NATIONAL DRUG USE SURVEY
MALDIVES - 2011 / 2012

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ACKNOWLEDGMENTS

The following organizations and individuals contributed to the "National Drug Use Survey - Maldives 2011/2012".

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FOREWORD

The Government of Maldives is pleased to announce the release of the National Drug Use Survey which has been done in collaboration with the United Nations Office on Drugs and Crime and funded by the European Union.

The abuse of illegal substances has been a major problem faced by the Maldives for the past 3 decades now. The country recognised this as a problem for the first time in the late 1970s. Over the years, with the increase in the number of substance abusers, addictive subculture developed gradually. This situation in Maldives warranted for a better understanding of this problem which was why this survey was done. Substance abuse should be viewed as a multi-dimensional problem and needs to have a holistic approach. Realising the scale of this problem becomes outmost essential in this regard.

This document contains information on the incidence and prevalence of substance abusers in Maldives. This includes statistics on the estimated number of drug users in the country, the demographic data, and the primary choice of drug and newer trends of substance abuse including the abuse of prescription medications. The document also gives an idea of the patterns of substance abuse, associated high risk behaviours (like Injection drug use, criminal activities, and unsafe sexual practices) as well as the perception and understanding of the substance abusers. The survey results come from the information collected in the year 2011 and 2012. This is also the first time in the history of Maldives that such a comprehensive National Drug Use Survey has been done. In spite of the practical difficulties like geographical location of the islands and accessibility, the information accumulated in this survey is commendable.

The aim of this study is to quantify the adverse outcomes of drug abuse and express the magnitude of the consequences of drug abuse in this country. The information provided by this survey without a doubt contributes to a better understanding of the nature and extent of the impact of drug abuse and this understanding will help decision makers to identify appropriate strategies to combat the problem of drug abuse in the Maldives. While this report is designed to serve as a tool for policy makers, policy analysts and researchers with questions about the consequences of the extent associated with drug abuse, I would like to caution that the data included in this survey report are not an evaluation of the efficacy or the impact of drug treatment and prevention interventions, rather this data must be used to understand the problems and enormity of drug abuse in Maldives and to find potential interventions to drug prevention and treatments for the future. This survey serves as the groundwork for the initiatives to be undertaken by the Government such as, the development of Strategic Plan to Combat Drug Problem in Maldives, formulating the National Drug Control Strategic Plan (2013-2018), the National Drug Prevention Strategy, the

National Drug Abuse Prevention Plan, the National Supply Reduction Strategy in association with the Maldives Police Service and the Maldives Customs Service , for future research and to find viable solutions to the impending challenges in the area of substance abuse.

This survey calls for urgent drug treatment interventions to reach those who are yet to come for treatment. It further highlights the importance to establish primary prevention initiatives and formulate a comprehensive Substance Abuse Prevention Strategy for the country.

In light of this survey results, the Government shall initiate a well co-ordinated national response strategy to combat drug supply and drug abuse in the Maldives, respectively to strengthen existing mechanisms and services, and initiate new policies if required.

On behalf of the Government of Maldives, I wish to express my appreciation towards the European Union , the United Nations Organization for Drugs and Crime, and all those who were directly or indirectly involved in this enormous and vital task, for their contribution to the collection of data and to the development of this very comprehensive and important document.

Uz. Lubna Mohammed Zahir Hussain
State Minister for Health
Chairperson of National Drug Agency
Government of Maldives

PREFACE

Over the last years, growing drug use has been of increasing concern to the society in Maldives. It is mainly the young boys and girls who are engaging in drug use for a variety of reasons and too many young Maldivians have already died from drug use. Drug use poses serious challenges as it affects foremost the health and life of the drug user, the social well-being of the family and community as well as the economy of the society.

The Government of Maldives has taken a pledge to address drug use comprehensively and to build national capacities in drug use prevention and treatment. In order to shape drug use prevention policies, it is critical to have a clear understanding of the nature, scope and substances of drug use in the country. Such understanding must be based on evidence.

The United Nations Office on Drugs and Crime has supported the National Drug Agency to generate such evidence through the conducting of its ever-first "National Drug Use Survey for Maldives in the years 2011-2012". The survey establishes the number of current drug users and hence, the drug use prevalence in the country. It has also studied knowledge, attitudes and perceptions in the community regarding the drug problem. The findings of the survey will not only allow for a better understanding of drug use among the youth in the country, but will serve as a useful tool for planners, policy makers, researchers and academicians to shape future drug use prevention policies in the country for the benefit of its entire young population.

