KEY POPULATION

PROGRAMMATIC MAPPING AND SIZE ESTIMATION STUDY IN 20 STATES

AUGUST 2023

FOREWORD

Following the discovery of HIV in Nigeria, the National Agency for the Control of AIDS (NACA) with support from partners established interventions towards preventing, controlling, and mitigating the impact of the epidemic. To better understand the epidemic, several surveys and studies have been conducted including the Mode of HIV Transmission which revealed that the Key Populations (KP) - Female Sex Workers (FSW), Men who have Sex with men (MSM), and People Who Inject Drugs (PWID) are key drivers of the epidemic. To effectively target and provide interventions for KPs in Nigeria, now including Transgender people, it is paramount to provide critical information for planning and targeting HIV prevention programs.

Nigeria conducted a Key Population Size Estimation (KPSE) study in twenty (20) states with the support of the Global Fund. The National Agency for the Control of AIDS contracted the Institute for Global Public Health, University of Manitoba (UoM) to provide technical support for the Programmatic Mapping and Key Population Size Estimation in the twenty selected states.

The results of the KPSE presented in this report have further provided information on the hotspot (physical and virtual) and an estimated population of key populations. Most importantly, information from this report, alongside other surveys and research will provide robust evidence to guide stakeholders in designing and implementing appropriate strategies and interventions towards the reversal of the HIV epidemic in Nigeria, especially among key populations.

I hereby present the 2023 KPSE Report to all stakeholders involved in the fight against the HIV and AIDS epidemic in Nigeria, especially those engaged in providing services to the key populations.

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ACKNOWLEDGEMENTS

The National Agency for the Control of AIDS (NACA) and the Federal Ministry of Health acknowledge the efforts of all those who contributed to the successful conduct of the 2023 Key Population Size Estimate (KPSE) in Nigeria.

Particularly, we acknowledge the financial support and technical oversight provided by the Global Fund to fight AIDS, TB, and Malaria (GFATM). Our profound appreciation goes to the Institute for Global Public Health, University of Manitoba (IGPH, UoM), and her regional affiliate, the West Africa Centre for Public Health and Development (WACPHD) for their valuable technical support and oversight during the study. We also appreciate the National KP secretariat for their support and commitment throughout implementation. Our gratitude also goes to the 20 participating study states through their various State Agencies for the Control of AIDS (SACAs) and State Ministry of Health; as well as partners: WHO, UNAIDS, UNFPA, UNICEF, UNODC, PEPFAR, FHI 360, AHF, HALG, SFH, APIN, ECEWS, CIHP, and IHVN, including Community Based Organizations in the states among others, who supported this study in various ramifications during planning, implementation and development of this report.

Lastly, we would like to appreciate the tireless efforts of the 2023 KPSE project team in NACA. We expect that this report will serve as a reference document used by all partners working with key populations for advocacy, resource mobilization and allocation, and HIV programme planning, design and implementation in Nigeria.

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EXECUTIVE SUMMARY

The Government of Nigeria, through the National Agency for the Control of AIDS (NACA) in collaboration with stakeholders, with funding support from the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) conducted a Key Population Size Estimation, following the need to provide critical information for planning and targeting HIV prevention, care and treatment programs. The exercise was also geared towards fast-tracking the achievement of epidemic control as espoused in the National Strategic Plan by 2030. The size estimation was conducted in 20 states, representing one-third of Nigeria's geography with a view to achieve national saturation following the conduct of a similar study in 2018 in 16+1 states. The government of Nigeria contracted the Institute for Global Public Health, University of Manitoba (IGPH, UoM) as the lead Technical Support Organization to implement the 2023 key Population Size Estimation using Programmatic Mapping approach in 20 states. These states include Adamawa, Bauchi, Bayelsa, Borno, Delta, Ebonyi, Ekiti, Jigawa, Katsina, Kebbi, Kogi, Kwara, Niger, Ogun, Ondo, Osun, Plateau, Sokoto, Yobe, and Zamfara.

The main purpose of the Programmatic Mapping and Size Estimation is to provide reliable data and obtain an accurate estimate of Men who have Sex with Men (MSM), Female Sex Workers (FSW), People Who Inject Drugs (PWIDs), Transgender people in the twenty (20) selected states. The programmatic mapping identified physical and virtual venues and hotspots where sexual networking and injecting drug practices occurred. It also highlighted gaps in HIV prevention services for key populations at these hotspots. All KP typologies (FSW, PWID, MSM & TG) were mapped geographically while only MSM populations were mapped virtually. The Virtual mapping conducted for the MSM group had the following objectives:

- To estimate the number of MSM who operate virtually
- To understand the extent of overlap between virtual sites and physical locations

Mapping methodology was based on a geographic approach which identified the key locations including virtual locations where key population members could be found and quantified. The basic approach includes two sequential steps:

- Level 1 – Systematic information gathering from primary and secondary key informants (KI) regarding the locations ("hot spots") where key population members congregate and/or meet casual or paying sexual partners or for injecting drug purposes. This is also termed "Geographical Mapping of Key Populations."
- Level 2 – validation and profiling of identified "hotspots" to characterize and estimate the size of the key populations. This is also termed "Estimation of the Size of Key Populations".

The conceptual adopted for virtual mapping was sequential listing of virtual sites and exploring MSM size estimates of those who operate virtually.

Implementation structures were put in place for optimum delivery on the study mandate across the 20 states, and to ensure compliance with the study protocol as approved by the Nigeria's National Health Research Ethics Committee (NHREC) and the Ethical Review Board of the University of Manitoba. The National Steering Committee, National Technical Committee (NTC) and the Project Implementation Team coordinated and supervised implementation operations across the 20 states while the respective State Technical Committee (STC) and State Management Team supervised field operations in each of the participating states. Field data collection exercise lasted for a total of 45 days (L1 -25 days and L2 data validation 20 days).

KEY FINDINGS:

The size estimation of key population groups conducted in 20 states covered 389 out of 413 Local Government Areas (LGAs), recording about 94% target coverage. 24 LGAs in state (6%) were not mapped due to the then prevailing environmental and security challenges. A total of 61,950 interviews were conducted with key informants to identify locations where KPs congregate. Jigawa State with 4048 interviews had the highest number of interviews while Bayelsa state with 1200 had the least number of interviews.

55, 418 active Hotspots were identified and validated. Katsina state had the highest number of hot spots for all typologies with 5672 while Plateau state had the least number with 1299 active hotspots. In line with previous findings, there were wide variations in locations and numbers of KP existing between and within states and in the LGAs.

Total number of FSWs estimated across the 20 states was 206,590 (Minimum estimate 158,567 and Maximum estimate 254,613). Delta state had the highest number of FSWs with 27,862 and Ekiti state had the least estimated FSWs with 3628.

The total number of MSM estimated at physical locations was 86,283 across the 20 states (minimum estimate 63,580 and Maximum estimate 108,987). Katsina state had the highest number of MSM with 11,145. Total estimated number of MSM using virtual sites across 20 states was 73,925 (minimum 67,967; maximum 81,067). Virtual mapping was conducted in all the 20 states for MSM. The number of MSM using virtual sites compared to those seen at physical locations could be highlighting the hidden nature of this KP group. Quite a number of MSM seen at physical locations across all states sell sex highlighting the increased risk of this sub-typology of MSM in all states.

The total number of TG estimated across the 20 states was 52,361 (Minimum estimate 39,223 and Maximum estimate 65,498). Katsina state had the highest number of TG with 9,457 and Kwara State had the least estimated TG with 849

The total number of PWID was estimated at 148,365 across the 20 states (minimum estimate 94,770; Maximum estimate 201,960). Zamfara state had the highest number of PWIDs with 15,772. About 12% (18,248) of the total estimated PWIDs were females. The rising number of estimated PWIDs especially female PWIDS underscores the need for appropriate 'Harm reduction programs' for these KPs especially as they are of a higher risk status for HIV and other STI (e.g., Hepatitis) transmission and acquisition.

Total number of KPs across all typologies was estimated at 492,508 across the 20 states (range minimum 355,275 and maximum 629,741) in all physical locations. In the six months leading up to the intervention, the hotspots catering for key populations (KPs) in all 20 states experienced inadequate access and limited availability of HIV prevention programs.

The size estimation findings could be utilized to plan, design, prioritize and set targets for HIV program efforts for key population and build and/or strengthen relevant capacity to better characterize the drivers of the HIV epidemic and further assist in the microplanning of HIV prevention programs and services, especially localized interventions at hotspots. HIV Prevention programs need to adopt innovative strategies to ensure reach and coverage as well as improved service utilization by all KP typologies with special emphasis paid to virtual space/platforms programming. This result also calls for the review of current Minimum Prevention Package Intervention (MPPI) service delivery within the National HIV Prevention effort in order to strengthen holistic interventions to the evolving issues in the national and sub-national key population response landscape

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Acronyms

AIDS	-	Acquired Immune Deficiency Syndrome
APIN	-	APIN Public Health Initiative
AHF	-	AIDS Healthcare Foundation
CBO	-	Community Based Organization
CLT	-	Central Level Training
CYDI	-	Concerned Youth Development Initiative
ECEWS	-	Excellence Community Education and Welfare Scheme
FHI360	-	Family Health International
FMOH	-	Federal Ministry of Health
FSW	-	Female Sex Worker
GFATM	-	The Global Fund to Fight AIDS Tuberculosis and Malaria
GPS	-	Global Positioning System
HALG	-	Heartland Alliance Limited/Guarantee
HIV	-	Human Immunodeficiency Virus
IBBSS	-	Integrated Biological and Behavioral Surveillance Survey
IGPH	-	Institute for Global Public Health
IT	-	Information Technology
KI	-	Key Informant
KP	-	Key Population
KPSE	-	Key Population Size Estimation
L1	-	Level One
L2	-	Level Two
LGA	-	Local Government Area
MARP	-	Most at Risk Population
MoT	-	Mode of Transmission
MSM	-	Men who have Sex with Men
MSW	-	Male Sex Workers
NGO	-	Non-Governmental Organization
NASCP	-	National AIDS, Sexually Transmitted Infections Control and Hepatitis Programme
NDLEA	-	National Drug Law Enforcement Agency
NHREC	-	National Health Research Ethics Committee
NTC	-	National Technical Committee

PWID	-	People Who Inject Drug
SACA	-	State Agency for the Control of AIDS
SASCP	-	State AIDS, STI & Viral Hepatitis Control Program
SFH	-	Society for Family Health
STI	-	Sexually Transmitted Infection
STC	-	State Technical Committee
SMC	-	Survey Management Committee
TCCO	-	Technical Compliance and Conformance Officer
TG	-	Transgender People
TGF	-	Transgender Female
TGM	-	Transgender Male
TSO	-	Technical Support Organization
ToT	-	Training of Trainers
UoM/IGPH	-	University of Manitoba, Institute for Global Public Health
UNAIDS	-	Joint United Nations Programme on HIV and AIDS
UNFPA	-	United Nation Population Fund
UNICEF	-	United Nations Children's Fund
VM	-	Virtual Mappers
WACPHD	-	West African Centre for Public Health and Development
WHO	-	World Health Organization

1.0 BACKGROUND AND INTRODUCTION

1.1 BACKGROUND

HIV/AIDS remains a major global public health challenge, having claimed about 40.1 million [33.6–48.6 million] lives so far with ongoing transmission globally. There were an estimated 39 million [33.1– 45.7 million] people living with HIV at the end of 2023[1]. According to the Joint United Nations Programme on HIV/AIDS (UNAIDS), Nigeria currently ranks fourth in the world with regards to HIV burden[2].

Nigeria is the most populous country in Africa, which according to the world population review in 2019 has an estimated population of over 200 million people. The HIV epidemic in Nigeria is complex with substantial heterogeneity in its distribution across different regions and diverse factors drive the epidemic. The most recent HIV data were collected during the Nigeria HIV/AIDS Indicator and Impact Survey (NAIIS) in 2018. NAIIS was a national household-based survey that assessed the prevalence of human immunodeficiency virus (HIV) and related health indicators. HIV prevalence, defined as the percentage of PLHIV in the population of Nigeria, among adults aged 15-64 years was 1.4% (1.9% among females and 0.9% among males). HIV prevalence among children aged 0-14 years was 0.2%. HIV prevalence was highest among females aged 35-39 years at 3.3% and the highest prevalence among males aged 50-54 years at 2.3%. The HIV prevalence gender disparity between females and males was greatest among younger adults, with females aged 20-24 years having 4 times the prevalence of males in the same age group. Extrapolation from NAIIS estimates approximately 1.9 million people aged 0-64 years living with HIV in Nigeria[3].

Key Populations in Nigeria have been recognized to have a disproportionate burden of HIV when compared to the general population. The sub-types of Key Population and vulnerable groups reflect the pattern of sexual practices and behaviours as well as their potentials in facilitating further spread of the epidemic to the general Nigerian population. The KP typologies include People Who Inject Drugs (PWID), Female Sex Workers (FSW), Transgender people (TG) and Men who have

[1] UNAIDS. (2023). Factsheet.
[2] UNAIDS Country Progress report-Nigeria. Global AIDS Monitoring. (2020).
[3] Nigeria HIV/AIDS Indicator and Impact Survey (NAIIS). (2018).

Sex with Men (MSM). Key populations account for less than 5% of the global population, but they and their sexual partners comprised 70% of new HIV infections in 2021[4]. A recent study in Nigeria revealed that the highest number of new infections among adults occurs among Never Married Females and Never Married Males. The next largest contributors were Female Sex Workers and Men who have Sex with Men. These four groups together accounted for about 91% of all new infections. Interestingly, although representing less than 2% of the population, key populations (FSW, MSM, PWID) contribute to approximately 11% of new infections[5].

The 2020 Integrated and Bio-Behavioural Surveillance Survey (IBBSS) revealed that the HIV prevalence is high amongst these groups with HIV prevalence rate highest (28.8%) amongst Transgender people, 25.0% amongst Men who have sex with Men (MSM); 17.1% amongst brothel-based FSW and 15.0% amongst the non-brothel based FSW. People who inject drugs (PWIDs) had a prevalence rate of 10.9%. Trend analysis on HIV prevalence amongst non-brothel-based FSW showed a decline from 30% (2007) to about 9% (2014) with an increase in prevalence to 15% observed in 2020, at the same time, the prevalence trend among brothel-based FSW revealed a decline from 37% (2007) to 17% (2020). PWID had a marginal decline from 5.6% (2007) to 3.4% (2014) and then a significant increase to 10.9% (2020). Prevalence among the MSM group continuously increased (13.5% to 25.0%) from 2007 to 2020. The situation of HIV management and impact of prevention and control intervention amongst KPs may not have shown a stable positive decline across all the KP typologies since 2007, which is worrisome. Unfortunately, the current national HIV prevalence in Nigeria masks the disproportional contributions of KP to the epidemic. This is because the epidemic appears to be "mixed" in many regions, driven by HIV transmission both within networks involving KP and within segments of the wider "general" population who have multiple partners and/or belong to sexual networks[6].

One of the more effective ways to address these masked contributions by KP is having an accurate population size estimate for all the KP subgroups for better-targeted intervention programs. There have been appreciable efforts to estimate the size of KPs in the entire Nigeria. Largely, these studies have been limited in scope and coverage.

[4] UNAIDS. (2023) Global AIDS Update: In Danger.
[5] UNAIDS & NACA. (2020). Modes of HIV Transmission in Nigeria: Application of the Incidence Patterns Model.
[6] Integrated and Bio-Behavioural Surveillance Survey (IBBSS). (2020)

In 2013, NACA conducted an HIV epidemic appraisal and published a report with KP size estimates for the first eight states (Abuja FCT, Anambra, Benue, Cross River, Gombe, Lagos, Nasarawa, and Ondo) using a mixed method. The mixed methodology comprised of hotspot mapping, venue profiling, and rural appraisals[7]. 11,523 hotspots were identified, with an estimated population of more than 125,000 FSWs, 6,000 PWIDs, and over 7,500 MSM across the eight states. In 2013, another study was also conducted to get the size estimate of MSWs in three major cities in Nigeria, using capture-recapture (CRC) methodology, the study estimated the number of MSWs in Lagos, Kano, and Port-Harcourt between July and December 2009[8]. Using key informants, hotspots were mapped, and counts conducted on two consecutive weekends. The highest number of MSWs identified was in Port-Harcourt (n = 723), followed by Lagos (n = 620), and Kano (n = 353).

The 2018 programmatic mapping and size estimation study amongst the key populations, conducted by the Society for Family Health, on behalf of the Government of Nigeria with technical support from the Centre (now Institute) for Global Public Health, University of Manitoba revealed an estimated population of 118,171 FSW, 49,876 PWID, and 44,355 MSM at physical sites and 69,337 MSM at virtual sites across ten states.

The Global Fund's New Funding Model (NFM) is a strategic response to the ongoing spread of HIV, with a particular focus on Key Populations such as Sex Workers, Men who have Sex with Men (MSM), Transgender Individuals (TGs), and People Who Inject Drugs (PWID). The project utilizes a multifaceted approach that includes behavioural, biomedical, and structural interventions to encourage behaviour change and reduce HIV transmission. The primary goal of the project is to combat the spread of HIV through targeted interventions aimed at Key Populations, while also improving access to treatment for HIV-positive individuals within these groups.

1.2 INTRODUCTION

Recently, the Nigeria's National Agency for the Control of AIDS (NACA), in a bid to rebase the HIV epidemic implemented several large-scale research initiatives for the general population and

[7] NACA. (2013). Key Population Size Estimation

[8] Adebajo, S. B., Eluwa, G. I., Tocco, J. U., Ahonsi, B. A., Abiodun, L. Y., Anene, O. A., ... & Kellerman, S. (2013). Estimating the number of male sex workers with the capture-re-capture technique in Nigeria. African Journal of reproductive health, 17(4), 83-89.

for Key Populations (KPs), including mapping and size estimation of Key Populations across the country. The last key population mapping and size estimation was done in 2018, covering 16+1 states only out of Nigeria's 36+1 States. The 2023 KP size estimation study covered 20 states, representing about 1/3 of Nigeria's population, is targeted at achieving national saturation.

The desire to reduce the HIV burden and stem the continuing spread of HIV especially among Key Populations informed the urgent need to scale-up HIV prevention services and programs. Specifically, the Joint United Nations Programme on HIV and AIDS (UNAIDS) estimated that between 40% and 95% of new HIV infections in various global regions in 2017 were among key populations and their immediate sexual partners[9]. It is critical that HIV prevention programs and strategies match the local context, and that resource is allocated to interventions that have the greatest impact[10]. In Nigeria, various HIV/AIDS programs, including the Global Fund HIV projects and those implemented by other partners are currently being executed nationwide. In 2021, The Network Scale -Up method (NSUM), a module in the Nigeria AIDS Indicator and Impact survey (NAIIS) was used to estimate the population of Female Sex Worker (FSW), Men who have Sex with Men (MSM) and People Who Inject Drug (PWID) in Nigeria. NAIIS provided sufficient sample sizes to allow NSUM to produce national and state-level Population Size Estimates for a range of other subpopulations including key populations at risk for HIV[11].

Nigeria has a general population HIV prevalence rate of 1.4 %[12]. Key populations, including People Who Inject Drugs (PWID), Female Sex Workers (FSW), Men who have Sex with Men (MSM) and Transgender people (TG) are considered at higher risk for HIV due to certain behaviours and practices that increase their vulnerability to the virus[13]. The 2020 Mode of Transmission (MoT) study based on the Incidence Pattern Model (IPM) revealed that about 91%

[9] Joint United Nations Programme on HIV/AIDS. Miles To Go: Global AIDS Update 2018
[10] Long, L. C., Rosen, S., Nichols, B., Larson, B. A., Ndlovu, N., & Meyer-Rath, G. (2021). Getting resources to those who need them: The evidence we need to budget for underserved populations in sub-Saharan Africa. Journal of the International AIDS Society, 24, e25707.
[11] NACA. (2021) Estimating the Population Size of Female Sex Workers, Men Who Have Sex with Men, And People Who Inject Drugs in Nigeria Using the Network Scale-Up (NSUM).
[12] Nigeria HIV/AIDS Indicator and Impact Survey (NAIIS). (2018).
[13] UNAIDS World AIDS Day Report. (2023). Dangerous Inequalities.

of all new infections in Nigeria are attributable to adult males, adult females, and members of Key Population (KP), including Female Sex Workers and Men who have Sex with Men[14].

Reliable data is a major requirement for effective program efforts[15]. To ensure that persons who are at higher risk are reached with interventions, there is a need to appropriately determine the characteristics and the size of all Key Population. These size estimates are important for locating and prioritizing HIV service delivery, measuring coverage, monitoring and evaluating interventions, documenting progress in HIV prevention scale-up and supporting funding request proposals for various services. The identification of KP specifically MSM and TG people as well as PWID has become increasingly difficult in Nigeria due to the changing and restrictive policy environment. Additionally, FSW and PWID face routine raids and harassment by law enforcement agencies, further complicating the identification process. Recent evidence shows emerging new patterns of sexual networking and practices among KP typologies. Therefore, conducting a study to gain deeper insight and understanding of the current high-risk sexual networking and use of injectable drugs is crucial. This study is designed to assist in targeted HIV interventions that are tailored to the specific needs of the KP typologies in Nigeria. These interventions aim to reduce HIV transmission among Key Populations by enhancing their access to prevention, treatment and care services.

Key populations size estimation has been conducted using various approaches with each method having its own merits and demerits. An approach that was found relevant to HIV prevention programs is "Programmatic Mapping" which has been tested and used in many countries like Kenya, Tanzania, Thailand, Kosovo, India, Pakistan etc. This approach was also used by the University of Manitoba's Institute for Global Public Health (UoM/IGPH), the technical support organization that implemented the 20 State KP size estimation with funding from Global Fund. The Programmatic mapping seeks to answer the following questions:

- Which Key Populations exist?
- What are the estimated numbers of KP?

[14] UNAIDS & NACA. (2020). Modes of HIV Transmission in Nigeria: Application of the Incidence Patterns Model.
[15] Viswasam, N., Lyons, C. E., MacAllister, J., Millett, G., Sherwood, J., Rao, A., ... & Global. HIV Research Group. (2020). The uptake of population size estimation studies for key populations in guiding HIV responses on the African continent. PLoS One, 15(2), e0228634.

- Who can be reached?
- Where can you find them to provide services?
- When are they available?
- How do they operate?
- What are their sub-typologies?
- Where do we prioritize for programming?

1.3 DESCRIPTION OF MANDATE TO UOM-IGPH

This report is on the Programmatic Mapping and Size Estimation of Key Population groups across 20 states in Nigeria. The exercise aimed at providing evidence-based information for planning and appropriate targeting of HIV prevention programs in the country in response to dwindling funding base and ensuring effective and efficient program response in Nigeria. It is also intended to optimize national saturation, following the conduct of a similar study in 16+1 states in 2018.

The Government of Nigeria, through the National Agency for the Control of AIDS (NACA) contracted the Institute for Global Public Health (IGPH) of the University of Manitoba (UoM) to provide technical support for the 2023 Programmatic Mapping and Key Population (KP) Size Estimation in 20 States with funding support from the Global Fund on AIDS, Tuberculosis and Malaria (GFATM).

UoM IGPH provides expertise in the management of large-scale disease prevention and control programs, technical assistance and training as well as conduct public health research to better understand, address and respond to public health challenges. UoM IGPH uses the Program Science Approach that involves addressing the complexity of program design, implementation, and evaluation through better integration of science and program. The Institute for Global Public Health, University of Manitoba has a local affiliate – The West African Centre for Public Health and Development (WACPHD) in Nigeria and worked with this affiliate to carry out this Key Population Size Estimation (KPSE) exercise.

2.0 METHODOLOGY

2.1 PROGRAMMATIC MAPPING AND SIZE ESTIMATION

The Programmatic Mapping and Size Estimation exercise provides critical information for planning and target setting for HIV programs for Key Population. This programmatic mapping profiled venues (both physical and virtual) where sexual networking and injecting drug use occurred. These venues were assessed to estimate the size of key populations in 20 states in Nigeria.

2.2 PURPOSE OF STUDY

The purpose of the study was:

- To provide a reliable denominator to be used in planning KP program interventions in the 20 states.
- To provide information to funders and program implementers on KP program needs and gaps.
- To provide specific information at sub –national level that help planners at state and local government levels to target and roll out programs in a cost effective, informed and coordinated manner.

2.3 GOAL OF STUDY

The goal of the Programmatic Mapping and KP Size Estimation was to obtain an accurate estimate of Men who have Sex with Men (MSM), Female Sex Workers (FSW), Transgender people (TG) and People Who Inject Drugs (PWID) in the 20 states, in an effort to provide a reliable denominator and critical information for planning targeted prevention, care, and treatment programs for Key Population groups.

2.4 OBJECTIVES OF STUDY

The main objective of the exercise is to conduct a situational analysis including mapping to provide reliable data on the spot characteristics and the estimation of the size of MSM, FSW, TG, and PWID. The overall objective of the exercise is to improve Nigeria's HIV/AIDS response through greater use of evidence-based data and application of knowledge to inform KP intervention programs.

The specific objectives of this study were:

- To identify and map key geographical locations/areas where Key Populations including Female Sex Workers (FSW), Men who have Sex with Men (MSM), Transgender people and People Who Inject Drugs (PWID) congregate and look for sexual partners and/or inject drugs in 20 states.
- To identify and map all web-based spots/apps used by MSM to look for sexual partners in the selected 20 States.
- To estimate the size of key populations in the selected 20 States, and use the information collected/findings to extrapolate and obtain national estimates (where possible).
- To describe the characteristics of identified spots, typologies, and operational characteristics of key populations at these spots.
- To develop capacity of the key implementers to plan, implement and monitor programmatic mapping studies in the country.
- To build the capacity of the KP organizations in Size Estimation by engaging them at all stages of the exercise in a manner that contributes to strengthening of the affected communities.
- To determine the level of access to HIV prevention and treatment programs for KP at Hotspots in 20 states of Nigeria.

2.5 STUDY POPULATION

The Key Population groups prioritized for this mapping and size estimation study are

- Female Sex Workers (FSW)
- Men who have Sex with Men (MSM), including Male Sex Workers (MSW)
- People Who Inject Drug (PWID)
- Transgender People (TG)

2.5.1 FEMALE SEX WORKERS (FSW)

Female Sex Worker includes any female who undertakes sexual activity in return for money or other valuable gifts or incentives irrespective of the site of operation which may include streets, bars, home, hotel, office, salons, brothels, restaurants, nightclubs, internet cafes, cinemas, malls, campus/hostel, etc. Previous studies have identified several typologies which include Street-based

FSW, Hotel-based FSW, Bar/Casino/Nightclub/Massage parlour-based FSW and all of these were mapped. FSWs are broadly disaggregated into Brothel-Based Female Sex Workers (BBFSW) and Non-Brothel-Based Female Sex Workers (NBBFSW).

2.5.2 MEN WHO HAVE SEX WITH MEN (MSM)

Men who have Sex with Men is used to denote all males who have sex with other men including oral sex as a matter of preference or practice, regardless of their sexual identity or sexual orientation and irrespective of whether they also have sex with women or not. Men who sell sex (MSW) for money or gifts are included in the study. They include MSW and, Bar-based, Street-based, Massage-parlour based, Internet-based, Party-based and home-based MSM.

2.5.3 PEOPLE WHO INJECT DRUGS (PWID)

People Who Inject Drugs includes any person who injects drugs (illicit, non-prescribed or illegal) recreationally irrespective of the type of drug injected. People who inject drugs at these spots are estimated- Male Public Venues Attendees, Female Public Venues Attendees, Bunks, Male (home-based), Female (home-based).

2.5.4 TRANSGENDER PEOPLE (TG)

Transgender People includes any person who has a gender identity that differs from the sex they had at birth. Both transgender women and transgender men were included in this exercise. This included sexually active adult person whose self-identity does not conform unambiguously to conventional notions of male or female gender roles but combines or moves between these.

Although mapping enumerates key populations members of all ages and typologies at a given spot, for ethical purposes, interviews were conducted with persons aged 18 years and above only.

2.6 STUDY STATES

The mapping and size estimation exercise was carried out in the following 20 states: Adamawa, Bauchi, Bayelsa, Borno, Delta, Ebonyi, Ekiti, Jigawa, Katsina, Kebbi, Kogi, Kwara, Niger, Ogun, Ondo, Osun, Plateau, Sokoto, Yobe, Zamfara.

Figure 1: Map of Nigeria showing KPSE States

The 2018 KPSE States (16 + 1) include the green shaded area: Abia, Akwa Ibom, Anambra, Benue, Cross River, Edo, Enugu, Gombe, Imo, Kaduna, Kano, Lagos, Nasarawa, Oyo, Rivers, Taraba, and the Federal Capital Territory (FCT).

2.7 PROTOCOL & ETHICAL APPROVAL

The KP size estimation protocol was approved by the National Health Research Ethics Committee (NHREC), Nigeria and the Institutional Review Board of the University of Manitoba, Canada (See attached in Annexures). The ethical principles that guided the programmatic mapping covered areas of confidentiality, protection, and rights of the KP and research team safety.

3.0 PROGRAMMATIC MAPPING CONCEPTUAL APPROACH

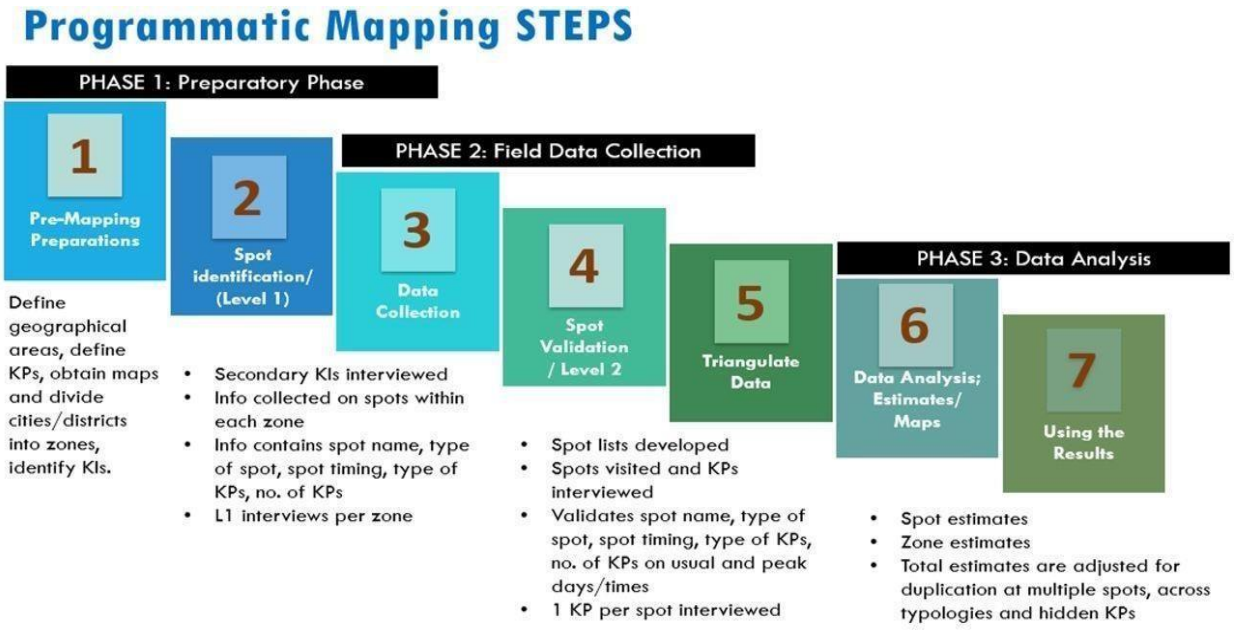

Figure 2: The Mapping Process Main Steps Illustrated

The decision to employ mapping methodology is based on the insights gained from programmatic experiences in diverse settings worldwide. These experiences revealed that a significant number of Female Sex Workers (FSWs) who have a large client base tend to gather or meet clients in identifiable geographic areas. Similarly, Men who have Sex with Men (MSM) often exhibit high rates of partner turnover in specific locations where they encounter new sexual partners, both paying and non-paying and they are in urgent need of targeted prevention services. This understanding forms the foundation for the rationale behind utilizing mapping methodology.

The programmatic mapping approach focuses on identifying locations, characterizing each location in terms of specific "spots" within that location and the operational characteristics of the sexual or drug-injecting networks there (i.e., how and where FSWs and MSM meet clients/partners and where sexual transactions occur). Also, estimates of the number of key population members that frequent these specific locations and spots.

The mapping methodology was largely based on a geographic approach which identifies the key locations where key population members could be found and quantified. Virtual mapping was also done for Men Who Have Sex with Men (MSM).

