

# HIV risk and vulnerability among injecting drug users in Afghanistan

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**Abstract:** The Human Immuno-deficiency Virus (HIV) epidemic in Afghanistan is low and mainly associated with Injecting Drug Use (IDU).

**Objective:** This study aims to explore the HIV risk and vulnerability factors among Injecting Drug Users (IDUs) in Afghanistan in order to add to the existing knowledge and research and also to provide recommendations for improvement of the response and making contribution to halting the HIV epidemic among IDUs.

**Method:** This is a descriptive study based on literature review. The Modified Social Ecological Model (MSEM) developed by Baral et al.2013 used as conceptual framework for analyzing the HIV risk and vulnerability factors at five layers.

**Findings:** At the 'individual layer', the injecting risk behaviors of IDUs like sharing the injecting equipment, and their sexual risk behaviors like unprotected sexual contact with multiple partners identified as the HIV risk factors among them. At the 'network layer', lack of HIV knowledge, peer pressure and risky norms in the networks of IDUs, the presence of other Sexually Transmitted Infections (STIs), spending time in prison by IDUs, and low uptake of the harm reduction services are the factors that make the IDUs vulnerable to HIV. At the 'community layer', massive drug production and easy access to drug, armed conflict, massive internal and external migration, unemployment and poverty, the male gender of the majority of IDUs, high stigma and discrimination against IDUs, unsafe injecting locations such as under the bridges, and low coverage of harm reduction and drug demand reduction services are the factors that make the IDUs vulnerable to HIV. At the 'public policy layer', punitive drug use law, lack of protection for the human rights of IDUs, and weak national political response to HIV and IDU identified responsible factors that make the IDUs vulnerable to HIV. Ultimately, at the layer of 'HIV epidemic stage', the highest HIV prevalence in the country reported among IDUs that poses a potential risk to uninfected IDUs.

**Conclusion:** The IDUs in Afghanistan are highly at risk and vulnerable to HIV. An informed and multi-sectoral response is required to halt the epidemic among this group. A rapid expansion of the harm reduction services is needed.

**Keywords:** Afghanistan, HIV, vulnerability, risk, injecting drug users.

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## List of abbreviations

AIHRC	Afghanistan Independent Human Rights Commission
ANDS	Afghanistan National Development Strategy
ANSF	Afghanistan National Strategic Framework for HIV/AIDS
ART	Anti-Retroviral Therapy
ARV	Anti-Retroviral
BPHS	Basic Package of Health Services
CSO	Central Statistics Organization
EPHS	Essential Package of Hospital Services
FSWs	Female Sex Workers

GDP	Gross Domestic Product
GNI	Gross National Income
GoA	Government of Afghanistan
HACCA	HIV and AIDS Coordination Committee of Afghanistan
HBV	Hepatitis B Virus
HCV	Hepatitis C virus
HDI	Human Development Index
HIV	Human Immunodeficiency Virus
HRS	Harm Reduction Services
IBBS	Integrated Biological and Behavioral Surveillance
IDU	Injecting Drug Use
IDUs	Injecting Drug Users
IEC	Information, Education and Communication
MDGs	Millennium Development Goals
MoCN	Ministry of Counter Narcotics
MoJ	Ministry of Justice
MoI	Ministry of Interior
MoPH	Ministry of Public Health
MoU	Memorandum of Understanding
M&E	Monitoring and Evaluation
MSEM	Modified Social Ecological Model
MSM	Men who have Sex with Men
NACP	National AIDS Control Program
NGOs	Non-Governmental Organizations
NSPs	Needle and Syringe Programs
OST	Opioid Substitution Therapy
PLHIV	People Living with HIV
STIs	Sexually Transmitted Infections
UNAIDS	Joint United Nations Program on HIV/AIDS
UNDP	United Nations Development Program
UNODC	United Nations Office on Drugs and Crime
USD	United States Dollar
VCT	Voluntary Counselling and Testing
WHO	World Health Organization

## **INTRODUCTION**

The World Health Organization (WHO) defines injecting drug use as the practice of injecting psychotropic or psychoactive substances through intravenous, intramuscular, or subcutaneous routes for non-medical purposes. These substances include but not limited to opioids, amphetamine-type stimulants, cocaine, hypno-sedatives and hallucinogens (1).

IDU is a major global public health problem. The *'World Drug Report 2014'*, by the United Nations Office on Drugs and Crime (UNODC) estimated the total number of IDUs worldwide 12.7 million. Of these approximately 13 percent (about 1.7 million) estimated to be living with HIV (2). In 2008 IDU was reported in 148 countries globally which in 120 of those countries HIV was documented among IDUs (3).

The precise data about HIV in Afghanistan is not available. According to the Joint United Nations program on HIV/AIDS (UNAIDS) in 2013 the HIV prevalence in Afghanistan was estimated below 0.1% and mainly attributed to IDU (4). The update information about the total number of IDUs in Afghanistan is also not available. Based on the first ever national drug use survey in 2005 by the UNODC the total number of IDUs was estimated 19000 (5,6). In 2014, the Ministry of Public Health (MoPH) of Afghanistan estimated the total number of IDUs 18000-23000 (7). The Integrated Biological Behavioral Surveillance (IBBS) 2012 which studied IDUs in five cities of Afghanistan (Kabul, Herat, Mazar-i-Sharif, Jalalabad and Charikar) reported the average HIV prevalence among IDUs 4.4% varied from 0.3% in Mazar-i-Sharif, 0.9% in Charikar, 1.0% in Jalal Abad, 2.4% in Kabul to 13.3% in Herat city (8). While the IBBS 2009 reported 7.1% average HIV prevalence among IDUs in three cities (Kabul, Herat and Mazar-i-Sharif) varied from 1% in Mazar-i-Sharif, 3.2% in Kabul and 18.2% in Herat city (9).

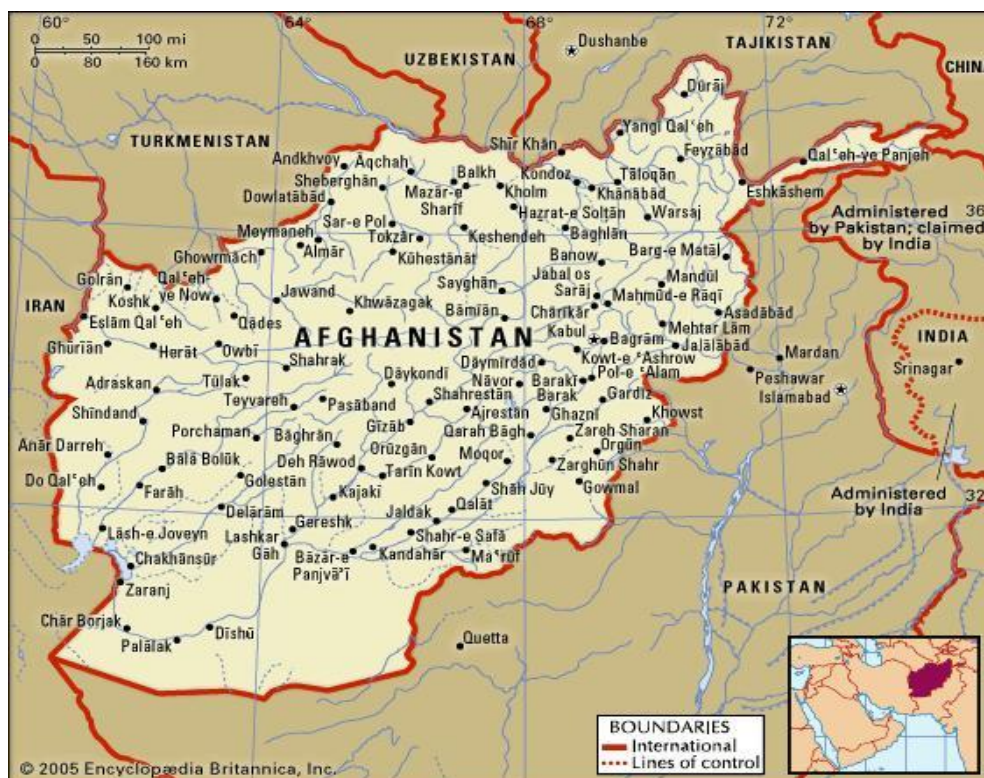
The HIV risk and vulnerability factors among the IDUs in Afghanistan have not been adequately studied before. The HIV risk is defined as the probability or likelihood that a person may become infected with HIV due to his/her individual behaviors. While the HIV vulnerability results from a range of factors outside the control of individuals that reduce their ability to avoid the risk (10). This study meant to explore the factors that put IDUs in Afghanistan at risk and make them vulnerable to HIV. This will be helpful for finding and proposing appropriate solutions in order to halt the HIV epidemic among them.

## 1. COUNTRY BACKGROUND

### 1.1. Geography

Afghanistan is a landlocked country located in the South-Central Asia; this country is bordered with Iran in the West, Pakistan in the South and East, Tajikistan, Uzbekistan and Turkmenistan in the North, and China in the far northeast. Afghanistan is situated at the crossroads between east and west and has remained as a focal point for trade and migration. Almost two third of the Afghanistan's territory is occupied by mountains; only 12.1 percent of its land is arable. The majority of the country lies between 600 to 3000 meters elevation from the sea level. The total area of the country is approximately 647500 square kilometers. Administratively, Afghanistan is divided into 34 provinces and 361 districts (Figure 1). Kabul is the capital city and the official name of the country is Islamic Republic of Afghanistan (11,12)

Figure 1: The map of Afghanistan



Source: <http://www.britannica.com/EBchecked/topic/7798/Afghanistan>

## 1.2. Demography

Afghanistan is a multi-ethnic country; Pashtun, Tajik, Hazara and Uzbek are the four major ethnic identities; several other minor ethnic groups live in the country. Dari and Pashtu are the two official languages. About 99 percent of its population is Muslim. About 75 percent of Afghanistan's inhabitants live in rural areas (11). According to the Central Statistic Organization (CSO), for 2015 the total population of the country was projected 28.6 million people (13). The people of Afghanistan are among the youngest nations in the world; more than 60 per cent of its population are aged 25 years or below (14). In 2015 the average literacy rate in Afghanistan reported 38.2% (male: 52% female: 24.2%) (15). In 2010, the total fertility rate was reported 5.1 children per woman and the life expectancy at birth was estimated 63 years for males and 64 years for females (16).

## 1.3. Political and socioeconomic context

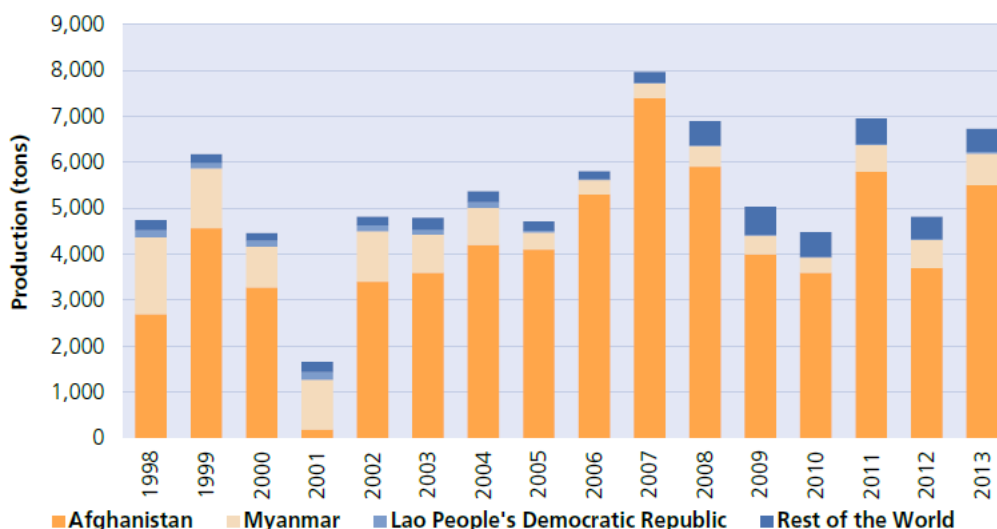
Afghanistan has been suffering from decades of armed conflicts and political instabilities. In 1979 the Soviet Union invaded the country which resulted to initiation of a guerrilla war and continued for almost one decade. Following the Soviet Union withdrawal in 1989 Afghanistan entered to a civil war which continued until 1994. In 1996 the Taliban regime took power and controlled about 95 percent of Afghanistan's territory for about five years during which the war did not stop in the country. In late 2001, after the 9/11 September incident in the United States of America, the International Security Assistance Forces (ISAF) and the North Atlantic Treaty Organization (NATO) intervened in the country which resulted to toppling of the Taliban regime and subsequent establishment of the first ever democratically elected government. However, the fighting is still going on mainly in southern parts of the country (11).