The survey is the result of a collaborative effort among the National Drug Agency, All India Institute of Medical Sciences (AIIMS), UNODC, INOVA, NGOs and many volunteers in the framework of the project "Strengthening the national response to prevent drug abuse in the Maldives which would not have been possible without the generous financial contribution of the European Union and the contributions of the Government of Sweden.

Cristina Albertin
UNODC Representative

EXECUTIVE SUMMARY

Over the last few years, consumption of illicit drugs has significantly increased in the Maldives. Thus, this study was conducted to estimate the number of drug users and hence, the drug use prevalence in the Maldives. Secondary objectives include identifying patterns and extent of drug use across the country; assess behavioural characteristics associated with drug use; community knowledge, attitudes and perceptions towards drug problem. To achieve the objectives of the survey, three separate methods were followed; a household survey, which provided prevalence of drug use in Atolls (which has generated the estimated number of drug users in Atolls); a multiplier survey which provided the estimated number of drug users in Malé (which has assisted in generating the prevalence of drug use in Malé); and a qualitative study (based on Focused Group Discussions, FGD) which describes perceptions and opinions of different segments of the population regarding drug use in the Maldives. Though the study covered the full range of psychoactive substances from alcohol and tobacco to prescription drugs which are considered to be available in the Maldives, the focus was on illicit drugs including alcohol.

Main findings of this survey revealed that the estimated number of drug users in the Atolls was 3,154 and the estimated number of drug users in Malé was 4,342. The estimated prevalence for Malé and Atolls were 6.64% and 2.02% respectively. Since different methodologies were used to estimate the prevalence in different localities, a national prevalence cannot be estimated from these figures.

Majority of the respondents who had ever used drugs belonged to the age group of 15-19 years. Almost half of the drug users in both Malé and Atolls were employed. Among the drug users who were interviewed, majority of the population using drugs were unmarried, and half of them were unemployed. This could be due to the lower age of onset for consuming drugs (15 and 16 years in Malé and Atolls respectively).

In terms of the drug use pattern, this survey confirmed that alcohol, cannabis and opioids were the most common illicit drugs used in the country. However, in Malé, alcohol was the second most prevalent illegal drug followed by opioids other than pharmaceuticals. It also showed that a large proportion of the community who used drugs used two or more drugs (poly drug users) within the last one year.

It was evident from this study that an overwhelming majority of drug users were males; and confirmed that drug use in Maldives was predominantly a male phenomenon which needs to be taken into consideration while designing intervention programmes. It further elaborated that if the same methodology is applied to study both the genders, it becomes difficult to capture the level of female drug use in the country.

The study also revealed that a vast majority of drug users were sexually active, and many reported buying sex, while only a very few reported they were married. It was also noted that half of sexually active drug users had a drug user as a sex partner.

A few drug users in the sample reported injecting drug use and based on this number total IDUs in Malé and Atolls were estimated to be 200 and 300 respectively. This implied that a considerable population of drug users in the country are IDU's, a grave possibility of spread of HIV and other transmittable diseases.

It was also evident from the study that a substantial proportion of drug users (61% in Malé and 79% in the Atolls) reported being arrested at least once in their lifetime; and that the numbers of arrests of drug users were high, and subsequently a significant proportion were convicted. This further suggested that the response to drug use problem in the country appeared to be leaning towards the criminal justice system rather than health and social welfare systems.

This study revealed that a significant number of drug users were likely to be dependent on certain types of drugs. Opioid and cannabinoids shared the highest number of problem drug users in Malé, and slightly more than a third of opioid and cannabinoids users were likely to be dependent on these drugs. In the Atolls the highest number of problem drug users were among opioid users (66%), and 65% of opioid users were likely to be dependent on this drug.

In terms of medical problems, weight loss was common among respondents from both Malé and Atolls. About 6% in Malé and 16% in the Atolls reported that they had experienced symptoms of overdose at least once. A large proportion of current drug users were aware of HIV and informed about the phenomena. However, not many of the respondents were informed or had undergone any testing or vaccinations against Hepatitis B, Hepatitis C or Tuberculosis (TB).

