Mapping of Most at Risk Populations – Punjab 2014

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ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
BBSWs	Brothel Based Sex Workers
CPBSWs	Cell Phone Based Sex Workers
DGK	Dera Ghazi Khan
ERC	Ethical Review Committee
FBD	Faisalabad
FDCU	Field Data Coordination Unit
FSWs	Female Sex Workers
GIS	Geographical Information System
GRT	Gujrat
GUJ	Gujranwala
HASP	HIV/AIDS Surveillance Project
HBSWs	Home Based Sex Workers
HIV	Human Immunodeficiency Virus
HRA	High Risk Activities
HSWs	Hijra Sex Workers
IBBS	Integrated Behavioral and Biological Surveillance
IDUs	Injecting Drug Users
KI	Key Informants
KKSWs	Kothikhana Based Sex Workers
KP	Key Populations
KPK	Khyber PukhtunKhwa
LHR	Lahore
MARPs	Most at Risk Populations
MBDN	Mandi Bahaudin
MLT	Multan
MSWs	Male Sex Workers
MSM	Men who have sex with Men
NACP	National AIDS Control Program
NGOs	Non-Governmental Organizations
NWOs	Network Operators
PACPs	Provincial AIDS Control Programs
PDCU	Provincial Data Coordination Unit
RWP	Rawalpindi
SKT	Sialkot
SGD	Sargodha
SGS	Second Generation Surveillance
SM	Social Mobilizers
SKP	Sheikhupura
STIs	Sexually Transmitted Infections
SBSWs	Street Bases Sex Workers
UN	United Nations
UNAIDS	United Nations Programme on HIV/AIDS
UNICEF	United Nations Children Emergency Funds
WHO	World Health Organization

ACKNOWLEDGMENTS

EXECUTIVE SUMMARY

UNAIDS/WHO estimated, approximately 51,880 People living with HIV/AIDS (PLHIV) in Punjab, by end 2013[i]. The Punjab AIDS Control Program (PACP), through its Enhanced Program's HIV response in the province, has established HIV preventive services, for the Most at Risk Populations (MARPs) since 2004.

The broad objectives of this mapping research was to provide accurate information on the size and characteristics of key populations, including Injecting Drug Users (IDU), Female Sex Workers (FSWs), Male Sex Workers, (MSWs) and Hijra Sex Worker (HSWs) in 10 cities of Punjab. The methodology was based on a geographical approach, supplemented by network mapping of Female Sex and Hijra Sex Worker (HSW) networks.

The study protocols were reviewed and approved by the Ethical Review Committee (ERC) constituted for the research study. The mapping survey was designed to meet international ethical guidelines, specifically addressing issues of recruitment, obtaining informed consent, confidentiality and safety of researchers.

The pre-mapping phase of the study served as a facilitation phase for the actual mapping activity and laid a foundation for subsequent field data collection. Sensitization meetings were conducted with key government staff and police in each target city to gather local support and participation. Detailed maps of all targeted cities were developed using the Geographical Information System (GIS). The cities were divided into smaller data collection units referred to as 'zones'. Data collection tools were developed and master trainers, were trained on data collection techniques, who subsequently trained the field staff.

In geographical mapping, Level One (L1) field activity, gathered data, on the key geographic locations, where high risk activity (HRA) occurred, along with the typology and estimated numbers (minimum and maximum) of the key population. While L1 focused, on gathering information on 'hotspots' and places where HRA takes place, Level Two (L2) activity validated data collected in L1 activity. The validation was done by visiting "hot spots" and interviewing members of key populations present at those spots. Network mapping focused on the promoters and mediators of sex work (gurus, in case of HSWs) and mapped networks within which the target populations operate. Network operators (NWOs) / gurus thus were the primary source of information and were mapped along with the number of sex workers/hijra with whom each network operator works.

NWOs were systematically identified within each zone and further contacts were traced through a process of "snowballing" whereby each key informant in the field (madam and NWO) was asked to identify others that they knew. For recording purpose NWOs in the same city and currently in business were noted. Each NWO interviewed was inquired about the total number of SWs with whom he/she works and a minimum and maximum estimates were worked out.

All data were field edited and data set was entered in a MS Access database, developed for this study. In addition, all validated spots within each zone were plotted on maps, and data, the estimated ranges for each site and location were rolled up for a zone and city to produce minimum and maximum estimates after adjusting for duplication. Data from network mapping was analyzed and city wide estimates were developed through combining zonal estimates and removing overlaps. GIS distribution maps and spot maps for each key population were developed after obtaining spatial and attributed data for each spot and linking them with digitalized maps of target cities.

The mapping study estimated a total number of 27,840 injecting drug users (IDUs) spread over 3,358 spots mapped in 10 cities of Punjab. The highest number of IDUs was found in Faisalabad (N=10,389) approx. 37.3% of the total IDUs in Punjab; followed by Lahore (13.5%, N=3,774 and Gujranwala (11.5%, N=3,210), respectively. The spots were analyzed in terms of average of average number of IDUs found at each spot. Gujranwala indicated with highest number of IDUs per spot (10.8 IDUs per spot) followed by Sialkot (9.8 IDUs per spot). Just one of the ten cities mapped indicated more than 10 IDUs per spot; representing a bigger network and thus a much higher drug injecting environment. This finding has strong programmatic implications, as larger spots with more IDUs indicate a higher risk of needle sharing, an efficient mechanism of HIV spread.

The mapping survey estimated 44,160 FSWs in four cities mapped. The highest number of FSWs were found at Lahore (58.23 percent, N=25,716) followed by Faisalabad (17.11 percent, N=7,556). Approximately 7,038 NWOs were identified in four cities, with the largest number at Lahore (3,798). Wide variation in typology of FSWs among the cities mapped. Street based FSWs (37.41 percent, N=16,499) were found to be in highest proportion, followed by the Kothikhana (KK) based FSWs (30.86 percent, 13,608). The mapping study indicated 7,038 NWOs, 13,608 KK FSWs and 6,754 HBSWs in four cities. Lahore city registered largest number of NWOs 53.96 percent (N=3,798), followed by Sargodha 44.44 percent (N=1,688). 53.79 percent (N=7,320) of KK FSWs were found in Lahore, while Multan indicated highest number of HBSWs 40.32 percent (N=2,703). On an average 3 FSWs are being controlled by each NWO.

The survey estimated an average of 5,436 MSWs. spread over 1,610 spots, in four cities. Faisalabad reported the highest number of MSWs (50.7%; N=2,756), followed by Lahore (28.37%; N=1,542). The spots for MSWs, "pick up points' or 'cruising sites', are specific locations where MSWs cruise and solicit clients for sex work, which usually takes place at a different location. The average spot size (number of MSWs at each spot) was quite small and only 3.7 MSWs were found to operate at each spot. The highest MSWs per spot was reported in Sargodha (5.9 MSWs per spot). The number of MSWs operating through spots in other cities was lesser, probably because of fewer prime locations and public places in these cities, to be used for solicitation and client pick up.

The mapping results are suggestive of an increasing trend for all the Most at Risk Populations (MARPs) in Punjab, when compared with the results of mapping survey conducted in 2011. The percentage increase in number of IDUs, FSWs, MSWs, & HSWs, remained 24.5% (N=3,681), 16.60 percent (N=6282), 22 percent (N=1344), & 47.62% (N=4,911) respectively, among the successive mapping surveys.

The mapping study indicated some significant changes in the organization of female sex work in the province. The highest proportion of FSWs were street based FSWs, followed by Kothikhanas based FSWs. One of the interesting findings of the study is that sex work has become concealed, and operates independent of the pimps or network operators. The scattered distribution of these FSWs makes them very hard to reach by those conducting surveillance as well as those providing outreach services.   With recent improvements in communication technology, especially the availability of cell phones, the sex work has revolutionized itself, whereby the sex workers now interact with clients via cell phones, without having to stand on streets to locate clients, or involving network operators. However, field experience also suggest that while FSWs independently deal with the clients but they still have to rely on NWOs as they have wider clientele information and NWOs are the ones who are closely linked with police and other law enforcement agencies and protect FSW from harassment. It was also found that in addition to a substantial number of female sex workers in Punjab, there is an equally large sex work comprised of male and hijra sex workers. There are definite hierarchical networks within the hijra community, and they operate through a wide network, where hijras are mastered by a guru.

Summary of Mapping Results – 2014.

MARPs	No. Cities	No. Zones	No. Spots	Estimates			Per 1000 Adults Male	Percentage Increase*
				Min.	Max.	Aver.		
IDUs	10	108	3,934	21,182	34,497	27,840	4.3	24.5 percent
FSWs	4	77	4,375	34,324	53,875	44,160	10.9	16.6 percent
MSWs	4	77	1,610	3,792	7,078	5,436	1.4	22.0 percent
HSWs	4	77	2,087	9,944	16,505	13,209	3.3	47.6 percent

Mapping results of consecutive rounds were compared, among common cities.

Table 1. Summary of Mapping Results – Punjab Mapping, 2014

1. INTRODUCTION

1.1 Background

Punjab is the most populous province of Pakistan, with approximately 56% of the country's total population. Forming most of the Punjab region, the province is bordered by occupied Kashmir (Azad Kashmir, Pakistan and Jammu and Kashmir, India) to the north-east, the Indian states of Punjab and Rajasthan to the east, the Pakistani province of Sindh to the south, the province of Baluchistan to the southwest, the province of Khyber Pakhtunkhwa to the west, and the Islamabad Capital Territory to the north.

According to the United Nations Program on HIV AIDS (UNAIDS) estimates in 2014, there were a total number of 87,468[ii] HIV Positive people in Pakistan. Thus, there are an estimated 56,772[iii] HIV positive people in Punjab. However, till June 2014, a total number of 5994[iv] HIV positive people have been identified. The epidemic is mainly concentrated in the urban cities, more among IDUs, and to a limited extent among Transgender. The prevalence in the general population is around or less than 0.1%[v].

Punjab has a rising prevalence of Human Immunodeficiency Virus (HIV) among People Who Inject Drugs (PWID) or Injecting Drug Users (IDUs) and, to a lesser extent, among other Most at risk Populations (MARPs) at-risk of sexual transmission, including Transgender (TG), men and women having sex work contacts. Despite a prevalence of around or less than 0.1%[vi] in the general population, HIV positive cases are also reported by public health services, civil society and Community-Based Organizations (CBO) from among vulnerable segments of the population with varied risk profile, such as spouses of IDUs or returning migrant workers. However, generally, the information on the extent of HIV prevalence among such vulnerable populations is limited[vii].

1.2 HIV/AIDS Surveillance

Before the launch of the Enhanced HIV/AIDS Control Program, surveillance efforts were predominantly concentrated on tracking of AIDS cases. While, the surveillance system largely relied on collection, analysis and reporting of data from routinely reported diagnosis of notifiable diseases, based either on clinical or laboratory diagnoses.

Considering that HIV sero-surveillance is of limited utility for programming purpose especially in places where HIV infection is relatively low therefore the Enhanced Program realized the second generation surveillance system (SGS) in order to get updated information in areas where prevention services can be rightly applied. SGS not only helps in determining HIV prevalence

among MARPs but also identifies behaviors which can help in designing or improving service delivery programs (SDPs).

Pilot tested in 2004, Second Generation HIV/AIDS Surveillance has remained a critical part of HIV prevention service throughout Pakistan as well as in the Enhanced Program's HIV response in Punjab from 2004 to date. Since its inception it has relayed timely and relevant information to the Punjab AIDS Control Programs (PACP), by collecting serial data from most at risk populations using a scientific methodological approach.

1.3 Mapping of Most at Risk Populations

Similar to other adjoining countries in South Asia, the HIV epidemic in Punjab province remained concentrated among most at risk populations including IDUs, FSWs, MSWs and HSWs. The fundamental difference between the HIV epidemic and other infectious diseases is the complexity and diversity of the behaviors among most at risk populations, behaviors that drive HIV's spread, as well as the dynamics of the communities who indulge in these risky behaviors. Moreover, stigma and discrimination cause these populations to remain hidden and hard to reach, a significant challenge when conducting research among them.

Experience from other countries in the region has shown that concentrated HIV epidemic among most at risk populations can expand quickly within these sub-populations and affect the wider population through "bridge populations" (usually men who have sexual partnerships with both members of higher risk populations and lower risk partners)[viii]. Therefore, to prevent the establishment and potential expansion of an HIV epidemic in Punjab, a key strategy is to reduce the potential for transmission in important networks of most at risk populations, particularly where such networks are large and dense and therefore prone to rapid HIV transmission.

The first key step in developing targeted interventions for MARPs is determining their size, identifying the locations where MARPs congregate and identify their basic operational characteristics. Various size estimation techniques have been applied to provide programs/projects with information on the size of MARPs. A combination of both descriptive information and estimations of size and location that can be rationally used to estimate a sample size for surveillance.

1.4 The Mapping Approach

A "mapping approach" has been developed over time and with experience to gather information on characteristics, operational attributes, locations and size estimates of key population. The

approach has been a hallmark of the HIV/AIDS Surveillance in Pakistan including Punjab. It has been instrumental in understanding the risk situation in terms of the number of settings and population size(s).

The methodology for mapping relied primarily on a 'geographical approach'; to identify the locations of high-risk activities for HIV/AIDS and estimated numbers of individuals involved in these activities. However, with the changing dynamics of sex work, within and surrounding of the province, involving many sex workers shifted from geographical spots or brothels, to work within hidden networks, the 'geographical approach' was not found to be effective. Therefore, a more variant approach 'network mapping' was applied for mapping of most at risk populations and through this approach networks of pimps/brokers and gurus were mapped rather than the geographical locations where sex workers congregate and pick up clients. The network approach supported data related to:

- Whether the population is visible
- Which sub-groups of the population are not visible
- Where the population congregates
- Where the population receives services
- What time of day the population is approachable for data collection
- How the population networks
- Who the gatekeepers are to the population
- How they react and interact with public officials such as survey implementers or police

The data collected through the above activity, was placed on a geographical map, in an epidemiological context of person, place and time, by using simple graphics (such as drawings, pictures and sketches). Most high-risk activities for HIV were defined i.e., IDU, SW and etc to identify "who" is involved and ascertain "how many" are there. In addition, mapping provided information on where (hotspot) and when high-risk activities take place through a detailed profiling of those locations and the operational typologies. A hotspot is a specific public location where most at risk population's cruise, solicit clients, are picked up, interact with other most at risk populations, buy/use drugs, and/or have sex.

Mapping thus provides a quick method of collecting and presenting complex information in a simpler form, which can be used extensively for planning future interventions, for the service delivery for HIV prevention, in the province. The methodology also provided size estimates of each of the populations studied, which can be easily rolled up from the provincial to a national

estimate of most at risk populations; information immensely important yet so rarely available, for planning of intervention for most at risk population.

2. THE STUDY OBJECTIVES

Based on a geographical mapping approach and supplemented by network mapping of FSW and HSW networks; the Mapping Survey conducted in all targeted cities resulted in understanding the risk situations and quantified the number of settings and the size of the most at risk populations. It also describes the various sub-types of the vulnerable group. In addition, the mapping data provided necessary sampling frame for the subsequent <u>Integrated Behavioral and Biological Surveillance (IBBS)</u>.

The key objective of this mapping study was to provide the province with accurate and reliable information on the size and characteristics of most at risk populations in selected cities of Punjab, through a comprehensive mapping study. Since this activity is an opportunity for capacity building, another objective being to use this research to enhance capacity within government programs and partner organizations to conduct similar research studies in the future.

The specific objectives of the study were:

- Estimate size and settings of most at risk populations through geographic and network mapping in selected cities of Punjab;
- Describe the operational typologies and organizational structure of most at risk populations in selected cities of Punjab;
- Provide a broad based sampling frame for conducting biological and behavioral surveillance with most at risk populations in selected cities of the province;
- Promote appropriate policy and programs for HIV response through dissemination and knowledge translation, gained through the study.

3. METHODOLOGY

3.1 Mapping Study

The mapping study is broadly categorized into:

- **Geographic mapping approach**: Focused on locations and spots where key population members congregate;
- **Network mapping Approach:** Focused on the promoters and mediators of sex work and mapped networks through which Female Sex worker (FSW) and Hijra Sex Worker (HSW) networks operate. The approach has been used to focus on identifying these locations/networks in specific locations, and describing the operational characteristics of the sexual networks there (i.e. how and where FSWs and HSWs meet clients/partners, and where sexual transactions occur).

3.2 Technical Support Team

The Technical Advisory Team, for Mapping and IBBS comprised of:

- Punjab AIDS Control Program (PACP);
- National AIDS Control Program (NACP) / Global Fund PR Unit;
- Institute of Public Health (IPH), Punjab, Lahore;
- Diagnostic and Research Laboratory, Mayo Hospital, King Edwards Medical College, Lahore
- UNAIDS;
- World Health Organization;
- UNICEF
- AP Consultancies;
- Bride Consultants Foundation.

The Role of the Technical Team remained as follow;

- Provide technical oversight on the strategic approach for mapping in Punjab;
- Ensure that surveillance protocols and operational methodologies are updated, keeping in mind WHO guidelines and emerging needs based on HIV prevalence profile;
- Provide technical inputs on the protocol re-designing and updating of mapping tools and other protocols;
- Provide ongoing reviews, technical backstopping and other assistance including technical direction;

- Reconcile differences in opinion of stakeholders, in line with the international guidelines for Second Generation Surveillance;
- Review the information dissemination channels and advise on the PACP reporting system;
- Guide the PACP for effective utilization of surveillance data and subsequent implementation changes of targeted interventions, in the province.

3.3 Management Support Team

The Management support was contracted out to AP Consultancies and sub-contractors, the Bridge Consultant Foundation.

3.4 Field Implementation.

The mapping exercised was undertaken by management and the technical firm hired by the Punjab AIDS Control Program, through hiring field staff, having prior expertise in conducting similar studies with most at risk populations. The staff was selected through a competitive process by a team comprising of AP Consultancies, Bridge Consultants Foundation and PACP and were effectively trained before the field work, through subsequent trainings at the local levels.

MAPPING & IBBS-2014 Activities Locations in Punjab(Pakistan)

Legend
- ▲ IDUs Study
- ● FSWs Study
- ■ HSWs Study
- ★ MSWs Study
- ☐ District Boundary
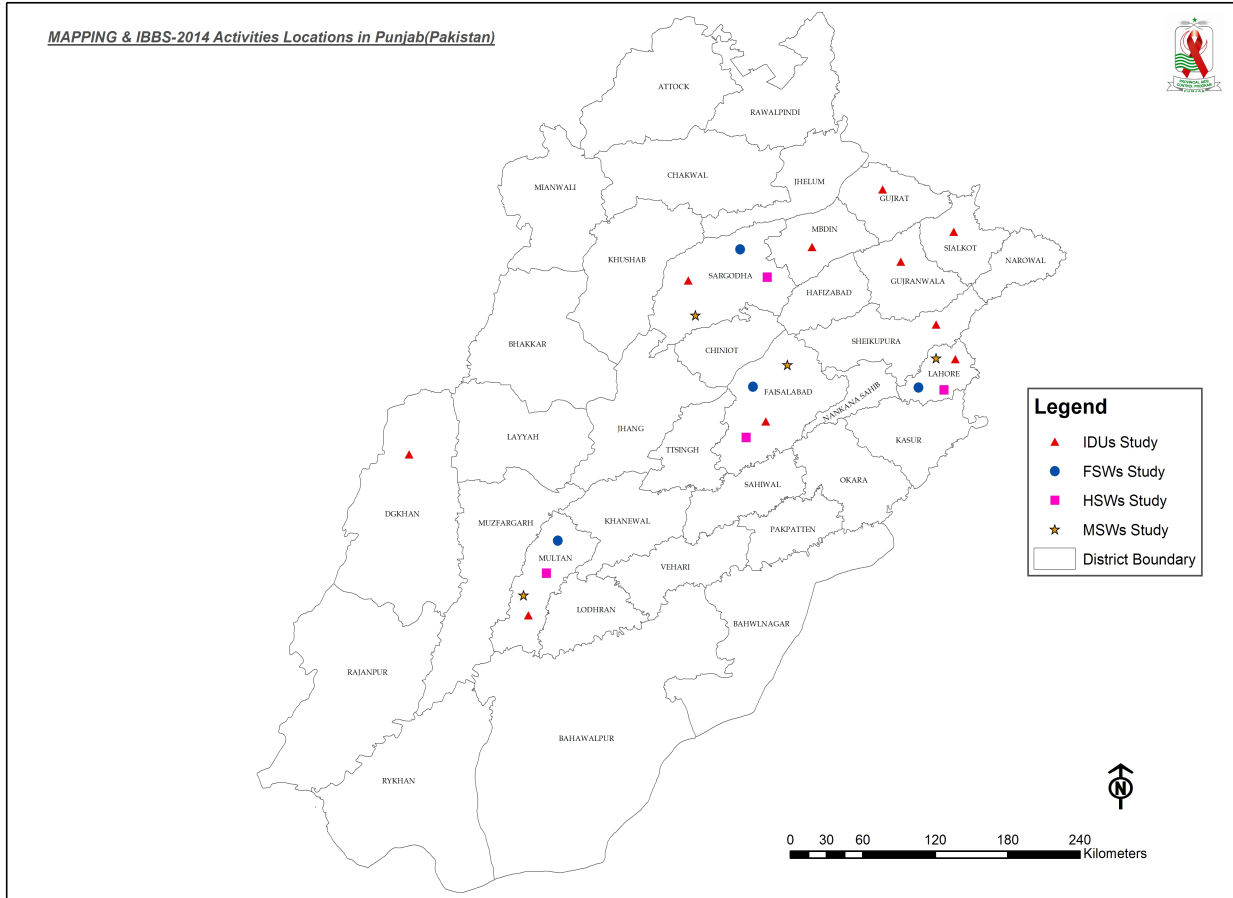
Map 1; Cities along with MARPs Mapped – Punjab Mapping Study, 2014.

Sr.	City	IDU	FSWs	MSWs	HSWs
1	Lahore	√	√	√	√
2	Faisalabad	√	√	√	√
3	Multan	√	√	√	√
4	Sargodha	√	√	√	√
5	Gujranwala	√			
6	Sialkot	√			
7	Gujrat	√			
8	Sheikhupura	√			
9	Mandi Bahaudin	√			
10	DG Khan	√			

Table 2; Shows the names of cities along with the MARPs surveyed – Punjab Mapping Study, 2014.