Afghanistan is one of the poorest countries in the world. In 2013 with the Gross Domestic Product (GDP) of USD 666.3 per capita Afghanistan was ranked the 17<sup>th</sup> poorest country in the world (17). According to the United Nations Development Program (UNDP), in 2014 the Human Development Index (HDI) of Afghanistan hold 169<sup>th</sup> place among 187 countries and its Gross National Income (GNI) was reported \$1904 per capita (18).

Based on a 2013 survey conducted by the Asia Foundation, 51 percent of the participants reported that they are employed; 45 percent of those employed were engaged in agriculture sector (19). During the period 2007-2008, Afghanistan faced a shortage of grains. It was partly because the poppy cultivation replaced the wheat and other legal seeds mainly in the south; and partly due to the intensification of wars and the reduction in grain imports from foreign countries (11).

The opium poppy cultivation which was first introduced by Arab traders increased during the Soviet Union invasion and has continuously increased amidst conflicts and the political instabilities. The produced opium is now an important part of Afghanistan's illicit economy (20,21). Afghanistan is the world largest opium producer which supplied about 80 percent of the total world's opium in 2013. the volume of opium produced in Afghanistan was reported approximately 5,500 tons in 2013 while it was around 2500 tons in 1998 (Figure 2) (2).

**Figure 2: Global potential opium production, 1998-2013**



Source: World Drug Report 2014 (2)

Several years of conflict and violence also impacted on the social life in Afghanistan. The gender inequality is significant in the country. Although since 2002 women and girls are able to go outside their houses for work and study, but still significant gaps are in place. According to the UNDP ‘*Human Development Report 2014*’, the gender development index of Afghanistan ranked 148<sup>th</sup> among 187 countries (18). The Government of Afghanistan (GoA) is committed to protecting the human rights of its citizens. However the conflicts and a conservative culture often causes violation of the human rights in the country (22).

#### 1.4. Health status and healthcare system

The decades of conflicts devastated Afghanistan’s public health system (11). Despite the achievements made during the last decade, yet Afghanistan’s health statistics are among the worst in the world. The infant mortality rate is 76 deaths per 1,000 births and the maternal mortality ratio is 327 per 100,000 live births. The health system is facing shortage of infrastructures, trained health workers especially in rural areas, and necessary equipment (23).

According to the WHO report the top ten causes of death in Afghanistan for all age groups are: the lower respiratory tract infections, Ischemic heart diseases, diarrheal diseases, stroke, conflict, preterm birth complications, birth asphyxia and birth trauma, tuberculosis, neonatal sepsis and infections, and road injury (24). In 2011-2012 the total health expenditure was reported 55.59 USD per capita which totally accounted for 8% of the country’s GDP; and the government health expenditure was reported 4.2 percent of total government expenditure (Table 1) (23).

**Table 1: Summary of the of the findings of Afghanistan National Health Accounts (2011-2012)**

General	
Total population	27,000,000
Total health expenditure per capita (USD)	55.59
Total health expenditure as % of real GDP	8.0%
Government health expenditure as % of total government expenditure	4.2%
Financing source of the total health expenditure	
Central government	5.6%
Private	73.6%
Rest of the World	20.8%
Out of pocket health expenditure	
Out of pocket spending as % of total health expenditure	73.3%
Total out of pocket spending per capita (USD)	41%

Source: *Afghanistan National Health Accounts 2011-2012* (23)

Based on a national health strategy developed in 2002 by the MoPH and in cooperation with the international organizations, the Basic Package of Health Services (BPHS) and the Essential Package of Hospital Services (EPHS) were established in the country (25). The BPHS is identified as the backbone of the public health services covering about 80% of the population of the country which consists of seven elements (Annex 1) (25–27). Both public and private sector provide health services in Afghanistan. The public health care services are delivered through three different levels of primary care, secondary care and tertiary care services (25).

#### 1.5. Situation of drug addiction and injecting drug use

Illicit drug use is a significant challenge in Afghanistan. With increase in opium poppy cultivation, the opiate consumption has also increased (28). The ‘Afghanistan National Drug Use Survey 2015’ revealed that on average 11 percent of population tested positive for one or more drugs which the rural rate was almost three times higher compared to urban areas (13 percent versus 5 percent). The total number of drug users was estimated between 2.9-3.6 million; representing about 7.3% prevalence rate (Table2) (29). While in 2013 this figure was estimated between 1.3-1.6 million (30). Of the total number of drug users in 2015 “between” 1.9-2.4 million estimated to be adults and drug use reported in 31 percent of households (29).

**Table 2: Drug use prevalence rates in Afghanistan**

	Urban	Rural	National
<b>Population</b>	4.4%	8.2%	7.3%
<b>Men</b>	10.6%	17.8%	16.1%
<b>Women</b>	4.3%	11.2%	9.5%
<b>children</b>	0.2%	1.0%	0.8%

Source: *Afghanistan National Drug Use Survey 2015 (29)*

According to a study by the UNODC in 2014, approximately 78.5 percent of drug users were reported males and 21.5 percent females; the rate of female drug users could be underestimated because of the stigma and cultural factors as it is hard to reach the female drug users. The majority (42%) of drug user aged between 25-39 years (28). In terms of the types of drugs being used, the most commonly used drug reported opioids followed by cannabis, benzodiazepines, barbiturates, alcohol, and methamphetamines (29).

Easy access and frequent contact with drug during cultivation and trafficking, traditional usage of opium as medication, lack of public awareness about its harms, situational and peer pressure, economic problems and unemployment, depression and medical problems, limited access to treatment, and the physical and psychological trauma of more than 30 years of war were highlighted as the main reasons for drug use (28,30,31). Smoking and ingesting reported the predominant modes of drug consumption; however, it is believed that using drug through injection is also increasing. The return of refugees mainly from Iran and Pakistan in recent years also reported to have brought the practice of injecting in the country (5,32). The precise total number of IDUs is not clear. The IBBS 2012 estimated the IDUs population size in five cities as following (Table 3) (8).

**Table 3: Population size estimation of IDUs by site**

City	Population size estimates
<b>Kabul</b>	12541
<b>Herat</b>	1211
<b>Mazar-i-Sharif</b>	1496
<b>Jalalabad</b>	1471
<b>Charikar</b>	NA

Source: *IBBS 2012 (8)*

According to the Afghanistan drug report 2012, heroine, tranquilizers and painkillers were reported the most commonly injected drugs (5). In 2008 a mapping and situation assessment of the IDUs in two cities (Mazar-i-Sharif and Jalalabad) also revealed that heroin is the most commonly injected substance followed by pharmaceutical drugs summarized in (Table 4) (33).

**Table 4: The types of drugs injected by IDUs in two cities**

Heroin	80%
Buprenorphine, Temgesic, Senor, Sosegan	36%
Other narcotics (codeine, morphine, etc.)	13%
Antihistamines (e.g., Avil, Phenergan)	4%
Antiemetics (e.g., Marzine, Maxolon, Gravanate)	1%
Anxiolytics (e.g., Lexotanil, Xanax)	7%

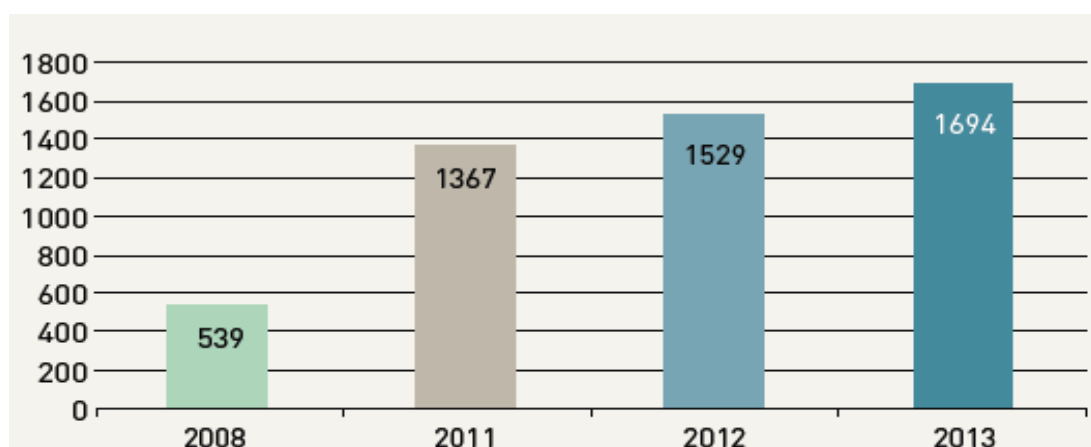
Source: *The World Bank 2008 (33)*

### 1.6. The history of HIV in Afghanistan

The first HIV case in Afghanistan was reported in 1989. As of 2003 cumulatively 28 cases reported to the National AIDS Control Program (NACP) of the MoPH. In January 2007, the MoPH reported a total of 69 cases. Only a few months later (August, 2007), the reported cases reached to 245. In 2012, totally 1529 cases and in 2013, 1694 cases were documented (Figure 3); however, the real number may be higher as there is so surveillance system in the country. The male to female ratio among infected people was observed 6:1 respectively (7,30).

The precise prevalence rate and total number of People Living with HIV (PLHIV) in Afghanistan is not clear. In 2013, the UNAIDS estimated the cumulative number of PLHIV approximately 4,500 (1,700-17,000); while in 2001 this figure was estimated 1600 (1000-5300) (4,7). The MoPH estimated that with the current trend, in 2020 the total number of PLHIV will reach to 8000 (7) (Annex 2).

Figure 3: The number of HIV registered cases in Afghanistan 2008-2013



Source: Afghanistan drug report 2013 (30)

## 2. PROBLEM STATEMENT, OBJECTIVE, JUSTIFICATION AND METHODOLOGY

### 2.1. Problem statement

The IBBS 2012 reported the average 4.4% HIV prevalence among IDUs in five cities. While the average prevalence among other high risk groups such as Female Sex workers (FSWs), Men who have Sex with Men (MSM), and prisoners reported 0.3%, 0.4%, and 0.7% respectively (8). A comparison of the HIV prevalence among IDUs with other high risk groups can be seen in Table 5.

