	.0%	208	33.5%	311	50.2%	75	12.1%	21	3.4%	5	.8%	620
Diredawa	4	.8%	73	14.6%	188	37.7%	159	31.9%	42	8.4%	33	6.6%	499
Gambella	1	.1%	316	28.7%	343	31.1%	291	26.4%	151	13.7%	0	.0%	1102
Harar	1	.2%	64	15.0%	233	54.7%	118	27.7%	9	2.1%	1	.2%	426
Jijiga	3	.9%	130	37.9%	126	36.7%	62	18.1%	21	6.1%	1	.3%	343
Mekelle	4	.4%	315	28.2%	413	37.0%	232	20.8%	121	10.8%	32	2.9%	1117
Adama	0	.0%	455	42.7%	424	39.8%	141	13.2%	40	3.8%	5	.5%	1065
shashemene	6	1.0%	174	29.3%	316	53.3%	66	11.1%	25	4.2%	6	1.0%	593
Nekemit	5	1.2%	176	41.9%	139	33.1%	74	17.6%	20	4.8%	6	1.4%	420
Gondar	3	.9%	84	23.9%	174	49.4%	78	22.2%	10	2.8%	3	.9%	352
logia	0	.0%	16	2.2%	321	43.4%	317	42.8%	67	9.1%	19	2.6%	740
Dessie	1	.1%	105	12.3%	291	34.1%	290	34.0%	127	14.9%	40	4.7%	854
Dukem	0	.0%	121	29.7%	177	43.5%	71	17.4%	17	4.2%	21	5.2%	407
Assela		.0%	43	19.7%	147	67.4%	27	12.4%	1	.5%	0	.0%	218
Sodo town	0	.0%	209	28.6%	472	64.6%	47	6.4%	2	.3%	1	.1%	731
Total	4	.4%	2679	25.3%	4687	44.3%	2271	21.5%	718	6.8%	191	1.8%	10585

3.4 Knowledge about Wise UP and Its Services

57.4% and 64.3% of the study participants reported that they have heard about wise up and its services in their respective towns in the capture and recapture stage, respectively. Disaggregated by age, most of those who reported knowing about wise up (36.8%) were in age ranges from 20-24 followed by 15-19 year olds who were 14.3% of the total. Desse, Dukem, Logia and Jijiga seem to have a relatively low number of female sex workers who know about wise up during the capture stage while Assosa, Harar, Shashemene Assela and sodo seem to have relatively more sex workers who are aware of wise up.

Table 8: Knowledge about wise up and its services by town

Town	Capture		Recapture	
	Yes		Yes	
	count	%	ct	%
Assosa	146	81.6%	69	63.9%
Awassa	406	51.0%	61	41.8%
Bahardar	319	62.4%	91	61.1%
Diredawa	252	50.7%	5	13.9%
Gambella	721	65.5%	111	92.5%
Harar	364	85.8%	124	45.1%
Jijiga	141	41.7%	29	38.7%
Mekelle	668	60.2%	21	50.0%
Adama	658	61.8%	9	7.4%
shashemene	554	93.4%	60	100.0%
Nekemit	221	52.6%	15	11.4%
Gondar	226	64.2%	104	80.0%
logia	198	26.8%	49	68.1%
Dessie	57	6.7%	199	59.1%
Dukem	180	44.2%	0	0
Assela	149	80.5%	89	43.8%
Sodo town	654	89.5%	760	96.3%
Total	5914	57.4%	1796	64.3%

3.5 Access to Services from Wise Up-Capture

The participants who responded that they know about wise up were asked if they have ever accessed services in the last 12 months. The following table indicates that 85% from capture and 64% from the recapture have accessed services in the 12 months prior to the study. Bahirdar, Harar, Jijiga, Gambela and Adama seem to have provided services to a significantly higher proportion of sex workers who know about the existence of wise up in their towns.