The sites were chosen based on prior evidence available from surveillance, programmatic data indicating high risk activity, the presence of multiple key populations, as well as the geographical

accessibility of the area. The cities were identified through a broad provincial consultative process, involving the technical working group.

3.5 Mapping Study – Key Steps.

Following were the key steps for the mapping exercise:

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┌──────────────────┐      ┌──────────────────┐      ┌──────────────────┐
│   Pre-Mapping    │  ⇒   │ Level 1 Activity │  ⇒   │ Data Collection  │
│    Actvities     │      │      (L1)        │      │                  │
└──────────────────┘      └──────────────────┘      └──────────────────┘
                                                              ⇓
┌──────────────────┐      ┌──────────────────┐      ┌──────────────────┐
│ Data Management /│  ⇐   │ Data Triangulation│  ⇐  │ Level 2 Activity │
│  Data Cleaning   │      │                  │      │      (L2)        │
└──────────────────┘      └──────────────────┘      └──────────────────┘
         ⇓
┌──────────────────┐      ┌──────────────────┐      ┌──────────────────┐
│ Data Compilation │  ⇒   │   Data Anaysis   │  ⇒   │  Report Writing  │
└──────────────────┘      └──────────────────┘      └──────────────────┘
                                                              ⇓
                                                    ┌──────────────────┐
                                                    │ Data Use for IBBS│
                                                    └──────────────────┘
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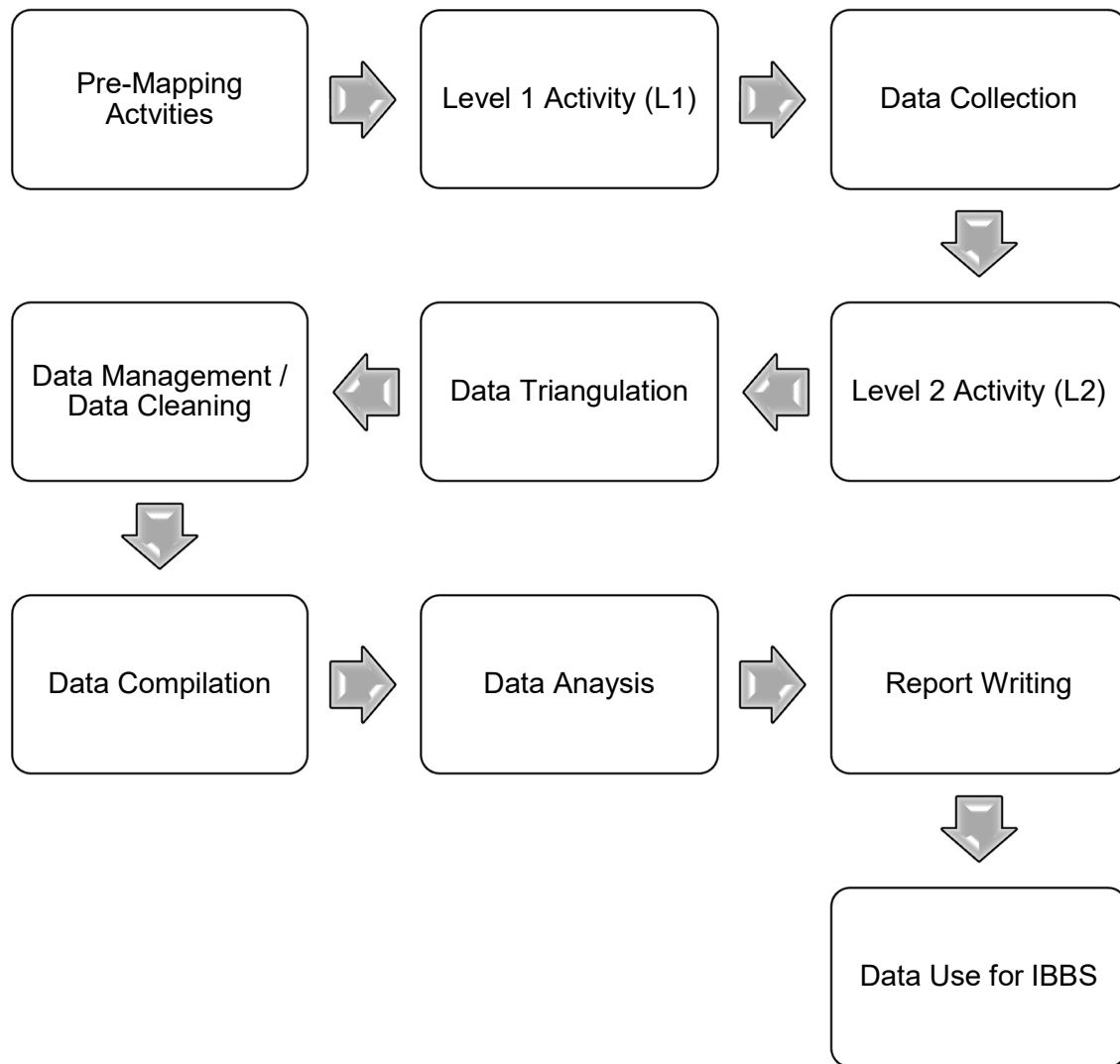
Figure 1. Key Mapping Steps – Punjab Mapping Study, 2014.

3.6 Geographical Mapping – Key Steps

Following are the key steps for geographical mapping, involving the following MARPs:

- Injecting drug user;

- Male sex workers;
- Female sex workers (excluding network based FSWs)
-

3.7 Pre-Mapping Activities

The pre-mapping phase of the study served as a facilitation phase for the actual mapping activity and laid the foundation for field data collection. Sensitization meetings were held with relevant government staff and police in each target city to garner local support and participation. Detailed maps of all targeted cities were developed using the Geographical Information System (GIS), based on satellite imagery. Data collection formats were developed and master trainers within each implementing organization trained on data collection.

Broadly, activities conducted during the phase were as follows:

- **Community Mobilization**

  Meetings were held with all important stakeholders including law enforcement agencies, community leaders, local community based organizations and NGOs working with MARPs. These meetings sensitized key government staff and police in the target city about the study and sought their support.

  Meetings with NGOs working with MARPs were also held to seek help in contacting key population members, as well as to learn from their experiences on the best ways to access and work with these groups.

- **Zone Demarcation and Maps Acquiring**

  Detailed maps of all targeted cities were developed using the Geographical Information System (GIS), based on satellite imagery. The cities were divided into smaller data collection units referred to as zones. GIS imagery was further used to develop zonal maps which were provided to field teams to help them to understand zonal boundaries and to mark spots identified during field work.

- **Data Collection Tools**

  The Data Collection Tools (L1 Form, L2 Form, and Network Mapping), used in the previous round, were thoroughly reviewed and updated, for the mapping exercise.

- **Field Teams Recruitment & Training**

  Past experience of working with MARPs groups and in mapping studies were the key criteria in field team recruitment, for the mapping survey.

  A Two Days Training of Trainers (ToT) was conducted jointly by the AP Consultancies, Bridge Consultants Foundation and PACP. Civil Society Organizations (CSOs) and staff, selected for the field implementation, participated in the training. The participating CSOs subsequently organized on-site training for the community field staff.

- **Consensus Building – Case Definitions**

  Consensus on the various terms and definitions used during the mapping study, was developed with local stakeholders and the local teams.

- **Monitoring & Quality Assurance Mechanism**

  A monitoring system and a quality assurance system were designed to keep track of progress as well as to ensure adherence to the research protocol.

3.8 Field Activity – L1

Level One (L1) being the first step of field activity, gathered information on the most at risk geographic locations where high risk activity (HRA) occurred, along with the typology and estimated numbers (minimum and maximum) of the most at risk population. This information was collected from key informants (KIs); persons who are likely to have information on the profiles of the locations and estimates of number of participants in high-risk activity. KI's were classified into two broad types. Primary KIs were people engaged in HRA themselves, e.g. sex workers and injecting drug users, while Secondary KIs were people involved in the network of HRA or intimately acquainted with persons directly engaged in HRA, e.g. pimps, taxi drivers, STI service providers, and NGO workers etc., Information in L1 is collected through interviewing Secondary KIs.

KIs included a broad range of individuals, including rickshaw/taxi drivers, shopkeepers, telephone call operators, hawkers, police officers, labourers, students, and people belonging to various professions i.e., tailors, barbers, shopkeepers, property dealers and beggars. In addition to filling L1 forms, the field team also collected information of contact persons who could be used for validation of these spots.

3.9 Data Collection

Level 1 key informant interviews produced lists of the names and locations of hot spot(s), encoded by zone, city and district. Tables were generated from the lists indicated the estimated maximum, minimum and mean number of IDUs, FSWs or MSMs mentioned at each spot, and the typology of HRA, i.e., for SWs whether it was street-based, home- based, hotel-based, etc.

Master lists of all spots, ranked by 'frequency of mention' and volume of HRA were assembled, were developed, which formed the basis for selection of places to visit for Level 2 interviews.

3.10 Field Activity – Level 2

Level Two (L2) consisted of validating information collected in L1, through visiting "hot spots", and interviewing members of most at risk populations present at those spots. At each identified spot, the field team worked with Social Mobilizers (SM) – persons associated with and trusted by the targeted communities, generally current or former members of these key population groups. Where the SM's knowledge was limited to part of the city, they were asked to introduce to the team to another SM who could better cover the remaining areas. In spots where key population members could not be identified on multiple visits, two secondary KIs were interviewed to verify the L1 information and profile the spot. The focus in L2 was to collect more accurate information about the spot. Interviews with community members were expected to provide information such as:

- The typology and estimate of key population members at that spot;
- Activities at the hotspot, namely, seeking risk (looking for partners), or taking risk (place where sexual activity occurs);
- Peak timings and fluctuations in the numbers of participants at the hotspot. Overall timings of the spot;
- Existence of multiple risk behaviours.

3.11 Network Mapping

Network mapping focused on the promoters and mediators of sex work (gurus, in case of HSWs) and mapped networks within which the target populations operate. Network operators (NWO) are thus the primary source of information and are mapped along with the number of sex workers/hijra's with whom each network operator works. NWOs were systematically identified within each zone and further contacts were traced through a process of "snowballing" whereby each most at risk informant in the field (madam and NWO) were asked to identify others that they

know. Only NWOs in the same city and currently in business were documented. Each NWO interviewed was inquired about the total number of sex workers with whom he/she works and a minimum and maximum estimate was noted down.

3.12 Organizational Structure for Mapping Team.
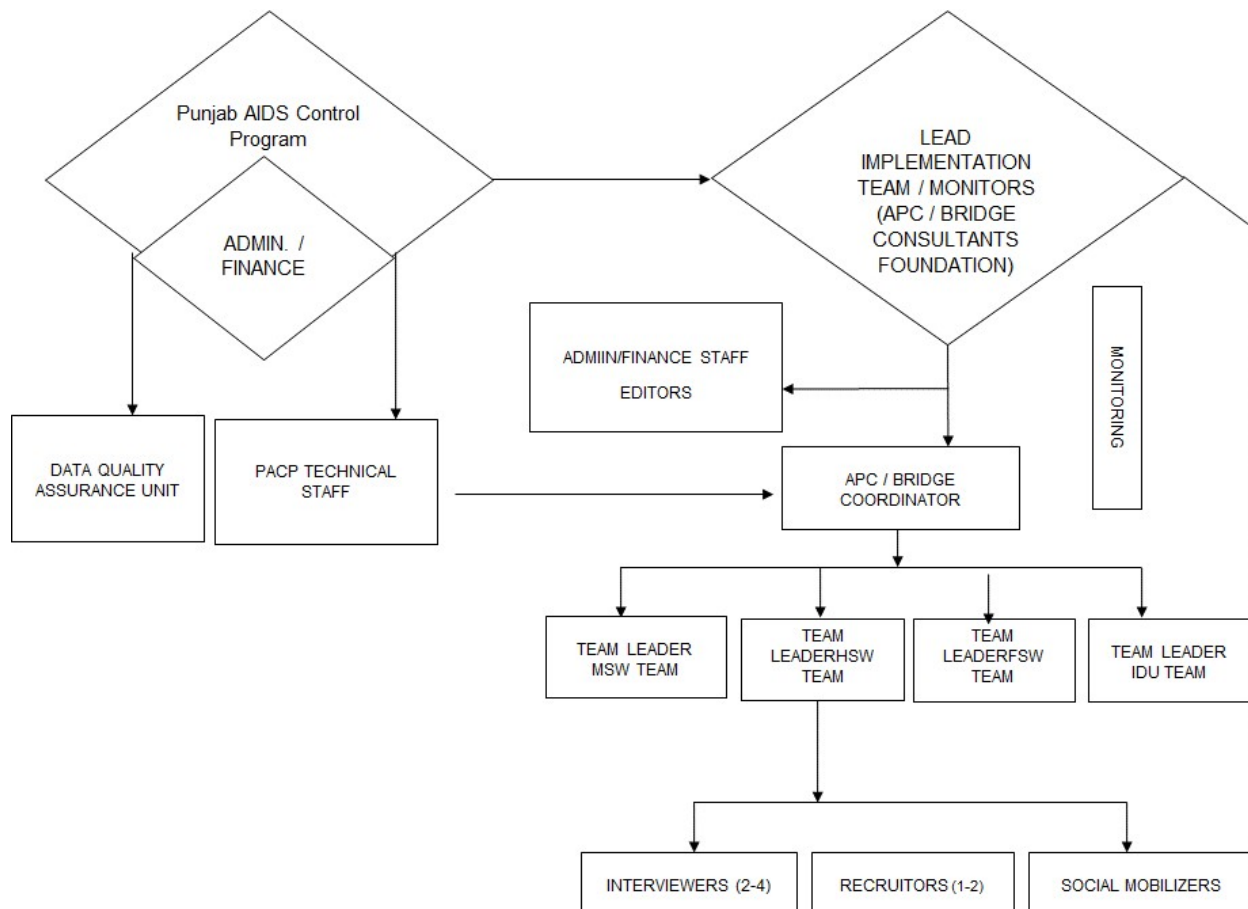
Figure 2. Organizational Structure – Punjab Mapping Study, 2014

3.13 Flow Chart for Data Management
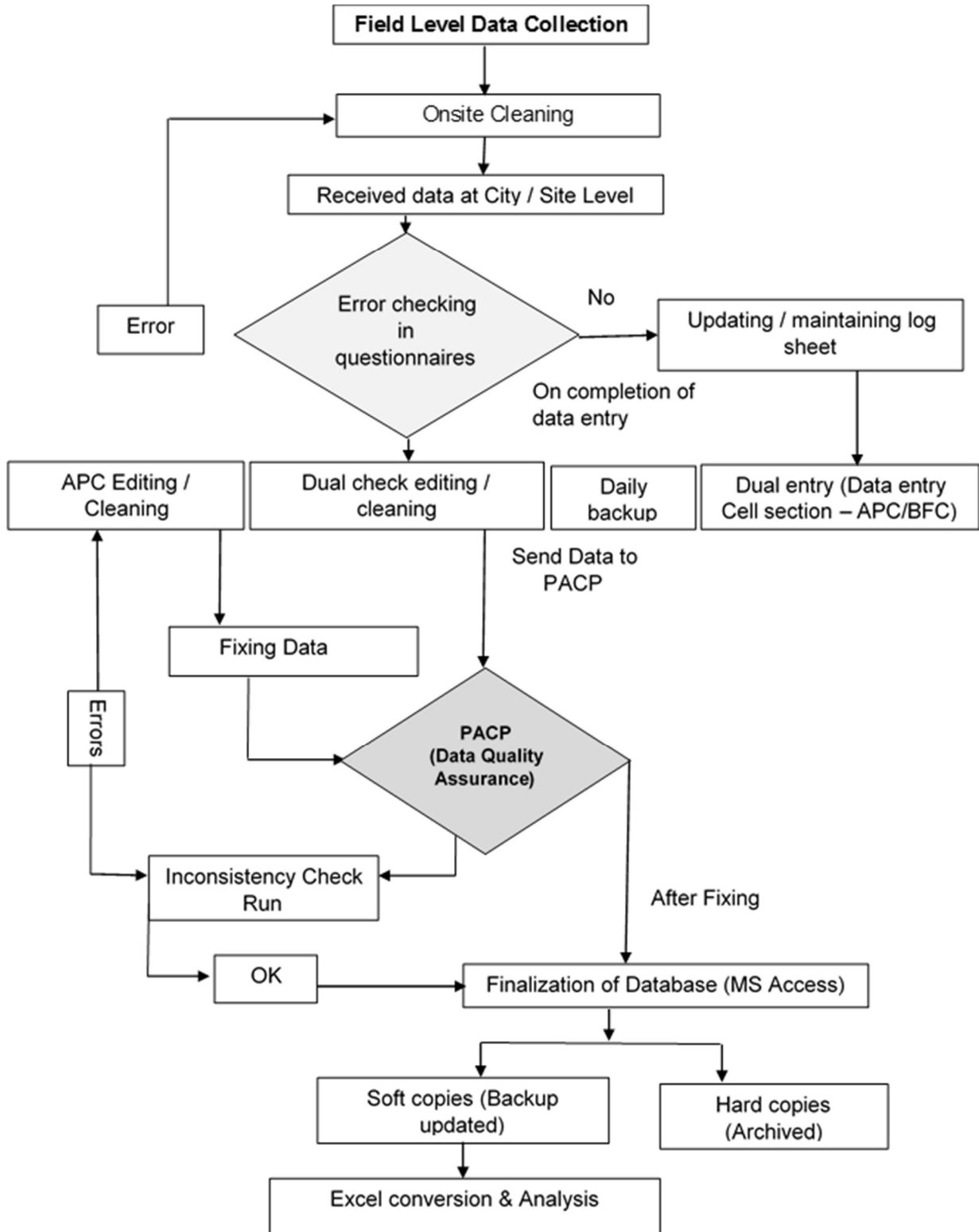
Figure 3. Flow Chart for Data Management – Punjab Mapping, 2014

3.14 Data Management

All data sets after necessary field editing was entered in a software database, designed for this study. Data collected from the mapping was augmented with a GIS survey. In addition, all validated spots within each zone were mark on maps, and coordinates for these spots were acquired using Google Earth.

3.15 Data Cleaning

All data were edited in the field by field editors on a daily basis and corrected for names of zones, missing KI typology, and any missing information.

3.16 Data Compilation

A software specific to the study was designed in MS Access and the data set was entered under supervision by Database Manager.

3.17 Data Analysis

To obtain the final figures, the estimated ranges for each site and location were rolled up for a zone and city to produce minimum and maximum estimates after adjusting for the duplication. Data from network mapping was analyzed and city wide estimates were developed through combining zonal estimates and removing overlaps. The total numbers of network operators in each zone were calculated after estimates were adjusted by the level of saturation achieved as well as duplication seen in the final data set. The average number of FSWs/HSW operated by each NWO/guru along with the knowledge of typologies helped determine the total number of FSWs and HSWs.

GIS distribution maps and spot maps for each most at risk population will be created after obtaining spatial and attribute data for each spot, and linking them with digitalized maps of target cities.

3.18 Ethical Consideration

The study protocol were approved by an 'Ethical Review Committee' constituted for the mapping and IBBS survey, to meet the required ethical guidelines and standard, especially addressing the following issues;

3.19 Informed Consent / Voluntary Participation

Identification and recruitment of study participants was conducted only after describing the study procedures and obtaining informed consent. Verbal informed consent was obtained from KIs before conducting the interviews and prospective participants were clearly informed that participation was voluntary and that non-participation would have no negative consequences in terms of access to programs or services.

3.20 Confidentiality

Confidentiality of the study participants was ensured through non-disclosure of participants' identity and the use of a non-identifying coding system to track and link study data, while no names or identifying information was obtained. The electronic data was password protected and only authorized officials had access to the data files. The final report does not contain information which can lead to identification of spots and places where key populations congregate; the maps developed have used broad coordinates and exact locations cannot be accessed.

4. KEY RESULTS – MAPPING RESULTS

4.1 KEY INFORMANTS

4.1.1 Geographical Mapping

The Geographical mapping enrolled 30,860 participants for interviews, conducted with primary and secondary key informants, including 19,070 L1 interviews, while another 11,790 L2 KI's, were interviewed to validate the spots identified. A total of 11,070 spots were verified during the L2 geographical mapping.

On an average 187 L1 interviews were conducted as part of the geographical mapping in each zone. Similarly 116 L2 interviews were conducted on average per zone.

4.1.2 Network Mapping

For network mapping of FSWs, 937 network operators were interviewed, while 717 gurus and senior hijras were interviewed to develop estimates through network mapping of HSWs.

Geographical Mapping	Populations	No. Cities	L1 Interviews	L2 Interviews
	IDU, FSW, MSW	10	19,070	11,790
Network Mapping	FSW	4	-	937
	HSW	4	-	717

Table 3; Number of Interviews conducted – Punjab Mapping Study, 2014

4.2 Spot Analysis

Table 4 & 5, describes list of L1 & L2 spots, conducted, during the Mapping exercise.

Cities	Zone	L1 Activity				
		IDUs	FSWs	MSWs	HSWs	Total
Lahore	27	1,310	2,224	948	1,272	5,754
Faisalabad	18	1,060	2,542	1,835	399	5,836
Multan	16	772	1,459	202	442	2,875
Sargodha	10	453	400	109	193	1,155
Gujranwala	6	708	-	-	-	708
Sialkot	6	790	-	-	-	790
Gujrat	5	237	-	-	-	237
Sheikhupura	3	547	-	-	-	547
Mandi Bahaudin	4	309	-	-	-	309
DG Khan	7	859	-	-	-	859
TOTAL	102	7,045	6,625	3,094	2,306	19, 070

Table 4. Category wise Spot List for L1 Activity – Punjab Mapping Study, 2014

Cities	Zone	L2 Activity				
		IDUs	FSWs	MSWs	HSWs	Total
Lahore	27	656	2,699	507	591	4,453
Faisalabad	18	1,502	1,021	781	1,014	4,318
Multan	16	368	731	222	356	1,677
Sargodha	10	106	284	100	126	616
Gujranwala	6	125	-	-	-	125
Sialkot	6	125	-	-	-	125
Gujrat	5	122	-	-	-	122
Sheikhupura	3	139	-	-	-	139
Mandi Bahaudin	4	114	-	-	-	114
DG Khan	7	101	-	-	-	101
TOTAL	**102**	**3,358**	**4,735**	**1,610**	**2,087**	**11,790**

Table 5. Category wise Spot List for L2 Activity – Punjab Mapping Study, 2014

Cities	No. Zones	Total L1	Total L2	Network Mapping	
				FSWs	HSWs
Lahore	27	5,785	4,453	356	254
Faisalabad	18	5,452	4,318	283	247
Multan	16	3,121	1,677	203	169
Sargodha	10	1,175	616	95	47
Gujranwala	6	709	125	-	-
Sialkot	6	791	125	-	-
Gujrat	5	238	122	-	-
Sheikhupura	3	548	139	-	-
Mandi Bahaudin	4	391	114	-	-
DG Khan	7	860	101	-	-
TOTAL	102	19,070	11,790	937	717

Table 6; City wise distribution of KI interviews conducted for Mapping Survey, Punjab Mapping Study, 2014

While males were mostly interviewed in Geographic mapping (69.5 percent), more females (82.19 percent) and transgenders (86.20 percent) were interviewed in the network mapping of FSWs and HSWs respectively. Majority of interviewed, among geographical & network mapping, were reported illiterate.