The mapping process incorporates the following main activities:

1. Pre-mapping activities
2. Field Data collection exercise (L1 & L2)
3. Level 1 – Activity: Level one (L1) data collection -spot identification
4. Level 1 Data/spot collation/cleaning
5. Level 2- Activity: Level two (L2) data collection-spots validation
6. Level 2 Data collation/cleaning
7. Virtual mapping/ internet sites

3.1 OPERATIONAL APPROACH

The study built on the lessons learnt in 2018. IGPH-UoM, along with critical stakeholders, reviewed the KPSE study protocol to ensure that the study was conducted in line with a sound science approach to produce valid and reliable results. The revised operational approach of the mapping exercise was carried out without altering the methodology. Following the review, the resolutions include:

- A 2-phased central level-training that ensured optimal and effective learning
- States representatives to be assisted by supervisors in the daily execution of field activities.
- Field implementation plans for L1 and L2 were developed, including timelines and workload schedules.
- Data collection to be enabled on hand-held Android devices
- Data upload to be activated real time

For L1, 150 interviews were scheduled per LGA of an average population of 227,503. Expected numbers of L2 spots were calculated based on the previous mapped hotspots per population assumptions (one hotspot/10,000 population). This is a crude measure and varied in some states.

- In L1, 25 interviews were scheduled to be conducted per day per interviewer for 25 days.
- In L2, 25 days of validation with an average of 7 spot validation per interview team per day.

- State Agency for the Control of AIDS (SACA) to lead the State Technical Committee to ensure smooth implementation of the study.
- L1 spot identification to be conducted extensively in all LGAs rather than focus on a sample of LGA within the state.

Table 1: L1 Field Implementation Plan

State	Pop 2018	#LGA	# Level 1 Interviews Planned	# of Enumerators / Interviewers	# of Supervisors
Adamawa	3,727,347	21	3,150	5	2
Bauchi	6,997,314	20	3,000	5	2
Bayelsa	2,277,961	8	1,200	4	1
Borno	5,860,183	27	4,050	6	2
Delta	5,663,362	25	3,750	6	2
Ebonyi	2,880,383	13	1,950	4	2
Ekiti	3,270,798	16	2,400	4	1
Jigawa	5,828,163	27	4,050	6	2
Katsina	7,831,319	34	5,100	8	2
Kebbi	4,440,050	21	3,150	5	2
Kogi	4,473,490	21	3,150	5	2
Kwara	3,192,893	16	2,400	4	1
Niger	5,556,247	25	3,750	6	2
Ogun	5,573,704	20	3,000	5	2
Ondo	4,671,695	18	2,700	4	1
Osun	4,705,589	30	4,500	7	2
Plateau	4,200,442	17	2,550	4	1
Sokoto	4,998,090	23	3,450	6	2
Yobe	3,294,137	17	2,550	4	1
Zamfara	4,515,427	14	2,100	4	1
Total	**93,958,594**	**413**	**61,950**	**102**	**33**

Table 2: L2 Field Implementation Plan

State	Pop 2018	#LGA	# of Enumeration Team	Virtual Mappers	# of Supervisors	Expected # Spots L2	# of Spots Expected to Validate in 25 Days
Adamawa	3,727,347	21	8	2	2	373	1,400
Bauchi	6,997,314	20	8	2	2	700	1,400
Bayelsa	2,277,961	8	2	2	1	228	700
Borno	5,860,183	27	12	2	3	586	2,100
Delta	5,663,362	25	12	2	3	566	2,100
Ebonyi	2,880,383	13	6	2	2	288	1,050
Ekiti	3,270,798	16	6	2	2	327	1,050
Jigawa	5,828,163	27	12	2	3	583	2,100
Katsina	7,831,319	34	16	2	3	783	2,800
Kebbi	4,440,050	21	8	2	2	444	1,400
Kogi	4,473,490	21	8	2	2	447	1,400
Kwara	3,192,893	16	6	2	1	319	1,050
Niger	5,556,247	25	12	2	3	556	2,100
Ogun	5,573,704	20	8	2	2	557	1,400
Ondo	4,671,695	18	10	2	3	467	1,750
Osun	4,705,589	30	10	2	3	471	1,750
Plateau	4,200,442	17	8	2	2	420	1,400
Sokoto	4,998,090	23	10	2	3	500	1,750
Yobe	3,294,137	17	6	2	2	329	1,050
Zamfara	4,515,427	14	10	2	3	452	1,750
Total	**93,958,594**	**413**	**182(364)**	**40**	**47**	**9,396**	**31,500**

3.2 THE PRE-MAPPING EXERCISE

The pre-mapping phase involved preparatory activities that established necessary logistical and conceptual foundations for the data collection. The key aspects of the pre-mapping exercise included formative assessment; acquisition and review of detailed maps of the target states with segmentation of each state by Local Government Areas (LGA); Stakeholder engagement and

advocacy. In partnership with the states, KP networks, and NACA, local field team members were recruited based on their experience working with key populations and field research experience. Recruited field staff were trained in two phases –Central level training- a TOT for UoM state study Reps/coordinators, Data/IT officers, and SACA program managers who then stepped down training (state level) to the field data collectors, supervisors, social mobilizers and virtual mapping personnel. Stakeholders' meetings also occurred at national and state levels with the constitution of State Technical Committee (STC) for supportive supervision and monitoring of the entire exercise in their respective locales. Stakeholders' meetings were also used as forums to garner support for the exercise as well as involve law enforcement agencies, including the Nigerian police and National Drug Law Enforcement Agency (NDLEA), to inform them about the purpose and nature of the mapping study.

3.3 CENTRAL LEVEL TRAINING (CLT)

- A Training of Trainers (ToT) was conducted at the national level, it involved UoM state study rep/coordinators, data/IT officers and SACA program managers. The CLT was phased by regions, the first phase involved 12 states in the northern zone (Adamawa, Bauchi, Borno, Jigawa, Kwara, Katsina, Kebbi, Niger, Plateau, Sokoto, Yobe, Zamfara) and the second phase involved 7 states in the southern zone plus Kogi (Bayelsa, Delta, Ebonyi, Ekiti, Ogun, Ondo, Osun, Kogi). Kogi, a state in the northern zone joined the second batch-southern zone training as a result of the prevailing flood situation that prevented her from joining the northern zone training. The trainings held in Abuja and Lagos respectively. In each state, the trained persons stepped down the training to their various state/field team members. The central level training goal was 'to develop skills of state study coordinators, /data/IT officers and program managers on conducting and coordinating KP mapping and size estimation exercise in their respective states' and strengthen their capacity to step the training content down to their respective state field teams. The training was conducted from the 17th to 20th October 2022 for Northern zone and Southern zone 24th – 27th October 2022. A total of sixty-four (64) persons were trained as Master Trainers. The University of Manitoba, Institute for Global Public Health (UoM IGPH) with her local affiliate WACPHD and NACA technical teams facilitated the trainings. Stakeholders' meetings were held on the last day of the trainings to get the 'buy

in' of relevant stakeholders for the exercise and discuss the role of the stakeholders in the mapping study. The stakeholders were to liaise with their various institutions at the state level and garner support for the exercise.

3.4 STATE-LEVEL ENGAGEMENT AND TRAINING

Field teams' recruitment at the state level happened between 6th-7th October 2022 and 10th-11th October 2022 across the 20 states. Sequentially, state-level training started for both level one and level two phases after the recruitment. During Level One, the training was held for selected interviewers, supervisors and social mobilizers, and was anchored by the UoM representative, SACA program managers, and data IT Officers. They were supported by the Technical Conformance Compliance Officers (TCCO), finance and Admin Officer and national officers from NACA, UoM IGPH and WACPHD who provided additional technical support to the states during the training. The state level one training was held in phases for 3 days. Northern region states L1 training were held between 24th – 26th and 27th – 29th October 2022. The second phase of level one training for southern region states held between 2nd -4th November 2022. Flood situation in Bayelsa and Kogi disrupted their level one training schedule which then held between 14th -16th November and 1st- 3rd November respectively. The training provided a veritable capacity building leverage for personnel on the project, preparing them for the level one assignment of KP hotspot identification and listing. State Technical Committees (STC) were inaugurated at the end of level one training. A total of 182 persons (102 plus 80 buffers) were trained across the 20 states and 102 persons finally selected for L1 implementation. Level one data collection commenced from November 1st and ended on December 13th 2022.

Following a 2 weeks period of data collation and cleaning, a second round of recruitment was conducted to fill up critical human resource gaps. A total of about 300 persons were recruited and added up to the L1 teams in various states for level two implementation. Attrition, loss of manpower via withdrawal/rejection of offer and the need to maintain a sizeable number of human resources required for effective L2 implementation across states necessitated this recruitment. Training was conducted again preparatory for level two data collection, for 3 days across all states. During the level two training, the following cadre of field staff were trained – interviewers, supervisors, social mobilizers, and Virtual Mappers (VM). The training also had in attendance- the State Management Team comprising of UoM State representative/coordinator, Technical

Compliance and Conformance Officer, Finance officer and the Data/IT officer. Using standardized training slides, the L2 training focused on building capacity of field teams to validate and characterize spots listed from level one as well as identify new spots during level two. The field teams were constituted to include key population members by their specific typology for the L2 exercise. Each field team developed a field monitoring process and a detailed work plan for the local mapping and spot validation exercise with daily routine plans; types and names of key informants were finalized for each key population group; locations to be visited finalized along with the number of interviews to be conducted in each town/village in each LGA. The role of all team members was well defined and assigned. The UoM state study coordinators/representative, SACA program managers and Data/IT officers trained at central TOT, supported by UoM/WACPHD program/data personnel and NACA technical officers/monitors conducted state level 2 trainings for the field teams in each state.

Table 3: Pre-Mapping and Level 1 Activity Schedule

Activity	***Timeline***	***Actors***
State Level Engagement/Recruitment (Level One)	*6-7 October & 10-11 October 2022*	*NACA, SACA & UoM*
Central Training	*Northern region (17-20 October 2022)* *Southern region (24-27 October 2022)*	*TSO (University of Manitoba)/Local affiliate WACPHD*
State Level Training (L1)	*24-26 October & 27-29 October 2022* ***(Kogi and Bayelsa states trained at later dates)***	*State Study Teams*
Level One Data Collection	*1 November - 13 December 2022*	*State Study Teams*
Data Cleaning & Hotspot Collation	*19-31 December 2022*	*TSO (University of Manitoba))/Local affiliate WACPHD*
State Level Engagement/Recruitment (Level Two)	*9-11 January & 12-14 January 2023*	*NACA, SACA & TSO*
State Level Training (L2)	*16-18 January 2023 & 19-21 January 2023*	*State Study Teams*
Level Two Data Collection	*23 January 2023.*	*State Study Teams*
Virtual Mapping		
Stage 1	*VM Activities Commenced 23 January 2023*	*Study Team and MSM Community Members*

Activity	*Timeline*	*Actors*
Stage 2	*VM Activities Commenced 23 January 2023*	*Mappers were MSM Community Members*
Stage 3	*VM Activities Commenced 23 January 2023*	*Mappers were MSM Community Members*

3.5 DATA COLLECTION

Data collection was carried out for the mapping and size estimation of key population in two sequential steps:

- Level 1 – Systematic information gathering from secondary key informants (KI) regarding the locations ("hot spots") where key population members congregate and/or meet casual or paying sexual partners. And virtual spot listing for MSM.
- Level 2 – Site validation and profiling of identified "hot spots" to characterize and estimate the size of the key populations. For the virtual component, listed sites like Facebook, Grinder, Baddoo, Manjam, etc. were characterized and validated during this phase.

3.6 LEVEL 1 ACTIVITY

Level 1 data collection focused on collecting information from secondary informants about the geographic locations where key population members congregate. For each mentioned location, key informants (KI) were asked a small set of more specific questions about the characteristics of the spot (public place, brothel, lodge, etc.) and an estimate of the number of key population members who can be found there (minimum, maximum and usual). This information was gathered in a pre-designed electronic format finalized during the pre-mapping exercise. Each day, the field team for each state convened to brief or debrief on lessons from field exercise. Data was collected REAL TIME as forms were submitted on the android to the back-end server. Data were electronically edited and the information was further sorted into various tables which served as a foundation for level 2 activity. Based on the information gathered in Level 1, spots were identified for detailed spot profiling in Level 2 data collection.

Level 1 mapping entailed listing all physical spots within the LGA, where key population members (FSW, MSM, PWID, and TG) go to meet clients, and sexual partners, or to procure or

inject drugs. Informants (primary or secondary key informants) were asked where KP congregate/gather and at the end of this stage, a list of hotspots where KP could be found in the LGA was generated. In each LGA about 100-150 L1 interviews were conducted as estimated in the L1 implementation plan. All Key Informants (KI) were more than 18 years of age.

Table 4: Types of Key Informants for KP Typology

Secondary KIs for FSW	Secondary KIs for MSM	Secondary KIs for TG	Secondary KIs for PWID
Pimps, Brothel owners	Pimps	Pimps	Jungles and Bunk Owners
Chair Ladies	Hotel/Lodge Workers	Hotel/Lodge Workers	Drug Peddlers/Pushers
Taxi Drivers	Network of MARPs	Network of MARPs	Recovering Addicts
Motorcycle (Okada) Riders	Male Food Vendors	Male Food Vendors	Motorcycle (Okada) Riders
Tricycle (Keke NAPEP) Operators	Pharmacists	Pharmacists	Pharmacists
Bus/Trailer Park Officials	Bus/Trailer Park Officials	Bus/Trailer Park Officials	Bus/Trailer Park Officials
Bar Workers/Owners, Bar Patrons	Bar Workers/Owners, Bar Patrons	Bar Workers/Owners, Bar Patrons	
Watchmen, **Security Staff**			Watchmen, Security Staff
Government Officials/Law Enforcement Authorities	Government Officials/Law Enforcement Authorities	Government Officials/Law Enforcement Authorities	Government Officials/Law Enforcement Authorities
NGO Staff	NGO Staff	NGO Staff	NGO Staff
Service Providers	Service Providers	Service Providers	Service Providers
Hotel/Lodge Workers			Musicians
Local Food Vendors			Church Workers
Higher Institution Porters/Hostel Reps	Bouncers	Bouncers	Bouncers
Petty Shop Owners			
Bus Conductors/Drivers			
Construction Workers/Laborer			

3.7 LEVEL 1 DATA COLLATION

At Level 1, data officers assigned to specific states supported daily review and feedback on collected data. Data was sorted into various spot lists; duplicate spots were removed and spot codes were generated for each spot with spot names and addresses finalized. The primary outcome of the L1 phase was the development of a comprehensive list of spots where key populations congregate. Each spot list contained the following information:

- Spot name and address
- Spot Code
- Frequency of mention (each time a spot is mentioned by a KI)
- Spot timing (hours of operation)
- Minimum estimates (average of all minimum values provided by various KIs)
- Maximum estimates (average of all maximum values provided by various KIs)
- Typologies of the populations
- The L1 data collection exercise lasted for approximately one month

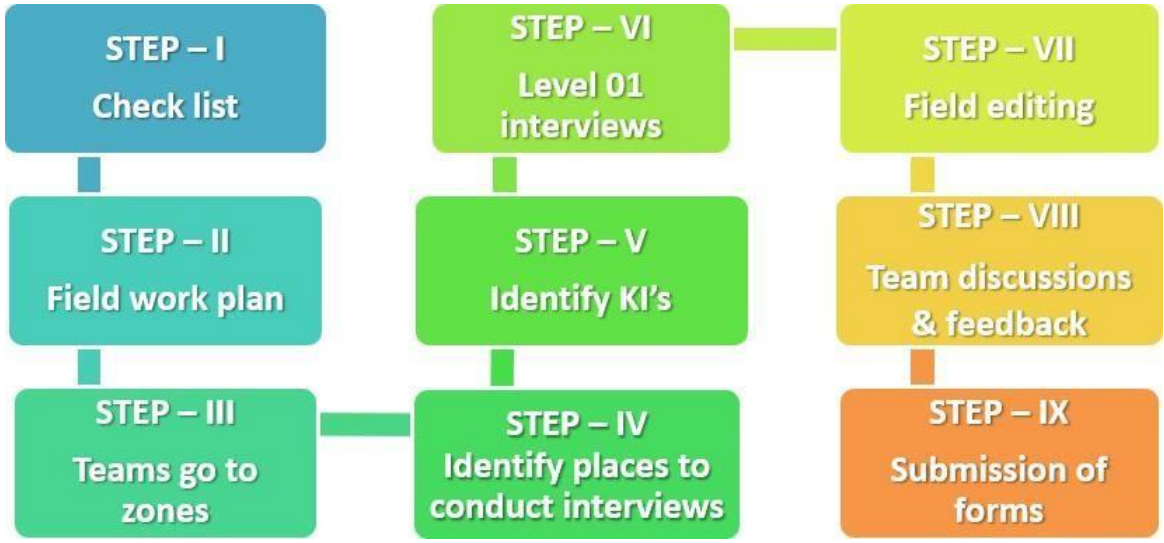

Figure 3: Steps in L1 Mapping

3.8 LEVEL 2 ACTIVITY: SITE VERIFICATION/VALIDATION PHASE

The final step in data collection involved conducting primary key informant interviews at the identified hotspots within each LGA. These L2 interviews involved primary key informants (key population members and those closely related; FSWs, PWID, TG, MSM, pimps, madams, brokers, etc. who network in a given spot over a reasonable time period) and it focused on validating the information collected and collated in the previous L1 exercise. Field teams went to the identified hotspots to verify the location, describe the type of spot, and get more specific information on the size of the key population that existed (minimum and maximum estimates). The information generated covers the following:

- Type of Spot

- Spot Name & Address
- Type of KPs that can be found in the spots
- Number of KPs usually at the spot
- Time of operation/activity of KPs at the spot
- Determine level of access of FSWs, MSMs, PWID in the spot to HIV/STI prevention and care services in the last six months.
- Identify other spots that were not captured during L1. Respondents were 18 years of age and above.

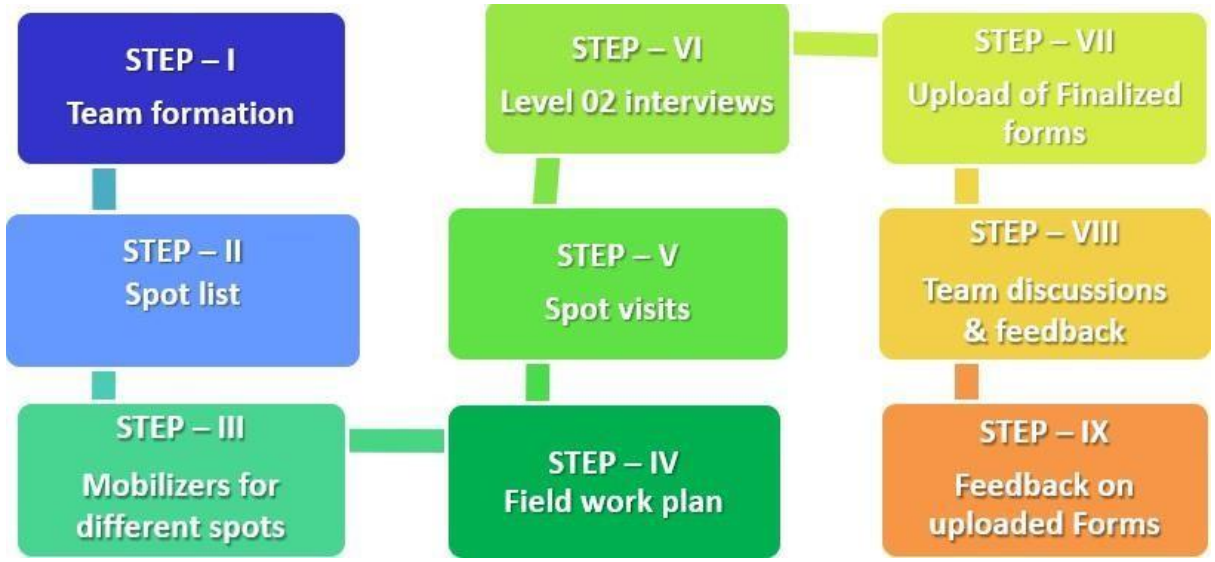

Figure 4: Steps in L2 Mapping

3.9 MAPPING VIRTUAL SITES FOR MSM

Most HIV prevention programs reach MSM who engage in high-risk behaviours at physical locations. Recent increase in Information Technology and mobile internet has resulted in many MSM using internet/mobile apps to reach their partners. These MSMs are left out of size estimation processes and also are not reached by programs. While hotspots are being mapped to estimate MSM, it became important to map the virtual sites too and estimate and profile MSMs in virtual spaces who meet partners in these spaces.

Virtual mapping objectives are:

- To estimate the number of MSM who operate virtually

- To understand the extent of overlap between virtual sites and physical locations

The broad conceptual approach adopted is sequential listing of Virtual sites, exploring its size estimates and these involved three stages;

3.9.1 STAGE 1: LISTING OF VIRTUAL SITES

The procedure included:

- Listing of virtual sites by MSM using Focus Group Discussions.
- A comprehensive list of websites/mobile apps developed at the end of listing.
- Most frequently used sites were selected and trimmed down to maximum of 17 for virtual mapping in the state.

3.9.2 STAGE 2: PROFILING AND SIZE ESTIMATING MSM ON VIRTUAL SITES

- Virtual Mappers (VM) move from LGA to LGA.
- Each site and app were observed virtually during scheduled days and times for a period of days.
- The VM estimates the number of KP using the various sites in the LGA.
- Number of persons registered; number of persons active at point in time estimated and recorded. The profiling is repeated thrice weekly on virtual sites.
- VM then generates estimates for MSM in the state by LGA

3.9.3 STAGE 3: SAMPLING – MSM QUANTITATIVE INTERVIEWS WITH A SAMPLE OF MSM SELECTED FROM VIRTUAL SITES

1. Interviews included 170 KPs across 17 virtual sites (10 persons per site).
2. Interviews aimed at understanding their use of virtual and physical sites.
3. Information areas during the interview included the following:
    a. Characteristics of MSM
    b. All the websites/apps that the MSM registered with
    c. Multiple registrations
    d. Number of friends on each website
    e. HIV services exposure / testing practices at hotspots
    f. Unmet needs for HIV service delivery at virtual sites

g. Preferred service delivery approach

4.0 IMPLEMENTATION STRUCTURES

The study was coordinated and managed by the Survey Management Team (SMT). SMT comprised two major teams at the different levels of government which facilitated effective stakeholder engagement and ensured a seamless process in the course of implementation at each level. These teams were the national and state teams, at national and state levels respectively.

National Level:

- Steering Committee
- National Technical Committee
- Project Implementation Team

State Level:

- State Technical Committee
- State Management Team

4.1 SURVEY MANAGEMENT TEAM

The Steering Committee coordinated and exercised oversight functions throughout the period of the study. The principal investigator DG NACA led the Steering Committee. The Project Implementation Team (PIT) monitored activities daily, including field implementation and facilitated progress of the study in relation to meeting timelines and deliverables. The PIT team provided regular updates and worked closely with the National Technical Committee and State Technical Committee in providing conducive and congenial environment for the study implementation. See annexure

4.2 TECHNICAL COMMITTEE

The National Technical Committee (NTC) supervised the field operations across the 20 states and State Technical Committee (STC) in their respective states. Technical Committees advocated for the smooth conduct and supervised field implementation of the study at the national and state level ensuring proper conduct of the study within the provision of the protocol. The National Technical Committee comprised of representatives from NACA, NASCP, the UN agencies, PEPFAR, KP secretariat, partners involved in KP programming and KP related research including the Institute for Global Public Health-University of Manitoba, Population Council, Heartland Alliance, FHI360, SFH, West African Centre for Public Health and Development (WACPHD) and the

University of Maryland Baltimore. State Technical Committees comprised of KP members, State CSO/CBO, SAPC, IPs and was led by SACA.

4.3 FIELD IMPLEMENTATION

The field implementation process entailed the field team recruitment, training, logistics, field operations and monitoring activities for continuous quality assurance.

4.4 FIELD TEAM COMPOSITION AND FUNCTIONS

The state technical committee, in partnership with NACA, SACA, KP networks and the UoM/WACPHD recruited the field teams using 3 constituted recruitment panels per state, and had the responsibility of selecting the number of persons required for L1 and L2 data collection. Field teams comprised of (1) State Management Team and (2) Field data collection team

4.4.1 STATE MANAGEMENT TEAM

The State Management Team comprised of UoM State representative/Coordinator, Technical Compliance and Conformance Officer, Finance officer and the Data/IT officer.

UoM State representatives, TCCO and supervisors were responsible for daily logistics and field management, supervision, human resources management and quality assurance of field work

4.4.2 FIELD DATA COLLECTION TEAM

State field data collection team comprised of supervisors, interviewers, social mobilizers, and Virtual Mappers who worked closely with the State Management Team.

Criteria for selection of the field team were as follows:

- Field Workers- experience in previous and related survey, educational background, ability to use android devices, core and technical competencies, Individuals and KPs who met the criteria were chosen for specific field positions
- When KP could not be found in appropriate proportion for study, non-KP are used
- Ensuring appropriate KP representation within the field teams
- Virtual mappers for MSM -MSM persons only
- Data entry: Previous experience was required

- Recruitment process was finalized after training as assessments during training on individual's capacities also counted as a final recruitment criterion.

4.5 FIELD TEAM TRAINING CONTENT

Selected representatives of all state field teams were trained for four days at the central level (CLT) on all aspects of mapping which held in Abuja and Lagos respectively. They were trained on the following areas:

- Understanding mapping and the basic concepts of geographic/programmatic mapping
- Mapping methodology and Level 1 and Level 2 mapping
- Data collection and collation
- Basic interviewing skills, with special emphases on interviewing about sex and injecting drug use issues
- Sensitivity of working with Key populations
- Ethical Issues in Research Implementation
- Using a Right based approach in working with KP
- Team building, Conflict Resolution, Communication, values and attitudes
- Security Tips during field implementation
- Practical hands-on session on electronic data collection tool
- Different aspects of field work;
- Accessing vulnerable groups
- Explaining the rationale and objectives of the study to the subjects
- Getting consent for interview
    - The interviewing processes
    - Probing and translating information

Power point presentations and role play practical sessions, group work/exercises, field practice visits were part of the process to equip participants with hands-on experience on field implementation of a mapping exercise.

4.6 FIELD OPERATIONS AND LOGISTICS

Field offices were established in SACA offices in the 20 study states, with a representative from the STC running the secretariat. Available human resources for field teams per state differed based

on the amount of work for specific states and comprised of not less than two interviewers per team working in the field to collect L1 data. At Level 2, the teams were more specialized working with a specific key population typology. Timing of data collection in level two was largely driven by the timings of the spot's activities. In addition, social mobilizers (KP community members) worked with field interviewers to facilitate access to the target community. MSM community members were used as virtual mappers in the study states. Commodities (condoms and lubricants) were used as gate-entry incentives for the key informants.

Daily schedules of activities were prepared by state field teams and approved by UoM. Field teams met daily for routine briefing. The State Technical Committee, with designated data officer monitoring submissions in the central office, monitored data collection daily. Weekly review meetings were held to discuss the field work, data issues and any difficulties encountered by the state field team.

Two vendors were engaged centrally through a competitive process for transportation logistics. Each vendor was responsible for 10 states apiece.

The KPSE implementation received commodities and logistic support including condoms and lubricants, from the under listed organisations/partners through the Government of Nigeria (NACA):

- United Nations Population Fund (UNFPA) ***(also provided helicopters in Borno state)***
- Zamfara State Agency for the Control of AIDS
- Borno State Agency for the Control of AIDS
- Delta State Agency for the Control of AIDS
- Family Health International (FHI360)
- AIDS Healthcare Foundation (AHF)
- Heartland Alliance Limited/Guarantee (HALG)
- APIN Public Health Initiative (APIN)
- Society for Family Health (SFH)
- Excellence Community Education and Welfare Scheme (ECEWS)
- Concerned Youth Development Initiative (CYDI)

4.7 QUALITY ASSURANCE STRATEGY

A robust field monitoring system, across different levels- national and sub-national, was deployed for study implementation. The system adopted innovative supportive supervisory monitoring strategies to support field teams during field activities. The system included routine activity plans: (1) daily activity plans; (2) weekly activity and (3) update Dash Boards. A quality assurance plan was developed as part of the study protocol and implemented taking cognizance of peculiar state context. The TCCO and other members of the field team were responsible for ensuring quality of data (selection of KIs, selection of key spots, quality of interviews, filling of forms on tablets, etc.). Various measures used are as follows:

1. Morning briefing/evening debriefing meetings conducted with the field team on a daily basis, where daily plans were discussed and feedback obtained regarding the previous day's work. All issues faced in the field were discussed with the supervisors and the team leaders and troublesome occurrence and best practice documented.
2. Random spot checks were conducted to ensure the validity and quality of information being collected. The National and State technical team visited and provided support to the field team.

A monitoring and quality assurance system was designed with timeline to complete the data collection activities within delineated time frames. Approved checklists were used during monitoring as part of quality assurance measures.

Monitoring activities were carried out by National (Government and partners including Key Population secretariat team), States (STC) and UoM monitors across the twenty states throughout the period of the exercise (L1 and L2). All monitors were given compulsory monitoring orientation on the use of monitoring forms/checklist, report forms and finance forms prior to field visit in line with the protocol specification. Measures were taken to ensure the safety of field teams and key population groups throughout the exercise.

5.0 DATA MANAGEMENT AND ANALYSIS

UoM IGPH was responsible for the study data management processes, spanning data collection, cleaning, sorting, editing, analysis and reporting.

An electronic application with in-built quality checks was developed for data capturing using SurveyCTO innovation. A flexible database was developed that allowed migration to other formats such as EXCEL and STATA. Custom survey forms tailored to the KPSE 2023 questions were created using SurveyCTO. This feature allowed inclusion of skip patterns, validation checks, and other quality control measures that help improve data quality. SurveyCTO was further used to monitor data collection in real-time, enabling quick identification and addressing of any data quality issues. The platform also provided real-time alerts for any data validation errors or inconsistencies.

GPS locations were captured and imported into GIS, this provided real time validation of data collected, enhanced data cleaning process and resulted in an overall improvement on data quality. Furthermore, GIS was used to analyse data collected in the field allowing for detailed and accurate understanding of KP distribution (density maps).

The UoM state representatives, the TCCO and data/IT officers, working in collaboration with national data team were responsible for all aspects of quality and consistency of data. Computerized data base system was used for data entry, review and summary on a daily basis.

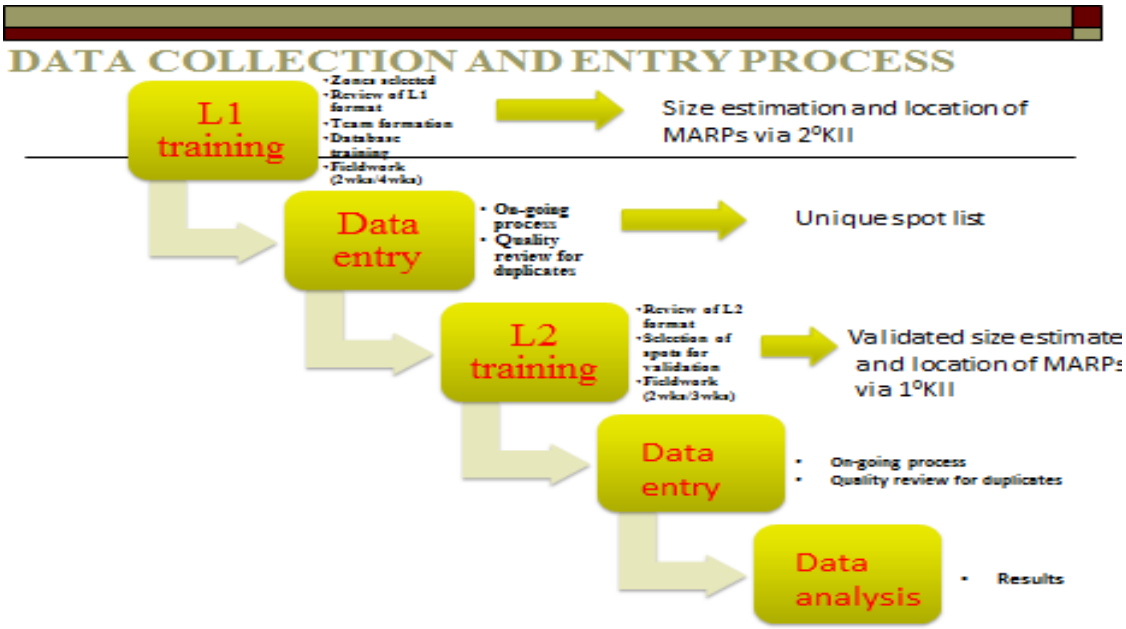

Figure 5: Diagrammatic Representation of Data Entry Approach

5.0 RESULTS

The 2023 KPSE study was conducted in 20 states, covering 389 (94%) out of the 413 targeted LGAs. 24 (6%) LGAs were not mapped due to persisting security and environmental challenges. Findings of the exercise were disaggregated by State, LGA, KP typology and sub-typologies.