Data on mental health problems among the drug users implied that about 15% in Malé and 9% in the Atolls had been diagnosed with a psychological disorder. This study also revealed that, close to three fourth of current drug users had experienced eating and sleeping problems, both in Malé and the Atolls. More than a third of current drug users in Malé stated that they were affected by a mental problem, while the situation is slightly better in the Atolls with one in six respondents facing the same problem.

The study also revealed that 13% of the drug users in the Atolls, and 7% in Malé sought intervention/help from a certified treatment centre. In the last one year, 28% of the current drug users in the Atolls were admitted in a detoxification centre while only 4% of current drug users in Malé were admitted at the rehabilitation centre.

Psychoactive substances have been consumed for a number of years in the country. Illicit drug use today characterized as a problem among youth - notably young male. Being unmarried and buying sex is becoming more evident among the drug use population. One of the key impacts of illicit drug use in the society is the negative health consequences experienced by its members. This obviously puts a heavy financial burden on the society. Aditionally, wrath of illicit drug use on the society's production, in monetary terms seem to be even larger. The costs associated with drug related crime are also phenomenal. It is apparent that just the criminal justice system would not be able to address the problem in its entirety.

Since the country has a sizable burden of drug use, it is crucial to have a multi-layered and multi-pronged response, with a judicious mix of supply reduction, demand reduction and harm reduction approaches.

ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
BBS	Biological and Behavioral Survey
CBO	Community Based Organizations
DDPRS	Department of Drug Prevention and Rehabilitation Services
DIC	Drop-in-centre
DPRS	Department of Penitentiary and rehabilitation Service
DRC	Drug Rehabilitation Centre
DSM	Diagnostic and Statistical Manual
DSM IV	Diagnostic and Statistical Manual of Mental Disorders - 4th Edition
EU	European Union
FASHAN	Foundation for Advancement of Self Help in Attaining Needs
FGD	Focus Group Discussion
HHS	Household Survey
HIV	Human Immunodeficiency Virus
ICD	International Classification of Diseases
IDUs	Injecting Drug Users
IEC	Information, Education, Communication
INGO	International Non-government Organisation
NDA	National Drug Agency
NGO	Non-Government Organisation
NIDA	National Institute on Drug Abuse (USA)
NNCB	National Narcotics Control Bureau
RDS	Respondent Driven Sampling
RDSAT	Respondent Driven Sampling Analysis Tool
RDSCM	Respondent Driven Sampling Coupon Management
RSA	Rapid Situation Assessment
SPSS	Statistical Analysis Package for Social Sciences
SSG	Survey Steering Group (Oversight committee of major stakeholders for the National Drug Use survey)
STI	Sexually Transmitted Infections
TWG	Technical Working Group (for National Drug use Survey)
UNAIDS	The Joint United Nations Programme on AIDS
UNDP	United Nations Development Program
UNESCAP	United Nations Economic and Social Commission for Asia and Pacific
UNODC	United Nations Office on Drugs and Crime
USAID	United Nations Agency for International Development
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

CHAPTER I: SCOPE OF THE STUDY

A. Introduction

Drug abuse is a worldwide problem that affects millions of people (World Drug report, 2012, UNODC), and Maldives is no exception.

According to the Maldives Drug Control Master Plan 2006 - 2010, drug abuse is a complex and multifaceted problem facing the whole nation, cutting across all age groups and social strata. Hardly a community or a family is free from its harmful effects.

Though there are some data from previous studies available on the drug use problem in the Maldives, none of them have adequately addressed the national prevalence of drug use in the country. It is fair to say that the first step in dealing with a problem is to understand its dimensions.

In order to respond to the drug use problems in Maldives, the Government of Maldives in partnership with the United Nations Office on Drugs and Crime (UNODC) with funding from European Union (EU) is implementing a project titled "Strengthening the national response to drug use in the Maldives". The aim of this project is to provide technical assistance to strengthen the national response to the problem of drug use especially, prevention and treatment to minimize the risks of drug use and the related HIV/AIDS in the Maldives. In order to be effective however, responses need to be evidence based. Thus, the National Drug Use Survey in Maldives was proposed and planned to generate a comprehensive scenario of the drug problem in the country, with the following objectives: To derive an estimate of the number of drug users, hence the drug use prevalence in the Maldives;

- To identify patterns and extent of drug use across the country;

- To assess behavioural characteristics associated with drug use;

- To study the community knowledge, attitudes and perceptions towards the drug problem

The objectives of this survey were achieved through three separate research methods; a household survey in Atolls, respondent driven Sampling in Malé, and focus group discussions done across Atolls and Malé. The survey provides a description and analysis of the burden of drug use at the national level, as a first step in a systematic approach to dealing with drug abuse in the Maldives. Since it is an initial view of the situation at a national level, it is as comprehensive as possible within the scope of available resources and information regarding the context of the problem. It covers the full range of psychoactive substances

from alcohol and tobacco to prescription drugs considered to be available in the Maldives. However, the focus has been retained on illegal drugs. The details of the survey design and methods are explained in Chapter II. The balance of this chapter explores the context of drug abuse in the Maldives.