Analysis of the profession showed that nearly 23 percent of the interviews at L1 were conducted with taxi/rickshaw drivers, 21percent with hawkers and shop keepers. Other prominent KIs were students, businessmen, waiters, policemen, milkmen, cable operators etc.

Geographic		Network Mapping	
Mapping		FSW	HSW
Gender			
Male	69.5 percent	17.51 percent	9.12 percent
Female	15.4 percent	82.19 percent	4.68 percent
Transgender	15.2 percent	0.30 percent	86.20 percent
Education			
Illiterate	35.8 percent	56.50 percent	50.10 percent
Up to 5 years	34.6 percent	22.70 percent	24.80 percent
6-10 years	26.3 percent	18.10 percent	21.30 percent
More than 10 years	3.3 percent	2.70 percent	3.80 percent

Table 7; Demographic Details of Key Informants, Punjab Mapping Study, 2014.

5. Injecting Drug Users (IDUs)

The mapping survey conducted in ten cities of Punjab, estimated a total of 27,840 injecting drug users (IDUs) – Range; Minimum = 21,182, Maximum = 34,497, registered in 3,358 spots.

5.1 Estimated Number of IDUs

The highest number of IDUs was found in Faisalabad (N=10,389) appox. 37.3 Percent of the total IDUs in Punjab; followed with Lahore (13.5 percent, N=3,774 and Gujranwala (11.5 percent, N=3,210), respectively.

Cities	Zones	No of spots	IDUs (min)	IDU (max)	IDUs (avg)	IDU per spot	% IDUs
Lahore	29	656	3,121	4,426	3,774	5.8	13.55%
Faisalabad	18	1,502	6,981	13,797	10,389	6.9	37.3%
Multan	20	368	909	1,863	1,386	3.8	5.0%
Sargodha	10	256	1,680	2,066	1,873	7.3	6.7%
Gujranwala	6	296	2,189	4,231	3,210	10.8	11.5%
Sialkot	6	299	2,638	3,207	2,923	9.8	10.5%
Gujrat	5	122	377	736	557	4.6	2.0%
Sheikhupura	3	220	1,769	2,162	1,966	8.9	7.1%
Mandi Bahaudin	4	114	907	1,173	1,040	9.1	3.7%
DG Khan	7	101	611	836	724	7.2	2.6%
TOTAL	108	3,934	21,182	34,497	27,840	7.4	100.00%

Table 8. Estimated Number of IDUs in 10 Cities in Punjab – Punjab Mapping Study, 2014

5.2 Spots Distribution and Spot Size

The spots were analyzed in terms of average of average number of IDUs found at each spot. Gujranwala indicated with highest number of IDUs per spot (10.8 IDUs per spot) followed by Sialkot (9.8 IDUs per spot). Just one of the ten cities mapped indicated more than 10 IDUs per spot; representing a bigger network and thus a much higher drug injecting environment. This finding has strong programmatic implications, as larger spots with more IDUs indicate a higher risk of needle sharing, an efficient mechanism of HIV spread.

5.3 Zone wise Distribution of IDUs

The number of IDUs within each of the city mapped, showed wide variations, between the zones. This information is critical for planning service delivery for the IDUs, in the province.

5.3.1 Lahore City.

Zone	Town	No. of spots	IDUs Min.	IDUs Max.	IDUs Aver.	Aver. IDUs / Spot
Zone 1	Shahdara	18	69	101	85	4.7
Zone 2	Darogha wala	20	131	189	160	8.0
Zone 3	Dharam Pura	42	173	238	206	4.9
Zone 4	Mughal Pura	23	164	227	196	8.5
Zone 6	Kot Lakhpat	8	45	61	53	6.6
Zone 7	Chungi Amar Sadhu	12	56	77	67	5.5
Zone 8	TownShip	16	110	176	143	8.9
Zone 9	Johar Town	9	49	89	69	7.7
Zone 10	Thokar Niaz Baig	14	71	94	83	5.9
Zone 11	Faisal Town, Garden Town	23	148	184	166	7.2
Zone 12	Gulbarg II	29	144	254	199	6.9
Zone 13	Gulbarg III	17	75	111	93	5.5
Zone 14	Garhi Shahu	17	109	161	135	7.9
Zone 15	Bhaati Chowk	36	215	299	257	7.1
Zone 16	Gawal Mandi	27	152	223	188	6.9
Zone 17	Data Gunj Bakhsh	25	117	160	139	5.5
Zone 18	Baghban Pura	16	50	78	64	4.0
Zone 19	Badami Bagh	59	271	317	294	5.0
Zone 20	Shah Aalam	30	210	294	252	8.4
Zone 21	Texali Gate, Minar-e-Pak.	25	55	83	69	2.8
Zone 22	Sheranwala	29	98	96	97	3.3
Zone 23	Bilal Gunj	20	66	92	79	4.0
Zone 24	Krishan Nagar	52	209	330	270	5.2
Zone 25	Gulshan Ravi	26	76	111	94	3.6
Zone 26	Wahdat Colony	9	63	107	85	9.4
Zone 27	Muslim Town	16	80	116	98	6.1
Zone 28	Shadman	12	31	43	37	3.1
Zone 29	Samanabad	26	84	115	100	3.8
	TOTAL	**656**	**3,121**	**4,426**	**3,774**	**5.8**

Table 9. Zone and Spot wise distribution of IDUs at Lahore; – Punjab Mapping Study, 2014

5.3.2 Faisalabad City

Zone	Area / Locality	No. of spots	IDUs Min.	IDUs Max.	IDUs Average	Average IDUs per Spot
Zone 1	Lyallpur Town	48	347	596	472	**9.8**
Zone 2	Jinnah Town	52	348	609	479	**9.2**
Zone 3	Lyalpur Town	55	263	494	379	**6.9**
Zone 4	Iqbal Town	202	877	1867	1372	**6.8**
Zone 5	Iqbal Town	164	709	1382	1046	**6.4**
Zone 6	Iqbal Town	33	168	389	279	**8.4**
Zone 7	Iqbal Town	162	633	1314	974	**6.0**
Zone 8	Jinnah Town	67	230	529	380	**5.7**
Zone 9	Jinnah Town	88	404	792	598	**6.8**
Zone 10	Jinnah Town	60	249	502	376	**6.3**
Zone 11	Jinnah Town	61	293	507	400	**6.6**
Zone 12	Jinnah Town	21	120	203	162	**7.7**
Zone 13	Madina Town	70	321	731	526	**7.5**
Zone 14	Madina Town	82	371	700	536	**6.5**
Zone 15	Madina Town	81	382	761	572	**7.1**
Zone 16	Madina Town	85	463	838	651	**7.7**
Zone 17	Madina town	135	650	1277	964	**7.1**
Zone 18	Layalpur Town	36	153	306	230	**6.4**
TOTAL		**1,502**	**6,981**	**13,797**	**10,389**	**6.9**

Table 10. Zone and Spot wise distribution of IDUs at Faisalabad – Punjab Mapping Study, 2014

5.3.3 Multan City

Zone	Area / Locality	No. of spots	IDUs Min.	IDUs Max.	IDUs Average	Average IDUs / Spot
Zone 1	Mumtazabad	16	78	149	114	**7.1**
Zone 2	Shah Rukn-e-Alam	45	107	628	368	**8.2**
Zone 3	Shah Shammas	31	104	146	125	**4.0**
Zone 4	Lodhi Colony	30	80	141	111	**3.7**
Zone 5	Bipka Chowk	20	33	55	44	**2.2**
Zone 6	Chowk Kumharan	37	81	118	100	**2.7**
Zone 7	Basti Ghareeb Nawaz	26	76	102	89	**3.4**
Zone 8	Mati Tal Road	17	49	66	58	**3.4**
Zone 9	Bosan Road	16	35	51	43	**2.7**
Zone 10	Vehari Chowk	19	47	72	60	**3.1**
Zone 11	Suraj Kund Road	14	21	36	29	**2.0**

Zone		No. of spots	IDUs Min.	IDUs Max.	IDUs Average	Average IDUs per Spot
Zone 12	Bahawal Pur Chwk	34	84	118	101	**3.0**
Zone 13	Karam Town	20	26	47	37	**1.8**
Zone 17	Walaytabad	35	75	112	94	**2.7**
Zone 20	Ghareebabad	8	13	22	18	**2.2**
	TOTAL	**368**	**909**	**1,863**	**1,386**	**3.8**

Table 11. Zone and Spot wise distribution of IDUs at Multan – Punjab Mapping Study, 2014

5.3.4 Sargodha City

Zone	Area / Locality	No. of spots	IDUs Min.	IDUs Max.	IDUs Average	Average IDUs per Spot
Zone 1	Mohammadi Colony	72	565	664	615	**8.5**
Zone 2	Iqbal Colony	38	299	383	341	**9.0**
Zone 3	Company Bagh	22	151	184	168	**7.6**
Zone 4	Factory Area	22	132	165	149	**6.8**
Zone 5	Istaqlalabad Colony	25	145	181	163	**6.5**
Zone 6	Mian Tufail Town	24	111	142	127	**5.3**
Zone 7	Satellite Town	7	27	35	31	**4.4**
Zone 8	Islam Pura	16	62	74	68	**4.3**
Zone 9	New Satellite Town	18	127	160	144	**8.0**
Zone 10	Ghani Park	12	61	78	70	**5.8**
	TOTAL	**256**	**1,680**	**2,066**	**1,873**	**6.6**

Table 12. Zone and Spot wise distribution of IDUs at Sargodha; – Punjab Mapping Study, 2014

5.3.5 Gujranwala City

Zone	Area / Locality	No. of spots	IDUs Min.	IDUs Max.	IDUs Average	Average IDUs per Spot
Zone 1	Fottomand	42	290	595	443	**10.5**
Zone 2	Chicherwali	46	305	680	493	**10.7**
Zone 3	Khaili Bypass	47	365	760	563	**12.0**
Zone 4	Rasheed Colony	51	332	726	529	**10.4**
Zone 5	Noshera Sansi	49	417	640	529	**10.8**
Zone 6	Shaheen Abad	61	480	830	655	**10.7**
	TOTAL	**296**	**2,189**	**4,231**	**3,210**	**10.9**

Table 13. Zone and Spot wise distribution of IDUs at Gujranwala – Punjab Mapping Study, 2014

5.3.6 Sialkot City

Zone	Area / Locality	No. of spots	IDUs Min.	IDUs Max.	IDUs Average	Average IDUs per Spot
Zone 1	Rangpura	47	413	522	468	10.0
Zone 2	Pul Aik Pasrur Rd.	53	448	502	475	9.0
Zone 3	Rex Cinema Railway Road	61	642	710	676	11.1
Zone 4	Hajipura	58	516	663	590	10.2
Zone 5	Kotli Behram	44	305	422	363	8.3
Zone 6	Gohdpur/Muradpur	36	313	389	351	9.8
	TOTAL	125	2,638	3,207	2,923	9.7

Table 14. Zone and Spot wise distribution of IDUs at Sialkot – Punjab Mapping Study, 2014

5.3.7 Gujrat City

Zone	5.3	No. of spots	IDUs Min.	IDUs Max.	IDUs Average	Average IDUs per Spot
Zone 1	Gulberg Colony	25	63	118	91	3.6
Zone 2	Green Town	19	30	64	47	2.5
Zone 3	Daswandi Pura	35	76	205	141	4.0
Zone 4	Uddowal	18	87	149	118	6.6
Zone 5	Gillian Wala	25	121	200	161	6.4
	TOTAL	122	377	736	557	4.6

Table 15. Zone and Spot wise distribution of IDUs at Gujrat – Punjab Mapping Study, 2014

5.3.8 Sheikhupura City

Zone	Area / Locality	No. of spots	IDUs Min.	IDUs Max.	IDUs Average	Average IDUs per Spot
Zone 1	Moh. Sultan Pura	78	631	769	700	9.0
Zone 2	Habib Colony,	82	629	766	698	8.5
Zone 3	Jalandi Ala Rd.	60	509	627	568	9.5
	TOTAL	220	1,769	2,162	1,966	9.0

Table 16. Zone and Spot wise distribution of IDUs at Sheikhupura – Punjab Mapping Study, 2014

5.3.9 Mandi Bahaudin City

Zone	Area / Locality	No. of spots	IDUs Min.	IDUs Max.	IDUs Average	Average IDUs per Spot
Zone 1	Purani Mandi	23	169	227	198	**8.6**
Zone 2	Railway Station	13	103	131	117	**9.0**
Zone 3	Ghalla Mandi	28	264	350	307	**11.0**
Zone 4	MughalPura Moh.	50	371	465	418	**8.4**
TOTAL		**114**	**907**	**1,173**	**1,040**	**9.1**

Table 17. Zone and Spot wise distribution of IDUs at Mandi Bahaudin – Punjab Mapping Study, 2014.

5.3.10 DG Khan City

Zone	Area / Locality	No. of spots	IDUs Min.	IDUs Max.	IDUs Average	Average IDUs per Spot
Zone 1	Sultan Town	15	100	129	115	7.6
Zone 2	Abdullah Town	8	53	72	63	7.8
Zone 3	Fawara Chowk	6	17	32	25	4.1
Zone 4	Gaddai Road	12	72	98	85	7.1
Zone 5	Sadiqabad	16	61	90	76	4.7
Zone 6	Bhutta Colony	14	96	126	111	7.9
Zone 7	Pyaray Wali	30	212	289	251	8.4
TOTAL		**101**	**611**	**836**	**724**	**7.2**

Table 18. Zone and Spot wise distribution of IDUs at DG Khan – Punjab Mapping Study, 2014

5.4 Spot Maps for IDUs – Mapping Punjab; 2014.

Fig 5.4.1 to Fig 5.4.10 present spots maps for the ten cities mapped for IDUs in Punjab. All major spots of IDUs operations were plotted on city maps to provide a distribution of injection use in each city.

5.4.1 Lahore City.
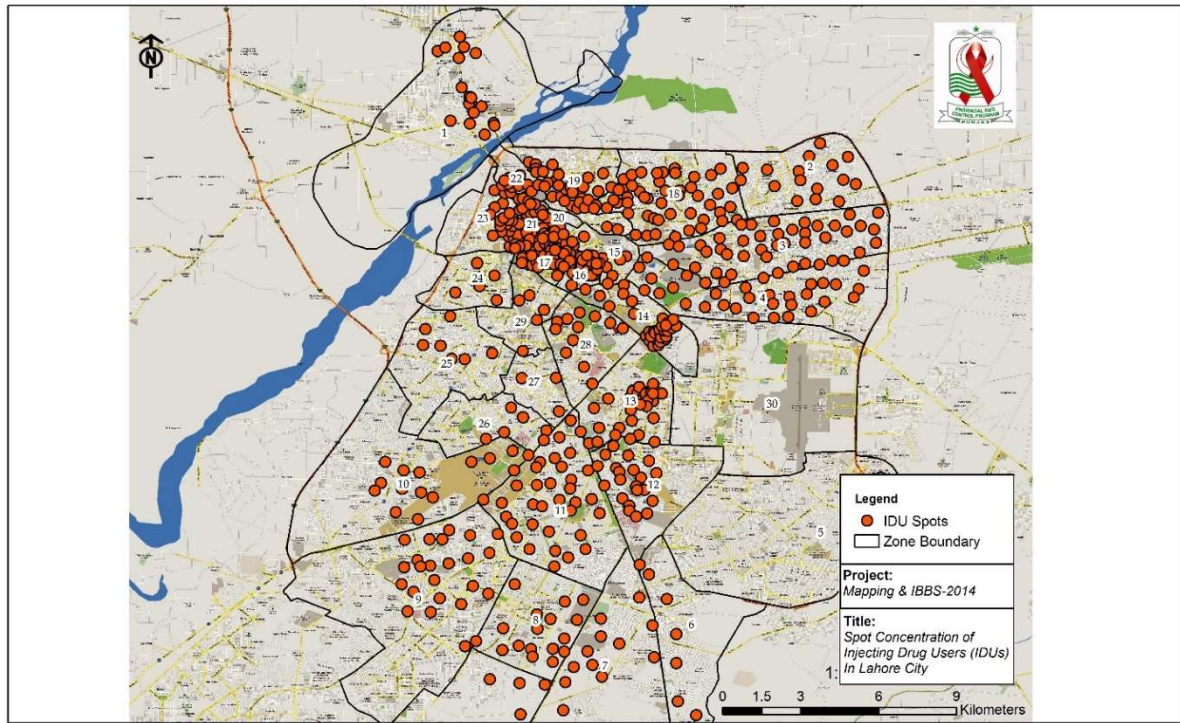
Map 2. IDUs Spot Distribution – Lahore City; Punjab Mapping Study, 2014

5.4.2 Faisalabad City
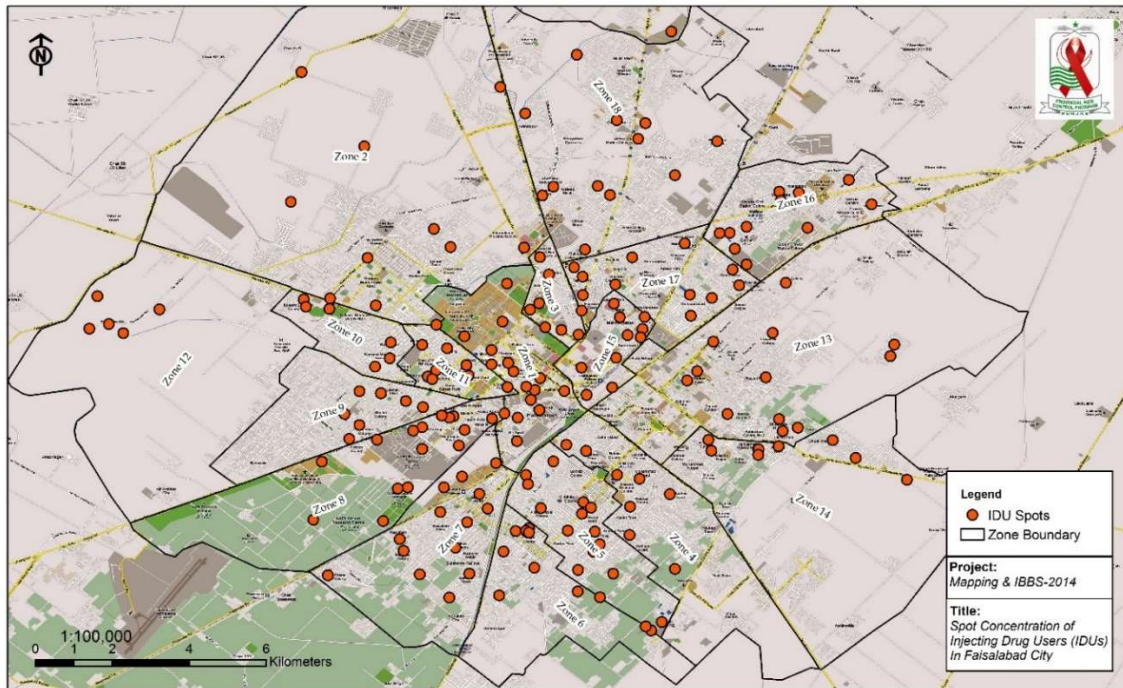
Map 3. IDUs Spot Distribution – Faisalabad City; Punjab Mapping Study, 2014

5.4.3 Multan City
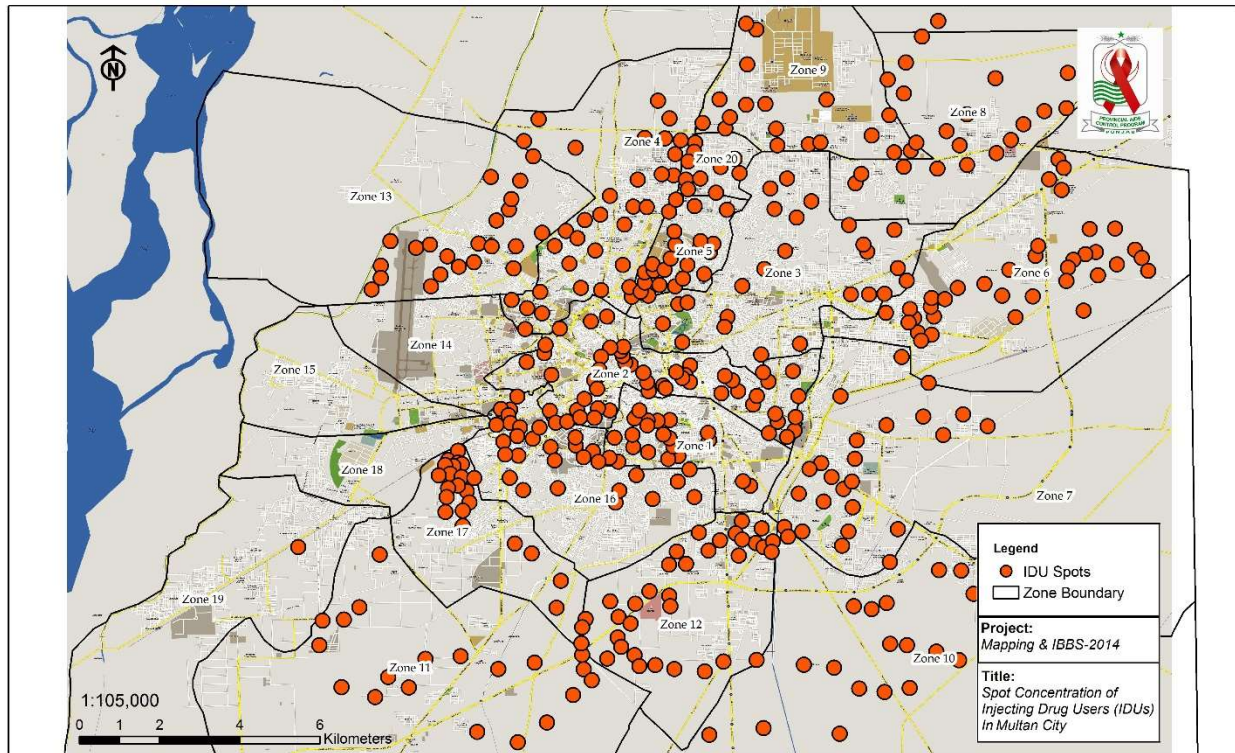
Map 4. IDUs Spot Distribution – Multan City; Punjab Mapping Study, 2014