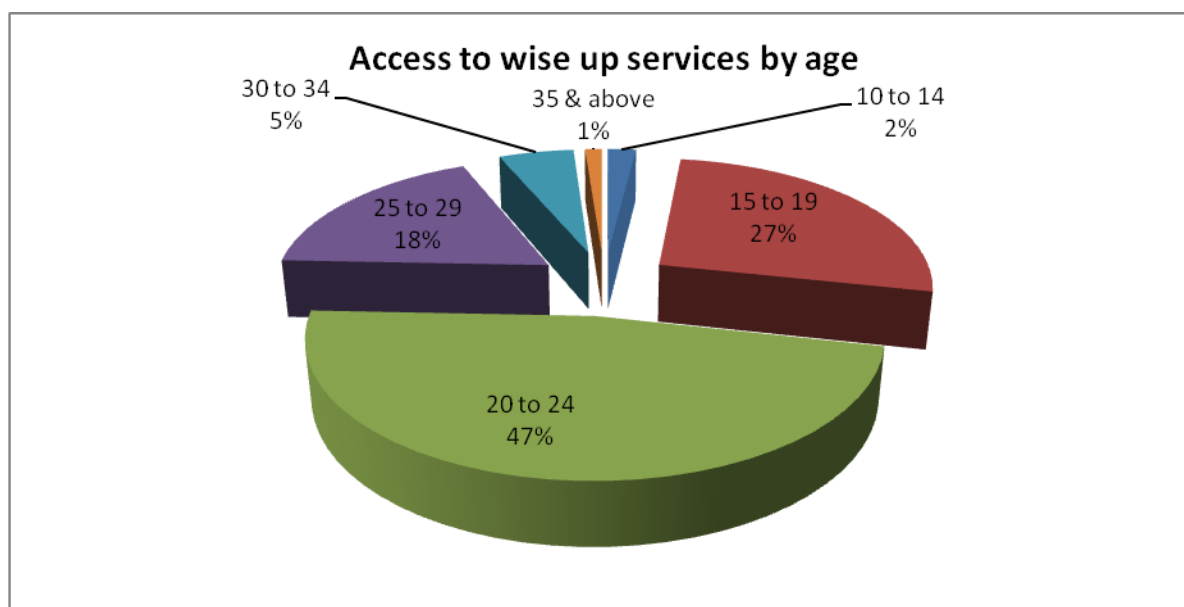
Table 9: Sex workers who accessed services from wise up in the last 12 months prior to the survey

	Capture		Recapture	
	Yes		Yes	
	ct	%	ct	%
Assossa	109	74.7%	29	42.6%
Awassa	336	82.8%	23	37.1%
Bahardar	313	98.1%	56	61.5%
Diredawa	155	63.5%	2	40.0%
Gambella	720	100.0%	44	39.6%
Harar	365	99.7%	82	67.8%
Jijiga	137	98.6%	15	53.6%
Mekelle	528	79.4%	17	85.0%
Adama	651	99.2%	6	66.7%
shashemene	456	82.6%	34	56.7%
Nekemit	120	70.2%	7	53.8%
Gondar	186	81.9%	52	50.0%
logia	71	35.7%	0	.0%
Dessie	43	75.4%	73	37.8%
Dukem	131	73.2%	36	40.4%
Assela	105	70.5%	0	0%
Sodo town	567	85.0%	664	87.6%
Total	4993	85.2%	1140	64.0%

3.6 Sex Workers who Received Services from Wise Up

Looking at the age characteristic of sex workers who received services from wise up in the 12 months preceding the survey, it was found that 47% of them were within 20-24 years of age followed by 27% of them who were within 15-19 years and 18% of them who were from 25-29 years old

Figure 1: Access to wise up services by Age of Sex Workers



3.7 Sex Workers Population size estimation

In order to estimate the proportion of sex workers by type at each study town, two sources of data were used. The first was the number of sex workers by type estimated by the owners of establishments at each study town. The second was the numbers of sex workers estimated through capture- recapture method. The proportion of sex workers by type at each study town from the former source was utilized to extrapolate the proportion of sex workers by type at each study town, from the second source. The following table shows the number of sex workers in each town during capture and recapture. The total number of sex workers during capture was 10643 and the total number during recapture was 8909. Using the formula for capture recapture size estimation method, the total number of sex workers in all seventeen towns was estimated to be 16,506.

Table 10: Capture-Recapture Sex Workers Estimated Population Size

TOWN	#of Sex workers			Estimated Total	(95% CI)	Refusal
	Capture	Recapture	Captured & Recaptured			
Assosa	180	270	33	1542	1127,1987	70
Hawassa	918	536	388	1281	1231,1331	13
Bahirdar	620	357	173	1367	1251,1483	88
Diredawa	499	507	471	586	584,588	49
Gambella	1102	913	791	1371	1354,1388	100
Harar	426	471	185	1099	1008,1190	15
Jijiga	343	337	253	481	466,496	26
Mekelle	1117	1123	1060	1183	1179,1187	0
Adama	1065	727	605	1300	1272,1328	21
Shashemene	593	540	480	744	741,747	77
Nekempt	420	567	438	558		15
Gonder	352	376	247	760	739,781	225
Desse	854	731	389	1659	1579-1739	55
Dukem	407	502	300	716	691,741	35
Assela	218	264	235	244		0
Sodo	789		0	789		0
Logia	740	688	616	826	819,833	0
Total	9903	8909	6664	16506	91	789

In the case of Nekempt and Assela, the number of sex workers who were both captured and recaptured is slightly higher than the first capture. One possible explanation for this data error could be the possibility that some sex workers who received the capture card shared/showed the card to other friends because they were told that they can get free information and counseling service at the wise up office if they get that card. As a result, the sex workers who were not captured in the first round responded that they have received that card a week before.