5.1 L1 FINDINGS

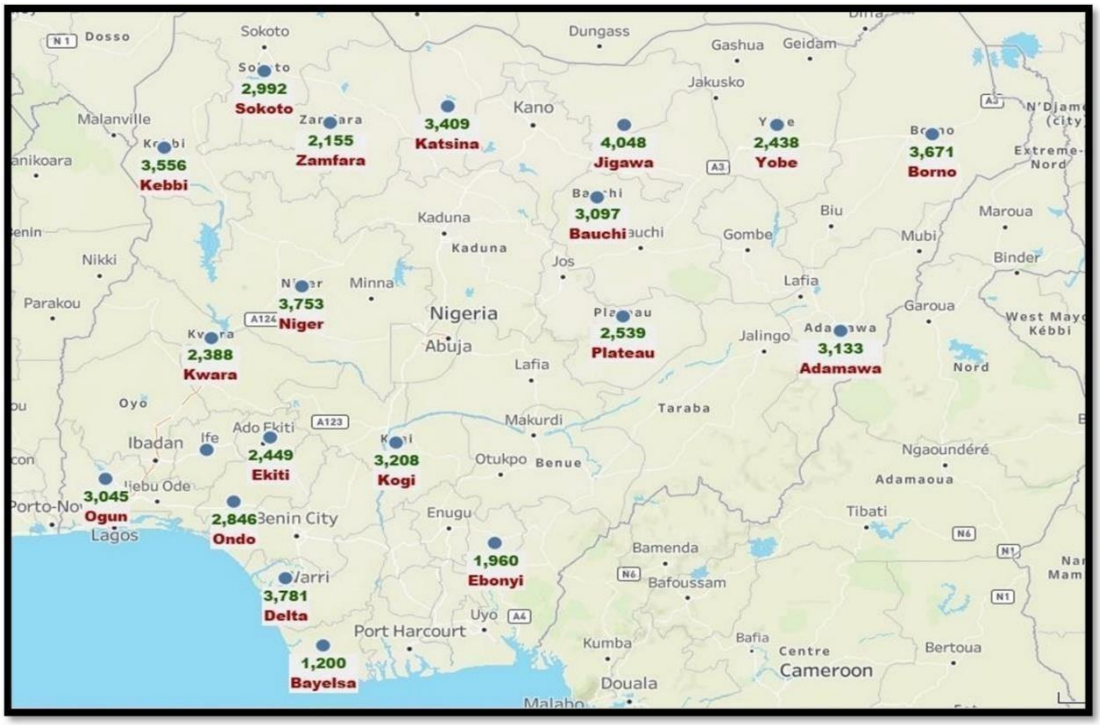

Figure 6: Number of KI interviews conducted during Level One by State

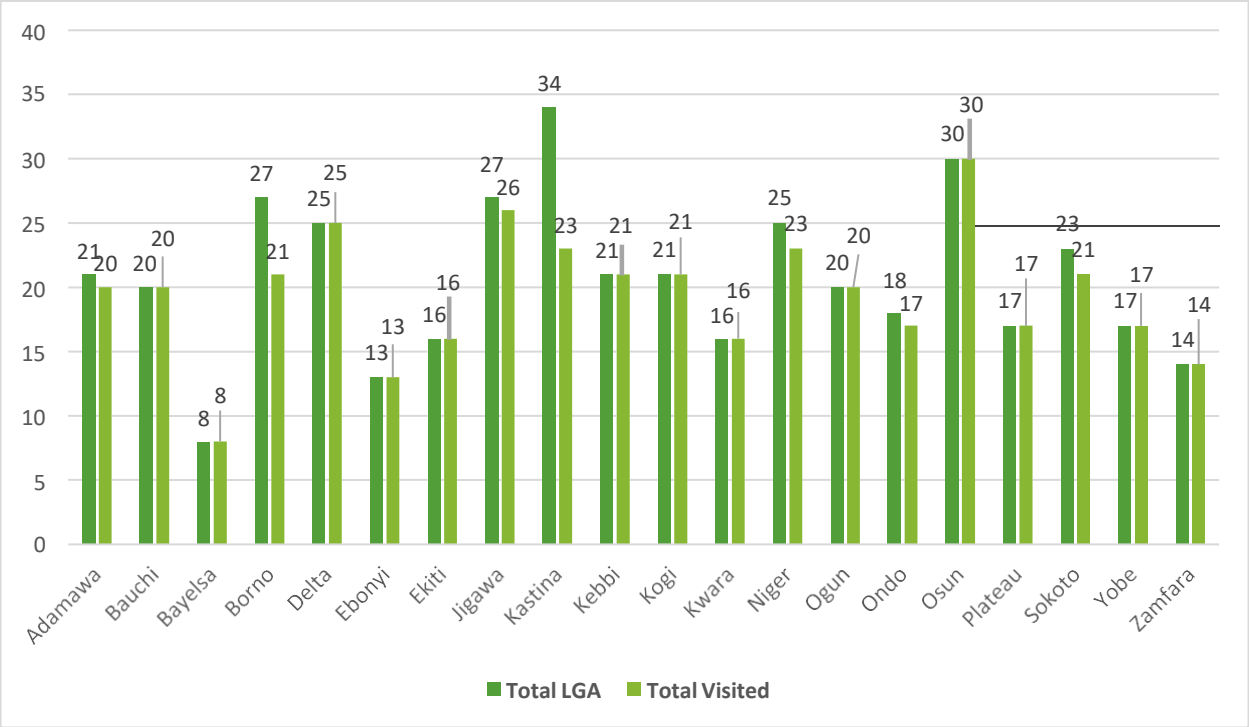

Figure 7: Number of LGAs visited during Level One by State

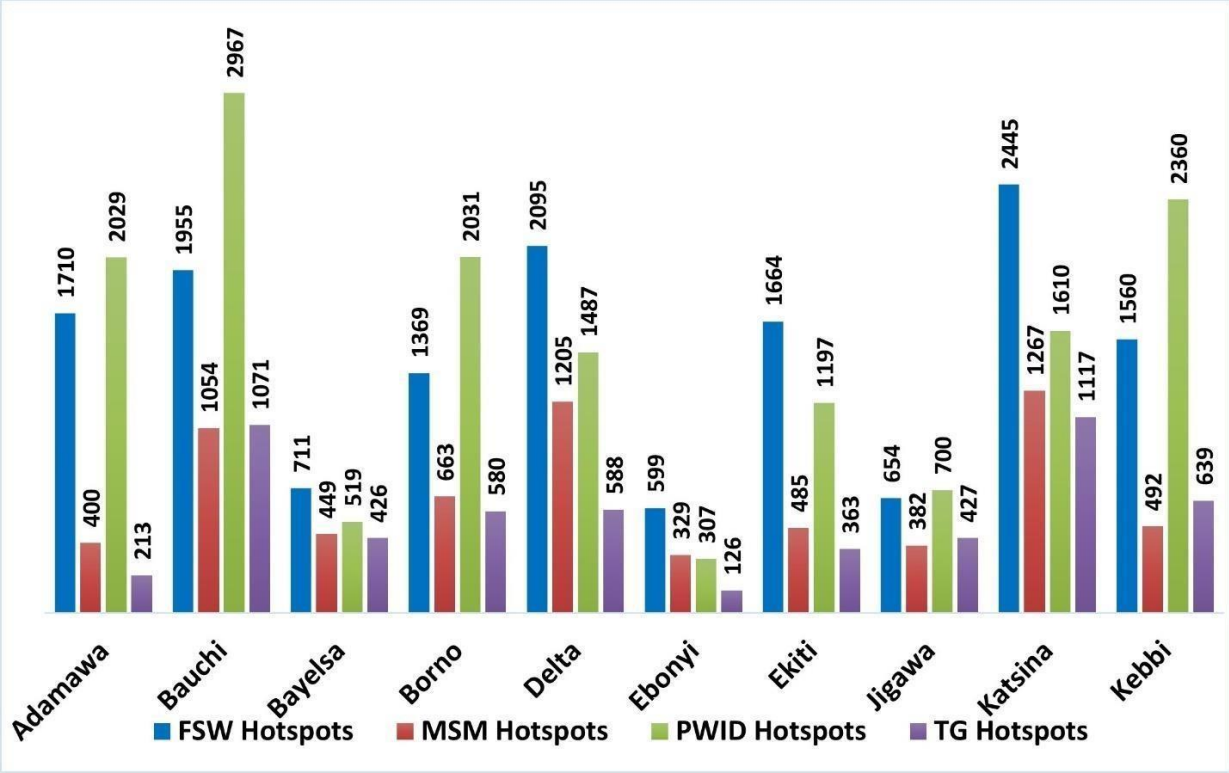

Figure 8: Number of KP Hotspots Listed during L1 by States (10) by Typology

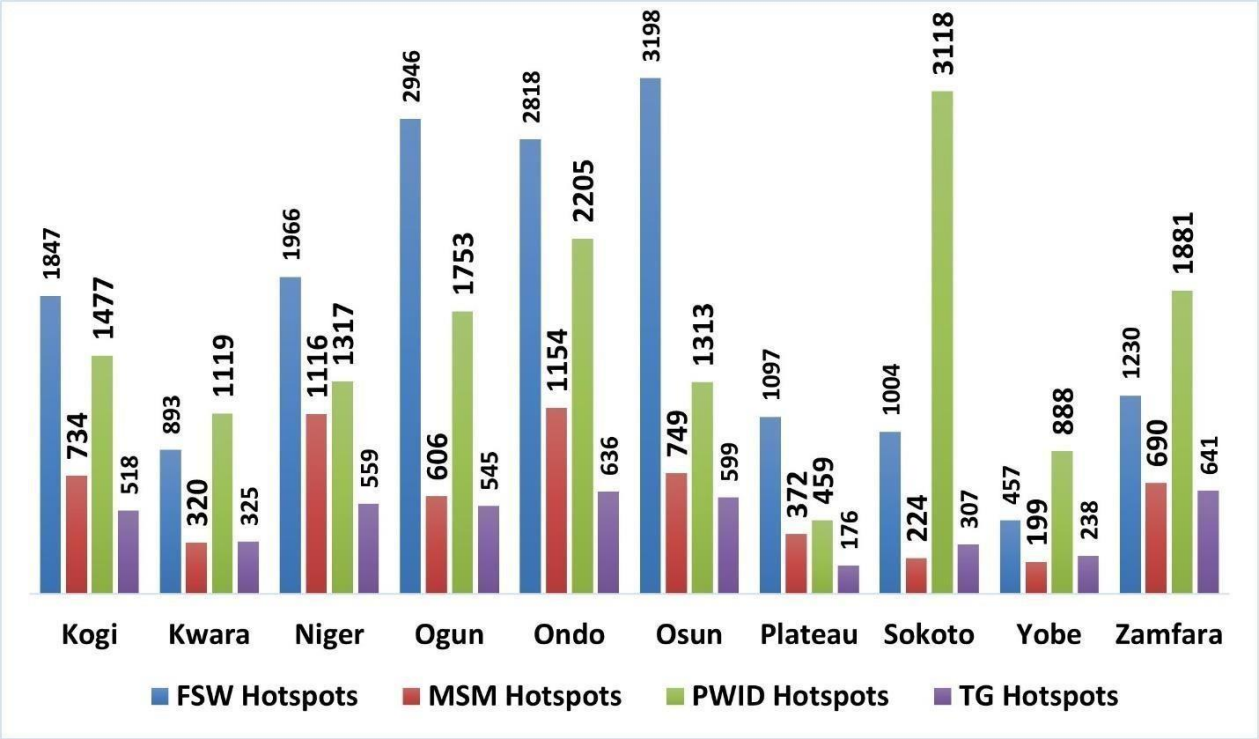

Figure 9: Number of KP Hotspots Listed during L1 by States (10) by Typology

5.2 L2 FINDINGS

The mapping exercise validated a total of 55,418 active hotspots for all KP typology across 20 states. Majority of the hotspots validated were FSW (34%) and PWID (33%), while MSM (18%) and TG (15%) had the lowest proportion of hotspots identified. However, variations exist across the states by KP typology.

The table below shows disaggregation of hotspots by KP typology:

Table 5: Total Hotspots by KP Typology

KP typology	Total hotspot	Percentage
FSW	18,711	34%
PWID	18,419	33%
MSM	10,192	18%
TG	8,096	15%

Total	55,418	100%

Days of hotspot activities were categorized into usual days and peak day. Peak day estimate is the day of maximum estimate/activities at the hotspot, while other days are Usual days. (Table 6)

Table 6: Overall Estimate of KP across the 20 States

KP	**Peak Day Estimates**		
	Minimum	**Maximum**	**Average**
FSW	158,567	254,613	206,590
MSM (Physical)	63,580	108,987	86,283
MSM (Virtual)[16]	67,967	81,067	73,925
PWID	94,770	201,960	148,365
TG	39,223	65,498	52,361

The exercise estimated a peak day average of 206,590 FSW (minimum: 158,567 and maximum: 254613), 86,283 MSM at physical spots (minimum: 63,580 and maximum: 108,987), 73925 MSM at virtual spots (minimum: 67967 and maximum at 81067), 148365 PWID (minimum: 94770 and maximum: 201960) and 52361 TG (minimum: 39223 and maximum: 65498) across the 20 states. The estimates were adjusted based on factors which includes - the KP presence or absence at physical spots based on time and day, KP visiting multiple hotspots and virtual platform presence specifically for MSM.

Mapping of MSM on virtual platform was done to estimate and profile MSM in virtual spaces. The following were reported across the 20 states:

- 18% of MSM operate strictly on Virtual platforms
- 35% of MSM had contact with HIV peer educator
- 57% of MSM were aware of HIV programs for MSM

[16] Note that overlap exist between the MSM Physical and MSM virtual figures

Table 7: Availability of Services at KP Hotspots across the 20 States

	Condom	Lubricant	HIV Testing	HIV Treatment	STI Treatment	Peer Education	Needle Disposal	OST	Needle Replacement
FSW	42%	28%	21%	12%	12%	15%			
MSM	43%	38%	21%	13%	13%	15%			
PWID	25%	18%	15%	9%	7%	11%	9%	5%	8%
TG	52%	42%	23%	10%	17%	15%			

Availability of services assessed at the hotspots across the 20 states :

1. FSW hotspots: Condom: 42%; Lubricant: 28%; HIV Testing: 21%; HIV treatment: 12%; STI treatment: 12%; HIV Peer Education: 15%.
2. MSM hotspots: Condom: 43%; Lubricant: 38%; HIV Testing: 21%; HIV treatment: 13%; STI treatment: 13%; HIV Peer Education: 15%.
3. PWID hotspots: Condom: 25%; Lubricant: 18%; HIV Testing: 15%; HIV treatment: 9%; STI treatment: 7%; HIV Peer Education: 11%; Needle Replacement: 8%; OST: 5% and Needle disposal: 9%.
4. TG hotspots: Condom: 52%; Lubricant: 42%; HIV Testing: 23%; HIV treatment: 10%; STI treatment: 17%; HIV Peer Education: 15%.

5.2.1 STATE LEVEL FINDINGS

This section describes detailed results of the programmatic mapping and size estimation including virtual mapping for the various KP typology across the 20 states.

5.2.2 ESTIMATES OF FSW BY STATES

Table 8: Estimates of FSW by States

State	No of spots	Usual Day Estimates			Peak day estimates			% Contribution by usual day maximum estimate
		Min	Max	Avg	Min	Max	Avg	
Adamawa	913	4534	6425	5479	7362	9747	8555	4.6
Bauchi	848	3913	6079	4996	6175	9778	7977	4.2
Bayelsa	537	2410	3611	3010	4034	6284	5159	2.5
Borno	1254	7492	14232	10862	13220	23282	18251	9.2
Delta	1427	13028	20635	16832	21730	33995	27862	14.2
Ebonyi	563	1791	2849	2320	3319	4896	4108	2.0
Ekiti	719	2182	3483	2833	2622	4633	3628	2.4
Jigawa	671	2716	4293	3505	4261	6808	5535	3.0
Katsina	1919	5852	10802	8327	12890	22518	17704	7.0
Kebbi	812	4340	6990	5665	7655	12381	10018	4.8
Kogi	884	3501	6117	4809	6098	10366	8232	4.1
Kwara	591	2200	3374	2787	3339	5342	4341	2.4
Niger	1415	4617	7572	6094	8558	13022	10790	5.2
Ogun	1238	6660	10985	8823	12080	19229	15655	7.5
Ondo	1516	6466	10539	8503	11638	18109	14874	7.2
Osun	795	2415	4026	3220	4544	7336	5940	2.7
Plateau	578	4420	7461	5941	9259	14571	11915	5.0
Sokoto	878	6293	10591	8442	10651	17373	14012	7.1
Yobe	389	1611	2859	2235	3568	5984	4776	1.9
Zamfara	764	2601	4510	3556	5564	8958	7261	3.0

From the table above the distribution of hotspots for FSW is highest in Katsina State with 1919 hotspots and lowest in Yobe State with 389 hotspots. Peak day estimate varies with maximum ranging from 4,633 (Ekiti) to 33,995 (Delta).

5.3.2 DENSITY OF FSW HOTSPOTS

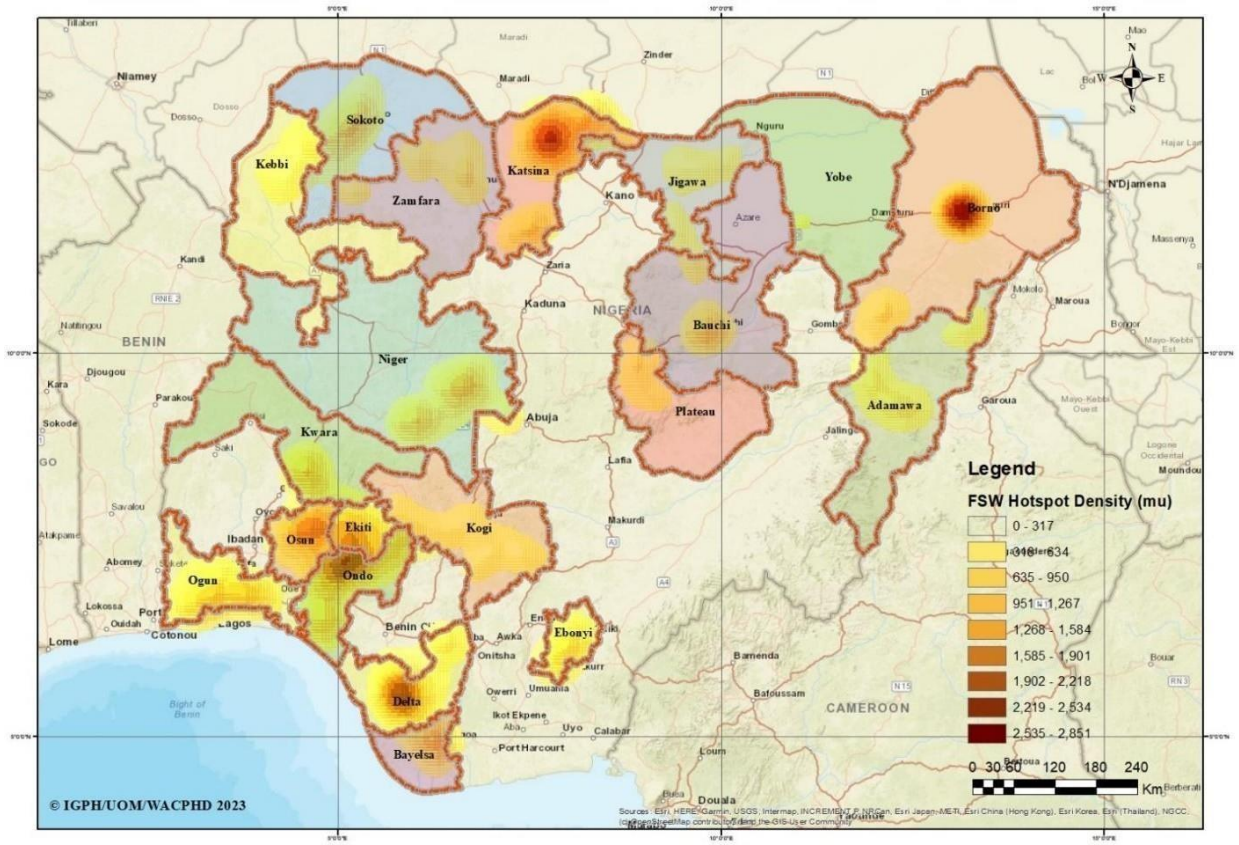

Figure 10: Density of FSW Hotspots across States

Female sex workers hotspots' density across the 20 states as represented above provides insights into the concentration and spatial distribution of hotspots. The map reveals areas with varying density levels, ranging from low to high concentrations. Higher density of hotspots, represented by darker shades on the map are seen in Borno, Katsina, Delta, Ekiti, Ondo, and Osun states while Yobe and Niger have lower density implying comparatively fewer hotspots.

5.3.3 DISTRIBUTION OF FSW HOTSPOT BY SPOT TYPOLOGIES

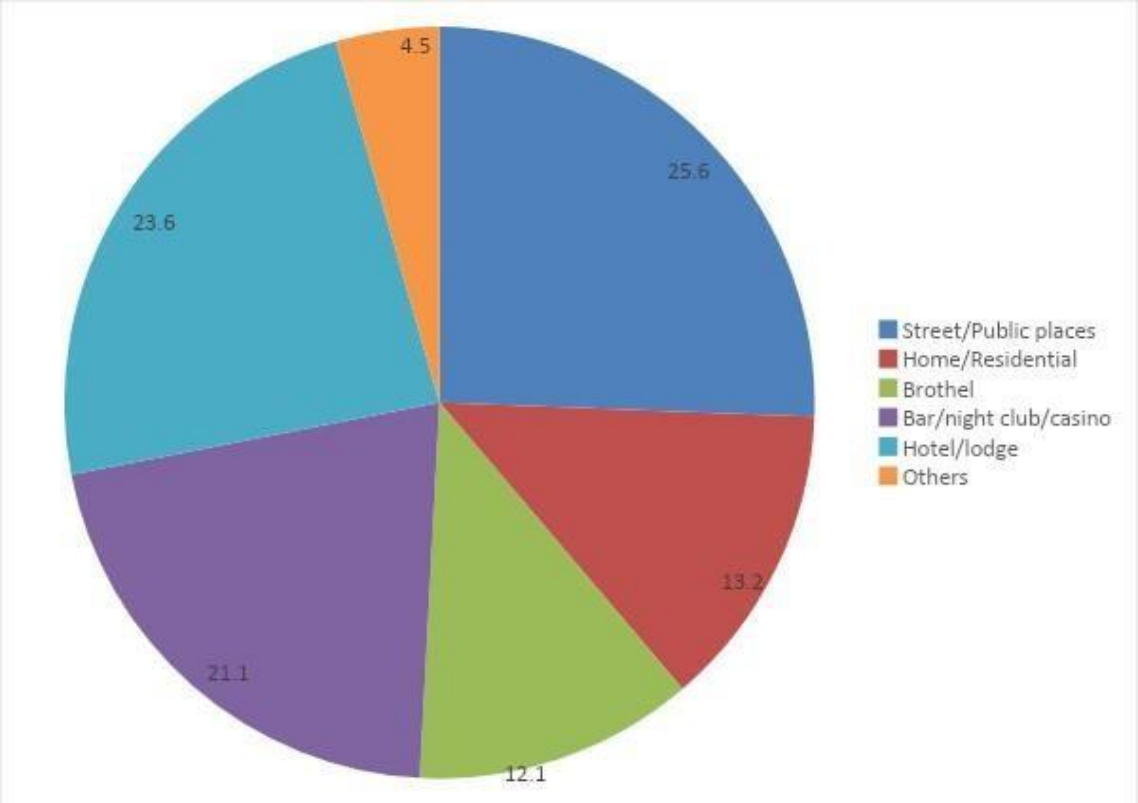

Figure 11: FSW Hotspots Distribution by Spot Typology

Figure 11 shows the distribution of Female Sex Worker (FSW) hotspots by spot typology. Street/Public Places has the highest percentage with 25.6%, Hotel/Lodge contributes 23.6%, while Bar/Night Club/Casino has 21.1%. Home/Residential, Brothel and Others[17] are represented by 13.2%; 12.1%; 4.5% respectively.

[17] Others are the following spot typologies: Beach, Cemetery/Abandoned Building, Drug Bunk, Escort (Call Girls/Mobile), Events, Hostel/Campus Based, Internet Site, Massage Parlour/Spa, Party, Public Transport Stop, Trailer (Truck) Stops and Under the Bridge.

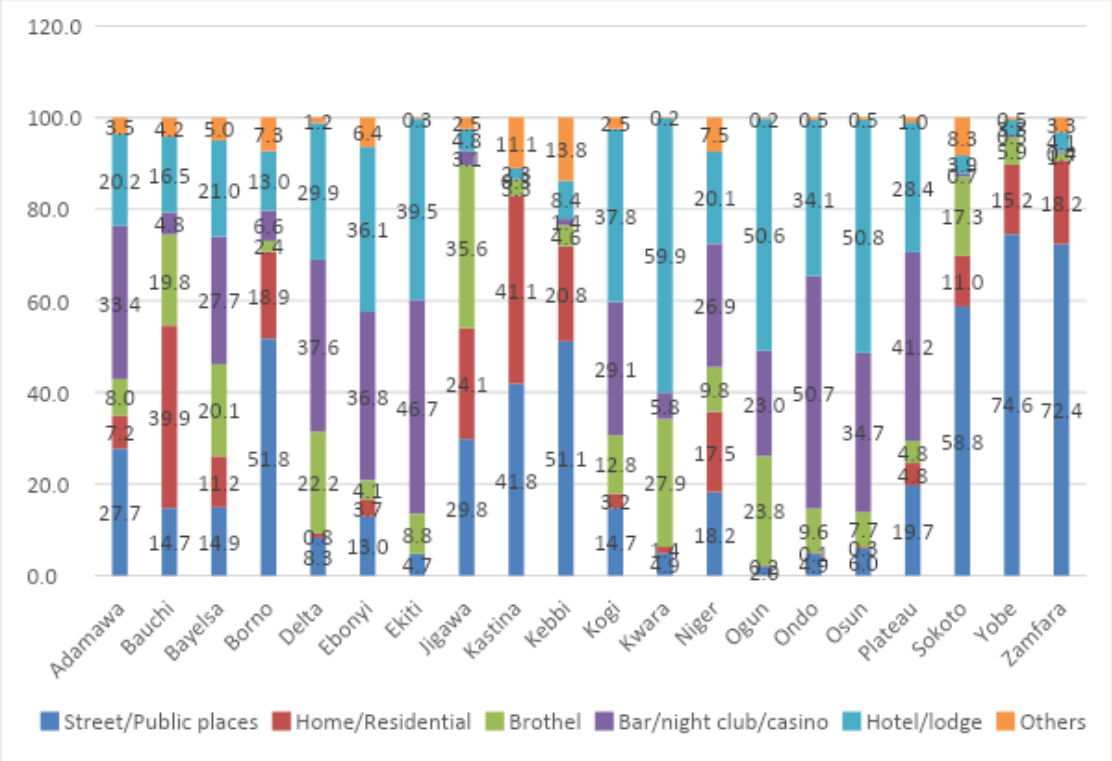

Figure 12: FSW Hotspot Distribution by Spot Typology by States

Figure 12 shows the distribution of Female Sex Workers (FSW) hotspots by spot typology across 20 states. Street/Public Places ranges from 2% in Ogun to 75% in Yobe, Home/Residential ranges from 1% in Delta to 41% in Katsina, Brothel ranges from 1.7% in Zamfara to 36% in Jigawa, Bar/Night Club/Casino range from 1% in Yobe to 51% in Ondo, Hotel/Lodge range from 2% in Katsina to 60% in Kwara, while Others range from 1% in Osun to 14% in Kebbi.

Street/Public Place hotspots are significantly higher in Borno, Katsina, Kogi, Sokoto, Yobe, and Zamfara compared to Delta, Ekiti, Kwara, Ogun, Ondo, and Osun states. Bauchi, Borno, Jigawa, Katsina, Kebbi, Niger, Sokoto, Yobe, and Zamfara had higher proportion of Home/Residential hotspots compared to other states. Adamawa, Bayelsa, Ebonyi, Ekiti, Kogi, Kwara, Ogun, Ondo, and Osun states had higher proportion of Hotel/Lodge hotspots compared to other states.

5.3.4 PEAK DAY OF OPERATION OF FSW HOTSPOTS

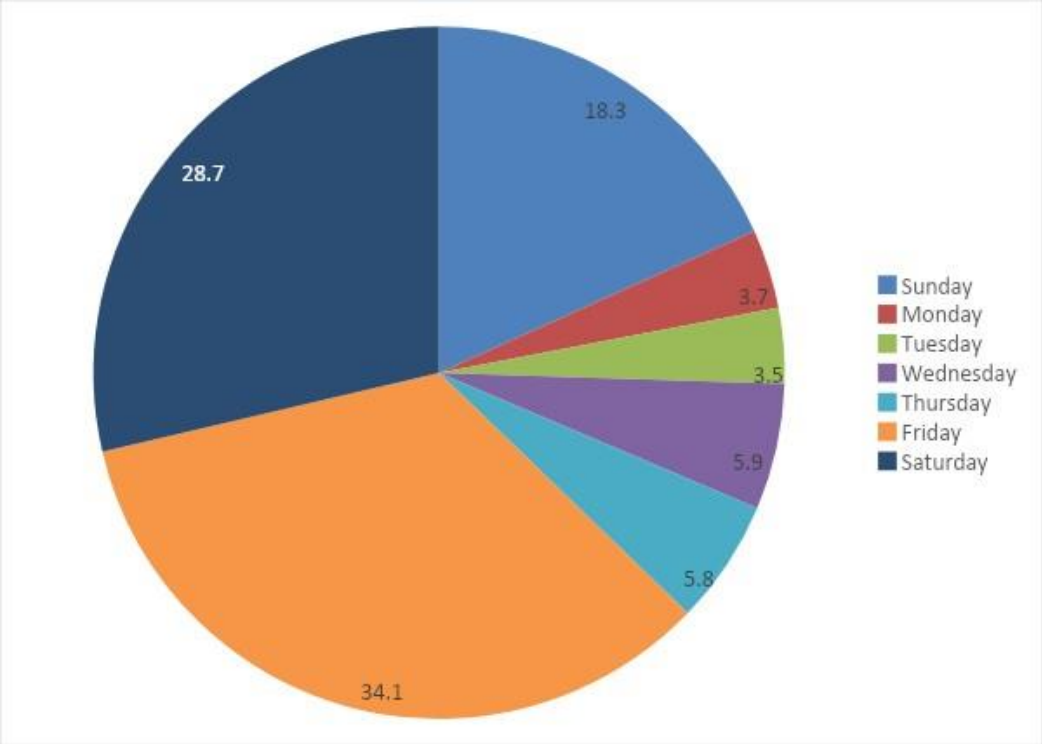

Figure 13: Peak Day of Operation of FSW Hotspots

Figure 13 shows that FSW hotspots have their peak day on Friday. High level of FSW activities occur over the weekends from Fridays (34%), Saturday (29%) and Sunday (18%).

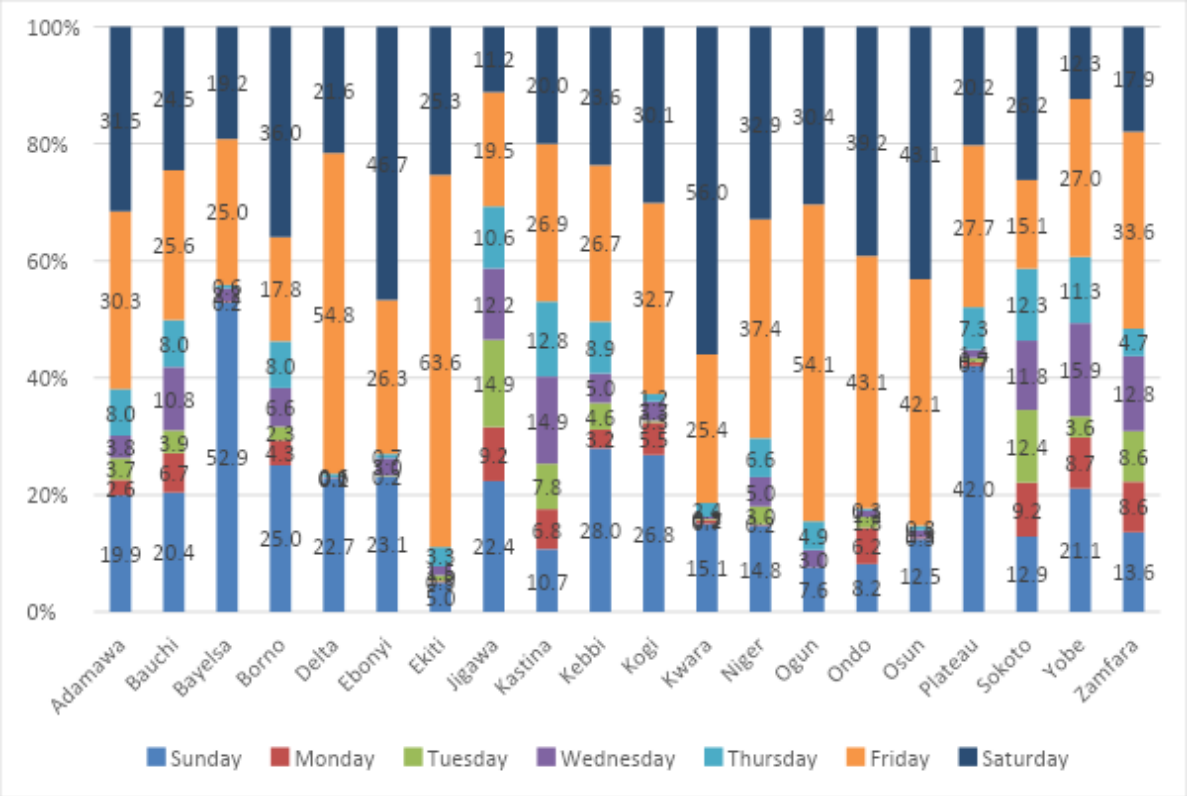

Figure 14: Peak Day of Operation of FSW Hotspots by State

Figure 14 above shows peak day of operation of Female Sex Workers (FSW) hotspots across the states. The peak day of FSW hotspots operation varies across states. Mondays, Tuesdays, Wednesdays, and Thursdays had lower levels of hotspot activities across most Southern states especially in Delta, Ebonyi, Ekiti, Kwara, Ogun, Osun, and Ondo. However, significant weekday activities were recorded among the Northern states including Adamawa, Bauchi, Borno, Jigawa, Katsina, Kebbi, Kogi, Niger, Sokoto, Yobe, and Zamfara. Generally, across the states, Fridays, Saturdays and Sundays stand out as the days with the highest levels of hotspot operation.