5.4.4 Sargodha City
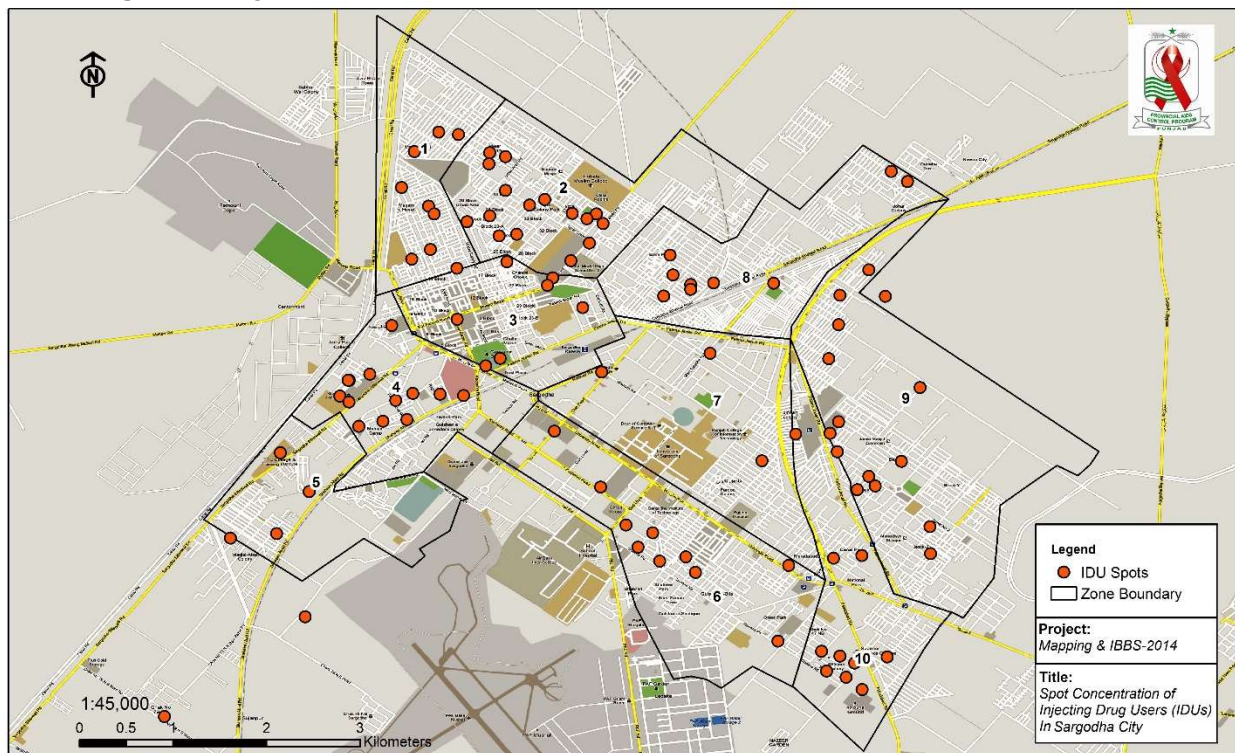
Map 5. IDUs Spot Distribution – Sargodha City; Punjab Mapping Study, 2014

5.4.5 Gujranwala City
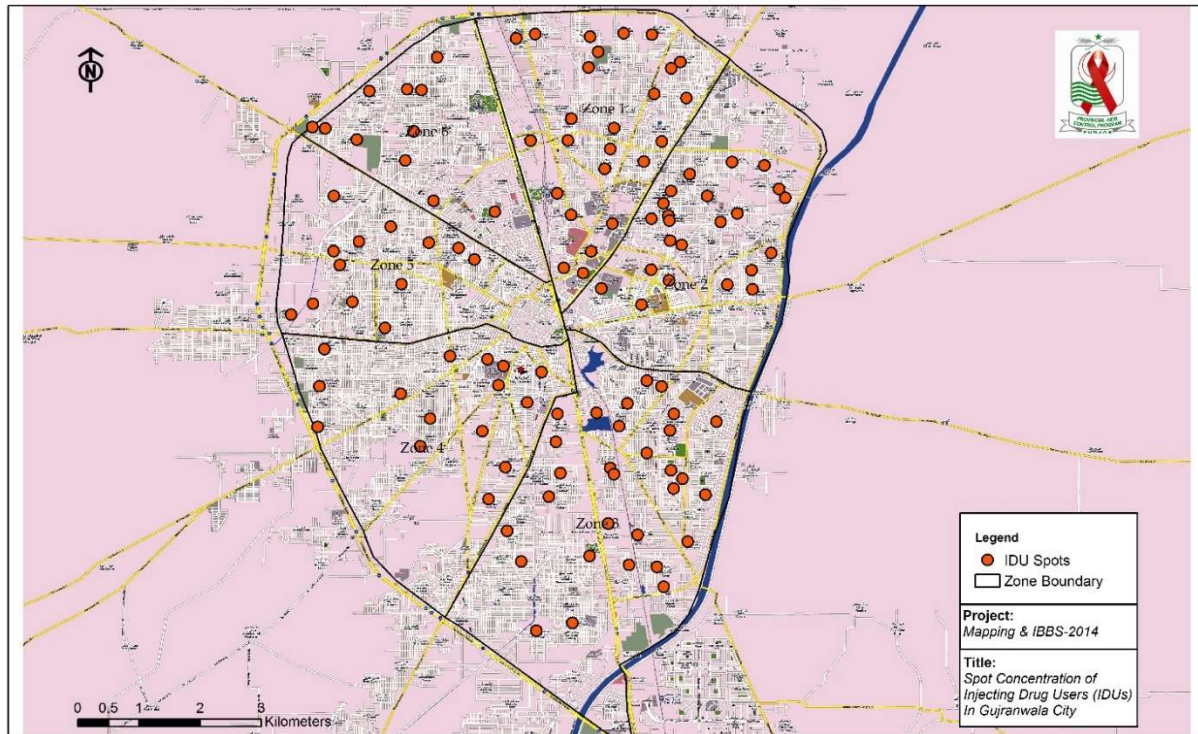
Map 6. IDUs Spot Distribution – Multan City; Punjab Mapping Study, 2014

5.4.6 Sialkot City
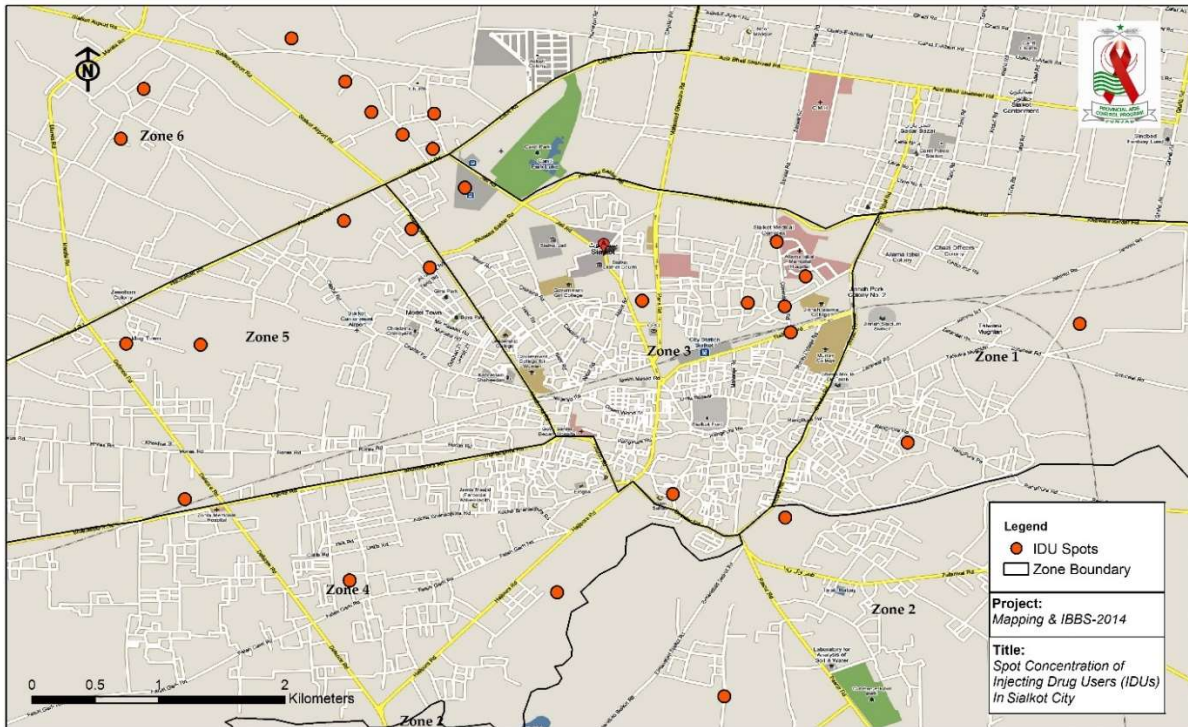
Map 7. IDUs Spot Distribution – Sialkot City; Punjab Mapping Study, 2014

5.4.7 Gujrat City
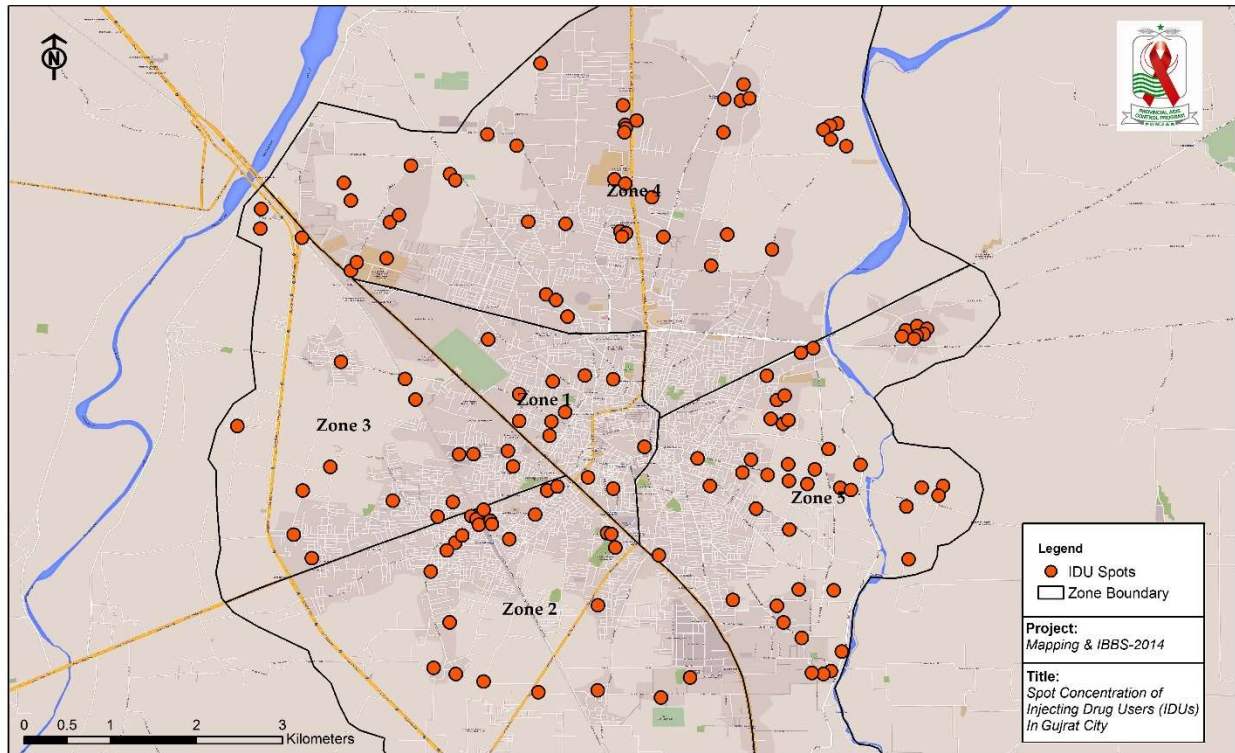
Map 8. IDUs Spot Distribution – Gujrat City; Punjab Mapping Study, 2014

5.4.8 Sheikhupura City
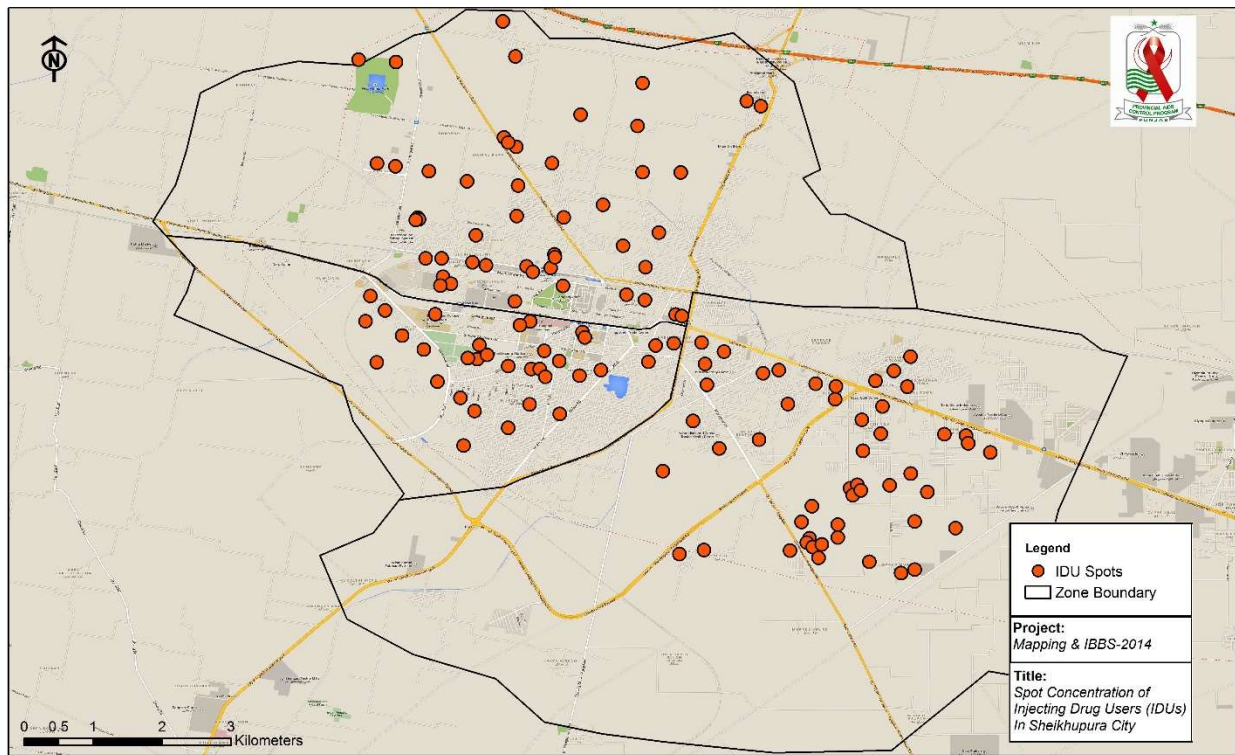
Map 9. IDUs Spot Distribution – Sheikhupura City; Punjab Mapping Study, 2014

5.4.9 Mandi Bahaudin City
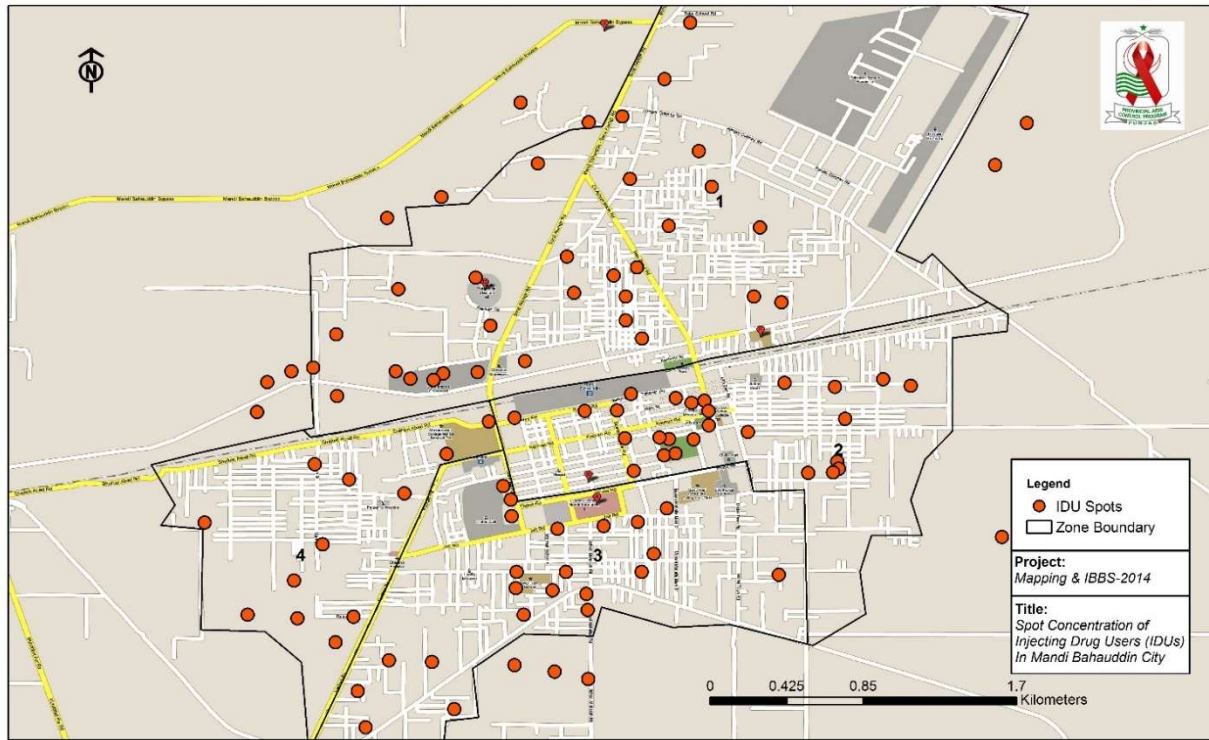
Map 10. IDUs Spot Distribution – Mandi Bahaudin City; Punjab Mapping Study, 2014

5.4.10 Dera Ghazi Khan City.
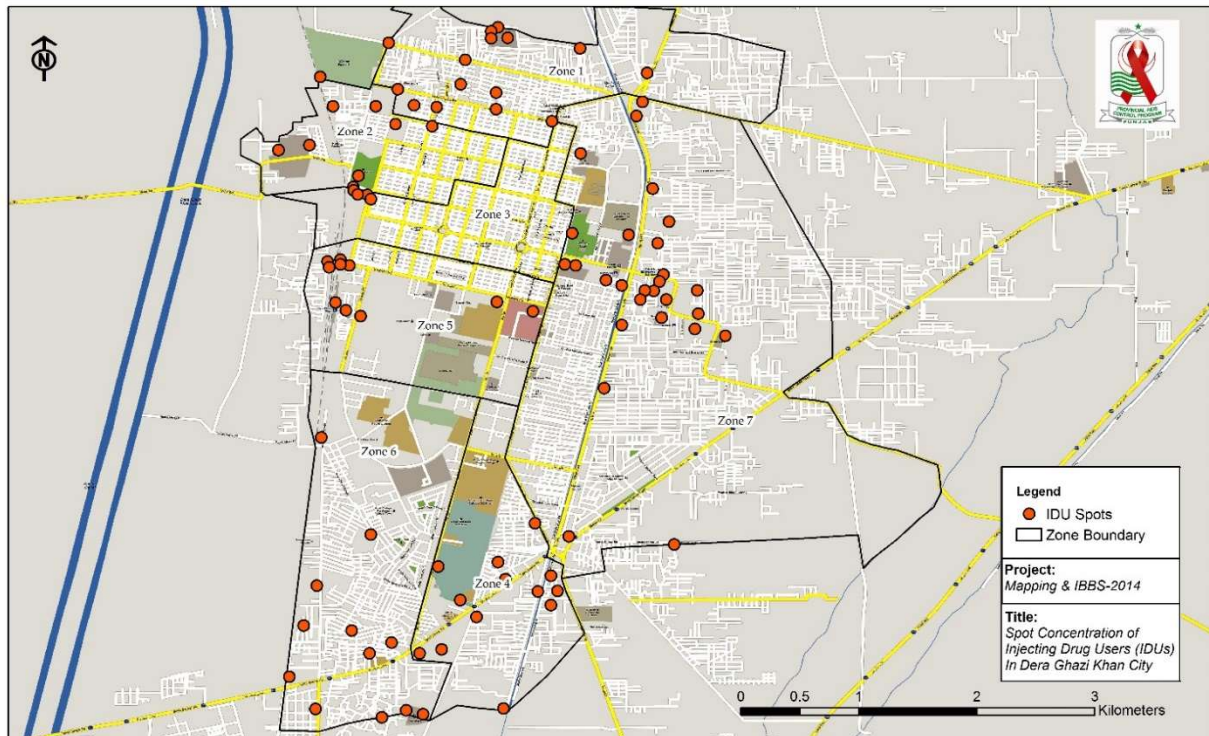
Map 11. IDUs Spot Distribution – DG Khan City; Punjab Mapping Study, 2014

5.5 Comparison with previous mapping

The results of current mapping exercise (2014) were compared with previous surveillance rounds to highlight changes or emerging trends. This comparison was limited to the cities both mapped previously and included in this round of surveillance, of Punjab. Comparing IDUs estimates over two rounds of surveillance showed interesting results, with visible changes across provinces. The spread of injecting drug use was also assessed by comparing the spot sizes calculated from the 2014 data with the spot sizes from the previous study. The overall spot size, in Punjab, remained unchanged (approximately 8 IDUs per spot), during the successive mapping rounds.