References

UNAIDS/WHO Working Group on Global HIV/AIDS and STI Surveillance (2010) :Guidelines on Estimating the Size of Populations Most at Risk to HIV

DKT Ethiopia (2011) : Study on Availability and Accessibility Of Condoms in Non-Traditional Outlets of 12 Cities, Addis Ababa, Ethiopia

Melanie Pleaner, etal (2009) :RHRU, Health Support for Sex Workers, A Resource Pack for Health Care Providers.

Annex: Summary Table of findings from mapping Exercise and capture-Recapture population size estimation

TOWN	Localities	Number of Establishments*			# of Sex Workers					Pick hour	Pick day	Pick season
		Home based	Venue based	Street based	Capture	Recapture	Captured & Recaptured	Refusal	Estimated Total			
Assosa	Sebategna Anuar Sefer DDC sefer 04	10	30	0	180	270	33	70	1542	10 PM-2 AM	Saturday/Friday	Bega
Hawassa	Piassa Bermuda Harar sefer Menaheria 05 Millennium sefer Arab sefer	23	45	1	918	536	388	13	1281	10 PM-2 AM	Saturday/Sunday	Bega/Holiday
Bahirdar	Gishabay sefer 04 mulualem bahil maekel Kosh Kosh sefer Beg tera	1	65	0	620	357	173	88	1367	10 PM-2 AM	Saturday/Sunday	Bega
Diredawa	Sabiya Kezira Gendekore Dechatu	16	58	2	499	507	471	49	586	8 pm-2AM	Saturday/Sunday	Holiday/End of Month
Gambella	Arat kilo sefer Gonder sefer Addis sefer Kidane gerji area	22	23	3	1102	913	791	100	1371	8 pm-10 pm	Saturday/Sunday	Bega
Harar	Andegna menged Shenkor sefer Key meskel sefer/key amba Bote sefer Chefe sefer Dera sefer arategna	1	27	4	426	471	185	15	1099	10 PM-2 AM	Saturday/Thursday	bega
Jijiga	Wuha limat area Fird bet sefer Kiyas sefer	28	31	0	343	337	253	26	481	8pm-10 pm	Saturday/Sunday	Holiday/End of

	Hospital manged 06 sefer											month
Mekelle	Menen hotel area Postabet area Hauzen adebabay jerba Kedamay woyane kifleketema jerba Kebele 16/Tigray timret sefer Mikhael sefer	89	206	1	1117	1123	1060	0	1183	6 pm-8 pm	Saturday/Sunday	Kiremt/Bega
Adama	Tikur abay area Abadir sefer Woreda 1 police station Menaherya Wonji mazoria Peakok sefer Aposto sefer/Asela manged Mebrat Hail	31	95	2	1065	727	605	21	1300	6 pm-10 pm	Saturday/Sunday	Bega
Shashemene	Addisu menaheria 02 sefer Abosto 04/lideta boke sefer Shewa ber sefer Arada Alelu	12	34	0	593	540	480	77	744	8 pm-10 pm	Saturday/Sunday	Bega
Nekempt	Maryam sefer Bord sefer Manaherya Burka jato	17	47	7	420	567	438	15	558	6 pm-8 pm	Saturday/Thursday	Bega
Gonder	Chewa sefer Chika sefer Korkoro sefer Goma sefer Enkoy mesk sefer Fasil area L shape area Chincha sefer Azezo/Hamusit sefer	164	78	36	352	376	247	225	760	8 pm-10 pm	Saturday/Sunday	Bega

Desse	Hospital area 07 area Arab Genda/Gibe area Salayish area Piassa Menaheria Sama Mender Tekuam sefer/Teachers college	5	27	6	854	731	389	55	1659	8 pm-10 pm	Saturday/Sunday	Meher
Dukem	01 sefer	15	22	3	407	502	300	35	716	8 pm-10 pm	Saturday/Sunday	Meher/Bega
Assela	Arada sefer Chilalo sefer Hanqu sefer Mesgid sefer Menaheria sefer	23	15	0	218	264	235	0	244	8 pm-10 pm	Saturday/Sunday	Holiday/Bega
Sodo	Dil Betigel Gola sefer Mehal/ merkato sefer Wadu sefer Hibret/condominium sefer Kidanemihret sefer Akim Ginbata sefer Maryam sefer Gido sefer Selam sefer 04 area	7	25	0	789		0	0	789	8pm-10 pm	Saturday/Sunday	Bega
Logia	Gora Gonde area Total Station Afdera Area Mehal semera Genda Semera Genda COCA wholesale area Menaheria Medhanealem sefer Tefenakay Raey Ayer Tena Gidib area Kela sefer				740	688	616	0				

Total		464	828	65	10643	8909	6664	789	16506			
-------	--	-----	-----	----	-------	------	------	-----	-------	--	--	--

**This table shows the number of establishments categorized as home based, street based ad venue based and the total number is 1357. The remaining establishments are categorized as "others" and they are about "57" and these include Khat bets, shisha bets and the like. The total number o f sex work establishments mapped is 1414.*