Table 5: Comparison of the HIV prevalence rates among high risk groups

City	IDUs (n=1161)	Female Sex Workers (n=1032)	Men who have Sex with Men (n=207)	Prisoners (n=719)	Road transport workers (n=378)
Kabul	2.4%	0.0%	0.4%	0.5%	--
Herat	13.3%	0.9%	--	0.8%	--
Mazar	0.3%	0.0%	--	--	--
Jalalabad	1.0%	--	--	--	--
Charikar	0.9%	--	--	--	--
Torkham	--	--	--	--	0.0%

Source: IBBS 2012 (8)

The data in table 5 shows that the HIV in Afghanistan is highly concentrated among IDUs suggesting that this group is highly at risk of HIV. The prevalence among the IDUs in Herat city is particularly alarming. The factors putting the IDUs in Afghanistan at risk and making them vulnerable to HIV has not been adequately studied before. Exploring those risk and vulnerability factors could help in addressing this problem effectively.

### 2.2. Objective

#### 2.2.1. General objective

The general objective of this study is to explore the HIV risk and vulnerability factors among IDUs in Afghanistan for adding to the existing knowledge and research, and also to provide recommendations for improvement of the response and making contribution to halting the HIV epidemic among IDUs.

#### 2.2.2. Specific objectives

1. To explore the HIV risk factors among IDUs in Afghanistan.
2. To explore the determinants making IDUs in Afghanistan vulnerable to HIV
3. To review the national response to HIV among IDUs in Afghanistan and to identify the existing gaps
4. To review the international evidence based best practices on HIV prevention, treatment and care among IDUs

5. To provide recommendations to the Government of Afghanistan and stakeholders for improving the response to HIV among IDUs

### 2.3. Justification

The illicit drug use in Afghanistan is a major challenge. Along the rise in drug production, the number of drug users has increased dramatically. Although the dominant modes of drug consumption reported smoking and ingesting, but study shows that there is a growing tendency to shifting to injecting among drug users. The HIV in Afghanistan appears to be an emerging problem mainly attributed to IDU. The UNAIDS suggest that the HIV can be explosive in settings with injecting drug use (35). As the HIV epidemic in Afghanistan is highly concentrated among IDUs, understanding the risk and vulnerability factors among this group will help in finding appropriate solutions for halting and reversing the epidemic and reducing the associated morbidity and mortality. The MoPH and stakeholders will benefit from the findings and recommendations of this thesis in devising policies and making decisions to address HIV among IDUs.

### 2.4. Methodology

#### 2.4.1. Literature review

This is a descriptive study based on literature review. The literatures on IDU and HIV in Afghanistan were thoroughly reviewed for achieving the study objective.

#### 2.4.2. Search strategy

A thorough search was conducted for reaching the relevant literatures. The electronic databases in the internet such as PubMed, Trip database, Cochrane Library, and the Scopus was searched for finding the relevant peer reviewed articles. The Grey literatures were also reviewed using the Google and Google Scholar search engines in the internet. The bibliography of selected literatures was also used for finding other relevant literatures. The websites of the concerned organizations of the GoA such as the MoPH, the Ministry of Counter Narcotics (MoCN), and CSO were looked for the surveys reports, guidelines, and policy and strategy documents. The websites of the related international organizations such as WHO, UNAIDS, UNODC, the World Bank, UNDP, UNFPA, UNESCO, and also the websites of Center for Disease Control (CDC), AIDSDATAHUB, the international harm reduction network and the Asian harm reduction network were also browsed. The online library of the Royal Tropical Institute (KIT)/ Vrije Universiteit (VU) was also looked. Only the literatures written in English language with no limit on the year of the publications were reviewed. Personal communication was also made with NACP department of the MoPH for accessing the publications that were not available in the internet.

**Key Words:** The following key words were used either single or combined: Afghanistan, drug use, injecting drug use, injecting drug users, HIV, risk factor, vulnerability factor, prevalence, opium, heroin, conflict, insecurity, migration, refugee, knowledge, literacy, criminalization, human rights, stigma, discrimination, gender, risk behavior, needle/syringe sharing, unsafe sex, sexually transmitted infections, condom, prison, harm reduction, intervention, prevention, treatment, care, law, policy, strategy, needle and syringe programs, opioid substitution therapy, voluntary counselling and testing.

#### 2.4.3. Conceptual framework

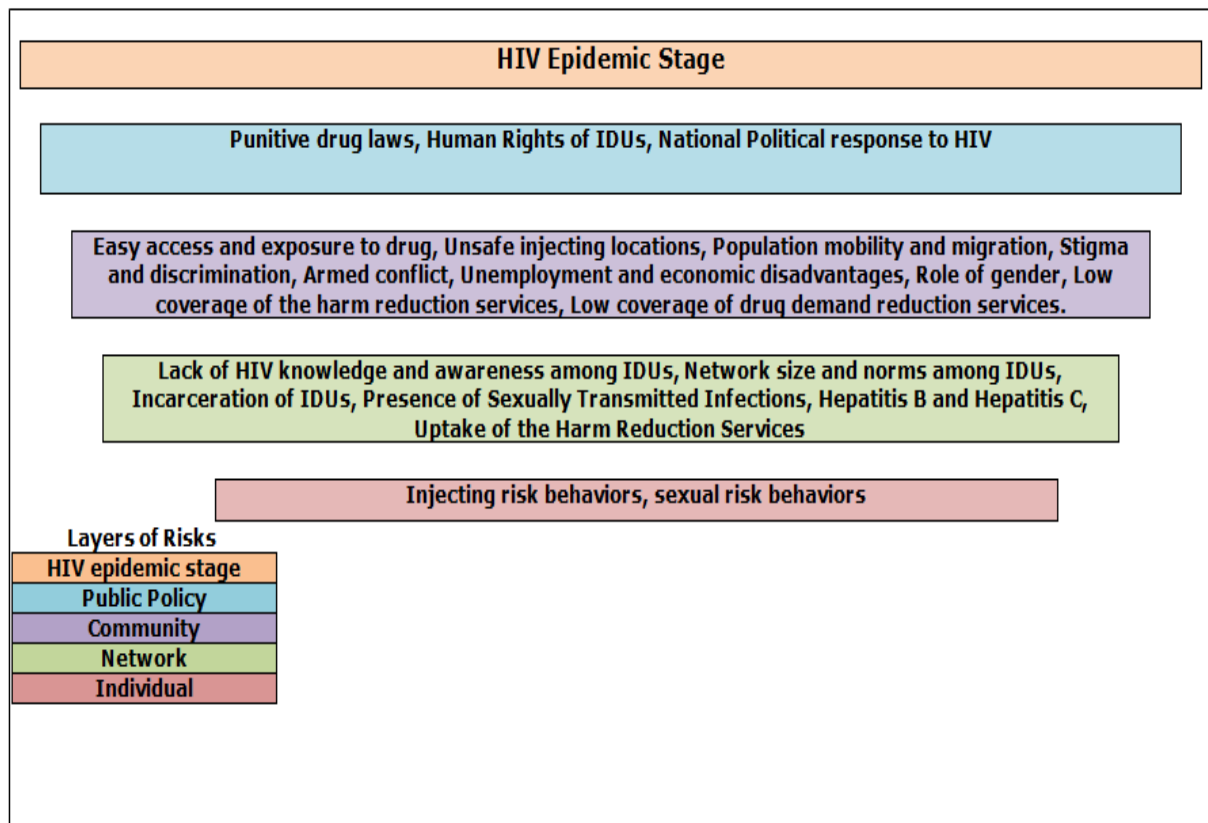
The Modified Social Ecological Model (MSEM), developed by Baral et al.2013 used as framework of analysis of the HIV risk and vulnerability factors among IDUs in Afghanistan. The MSEM is composed of five layers of risk for HIV infection among IDUs namely the individual layer, network layer, community layer, public policy layer, and the layer of HIV epidemic stage (Figure 4) (36).

The MSEM is developed based on the premises that not only the individual risk factors are imperative for HIV spread among IDUs, but also the higher order social and structural factors at the network, community, public policy and the epidemic stage contribute to spread of the virus. These higher order social and structural factors facilitate the individual layer risk factors thus predispose the IDUs to HIV. The MSEM was developed through integrating and building upon the past frameworks for visualizing multi-layer, multi-factorial nature of HIV infection risks (36).

The MSEM is used in this study because of its comprehensiveness; it encompasses all the variables that influence on the HIV risk and vulnerability of IDUs in Afghanistan. It worth mentioning that some elements of the MSEM was slightly modified for applicability in context of Afghanistan.



Figure 4: Modified Social Ecological Model, the five layers of HIV risk and vulnerability factors among IDUs



Source: Baral et al. (2013) (36)

## 2.5. Limitations of the study

The data about IDUs and HIV in Afghanistan is scarce. In some sections of this study the evidences used from other countries for supporting the arguments made. Additionally, not all of the literatures about IDUs and HIV in Afghanistan are available in the internet. The reports of the IBBS 2012 and IBBS 2009 used as the key literatures in this study were accessed by personal communication with the NACP department of the MoPH. However, the IBBS did not explore the impacts of social and structural determinants on the risk of HIV among IDUs. Furthermore, the harm reduction interventions have been implemented since 2008 in the country; however, limited document is available about its outcomes. There is no nationwide study on HIV among IDUs in Afghanistan; the IBBS 2012 is the most recent study which covered the IDUs in only five cities. Thus this study might not be nationally representative of the whole IDUs in Afghanistan.

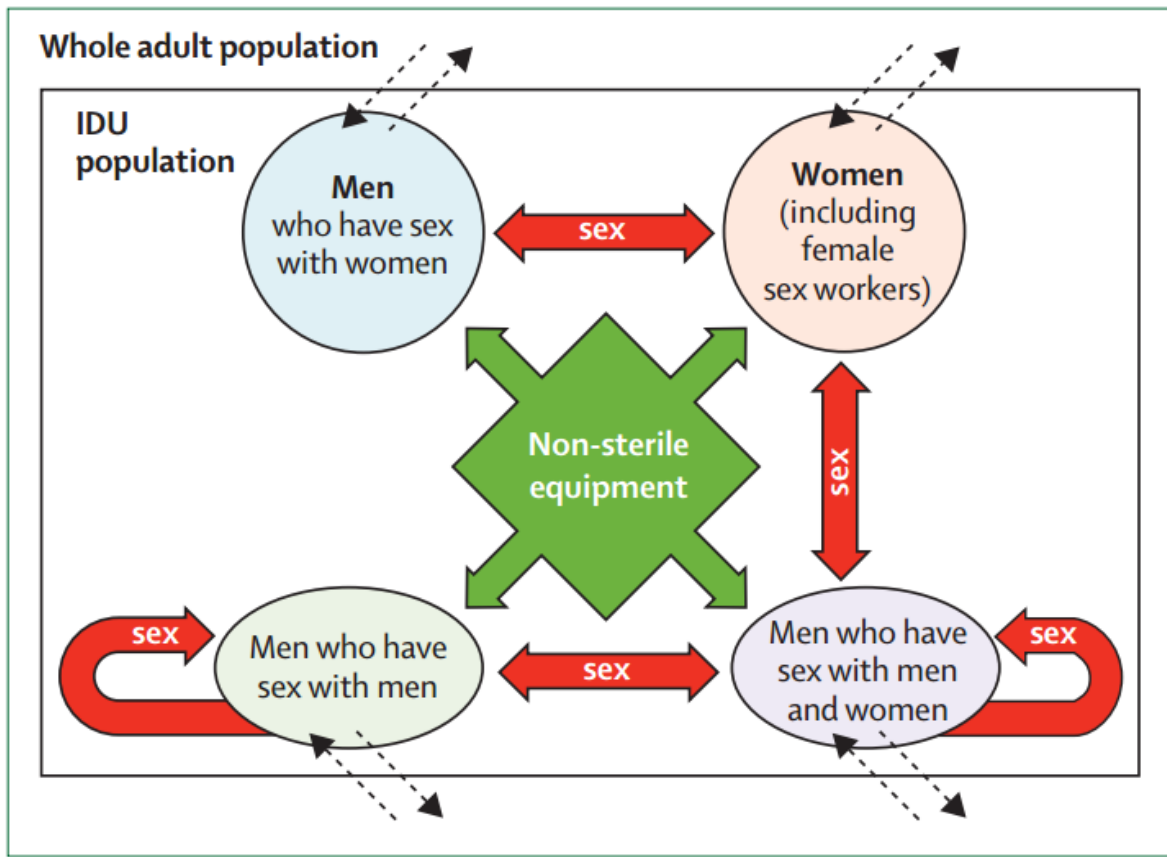
## 3. STUDY FINDINGS

This chapter mainly focuses on the HIV risk and vulnerability factors among IDUs in Afghanistan. The elements of the five layers of the conceptual framework aforementioned will be discussed separately; first of all the individual layer risk factors and thereafter the factors at the network, community, public policy, and the epidemic stage layers will be discussed respectively.