In conclusion, there has been an increasing trends of IDUs, in Punjab, with an increase of 24.5 percent (N=3,681) in number of IDUs in six cities, which were part of previous mapping survey (Round IV 2011) as well. Also, the spots where IDUs congregate and inject drugs have also increased in number overtime (74.6 percent, N=1,435), yet there was no major difference in spot size, in last three years. Lesser numbers of IDUs are now connected to each spot. This makes provision of prevention services complicated and demanding.
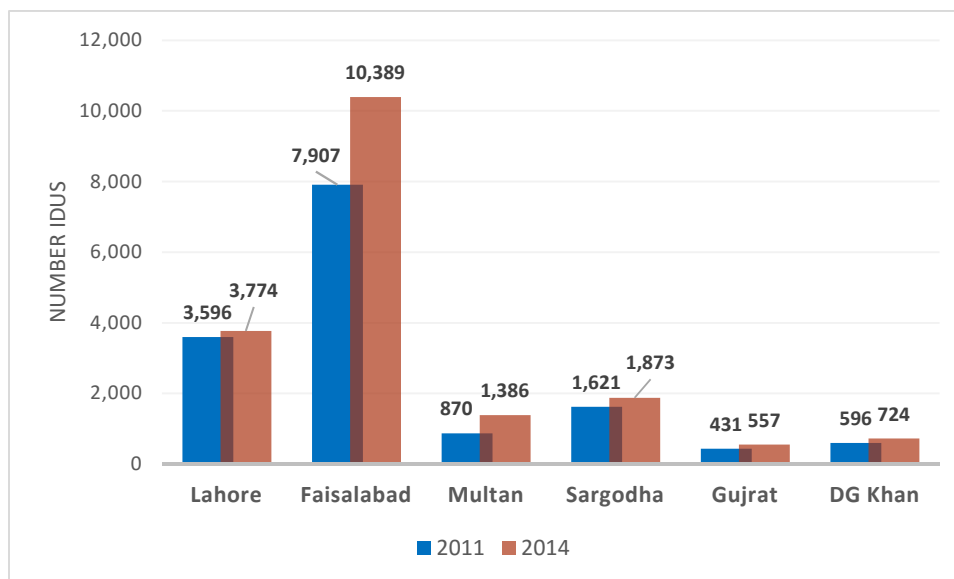
Figure 4. Comparison of Estimates of IDUs between 2011 – 2014 in Punjab; Mapping Punjab, 2014.

6. Female Sex Workers (FSWs) – Results

Female sex workers are broadly defined as "females who receive money or financial benefits in exchange for sexual services, either regularly or occasionally". Despite strong social, cultural, religious and legal sanctions, sex work continues throughout the province. There is a thriving sex industry and they are the largest most at risk population for acquiring HIV and other STIs in the country.

6.1 Estimated Number of FSWs

A dual approach of mapping including, geographical and network mapping was used to estimate the size of FSWs as well as to gather information on the operational networks within which FSWs function. The survey estimated 44,160 FSWs in four cities mapped – Minimum= 34,444, Maximum= 53,875). The highest number of FSWs were found at Lahore (58.23 percent, N=25,716) followed by Faisalabad (17.11 percent, N=7,556). Approximately 7,038 NWOs were identified in four cities, with the largest number at Lahore (3,798).

City	No. of Spots	FSW Min.	FSW Max.	FSW Aver	No. NWOs	% FSWs
Lahore	2,699	21,685	29,746	25,716	3,798	58.23%
Faisalabad	1,021	5,500	9,612	7,556	636	17.11%
Multan	731	4,272	8,850	6,561	916	14.86%
Sargodha	284	2,987	5,667	4,327	1,688	9.80%
TOTAL	**4,735**	**34,444**	**53,875**	**44,160**	**7,038**	**100%**

Table 19. Estimated FSWs & Network Operators – Punjab Mapping Study, 2014

6.2 Typologies of FSWs, across Cities

Following operational typologies of FSWs were observed during the study:

6.2.1 Home-based FSWs (HBSWs)

Home-based FSWs live in their homes with families, and rely mostly on network operators/pimps for soliciting clients, as well as for the place where sexual activity takes place.

6.2.2 Kothikhana based FSWs (KKSWs)

"kothikhana" is a colloquial expression for a sex work venue that literally means "grand house". However, kothikhana's are generally small premises, which are rented by a madam and/or network operators in a residential area, and where a small number of FSWs live and entertain clients.

6.2.3 Brothel based sex work (BBSW)

Being the oldest variant of female sex work in Punjab, originating from a time when the sex work was mainly housed in brothels located in designated red light areas and the industry provided sexual services to clients under cover of singing and dancing. A legal ban on brothels in 80s displaced sex workers and their families and the sex then spread out into residential areas across the province, thus lowering the numbers of this typology substantially.

6.2.4 Street based sex workers (SBSW)

'Street based sex workers' (SBSW) tend to work alone and from nonspecific locations, soliciting clients from various 'pick up points', for example streets market places, and bus stops.

6.2.5 Cell phone based FSWs (CPBSW)

'Cell phone based FSWs', use cell phones as the major way of acquiring clients were also identified by this mapping.

6.2.6 Other forms of sex workers

The study also highlighted a few 'other forms of sex workers' including hotel based FSWs, massage parlor based FSWs and beggars.

6.3 FSWs Functional Typologies among the Cities Mapped

Wide variation in typology of FSWs among the cities mapped. Street based FSWs (37.41 percent, N=16,499) were found to be in highest proportion, followed by the Kothikhana based FSWs (30.86 percent, 13,608).
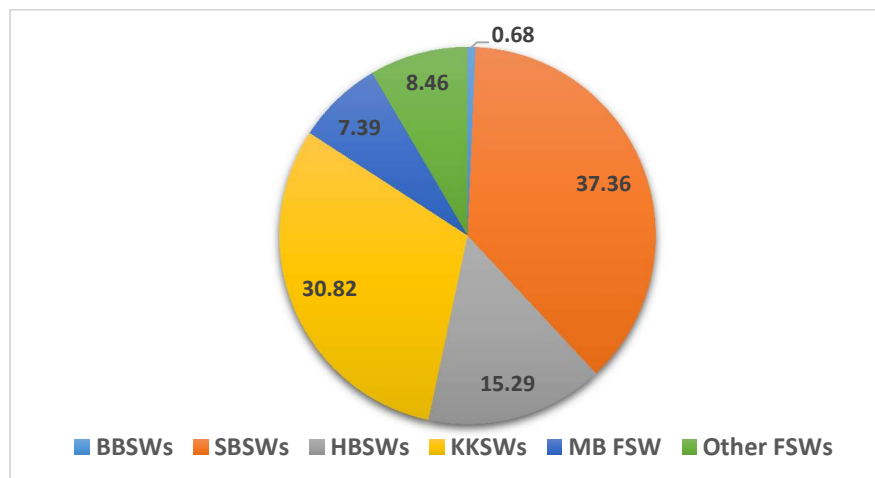
Graph 5. FSWs Operational Typologies among Cities Mapped – Punjab Mapping Study, 2014

Following table describes a wide variation in various typologies of FSWs across the cities mapped. Street based, home based and KK based FSWs were reported to be a regular feature of female sex work in Punjab across all cities, while brothel based FSWs were only reported in 2 out of 4 cities mapped.

City	BBSWs	SBSWs	HBSWs	KKSWs	MB FSW	Other FSWs	Total
Faisalabad	-	3,147	1,365	1,172	352	1,520	7,556
Lahore	187	11,315	1,945	7,320	2,758	2,191	25,716
Multan	53	1,261	2,703	2,418	126	-	6,561
Sargodha	60	776	741	2,698	26	26	4,327
TOTAL	300	16,499	6,754	13,608	3,262	3,737	44,160

Table 20. Estimated numbers of FSWs in 4 cities of Punjab by typology – Punjab Mapping Study, 2014

6.4 Street based FSWs and Spots

Lahore city registered the highest number of street based FSWs (68.57 percent, N=11,315), who tend to work alone, and solicit clients from various public places. Followed by Faisalabad city (19.07 percent, N=3,147). The spot size varied among the cities, with an average spot size of 6 per spot.

City	No of spots	SB FSW (min)	SB FSW (max)	SB FSW (avg)	SB FSW per spot
Lahore	1,678	10,187	12,443	11,315	7
Faisalabad	632	1,966	4,328	3147	5
Multan	486	960	1,561	1,261	3
Sargodha	164	557	994	776	5
TOTAL	2,960	13,670	19,326	16,499	6

Table 21. Estimated Number of Street based FSWs in four Cities – Punjab Mapping Study, 2014.

6.5 Cell phone based FSWs

There might be some duplication of SBSWs with CPBSWs, as almost 27% of the SBSWs mentioned during interviews that they make prior arrangement with clients, and only come to the spot to be picked up, rather soliciting at the spots. Mapping data indicated highest number of CPBSW in Lahore (84.57 percent, N=2,758), followed by Faisalabad (10.79 percent, N=352).

City	No of spots	CPBSW (min)	CPBSW (max)	CPBSW (avg)
Lahore	349	2,497	3,018	2,758
Faisalabad	109	236	468	352
Multan	41	100	151	126
Sargodha	8	21	30	26
TOTAL	507	2,854	3,667	3,262

Table 22. Estimated Number of Cell phone based FSWs in four Cities – Punjab Mapping Study, 2014

6.6 Home and KK based FSWs and Network Operators

Network operators (NWO) are the key to the operations of a large section of FSWs, especially the home and kothikhana based typologies. Network operators mediate sex work and act as gate keepers for FSWs. A range of network operators including pimps, naikas (females, also called aunty, baji or madam) and brothel owners were mapped, during the survey, with Naikas emerged as the most important figures in the sex trade, who are mostly former FSWs, having switched to this role as they aged. Naikas have agent pimps in various parts of the city who add new clients as well as sex workers to keep the regular clients interested. The mapping study indicated 7,038 NWOs, 13,608 KK FSWs and 6,754 HBSWs, in four cities. Results indicate that Lahore city has the largest number of NWOs 53.96 percent (N=3,798), followed by Sargodha 44.44 percent (N=1,688). 53.79 percent (N=7,320) of KK FSWs were found in Lahore, while Multan indicated highest number of HBSWs 40.32 percent (N=2,703). On an average 3 FSWs are being controlled by each NWO.

Cities	Total No of NWOs	No of KK FSW (avg)	No of HBSW (avg)
Lahore	3,798	7,320	1,945
Faisalabad	636	1,172	1,365
Multan	916	2,418	2,703
Sargodha	1,688	2,698	741
TOTAL	7,038	13,608	6,754

Table 23. Estimated Number of NWOs, KKSWs & HBSWs in four Cities – Punjab Mapping Study, 2014

6.7 Home and KK based FSWs and Network Operators

Two variants of KKSWs were found during the mapping survey; Type-1 stayed in homes and only worked in kothikhanas during the day time. While, Type-2, comprised of a much larger number,

were SWs who has been brought from another city and were permanently living in kothikhanas with an 'aunty', most often for a period of 2 to 3 months. Kothikhanas with Type-1 SWs, only functioned during the day time, while the other type was operational 24 hours a day and had a much higher volume of clients. Approximately 85 percent KKSWs were found to be permanently living in the kothikhanas (Type-2). Each kothikhana, was inhabited by approximately 5 KKSWs. In addition to KKs, the NWOs were also reported working with the HBSWs.

Cities	No of FSWs a NWO works with			No. of KKs	No. of KKs NWO knows	No. of FSW in KK**	Aver. No. of FSWs / KK
	Total	HBSW	KKSWs*				
Lahore	9,265	7,320	1,945	554	396	1,593	3.51
Faisalabad	2,537	1,172	1,365	268	175	1,140	5.09
Multan	5,121	2,418	2,703	396	345	2,321	6.82
Sargodha	3,439	2,698	741	162	151	674	4.57
TOTAL	20,362	13,608	6,754	2,580	1,067	5,728	5

Table 24. FSWs and KKs managed by the NWOs – Punjab Mapping Study, 2014

*Type 1 & Type 2 KKSWs

** Type 2 KKSWs only.

6.8 Zone wise Distribution of FSWs

6.8.1 Lahore City

zone	Town	SBSWs	HBSWs	KKSWs	BBSWs	CBSWs	Other SWs	Total FSWs
Zone 1	Shahdara	812	131	478	5	125	152	**1,698**
Zone 2	Darogha wala	325	29	257	11	80	39	**730**
Zone 3	Dharam Pura	370	99	252	3	85	100	**906**
Zone 4	Mughal Pura	320	28	220	7	85	20	**673**
Zone 6	Kot Lakhpat	519	43	340	4	95	30	**1,027**
Zone 7	Chungi Amar Sadhu	464	0	286	3	85	10	**845**
Zone 8	TownShip	398	9	245	9	70	15	**737**
Zone 9	Johar Town	837	116	433	12	140	115	**1,641**
Zone 10	Thokar Niaz Baig	251	186	225	11	99	190	**951**
Zone 11	Faisal / Garden Town	215	26	185	4	50	29	**505**
Zone 12	Gulbarg II	151	15	157	2	50	17	**390**
Zone 13	Gulbarg III	599	51	330	1	240	57	**1,277**
Zone 14	Garhi Shahu	257	12	193	7	70	15	**547**
Zone 15	Bhaati Chowk	632	72	351	5	148	85	**1,288**

Zone 16	Gawal Mandi	436	45	280	10	96	40	**897**
Zone 17	Data Gunj Bakhsh	384	81	242	3	93	85	**885**
Zone 18	Baghban Pura	168	165	152	6	82	215	**782**
Zone 19	Badami Bagh	354	15	230	12	76	12	**687**
Zone 20	Shah Aalam	10	0	96	7	24	6	**136**
Zone 21	Texali Gate, Minar e Pak	260	161	193	14	86	190	**890**
Zone 22	Sheranwala	70	135	66	3	29	159	**459**
Zone 23	Bilal Gunj	530	140	310	9	101	167	**1,247**
Zone 24	Krishan Nagar	473	69	283	5	119	81	**1,025**
Zone 25	Gulshan Ravi	32	65	77	2	24	72	**270**
Zone 26	Wahdat Colony	645	68	355	8	179	73	**1,320**
Zone 27	Muslim Town	1425	84	731	14	312	99	**2,651**
Zone 28	Shadman	98	26	140	6	40	27	**331**
Zone 29	Samanabad	281	74	213	4	75	91	**734**
	TOTAL	**11,315**	**19,45**	**7,320**	**187**	**2,758**	**2,191**	**25,716**

Table 25. Zone and Spot wise distribution of FSWs at Lahore – Punjab Mapping Study, 2014

6.8.2 Faisalabad City

zone	Area / Locality	SBSWs	HBSWs	KKSWs	CBSWs	Other SWs	Total FSWs
Zone 1	Lyallpur Town	168	34	39	7	12	260
Zone 2	Jinnah Town	304	120	124	50	88	686
Zone 3	Lyalpur Town	308	92	87	16	120	623
Zone 4	Iqbal Town	60	88	71	24	78	320
Zone 5	Iqbal Town	132	203	145	31	107	618
Zone 6	Iqbal Town	22	85	69	16	100	291
Zone 7	Iqbal Town	289	114	78	28	98	606
Zone 8	Jinnah Town	49	37	33	0	97	216
Zone 9	Jinnah Town	145	53	62	29	0	289
Zone 10	Jinnah Town	243	72	74	21	105	515
Zone 11	Jinnah Town	403	0	0	0	105	508
Zone 12	Jinnah Town	84	32	26	12	0	154
Zone 13	Madina Town	277	68	58	24	85	511
Zone 14	Madina Town	136	125	94	51	105	510
Zone 15	Madina Town	105	60	48	19	138	370
Zone 16	Madina Town	118	10	17	0	103	248
Zone 17	Madina town	262	116	88	17	80	563
Zone 18	Layalpur Town	45	56	63	7	101	272
	TOTAL	**3,147**	**1,365**	**1,172**	**352**	**1,520**	**7,556**

Table 26. Zone and Spot wise distribution of FSWs at Faisalabad – Punjab Mapping Study, 2014

6.8.3 Multan City

zone	Area / Locality	SBSW	HBSW	KKSW	BBSW	CBSW	Other SWs	Total FSWs
Zone 1	Mumtazabad	90	256	185	4	18	0	553
Zone 2	Shah Rukn-e-Alam	85	200	196	3	4	0	488
Zone 3	Shah Shammas	74	235	202	4	3	0	518
Zone 4	Lodhi Colony	102	268	241	2	25	0	638
Zone 5	Bipka Chowk	38	40	38	7	2	0	125
Zone 6	Chowk Kumharan	201	490	390	5	18	0	1104
Zone 7	Basti Ghareeb Nawaz	124	380	354	3	5	0	866
Zone 8	Mati Tal Road	92	192	182	1	15	0	482
Zone 9	Bosan Road	35	45	44	2	4	0	130
Zone 10	Vehari Chowk	20	23	35	7	5	0	90
Zone 11	Suraj Kund Road	54	58	40	2	3	0	157
Zone 12	Bahawal Pur Chwk	96	98	105	1	4	0	304
Zone 13	Karam Town	75	90	102	4	6	0	277
Zone 16	Walaytabad	80	225	216	2	5	0	528
Zone 17	Ghareebabad	70	78	68	2	6	0	224
Zone 20	Shalimar Colony	25	25	20	4	3	0	77
	TOTAL	1,261	2,703	2,418	53	53	0	6,561

Table 27. Zone and Spot wise distribution of FSWs at Multan – Punjab Mapping Study, 2014

6.8.4 Sargodha City

zone	Area / Locality	SBSW	HBSW	KKSW	BBSW	CBSW	Other SWs	Total FSWs
Zone 1	Mohammadi Colony	93	113	240	8	3	4	**461**
Zone 2	Iqbal Colony	42	25	272	3	6	2	**350**
Zone 3	Company Bagh	26	20	170	5	0	2	**223**
Zone 4	Factory Area	65	46	49	4	0	4	**168**
Zone 5	Istaqlalabad Colony	95	62	170	7	0	1	**335**
Zone 6	Mian Tufail Town	41	140	245	11	0	2	**439**
Zone 7	Settelite Town	43	26	201	9	0	4	**283**
Zone 8	Islam Pura	53	184	305	3	4	3	**553**
Zone 9	New Satellite Town	135	33	478	5	5	2	**658**
Zone 10	Ghani Park	184	94	568	5	8	2	**861**
	TOTAL	776	741	2,698	60	26	26	**4,327**

Table 28. Zone and Spot wise distribution of FSWs at Sargodha – Punjab Mapping Study, 2014

6.9 Spot Maps for FSWs – Mapping Punjab; 2014.

Fig 6.7.1 to Fig 6.7.4 present spots maps for the ten cities mapped for FSWs in Punjab. All major spots of FSWs operations were plotted on city maps to provide a distribution of sex work in each city.

6.9.1 Lahore City.
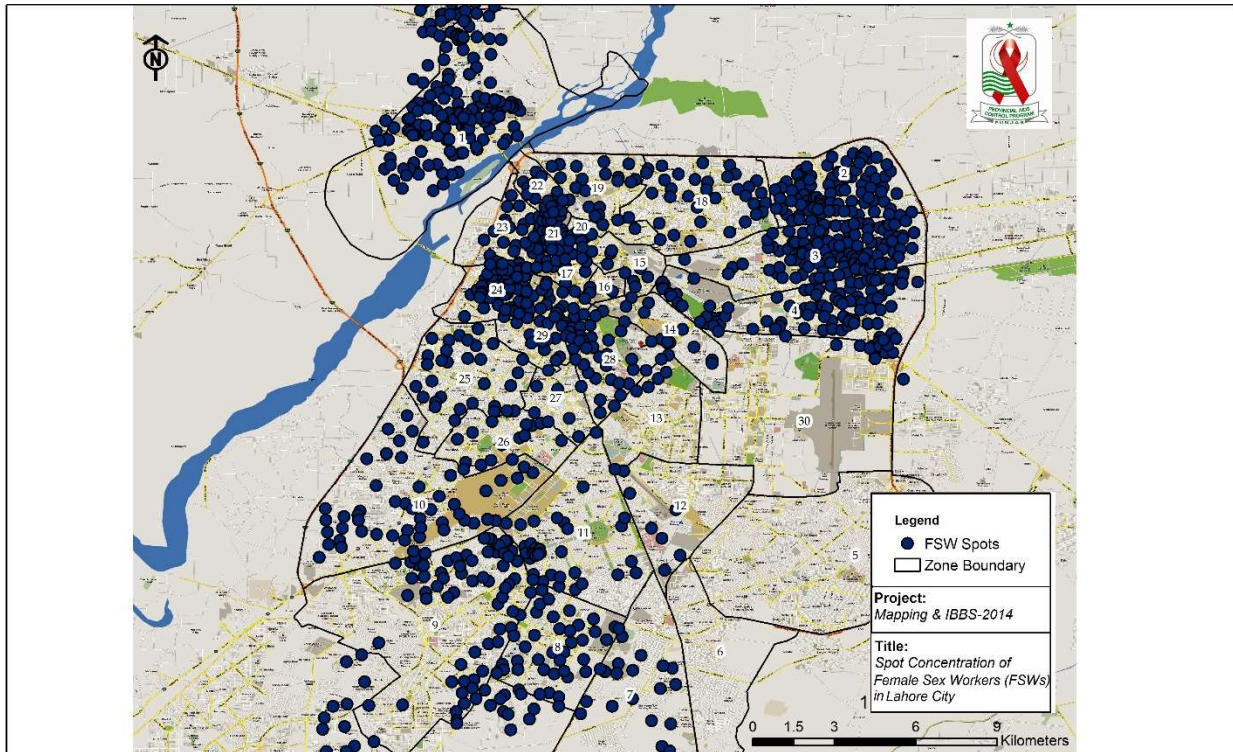
Map 12. FSWs Spots Distribution, Lahore City – Punjab Mapping Study, 2014.