5.3.5 PEAK TIME OF OPERATION OF FSW HOTSPOTS

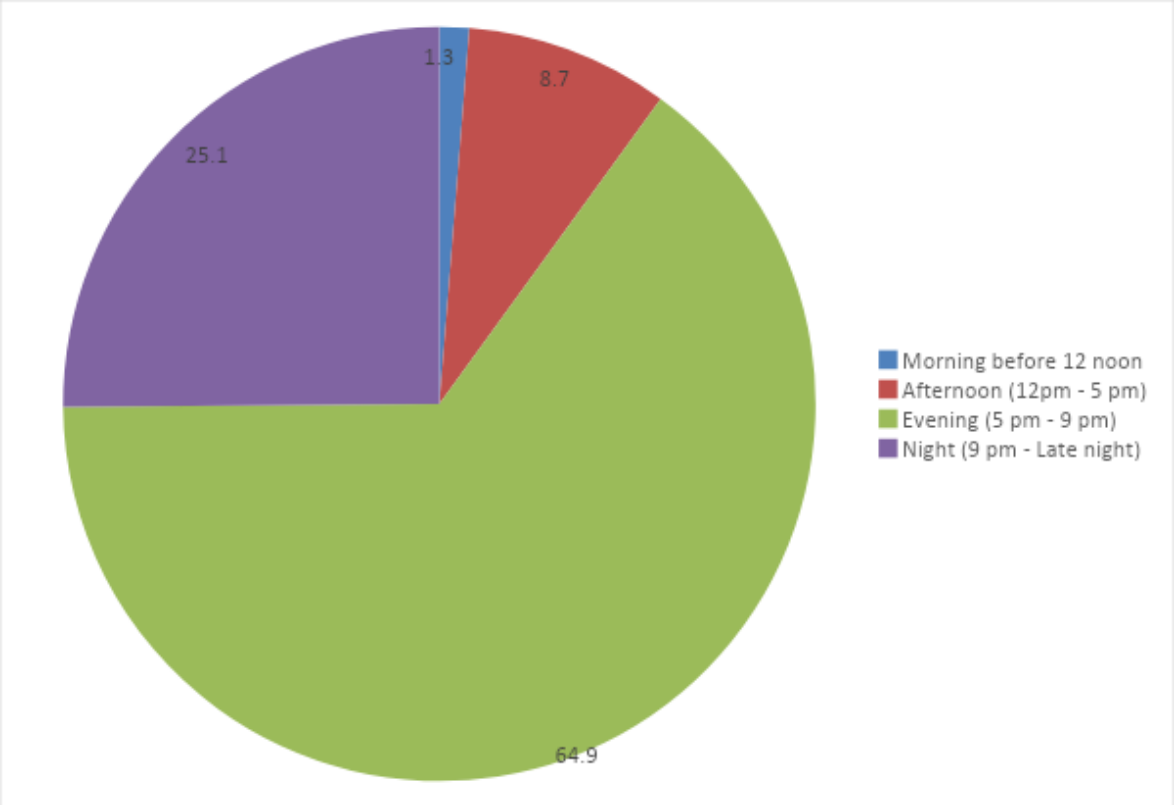

Figure 15: Peak Time of Operation of FSW Hotspots

Figure 15 presents peak time of operation of Female Sex Workers (FSW) hotspots. Evening (5 pm - 9 pm): 65%; Night (9 pm - Late night): 25%; Afternoon (12 pm - 5 pm): 9%; and Morning before 12 noon: 1%. Majority of FSW hotspots activity occurs in the evening, the night hours also have significant FSW hotspot activity, while the morning and afternoon have comparatively lower FSW hotspot activity.

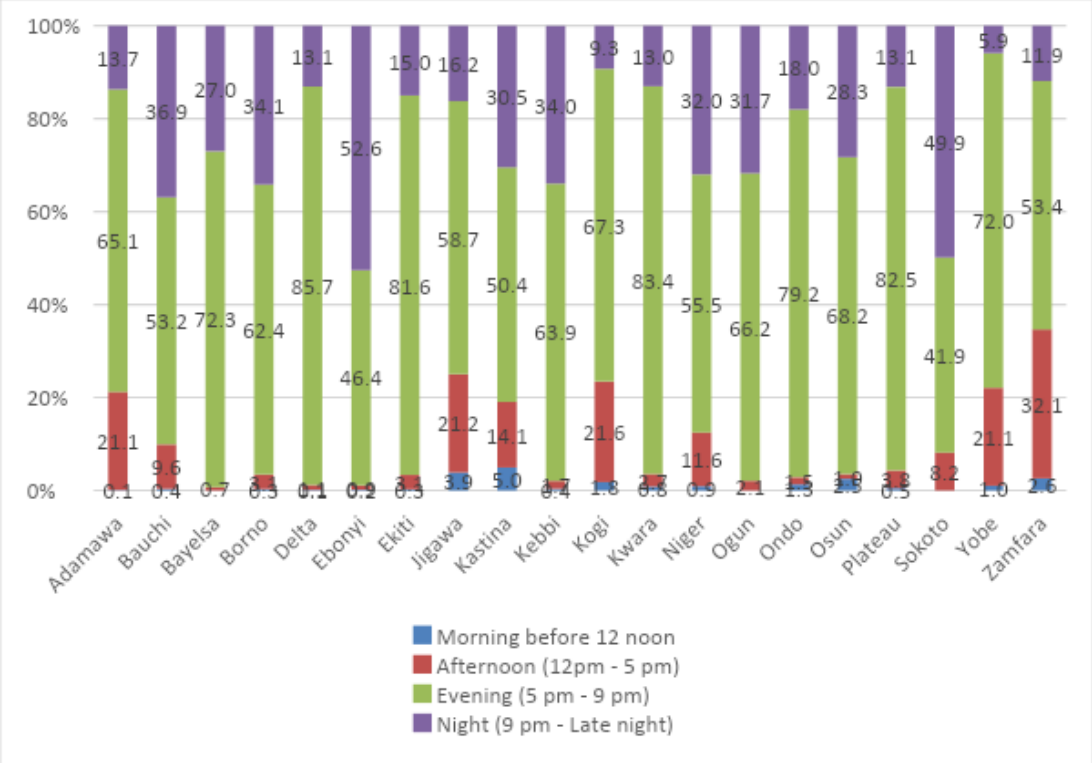

Figure 16: Peak Time of Operation of FSW Hotspots by State

Figure 16 shows the peak time of operation of Female Sex Workers (FSW) hotspots across the 20 states. FSW hotspot activities are higher during evening and night across the states with varying percentages. A significant level of FSW hotspot activities was observed during the afternoon in the northern states of Adamawa, Bauchi, Jigawa, Katsina, Kogi, Niger, Sokoto, Yobe, and Zamfara states.

5.3.6 ESTIMATES OF MSM BY STATE

Table 9: Estimates of MSM by States

State Name	No of spots	Usual Day Estimates			Peak day estimates			% Contribution by usual day maximum estimate
		Min	Max	Avg	Min	Max	Avg	
Adamawa	237	1047	1925	1486	1896	3050	2473	2.9
Bauchi	360	2487	4170	3329	4224	7274	5749	6.4
Bayelsa	313	1099	2074	1587	2083	3924	3004	3.1
Borno	672	1960	3293	2626	3033	5149	4091	5.1
Delta	659	2607	5166	3887	4216	7674	5945	7.5
Ebonyi	450	1233	2291	1762	2652	4848	3750	3.4
Ekiti	561	1186	2302	1744	1691	3586	2639	3.4
Jigawa	383	2205	3686	2946	3638	5697	4668	5.7
Katsina	1235	4823	8432	6628	8267	14023	11145	12.8
Kebbi	282	606	1308	957	1049	2130	1590	1.8
Kogi	432	972	1933	1453	1756	3482	2619	2.8
Kwara	430	2263	2561	2412	3490	3922	3706	4.6
Niger	1000	3084	5554	4319	4303	7619	5961	8.3
Ogun	432	1022	2258	1640	1852	4028	2940	3.2
Ondo	785	3047	5577	4312	5844	10031	7937	8.3
Osun	422	1018	1687	1353	1617	2721	2169	2.6
Plateau	229	922	1833	1377	1807	3243	2525	2.7
Sokoto	527	2899	5688	4293	5056	8533	6795	8.3
Yobe	147	297	540	418	503	939	721	0.8
Zamfara	636	2579	4169	3374	4601	7114	5858	6.5

From the table above, the distribution of hotspots for MSM is highest in Katsina State with 1,235 hotspots and lowest in Yobe State with 147 hotspots. Peak day estimate varies with maximum ranging from 939 (Yobe) to 14,023 (Katsina).

5.3.7 DENSITY OF MSM HOTSPOTS

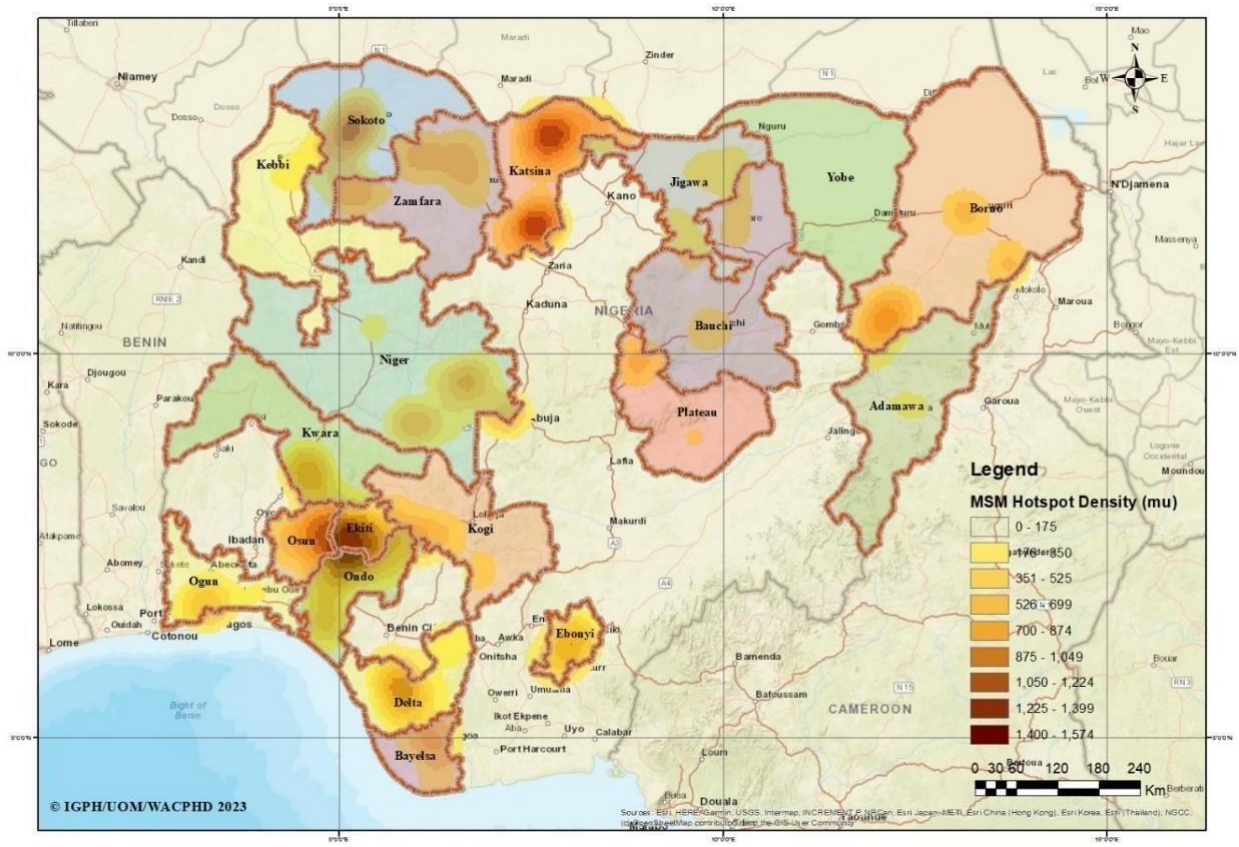

Figure 17: Density of MSM hotspots across States

The figure above shows the density of MSM hotspot across the 20 states. Katsina, Ondo and Osun have a higher density of hotspots while Kebbi and Yobe states had lower density of hotspots.

5.3.8 DISTRIBUTION OF MSM HOTSPOT BY SPOT TYPOLOGIES

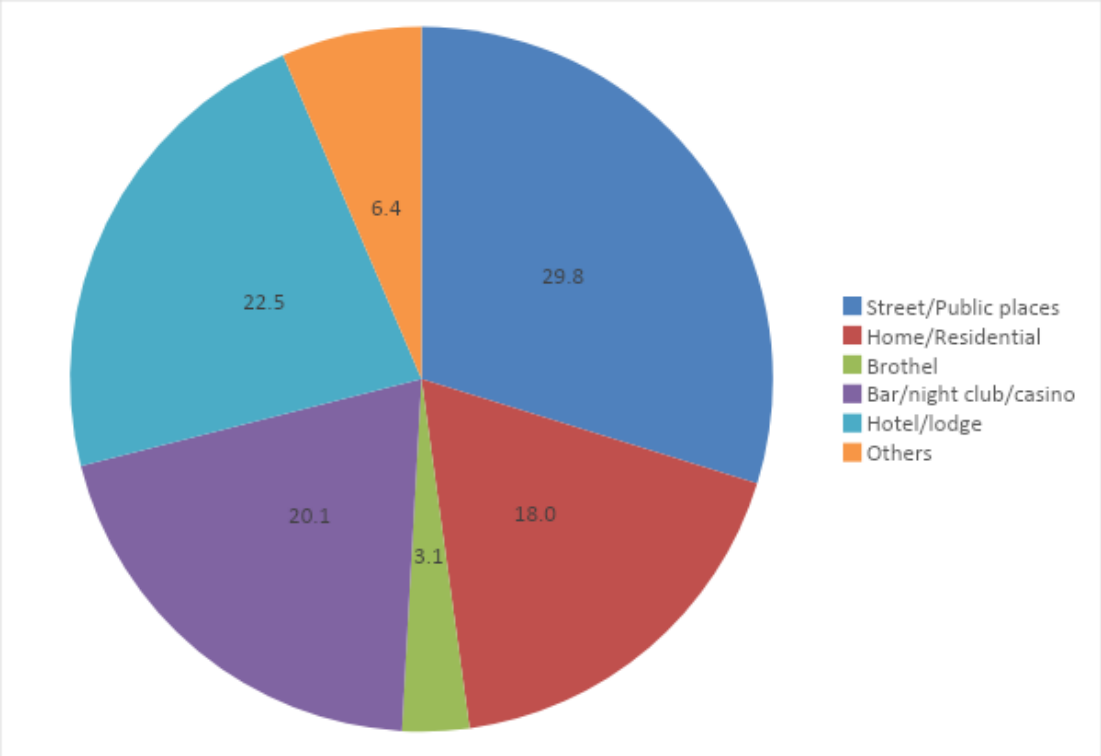

Figure 18: MSM Hotspot Distribution by Spot Typology

Figure 18 shows distribution of MSM hotspots by spot typology. Street/Public Places had the highest percentage at 30%; Home/Residential Hotel/Lodge, Bar/Night Club/Casino and Brothels account for 23%, 20% 18% and 3% respectively; Others[18] account for 6% of MSM hotspots.

[18] Others are the following spot typologies: Beach, Cemetery/Abandoned Building, Drug Bunk, Escort (Call Girls/Mobile), Events, Hostel/Campus Based, Internet Site, Massage Parlour/Spa, Party, Public Transport Stop, Trailer (Truck) Stops and Under the Bridge.

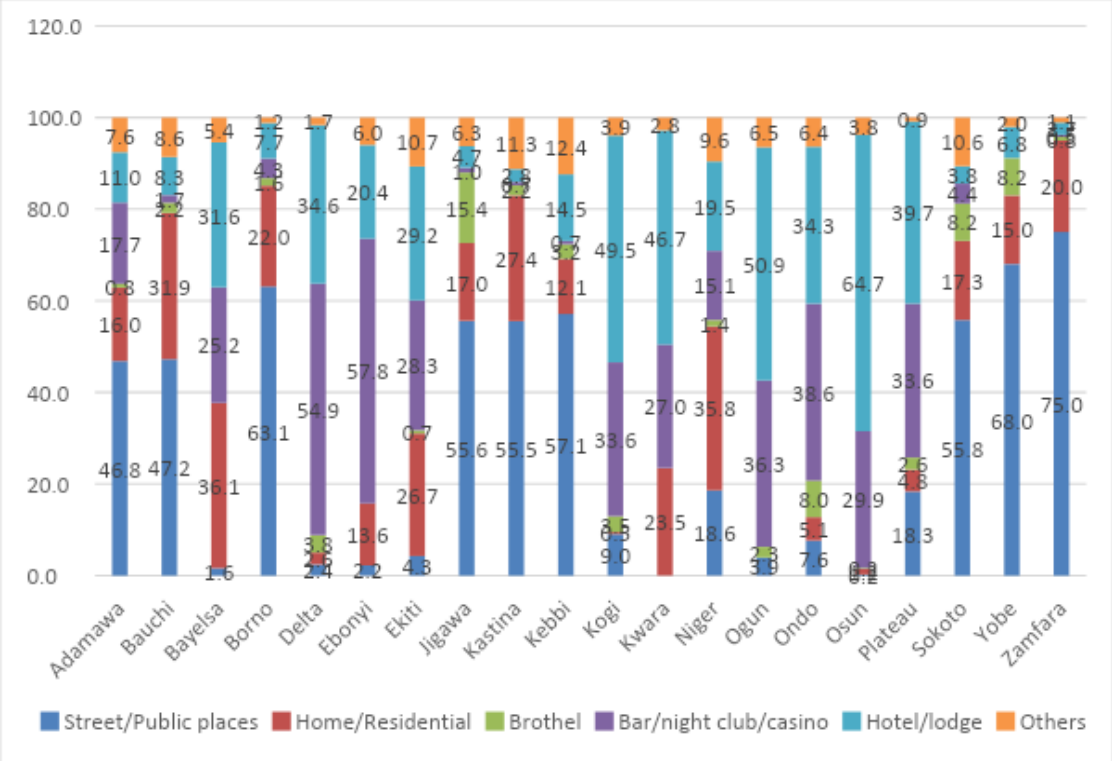

Figure 19: MSM Hotspot Distribution by Spot Typology by State

Figure 19 shows distribution of MSM hotspots by spot typology across 20 states. Street/Public Places ranges from 2% in Bayelsa to 75% in Zamfara, Home/Residential ranges from 4% in Plateau to 36% in Bayelsa, Brothel range from 1% in Ekiti, to 15% in Jigawa; Bar/Night Club/Casino ranges from 4% in Ekiti to 57% in Ebonyi; Hotel/Lodge ranges from 2% in Zamfara to 64% in Osun.

Adamawa, Bauchi, Borno, Jigawa, Katsina, Kebbi, Sokoto, Yobe, and Zamfara had a higher proportion of street/public places compared to other states. Bayelsa, Delta, Ebonyi, Ekiti, Kogi, Kwara, Ogun, Ondo, Osun and Plateau had a significant proportion of Bar/Night Club/Casino compared to other states.

5.3.9 PEAK DAY OF OPERATION OF MSM HOTSPOTS

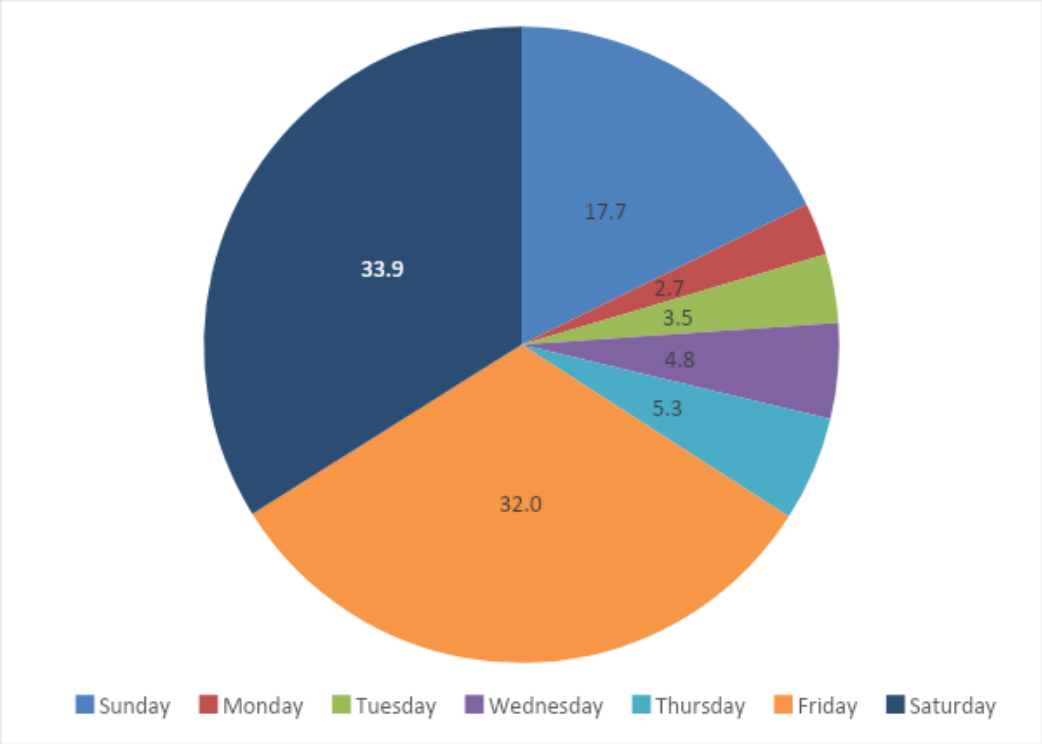

Figure 20: Peak Day of Operation of MSM Hotspots

Figure 20 shows peak day of operation of MSM hotspots. Peak day of MSM hotspot activities is on Saturday (34%). Increased level of spot activities also occurs on Friday (32%) and Sunday (18%).

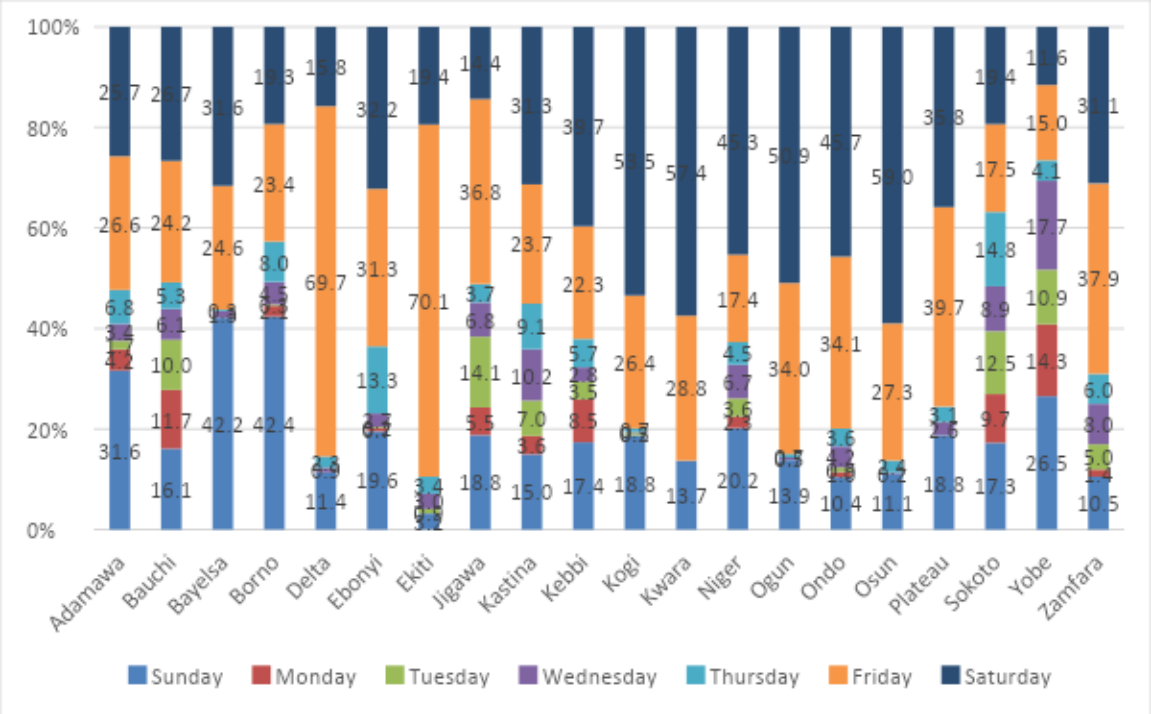

Figure 21: Peak Day of Operation of MSM Hotspots by State

Figure 21 shows the peak day of Men who have Sex with Men (MSM) hotspot activities across the 20 states. Friday is the peak day of activity for Delta, Ebonyi, Ekiti, Jigawa, Plateau, and Zamfara. Saturdays is the peak day of activity for Bauchi, Kebbi, Kogi, Katsina, Kwara, Niger, Ogun, Ondo, and Osun State. Adamawa, Bayelsa, Borno, and Yobe States have Sunday as peak day of MSM hotspots activities. MSM activities occur all through the week in Sokoto state.

5.3.10 PEAK TIME OF OPERATION OF MSM HOTSPOTS

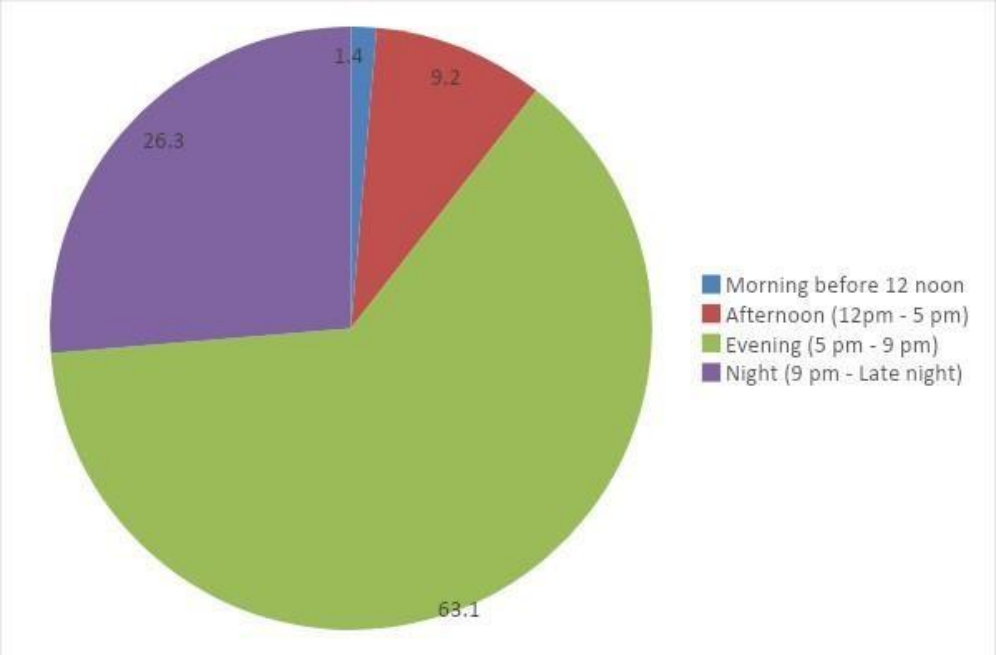

Figure 22: Peak Time of Operation of MSM Hotspots

Figure 22 shows the peak time of operation of Men who have Sex with Men (MSM) hotspot activities. The peak time of operation at MSM hotspots across the 20 states is in the evening (5pm to 9pm).

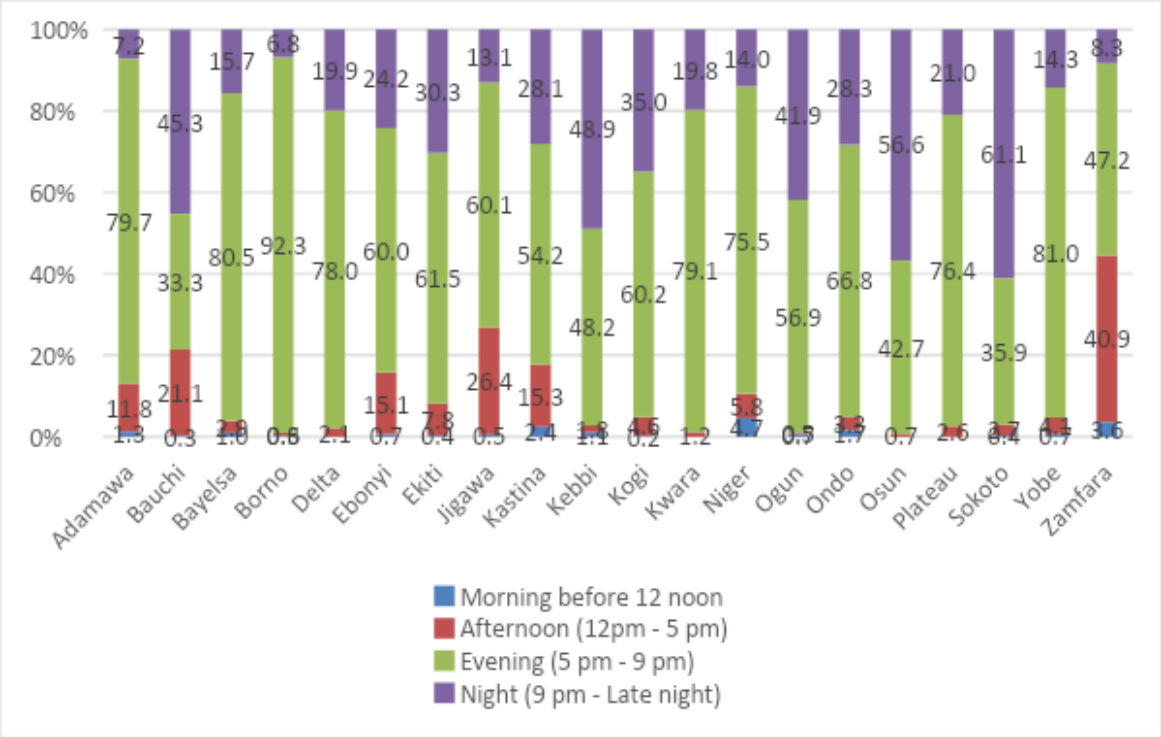

Figure 23: Peak Time of Operation of MSM Hotspots by State

Figure 23 shows the peak time of operation of MSM hotspots by state. Peak time of MSM hotspot operation varies across states and ranges from 1% to 5% at morning before 12 noon, from 1% to 41% at afternoon (12 pm - 5 pm), 33% to 92% in the evening (5 pm - 9 pm), 7% to 61% at night (9 pm - Late night). Across all states, peak time of operation for MSM hotspots are during the evening, however, night hours show substantial MSM activity, with lower level of hotspots activity during the morning and afternoons. Zamfara had a considerable high level of MSM hotspot activity in the afternoon.

5.3.11 ESTIMATES OF PWID BY STATE

Table 10: Estimates of PWID by States

State Name	No of Spots	Usual Day Estimates			% Contribution by usual day maximum estimate
		Min	Max	Avg	
Adamawa	933	3884	6794	5339	3.6
Bauchi	1338	9677	20143	14910	10
Bayelsa	353	1363	2483	1923	1.3
Borno	1974	9327	19351	14339	9.7
Delta	694	4513	9446	6979	4.7
Ebonyi	413	2543	5825	4184	2.8
Ekiti	896	4400	9703	7051	4.8
Jigawa	575	2191	4364	3278	2.2
Katsina	1538	6116	15243	10679	7.2
Kebbi	1200	6191	11776	8984	6.1
Kogi	1137	4246	8804	6525	4.4
Kwara	488	2510	4249	3380	2.3
Niger	923	3490	7661	5575	3.8
Ogun	831	3709	9611	6660	4.5
Ondo	1208	4313	12418	8366	5.6
Osun	531	3860	7160	5510	3.7
Plateau	320	1315	3461	2388	1.6
Sokoto	936	5341	9860	7600	5.1
Yobe	935	5034	12810	8922	6
Zamfara	1196	10746	20798	15772	10.6

Table 10 shows that Borno state with 1974 hotspot has the highest number of active hotspots for PWID. The usual day estimates (maximum) for PWID varies across states ranging from 2483 (Bayelsa) to 20,798 (Zamfara).