### 3.1. Individual layer

The individual layer factors include the behaviors of individual IDUs that put them at risk of HIV acquisition. These behaviors include the injecting risk behaviors like sharing the injecting equipment and sexual risk behaviors like unsafe sex with other IDUs, FSWs and MSM. The Figure 5 shows the HIV transmission dynamics among IDUs, FSWs, MSM, their spouses and sexual partners and subsequently to the general population (36,37)

Figure 5: Routes of HIV transmission among IDUs and beyond



Source: Strathdee et al. (2010) (37)

### 3.1.1. Injecting risk behaviors

#### 3.1.1.1. Sharing the injecting equipment

The association between sharing the injecting equipment and risk of HIV among IDUs in Afghanistan has not been studied yet. However, research clearly indicated that HIV transmission among IDUs primarily occurs through using and sharing contaminated needles/syringes and injecting paraphernalia such as containers, filters, water etc. Studies suggest that between five to ten percent of new HIV infections worldwide result from sharing used needles/syringes causing up to 80 percent of new infections in Eastern Europe and Central Asia (38,39).

According to the IBBS 2012 on average 11 percent of all interviewed IDUs in five cities had ever shared needles/syringes varied from 0.4 percent in Kabul to 33.2 percent in Herat city where the highest HIV prevalence was recorded. Additionally, the use of non-sterile injecting equipment at least once in the past three months was reported 6.2% varied from 0.0 percent in Kabul to 24.5% in Herat city (Table 6)(7).

Table 6: The rates of using and sharing non-sterile injecting equipment among IDUs in five cities of Afghanistan

City	Ever shared non-sterile injecting equipment	Used non-sterile injecting equipment at least once in the past 3 months
Kabul	0.4%	0%
Herat	33.2%	24.5%
Mazar-i-Sharif	6.4%	2.0%
Jalalabad	7.8%	NA
Charikar	8.6%	4.2%

Source: IBBS 2012 (8)

### 3.1.1.2. Frequency and duration of injection

The association between frequency and duration of injection and risk of HIV among IDUs in Afghanistan is not clear. However, a study among IDUs in Kabul revealed that the probability of Hepatitis C Virus increased with duration of injecting (40). Similarly research suggests that the likelihood of acquiring HIV among the IDUs increases proportionately with increase in frequency and duration of injection (37,41). According to the IBBS 2012 on average 73.5 percent of the IDUs in all five cities reported that they inject more than once daily varied from 2.3 percent in Jalalabad to 100 percent in Herat city. The average mean time for injecting was reported 2 years varied from 1.3 years in Jalalabad to 2.9 years in Herat city. The duration of injection varied from less than one year to more than three years. The majority of IDUs (54 percent) reported that they have been injecting for one to three years. On average, 12.7 percent reported injecting for more than 3 years; varied from 5.6% in Kabul to 21.8% in Herat city (Table 7 and Table 8) (8).

**Table 7: Frequency of Injection among IDUs in five cities**

City	Frequency of injecting drugs	
	≤ Once/day	> Once/day
Kabul	17.4%	82.6%
Herat	0%	100%
Mazar	10.7%	89.3%
Jalalabad	79.6%	20.3%
Charikar	24.9%	75.1%

Source: IBBS 2012 (8)

**Table 8: Duration of injection among IDUs in five cities**

City	Duration of injecting drugs by the IDUs (years)			
	<1	1-3	>3	Mean time
Kabul	43.6%	50.8%	5.6%	1.4
Herat	25.8%	52.4%	21.8%	2.9
Mazar	18.9%	63.2%	17.8%	2.4
Jalalabad	24%	63.5%	12.5%	2.3
Charikar	53.2%	41.1%	5.7%	1.3

Source: IBBS 2012 (8)

### 3.1.1.3. Needle and syringe disinfection

Although the preventive effect of needle/syringe disinfection on HIV transmission among IDUs is still controversial; but some research suggest that properly disinfecting used needles/syringes can reduce the risk of HIV transmission among IDUs who would not or could not stop injecting. One such measure is disinfection of injecting equipment with the bleach solution (42,43). If the disinfection procedure is done appropriately, it can reduce the amount of HIV particles on a needle/syringe. However, even the best disinfection method cannot guarantee that all viruses have been killed or removed. The plastic syringes usually used by IDUs are designed for one-time use and not suitable to be cleaned and used again; additionally the IDUs may also share the equipment other than needles/syringes which is not possible to disinfect (42,43)

Based on a 2009 drug use survey in Afghanistan, the majority of IDUs reported that they had never cleaned their needles/syringes after another person's use. None of the IDUs had disinfecting their needles/syringes with bleach solution (44). Some IDUs attempt to clean their injecting equipment by washing and boiling in water, burning needles (Personal observation). However, these methods are not evidence based and do not result to disinfection and cannot protect IDUs from being infected with HIV.

### 3.1.2. Sexual risk behaviors

The role of sexual risky behaviors on the risk of HIV among the IDUs in Afghanistan is not clear. However studies clearly indicate that sexual risk behaviors such as unprotected sexual intercourse with multiple partners increase the likelihood of contracting HIV (45). According to the IBBS 2012 on average 48 per cent of male IDUs responded that they have ever bought sex from a woman, varied from 29.3 percent in Kabul to 73.4 percent in Herat city. On average 0.8 percent reported that they have ever had sex with a man and on average 16 percent reported that they have ever had sex with a boy (Table 9)(8).

**Table 9: Sexual risk behaviors among IDUs in five cities of Afghanistan**

City	Ever bought sex from a woman	Ever had sex with a man	Ever had sex with a boy
Kabul	29.3%	0%	1.9%
Herat	73.4%	0.7%	10.4%
Mazar	44.5%	1.0%	18.5%
Jalalabad	55.8%	1.1%	28.5%
Charikar	35.4%	1.3%	18.9%

Source: IBBS 2012 (8)

Moreover, research suggests that the likelihood of acquiring HIV proportionately increases with the number of sexual encounters and also the number of sexual partners (46). According to IBBS 2012, on average, 46.5 percent of all IDUs in five cities were married (Annex 3); 42% of the IDUs reported that they had one female sexual partner and 21% reported that they had one male sexual partner in the last six months. On average, 7.5% of the IDUs reported that they had two or more female sexual partners and 1.26% reported that they had two or more male sexual partners in the past six months. The average rate of condom use at last sex among those IDUs who have heard about condom was reported 23.8%. The highest proportion of condom use during the last sex act was reported among IDUs in Kabul (27.3%). In contrast, the lowest rate was observed among IDUs in Charikar city (3.6%). The low condom use was attributed to the lack of knowledge and awareness about the risk of HIV transmission and also about the protective effects of condoms use, unavailability of condoms and the economic barriers (8).

### 3.2. Network layer

The network layer factors predispose the IDUs to the risk of HIV through moderation of the individual layer risk factors (36).

#### 3.2.1. Lack of HIV knowledge among IDUs

The relationship between HIV knowledge and risk of contracting the virus among the IDUs in Afghanistan is not clear. However the research suggest that the level of HIV knowledge and awareness among the IDUs networks determines the level of injecting and sexual risk behaviors among them (36). According to the IBBS 2012 except for Herat city more than half of the IDUs in each city were illiterate. The majority (77%) of the IDUs had heard of HIV. However, only 20% had adequate knowledge about HIV prevention. There were major misconceptions about HIV infection, for instance (55%) of IDUs reported that a mosquito can transmit HIV and 35% believed that HIV can be acquired by sharing meal with HIV infected person (Table 10) (8).

**Table 10: The HIV transmission and prevention knowledge among IDUs**

Knowledge area	%
Ever heard about Sexually Transmitted Infections	53%
Ever heard about condom	72%
Ever heard about HIV/AIDS	77%
The rate of IDUs believed that sex with only one faithful uninfected sex partner reduces the risk of HIV transmission	59%
The rate of IDUs believed that using condom reduces the risk of HIV transmission	60%
The rate of IDUs believed that people can protect themselves against HIV by abstaining from sex	62%
The rate of IDUs believed that a person can get HIV from mosquito bites	55%
The rate of IDUs believed that a person can get HIV by sharing meal with someone who is infected	35%
Adequate knowledge about HIV prevention among IDUs	20%

Source: IBBS 2012 (8)

#### 3.2.2. Network size and norms among IDUs

The role of network size and norms on the risk of HIV transmission among IDUs has long been recognized. Based on studies, the risk behaviors of IDUs are influenced by the characteristics of their social network structure and norms. For instance the risky behaviors are more common among larger networks of IDUs. Similarly, the more high risk behaviors are practiced among IDUs networks with high turnover (47,48).

In Afghanistan, the association between the IDUs network structure and norms with risk of HIV among them has not been studied yet. Based on a 2008 mapping assessment of IDUs in three cities (Kabul, Mazar-i-Sharif, and Jalalabad) overall there were 117 IDUs spots in Kabul, and more than half of these spots had clusters of at least 5 IDUs. Contrary, in Mazar-i-Sharif there were a total of 57 IDUs spots, and all the cluster of the spots had below 5 IDUs. Similarly, only one of the 42 clusters in Jalalabad city had 5 IDUs (33).

Additionally, study shows that the norms like ‘good activity to do it in a group’, ‘sharing is normal’ and ‘injecting increases sexual desire’ are the common among IDUs in Afghanistan (49). These norms encourage the risky behaviors among the IDUs. The IDUs inject either by themselves or ask their friends to help them; the latter condition encourages sharing needle/syringe among them (49).

### 3.2.3. Incarceration of IDUs

The prisons are identified as high risk environments for HIV transmission particularly among IDUs. In a number of countries the strongest predictor of HIV infection among IDUs reported a history of ever injecting drug in prison. Although the frequency of drug injecting may decrease in the prisons but the likelihood of sharing the needles/syringes may increase due to limited needle/syringe availability (36,47).

Similarly, the IDUs in Afghanistan prisons are a particular at risk sub-population (50). According to IBBS 2012, 46% of inmates in Herat prison and 16% of inmates in Kabul prison reported that they have ever used drugs. Among those inmates who had ever used drugs, 70% of Kabul inmates and 26% of Herat inmates reported using drugs while being in prison. Similarly, among those inmates who reported ever using drugs, 30% of Kabul inmates and 0.6% of Herat inmates reported that they had injected drugs since being in prison. Among those who have injected drugs, 22 percent of Kabul participants and none of Herat participant said that they had access to sterile injecting equipment in prisons. The IBBS 2012 also revealed that on average 45% of IDUs reported that they were ever imprisoned; it varied from 26.5% in Kabul to 74% in Herat city (8).