6.9.2 Faisalabad City.
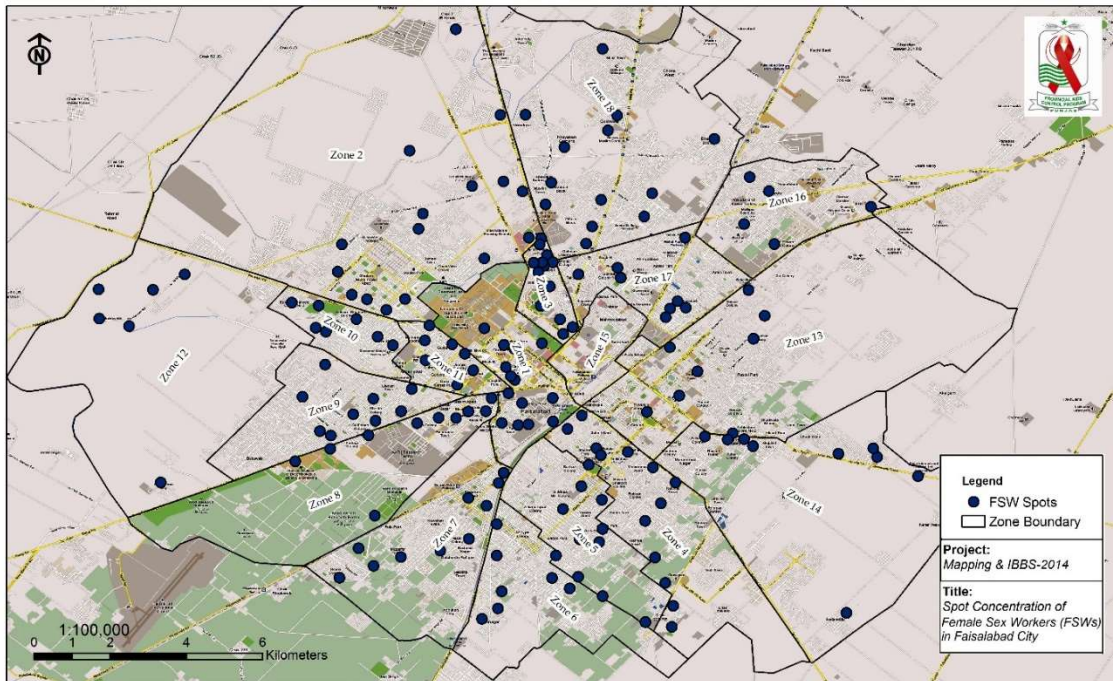
Map 13. FSWs Spots Distribution Faisalabad City – Punjab Mapping Study, 2014.

6.9.3 Multan City.
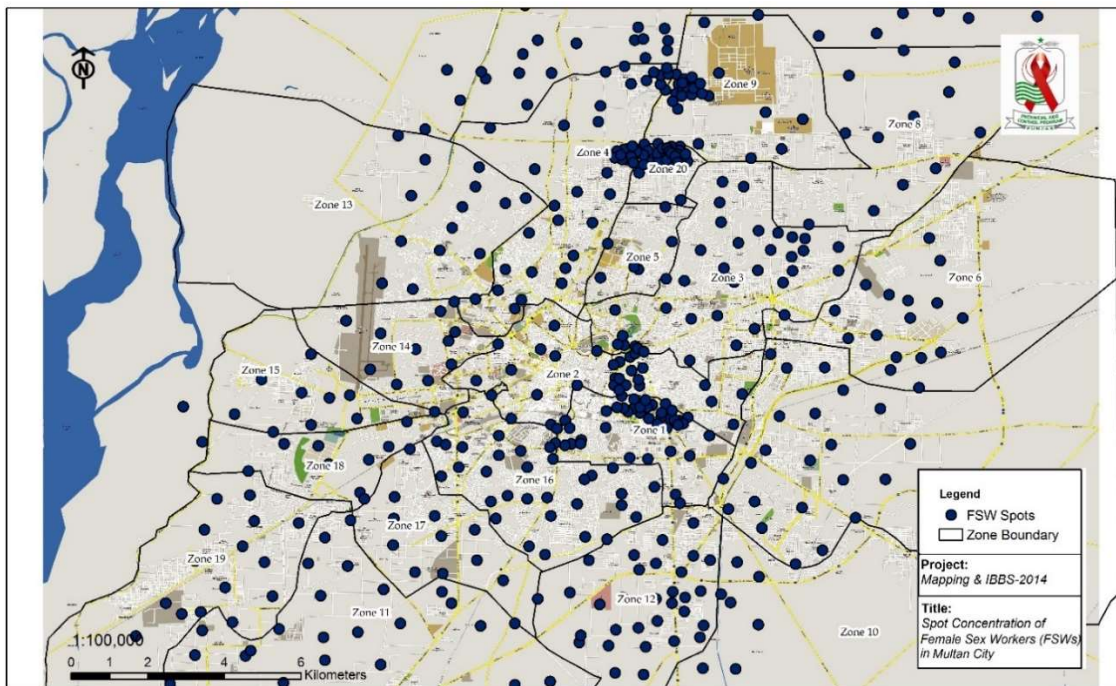
Map 14. FSWs Spots Distribution, Multan City – Punjab Mapping Study, 2014.

6.9.4 Sargodha City.

Map 15. FSWs Spots Distribution, Sargodha City – Punjab Mapping Study, 2014.

6.10 FSWs Comparison with Previous Round

The results of current mapping survey were compared with the results of the previous mapping studies, by comparing the cities mapped in both the rounds. A comparison of size estimates indicated a 16.60 percent (N=6282) increase in number of FSWs as compared to the last round. The number of spots has been doubled (50.78 percent rise) over the successive rounds, with non-significant change in the spot size.
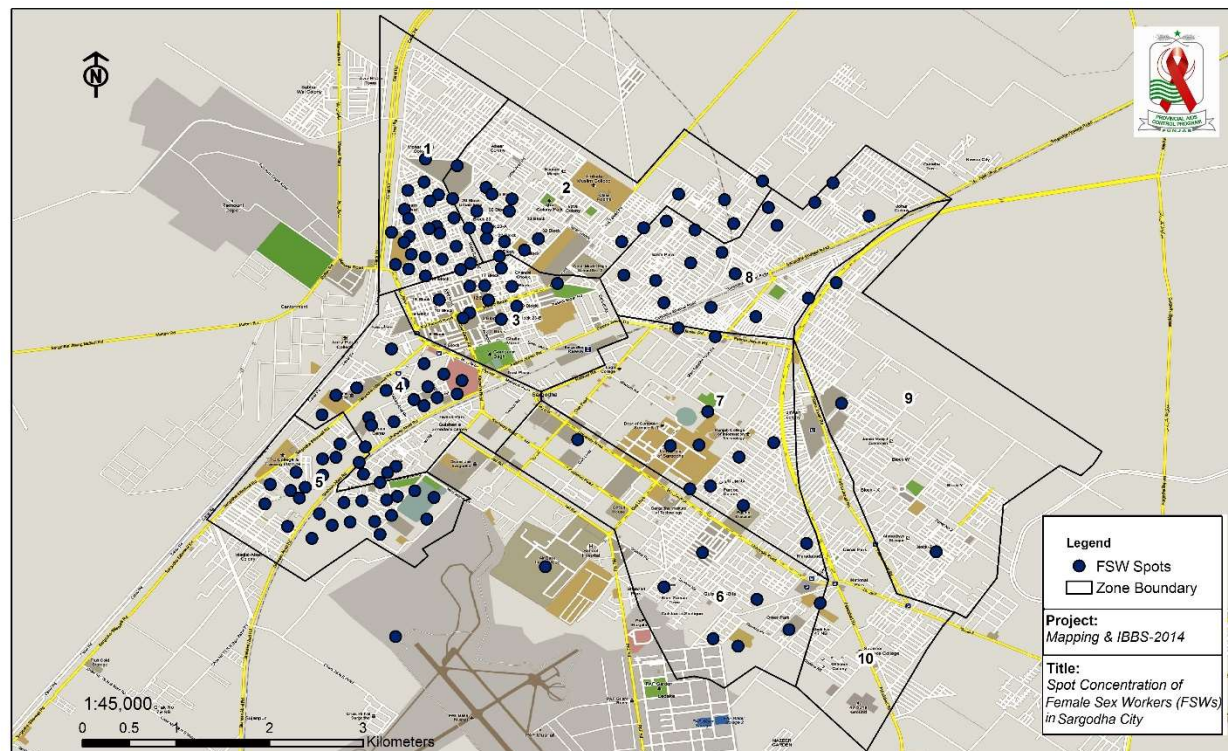
The mapping study indicated some significant changes in the organization of female sex work in the province. The highest proportion of FSWs were SBSWs (37.41 percent, N=16,499), followed by KKSWs (30.86 percent, N= 13,608). The sex work has become concealed, and operate independent of the pimps network operators. The scattered distribution of these FSWs makes them very hard to reach by those conducting surveillance as well as those providing outreach services.

Introduction of cell phone and expansion of mobile network across the country has revolutionized the sex industry, making it now easier for the FSWs to get access to their clients via cell phones,

without having to stand on streets to find clients. Yet it has become extremely difficult to map such FSWs since they are exceedingly mobile, use several phone numbers or change the numbers that they use. Thus FSWs can operate independently or through a network operator, aunty or pimp. Identifying FSWs through spots at which they find their clients has also become increasing difficult as not many FSWs are present at each spot for significant periods of time.
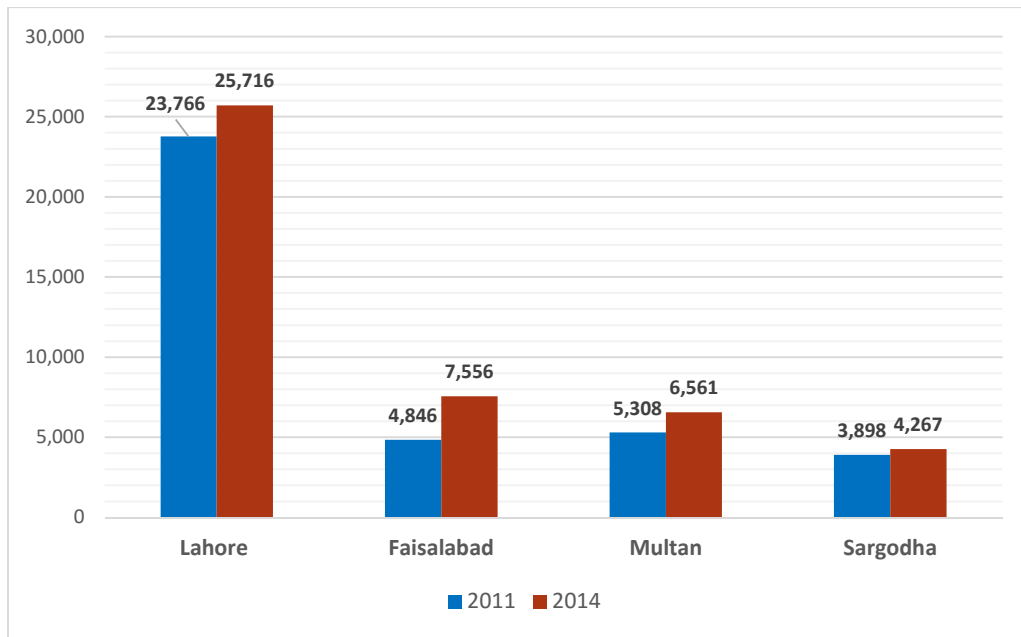

Figure 6. Comparison of FSWs Estimates; 2011 – 2014 – Punjab Mapping Study, 2014

7. Male Sex Workers (MSWs) – Results

The term relates to 'males who provide sexual services i.e. anal or oral, to other males in return of money or other financial benefits'. MSWs operate in the same manner as female sex workers, and usually are younger boys, who provide sexual services to male clients. The term MSW is of course, different from the term 'MSM' (men who have sex with men), which denotes all men who have sex with other men as a matter of preference or practice, regardless of their sexual identity or orientation.

7.1 Estimated Number of MSWs

Geographical mapping was conducted in four cities. The survey estimated an average of 5,436 MSWs (Minimum =3,792 & Maximum = 7,078), spread over 1,610 spots, in four cities. Faisalabad reported the highest number of MSWs (50.7 percent; N=2,756), followed by Lahore (28.37 percent; N=1,542).

Survey City	No of Zones	No of spots	MSWs (min)	MSWs (max)	MSWs (avg)	MSWs per spot	% MSWs
Lahore	29	507	1,263	1,820	1,542	3.0	28.37%
Faisalabad	18	781	1,681	3,831	2,756	3.5	50.70%
Multan	20	222	379	723	551	2.5	10.14%
Sargodha	10	100	469	704	587	5.9	10.80%
TOATAL	**77**	**1,610**	**3,792**	**7,078**	**5,436**	**3.7**	100%

Table 29. Estimated Number of MSWs, in four cities of Punjab – Punjab Mapping Study, 2014

7.2 MSWs Spots Distribution and Sizes

The spots for MSWs, "pick up points' or 'cruising sites', are specific locations where MSWs cruise and solicit clients for sex work, which usually takes place at a different location. The average spot size (number of MSWs at each spot) was quite small and only 3.7 MSWs were found to operate at each spot. The highest MSWs per spot was reported in Sargodha (5.9 MSWs per spot). The number of MSWs operating through spots in other cities was lesser, probably because of fewer prime locations and public places in these cities, to be used for solicitation and client pick up.

Zone wise distribution of MSWs in four cities, indicated wide variations between the zones, which should be used by the provincial program, to target HIV preventive service, for MSWs, in Punjab.

7.3 Estimated MSWs; Zone & Spot wise – Mapping Punjab; 2014.

Zone and spot wise distribution of MSWs, in four cities, remained as indicated in the tables below.

7.3.1 Lahore City

Zone	Town	No. of spots	MSWs Min.	MSWs Max.	MSWs Average	Average MSWs / Spot
Zone 1	Shahdara	19	34	56	45	**2.4**
Zone 2	Darogha wala	10	24	36	30	**3.0**
Zone 3	Dharam Pura	11	28	40	34	**3.1**
Zone 4	Mughal Pura	14	30	47	39	**2.8**
Zone 6	Kot Lakhpat	26	64	90	77	**3.0**
Zone 7	Chungi Amar Sadhu	27	64	95	80	**2.9**
Zone 8	TownShip	11	24	35	30	**2.7**
Zone 9	Johar Town	46	135	189	162	**3.5**
Zone 10	Thokar Niaz Baig	6	15	22	19	**3.1**
Zone 11	Faisal Town, Garden Town	14	29	51	40	**2.9**
Zone 12	Gulbarg II	14	36	55	46	**3.3**
Zone 13	Gulbarg III	22	49	71	60	**2.7**
Zone 14	Garhi Shahu	10	27	37	32	**3.2**
Zone 15	Bhaati Chowk	15	38	53	46	**3.0**
Zone 16	Gawal Mandi	15	35	53	44	**2.9**
Zone 17	Data Gunj Bakhsh	15	50	65	58	**3.8**
Zone 18	Baghban Pura	15	56	80	68	**4.5**
Zone 19	Badami Bagh	23	92	104	98	**4.3**
Zone 20	Shah Aalam	10	34	44	39	**3.9**
Zone 21	Texali Gate, Minar-e-Pak.	30	79	110	95	**3.2**
Zone 22	Sheranwala	11	17	28	23	**2.0**
Zone 23	Bilal Gunj	21	54	79	67	**3.2**
Zone 24	Krishan Nagar	34	83	119	101	**3.0**
Zone 25	Gulshan Ravi	22	41	63	52	**2.4**
Zone 26	Wahdat Colony	29	58	87	73	**2.5**
Zone 27	Muslim Town	11	26	41	34	**3.0**
Zone 28	Shadman	15	18	33	26	**1.7**
Zone 29	Samanabad	11	23	37	30	**2.7**
TOTAL		**507**	**1,263**	**1,820**	**1,542**	**3.0**

Table 30. Zone & Spot wise distribution of MSWs at Lahore – Punjab Mapping Study, 2014

7.3.2 Faisalabad City

Zone	Area / Locality	No. of spots	MSWs Min.	MSWs Max.	MSWs Average	Average MSWs / Spot
Zone 1	Lyallpur Town	25	54	145	100	4.0
Zone 2	Jinnah Town	48	119	273	196	4.1
Zone 3	Lyalpur Town	43	102	214	158	3.7
Zone 4	Iqbal Town	110	186	447	317	2.9
Zone 5	Iqbal Town	59	88	226	157	2.7
Zone 6	Iqbal Town	14	31	70	51	3.6
Zone 7	Iqbal Town	35	63	143	103	2.9
Zone 8	Jinnah Town	13	20	50	35	2.7
Zone 9	Jinnah Town	80	211	485	348	4.4
Zone 10	Jinnah Town	66	126	294	210	3.2
Zone 11	Jinnah Town	43	183	352	268	6.2
Zone 12	Jinnah Town	17	27	69	48	2.8
Zone 13	Madina Town	22	63	132	98	4.4
Zone 14	Madina Town	27	54	118	86	3.2
Zone 15	Madina Town	29	57	130	94	3.2
Zone 16	Madina Town	54	98	229	164	3.0
Zone 17	Madina town	34	77	169	123	3.6
Zone 18	Layalpur Town	62	122	285	204	3.3
TOTAL		**781**	**1,681**	**3,831**	**2,756**	**3.5**

Table 31. Zone & Spot wise distribution of MSWs at Faisalabad – Punjab Mapping Study, 2014.

7.3.3 Multan City.

Zone	Area / Locality	No. of spots	MSWs Min.	MSWs Max.	MSWs Average	Average MSWs / Spot
Zone 1	Mumtazabad	10	26	51	39	3.9
Zone 2	Shah Rukn-e-Alam	23	40	68	54	2.3
Zone 3	Shah Shammas	22	41	81	61	2.8
Zone 4	Lodhi Colony	10	16	30	23	2.3
Zone 5	Bipka Chowk	27	45	92	69	2.5
Zone 6	Chowk Kumharan	10	16	29	23	2.3
Zone 7	Basti Ghareeb Nawaz	19	32	59	46	2.4
Zone 9	Mati Tal Road	7	10	21	16	2.2
Zone 10	Bosan Road	3	5	9	7	2.3
Zone 11	Vehari Chowk	15	22	49	36	2.4
Zone 12	Suraj Kund Road	18	31	55	43	2.4
Zone 13	Bahawal Pur Chwk	7	11	20	16	2.2

Zone 16	Karam Town	22	36	65	51	2.3
Zone 17	Walaytabad	22	38	74	56	2.5
Zone 20	Ghareebabad	7	10	20	15	2.1
	TOTAL	222	379	723	551	2.5

Table 32. Zone & Spot wise distribution of MSWs at Multan – Punjab Mapping Study, 2014.

7.3.4 Sargodha City.

Zone	Area / Locality	No. of spots	MSWs Min.	MSWs Max.	MSWs Average	Average MSWs / Spot
Zone 1	Mohammadi Colony	6	37	57	47	7.8
Zone 2	Iqbal Colony	24	108	157	133	5.5
Zone 3	Company Bagh	1	7	10	9	8.5
Zone 4	Factory Area	23	108	156	132	5.7
Zone 5	Istaqlalabad Colony	13	57	83	70	5.4
Zone 6	Mian Tufail Town	6	25	38	32	5.3
Zone 7	Settelite Town	9	48	77	63	6.9
Zone 8	Islam Pura	9	42	71	57	6.3
Zone 9	New Satellite Town	1	5	8	7	6.5
Zone 10	Ghani Park	8	32	47	40	4.9
	TOTAL	100	469	704	587	5.9

Table 33. Zone & Spot wise distribution of MSWs at Sargodha – Punjab Mapping Study, 2014.

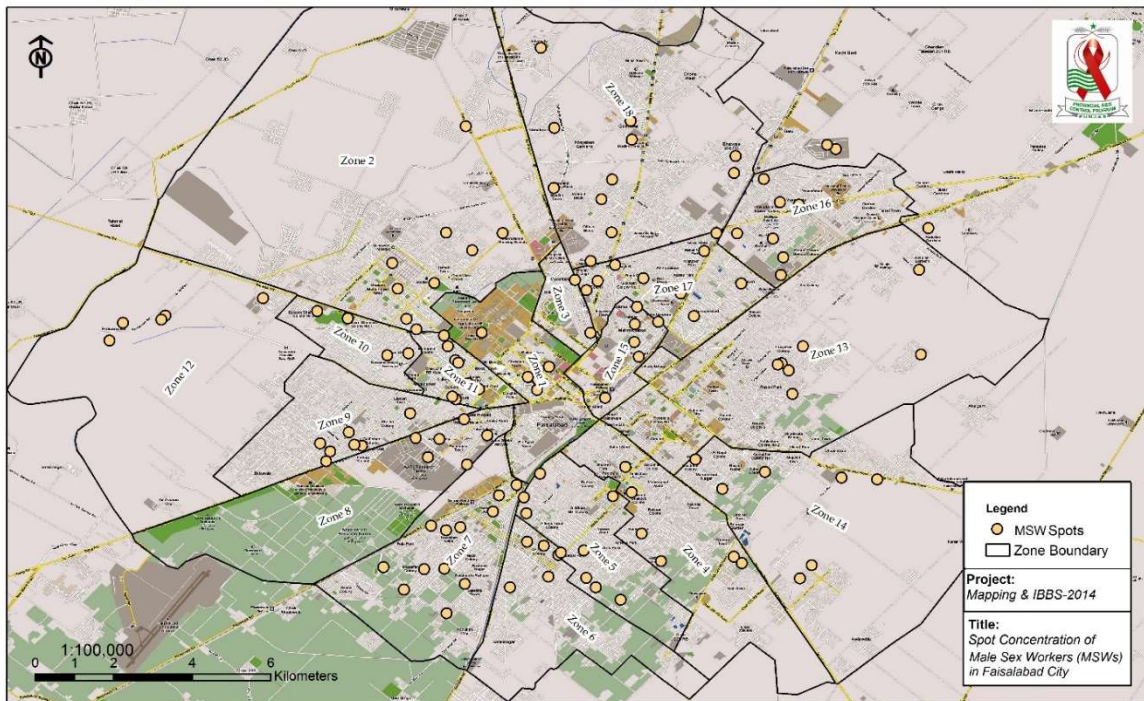### 7.4 Spot Maps for MSWs – Mapping Punjab; 2014.