5.3.12 DENSITY OF PWID HOTSPOTS

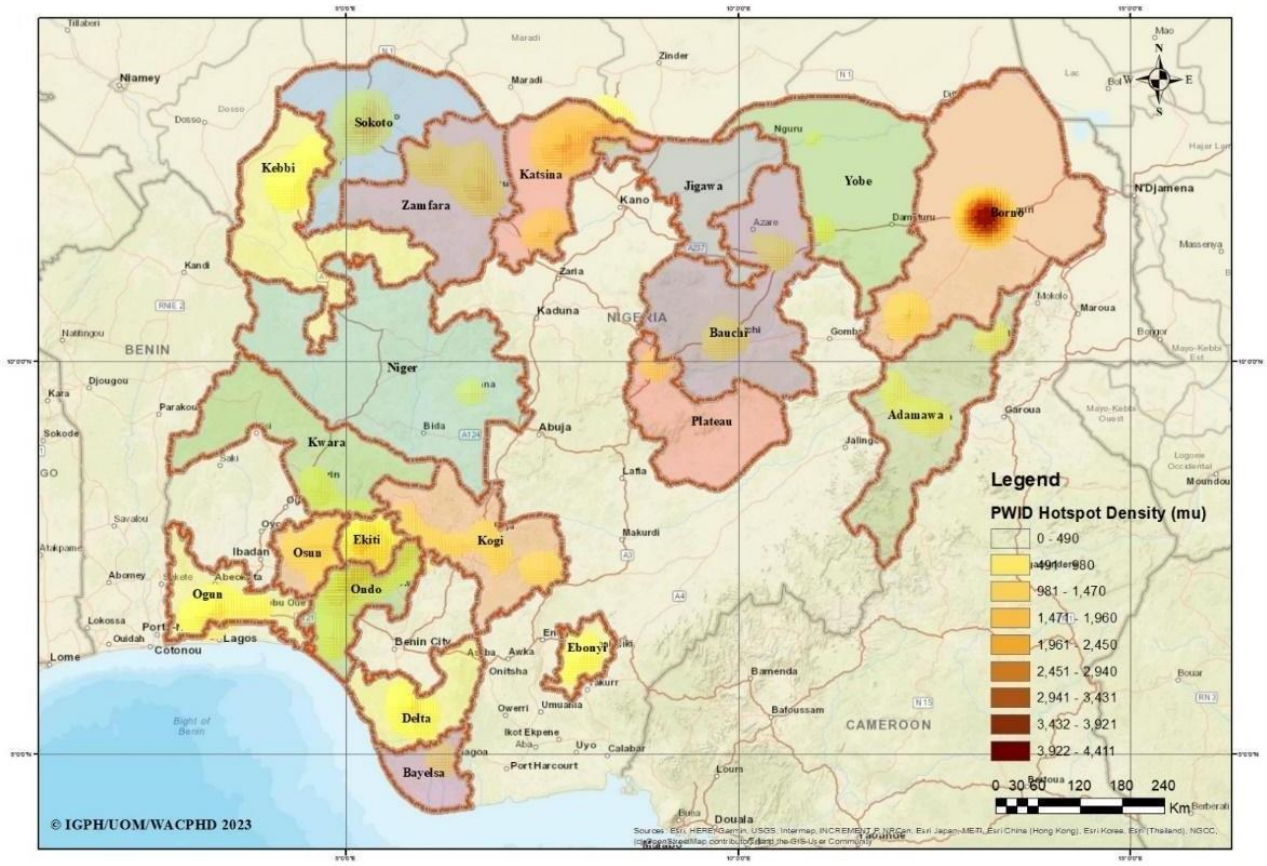

Figure 24: Density of PWID Hotspots across States

Figure 24 shows the density of PWID hotspots with insights into the concentration and spatial distribution of these hotspots across the 20 states. The map utilizes darker shades to represent areas with higher hotspot density, with notable concentration observed in Borno state. Lower density of hotspots was found in Yobe and Niger states indicating relatively fewer hotspots.

5.3.13 DISTRIBUTION OF PWID HOTSPOT BY SPOT TYPOLOGIES

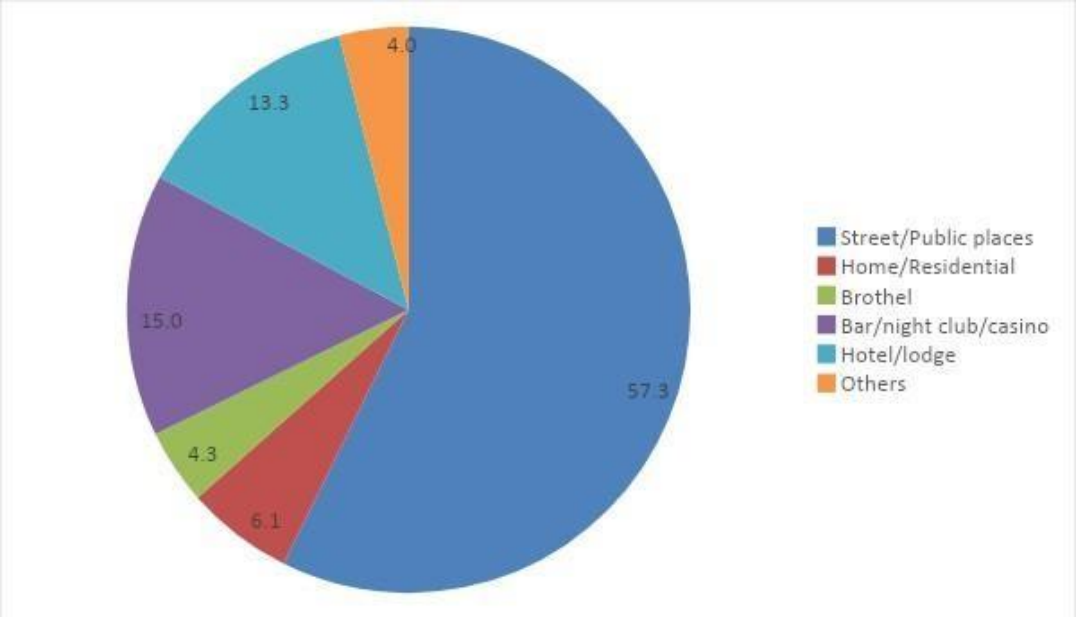

Figure 25: PWID Hotspot Distribution by Spot Typology

Figure 25 shows the distribution of PWID hotspots by spot typology. 57% of PWID hotspots are at the Street/Public Places, 15% at Bar/Night Club/Casino, 13% at Hotel/Lodge, 6% in Home/Residential, 4% in Brothel and 4% at Others[19].

[19] Others are the following spot typologies: Beach, Cemetery/Abandoned Building, Drug Bunk, Escort (Call Girls/Mobile), Events, Hostel/Campus Based, Internet Site, Massage Parlour/Spa, Party, Public Transport Stop, Trailer (Truck) Stops and Under the Bridge.

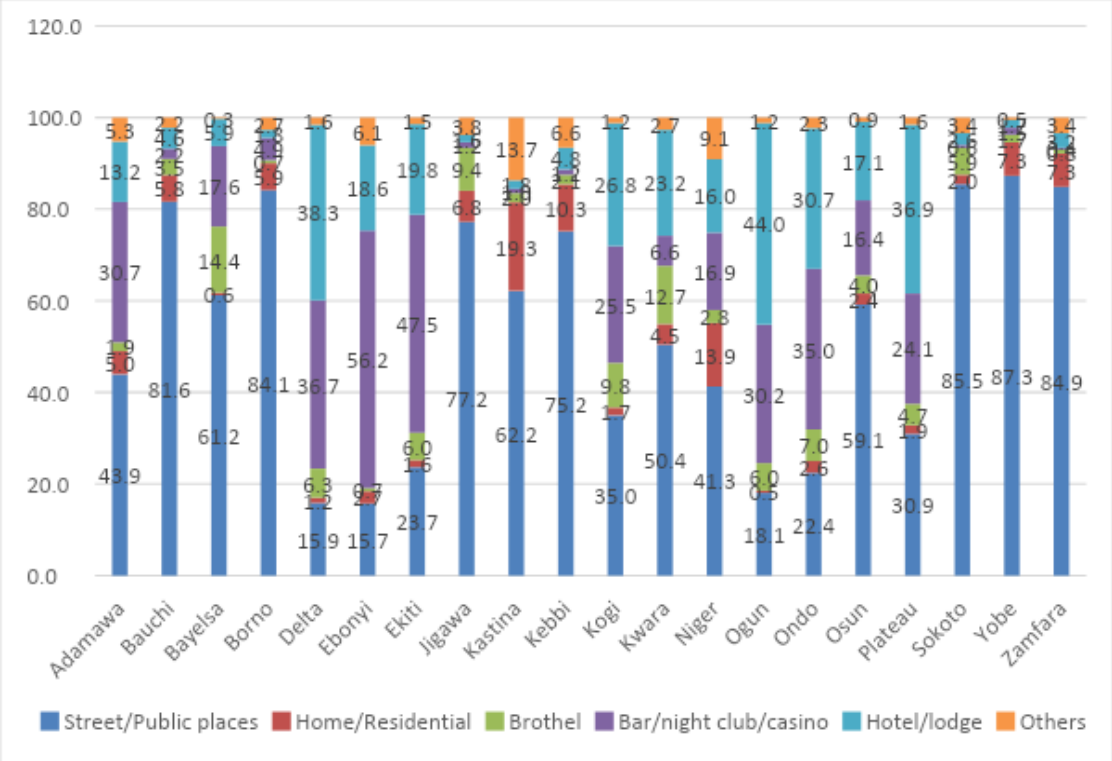

Figure 26: PWID Hotspot Distribution by Spot Typology by State

Figure 26 shows the distribution of PWID hotspots by spot typology across 20 states. Street/Public Places range from 16% in Ebonyi to 87% in Yobe; Home/Residential range from 1% in Yobe to 14% in Niger; Brothel range from 1% in Borno to 14% in Bayelsa; Bar/Night Club/Casino range from 1% in Sokoto to 56% in Ebonyi; Hotel/Lodge range from 2% in Borno to 44% in Ogun; Others range from 1% in Yobe to 9% in Niger.

5.3.14 PEAK DAY OF OPERATION OF PWID HOTSPOTS

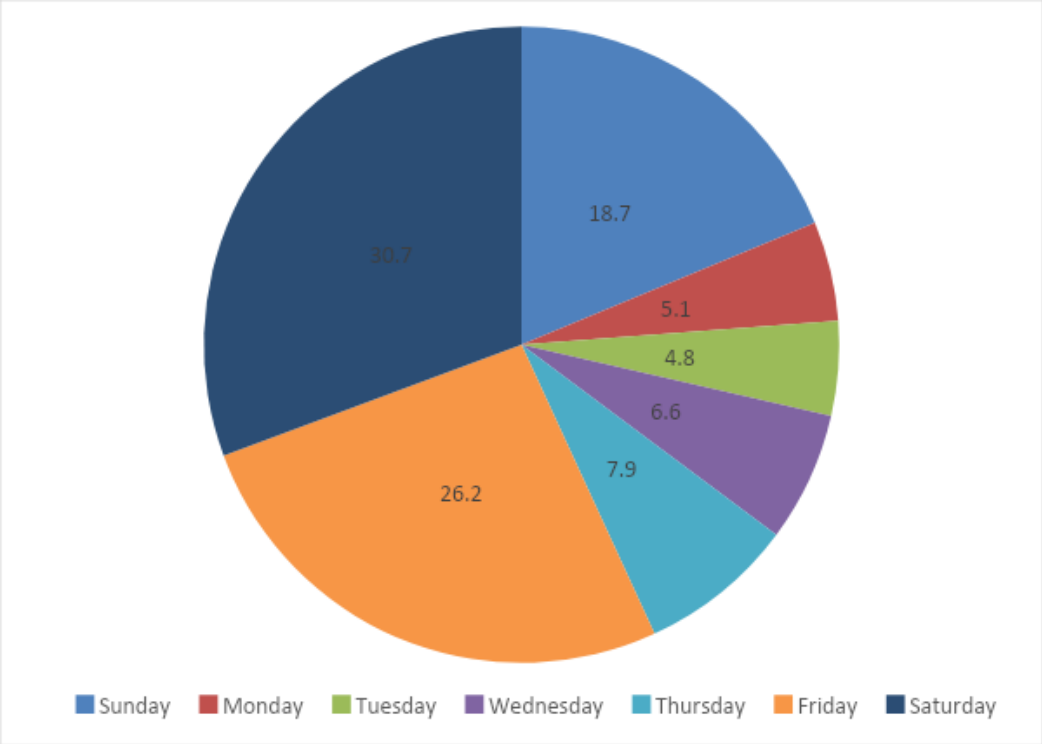

Figure 27: Peak Day of Operation of PWID Hotspots

Figure 27 shows peak day of operation for PWID hotspots. Saturday is the peak day of operation at PWID hotspots. Significant level of activities is also observed on Friday (26%) and Sundays (19%).

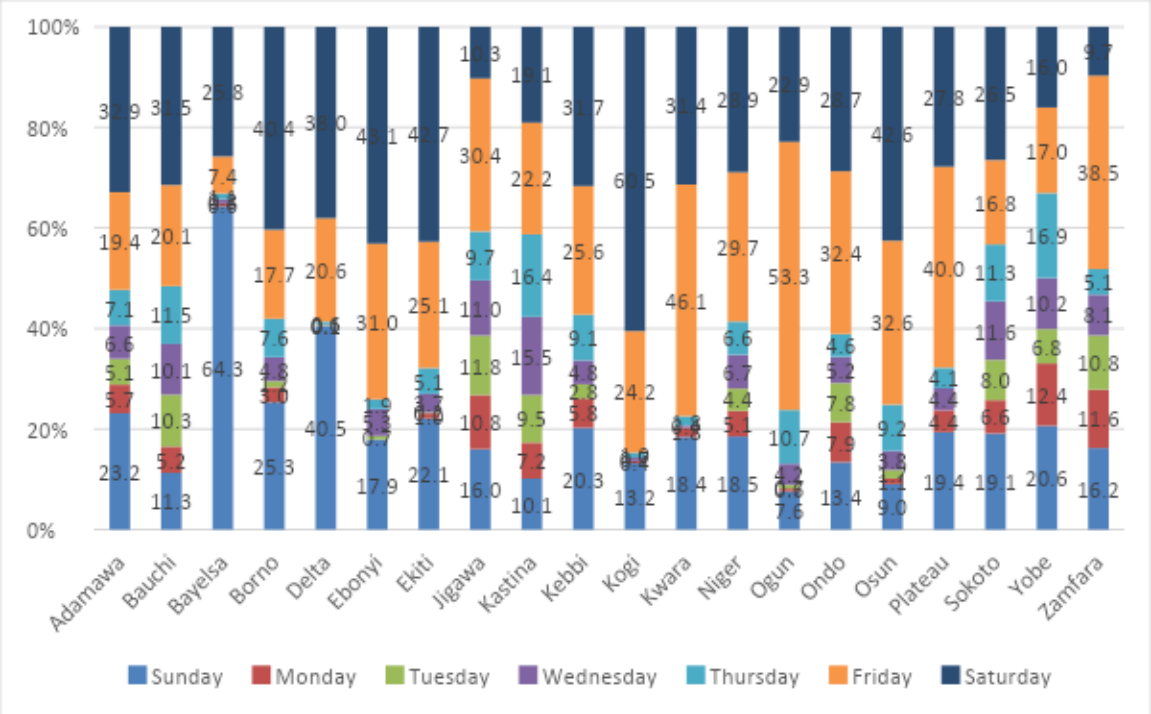

Figure 28: Peak Day of Operation of PWID Hotspots by State

Figure 28 shows the peak day of operation for PWID hotspots across the 20 states. Friday is the peak day of activity in Jigawa, Kwara, Niger, Ogun, Ondo, Plateau and Zamfara States. Saturday is the peak day of activity in Adamawa, Bauchi, Borno, Ebonyi, Ekiti, Kebbi, Kogi, and Osun State, while Sunday is the peak day of activity in Bayelsa and Delta States for PWID hotspots. PWID hotspots activities occur all through the week in Sokoto and Yobe States.

5.3.15 PEAK TIME OF OPERATION OF PWID HOTSPOTS

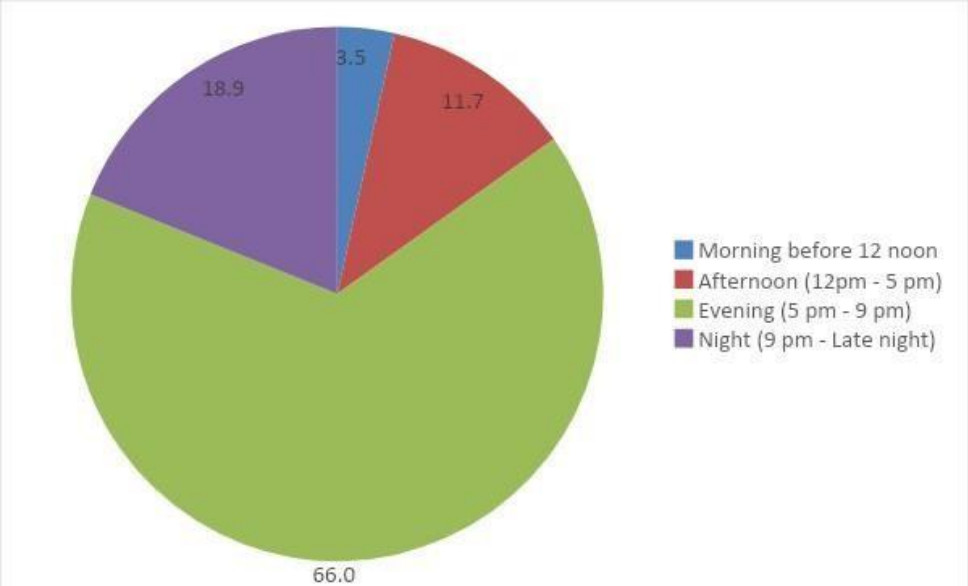

Figure 29: Peak Time of Operation of PWID Hotspots

Figure 29 shows the peak time of operation of PWID hotspots in the twenty states. The peak time of operation of PWID hotspots across the 20 States is in the evening (66%).

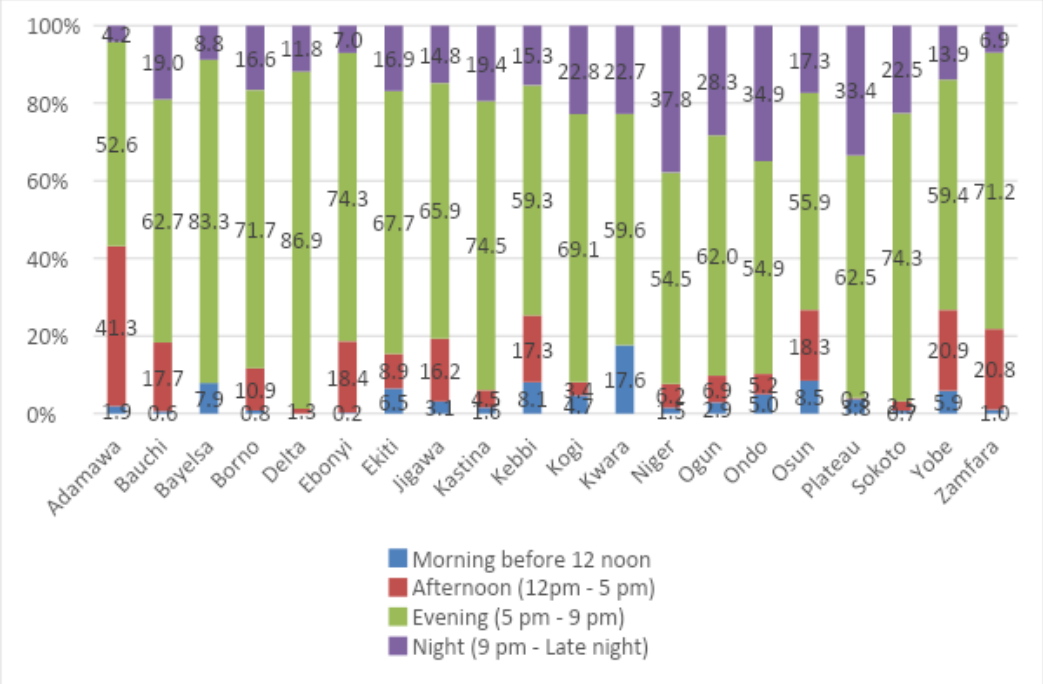

Figure 30: Peak Time of Operation of PWID Hotspots by State

Figure 30 shows peak time of operation of PWID hotspots across 20 states. Peak time of operation vary by state and time, evening is the most common peak time for PWID hotspots in all states, with the highest percentage in Delta (87%). The morning is the least common peak time for PWID hotspots in most states, with the lowest percentage in Bauchi (1%). The afternoon and night have moderate percentages, with the highest in Adamawa (41%) and Niger (38%), respectively.

5.3.16 ESTIMATES OF TG BY STATE

Table 11: Estimates of TG by State

State Name	No of spots	Usual Day Estimates			Peak day estimates			% Contribution by usual day maximum estimate
		Min	Max	Avg	Min	Max	Avg	
Adamawa	175	637	1179	908	1090	1821	1456	2.7%
Bauchi	315	951	1738	1345	1334	2290	1812	4.1%
Bayelsa	221	1370	1983	1676	2092	2906	2499	5.1%
Borno	588	2435	3894	3164	4092	5929	5010	9.6%
Delta	371	851	1456	1153	1326	2212	1769	3.5%
Ebonyi	387	817	1535	1176	1281	2440	1860	3.6%
Ekiti	545	799	1454	1126	1171	2492	1831	3.4%
Jigawa	441	1388	2561	1974	2128	3895	3012	6.0%
Katsina	980	3841	6610	5225	7310	11604	9457	15.8%
Kebbi	249	566	1036	801	1048	1794	1421	2.4%
Kogi	280	866	1429	1148	1205	1974	1590	3.5%
Kwara	287	488	796	642	570	1129	849	1.9%
Niger	559	1414	2380	1897	2040	3682	2861	5.7%
Ogun	390	839	1734	1286	1341	2653	1997	3.9%
Ondo	499	926	1324	1125	1153	1894	1523	3.4%
Osun	383	689	1198	944	991	1746	1369	2.9%
Plateau	172	496	942	719	904	1493	1198	2.2%
Sokoto	458	2087	4019	3053	3600	6297	4948	9.2%
Yobe	203	416	775	596	719	1343	1031	1.8%
Zamfara	593	1895	3253	2574	2963	4588	3776	7.8%

From the table above, Katsina has the highest number of active hotspots (980) for TG. The peak day estimate (maximum) for TG varies across the states ranging from 1129 (Kwara) to 11604 (Katsina).

5.3.17 DENSITY OF TG HOTSPOTS

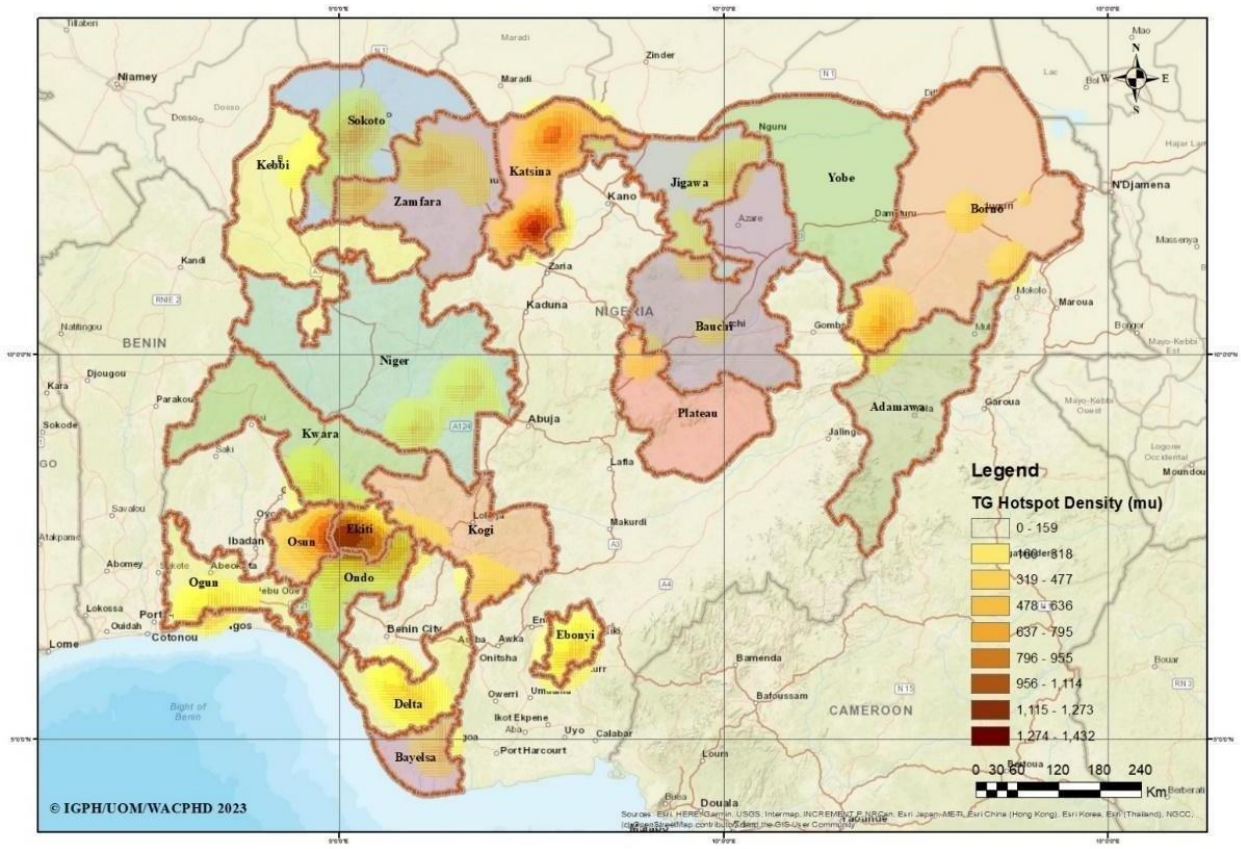

Figure 31: Density of TG Hotspots across States

Figure 31 shows the density of TG hotspots across the 20 states r epresented above. The map reveals areas with varying density levels, ranging from low to high concentrations. Ekiti, Osun, and Katsina states have higher density of hotspots compared to Adamawa, Yobe, and Niger states.

5.3.18 DISTRIBUTION OF TG HOTSPOT BY SPOT TYPOLOGIES

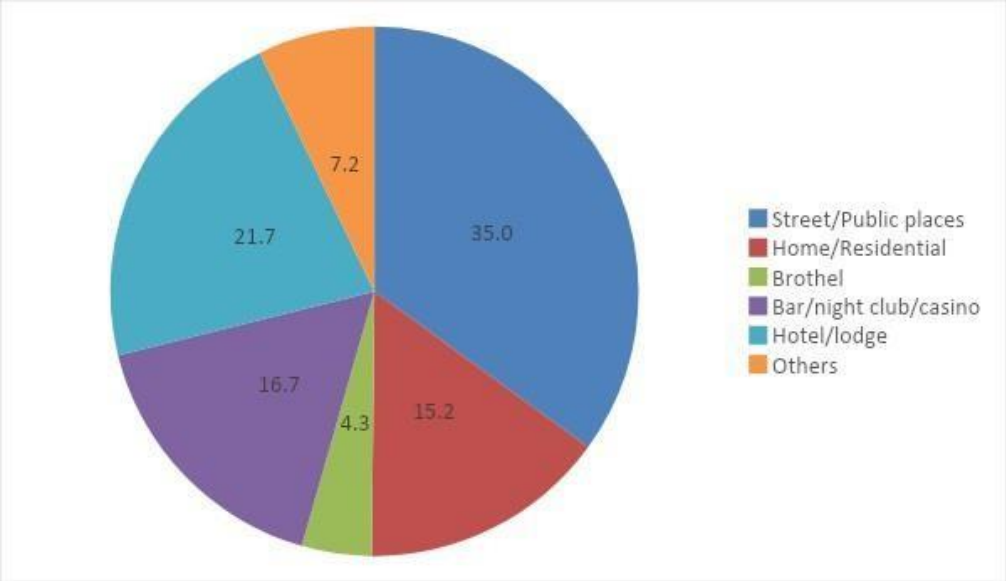

Figure 32: TG Hotspot Distribution by Spot Typology

Figure 32 shows the distribution of TG hotspots by spot typology. Street/Public Places has the highest percentage with 35%, Hotel/Lodge accounts for 22%, while Bar/Night Club/Casino has 17%. Home/Residential, Brothel, and Others[20] account for 15%, 4%, and 7%, of TG hotspots respectively.

[20] Others are the following spot typologies: Beach, Cemetery/Abandoned Building, Drug Bunk, Escort (Call Girls/Mobile), Events, Hostel/Campus Based, Internet Site, Massage Parlour/Spa, Party, Public Transport Stop, Trailer (Truck) Stops and Under the Bridge.

Figure 33: TG Hotspot Distribution by Spot Typology by State

Figure 33 shows the distribution of TG hotspots by spot typology across the 20 states. Street/public places range from 1% in Osun to 79% in Zamfara. Hotel/lodge range from 1% in Zamfara to 67% in Osun. Ebonyi, Katsina, Kwara, and Niger have a higher proportion of Home/Residential hotspots compared to the other states. Osun, Ogun, Kwara, and Delta states had higher proportion of Hotel/Lodge hotspots compared to other states.

5.3.19 PEAK DAY OF OPERATION OF TG HOTSPOTS

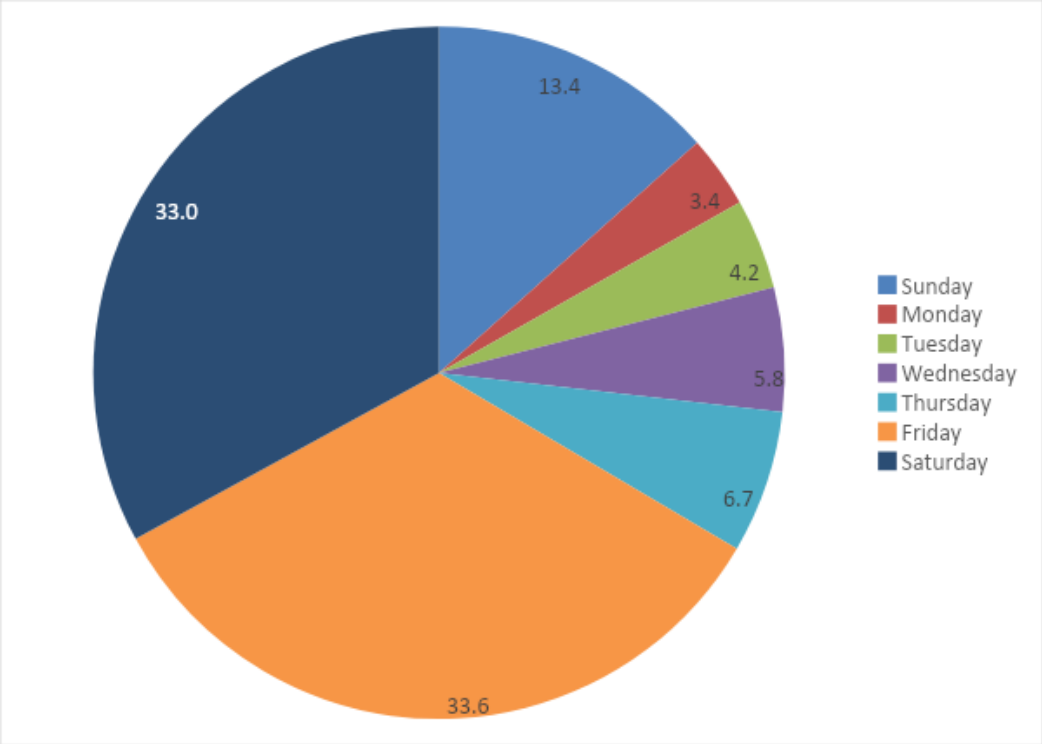

Figure 34: Peak Day of Operation of TG Hotspots

Figure 34 shows the peak day of operation of TG hotspots. Friday (34%) is the peak day of operation of TG hotspots. Significant level of activities is also observed on Saturday (33%).