### 3.2.4. Presence of Sexually Transmitted Infections, Hepatitis B and Hepatitis C

Study suggest that the persons who are infected with other STIs are at least two to five times more likely to acquire HIV infection if they are exposed to the virus through sexual contact (51). Moreover, if an HIV-infected individual is also infected with other STIs, that person is more likely to transmit HIV through sexual contact. The biological evidence indicate that the presence of STIs increases the likelihood of both transmitting and acquiring HIV (52)

According to the IBBS 2012 overall 25% of IDUs reported that they have had STIs symptoms in past 12 months. The average prevalence of Syphilis among the IDUs in five cities reported 6.6% (Table 11). Additionally, the average prevalence rates of the Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV) among the IDUs reported 6% and 31.2% respectively (8). Although the presence of HBV and HCV among IDUs may not impact on transmission of HIV among them but it is a further indication of injecting and sexual risk behaviors among them (49).

**Table 11: HIV, HBV, HCV and Syphilis prevalence among IDUs**

Disease	Kabul	Herat	Mazar-i-sharif	Jalalabad	Charikar	Combined population	
						Overall prevalence	95% CI
<b>HIV</b>	2.4%	13.3%	0.3%	1%	0.9%	4.4%	3.3-5.8
<b>HBV</b>	7.3%	4.4%	3.2%	8.3%	5.4%	6.6%	5.3-8.2
<b>HCV</b>	27.6%	70%	18.8%	9.5%	25%	31.2%	28.5-33.9
<b>Syphilis</b>	6.2%	3.3%	6.9%	3.8%	4.0%	6%	4.7-7.6

Source: IBBS 2012 (8)

Additionally, according to the IBBS 2009, the HIV/HCV and HIV/HBV co-infections prevalence rates among IDUs were reported 17 % and 9% respectively (9). Although the co-infection with HBV and HCV may not impact on HIV transmission among IDUs, but it may complicate the management and treatment of HIV among IDUs; moreover it may increase the mortality rate associated with rapid progression of viral hepatitis to liver cirrhosis and cancer (49,53).

### 3.2.5. Uptake of the Harm Reduction Services

The standard Harm Reduction Services (HRS) proved to reduce the HIV transmission among the IDUs (54). The IBBS 2012 assessed the IDUs' awareness about the HRS and also the rate of ever using the HRS in their lifetime. On average 53 % of the IDUs in all five cities reported that they are aware of the HRS varied from 80% in Mazar-i-Sharif to 2.2% in Charikar city. On average, 74% of the IDUs who were aware of the HRS reported that they have used the HRS varied from 0.4% in Charikar to 99% in Herat city (Table12) (8).

**Table 12: The rates of awareness and ever use of the HRS among IDUs**

	Kabul	Herat	Mazar-i-Sharif	Jalalabad	Charikar
<b>Aware of the HRS</b>	63.9%	58.9%	80%	58%	2.2%
<b>Ever used HRS</b>	88.1%	99%	97%	86.6%	0.4%

Source: IBBS 2012 (8)

### 3.3. Community layer

#### 3.3.1. Easy access and exposure to drug

While almost all of the produced opium and heroin in Afghanistan was exported before; a substantial amount (less than 10%) is now believed to be consumed inside the country (49). In 2012 the opiates use prevalence rate was reported 2.65 percent (30). Beside other factors, the widespread and easy access to drugs, and involvement of large number of population in poppy cultivation and trafficking, the number of drug users has been increasing sharply (44). On the other side, the pharmaceutical drugs are also easily accessible and directly sold over the counters by the pharmacists and other retailers without doctors' prescription (20).

Although the dominant modes of drug consumption identified smoking and ingesting; but it is believed that using drugs through injection is increasing (55). According to a study conducted in 2009 among IDUs in Kabul, the IDUs pointed out different reasons for shifting from non-injecting drug use to injecting. The majority of the IDUs reported that they opted injecting because of stronger effects than other routes. Injecting was also reported more convenient as it can be done anywhere. The low cost of injecting compared to smoking was also a motivating factor; for instance smoking costed them equal to USD 2-10 per dose while injecting costed USD 1 per dose. Injecting reported less time consuming and could avoid harassment and disturbance by police. Moreover, peer pressure was also reported a contributing factor for transition to injecting (49,56). Another study in Kabul revealed that 85% of IDUs started with non-injecting routes and then shifted to injection (40). These factors may increase the population size of IDUs and thus the larger population size and networks may create vulnerability to HIV among them.

#### 3.3.2. Unsafe injecting location

Research suggests that the safety of the physical environment in which drug injecting takes place influences on the risk behaviors of IDUs; injecting risk behaviors among IDUs more often happens in unsafe environments such as visible areas with limited privacy and security. It also influence on the ability of IDUs to access sterile needles/syringes (47,57). The association between injecting location and the risk of HIV among IDUs in Afghanistan is not clear; however, studies in Iran, Bangladesh and Pakistan revealed that injecting outside home increased the risk of contracting HIV associated with injecting and sexual risk behaviors (49).

According to the 2008 mapping assessment of IDUs in three cities of Afghanistan, 32.1% of IDUs reported that they inject at home and the majority (67.9%) reported that they inject outside home. The most frequent injecting locations outside home were reported parks (26.2%), sewers (21.0%), under the bridges (16.9%), grave yards (13.2%), alleys (11.3%), and the streets (4.3%). The IDUs who have been injecting outside home reported that they have established networks with other IDUs (33,49).

#### 3.3.3. Population mobility and migration

During the decades of conflict approximately 8 million Afghan populations fled to foreign countries. As of 2005 about 5.7 million Afghans had returned home mainly from Pakistan and Iran where relatively higher HIV epidemics reported particularly among IDUs (20.8% among IDUs in Pakistan and 14.3% in Iran) (32,49). Additionally as of 2008 there were 500,000 internally displaced people in the country. Information about the HIV risk behaviors of Afghan refugees and

displaced people are not available; however, it is believed that these groups generally have less information about HIV. They are also at risk due to isolation from their families and lack of means for support (32,58). For instance, in a study in Quetta, a city in Pakistan bordering with Afghanistan, 24 percent HIV prevalence was reported among a mix group of Afghan and Pakistani IDUs. Compared to Pakistani IDUs, displaced Afghan IDUs exhibited lower level of knowledge about HIV transmission and were engaged in high-risk behavior (34)

A national survey by the UNODC in 2009 revealed that almost one-third of drug users reported that they started using drugs in Iran and one in ten began using in Pakistan. About 40% of all opium and heroin users started using drug in Iran. Likewise, study showed that heroin injecting was first reported among returning Afghan refugees from Iran and Pakistan in the border provinces (5). In another study, the four viral samples assessed among IDUs in Afghanistan have previously been identified among IDUs in Iran and had the same genome sequence; it suggests the link between these two epidemics (60). The return of large numbers of refugees specially those who adopted IDU and acquired HIV while abroad raised serious concerns regarding spillover of the HIV epidemic in the country.

According to the IBBS 2012 on average 61 percent of all IDUs in five cities reported that they have lived outside Afghanistan in the past ten years varied from 93.3 percent in Herat city to 42.4% in Charikar city (Annex 3) (8). Similarly, the 2008 mapping assessment revealed that on average 73 percent of all IDUs lived or worked outside Afghanistan in the past ten years varied from 33 % in Pakistan, 28% in Iran, 12% in both Pakistan and Iran and 4% in other countries (33).

#### **3.3.4. Stigma and discrimination**

Illicit drug use including injecting is highly stigmatized in Afghanistan. The use of intoxicant drugs in the Afghan society is a cultural taboo and strongly disapproved in the society. It is also a criminal act and punishable under law (61). The drug users face different kinds of social and legal discrimination varying from being called by immoral names, insulted, expelled from the villages, refused to use the public services such as the bathhouses, public transportation to even arrested by police (49). The stigma, discrimination and criminalization associated with IDU lead to social exclusion of IDUs and limits their access to prevention and treatment services; it also leads to formation of IDUs networks and increases the probability of injecting and sexual risk behaviors among them (62).

#### **3.3.5. Armed Conflict**

Afghanistan has been suffering from more than three decades of protracted armed conflicts which is still going on in some parts of the country (11). The link between armed conflict and risk of HIV among IDUs in Afghanistan is not clear. However, it is believed that the post conflict populations are vulnerable to diseases including HIV. Armed conflict creates emergencies, displaces people and creates tendencies for risk behaviors. Insecurity also hinders the development and implementation of prevention and treatment strategies and subsequently limits access of people to the services (47). Additionally, the rise in drug production in Afghanistan is also attributed to the deterioration of security situation in the country. Over 80 percent of the opium in the country is reported to have been producing in southern provinces where the insecurity is rampant (63).

#### **3.3.6. Unemployment and Economic disadvantages**

The association between unemployment, economic disadvantages and the risk of HIV among IDUs in Afghanistan has not been studied yet. However, studies in other countries like Iran and Uzbekistan indicated that unemployed IDUs were more likely to practice risky injecting and sexual behaviors (49).

Research indicates that in areas with higher income inequality there are more IDUs per capita and higher rates of HIV incidence and prevalence. Furthermore, the poor people often face barriers to accessing basic healthcare and information. Additionally, the poverty among the drug users motivates them to opt cheaper ways of taking drugs such as injecting instead of smoking or using non-sterile injecting equipment (47,49,56,64).

According to the IBBS 2012, about 5% of IDUs reported that they are unemployed. On average 40% of those IDUs who reported having a monthly income said that they earned from 1000 to 5000 Afghani equal to USD 20-100; while this amount is insufficient to cover even the costs of drugs being used by them; for instance one syringe with one ampoule Avil (Pheniramine maleate; an antihistamine used with heroin to dilute and to increase its effects) costs about 10-40 Afghani equal to USD 0.2–0.8 (8,49). It is believed that IDUs look for alternative ways of obtaining money for drugs. As

a result they turn to begging, stealing and other pity crimes and also engaging in homosexual activities for earning money (49).

### **3.3.7. Role of Gender**

The role of gender on the risk of HIV among IDUs in Afghanistan has not been studied. According to the 2009 National Drug Use Survey, the majority (80%) of the IDUs in Afghanistan are males (5). There is no data available about female IDUs as so far all studies have been conducted on male IDUs. However, it is assumed that IDU by females is mainly home based (49,65).

It is generally believed that the males including male IDUs in Afghanistan are more vulnerable to HIV compared to their female counterparts. The following explanations were given to support this assumption: 1). the number of male drug users outweighs the females; 2). Males are mainly the heads of the households and responsible for supporting the family financially which makes them vulnerable to in and out-migration. 3). Male IDUs have more options to move and join the networks of IDUs and more likely to engage in injecting and sexual risk behaviors and to have multiple sexual partners (49).

### **3.3.8. Low coverage of the harm reduction services**

The HRS recognized as the most effective interventions for HIV prevention, treatment, and care among the IDUs (66). The coverage of the HRS in Afghanistan remains low; only 25% of the total estimated IDUs (18000-23000) is estimated to have been covered. The HRS was geographically limited to eight out of 34 provinces (Kabul, Herat, Ghazni, Kandahar, Balkh, Kunduz, Nangarhar, and Badakshan). Additionally, the HRS for IDUs in prison is operating only in Kabul prison (7,49). For better understanding the current situation of the HRS, each element of the standard HRS is discussed separately.