Fig 7.4.1 to Fig 7.4.4 present spots maps for the ten cities mapped for MSWs in Punjab. All major spots of MSWs operations were plotted on city maps to provide a distribution of sex work in each city.
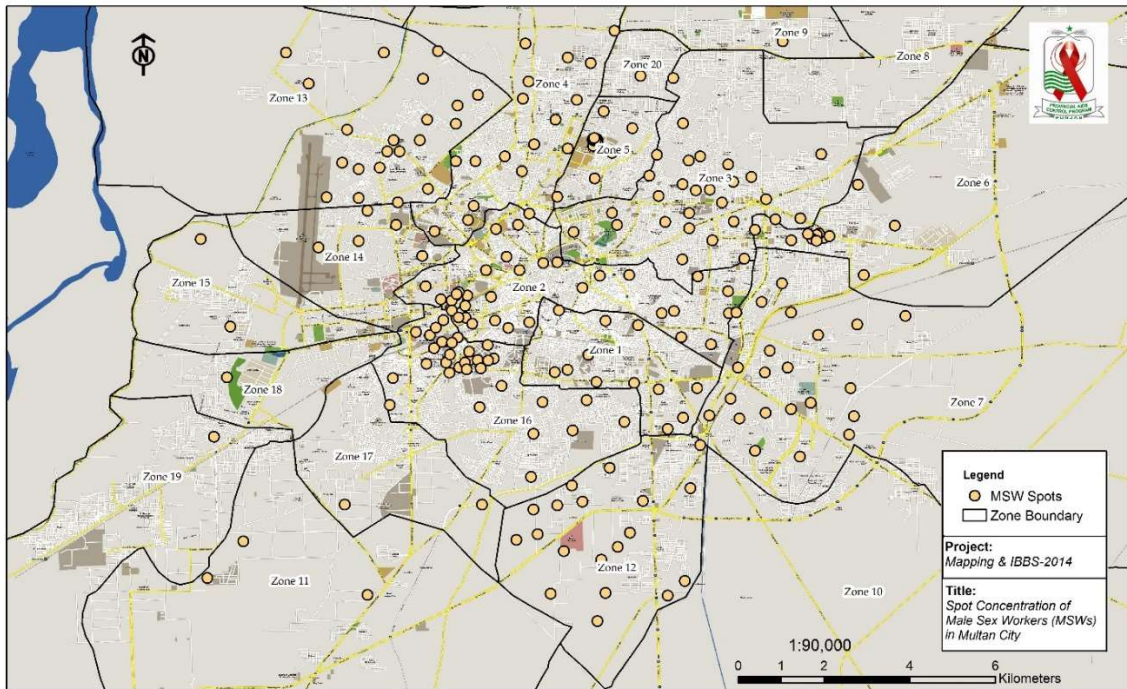
7.4.1 Lahore City.
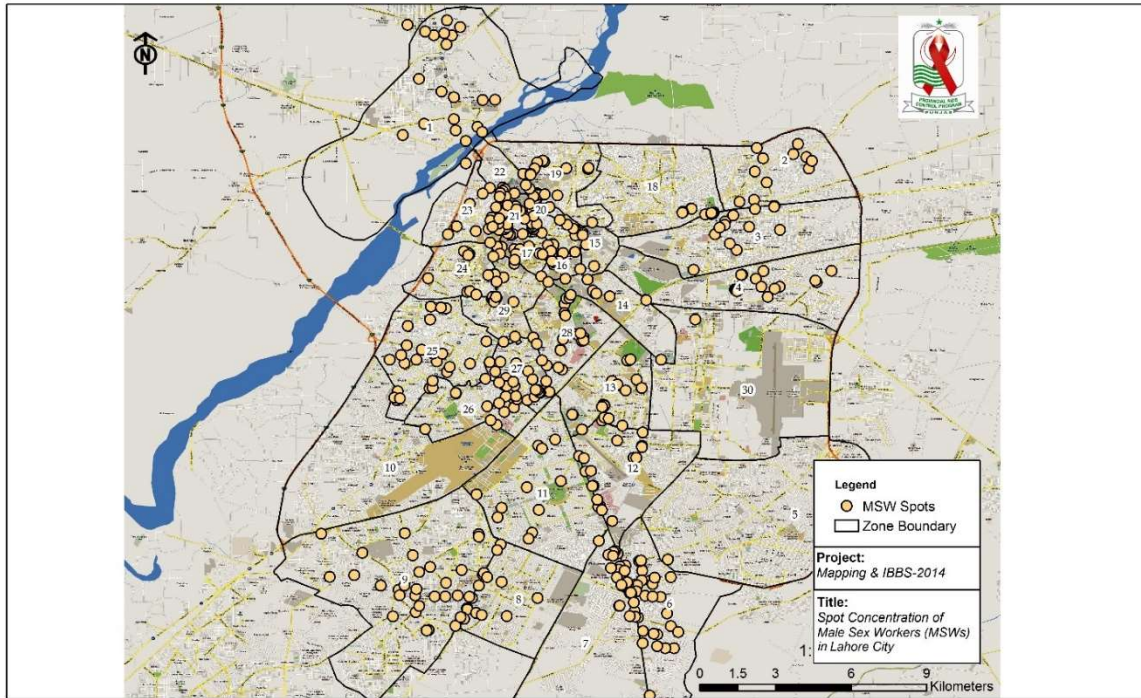
Map 16. MSWs Spots Distribution, Lahore City – Punjab Mapping Study, 2014.
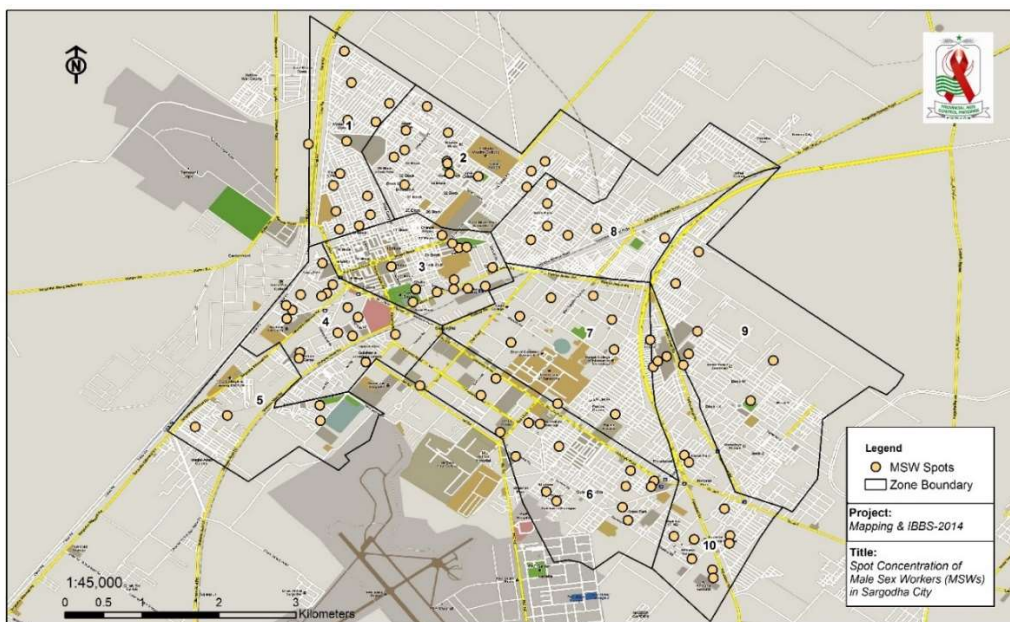
7.4.2 Faisalabad City.

Map 17. FSWs Spots Distribution, Faisalabad City – Punjab Mapping Study, 2014.

7.4.3 Multan City.

Map 18. FSWs Spots Distribution, Multan City – Punjab Mapping Study, 2014.

7.4.4 Sargodha City.

Map 19. FSWs Spots Distribution, Sargodha City – Punjab Mapping Study, 2014.

7.5 MSWs Comparison with Previous Results

Comparing the results of mapping round, with 2011 MSWs estimates, the total number increased in each of the city mapped in 2014. The percentage increased remained 22 percent (N=1344), while the percentage increase in number of spots was 56.6 percent (N=582). The results indicated a 60 percent (N=1,040), increase in number of MSWs in Faisalabad, with a 73 percent (N=214) increase in number of spots registered.

During the mapping survey the research teams, revisited the spots picked up during the previous mapping study, as well as instructed to use information about MSWs cruising sites and networks from other resources including service delivery programs and field workers who had worked with MSW programs. Major dynamics encountered included; the use of cell phones, the prevailing stigma they face and fear of the religious extremists, has changed the male sex work scene in Punjab and more and more of MSWs now work in hidden ways. Thus smaller numbers of MSWs now solicit clients on the streets. The mapping survey was not able to find any networks of MSWs, as seen in FSWs, and the presence of network operators/pimps for this group was not confirmed, the presence of such hidden networks cannot be over ruled.
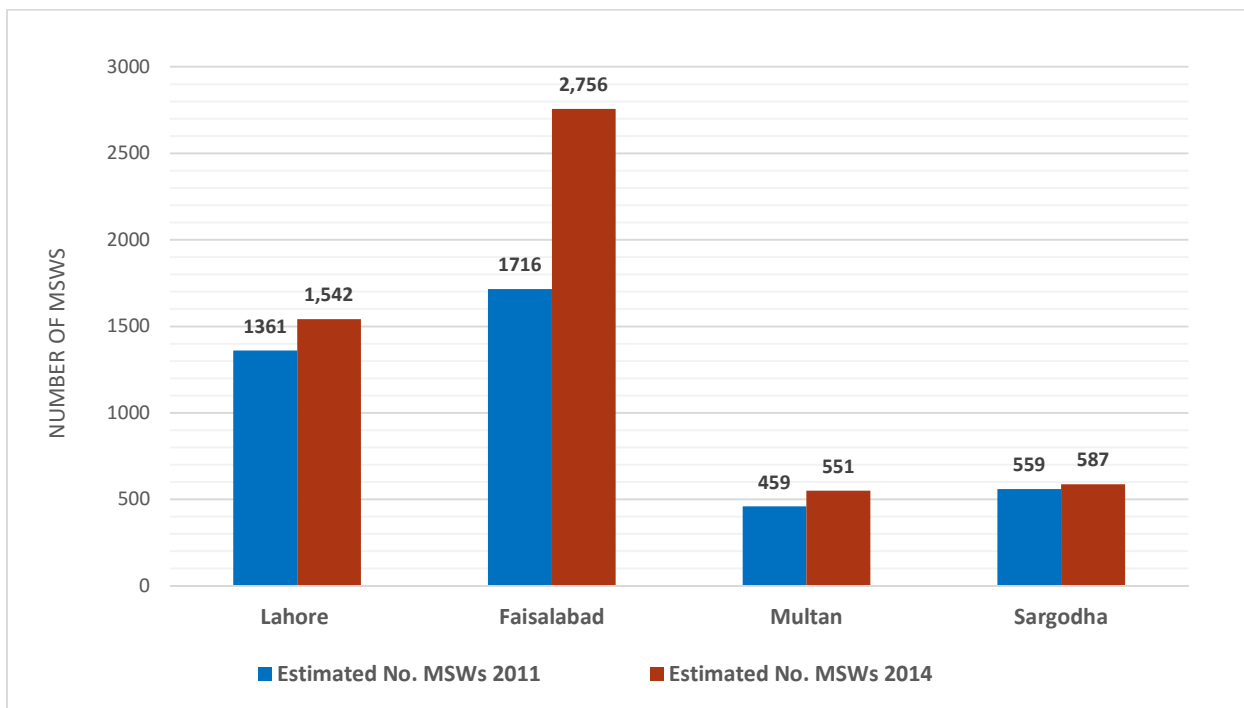

Figure 7. Comparison of MSWs Estimates; 2011 – 2014 – Punjab Mapping Study, 2014.

8. Hijra Sex Workers (HSW) – Results

Hijra' is a unique form of gender role expression in South Asia and is an umbrella term used for individuals who are transgender, trans-sexual, or bi-sexual, and identify as female, although most often biologically male.

Two major typologies of hijras are identified in Punjab including 'khusra'; (eunuch; individuals who have been castrated or, rarely, born with a sexual deformity) and 'Zanana' (transgender; a biological male who identifies as a female). Hijra communities are extremely well defined and close-knit groups governed by a 'guru' (literally meaning a teacher or a spiritual leader) who adopts and takes up a hijra as his 'chela'(student) to include in the hijra community. The chela usually lives under supervision of the guru, shares his income with the guru, and overtime becomes a guru himself.

8.1 Estimated Number of HSWs and Gurus

The mapping survey estimated, a total number of 13,209 hijra sex workers in four cities. In addition to the HSWs the mapping survey also estimated 1,454 gurus in the said cities. The highest number of HSWs were indicated at Faisalabad (38.9 percent, N=5,147), followed by Lahore (32.93 percent, N=4,350) and Multan (21.89, N=2,891) respectively.

City	No. of Gurus	Spots	HB HSW (avg)	DB HSW (avg)	Total HSW (avg)	% HSWs
Lahore	735	591	3,460	890	4,350	32.93%
Faisalabad	381	1,014	4,428	719	5,147	38.97%
Multan	231	356	1,717	1174	2,891	21.89%
Sargodha	107	126	821	0	821	6.22%
TOTAL	1,454	2,087	10,426	2,783	13,209	100.00%

Table 34. Estimated number of HSWs in four cities of Punjab – Punjab Mapping Study, 2014.

8.2 Major Typologies of HSWs

Two major types i.e., home based HSWs and dera based HSWs were identified, based on the ways in which they operate. Although every hijra is associated with a guru and a dera, nearly 10,426 HSWs were found to live in their homes (most often with families), and only visited deras for socializing with community members and/or sex work. On the other hand a much smaller number of HSWs i.e., 2,783, were living in deras.

8.3 Networks of HSWs

The extent of the HSW network was analyzed according to the linkages between HSWs, gurus and deras. Unique among sex workers communities in Pakistan, the hijra community is strongly linked in most cities, and each guru knew of several other gurus and HSWs. It was also observed in field work that hijra network is quite strong and connected to each other.

8.4 Distribution of Deras and HSWs Spots

All major deras and spots in a four cities of Punjab, plotted on geographical maps, which are shown below.

8.5 Zone Distribution of HSW's with Cities

Zone wise distribution of HSWs, in four cities mapped is indicated below.

8.5.1 Lahore City

Zone	Town	Home			Dera			Total
		Min.	Max.	Aver.	Min.	Max.	Aver.	
Zone 1	Shahdara	136	193	165	42	55	49	**213**
Zone 2	Darogha wala	141	191	166	35	55	45	**211**
Zone 3	Dharam Pura	82	110	96	44	63	54	**150**
Zone 4	Mughal Pura	70	89	79	36	45	41	**120**
Zone 6	Kot Lakhpat	78	113	96	39	75	57	**153**
Zone 7	Chungi Amar Sadhu	143	202	173	6	8	7	**180**
Zone 8	TownShip	59	85	72	10	15	13	**85**
Zone 9	Johar Town	96	135	115	15	20	18	**133**
Zone 10	Thokar Niaz Baig	91	135	113	25	40	33	**146**
Zone 11	Faisal Town, Garden Twn.	181	263	222	18	24	21	**243**
Zone 12	Gulbarg II	72	105	89	28	55	42	**130**
Zone 13	Gulbarg III	228	322	275	35	65	50	**325**
Zone 14	Garhi Shahu	36	51	44	29	80	55	**98**
Zone 15	Bhaati Chowk	79	112	96	40	90	65	**161**
Zone 16	Gawal Mandi	66	90	78	15	55	35	**113**
Zone 17	Data Gunj Bakhsh	43	60	52	46	52	49	**101**
Zone 18	Baghban Pura	94	135	115	100	130	115	**230**
Zone 19	Badami Bagh	167	241	204	34	58	46	**250**
Zone 20	Shah Aalam	45	61	53	7	12	10	**63**
Zone 21	Texali Gate, Minar-e-Pak.	79	108	94	16	30	23	**117**
Zone 22	Sheranwala	73	104	89	5	10	8	**96**
Zone 23	Bilal Gunj	50	68	59	5	10	8	**67**

Zone 24	Krishan Nagar	161	212	187	5	11	8	**195**
Zone 25	Gulshan Ravi	122	159	141	7	13	10	**151**
Zone 26	Wahdat Colony	103	139	121	5	12	9	**130**
Zone 27	Muslim Town	109	154	132	5	11	8	**140**
Zone 28	Shadman	155	200	178	0	0	0	**178**
Zone 29	Samanabad	136	190	163	11	22	17	**180**
TOTAL		**2,894**	**4,026**	**3,460**	**663**	**1,116**	**890**	**4,350**

Table 35. Estimated number of HSWs (Home & Dera) at Lahore – Punjab Mapping Study, 2014.

8.5.2 Faisalabad City

Zone	Area / Locality	Home			Dera			Total
		Min.	Max.	Aver.	Min.	Max.	Aver.	
Zone 1	Lyallpur Town	86	168	127	64	135	100	**227**
Zone 2	Jinnah Town	149	280	215	25	75	50	**265**
Zone 3	Lyalpur Town	145	281	213	15	32	24	**237**
Zone 4	Iqbal Town	405	725	565	4	5	5	**570**
Zone 5	Iqbal Town	237	516	377	24	34	29	**406**
Zone 6	Iqbal Town	42	83	63	70	85	78	**140**
Zone 7	Iqbal Town	246	422	334	20	35	28	**362**
Zone 8	Jinnah Town	69	163	116	3	7	5	**121**
Zone 9	Jinnah Town	205	408	307	17	35	26	**333**
Zone 10	Jinnah Town	237	489	363	75	175	125	**488**
Zone 11	Jinnah Town	195	422	309	30	70	50	**359**
Zone 12	Jinnah Town	67	153	110	55	70	63	**173**
Zone 13	Madina Town	67	125	96	20	25	23	**119**
Zone 14	Madina Town	200	403	302	25	70	48	**349**
Zone 15	Madina Town	141	302	222	35	70	53	**274**
Zone 16	Madina Town	125	260	193	5	10	8	**200**
Zone 17	Madina town	173	372	273	1	5	3	**276**
Zone 18	Layalpur Town	166	329	248	4	8	6	**254**
TOTAL		**2,955**	**5,901**	**4,428**	**492**	**946**	**719**	**5,147**

Table 36. Estimated number of HSWs (Home & Dera) at Faisalabad – Punjab Mapping Study, 2014.

8.5.3 Multan City

Zone	Area / Locality	Home			Dera			Total
		Min.	Max.	Aver.	Min.	Max.	Aver.	
Zone 1	Mumtazabad	92	138	115	112	260	186	**301**

Zone	Area / Locality	Min.	Max.	Aver.	Min.	Max.	Aver.	Total
Zone 2	Shah Rukn-e-Alam	165	229	197	130	228	179	**376**
Zone 3	Shah Shammas	87	129	108	100	145	123	**231**
Zone 4	Lodhi Colony	109	148	129	35	75	55	**184**
Zone 5	Bipka Chowk	117	165	141	30	85	58	**199**
Zone 6	Chowk Kumharan	183	257	220	63	85	74	**294**
Zone 7	Basti Ghareeb Nawaz	114	148	131	75	124	100	**231**
Zone 8	Mati Tal Road	46	67	57	6	30	18	**75**
Zone 9	Bosan Road	48	62	55	6	40	23	**78**
Zone 10	Vehari Chowk	58	76	67	45	85	65	**132**
Zone 11	Suraj Kund Road	56	93	75	36	65	51	**125**
Zone 12	Bahawal Pur Chwk	57	85	71	35	55	45	**116**
Zone 13	Karam Town	69	100	85	110	220	165	**250**
Zone 16	Walaytabad	121	160	141	6	25	16	**156**
Zone 17	Ghareebabad	82	121	102	10	15	13	**114**
Zone 20	Shalimar Colony	21	31	26	5	6	6	**32**
TOTAL		**1,425**	**2,009**	**1,717**	**804**	**1,543**	**1,174**	**2,891**

Table 37. Estimated number of HSWs (Home & Dera) at Multan – Punjab Mapping Study, 2014.

8.5.4 Sargodha City

Zone	Area / Locality	Home			Dera			Total
		Min.	Max.	Aver.	Min.	Max.	Aver.	
Zone 1	Mohammadi Colony	12	34	23	34	65	50	**73**
Zone 2	Iqbal Colony	9	14	12	12	16	14	**25**
Zone 3	Company Bagh	11	34	23	71	86	79	**101**
Zone 4	Factory Area	61	73	67	104	135	120	**187**
Zone 5	Istaqlalabad Colony	12	17	15	18	24	21	**36**
Zone 6	Mian Tufail Town	14	29	22	52	67	60	**81**
Zone 7	Settelite Town	12	25	19	22	32	27	**46**
Zone 8	Islam Pura	17	25	21	26	37	32	**53**
Zone 9	New Satellite Town	15	36	26	34	42	38	**64**
Zone 10	Ghani Park	32	45	39	104	136	120	**158**
TOTAL		**195**	**332**	**264**	**476**	**640**	**558**	**821**

Table 38. Estimated number of HSWs (Home & Dera) at Sargodha – Punjab Mapping Study, 2014.

8.6 Spot Maps for HSWs – Mapping Punjab; 2014.

Fig 8.6.1 to Fig 8.6.4 present spots maps for the four cities mapped HSWs in Punjab. All major spots of HSWs operations were plotted on city maps to provide a distribution of sex work in each city.