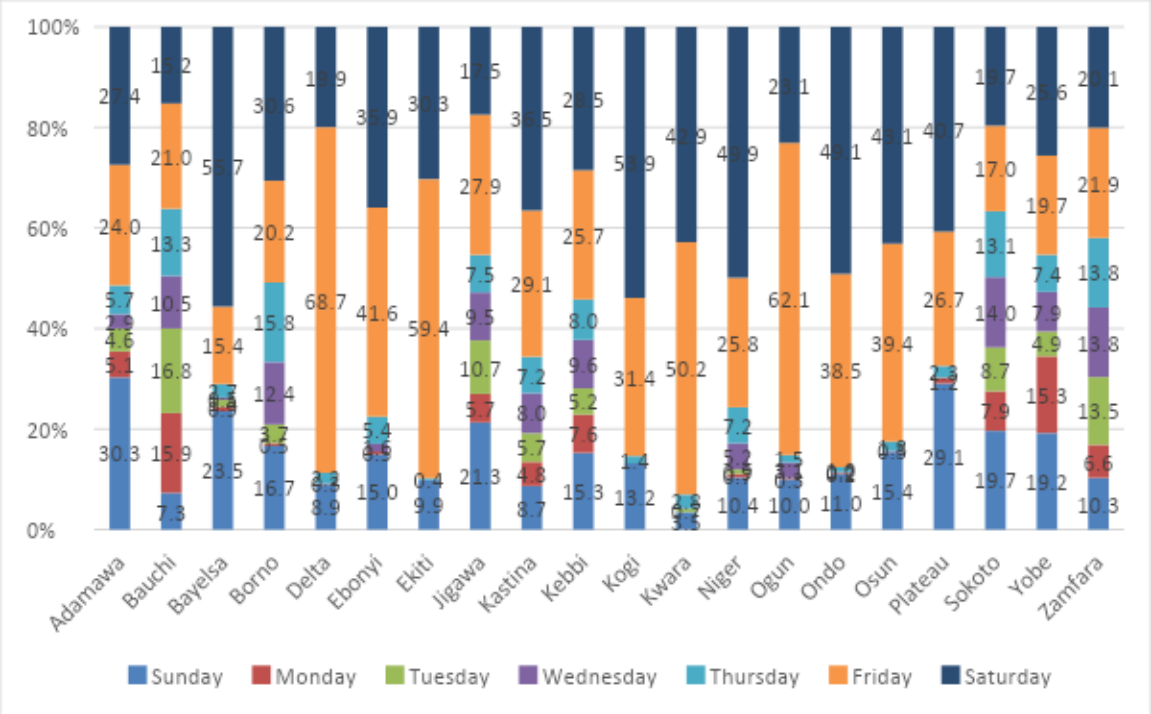

Figure 35: Peak Day of Operation of TG Hotspots by State

Figure 35 shows the peak day of operation of TG hotspots across the 20 states. Friday is the peak day of activity in Delta, Ebonyi, Ekiti, Kwara, and Ogun, States. Saturdays is the peak day of activity in Bayelsa, Borno, Kogi, Niger, Ondo, Osun, and Plateau State, while Sunday is the peak day of activity in Adamawa State for TG hotspots. TG hotspots activities occur all through the week in Bauchi, Sokoto, Yobe and Zamfara States.

5.3.20 PEAK TIME OF OPERATION OF TG HOTSPOTS

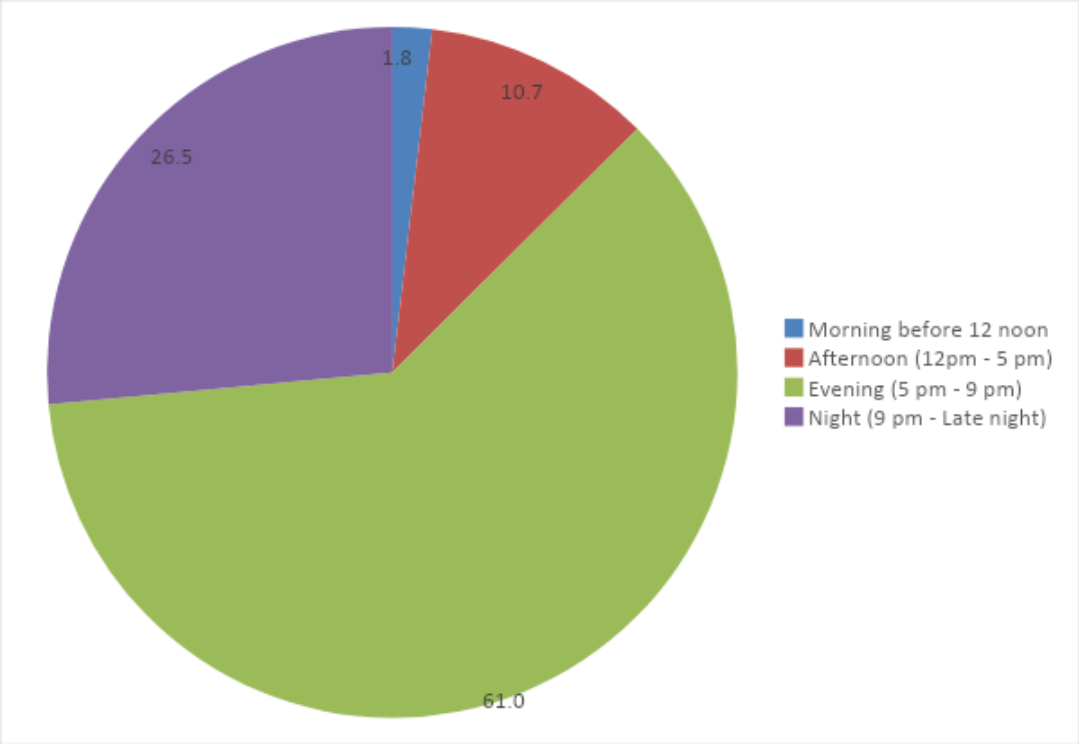

Figure 36: Peak Time of Operation of TG Hotspots

Figure 36 presents the peak time of operation of TG hotspots in the 20 states. The peak time of operation of TG hotspots is in the Evening (5 pm to 9 pm).

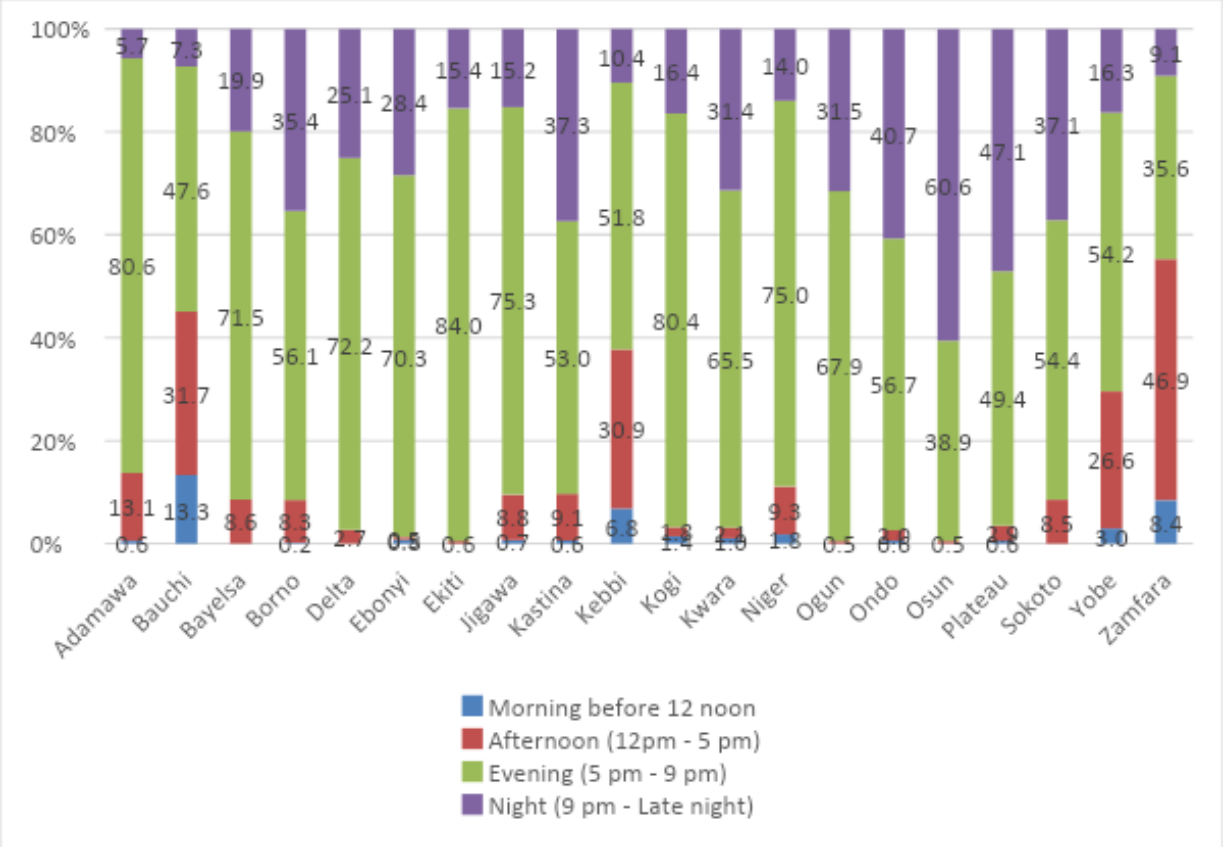

Figure 37: Peak Time of Operation of TG Hotspots by State

Figure 37 shows varying peak time of operation of TG hotspots across the 20 states. Evening is the peak time of operation across the states except in Osun (Night) and Zamfara (Afternoon).

5.3 VIRTUAL MAPPING

Table 12: Estimate of MSM on Virtual Platforms across the 20 States

State	**Number of MSM on** Virtual Platforms		
	Minimum	**Maximum**	**Average**
Total	67967	81067	73925
Adamawa	7980	9462	8658
Bauchi	537	635	582
Bayelsa	537	674	598
Borno	5041	5785	5386
Delta	3195	3549	3362
Ebonyi	4268	5278	4734
Ekiti	1107	1258	1178
Jigawa	562	676	611
Katsina	341	407	371
Kebbi	82	94	87
Kogi	7928	10210	8926
Kwara	3422	3946	3665
Niger	683	779	728
Ogun	7317	8893	8028
Ondo	887	1154	1003
Osun	1913	2249	2073
Plateau	11891	14091	12898
Sokoto	7012	7990	7469
Yobe	480	545	509
Zamfara	2785	3393	3059

Table above shows estimates of Men Who Have Sex with Men (MSM) on virtual platforms across 20 States in Nigeria. The average number of MSM on virtual platforms in Nigeria is 73,925. The number varies widely by state, from 94 (maximum) in Kebbi to 14,091 (maximum) in Plateau state.

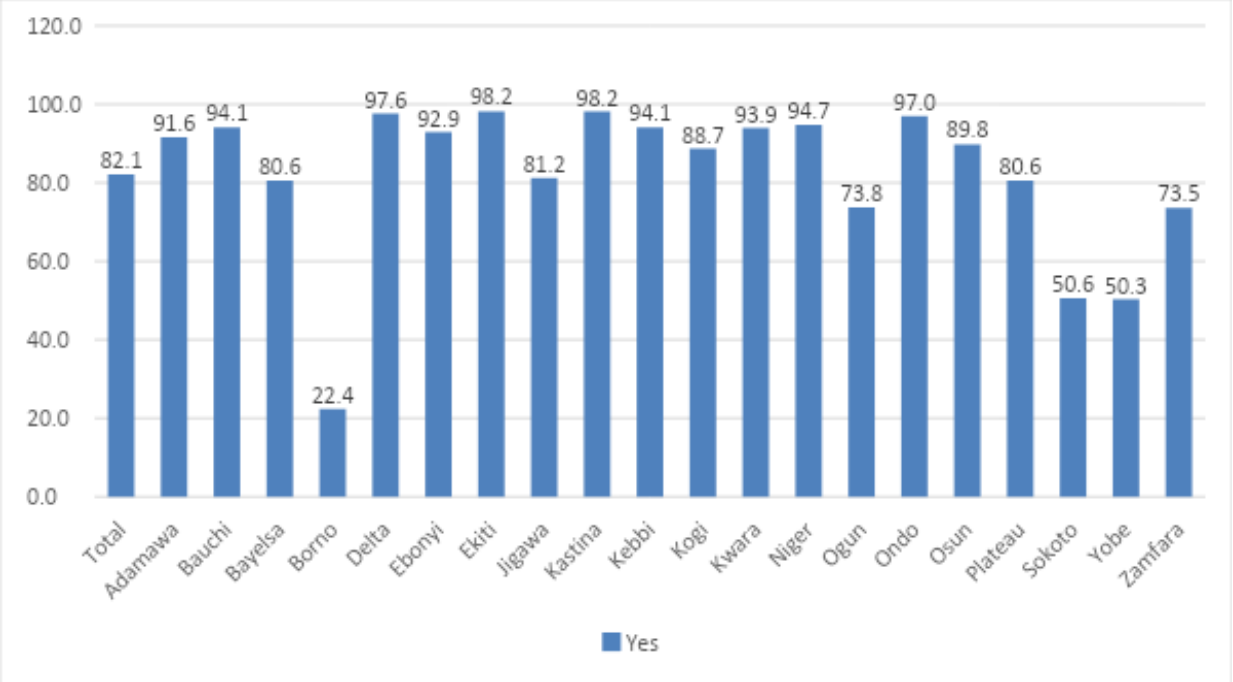

Figure 38: Proportion of MSM on Virtual Platforms who have ever Visited a Physical Hotspot in the last One Month prior to the Survey

Figure 38 shows the percentage of MSM on virtual platforms who have ever visited physical hotspots in the last Month prior to the survey across the 20 states. 82% of MSM have visited a physical hotspot in the past month.

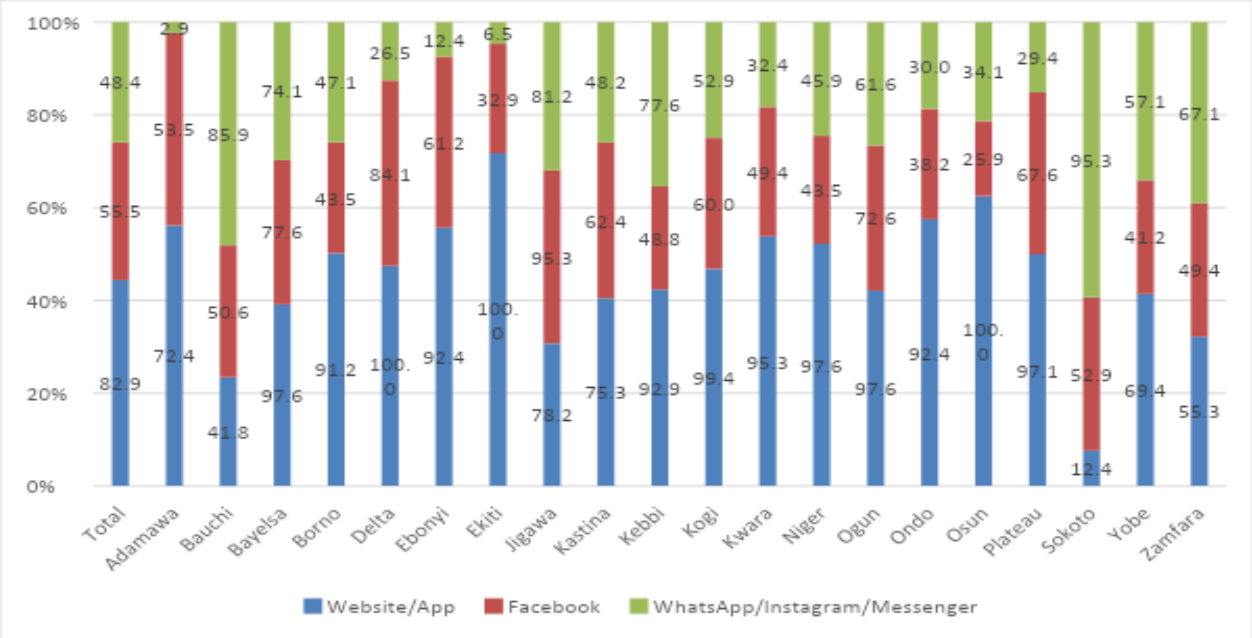

Figure 39: Types of Virtual Platforms used in the Last One Month prior to the Survey

Figure 39 provides information on the percentage of MSM operating on virtual platforms (website/app, Facebook, and WhatsApp/Instagram/Messenger) in different states. Delta, Ekiti, and Osun states have high virtual MSM presence on website/app, while MSM operating in Sokoto rarely use website/App. MSM in Bauchi and Sokoto have more presence in WhatsApp/Instagram/Messenger, while MSM in Ekiti and Ebonyi seldom use WhatsApp/Instagram/Messenger.

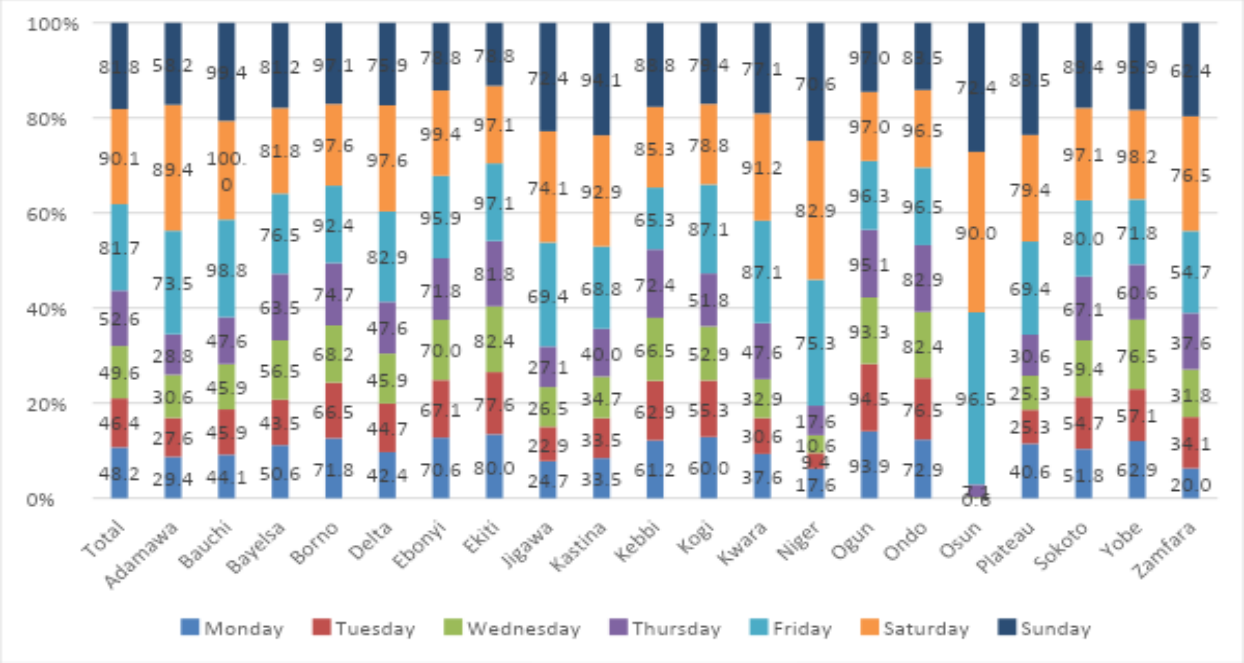

Figure 40: Days Virtual Platforms were Used

Figure 40 provides information on the percentage of Men Who Have Sex with Men (MSM) operating on virtual platforms to meet sexual partners by the different days of the week across 20 states in Nigeria. Overall, Saturday is the most active day for MSM on virtual platforms across the 20 states (90%), followed by Sunday and Friday both at 82%.

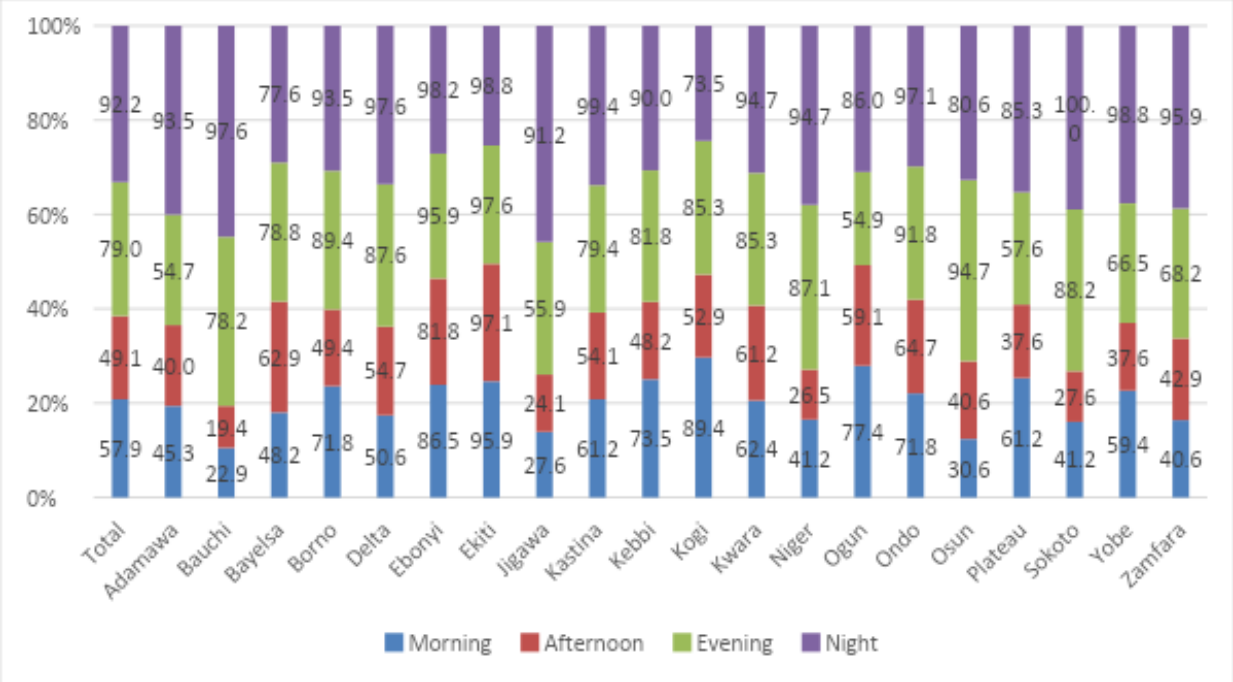

Figure 41: Time Virtual Platforms were Used

Figure 41 shows the percentage of MSM operating on virtual platforms during different periods of the day across various states in Nigeria. The figure shows that MSM use online platforms more at night (92.2%) and evening (79.0%) than morning (57.9%) and afternoon (49.1%) across the 20 States.

6.0 DISCUSSION

The distribution of KP hotspots varies across states, with Katsina state having the highest number of FSW (1919) hotspots, Borno state for PWID (1974) while Katsina state have the highest for MSM (1235) and TG (980). Lowest number of hotspots were seen in Yobe state for FSW (389) and MSM (147), Plateau state for TG (172) and PWID (320).

Estimates of KP varied across the 20 states. Delta state had the highest number of FSWs (27,862), Katsina state of MSM (11,145) and TG (9,457). Zamfara State had the highest number of PWID (15,772). The lowest numbers were observed in Ekiti state for FSW (3628), Yobe state for MSM (721), Bayelsa state for PWID (1923), Kwara state for TG (849). Summarily, national average shows that there are 11 FSW, 8 MSM, 8 PWID, and 6 TG per hotspot.

Disaggregated by spot locations, the study shows that "Street/Public Places" has the highest percentage across all KP typology (FSW 26%, MSM 30%, PWID 57%, and TG 35%). Hotel/Lodge (FSW 24%, MSM 23%, PWID 13%, and TG 22%), while Bar/Night Club/Casino (FSW 21%, MSM 20%, PWID 15%, and TG 17%). Katsina and Bayelsa states with 41% and 40% Home/Residential spot respectively account for one/third of hotspots within the states. The observed differential highlights the need to prioritize HIV prevention intervention for KP within the ambit of these peculiarities.

Across most of the states, weekends (Friday, Saturday and Sunday) were the peak days of spot activities for all the KP typologies. Remarkably, while Friday and Saturday were observed as the peak day of spot activities in most of the state, a slightly different pattern was observed in Bayelsa with Sunday being the peak day of hotspot activities for FSW, MSM and PWID. Saturday is the peak day of TG hotspot activities in Bayelsa. In Sokoto and Yobe states every other day contribute as much to KP hotspot activities across the KP typology.

Peak time across the states shows that evening (5 – 9 p.m.) are the peak time of spot activities for all KP typology. In terms of typology specifics, national summary shows that 65% of FSW, 63% of MSM, 66% of PWID, and 61% of TG hotspot activities happen in the evening hours. In Zamfara state, FSW MSM, and TG hotspot activities happen mostly in the Afternoon (12noon- 5p.m.). PWID activities in the afternoon (41%) is highest in Adamawa compared to other states.

These variation in finding highlights the need for program implementers, policy makers and other stakeholders to plan interventions based on different KP spot characteristics. Furthermore, routine Key Population Size Estimation studies with national coverage should be conducted to enable the country have an up-to-date information on numbers, size and characteristic of KP in Nigeria.

7.0 IMPLEMENTATION CHALLENGES AND LIMITATIONS

7.1 IMPLEMENTATION CHALLENGES

The KPSE exercise conducted in 2023 encountered the challenges outlined below. Efforts were made to resolve and manage these challenges as much as possible during the implementation.

7.1.1 SECURITY

- Data collection was delayed during L1 in 39 LGAs of 6 states (Sokoto, Yobe, Zamfara, Bauchi, Adamawa, and Niger), however, these locations were mapped and validated during L2 (spot validation).
- Due to security challenges, 24 LGAs (6%) out of 413 LGAs in 20 states were not mapped (Katsina (11), Borno (6), Niger (2), Sokoto (2), Ondo (1) Jigawa (1) and Adamawa (1)).

7.1.2 ENVIRONMENTAL THREATS

- In Bayelsa, Yobe and Kogi State, flooding (some LGAs and towns were submerged) affected the start of L1 activities (delayed recruitment, training, and fieldwork).
- Difficult and hard-to-reach terrains meant that for riverine areas, lifejackets, speed boats, and motorbikes were provided to access these areas.

7.1.3 ATTRITION

- A total of 21 persons out of 607 recruited which represent 3.45% withdrew, while 41 persons which represent 6.75% turned down the offer during the exercise.

7.1.4 LOGISTICS

- Inflation impact on airfares, increased fuel price, and the unavailability of the new Naira notes posed serious challenges to the entire process of the study.

7.1.5 POLITICAL ACTIVITIES

- Political activities affected data collection which resulted in rescheduled timelines.

7.2 LIMITATIONS OF THE STUDY

In the KPSE 2023 exercise in 20 states in Nigeria, programmatic mapping may not have captured all KPs as it was not conducted in 24 LGAs (6.16%) out of the 413 LGAs across the twenty States due to security concerns.

Programmatic mapping exercise mainly captures key population who are more visible at physical spots, and seldom captures those who are less frequent at spots. This could lead to an underestimation of the size and distribution of the key populations.

Unknown hotspots- Hot spots not known to the KP interviewed or to the programs may have been left out.

Inability of some secondary key informants to provide adequate information about the TG typology (differentiate between trans-persons and cross-dressers) was a limitation for mapping TG.

Mapping of TG people and MSM continues to be challenging in Nigeria, as community members, especially TG people, describe their identity as a product of affirming care. This may also be responsible for overestimating and/or underestimating MSM and TG people in this study.

The fluidity and intersectionality of identity, sexual and social behaviour among TG people/MSM and other KPs also impacted on overestimation and/or underestimation during data collection.

Programmatic mapping limitations must be considered when interpreting the results of the KPSE 2023 exercise and planning HIV prevention and treatment programs as it remains a useful tool for estimating the size and distribution of key populations.

8.0 RECOMMENDATIONS

8.1 PROGRAM RECOMMENDATIONS

a. Further analysis and exploration of 2023 KPSE data should be conducted to better understand key population characteristics and operational modalities at the local government area (LGA) and spot typology levels. This will help inform targeted and tailored interventions to address the specific needs of diverse key population groups effectively.
b. In future efforts, it is crucial to expand the coverage of the KPSE study to include all 36 states and the Federal Capital Territory (FCT) in Nigeria. This nationwide approach will facilitate the generation of national-level estimates, enabling comprehensive planning and resource allocation for key population interventions across the country.
c. Strengthen coordination between national and state teams to ensure adequate involvement of the Local Action Committee on AIDS (LACA) in KP activities.
d. Utilizing local terminologies that capture regional nuances improves the identification of hotspots according to key population typology.

8.2 RESEARCH RECOMMENDATIONS

a. Biological and Behavioural studies: A comprehensive biological and behavioural surveillance study among key populations in the 36+1 states is highly recommended. This study will serve to improve the identification of hotspots based on key population typology and delve into socio-demographic profiles, economic factors, as well as the social and sexual behaviours of key populations. The outcome will provide valuable insights for the development of evidence-based interventions.
b. Study on social network engagement: To develop innovative virtual platform intervention programs, it is important to conduct research on the intersectionality of identity, social network engagement of key populations, particularly among Female Sex Workers (FSWs), Men who have Sex with Men (MSM), People Who Inject Drugs (PWID) and Transgender people (TG) in addition to physical spot mapping. This research will help understand the dynamics of sexual partners and their interactions in virtual spaces.

c. Conduct ethnographic study among TG people and MSM to better understand the dynamics of these populations, including identity affirmation. This will provide valuable insights into social, sexual networks and other vulnerability factors.
d. Conduct qualitative research to explore the social determinants and structural factors influencing HIV risk and vulnerability among key populations and their sub-typologies.
e. Explore the impact of innovative interventions, such as virtual platform interventions, on reaching and engaging key populations.
f. Conduct research to assess the cost-effectiveness of various HIV prevention, care and treatment strategies targeted at key populations.
g. Conduct Venue Profiling studies to further understand the type and level of access to services by key populations and their sub-typologies.

8.3 POLICY RECOMMENDATIONS

a. Incorporate KPSE findings into policy formulation: The findings of the KPSE 2023 study should be integrated into policy formulation processes at both national and state levels. Policymakers should utilize the data on key population size, distribution, and service availability at the hotspots to inform evidence-based policy decisions and resource allocation for HIV prevention, care and treatment targeting key populations.
b. Strengthen virtual platform policies and programs: Given the significant presence of key populations on virtual platforms, it is important to develop and strengthen the national HIV strategic framework that addresses the unique needs and challenges of key population engaging in virtual spaces. This includes ensuring access to virtual platforms for peer education, awareness programs and linkages to services.
c. Promote collaboration and coordination: Policymakers should prioritize collaboration and coordination among relevant stakeholders, including government agencies, civil society organizations, and development partners. This multi-sectoral approach will enhance the effectiveness and sustainability of key population interventions, ensuring comprehensive support for key populations across different geographical areas and typologies.
d. Advocate for increased funding allocation to key population size estimation studies and programs to ensure sustained periodic insights for effective implementation of strategies and long-term results benefits.

9.0 CONCLUSION

The 2023 KPSE study has provided crucial insights into the size, distribution, and characteristics of key population groups across 20 states in Nigeria. While the study faced limitations, such as the inability of some secondary key informants to adequately differentiate between trans-persons and cross-dressers, the findings nonetheless provide valuable insights. These insights can inform evidence-based program planning, resource allocation, and intervention prioritization. However, it is important to consider these limitations when interpreting the results and planning interventions, to effectively address the HIV epidemic among key populations.

The study has updated estimates of Female Sex Workers, Men who have Sex with Men, People Who Inject Drugs, and Transgender People in Nigeria. The data collected through programmatic mapping and virtual mapping (MSM) techniques have enhanced our understanding of the geographic location of hotspots and the availability of services at the hotspots. The exercise updated size estimates by KP typology and sub-typology, providing current evidence for target setting, resource allocation, programs' planning, and intervention prioritization.

Despite the challenges faced during the implementation of the study such as security concerns, environmental threats, attrition, and logistical constraints, the team persevered and successfully collected comprehensive data in the 20 states. These challenges were overcome and managed through strengthened coordination and collaboration with stakeholders, and strategic stakeholders' engagement throughout the study period. This highlights the importance of adapting strategies that ensures ownership and leadership by national and state actors for successful execution of studies.

The study also sheds light on the limitations of programmatic mapping and the need for complementary research methods and triangulation of data to capture key populations who may be less visible or less frequently present at physical hotspots.

To maximize the impact of these findings, it is imperative to translate them into actionable programs, research and policies that enhance equity, quality of access to services, sustainability, financing and prioritizing resources, especially in this era of dwindling resources.

Nigeria can effectively address the HIV epidemic among key populations, reduce new infections and improve their overall health and well-being if these recommendations are implemented.

The KPSE 2023 achieved the aim of optimizing national saturation, as it plugs the gap in these 20 states, considering that a similar study was conducted in 16+1 states in 2018. It has laid the foundation for evidence-based interventions and policies that can make impact on reducing HIV incidence and improving the health outcomes of key populations. Moving forward, it is vital to build upon these findings and sustain the momentum in addressing the unique needs and challenges experienced by key populations in Nigeria.

10.0 ANNEX

10.1 ETHICAL APPROVALS

Ethical Approvals

National Health Research Ethics Committee of Nigeria (NHREC)
Promoting Highest Ethical and Scientific Standards for Health Research in Nigeria
Federal Ministry of Health

NHREC Protocol Number NHREC/01/01/2007- 29/06/2022
NHREC Approval Number NHREC/01/01/2007-15/07/2022
Date: 15th July, 2022

Re: Size Estimation of Key Populations in 20 States of Nigeria Using Programmatic Mapping & 3-Source Capture-Recapture Method

Health Research Committee assigned number: NHREC/01/01/2007
Name of Principal Investigator: Dr Gambo G. Aliyu
Address of Principal Investigator: Director General
National Agency for the Control of AID(NACA) Nigeria
Email: galiyu@naca.gov.ng
Tel: +2348187855713

Date of receipt of valid application: 29/06/2022
Date when final determination of research was made: 15-07-2022

Notice of Full Committee Review and Approval

This is to inform you that the research described in the submitted protocol, the consent forms and other participant information materials have been reviewed and given full committee approval by the National Health Research Ethics Committee.