#### **3.3.8.1. Needle and Syringe Programs**

The coverage of the Needle and Syringe Programs (NSPs) for IDUs in Afghanistan remains low; as of 2014 only 30% of total estimated IDUs reported to have been covered by the NSPs (7). The current NSPs coverage rate in Afghanistan is insufficient to have an impact on the HIV epidemic among this group as the WHO, UNODC and UNAIDS guidelines recommend that more than 60% NSPs coverage rate is required to prevent further spread of HIV among IDUs (54). In 2014, 92.2 syringes per injector was distributed (7). While according to the WHO, UNODC and UNAIDS guidelines, less or equal to 100 syringes per injector per year is classified as low coverage, 100-200 as medium, and more than 200 as high coverage (50). The needles/syringes are available over the counters in private pharmacies, but that costs money which may not be affordable for IDUs who are among the most economically deprived groups. For instance the cost of one syringe is approximately USD 0.06 at pharmacies in Kabul (57).

#### **3.3.8.2. Opioid Substitution Therapy**

In the harm reduction strategy adopted in 2005, provision of the Opioid Substitution Therapy (OST) services was considered (67); however, the coverage of the program in the implementation phase has been low; for instance, during the period (2012-2014) the target number of IDUs for OST program was limited to 71 IDUs per year (7). According to the WHO, UNODC and UNAIDS guidelines the OST coverage should be more than 40% to have an impact on HIV transmission among IDUs while it is about 0.004% (71/18-23000 IDUs) in Afghanistan (49,54).

#### **3.3.8.3. Voluntary Counseling and Testing**

Access of IDUs in Afghanistan to the HIV Voluntary Counselling and Testing (VCT) services is low; there are currently 11 VCT centers established by the NACP in 8 out of 34 provinces (7). The VCT services are integrated into the BPHS. However, the VCT services require a comprehensive physical and organization structure, which is beyond the capacity of the current BPHS facilities. Thus the VCT services within BPHS remained underutilized (49). According to the IBBS 2012, the highest proportion of IDUs ever tested for HIV was reported in Herat and Mazar-i-Sharif with 58.3% and 59.9% respectively. The lowest proportion was reported in Kabul where only 2.7% of IDUs had been ever tested for HIV (8).

#### **3.3.8.4. Anti-Retroviral Therapy**

Currently, the Anti-Retroviral Therapy (ART) services are provided at only two clinics located in Kabul and Herat providing treatment services to PLHIV; however, both clinics still lacking machines for CD4 counts. As of 2010 both ART clinics registered 95 PLHIV but it is not clear how many of them were IDUs (7,49).



### **3.3.8.5. Vaccination, diagnosis and treatment of viral hepatitis**

Despite that a significant proportion of IDUs also infected with HBV and HCV, however as of end of 2014 no intervention was implemented on vaccination, diagnosis and treatment of viral hepatitis among the IDUs (7).

### **3.3.8.6. Condom distribution for IDUs and their sexual partners**

As of 2014, only 23.37% of the IDUs were covered by condom programs, however there is no information available about condom distribution for the spouses and sexual partners of IDUs (7)

### **3.3.8.7. Prevention and treatment of STIs**

The STIs prevention and treatment services of the HRS was integrated into the Antenatal Care (ANC) services for pregnant women within the BPHS; however remained underutilized as the IDUs are mostly male and there is no mechanism how they can use STIs services from ANC services (49).

### **3.3.8.8. Targeted Information, Education, and Communication (IEC) services for IDUs and their sexual partners**

Based on the harm reduction strategy for IDUs, promoting IEC on HIV among IDUs has been considered (67). Although there were some IEC activities by the Non-Governmental Organizations (NGOs) implemented through media to convey accurate information on HIV among the general population (7). However, yet no targeted IEC interventions has been implemented specifically among the IDUs (49).

### **3.3.9. Low coverage of drug demand reduction services**

As of 2012, cumulatively 50 drug treatment centers were operating in the country; these centers were mainly run by the MoCN contracted to NGOs and the MoPH with the maximum capacity to treat nearly 10000 drug users annually (less than 1% of total drug users) (68). In terms of geographical distribution, about 8 centers were located in Kabul and three centers in Herat with the maximum annual capacity to treat 2500 and 540 drug addicts per year respectively. However, in Helmand province where the majority of Afghanistan's drug is produced, only one center was active with total annual capacity of 320 drug addicts to treat (49).

## **3.4. Public policy layer**

### **3.4.1. Punitive drug law**

Although the impact of punitive drug law on the risk of HIV among IDUs has not been studied in Afghanistan; but a study in Vietnam has shown that the punitive drug law was associated with increased risk of HIV among IDUs linked with injecting risk behaviors (69). Afghanistan is an Islamic country. Based on the principles of the Islam religion illicit drug use is strictly forbidden. Similarly, the illicit drug use including injecting is illegal and punishable by law. There is a counter narcotics law currently in place which prohibits the use and possession of illegal drugs and the offenders are sentenced from one month to one year imprisonment and fined equal to USD 100-1000 depending on the type of drug. Criminalization and punishment of drug users might encourage them to shift into injecting instead of other routes such as smoking in order to keep their drug use status secret (49,57).

### **3.4.2. Human Rights of IDUs**

Although the GoA is committed to protecting the human rights of its citizens; however, there is no any anti-discriminatory law and policy to protect the rights of IDUs and PLHIV. The Afghanistan Independent Human Rights Commission (AIHRC) is the responsible institution monitoring the human right violation in the country. However, the rights of IDUs and PLHIV have not been considered in their strategies (49,70). Lack of protection of the human rights of the IDUs often leads to stigma and discrimination against them. These factors may lead to the isolation of IDUs and formation of IDUs networks which in turn may amplify vulnerability to injecting and sexual risk behaviors and subsequently to HIV (36,49,71).

### **3.4.3. National political response to HIV**

The establishment of the NACP in 2003 was the first national response to HIV/AIDS in Afghanistan (7). The GoA is committed to international accords and declarations on fight against HIV/AIDS and has consistently renewed its commitments. At the national level, the GoA has adopted the Millennium Development Goals (MDGs) including the MDG-6 aiming to prevent HIV among IDUs by 50% and to provide universal access to ART services by 2015. This goal

was re-emphasized in the Afghanistan National Development Strategy (ANDS) 2008-2013 which emphasized on provision of rehabilitation and HIV prevention services for drug users (7,49,72).

The national HIV/AIDS policy was devised for guiding a multi-sectoral HIV response; however is lacking legal status and roles and responsibilities of the sectors involved (49). The HIV and AIDS Coordination Committee for Afghanistan (HACCA) were established in 2007 to coordinate the HIV response and to advocate for enhancing HIV/AIDS services in the country. However, its legal status and the degree of autonomy is not defined yet in order to ask the member organizations about their responsibilities (49,73).

Based on the first HIV/AIDS strategic plan (2003-2007) the Afghanistan National Strategic Framework (ANSF) for HIV/AIDS was developed for the period 2006-2010 and was revised for 2011-2015 aiming to foster multi-sectoral response to achieve universal access to HIV prevention, treatment, and care. However, the roles and responsibilities of the sectoral ministries is not defined which impose the strategy to be only health sector strategy and is lacking involvement of other sectors outside health (49,73).

Although the harm reduction strategy was developed in 2005 but it seems to have failed in the implementation phase as limited proportion of IDUs are covered (only 25%) (7,67). In 2011, a Memorandum of Understanding (MoU) was signed between the MoPH, MoCN, Ministry of Interior (MoI), and the Ministry of Justice (MoJ) for enhancing the cooperation in implementation of the harm reduction services including in prisons. However, the monitoring mechanism for appropriate implementation of this MoU is not clear. Although a Monitoring and Evaluation (M&E) mechanism established at NACP, but is more health sector related rather than being a national multi-sectoral body. Lack of national M&E system for HIV/AIDS leads to information gap on HIV epidemic and response in the country (49).

In 2012 Afghanistan was among the countries which 75–100% of its financial resources for response to HIV/AIDS came from external sources (4,7,49). Due to financial gap the interventions which were proposed in the ANSF were not accomplished successfully. For instance, between the period 2006-2010 totally USD14 million was proposed for implementation of targeted interventions for key populations; but faced more than 65% gap in funding (49).

### **3.5. HIV Epidemic Stage**

Finally, the stage of the HIV epidemic within a network, community, and country determines the risk of HIV acquisition for the individuals in that network, community and country. The individual behavior, network, community and policy determinants cannot create the infectious disease; rather these can only create conditions which either increase or decrease the probability of acquisition or onward transmission of the infection which is already prevalent in a network, community or country. The residence in or near an area of high HIV prevalence is a powerful risk factor for contracting the virus (39). The stage of the HIV epidemic can be quantified in several ways including HIV incidence and prevalence (36).

There is no data available about the HIV incidence among the general population as well as the key population in Afghanistan. The UNAIDS estimated the overall prevalence in the country below 0.1 percent and classified it 'low level' (4,74). The national HIV prevalence rates among the key populations are also not clear yet. The IBBS 2009 found the average HIV prevalence among IDUs in three cities 7.1% varied from 18% in Herat, 3% in Kabul and 1% in Mazar-i-Sharif; while the IBBS 2012 reported an average 4.4% prevalence among IDUs in five cities varied from 0.3% in Mazar-i-Sharif, 0.9% in Charikar, 1.0% in Jalal Abad, 2.4% in Kabul and 13.3% in Herat city (8,9). Taking into account the assumption made in the MSEM by Baral et al and considering the above data, the IDUs are at low risk of HIV as the overall prevalence rate in the country is low; while the uninfected IDUs are at higher risk of contracting the virus due to the higher prevalence rates among the IDUs networks. According to Baral et al, the uninfected IDUs in Herat city is at highest risk of contracting HIV followed by the IDUs in Kabul.

## **4. HARM REDUCTION, AN INTERNATIONAL EVIDENCE BASED BEST PRACTICE FOR HIV PREVENTION, TREATMENT AND CARE AMONG IDUS**

It has been known since the early 1990s that HIV among IDUs can be effectively controlled by the implementation of a comprehensive package of interventions known as 'harm reduction'. Harm reduction is now accepted and recommended by the UN agencies like WHO, UNODC, UNAIDS and the World Bank. The harm reduction strategy is also accepted by many countries in Europe, Asia, Western Pacific and Canada. Every year a few more countries adopt harm reduction (66,75).

The standard harm reduction package recommended by WHO, UNAIDS and UNODC consists of the nine interventions summarized in Box1 (54).

**Box1: The standard harm reduction package**

- Needle and Syringe Programs (NSPs)
- Opioid Substitution Therapy (OST) and other evidence-based drug dependence treatment
- HIV Voluntary Counselling and Testing (VCT)
- Anti-Retroviral Therapy (ART) for IDUs living with HIV
- Prevention and treatment of Sexually Transmitted Infections (STIs)
- Condom programs for IDUs and their sexual partners
- Targeted Information, Education and Communication (IEC) for IDUs and their sexual partners
- Vaccination, diagnosis and treatment of viral hepatitis
- Prevention, diagnosis and treatment of tuberculosis

Source: [http://www.who.int/hiv/pub/idu/idu\\_target\\_setting\\_guide.pdf](http://www.who.int/hiv/pub/idu/idu_target_setting_guide.pdf)

The components of the standard harm reduction package will be discussed separately.

**4.1. Needle and Syringe Programs**

With rare exceptions, studies consistently showed that needle and syringe programs (NSPs) reduces HIV transmission among IDUs by up to 33–42% (54). NSPs were established with the aim to prevent the spread of viral infections like HIV through shared use of non-sterile needles/syringes. NSPs enable the IDUs to obtain needles/syringes at little or no cost. A comprehensive 2004 study by the WHO found that the NSPs substantially and cost effectively reduced the spread of HIV among IDUs (42,66). For example in 2002, China started NSPs for IDUs in Guangxi province bordered with Vietnam; both countries co-coordinated the program. The program showed a positive result that needles sharing reduced from 61% to 30% among IDUs (76).