8.6.1 Lahore City.
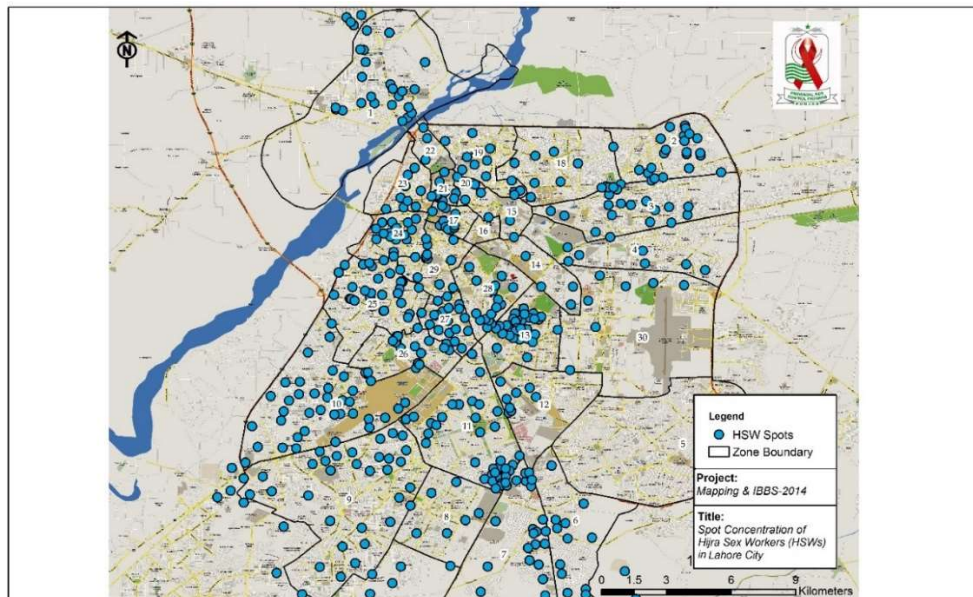
Map 20. HSWs Spots Distribution, Lahore City – Punjab Mapping Study, 2014.
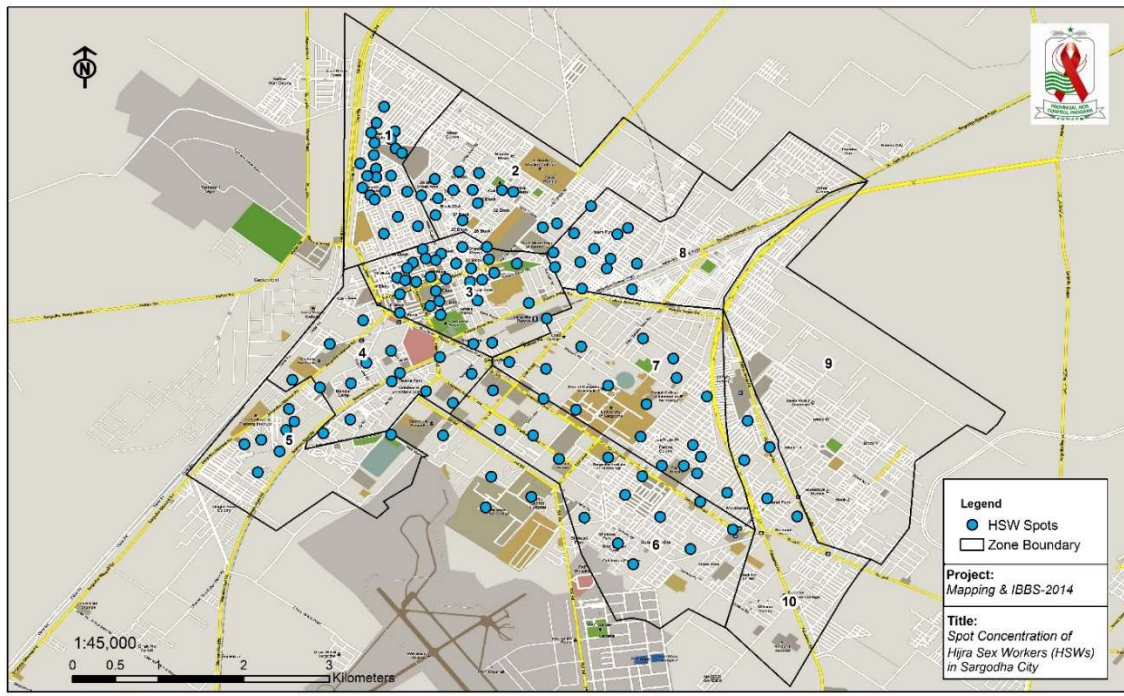
8.6.2 Faisalabad City.
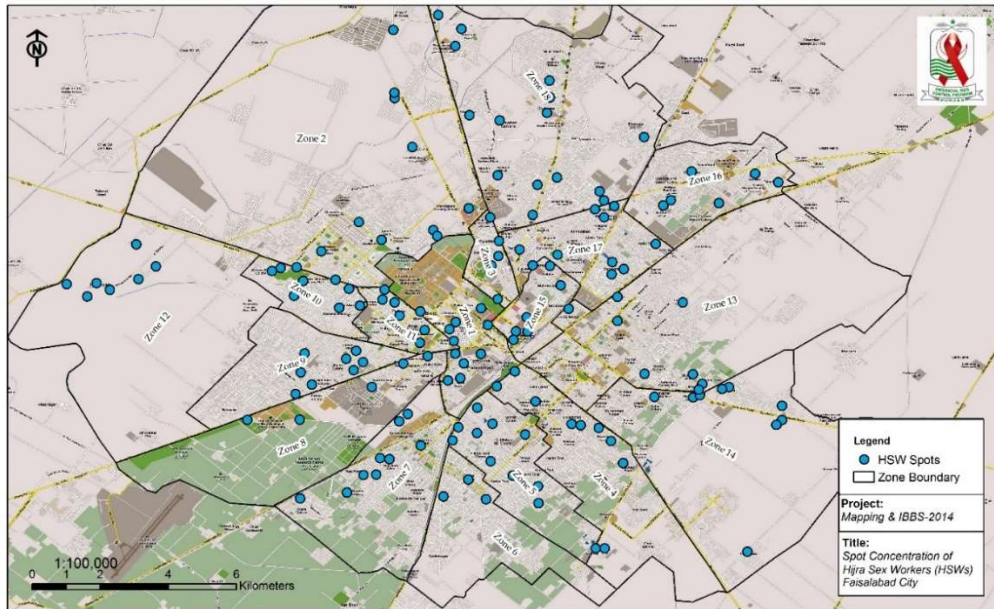
Map 21. HSWs Spots Distribution, Faisalabad City – Punjab Mapping Study, 2014.

8.6.3 Multan City.
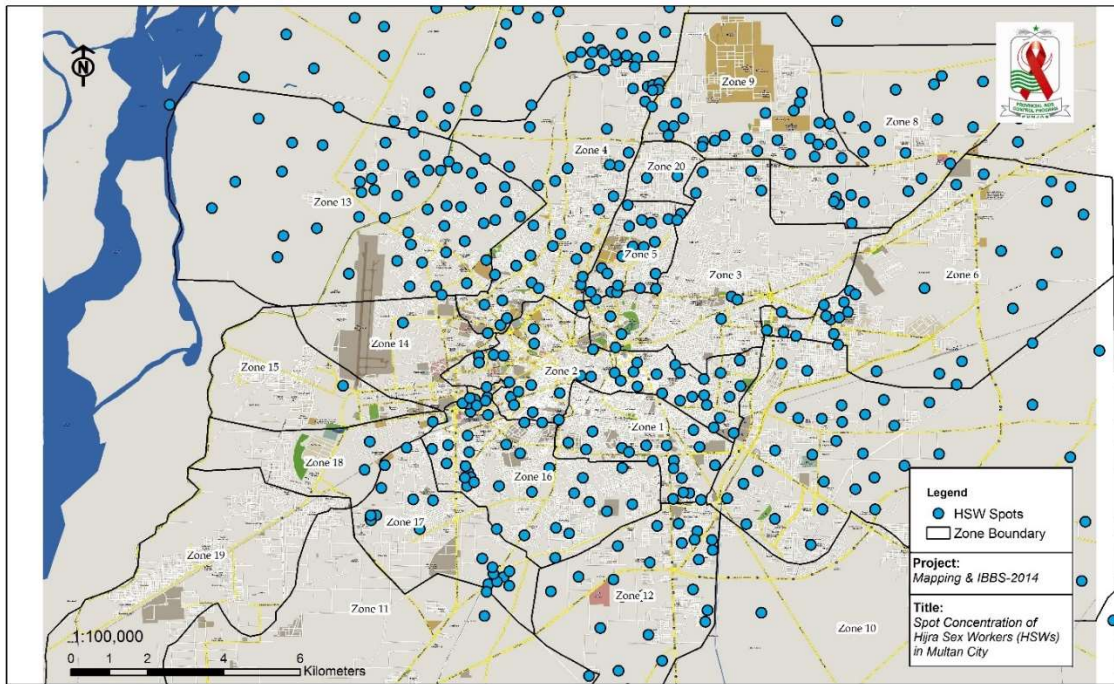
Map 22. HSWs Spots Distribution, Multan City – Punjab Mapping Study, 2014.

8.6.4 Sargodha City.

Map 23. HSWs Spots Distribution, Sargodha City – Punjab Mapping Study, 2014.

8.7 HSWs Comparison with Previous Results

The mapping results of current round were compared with previous round (Mapping 2011). The result indicated an increase of 47.62 percent (N=4,911), in number of HSWs in four cities, as compared to the previous round. The increase in number of gurus remained 11.0 percent during the same period.
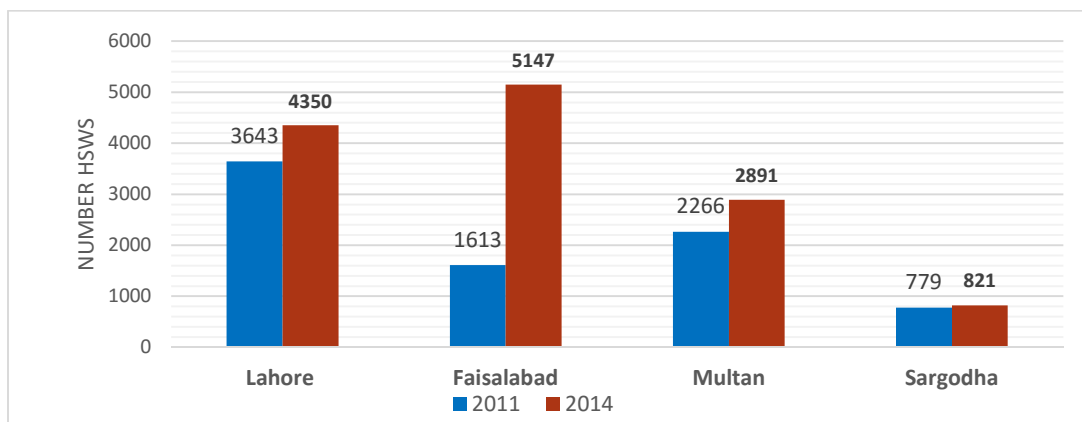
Figure 8. Comparison of HSWs Estimates, in four Cities in Punjab – Punjab Mapping Study, 2014.

9. CONCLUSION

Mapping exercise of 2014 in Punjab has shown different emerging patterns. First and foremost are the numbers of L1 and L2 interviews (30,860) which certainly increase the confidence level on mapping activity and the overall results. While the number of estimates of MARPs has increased, certain cities have also emerged as the ones which require utmost attention in terms of service delivery preventive programs. Faisalabad is one such city which has the highest number of IDUs, MSWs and HSWs. Gujranwala has the highest number of IDUs per spot. Similarly Lahore has the highest number of FSWs and among them street based category is more than half (58.3%). The mapping study has also shown how important is the role of NWOs especially in case of FSWs and HSWs. This is a food for thought for program planners and stakeholders. To effectively target hidden groups as well as the widely visible IDUs group the number and quality of outreach workers in service delivery programs must work in cohesion and target the maximum number of MARPs for HIV prevention activities.

10. STUDY LIMITATIONS

Like any study this one also had some limitations:

1. As is the nature of mapping exercise, the chance of double counting and over estimation cannot be ruled out mostly due to the mobile nature of this population or the field teams visiting the spots at different times of the day or on different days of the week. However, this was minimized by implementing effective monitoring and also ensuring that visits of the spots were conducted at peak hours.

2. The mapping study captures, only the current MARPs (whereas the definition of MARPs estimation purposes tends to be numbers who practiced in the past one year). At any given point in time this can miss a certain proportion of people who leave the population (e.g. stop injecting, stop selling sex), but it will also capture a portion of the population which has recently entered. To the extent that turnover is steady, with approximately equal numbers entering and leaving the population, the effects of the turnover should not drastically affect the estimates;

3. The mapping methodology assumed that the majority of MARPs actually frequent or operate in public venues, or at the spots. To the extent that MARPs are "hidden" (e.g. IDUs who inject only in private places, or sex workers who connect with their clients outside of mapped solicitation sites e.g. through phone, internet or other private channels), some unknown portion of each of these populations could have been missed by the mapping survey, resulting in a possible underestimation of the numbers;

4. The research included the "mappable population" at a specific period in time depending on the frequency with which people visit the sites. The mapping occurred, during a one-week time period, it might have captured the majority of people who visit the sites that week, but is likely to miss the people who visit less frequently because field teams typically do not spend more than one week at any given site;

5. Depending on how MARPs are defined, (for example IDUs were defined as all those who had injected in the past year), it could not be possible to estimate that number without making an adjustment for those who frequent sites less often.

11. RECOMMEDATIONS

1. The scientific knowledge, observed through the research, could be used extensively using "evidence-based approaches" for the development and implementation of high-impact prevention programs for MARPs, through identification of cities, where services are needed. While, sheer sizes of MARPs could be the driving factor to make such decisions;

2. In resource constrained setting, the Punjab AIDS Control Program, should use an approach to target cities, where coverage is needed the most, and proves cost effective;

3. Further analysis of mapping results of IDUs, FSWs, HSWs and MSWs, indicated that by providing services in selected cities 80% of MARPs can be covered which can certainly help in curtailing the spread of HIV epidemic in the province;

4. The same principles of coverage could be applied for provision of services within a city i.e., similar analyses conducted and provided in the report should be utilized to identify zones/towns where provision of services will provide a better coverage to include a higher number of key population members;

5. The mapping results also showed a pattern of geographical distribution at 'hot spots' for each MARPs surveyed, and service delivery packages need to follow these patterns so that maximum population could be covered;

6. A list of all 'hot spots' is presented by the study and this information could be used further to explore the dynamics of each spot by conducting spot analyses to engage more key population members available at each spot for provision of comprehensive services.

Annexures

Annexure I – L1 Mapping Form

AP Consultancies
Public Health Development Specialist

Mapping and IBBS - 2014

Punjab AIDS Control Program
Department of Health; Government of the Punjab

FORM No.

MAPPING AND INTEGRATED BIOLOGICAL & BEHAVIOURAL SURVEILLANCE (IBBS)
FOR KEY POPULATIONS IN SELECTED CITIES OF PUNJAB

LEVEL-1 FORM

Date:

Time Taken (Minutes)

City: _____ U/C: _____ Town: _____

Field Worker: ID: _____ Sign: _____

Field Supervisor: ID: _____ Sign: _____

Details of Key Informants (KI)

KI No.: _____ Name: _____ (Optional)

Contact Details: _____ (Optional)

Type: 1=Primary 2=Secondary 3=Tertiary **Gender:** 1=Male 2=Female 3=Transgender

Sr. No.	Spot Name	FSWs				MSWs			HSWs			IDUs		
		Type [1]	Time	Min	Max	Time	Min	Max	Time	Min	Max	Time	Min	Max
1														
2														
3														
4														
5														
6														
7														
8														

1. Street Based   2. Home Based   3. Kothikhana Based   4. Brothel Based   5. Hotel Based   6. Mobile Phone Based   7. Others

Annexure II – L1 Mapping Form for IDUs

Ap Consultancies
Public Health Development Specialist

Mapping and IBBS - 2014

Punjab AIDS Control Program
Department of Health; Government of the Punjab

FORM No. ☐☐ ☐☐ ☐☐

MAPPING AND INTEGRATED BIOLOGICAL & BEHAVIOURAL SURVEILLANCE (IBBS)
FOR KEY POPULATIONS IN SELECTED CITIES OF PUNJAB

LEVEL-1 FORM

Date: ☐☐ ☐☐ ☐☐☐☐   Time Taken (Minutes) ☐

City: _____ U/C: _____ Town: _____

Field Worker: ID: _____ Sign: _____

Field Supervisor:ID: _____ Sign: _____

Details of Key Informants (KI)

KI No.: _____ Name: _____ (Optional)

Contact Details: _____ (Optional)

Type: 1=Primary 2=Secondary 3=Tertiary   Gender: 1=Male 2=Female 3=Transgender

Sr. No.	Spot Name	IDUs		
		Time	Min	Max
1				
2				
3				
4				
5				
6				
7				
8				

Annexure III – L2 Mapping

LEVEL-2 FORM

FORM No. ☐ ☐ ☐ ☐

Mapping and IBBS – 2014

Punjab AIDS Control Program
Department of Health;
Government of the Punjab

AP Consultancies
Public Health Development Specialist

MAPPING AND INTEGRATED BIOLOGICAL & BEHAVIOURAL
SURVEILLANCE (IBBS)
FOR KEY POPULATIONS IN SELECTED CITIES OF PUNJAB

Date: ☐ ☐ ☐ ☐

KI No.: _____   TYPE (Circle) :   Primary   Secondary

City: _____ U/C: _____ Town: _____

KI Name and Contact Details: (Optional) _____

Field Worker ID: _____ Sign: _____   _____

Field Supervisor ID: _____ Sign: _____   _____

Spot Name: _____

Gender (Circle): Male   Female   TG   Education (in years): _____

Spot Validated: ☐ Yes   ☐ No

Profession: _____

Risk Group	FSWs	MSWs	Hijra	IDUs
Typology 1				
Total estimate on a usual day (min)				
Total estimate on a usual day (max)				
Operate at other spot as well (YES/NO)				
Timing (daily) of HRA at the spot				
How do you contact/access your clients the Most 2				
How long is the spot functional (in months)				
Where do u currently live 3				
Seeking Risk (Please tick)				
Taking risk (Please tick)				
Involved in any other HRA (Please tick)	Injecting Drug: Yes No	Injecting Drug: Yes No	Injecting Drug: Yes No	Sex Work: Yes No

1. For FSWs 1. Street Based   2. Home Based   3. Kothikhana Based   4. Brothel Based   5. Hotel Based   6. Mobile Phone Based   7. Other

For IDUs 1. Street Based   2. Home Based   **For Hijras**   1. Dera Based   2. Home Based

2. Only for Sex Workers 1. Street Spot   2. Pimp/Network Operator/Guru   3. Mobile Phone   4. Other SWs   5. Old Clients   6. Other

3. Only for HSWs 1. Home   2. Dera

Annexure IV – L2 Mapping for IDUs.

LEVEL-2 FORM

FORM No.

Mapping and IBBS - 2014

Punjab AIDS Control Program

Department of Health;

Government of the Punjab

MAPPING AND INTEGRATED BIOLOGICAL & BEHAVIOURAL SURVEILLANCE (IBBS) FOR KEY POPULATIONS IN SELECTED CITIES OF PUNJAB

Date:

City: _____ U/C: _____ Town: _____

Field Worker ID: _____ Sign: _____

Field Supervisor ID: _____ Sign: _____

Spot Name: _____

Spot Validated: [ ] Yes [ ] No

KI No.: _____ **TYPE** (Circle) : Primary   Secondary

KI Name and Contact Details: (Optional) _____

_____

_____

Gender (Circle): Male   Female   TG   **Education** (in years): _____

Profession: _____

Risk Group	IDUs
Typology 1	
Total estimate on a usual day (min)	
Total estimate on a usual day (max)	
Operate at other spot as well (YES/NO)	
Timing (daily) of HRA at the spot	
How long is the spot functional (in months)	
Seeking Risk (Please tick)	
Taking risk (Please tick)	
Involved in any other HRA (Please tick)	Sex Work: Yes No

For IDUs   1. Street Based   2. Home Based

Annexure V – Network Mapping Form.

NETWORKING FORM - FSWs

AP Consultancies — Public Health Development Specialist

FORM No. [ ][ ] [ ][ ] [ ][ ]

Date:	**KI No.**: _____ **TYPE** (Circle) : Primary Secondary
City: _____ U/C: _____ Town: _____	**KI Name and Contact Details:** (Optional) _____
Field Worker ID: _____ Sign: _____	_____
Field Supervisor ID: _____ Sign: _____	_____
Spot Name: _____	**Gender (Circle):** Male Female TG **Education** (in years): _____
Spot Validated: Yes No	**Profession:** _____

INFORMATION ABOUT THE KI (The KI should be FSWs herself)	Network Operator	Pimp/Madam/Antie
KI No.		
KI Type (Please circle)		
Contect Information		
Gender KI Name (Optiona)		
Education Profession		
Total No. of FSWs, in direct contract with the KI in that zone		
Total No. of FSWs, in direct contract with the KI in that area,		
What proportion of FSWs operate through pick up points		
Total number of Daras in the area		
Total number of Daras in the city		
SPOT INFORMATION		
How long is this spot functional (in months)		
Total number of FSWs at this spot		
Full time estmates (Min. - Max.) at the spot		
Part time estimates (Min. - Max.) at the spot		
Seeking Risk (Please tick)		
Taking Risk (Please tick)		
Timing (daily) of HRA at the spot		
WAS THIS SPOT VALIDATED (Please tick appropiate box.)	YES	NO.

Annexure VI – Network Mapping Form.

AP Consultancies Public Health Development Specialist

LEVEL-2 FORM

FORM No.

Date:	KI No.: _____ TYPE (Circle) : Primary Secondary
City: _____ U/C: _____ Town: _____	KI Name and Contact Details: (Optional) _____
Field Worker ID: _____ Sign: _____	_____
Field Supervisor ID: _____ Sign: _____	
Spot Name: _____	Gender (Circle): Male Female TG Education (in years): _____
Spot Validated: Yes No	Profession: _____

INFORMATION ABOUT THE KI (The KI should be TG/HIJRA herself)	Guru	Hijra
KI No.		
KI Type (Please circle)		
Contect Information		
GenderKI Name (Optiona)		
Education Profession		
Total No. of TGs/Hijras, in direct contract with the KI in that zone		
Total No. of TGs/Hijras, in direct contract with the KI in that area, but live in other zone		
What proportion of TGs/Hijras operate through pick up points		
Total number of Daras in the area		
Total number of Daras in the city		
SPOT INFORMATION		
How long is this spot functional (in months)		
Total number of Hijras/TGs at this spot		
Full time estmates (Min. - Max.) at the spot		
Part time estimates (Min. - Max.) at the spot		
Seeking Risk (Please tick)		
Taking Risk (Please tick)		
Timing (daily) of HRA at the spot		
WAS THIS SPOT VALIDATED (Please tick appropiate box.)	YES	NO.

References.

[i] WWW.nacp.gov.pk; Global AIDS Response Progress Report 2014.

[ii] WHO/UNAIDS Spectrum Data; National AIDS Control Program, 2014

[iii] www.nacp.gov.pk;

[iv] www.nacp.gov.pk;

[v] WHO/UNAIDS Spectrum Data; National AIDS Control Program, 2014

[vi] www.nacp.gov.pk;

[vii] Country Progress Report, Pakistan; Global AIDS Response Progress Report 2014, National AIDS Control Program, April 2014;

[viii] HIV Second Generation Surveillance, Round IV IBBS Report, 2011