Signed

Professor Zubairu Iliyasu MBBS (UniMaid), MPH (Glasg.), PhD (Shef.), FWACP, FMCPH, FFPH (UK)
Chairman, National Health Research Ethics Committee of Nigeria (NHREC)

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HEALTH RESEARCH ETHICS BOARD (HREB)
CERTIFICATE OF FINAL APPROVAL FOR NEW STUDIES
Full Board Review

PRINCIPAL INVESTIGATOR:	INSTITUTION/DEPARTMENT:	ETHICS #:
Dr. Faran Emmanuel	University of Manitoba, Institute for Global Public Health (IGPH)/ Community Health Sciences	HS25560 (H2022:209)
HREB MEETING DATE:	**APPROVAL DATE:**	**EXPIRY DATE:**
June 27, 2022	August 26, 2022	June 27, 2023
STUDENT PRINCIPAL INVESTIGATOR SUPERVISOR (if applicable):		
N/A		

PROTOCOL NUMBER:	PROJECT OR PROTOCOL TITLE:
N/A	Size Estimation of Key Populations in 20 States of Nigeria using Programmatic Mapping & 3-Source Capture-Recapture Method
SPONSORING AGENCIES AND/OR COORDINATING GROUPS:	
Global Fund to Fight AIDS, Tuberculosis and Malaria (via the National Agency for the Control of AIDS, Government of Nigeria)	

Submission Date(s) of Investigator Documents:	REB Receipt Date(s) of Documents:
June 4 and August 10, 2022	June 6 and August 12, 2022

Sincerely,

John Arnett, PhD, C. Psych.
Chair, Health Research Ethics Board
Bannatyne Campus

10.2 NUMBER OF ACTIVE HOTSPOTS BY STATES

Table 13: Number of Active Hotspots by States

State	FSW	MSM	PWID	TG
Total	18711	10192	18419	8096
Adamawa	913	237	933	175
Bauchi	848	360	1338	315
Bayelsa	537	313	353	221
Borno	1254	672	1974	588
Delta	1427	659	694	371
Ebonyi	563	450	413	387
Ekiti	719	561	896	545
Jigawa	671	383	575	441
Kastina	1919	1235	1538	980
Kebbi	812	282	1200	249
Kogi	884	432	1137	280
Kwara	591	430	488	287
Niger	1415	1000	923	559
Ogun	1238	432	831	390
Ondo	1516	785	1208	499
Osun	795	422	531	383
Plateau	578	229	320	172
Sokoto	878	527	936	458
Yobe	389	147	935	203
Zamfara	764	636	1196	593

10.3 ESTIMATE OF KP ACROSS STATES ON A NORMAL DAY

Table 14: Estimate of KP across States on a Normal Day

	FSW				MSM				PWID				TG			
State	**# of spots**	**Low**	**High**	**Average**	**# of spots**	**Low**	**High**	**Average**	**# of spots**	**Low**	**High**	**Average**	**# of spots**	**Low**	**High**	**Average**
Total	18711	89041	147434	118237	10192	37357	66448	51902	18419	94770	201960	148365	8096	24202	42020	33111
Adamawa	913	4534	6425	5479	237	1047	1925	1486	933	3884	6794	5339	175	637	1179	908
Bauchi	848	3913	6079	4996	360	2487	4170	3329	1338	9677	20143	14910	315	951	1738	1345
Bayelsa	537	2410	3611	3010	313	1099	2074	1587	353	1363	2483	1923	221	1370	1983	1676
Borno	1254	7492	14232	10862	672	1960	3293	2626	1974	9327	19351	14339	588	2435	3894	3164
Delta	1427	13028	20635	16832	659	2607	5166	3887	694	4513	9446	6979	371	851	1456	1153
Ebonyi	563	1791	2849	2320	450	1233	2291	1762	413	2543	5825	4184	387	817	1535	1176
Ekiti	719	2182	3483	2833	561	1186	2302	1744	896	4400	9703	7051	545	799	1454	1126
Jigawa	671	2716	4293	3505	383	2205	3686	2946	575	2191	4364	3278	441	1388	2561	1974
Kastina	1919	5852	10802	8327	1235	4823	8432	6628	1538	6116	15243	10679	980	3841	6610	5225
Kebbi	812	4340	6990	5665	282	606	1308	957	1200	6191	11776	8984	249	566	1036	801
Kogi	884	3501	6117	4809	432	972	1933	1453	1137	4246	8804	6525	280	866	1429	1148
Kwara	591	2200	3374	2787	430	2263	2561	2412	488	2510	4249	3380	287	488	796	642
Niger	1415	4617	7572	6094	1000	3084	5554	4319	923	3490	7661	5575	559	1414	2380	1897
Ogun	1238	6660	10985	8823	432	1022	2258	1640	831	3709	9611	6660	390	839	1734	1286
Ondo	1516	6466	10539	8503	785	3047	5577	4312	1208	4313	12418	8366	499	926	1324	1125
Osun	795	2415	4026	3220	422	1018	1687	1353	531	3860	7160	5510	383	689	1198	944
Plateau	578	4420	7461	5941	229	922	1833	1377	320	1315	3461	2388	172	496	942	719
Sokoto	878	6293	10591	8442	527	2899	5688	4293	936	5341	9860	7600	458	2087	4019	3053
Yobe	389	1611	2859	2235	147	297	540	418	935	5034	12810	8922	203	416	775	596
Zamfara	764	2601	4510	3556	636	2579	4169	3374	1196	10746	20798	15772	593	1895	3253	2574

10.4 ESTIMATE OF KP ACROSS STATE ON A PEAK DAY

Table 15: Estimate of KP across State on a Peak Day

	FSW				MSM				PWID				TG			
State	**# of spots**	**Low**	**High**	**Average**	**# of spots**	**Low**	**High**	**Average**	**# of spots**	**Low**	**High**	**Average**	**# of spots**	**Low**	**High**	**Average**
Total	18711	158567	254613	206590	10192	63580	108987	86283	18419	94770	201960	148365	8096	38358	64182	51270
Adamawa	913	7362	9747	8555	237	1896	3050	2473	933	3884	6794	5339	175	1090	1821	1456
Bauchi	848	6175	9778	7977	360	4224	7274	5749	1338	9677	20143	14910	315	1334	2290	1812
Bayelsa	537	4034	6284	5159	313	2083	3924	3004	353	1363	2483	1923	221	2092	2906	2499
Borno	1254	13220	23282	18251	672	3033	5149	4091	1974	9327	19351	14339	588	4092	5929	5010
Delta	1427	21730	33995	27862	659	4216	7674	5945	694	4513	9446	6979	371	1326	2212	1769
Ebonyi	563	3319	4896	4108	450	2652	4848	3750	413	2543	5825	4184	387	1281	2440	1860
Ekiti	719	2622	4633	3628	561	1691	3586	2639	896	4400	9703	7051	545	1171	2492	1831
Jigawa	671	4261	6808	5535	383	3638	5697	4668	575	2191	4364	3278	441	2128	3895	3012
Kastina	1919	12890	22518	17704	1235	8267	14023	11145	1538	6116	15243	10679	980	7310	11604	9457
Kebbi	812	7655	12381	10018	282	1049	2130	1590	1200	6191	11776	8984	249	1048	1794	1421
Kogi	884	6098	10366	8232	432	1756	3482	2619	1137	4246	8804	6525	280	1205	1974	1590
Kwara	591	3339	5342	4341	430	3490	3922	3706	488	2510	4249	3380	287	570	1129	849
Niger	1415	8558	13022	10790	1000	4303	7619	5961	923	3490	7661	5575	559	2040	3682	2861
Ogun	1238	12080	19229	15655	432	1852	4028	2940	831	3709	9611	6660	390	1341	2653	1997
Ondo	1516	11638	18109	14874	785	5844	10031	7937	1208	4313	12418	8366	499	1153	1894	1523
Osun	795	4544	7336	5940	422	1617	2721	2169	531	3860	7160	5510	383	991	1746	1369
Plateau	578	9259	14571	11915	229	1807	3243	2525	320	1315	3461	2388	172	904	1493	1198
Sokoto	878	10651	17373	14012	527	5056	8533	6795	936	5341	9860	7600	458	3600	6297	4948
Yobe	389	3568	5984	4776	147	503	939	721	935	5034	12810	8922	203	719	1343	1031
Zamfara	764	5564	8958	7261	636	4601	7114	5858	1196	10746	20798	15772	593	2963	4588	3776

KPSE 2023 NATIONAL STEERING COMMITTEE

S/N	Name	Organization	Position
1.	Dr. Gambo Aliyu	DG NACA	Chairman
2.	Dr. Akudo Ikpeazu	National Coordinator NASCP	Member
3.	Dr. Nibretie Workneh	Global Fund	Member
4.	Dr. Murphy Akpu	Country Coordinator PEPFAR	Member
5.	Dr. Erasmus Morah	Country Director UNAIDS	Member
6.	Dr Walter Kazadi Mulombo	Country Director WHO	Member
8.	Dr. Peter Hawkins	Country Director UNICEF	Member
9.	Dr. Oliver Stolpe	Country Director UNODC	Member
10.	Amaka Enemo	KP Secretariat	Member
11.	Dr. Mary Boyd	Country Director USCDC	Member
12.	Dr. Rachel Goldstein	Mission Director USAID	Member
13.	Dr. Omokhudu Idogho	Country Director SFH	Member
14.	Dr. Christiana Laniyan	Program Director FHI_GF	Member
15.	Prof. James Blanchard	Executive Director IGPH-UoM Canada	Member
16.	Dr. Kalada Green	Country Coordinator IGPH-UoM Nigeria	Member
17.	Dr. Sylvia Adebajo	Country Director UMB	Member
18.	Dr. Gregory Ashefor	Chairman Technical Committee	Secretary

KPSE 2023 NATIONAL TECHNICAL COMMITTEE

S/n	Name	Organization	Position
1	Dr. Gregory Ashefor	Director, RM&E NACA	Chairman
2	Dr. Bashorun Adebobola	Strategic Information Lead, NASCP	Co-Chairman
3	Dr. Nibretie Workneh	Global Fund	Member
4.	Dr. Jinkou Zhao	Global Fund	Member
5.	Mr. Takpa Koubagnine	UNAIDS	Member
6.	Dr. Uduak Daniel	UNODC	Member
7.	Dr. Funke Ilesanmi- Odunlade	WHO	Member
8.	Dr. Victoria Isiramen	UNICEF	Member
9.	Dr. Ibrahim Dalhatu	USCDC	Member
10,	Amaka Enemo	KP Secretariat	Member
11	Mr. Otse Ogorry	PEPFAR	Member
12	Dr. David Onime	USAID	Member
13.	Dr. Kalada Green	UoM	Member
14.	Mr. Godpower Omoregie	SFH	Member
15.	Mr. Samson Bamidele	FHI360	Member
16.	Dr. Sanmi Adedokun	UMB	Member
17.	Dr. Ahmad Aliyu	IHVN	Member
18.	Dr. Barthlomew Ochonye	Heartland Alliance	Member

19.	Dr. Bodunde Onifade	AHF	Member
20.	Dr. Uche Okezie	APIN	Member
21.	Mr. Gasis Ibrahim	Nigeria Correctional Service (NCoS)	Member
22.	Dr. Charles Nzelu	DPRS – FMoH	Member
23.	Prof. Illiyasu Zubairu	NHREC	Member
24.	Dr. Oludare Onimode	PHIS 3	Member
25.	Dr. Nonye Welle	Nigeria Police Force	Member
26.	Mrs. Ngozi Madubuike	NDLEA	Member
27.	Dr. James Anenih	NACA	Member
28.	Dr. Atuma Emmanuel	JPHEIGO	Member
29.	Dr Ujam Chukwugozie	NACA	Member
30./	Mr. Francis Agbo	NACA	Member
31.	Dr. Collins Imarhiagbe	CIHP	Member
32.	Pharm. Monday Yanet	NACA	Member

KPSE 2023 PROGRAMME IMPLEMENTATION TEAM

S/n	Name	Organization	Position
1.	Dr Gregory Ashefor.	NACA	Lead
2.	Dr Bashorun Adebobola	FMOH/NASCP	Member
3.	Dr. Kalada Greem	UoM	Member
4..	Mr. Chukwuebuka Ejeckam	UoM	Member
5.	Dr. Rose Aguolu	NACA	Member/Focal Person
6.	Ms. Chidiebere Ezeokafor	NACA	Member
7.	Amaka Enemo	KP Sec.	Member
8.	Mr. Sam Uchenna Nwafor	UMB	Member
9.	Mr Christian Uzoana	NACA	Member\
10	Abba Hassan Ibrahim	KP Sec.	Member
11.	Omolabake Ekundayo	FMOH/NASCP	Member
12.	Margaret Gberikon	UMB	Member

INSTITUTE FOR GLOBAL PUBLIC HEALTH UNIVERSITY OF MANITOBA (IGPH-UOM) AND WEST AFRICA CENTRE FOR PUBLIC HEALTH AND DEVELOPMENT (WACPHD) INTERNATIONAL COUNTRY TEAM

GLOBAL TEAM (IGPH-UoM)

S/n	Names	Designation	Location
1	Prof James Blanchard	Global Executive Director	Canada
2	Dr Faran Emmanuel	Epidemiologist	Pakistan/Canada
3	Dr Shajy Isaac	STA – M&E	India
4	Doris Kuzma	Director Finance & Admin	Canada
5	Dr Kalada Green	Country Coordinator (IGPH UOM)/ Director (WACPHD)	Nigeria

IGPH-UoM/WACPHD NIGERIAN COUNTRY OFFICE TEAM

S/n	Names	Designation
1	Dr Kalada Green	Country Coordinator
2	Chukwuebuka Ejeckam	Program Lead
3	Juliana Adah	Finance Lead
4	Judith Edafe-Ariri	HR/Admin Lead
5	Suzan Olujimi	Admin/Procurement Officer
6	Sophia Somiari	HR Officer
7	Blessing Aturu	Finance Officer
8	Moses Mallongah	Finance Officer
9	Samson Olatunde	Finance Assistant
10	Jerry Inalegwu Ejembi	IT Lead
11	Akan Udoete	GIS Specialist
12	Adediran Adesina	Data Analyst
13	Soladoye Oladayo	Data Analyst
14	Olateju Mariam	Data Analyst
15	Nwamadi Christiana Amarachi	Data Officer
16	Ekemini Umoh	Data Officer
17	Omirigbe Stanley	Data Officer
18	Joshua David Bivan	Data Officer
19	Matthew Mercy Hannah	Data Officer
20	Ndueso Kufre Friday	Data Officer
21	Oletta Ogio	Programme Assistant
22	Kelechukwu Amadi	Archivist/Documentation Officer

S/n	Names	Designation
23	Kefas Komos	Logistics
24	Monday Ibrahim Baraya	Logistics
25	Peace Uwadoka	Office Assistant

ADAMAWA STATE KPSE STATE TECHNICAL COMMITTEE

S/n	Names	Organization
1	Dr Muhammed Chubado Abubakar	Executive Secreatary, ADSACA
2	Muhammed Hammad Bello	SASCP/SMoH
3	Imamunnasai Sani	SMoH
4	Dogori N. Nelson	KP State Rep
5	Bello Isah	Rep CAPA
6	Mark Kigbu	Society for Family Health
7	Mosoti Mathais	NDLEA
8	Patience Alfred	GHASAF
9	Rasheeda Ahmed Almustapha	UoM State Rep.
10	Usman Shehu Aliyu	TCCO
11	Salla Nelson Stanley	Data/IT Officer
12	Ibro Bala Sule	Finance & Admin

ADAMAWA STATE FIELD TEAM

S/n	Names	Designation
1	Rasheeda Almustapha Ahmed	UoM Rep
2	Aliyu Usman Shehu	TCCO
3	Salla Nelson Stanley	Data IT
4	Godswill Thomos V.	Supervisor
5	Martins Banga Madanga	Supervisor
6	Naomi Isa A.	Interviewer
7	Alice Kevin S.	Interviewer
8	Alfred Sylvester	Interviewer

S/n	Names	Designation
9	Alpha Yahaya	Interviewer
10	Magaji Musa M.	Interviewer
11	John, Dan, Danunga	Interviewer
12	Mu'azu Abdulbasid	Interviewer
13	Ojelade Elijah Joseph	Interviewer
14	Yakubu Ilham Hamman	Interviewer
15	Nipona Macbernard	Interviewer
16	Abbas Dauda Njidda	Interviewer
17	Sale Victor Bajo	Interviewer
18	Thomas Pantuwa	Interviewer
19	Alfred Patience	Interviewer
20	Umar Suleiman.K.	Interviewer
21	Geoffrey Hyelda G.	Interviewer
22	Stephen Samuel	Virtual Mapper
23	Eugene Henry	Virtual Mapper
24	Bashir M.J. Sule	Social Mobilizer
25	Thomas Tyson	Social Mobilizer
26	Dennis Andrew	Social Mobilizer
27	Alfred Basolon	Social Mobilizer

BAUCHI STATE KPSE STATE TECHNICAL COMMITTEE

S/n	Names	Organization
1	Dr. Sani M. Dambam	Executive Chairman, BACATMA
2	Rabiu Idris	SACA
3	Abdullahi Ibrahim	SACA
4	Husseini Iliyasu	SACA
5	Juwayya Abubakar	SACA
6	Salisu Mohammed Bala	KP Rep

S/n	Names	Organization
7	Ado Mohammed	DDHIV
8	Kumbe Googford Gudu	CAN
9	Abdullahi Abubakar Ilelah	JNI
10	Labbo G. Sulaiman	NDLEA
11	Lumana Caleb	DAAC
13	Isaiaka Tijjani	DAHR
14	Hassan Sani	UoM State Rep
15	Obiesil Samuel Julian	TCCO
16	Abdullahi Nafisatu Aliyu	Data/ IT Officer
17	Mohammed Suleiman Hajara	Finance & Admin

BAUCHI FIELD TEAM

S/n	Names	Designation
1	Hassan Sani	UoM State Rep
2	Obiesie Samuel Julian	TCCO
3	Abdullahi Nafisatu Aliyu	Data/ IT Officer
4	Mohammed Suleiman Hajara	Finance & Admin
5	Yakubu Danjuma	Supervisor
6	Onoja Mary Ojochide	Supervisor
7	Tyokase Oryina Enoch	Interviewer
8	Yagwon Zakka	Interviewer
9	Abubakar Abdulmumin	Interviewer
10	Abdullahi Umar Dauro	Interviewer
11	Zakariyya Umar Muhammad	Interviewer
12	Samson Haruna	Interviewer
13	Bala Grace Ikok	Interviewer
14	Bitrus Zainab Anita	Interviewer
15	Vivian Vincent	Interviewer
16	Ishiaku Son Allah	Interviewer

S/n	Names	Designation
17	Madaki Fatima Adamu	Interviewer
18	Muhammad Sale Biri	Interviewer
19	Fatima Idris Ahmad	Interviewer
20	Imrana Idris	Interviewer
21	Usman Faruk	Interviewer
22	Sani Abubakar Adam	Interviewer
23	Musa Gaddafi Muhammad	Interviewer
24	Gabriel Olatayo Kuponiyi	Virtual Mapper
25	Najolly Kalen Umar	Virtual Mapper
26	Hannatu Zakari	Social Mobilizer
27	Abdulhamid Abubakar	Social Mobilizer
28	Bala Adamu Bala	Social Mobilizer

BAYELSA STATE KPSE STATE TECHNICAL COMMITTEE

S/n	Names	Organisation
1	Dr Temple Iluma	Executive Secretary, Bayelsa SACA
2	Otobo Ephraim Benson	SACA
3	Adolphus Izibenwa	SASCP
4	Obebatein Okporubia Aduba.	NDLEA
5	Akunama Happy	KP Secreatariat
6	Happy Ebitimi	KP Secreatariat
7	Ukpong Augusta	KP Secreatariat
8	Ati Maxwell	Synergy CDRS
9	Mason Joseph	PWID Rep
10	Evin Sarah	CCCRN
11	Happy Pere-Ela Omodu	UoM State Rep
12	Bukuromo Amokoromo	TCCO
13	Chinedu Obioha	Data/ IT Officer

14	Columbus Gideon Oyewole	Finance & Admin

BAYELSA STATE FIELD TEAM

S/n	Names	Designation
1	Happy Pere-Ela Omodu	UoM State Rep
2	Amakoromo Bukuromo	TCCO
3	Chinedu Udoka Obioha	Data/It Officer
4	Columbus Gideon Oyewole	Fin/Admin Officer
5	Banigo Godswill Maclean	Supervisor
6	Udezuluigbo Ekene Emmanuel	Interviewer
7	Robert Patricia	Interviewer
8	Okon Ntiense Ekpo	Interviewer
9	Ogbo Praise Ebi	Interviewer
10	Alabrah Tonbrapade Dennis	Interviewer
11	Kentebe Zikala Frank	Interviewer
12	Adoga Michael Sunday	Interviewer
13	Toruyai, Zilayefa Blessed	Interviewer
14	Okon Victor Philip	Virtual Mapper
15	Uzodinma Celestina Chidera	Virtual Mapper
16	Etuk Comfort Mfon	Social Mobilizer
17	Okpakpor Precious Enajite	Social Mobilizer
18	Gogo Okechi Vitalis	Social Mobilizer
19	Abigail Nsima Joseph	Social Mobilizer

BORNO STATE KPSE STATE TECHNICAL COMMITTEE

S/n	Names	Organization
1	Dawara Dawara Yunana	SACA
2	Hajiya Falmata Alh	SACA
3	Mohammed Ahmed Abdurazak	Ministry of Women Affairs
4	Zuru Isah Mohammed	DCN/NDLEA
5	Danjuma Charles Uba	SFH

S/n	Names	Organization
6	Timothy Z Babah	SFH
7	Mua'zu Usman	SFH
8	Samuel Usiju	SFH
9	Idris Yusuf Alhaji	
10	Benjamin Utoo	C.R.H.I
11	Barkindo M. Saidu	UoM State Rep
12	Ngeram David	TCCO
13	Giwa Oluwatoyin Ahmed	Data/IT Officer
14	Dengkat Bitrus	Finance & Admin

BORNO STATE FIELD TEAM

S/n	Names	Designation
1	Dr. Barkindo Muhammad Saidu	UoM State Rep.
2	Ngeram Dauda	TCCO
3	Ahmed Oluwatoyin Giwa	Data/IT Officer
4	Dengkat Bitrus	Finance
5	Biki Maiva Shama	Supervisor
6	Ahmed Aisha	Supervisor
7	Hussein Oka Salma	Interviewer
8	Yusuf, Abubakar Danladi	Interviewer
9	Garba Paul	Interviewer
10	Heman James Malgwi	Interviewer
11	Glory Dauda	Interviewer
12	Peter Anjili	Interviewer
13	Dali Dawa	Interviewer
14	Muhammad Musa Hussaini	Interviewer
15	Blessing Raluchi Ochokwu	Interviewer
16	Musa Haruna Wakirwa	Interviewer

17	Boti Julina Mshelia	Interviewer
18	Fanna Audu	Interviewer
19	Bala Yahaya	Interviewer
20	Hassan Ahmed Mohammed	Interviewer
21	Saidu Abba	Interviewer
22	Nubwa Asindaya	Interviewer
23	Bello Abubakar Umar	Interviewer
24	Bintu Mohammed Kubti	Interviewer
25	Mustapha Mohammed	Interviewer
26	Hayatu Aziz Dzarma	Interviewer
27	Dauda Abana	Interviewer
28	Saleh Jidda Muhammad	Interviewer
29	Joshua Dauda Chiroma	Interviewer
30	Bintu Mohammed Kubti	Interviewer
31	Opara Immaculata Ngozi	Interviewer
32	Bello Baba Jika	Interviewer
33	Muhammad Zulkifli Barkindo	Interviewer
34	Adamu Habeebah	Virtual Mapper
35	Igbabee Shagbaor Samuel	Virtual Mapper
36	Abbakura Muhammad Nur	Social Mobilizer
37	Abubakar Abdullahi	Social Mobilizer
38	Esther Samuel Bwala	Social Mobilizer
39	Zhiviri Paul Arhye	Social Mobilizer

DELTA STATE KPSE STATE TECHNICAL COMMITTEE

S/n	Names	Organization
1	Grace Osifo	Ag. SACA focal person
2	Fyncountry Goodluck	SACA
3	Oghenede Emmett Emmanuel	SACA
4	Ukuegbogho Edwin	SACA
5	Osuyali John	SACA
6	Ezeadiete Steven Ogugua	SASCP
7	Ekanem Andy Asuquo	PACA
8	Akawu Audu	NDLEA
9	Anyabuwa Vivian	LIFFE
10	Amechi Enwego	LIFFE
11	Obiasulu Obinna Samuel	LIFFE
12	Bako John	ECEWS
13	Uwaifo Jude	PACA
14	Gerald Oraegbu	UoM State Rep
15	Juanita Ejiofor	TCCO
16	Nnebife Ikechukwu	Data/IT Officer
17	Adigwe Ifeoma	Finance & Admin

DELTA STATE FIELD TEAM

S/n	Names	Designation
1	Gerald Oraegbu	State UoM Rep
2	Juanite Ejiofor	TCCO
3	Ikechukwu Nnebife	Data / IT Officer
4	Ifeoma Adigwe	F&A Officer
5	Djagbigi Josiah Onoriade	Supervisor
6	Fombo Soprinye Davies	Supervisor
7	Edema Ibi Ogeneavbo	Supervisor

S/n	Names	Designation
8	Ikegwuluonu Chiamaka Linda	Interviewer
9	Iwhuwhavbe Ejiro Betty	Interviewer
10	Obazu Bridget Erarihmen	Interviewer
11	Olisa Rita Ohikhokhai	Interviewer
12	Davies Soalabo	Interviewer
13	Odagwe Chukwunwike Cornelius	Interviewer
14	Ugo Vincent	Interviewer
15	Unaka Chidera Precious	Interviewer
16	Onyiriuka Michael Chukwuemeka	Interviewer
17	Ashefor Michael	Interviewer
18	Essien, Victor Eyo	Interviewer
19	Umoenang Favour Udoudo	Interviewer
20	Etukudo, Idongesit Udofot	Interviewer
21	Isigbo Angus Chiebunie	Interviewer
22	Akpainyang Udeme Godwin	Interviewer
23	Nnodumele Chidinma	Interviewer
24	Allison Ingrid Oghogho	Interviewer
25	Jacob, Wisdom Sunday	Interviewer
26	Osifo Ofure Sarah	Interviewer
27	Agu Samuel Azu	Interviewer
28	Ikeagwulonu Chidimma Jennifer	Interviewer
29	Esther Asiriuwa	Interviewer
30	Okotie Jennifer	Interviewer
31	Ezekiel Samuel Okato	Virtual Mapper
32	Stanley Onyebuchi Okereke	Virtual Mapper
33	Ohwofasa Joel Christian	Social Mobilizer
34	Goodness Nwabeke	Social Mobilizer
35	Godspower Okeh Mamoke	Social Mobilizer
36	Chime Chinecherem Mirabel	Social Mobilizer

EBONYI STATE KPSE STATE TECHNICAL COMMITTEE

S/n	Names	Organization
1	Nwali Benson	SACA
2	Nduofor Anthony	SACA
3	Ogodo Clement	SASCP
4	Okette Uchechukwu	PACA
5	Ejeri Patrick Ikechukwu	NDLEA
6	Osondu Nnenna	KP Rep
7	Igwe Precious Nneka	KP Rep
7	Festus Allex	KP Rep
8	Ibe Benjamin	KP Rep
9	Ebo Innocent	GAPHI
11	Dr Augustine Nwanzunku	UoM State Rep
12	Kalu Misheal	TCCO
13	Nwuzor Anthony Monday	Data/ IT Officer
14	Augustine Samuel	Finance & Admin

EBONYI STATE FIELD TEAM

S/n	Names	Designation
1	Dr Augustine Nwazunku	UoM State Rep
2	Mishael Nnanna Kalu	UoM State TCCO
3	Anthony Nwuzor	Data /IT Officer
4	Samuel Augustine	Finance & Admin
5	Ben Ewezu Ekpezu	Supervisor
6	Dr Nicholas Egeh	Supervisor
7	Samuel Akuma Ogbonna	Interviewer
8	Ogbonnaya Ogechi Betty	Interviewer
9	Sunday Chinyere Nancy	Interviewer

S/n	Names	Designation
10	Anozie Chisom Michael	Interviewer
11	Okafor Christian Nwabueze	Interviewer
12	Chukwu Obinna Charles	Interviewer
13	Onwuchekwa Odochi Faith	Interviewer
14	Solomon Ikegwu Ejike	Interviewer
15	Agwu Nduka Chinyere	Interviewer
16	Obinna Kelechukwu Elemi	Interviewer
17	Ekpe Uchechukwu Peter	Interviewer
18	Okogun Stanley Omon	Interviewer
19	Anadu Chukwuebuka John	Virtual Mapper
20	Festus Alex Chinaza	Virtual Mapper
21	Ojiaku Chikaodili Josephine	Social Mobilizer
22	Oko Fred Ogbonnia	Social Mobilizer
23	Nworie Martin Nonso	Social Mobilizer
24	Nnaemeka Osondu Mac-Donald	Social Mobilizer

EKITI STATE KPSE STATE TECHNICAL COMMITTEE

S/n	Names	Organization
1	Doherty Charles	Program Manager, Ekiti SACA
2	Debisi Yetunde	SACA
3	Ilesanmi Taiwo Julianah	SAPC
4	Famewo Ukehmi	PACA
5	Balogun A Musa	NDLEA
6	Ojo Rotimi Patrick	KP State Rep
7	Uwurhurhu Faustina	KP Secreatariat
8	Owolabi Rotimi	KP Secreatariat
9	Baaki Victor	KP Secreatariat
10	Young Arney Ibidabo	KP Secreatariat

S/n	Names	Organization
11	Okoh Felix	KP Secreatariat
12	Akinfemisoye Omokulne	UoM State Rep
13	Dr. Agbo Ejiofor Christopher	TCCO
14	Ajayi Oloruntoba	Data IT
15	Akpagi Patrick Onahi	Finance &Admin

EKITI STATE FIELD TEAM

S/n	Names	Designation
1	Akinfemisoye Omokunle Olufemi	UoM State Rep
2	Dr. Agbo Ejiofior Christopher	TCCO
3	Ajayi Oloruntoba Isaac	IT/Data Officer
4	Akpegi Patrick Onahi	F& A Officer
5	Oladunjoye Oluwadamilola Mary	Supervisor
6	Omoleye Emmanuel Olamilekan	Supervisor
7	Akinde Yetunde Helen	Interviewer
8	Osuolale Bolatito Tundun	Interviewer
9	Akomlafe Elijah Oluwakayode.	Interviewer
10	Akinde Yetunde Helen	Interviewer
11	Oladipo Grace Bosede	Interviewer
12	Amanambu Ifenna Bryan	Interviewer
13	Idowu Beatrice Adesola	Interviewer
14	Ajayi Micheal Olarewaju	Interviewer
15	Emerald Nnoruka	Interviewer
16	Ayanshola Oluwagbemiga	Interviewer
17	Osuolale Bolatito Tundun	Interviewer
18	Ogundowole Moyinoluwa Wuraola	Interviewer
19	Ajayi Micheal Olarewaju	Interviewer
20	Osuolaletemitope Daniel	Interviewer

21	Kackah Alex Ushahemba	Interviewer
22	Jaiyeola Ayomide Faith	Interviewer
23	Musa Joseph	Virtual Mapper
24	Martins Alex	Virtual Mapper
25	Terwase Abigail Terember	Social Mobilizer
26	Okwoche Loveth Aricha	Social Mobilizer
27	Aleshinloye Dayo Sunday	Social Mobilizer
28	Azih Chieloka Jennifer	Social Mobilizer

JIGAWA STATE KPSE STATE TECHNICAL COMMITTEE

S/n	**Names**	**Organization**
1	Almajiri Ibrahim	Program Manager, Jigawa SACA
2	Tijani Adamu	SACA
3	Adamu Yahaya	LACA
4	Usman Muhammad	SAPC
5	Magaji Mansur	PACA
6	Rejoice Iliya	NDLEA
7	Wasiu B. Kareem	Heartland Alliance
8	Mohammed Ali	KP Rep
9	Amini Muhammad	PO/Hasnur
10	Jamila Muhammad	CBO
11	Gabriel Obiero	UoM State Rep
12	Umar Bashir	TCCO
13	Muftahu Shehu	Data/ IT Officer
14	Iliya Usman	Finance & Admin