**4.2. Opioid Substitution Therapy**

Opioid substitution therapy (OST) with methadone or buprenorphine is an effective intervention for reducing injecting risk behaviors among IDUs. OST has showed to improve both access and adherence to other services like ART, VCT, STIs services thus reduces associated morbidity and mortality (54). The replacement drugs like methadone or buprenorphine are usually administered orally in a supervised clinical setting. The maintenance treatment by methadone and buprenorphine shown to have reduced HIV spread among IDUs. Moreover, the cost benefit ratio of OST is estimated to be approximately four to one. In 2004, the UNODC, UNAIDS and WHO endorsed OST and WHO included methadone and buprenorphine in the list of essential medicines (54,77).

All member countries of the European Union now provide methadone or buprenorphine maintenance treatment. In five cities of India (New Delhi, Chennai, Mumbai, Calcutta and Imphal), the Buprenorphine maintenance treatment has been provided; and had a positive effect on reducing injection related HIV risk behaviors among IDUs (66,78).

**4.3. Voluntary Counseling and Testing**

VCT plays a crucial role within the package of harm reduction services. The UNAIDS now encourages countries to include and expand the VCT in their national policies. VCT provides people the opportunity to learn and accept their HIV sero-status in a confidential manner with counselling and referral for further medical care. Those who are tested seropositive can benefit from timely and appropriate medical care and interventions to treat and to prevent HIV associated complications. Understanding the HIV sero-status enables people in making decisions for protecting themselves and their sexual partners from being infected with HIV. Recent studies indicated that VCT is a cost-effective intervention in preventing HIV transmission (79). Many countries have launched the VCT services. In Jakarta, Indonesia for example, VCT services provided for the IDUs in 28 sub districts (76). In Pakistan until 2008 about 16 VCT centers were established in big cities both in the hospitals and in the community level (80).

**4.4. Anti-Retroviral Therapy**

The standard ART consists of the combination of at least three Anti-Retroviral (ARV) drugs to suppress the HIV and stop the progression to AIDS. ART proved to have significantly reduces the morbidity and mortality among PLHIV specially

if used at early stages of the disease. Since 2013, WHO also recommends the ARV use for HIV prevention among pregnant women, young children, and key populations exposed to HIV. As of 2012, 9.7 million people had access to ART in low- and middle-income countries (81,82).

#### **4.5. Prevention and treatment of Sexually Transmitted Infections**

Prevention and treatment of other STIs proved to have substantially reduced spread of HIV through sexual contact. Research recommends that targeted STIs detection and treatment should have a central role in HIV prevention (52,54).

#### **4.6. Condom programs for IDUs and their sexual partners**

Condom use is an effective approach to HIV prevention. Condom promotion has been recommended by the UNAIDS, WHO, and UNODC. According to UNAIDS recommendation, condoms should be available universally for free or at low cost. The condom promotion recommended not only for the IDUs, but also for their spouses and sexual partners (83). Consistent and correct use of male condom showed to have reduced the transmission of HIV and other STIs in vaginal and anal sex by up to 94%. Although little data are available on female condoms, evidence suggests that use of female condoms also have protective role against HIV and other STIs (84).

#### **4.7. Targeted Information, Education and Communication for IDUs and their sexual partners**

Providing information for IDUs is crucial for preventing HIV transmission among them. Targeted IEC can help preventing HIV spread among IDUs and other populations if intervened early. Targeted IEC programs provide explicit information for IDUs. The IEC materials are usually developed and written in clear and simple languages about the risks of sharing injecting equipment, safer sex etc. Targeted IEC is often provided in the forms of pamphlets, posters, handouts, charts, billboards, graffiti and other media. These materials are distributed among drug users and put up at drop-in centers and other places where IDUs congregate. The IEC materials are particularly effective if developed by drug users for drug users, or if uses the language of the setting which is simple to read and understand (54,66).

#### **4.8. Vaccination, diagnosis and treatment of viral hepatitis**

The IDUs who are infected with HBV and HCV are also at risk of acquiring HIV linked to similar transmission modes of these blood borne viruses. The HIV and HBV can both be transmitted through unprotected sex. While the HCV transmission is mainly blood borne and rarely occurs through unsafe sex. Hence, testing IDUs for HBV and HCV has great implication for HIV prevention among IDUs. Vaccination, diagnosis and treatment of HBV and also diagnosis and treatment of HCV can prevent and reduce associated morbidity and mortality linked to preventing liver complications. Moreover, if there is HIV/HCV and HIV/HBV co-infections, then the management and treatment of HIV will be troublesome (53).

#### **4.9. Prevention, diagnosis and treatment of tuberculosis**

Illicit drug users including IDUs are at high risk of contracting tuberculosis regardless of their HIV sero-status. Studies show that compared with the general population, the IDUs have a higher risk of acquiring tuberculosis infection and developing to active tuberculosis (85).

The WHO, UNAIDS and UNODC recommends prevention, diagnosis and treatment of TB as part of the harm reduction services package (54)

#### **4.10. Community based outreach**

Although the community based outreach is not included as a separate intervention in the harm reduction package, but it is recommended as a very effective method for accessing the IDUs who are hard to reach. Outreach is an efficient approach for providing IDUs with the HIV/AIDS prevention services like NSPs, condom programs and targeted IEC. Additionally, outreach can help in referral of IDUs to other services like OST and ART (54,86).

## **5. DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS**

### **5.1. Discussions**

Almost two and half decade is passed since the first HIV case was reported in Afghanistan; but the data indicates that the epidemic is still low among the general population. The number of registered cases has increased in recent years mainly attributed to IDU. This thesis meant to explore the HIV risk and vulnerability factors among IDUs who are the most

affected group by the HIV in the country. Understanding the underlying risk and vulnerability factors among IDUs would contribute in halting the HIV epidemic among them. The MSEM which was used as the conceptual framework in this study is a comprehensive framework which helped this study to explore the HIV risk and vulnerability factors among IDUs in context of Afghanistan thoroughly at five layers.

The main risk factors at the individual layer for HIV transmission among IDUs in Afghanistan identified the shared use of needles/syringes and unprotected sexual contact with multiple partners such as women, men and boys. Moreover, about half of the IDUs are married which increases the risk of HIV transmission to their spouses through sexual contact. The sexual risky behaviors of IDUs raise concerns about a potential sexual driven HIV epidemic in Afghanistan. Considering the HIV transmission dynamics described by Stradthee et al., and also looking at the injecting and sexual risk behaviors of IDUs, the HIV epidemic among IDUs in Afghanistan has the potential to ultimately find its way among the general population which will possibly complicate the situation and the response to HIV/AIDS in the country. There are several social and structural determinants in Afghanistan context that make the IDUs vulnerable to HIV.

The physical and psychological trauma of decades of armed conflicts, massive production and easy access to drugs, repatriation of large numbers of refugees from Iran and Pakistan appears to have contributed to dramatic increase in the number of drug users; the predominant modes of drug use reported smoking and ingesting; however these modes facilitate using drug through injection as study among IDUs in Kabul revealed so. Hence one could argue that the population size of IDUs in Afghanistan is substantially increasing; however, there is no precise data available. The increase in population size of IDUs is potentially alarming for establishment of a larger extent HIV epidemic among the IDUs and beyond them. The UNAIDS suggests that HIV epidemic has the potential to become explosive in settings with IDU.

There is no nationwide study on the HIV among IDUs in Afghanistan. A mapping and situation assessment of the key populations including IDUs was conducted in 2008 but covered only three cities. Similarly, the IBBS 2009 and 2012 studied the key populations in three cities and five cities respectively which did not provide national figures. Furthermore, except for the southeast city of Jalalabad, there is no information available about IDUs and HIV in southern parts of the country where the majority of Afghanistan's drug is produced. Additionally the two rounds of IBBS did not provide information about the association of social and structural determinants with the risk of HIV among IDUs. On the other side, the data about female IDUs are limited despite that about one fifth of total IDUs estimated to be females. As a result lack of information hinders the response to HIV/AIDS in the country.

It seems that the agenda of HIV and IDUs is only on the tables of MoPH and MoCN. Although the HIV and IDU is closely associated with migration and repatriation, but the other government organizations such as the Ministry of Refugees and Repatriates and the Ministry of Foreign Affairs (MoFA) is not involved in the response. As mentioned before, the interventions for the key population faced significant shortage of funds while the Ministry of Finance (MoF) is not involved in the response. Additionally, provision of the harm reduction services for IDUs in prisons is limited despite that a substantial number of prisoners are IDUs. Although a MoU has been signed between MoCN, MoPH, MoI and MoJ to mainstream the implementation of HRS in prisons; but was not implemented appropriately. The HACCA considered as a national entity for coordinating HIV/AIDS related issues in the country; however faced lack of cooperation from the sectoral ministries and organizations.

The information about the components of the harm reduction services and its outcomes is limited. The harm reduction strategy was developed about ten years ago but failed to be practiced appropriately. Although the WHO, UNAIDS and UNODC recommended the nine interventions within the harm reduction package but the HRS in Afghanistan is lacking components of the standard HRS; only one quarter of the total estimated IDUs reported to have been covered by the HRS. The HRS for the spouses and sexual partners of IDUs is lacking; these groups can act as a bridge for HIV transmission between the IDUs and the general population. The STIs and VCT services of the HRS are integrated into the BPHS, however, remained under-utilized due to lack of appropriate mechanisms to ensure use of these services by the IDUs.

The GoA devised the counter narcotics law aiming to control illicit drug production, possession and use; however, this law failed to have a controlling effect on the production of drugs; contrary the drug production has increased especially in insecure southern regions. The counter narcotics law also prohibits use of illicit drug; but this aspect of the law mainly enforced in major urban and secure areas. The punishment and arrest of drug users based on the counter narcotics law make them stigmatized and contribute to their marginalization and limits their access to drug treatment services and HRS.

Lack of protection for the human rights of IDUs lead to social and legal stigma and discrimination against them, and lack of anti-discriminatory law further contribute to the marginalization of IDUs thus increases their vulnerability to HIV. The harassment and detainment of IDUs by police, lack of access to the HRS are clear evidences of the violation of their human rights.

To respond to the HIV among IDUs effectively, it is crucial to target simultaneously the individual layer risk factors and where possible the higher order social and structural determinants at the network, community and the public policy layers.

## **5.2. Conclusion**

The HIV epidemic in Afghanistan is low and mainly associated with IDU. There are several underlying factors that put the IDUs at risk and make them vulnerable to HIV.

At the individual layer, the injecting risk behaviors of IDUs such as using and sharing non-sterile injecting equipment and their sexual risk behaviors like unprotected sexual intercourse with multiple homosexual and heterosexual partners are the factors that directly put the IDUs at risk of HIV. Additionally, the higher order social and structural factors exist in the country that indirectly predisposes the IDUs to the risk of HIV.

At the network layer, lack of HIV transmission and prevention knowledge and awareness among IDUs, risky norms among IDUs networks which influence on adopting risky behaviors, incarceration and spending time in prison which increases the probability of sharing the injecting equipment and limiting access to sterile needles/syringes, the presence of other STIs such as Syphilis and the low uptake of HRS were identified as the factors that make the IDUs vulnerable to HIV.

At the community layer, the production of massive amounts of drug inside the country and easy access to drugs resulting in increase in the number of illicit drug users including IDUs. The unsafe injecting locations such as under the bridges and streets predispose the IDUs to harassment and arrest by police and thus add to their HIV vulnerability. The return of large numbers of refugees specially those who began injecting while abroad and brought with them the HIV, the high level of stigma and discrimination against IDUs which leads to their marginalization and creation of networks and subpopulations of IDUs, the armed conflicts which leads to in and out-migration and hinders the proper implementation of HRS are the factors that contribute to the vulnerability of IDUs. Furthermore, lack of financial means motivate the IDUs to opt cheaper ways of taking drugs such as shifting to injecting and using non-sterile needles/syringes which increases their vulnerability to HIV. Additionally, the male gender of the majority of the IDUs enables them to join the IDUs networks freely and thus creates vulnerability to HIV. The low coverage of the harm reduction and drug demand reduction services are also the factors that increase the IDUs vulnerability to HIV.

At the public policy layer, the enforcement of punitive drug use law and subsequent incarceration of IDUs which disempowers them and limits their access to the HIV services such as NSPs; lack of protection for the human rights of IDUs leads to the social and legal stigma against them and result to their marginalization; and a weak national political response to HIV especially among the IDUs were identified the factors that add to the HIV vulnerability of IDUs.

Ultimately since the HIV epidemic stage among the general population is at low level, it doesn't pose much risk to the IDUs; similarly, the prevalence among other high risk groups such as FSWs and MSM are not so significant; but the IDUs are highly at risk due to the highest HIV prevalence recorded among their networks.

Since 2003, the GoA has begun responding to HIV in the country and established a number of frameworks such as the NACP and HACCA. A number of strategies such as the ANSF, ANDS, and the harm reduction strategy were devised which followed by the implementation of a few harm reduction interventions. However, the current response is insufficient to halt the HIV epidemic in the country. It seems that Afghanistan failed to achieve its MDG-6 goal to prevent HIV among IDUs by 50% and to provide universal access to ART by 2015. A multi-sectoral response is required to address the HIV epidemic among the IDUs effectively.

## **5.3. Recommendations**

This study provides the following recommendations to the government of Afghanistan and stakeholders for improvement of the response to HIV among the IDUs in order to contribute to halting the HIV epidemic among the IDUs and to prevent further spread of the virus among this group and beyond them.

### **Recommendations for reforms in the laws, policies and strategies**

To: Government of Afghanistan (MoPH, MoCN, MoJ), AIHRC

- As the HIV epidemic in Afghanistan is mainly associated with IDU, the GoA should target and prioritize IDUs in national HIV prevention and control strategies and policies.
- The role of the HIV and AIDS Coordination Committee for Afghanistan (HACCA) should be strengthened for effective coordination of the response to HIV in the country particularly among the IDUs.
- The monitoring and evaluation system should be strengthened for ensuring the success of the related policies and strategies.
- The enforcement of the counter narcotics law should be coordinated with the health authorities to avoid its adverse outcomes such as the injecting risk behaviors among IDUs due to fear of arrest.
- The human rights perspectives should be incorporated into the laws such as in the counter narcotics law.
- The AIHRC should advocate for the human rights of IDUs and PLHIV for reducing social and legal stigma and discrimination against them. The violation of the human rights of IDUs and PLHIV should be recorded and reported consistently.

### **Recommendations for improvement of the harm reduction services**

To: Government of Afghanistan (MoPH, MoJ, MoI), NGOs, Donors

- The coverage of the standard harm reduction services should be expanded for all IDUs including IDUs in prisons
- For increasing the effectiveness of the harm reduction interventions, the outreach services with sufficient and trained outreach staff should be mobilized to also cover IDUs who do not come for receiving the services
- The regular supply and availability of HRS prevention and treatment materials like ARV, condoms should be ensured. A trained health staff should be mobilized for providing VCT services.
- A particular attention should be paid for extension of the HRS for the IDUs in border cities like Herat.

### **Recommendations for strengthening multi-sectoral response**

To: The Government of Afghanistan, NGOs, and Donors

- All the sectoral ministries within the GoA, representatives of the concerned NGOs, donors and also the representatives of IDUs and PLHIV should be involved in development and implementation of the strategic plans for responding to HIV among IDUs effectively.
- The inter-sectoral collaboration and coordination between the health and law enforcement authorities should be fostered for planning and implementation of the HRS among IDUs in prisons.

### **Recommendations for ensuring a sustainable response**

To: Government (MoPH, MoFA, MoF), NGOs and Donors

- A continuous leadership commitment at political level is required to ensure availability and mobilization of sufficient funds for ensuring continuity of HIV interventions among the IDUs.
- Beside the external financial supports, the GoA should develop and implement a plan for raising fund from domestic sources so that the sustainability of the interventions should be ensured and the financial gaps should be filled.
- Sufficient human and technical resources should be provided continuously to sustain the HIV interventions among IDUs.

### **Recommendations for further research**

To: MoPH, NGOs, Donors and Research institutions

- The update and comprehensive epidemiological data should be provided about HIV epidemic such as incidence, prevalence among the general population as well as key populations; it helps in informed and effective response.

- Sufficient financial, technical, and human resources should be allocated for research about HIV and IDUs.
- The coverage of the IBBS should be expanded to more cities especially in southern Afghanistan.

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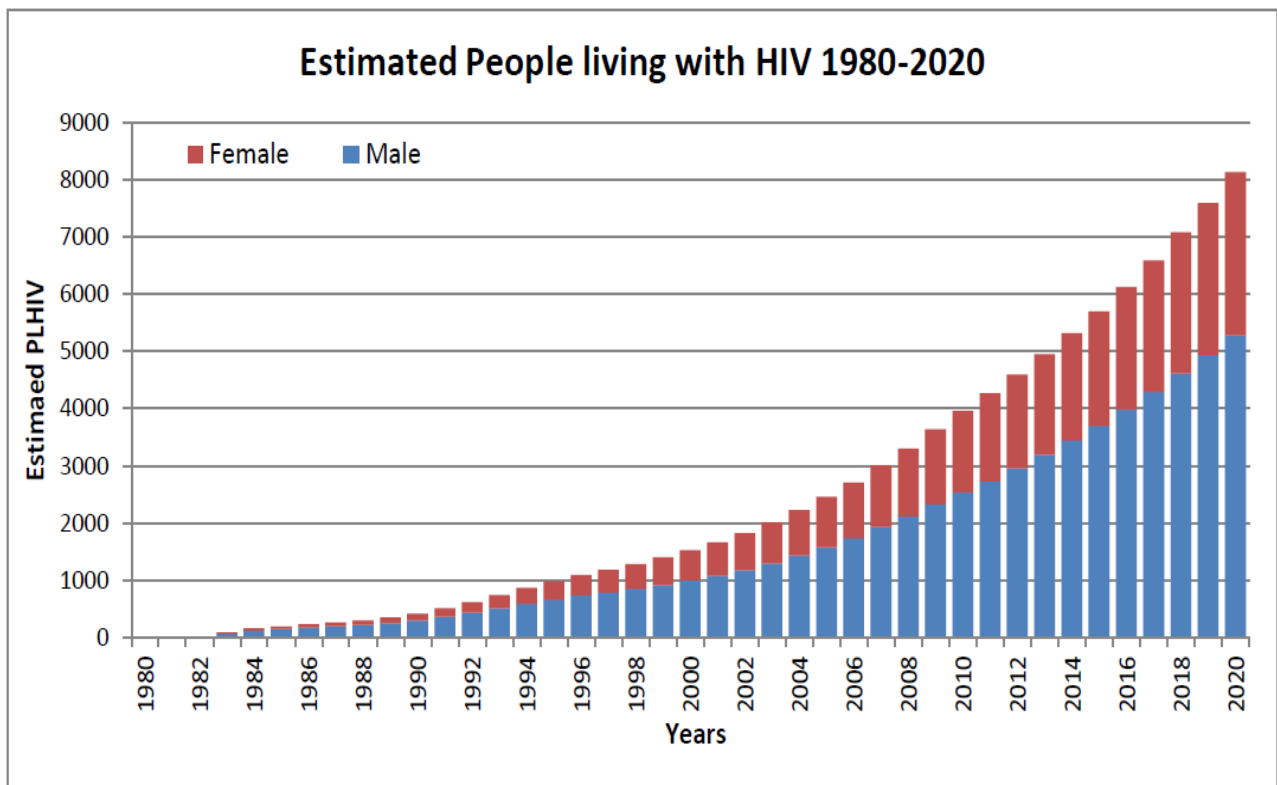
ANNEXES

Annex 1: The Seven Elements of the BPHS and their Components

<b>Maternal and Newborn Care</b>	<ul style="list-style-type: none"> <li>• Antenatal care</li> <li>• Delivery care</li> <li>• Postpartum care</li> <li>• Family planning</li> <li>• Care of the newborn</li> </ul>
<b>Child Health and Immunization</b>	<ul style="list-style-type: none"> <li>• Expanded Program on Immunization (EPI)</li> <li>• Integrated Management of Childhood Illness (IMCI)</li> </ul>
<b>Public Nutrition</b>	<ul style="list-style-type: none"> <li>• Prevention of malnutrition</li> <li>• Assessment of malnutrition</li> </ul>
<b>Communicable Disease Treatment</b>	<ul style="list-style-type: none"> <li>• Control of tuberculosis</li> <li>• Control of malaria</li> <li>• Prevention of HIV and AIDS</li> </ul>
<b>Mental Health</b>	<ul style="list-style-type: none"> <li>• Mental health education and awareness</li> <li>• Case identification, diagnosis and treatment</li> </ul>
<b>Disability and Physical Rehabilitation Services</b>	<ul style="list-style-type: none"> <li>• Disability awareness, prevention, and education</li> <li>• Provision of physical rehabilitation services</li> <li>• Case identification, referral and follow-up</li> </ul>
<b>Regular Supply of Essential Drugs</b>	<ul style="list-style-type: none"> <li>• Listing of all essential drugs needed</li> </ul>

Source: A Basic Package of Health Services, MoPH 2010 (25)

Annex 2: Estimation of the PLHIV by 2020



Source: Country Progress Report, MoPH, 2014 (7)

**Annex 3: Sociodemographic characteristics of IDUs in five cities**

characteristics	Kabul (n=369)	Herat (n=186)	Mazar-i- Sharif (n=254)	Jalalabad (n=237)	Charikar (n=117)
<b>Age (years)</b>					
18-30	65.6%	70.1%	59.6%	85.3%	71.3%
31-40	26%	20.3%	28.5%	12.1%	15.4%
41-50	7.6%	8.5%	8.1%	2%	12.3%
51-60	0.8%	1%	3.3%	0.6%	
>60	0%	0%	0.5%	0%	
<b>Literacy</b>					
Cannot read and write	53.1%	40.1%	67.7%	60.1%	65.7%
Can read only	1.1%	0%	NA	0%	NA
Can read and write	45.8%	59.9%	32.3%	39.9%	34.3%
<b>Marital status</b>					
Single	59.9%	55.7%	52.7%	36.6%	44%
Married	36.9%	38.5%	42.2%	61.4%	53.3%
Other	3.3%	5.8%	5.1%	2%	2.7%
<b>Income (AFS)</b>					
<1000	0	0	0	0	0
1000-5000	40.1%	48%	49.2%	43.9%	21.4%
5000-10000	50.1%	49%	45.6%	42.6%	61.5%
10000-20000	7.6%	3%	4.9%	13%	15.4%
>20000	2.2%	0%	0.3%	0.5%	1.7%
<b>Employment</b>					
Employed	100%	99.6%	94.1%	82.6%	96.1%
Unemployed	0%	0.4%	5.9%	17.4%	3.9%
<b>Lived outside Afghanistan in 10 past years</b>					
Yes	63.4%	93.3%	53.5%	54.3%	42.4%
No	36.6%	6.7%	46.5%	45.7%	57.6%

Source: IBBS 2012 (8)