JIGAWA STATE FIELD TEAM

S/n	Names	Designation
1	Gabriel Obiero	UoM State Rep
2	Umar Bashir	TCCO
3	Muftahu Shehu	Data/ IT Officer
4	Iliya Usman	Finance & Admin
5	Dauda Babangida	Supervisor
6	Ahmad Rabi'a Mu'azu	Supervisor
7	Okpe Williams Igba	Supervisor
8	Idris Iliyasu	Interviewer
9	Bashir Muhammad Aminu	Interviewer
10	Marshal Ibrahim Musa	Interviewer
11	Haladu safiyanu Yakubu	Interviewer
12	Muhammad Muhammad	Interviewer
13	Aliyu Ashiru Tukur	Interviewer
14	Muhammad Firdausi Yunus	Interviewer
15	Shammah Samuel Ishaku	Interviewer
16	Auwal Muhammad	Interviewer
17	Aminu Abdullahi	Interviewer
18	Edoh Ene Sunday	Interviewer
19	Oluku Arome Nelson	Interviewer
20	Hamisu Munir	Interviewer
21	Innocent Mary Ladi	Interviewer
22	Musa Abuhuraira Ado	Interviewer
23	Tura Sadiya Abdulkadir	Interviewer
24	Aliyu Maryam	Interviewer
25	Hassan Zainab Abdurrahman	Interviewer
26	Ikpe Gloria Xavier	Interviewer
27	Iliyasu Umar Muhammad	Interviewer
28	Bashir Muhammad Aminu	Interviewer

29	Marshal Ibrahim Musa	Interviewer
30	Gaya Ahmad Gaya	Interviewer
31	Hassan Mohammed	Interviewer
32	Haladu Safiyanu Yakubu	Interviewer
33	Idris Iliyasu	Interviewer
34	Nadabo Ukashatu	Interviewer
35	Muhammad Muhammad	Interviewer
36	Aliyu Ashiru Tukur	Interviewer
37	Clement Uche Ekekwe	Interviewer
38	Nuhu Rukayya Ismail	Interviewer
39	Muhammad Auwal Sani	Interviewer
40	Salihu Najaatu	Interviewer
41	Ali Saidu	Interviewer
42	Suleiman Saifullahi	Virtual Mapper
43	Paul Adams	Virtual Mapper
44	Muhammad Firdausi Yunus	Social Mobilizer
45	Agor John Christian	Social Mobilizer

KATSINA STATE KPSE STATE TECHNICAL COMMITTEE

S/n	**Names**	**Organization**
1	Dr. Ismail Buhari	SACA
2	Abdullahi	SACA
3	Umar Ayuba	SASCP
4	Ibrahim Isah	PACA
5	Abubakar Umar	NDLEA
6	Agya Joy	KP Rep
7	Ahmad Sani Tijani	UoM State Rep
8	Basheer Abdura'uf Yahya	TCCO
9	Aliyu Abdullahi	Data/IT Officer

S/n	Names	Organization
10	Jimoh Nuraddeen	Finance & Admin

KATSINA STATE FIELD TEAM

S/n	Names	Designation
1	Ahmad Sani Tijani	UoM State Rep
2	Basheer Abdura'uf Yahya	TCCO
3	Aliyu Abdullahi	Data/IT Officer
4	Jimoh Nuraddeen	Finance & Admin
5	Abubakar Auwal Aminu	Supervisor
6	Hassan Ibrahim	Supervisor
7	Abdullahi Umar	Supervisor
8	Kankia Asmau Sani	Interviewer
9	mukhtar Zainab Sani	Interviewer
10	Umar, Fruk, Musa	Interviewer
11	Idris Abdukadir	Interviewer
12	Wasagu Umar Sharhabilu	Interviewer
13	Haruna Malik	Interviewer
14	Nazifi Umar Yalo	Interviewer
15	Mbang, Irene Andrew	Interviewer
16	Alhassan Musa Saidu	Interviewer
17	Hamza Amina Usman	Interviewer
18	Abubakar Abdulrazaq Ahmad	Interviewer
19	James Lydia	Interviewer
20	Yakubu Murjanatu	Interviewer
21	Musa Maryam Halliru	Interviewer
22	Yakubu Iliya Saje	Interviewer
23	Sanusi Abubakar Moba	Interviewer
24	Hyacinth John	Interviewer
25	Sani Umar	Interviewer
26	Gandu Nehnom Hope	Interviewer
27	Idris Abdukadir	Interviewer
28	Kankia Asmau Sani	Interviewer

29	Ismail lawal bindawa	Interviewer
30	Nasir ismail	Interviewer
31	Karofi Abubakar Nasir	Interviewer
32	Yusuf Muhammad Wakil	Interviewer
33	Nazifi Umar Yalo	Interviewer
34	Alhassan Musa Saidu	Interviewer
35	Umar Faruk, Musa	Interviewer
36	Sanda Salisu	Interviewer
37	Gandu Sarah	Interviewer
38	Aisha Usman	Interviewer
39	Muhammad Bilkisu Ibrahim	Interviewer
40	Usman Ahmad Isa	Interviewer
41	Bello Deji Monday	Interviewer (Buffer)
42	Achi Charles Michael	Interviewer (Buffer)
43	Usman Auwalu	Interviewer (Buffer)
44	Abubakar Mubarak Audi	Virtual Mapper
45	Abdullahi Yusuf Sahabi	Virtual Mapper
46	Rufai Amina Ibrahim	Social Mobilizer
47	Rufai Amina Ibrahim	Social Mobilizer
48	Nasir Farida Abubakar	Social Mobilizer
49	Hassan Sagir Abdullahi	Social Mobilizer
50	Abbas Hashimu	Social Mobilizer
51	Modibbo Usman Abubakar	Social Mobilizer

KEBBI STATE KPSE STATE TECHNICAL COMMITTEE

S/n	**Names**	**Organization**
1	Mohammed Usman.M.	Program Manager, Kebbi SACA
2	Dr Abubakar Suleiman	SASCP
3	Nura Mohammed	LACA

S/n	Names	Organization
4	Ibrahim Garba	NDLEA
5	Shaibu Hassan	NPF
6	Danjuma Mohammed	CSO
7	Abubakar Bubuche	UoM State Rep
8	Kingsley Ani	TCCO
9	Hannah Shehu	Data/IT Officer
10	Ibrahim Nasiru Butack	Finance & Admin

KEBBI STATE FIELD TEAM

S/n	Names	Designation
1	Abubakar Bubuche	UoM State Rep
2	Kingsley Ani	TCCO
3	Hannah Shehu	Data/IT Officer
4	Ibrahim Nasiru Butack	Finance & Admin
5	Kabiru Ibrahim	Supervisor
6	Nura Isah	Supervisor
7	Aisha Umar Faruk	Interviewer
8	Danjuma Bedi	Interviewer
9	Bedi Susan	Interviewer
10	Umar Fatima Balarabe	Interviewer
11	John Joseph Tanko	Interviewer
12	Maimunatu Muhammad Lawal	Interviewer
13	Aliyu Isah Yeldu	Interviewer
14	Azuk Ruth Alfred	Interviewer
15	Abubakar Yasir Muhammad	Interviewer
16	Abdulsalam Zainab	Interviewer
17	Kabiru Abdullahi	Interviewer
18	Chiromah Comfort	Interviewer
19	Muhammad Nura Yahaya	Interviewer

20	Abdullahi Rabiu	Interviewer
21	Malami Mustapha	Interviewer
22	Gladys Simon	Interviewer
23	Sani Hajara Gebe	Interviewer
24	Ibrahim Ahmad Dakaratu	Interviewer/Virtual Mapper
25	Danlamso Habila	Virtual Mapper
26	Muhammad Abubakar Adamu	Social Mobilizer
27	Aishatu Muhammad	Social Mobilizer
28	Aisha Muhammad Argungu	Social Mobilizer

KOGI STATE KPSE STATE TECHNICAL COMMITTEE

S/n	Names	Organization
1	Dr Yunusa sheidu	Executive Secreatary, Kogi SACA
2	Ibrahim Anate	Kogi SACA
3	Akoji Eric	SASCP/SMoH
4	Mr Tuki Andeshak	NDLEA
5	Sam Oye	NPF Lokoja Command
6	Hamza Aliyu	CISHAN
7	Okai Mohammed	KP Rep
8	Yusuf Nana Hauwawu	KP Secreatariat
9	Bernard Jenifa	KP Secretariat
10	Aliu Christopher	KP Secreatariat
11	Abdullahi Musa	UoM State Rep
12	Kelly Ugochukwu Osuji	TCCO
13	Shaibu Matthew	Data/ IT Officer
14	Musa Abubakar Sadiq	Finance & Admin

KOGI STATE FIELD TEAM

S/n	Names	Designation
1	Abdullahi Musa	UoM State Rep
2	Kelly Ugochukwu Osuji	TCCO
3	Shaibu Matthew	Data/ IT Officer
4	Musa Abubakar Sadiq	Finance & Admin
5	Emmanuel Awom	Supervisor
6	Adah Aromeh Romzey	Supervisor
7	Zakari Ojonumi Ruth	Interviewer
8	Zakari Shehu	Interviewer
9	Ibrahim Habibat Muhammad	Interviewer
10	Ediga Isaac Adubo	Interviewer
11	Sule-Otu Abdulmajeed Amoto	Interviewer
12	Yakubu Ibrahim Idoko	Interviewer
13	Amodu Reuben Innocent	Interviewer
14	Mayaki Hanifat Auva	Interviewer
15	Mohammed Sumaila Onudoga	Interviewer
16	Usman Simon Ojima	Interviewer
17	Suleiman Abass	Interviewer
18	Akpaka Martha Aladi	Interviewer
19	Abdulkadir Beliretu Elemona	Interviewer
20	Abalaka Damudi Sunday	Virtual Mapper
21	Sunday Emmanuel	Virtual Mapper
22	Amodu Avosuahi Patience	Virtual Mapper
23	Andrew Ruth Ese	Social Mobilizer
24	Joshua Okoye	Social Mobilizer
25	Olumeyan Oluwatosin Olusegun	Social Mobilizer
26	Aminu AbdulRahaman Ozaovehe	Social Mobilizer
27	Ahmed Yakubu	Social Mobilizer
24	Musa Samuel	Social Mobilizer

KWARA STATE KPSE STATE TECHNICAL COMMITTEE

S/n	Names	Organization
1	Dr. Seleem Alabi	Executive Secretary, Kwara SACA
2	Umar Bolaji	SACA
3	Adio Israel	SACA
4	Ahmed Laro	SACA
5	Olaiton Jimoh	LACA
6	Adegboye Bibitayo Beatrice	SMoH
7	Amah Comfort	DSS
8	Bamidele Ezekiel Sunday	DGO
9	Yusuf Mufutau Animashahun	NEPWHAN
10	Omojuyigbe Bukola	SFH
11	Alao Sekwat Bukola	CISHAN
12	Toyin Ottan Abd'lateef	UoM State Rep
13	Odine Joshua Godly	Data/IT Officer
14	Blessing Amodu	TCCO
15	Ademola David Adedoyin	Finance & Admin

KWARA STATE FIELD TEAM

S/n	Names	Designation
1	Toyin Ottan Abd'lateef	UoM State Rep
2	Blessing Amodu	TCCO
3	Odine Joshua Godly	Data/IT Officer
4	Ademola David Adedoyin	Finance & Admin
5	Misturah Adana	Supervisor
6	Ganiyu Yusuf	Interviewer
7	Yinka Owolabi John	Interviewer
8	Afolabi Kemi Roseline	Interviewer
9	Akpanziokwu Victoria	Interviewer
10	Kpazop Barinyima	Interviewer
11	Lawal Abdulwaheed Ayoola	Interviewer
12	Adeyemi Tomitayo Samuel	Interiewer
13	Mordi Fidelia Hope	Interviewer
14	Adebesin Ibraheem Olakunle	Interviewer
15	Emilefo Emmanuel Wealth	Interviewer
16	Alade Oayinka	Interviewer
17	Olatayo Latifat Abidemi	Interviewer
18	Okeke Ernest Chidozie	Interviewer
19	Owoeye Ayodeji Peter	Virtual Mapper
20	Abdulazeez Habeeb Ademola	Virtual Mapper
21	Ayodele Seun David	Social Mobilizer
22	Agbotoba Temitope	Social Mobilizer
23	Kubarat Baba Mohammed	Social Mobilizer

NIGER STATE KPSE STATE TECHNICAL COMMITTEE

S/n	Names	Organization
1	Adamu Baba	Director General, Niger SACA
2	Nma Mayaki Moh	SACA
3	Abubakar Hasiya	SACA
4	Onyilo Micheal	SACA
5	Mairiga Shehu	SMoH
6	Yahya Ahmed	LACA
7	Haruna Garba	LACA
8	Hanya Jamilu	PACA
9	Ajang Precious	HALG
10	Philip Ikyapa	HALG
11	Nelson Paul Chijioke	KP Rep
12	Umar Ishak Garba	
13	Mbanefo Emmanuel	CHIYN
14	Rapheal Nwagbo	UoM State Rep
15	Shaibu John	TCCO
16	Babatunde Tomi	Data/ IT Officer
17	Kareem Olakunle	Finance & Admin

NIGER STATE FIELD TEAM

S/n	Names	Designation
1	Rapheal Nwagbo	UoM State Rep
2	Shaibu John	TCCO
3	Babatunde Tomi	Data/ IT Officer
4	Kareem Olakunle	Finance & Admin
5	Kalu Onyedikachi Bethel	Supervisor
6	Musa Rakiya	Supervisor
7	Muhammed Alhassan	Supervisor
8	Offor Chinonye Bacelia	Interviewer

9	Okoriko Ajuma Stephanie	Interviewer
10	Jiya Amos Baba	Interviewer
11	Abdullahi Umar Atsu	Interviewer
12	Micheal Excel Ovie	Interviewer
13	Jonah Joyce Ishaku	Interviewer
14	Ndanusa Halima Sadiyat	Interviewer
15	Odom Uzoma Bruno	Interviewer
16	Ogbu Christopher Jeff	Interviewer
17	Jiya Rachel	Interviewer
18	Onwuchekwa Treasure Uloaku	Interviewer
19	Okehie Ogechi Chinasa	Interviewer
20	Salawu Simon Aliyu	Interviewer
21	Jonathan Bridget Ladi	Interviewer
22	Musa Jamila	Interviewer
23	Ogah Constance	Interviewer
24	Aya Blessing Akpowu	Interviewer
25	Umar Mohammed	Interviewer
26	Shiru Muhammad	Interviewer
27	Mufutau opeyemi ibrahim	Interviewer
28	Adamu Musa	Interviewer
29	Nwankwo Moses Jacob	Interviewer
30	David Babatsu Jiya	Interviewer
31	Ukegbu Winnifred Ucheoma	Interviewer
32	Yakubu Ibrahim	Interviewer
33	Sanni Moses Peter	Virtual Mapper
34	John Mishael Chukwuma	Virtual Mapper
35	Sunday Victor	Social Mobilizer
36	Muhammad Abubakar Tanko	Social Mobilizer
37	Omolabi Adekunle O	Social Mobilizer
38	Mudirat Saka Olawumi	Social Mobilizer

OGUN STATE KPSE STATE TECHNICAL COMMITTEE

S/n	Names	Organisation
1	Dr Fatungase Kehinde	Executive Sscreatary, Ogun SACA
2	Mayungbe Temidayo	SACA
3	Idowu Omofadeke	SACA
4	Adeyiga Adeyemi	SMoH
5	Morakinyo Olueyi	NDLEA
6	Akinpelu Akintayo	YFSI
7	Adeniji Temilade	APIN
8	Ogunwa Aderounbi	KP Rep
9	Zamije Sylvester	UoM State Rep
10	Ebiyomi Augustina	TCCO
11	Akanji Ayomide Ife	Data/IT Officer
12	Ayinde Akeem Oladimeji	Finance & Admin Officer
13	Charles Olafisoye	Finance and Admin Officer

OGUN STATE FIELD TEAM

S/n	Names	Designation
1	Zamije Sylvester	UoM State Rep
2	Ebiyomi Augustina	TCCO
3	Akanji Ayomide Ife	Data/IT Officer
4	Ayinde Akeem Oladimeji	Finance & Admin Officer
5	Joy Oge Ashefor	Supervisor
6	Isaac Lilian Chioma	Supervisor
7	Adio Glory Temitayo	Interviewer
8	Bankole Morenikeji A.	Interviewer
9	Monyei Charles Chinedu	Interviewer
10	Akiode Peter O.	Interviewer
11	Afolabi Deborah Omowunmi	Interviewer

12	Rafiu Abiodun Sikiru	Interviewer
13	Talabi Damilola Omowunmi	Interviewer
14	Chukwuemeka Comfort Ogadinma	Interviewer
15	Makinde Adetayo Abisoye	Interviewer
16	Adeshina Oluwafemi Adetunji	Interviewer
17	Akhere Anthony	Interviewer
18	Olisega Anita Ogwu	Interviewer
19	Christian Eghonghon Ruth	Interviewer
20	Akpan Gloria	Interviewer
21	Popoola Faiz Abiodun	Interviewer
22	Okeke Favour Chiezigom	Interviewer
23	Ayodeji Akinbami Muyiwa	Virtual mapper
24	Akinlose Emmanuel Ayotunde	Virtual mapper
25	Odagbali Glory Sale	Social mobilizer
26	Balogun Olamilekan Wasiu	Social mobilizer
27	Iyare Sarah Amechi	Social mobilizer
28	Adegbokan, Oluwafemi Adewale	Social mobilizer

ONDO STATE KPSE STATE TECHNICAL COMMITTEE

S/n	**Names**	**Designation**
1	Dr. Adegbulu Adedayo	SACA
2	Isujeh Morayo	SACA
3	Oguntuyi Ade Yanson	SACA
4	Femi Lawanson Olubukola	SASCP/SMoH
5	Faleye Oluwakemi	LACA
6	Balogun Yemisi	PACA
7	Akomolafe Pius	CISHAN
8	Ogunbameni Oluwafemi	NPF
9	Oweazi Ashinze Peter	UoM State Rep
10	Enwemasor, Nwakaego Abisola	TCCO

11	Mallongah Moses Ahmadu	Finance & Admin
12	Damilola Onifade David	Data/ IT Officer

ONDO STATE FIELD TEAM

S/n	Names	Designation
1	Ashinze Peter	UoM State Rep
2	Enwemasor Nwakaego Abisola	TCCO
3	Onifade Damilola Dayo	Data & IT Officer
4	Mallongah Moses	Finance & Admin Officer
5	Bamigboye Adejonwo	Supervisor
6	Ogunyelu Olugbenga Omotayo	Supervisor
7	Monyei Christopher Ifechukwude	Supervisor
8	Ezekiel Tersoo Jenu	Interviewer
9	Ogunmakinju Abiola Ibironke	Interviewer
10	Alukah Obioma	Interviewer
11	Akinmorin Omoniyi	Interviewer
12	Madugu Luter Martins	Interviewer
13	Gyegweh Matthew Faeren	Interviewer
13	Iorpav Raphael Iortile	Interviewer
14	Idowu, Oluwaseun, John	Interviewer
15	Okuna Vincent Efemena	Interviewer
16	Tor Evelyn Nyiekumbur	Interviewer
17	Akinmameji Foluso Omolade	Interviewer
18	Daudu Patricia Uniyam	Interviewer
19	Arajulu Abimbola Hellen	Interviewer
20	Adu Bosede Samuel	Interviewer
21	Ajayi Adeyemi Tomilola	Interviewer
22	Fadipe Adeniyi Jordan	Interviewer
23	Ayodele Oluwafemi Daniel	Interviewer

S/n	Names	Designation
24	Akindele Damilola Ademola	Interviewer
25	Garuba Babajide Charles	Interviewer
26	Amowoyagi Victor Adegoke	Interviewer
27	Aboyewa Oluwabunmi Abimbola	Interviewer
28	Olukayode Olaide Mary	Interviewer
29	Ukpe, Enobong Effiong	Virtual Mapper
30	Aduloju Ayodeji	Virtual Mapper
31	Nkeka N. Immaculate	Social Mobilizer
32	Akinjinrin Godwin Olakanmi	Social Mobilizer
33	Yiyi Daniel Temenu	Social Mobilizer
34	Funmilade Akinrelere Joyce	Social Mobilizer

OSUN STATE KPSE STATE TECHNICAL COMMITTEE

S/n	Names	Organisation
1	Oyebade Akin	SACA
2	Kazeem Adeyinka Adeleke	SACA
3	Igodo Chinyere	SACA
4	Anierobi David Chiekezie	SACA
5	Familusi Isola	SASCP
6	Ekundayo Omolabake	SPPO
7	Adagbasa Ehimare	PACA
8	Gbadamosi Gbemisola	NDLEA
9	Eze Quincy	I-AIHD
10	Akinrogunde Akintomide	UoM State Rep
11	Irigo Oluwatoyin Theodorah	TCCO
12	Morakinyo Moses Ola	Data/ IT Officer
13	Alayande Mumeen Babatunde	Finance & Admin

OSUN STATE FIELD TEAM

S/n	Names	Designation
1	Akinrogunde Akintomide	UoM State Rep
2	Irigo Oluwatoyin Theodorah	TCCO
3	Morakinyo Moses Ola	Data/ IT Officer
4	Alayande Mumeen Babatunde	Finance & Admin
5	Ajana Kingsley Chinedu	Supervisor
6	Oshoke Douglas	Supervisor
7	Isarinde Damilola Abiodun	Supervisor
8	Muhammed Muftiat Oluwadamilola	Interviewer
9	Sanni Bolade Tolani	Interviewer
10	Oyedokun Joy Oyetoke	Interviewer
11	Orekoya Oluwasegun Noah	Interviewer
12	Ashefor Innocent Ige	Interviewer
13	Arowolo Damilola	Interviewer
14	Adejumo Rukayah Adenike	Interviewer
15	Akinwale Oluwatobi Comfort	Interviewer
16	Awe Ayowole Peter	Interviewer
17	Omoloye Olubukola Stella	Interviewer
18	Adewuyi Adeola Saudat	Interviewer
19	Odoh Promise Chimdirim	Interviewer
20	Awolola Reuben Olubamiji	Interviewer
21	Oluwasola Olabisi Isaac	Interviewer
22	Akande Ibikunle John	Interviewer
23	Ihueze David Nnamdi	Interviewer
24	Akerele Akorede Stephen	Interviewer
25	Adedeji Abdul-Afeez Abimbola	Interviewer
26	Ita, Christiana Precious	Interviewer
24	Ikhioya Augusta Omonegho-Success	Interviewer
25	Ogboh Obiorah Livinus	Interviewer

26	Oviawe Kenneth O	Interviewer
28	Ofem, Livinus, Onen	Virtual Mapper
29	Amoo Adekunle Oluwaseyi	Virtual Mapper
32	Amigun Ayodeji Temitope	Social Mobilizer
33	Makinde-Okediran Esther Oluyemisi	Social Mobilizer
34	Joy Lzekor Osayamon	Social Mobilizer
35	Mafe Seun Damilola	Social Mobilizer

PLATEAU STATE KPSE STATE TECHNICAL COMMITTEE

S/n	**Names**	**Organisation**
1	Skiomen Martha	PLACA
2	Wukatda Wokji Beben	PLACA
3	Kadieng Victor Davou	SMoH
4	Pawa Maria	SMoH
5	Kefas Ibrahim	SASCP
6	Godwin Emmanuel	PACA
7	Maiga Lisa Rahila	KP State Rep
8	Panye Hezekiah	CISHAN
9	Olaoye Folashade	SFH
10	Vakkai Esther	APIN
11	Wekpe Solomon	APIN
12	Daniel Plangnan	APIN
13	Odeh Nero	UoM State Rep
14	Osayende Ayewah	TCCO
15	Adegbe Paul	Data/ IT Officer
16	Mayowa Paul	Finance & Admin

PLATEAU STATE FIELD TEAM

S/n	Names	Designation
1	Odeh Nero	UoM State Rep
2	Osayende Ayewah	TCCO
3	Adegbe Paul	Data/ IT Officer
4	Mayowa Paul	Finance & Admin
5	Salifu Momoh	Supervisor
6	Obi-Okeke Ifeoma Jessica	Supervisor
7	Ogak Timothy	Interviewer
8	Usman.C. Abele	Interviewer
9	Yagwan.M. Monday	Interviewer
10	Titilola Olayiwola	Interviewer
11	Elisha Dogara Silas	Interviewer
12	Martins Bemgba	Interviewer
13	Shalhona David	Interviewer
14	Gish Daniel Luka	Interviewer
15	Yanat, Agatha, Elisheba	Interviewer
16	Dinget Ogak Timothy	Interviewer
17	Buhari Isumafe	Interviewer
18	Amoo Hajara Yetunde	Interviewer
19	Adegoke Thompson Thomas	Interviewer
20	Akuraan Evelyn Mnena	Interviewer
21	Ekanem Agnes Damilola	Interviewer
22	Faith James	Interviewer
23	Osazee Osakue Mike	Virtual Mapper
24	Raphael Ajibo Egwurube	Virtual Mapper
25	Irorere Peter Odion	Social Mobilizer
26	Shimave Iorlumun Daniel	Social Mobilizer
27	Nyam Agatha Mnena	Social Mobilizer
28	Onwutah Jerry Akosa	Social Mobilizer

29	Daka Joseph	Social Mobilizer
30	Yop Henrietta Balang	Social Mobilizer

SOKOTO STATE KPSE STATE TECHNICAL COMMITTEE

S/n	Names	Organization
1	Umar Bello Alkamawa	SACA
2	Ado Danladi	SMoH
3	James Koba	PACA
4	Sadiya Abdullahi	KP Secreatariat
5	Rachel Umar Musa	KP Secretariat
6	Jamilu Ishaq Abubakar	KP Secretariat
7	Muhd Sagir Usuan	KP Secreatariat
8	Ezenwoko Zainab	UoM State Rep
9	Aminu Abubakar	TCCO
10	Muhammad Ahmad	Data/ IT Officer
11	Baba Abu Abdullahi	Finance & Admin

SOKOTO STATE FIELD TEAM

S/n	Names	Designation
1	Ezenwoko Zainab	UoM State Rep
2	Aminu Abubakar	TCCO
3	Muhammad Ahmad	Data/ IT Officer
4	Baba Abu Abdullahi	Finance & Admin
5	Mahdi Adamu Ahmad	Supervisor
6	Sambo Firdausi Balarabe	Supervisor
7	Abubakar Dalhatu	Supervisor
8	Marafa Nazirah Ibrahim	Interviewer
9	Abubakar Suleiman Ahmad	Interviewer

10	Musa Habiba Garba	Interviewer
11	Jamilu Tanko Imam	Interviewer
12	Adedayo Ajay	Interviewer
13	Salamatu Jeremiah	Interviewer
14	Sani Abubakar	Interviewer
15	Malami Yahaya	Interviewer
16	Adeyoju Favour Priscilla	Interviewer
17	Mamman M. Yusuf	Interviewer
18	Odoh Meshach Audu	Interviewer
19	Umar Sadeeq Dandare	Interviewer
20	Kausar Abdulazeez	Interviewer
21	Salihu Kaseem	Interviewer
22	Odoh Gloria	Interviewer
23	Shehu Nafisa	Interviewer
24	Tijjani Iliyasu	Interviewer
26	Reuben Monday	Interviewer
27	Nabil Kabir	Interviewer
28	Kolapo Peter Oluwayomi	Virtual Mapper
29	Usman, Muhammad Sagir	Virtual Mapper
30	Labaran Musa Samira	Social Mobilizer
31	Mamman Ayuba	Social Mobilizer
32	Isah Sambo	Social Mobilizer

YOBE STATE KPSE STATE TECHNICAL COMMITTEE

S/n	**Names**	**Organization**
1	Dr Jibril.A. Damazai	Executive Director, Yobe SACA
2	Bulama Buji Alhaji	SAPC
3	Issac Emmanuel	PACA
4	Bintu Umar	KP Rep

5	Mohammed Abdulrahman	KP Rep
6	Rabiu Haruna	NDLEA
7	Dagda Alikime Alh	EDSPCK
8	Auwal Muhammad	HALG
9	Abubakar Suleiman	UoM State Rep
10	Abdulrahman Malik	TCCO
11	Anthony Folorunsho	Data/IT Officer
12	Umar M. Jibril	Finance & Admin

YOBE STATE FIELD TEAM

S/n	Names	Designation
1	Abubakar Suleiman	UoM State Rep
2	Abdulrahman Malik	TCCO
3	Anthony Folorunsho	Data/IT Officer
4	Umar M. Jibril	Finance & Admin
5	Auwal Ya'u Dumbulwa	Supervisor
6	Shehu Musa Abare	Supervisor
7	Ali Hassan	Interviewer
8	Usman Mohammed Ngada	Interviewer
9	Agwan Hadiza	Interviewer
10	Ibrahim Idris Garba	Interviewer
11	Abubakar Mohmmed Musa	Interviewer
12	Nuhu Abdulrahman Ibbi	Interviewer
13	Bah Abubakar Jibrin	Interviewer
14	Ibrahim Goni Kashim	Interviewer
15	Dogo Yahaya Jeremiah	Interviewer
16	Janda Mahdi Audu	Interviewer
17	Robert Isuwa	Interviewer
18	Joel Luka Maina	Interviewer

19	Idriss Mustapha	Virtual Mapper
20	Musa Mohammed Y	Virtual Mapper
21	Aisha Muhammad Kawu	Social Mobilizer
22	Goni Bura Wasaram	Social Mobilizer
23	Mustapha Bukar	Social Mobilizer
24	Amina Muhammad Garba	Social Mobilizer

ZAMFARA STATE KPSE STATE TECHNICAL COMMITTEE

S/n	**Names**	**Organization**
1	Hussaini Yakubu Anka	SACA
2	Kabir Musa Maradun	SACA
3	Jibril Zubairu	SMoH
4	Aminu Dadi Umar	SASCP
5	Hauwau Dalhatu	KP Secreatariat
6	Shamsu Ahmad	KP Secreatariat
7	Abubakar Ibrahim	NDLEA
8	Kabir Mohammed Nainna	HSPL
9	Muhammad Suleiman Ladan	State Services
10	Musa Umar	UoM State Rep
11	Paul Uche	TCCO
12	Bashiru Abubakar	Data/IT Officer
13	Abdullahi Umar	Finance & Admin

ZAMFARA STATE FIELD TEAM

S/n	Names	Designation
1	Musa Umar	UoM State Rep
2	Paul Uche	TCCO
3	Bashiru Abubakar	Data/IT Officer
4	Abdullahi Umar	Finance & Admin
5	Aliyu Aminu Maru	Supervisor
6	Abdulrahman Yakubu Mohammed	Supervisor
7	Peter Ezekiel	Interviewer
8	Saeed Abubakar Aliyu	Interviewer
9	Nana Abubakar	Interviewer
10	Usman Ruth Yahaya	Interviewer
11	Ibrahim Rahila	Interviewer
12	Dodo Salisu Bello	Interviewer
13	Rabiu Aminu	Interviewer
14	Muhammad Taha Idris	Interviewer
15	Ibrahim Abdulaziz	Interviewer
16	Muhammad Halisa	Interviewer
17	Dangaladima Dawuda Umar	Interviewer
18	Said Abubakar Saleh	Interviewer
19	Muhammad Halisa	Interviewer
20	Muhammad Taha Idris	Interviewer
21	Musa Ash'habu	Interviewer
22	Muhammad, Shamsudeen	Interviewer
23	Rabiu Aminu	Interviewer
24	Abubakar Murtala	Interviewer
25	Waziri Yusuf Bello	Interviewer
26	Jibril Zubairu Zanto	Interviewer
27	Ibrahim Isah	Interviewer
28	Jamilu Umar Aliyu	Interviewer

29	Yahuza Muhammad	Interviewer
30	Jimoh Abdulrahman Adebayo	Interviewer
31	Ogenyi Isaac Agbo	Interviewer
32	Shinko Sameera Bello	Interviewer
33	Akibu Umar Aliyu	Interviewer
34	Hauwau Usman Bungudu	Interviewer
35	Lawal Amiru Balarabe	Interviewer
36	Fahad Ibrahim Ladan	Interviewer
37	Musa Zaid	Virtual Mapper
38	Stanley Sarjius	Virtual Mapper
39	Muhammad Marwan Mayana	Social Mobilizer

KPSE REPORT WRITING TEAM

S/n	**Name**	**Organisation**
1	Pharm. Monday Yanet	NACA
2	Gabriel Ikwulono	FMoH (NASCP)
3	Dr Rose Aguolu	NACA
4	Tosin Adebanjo	NACA
5	Egwu Joy Ene	NACA
6	Emmanuel Etim Clement	NACA
7	Joy N Egwuonwu	NACA
8	Edwin Ukuegbogho	DELSACA
9	Osifo Grace	DELSACA

10	Emmanuel Anene	KP Secreatariat
11	Eghaghe James	KP Secrratariat
12	Vivian Anyabuwa	KP Secretariat (Delta)
13	Micheal Akanji	HALG
14	Paul Amechi	HALG
15	Cyril Eronmene	FHI360/AHNI
16	Ekei Ekom	APIN
17	Kucheli Wudiri	APIN
18	Dr Kehinde Balogun	PHIS3
19	Chukwuemeka Joy	PHIS3
20	Micheal Agbro	AHF
21	Bako John	ECEWS
22	Ovo Edema	ECEWS
23	Dr Kalada Green	UoM
24	Chukwuebuka Ejeckam	UoM
25	Adediran Adesina	UoM
26	Akan Udoete	UoM
27	Jerry Ejembi	UoM

28	Ndueso Kufre	UoM
29	Ogio Oletta	UoM
30	Dr Greg Ashefor	Consultant


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