B. Background

I. History of Drug Use in the Maldives

It is difficult to reliably describe the history of drug use in Maldives due to lack of available historical data. However Francois Pyrard, a French historian and traveller in 1619, suggested that opium use was prevalent among Maldivians of that time (Bell, 1887). Recent anecdotal evidence also indicates continued use of opium during the first half of 20th century. However, it was not recognised as a social problem in the Maldives till the modern context of growing drug abuse in the region (FASHAN & NCB, 2003).

Drug availability was known to be identified in Maldives in the mid-1970s. While many believe that there is a link between drug availability and introduction of tourism which coincides this period, however there is no strong evidence to connect the two. Since this period also coincided with the introduction of drugs into other South Asian countries, it is equally plausible that drugs came with young students returning home from neighbouring countries. Subsequently, cannabis abuse (marijuana and hashish) took root among the youth. Since then, the drug problem has become a major problem especially among youth. Over the last three decades availability of drug types in the Maldives has increased and most common types of drugs believed to be used (before this study) are marijuana, hashish oil and heroin (FASHAN & NCB, 2003).

II. Current Context- Existing Data on the growing drug problem

As stated earlier, epidemiological data on drug use situation in the Maldives is relatively scarce. There has not been any nation-wide epidemiological study conducted to explore drug use and its related behaviours so far. The Statistical Yearbook of Maldives 2011 reported that a total of 783 persons in 2006 and 1187 persons in 2007 have been detained by the Maldives Police Service in relation to drug use offences. And out of these persons detained, majority were between the ages 16-24 years. This gives us a clear indication to believe that the youth population is more affected by drug use in the country.

In the year 2003, a Rapid Situation Assessment (RSA) was conducted (FASHAN & NCB, 2003), which - using largely qualitative techniques - described the profile of drug users and some behavioural characteristics. The RSA revealed the seriousness of the situation and prompted the elaboration of a national master plan for drug control. Using a combination of

different data collection methods covering a sample of 471 drug users along with 3,438 key informants and secondary data, the RSA revealed that the most common drugs of initiation were heroin (43%) and cannabinoids (34%). In the sample of drug users studied, the most commonly used drug during the month preceding the survey were opioids (76%) and cannabinoids (12%). The remaining 12% reported the use of alcohol, cola water, inhalants/ solvents, sedative/hypnotics, or others (FASHAN & NCB, 2003). The RSA also found that the age range of drug use initiation was 10-27 years (mean 16.8 years). Interviews with drug users revealed that 97 percent were males, with a mean age of 21.4 years. Almost half (47 per cent) were below the age of 20 years. Though the data was collected from a small sample of drug users recruited through snowballing technique the survey did succeed in establishing the existence of drug abuse in the country and throwing some light on the behavioural consequences of drug abuse. However, the data from the RSA cannot be generalized to the entire country due to chosen methodology in the study. Additionally the crucial question - "how many drug users are there in Maldives?" remains unanswered. Some recent studies have looked at the prevalence of drug use in targeted groups and also some of the behavioural aspects associated with drug use. Some of the key findings from these studies and other statistical data are discussed below;

Country papers presented at SAARC Symposias (Ahmed 1998, Naaz 2002, Shukoor 2001) reported that a "very high percentage" of drug users are between 15-25 years of age. Furthermore, drug related offences have been the third most common crime reported to the police (Maldives Police Services, 2012). Results from a self-enumerated school health survey conducted in the Maldives showed that among school children aged 13-15 years (n=1,971), the prevalence of lifetime drug use (using drugs, such as marijuana or heroin one or more times during their life) is 3.7% of which 7.5% were male students and 3.2% female students. Among students who ever had tried drugs, 67.7% were 13 years old or younger when they first tried drugs. This study also estimated that 5.7 % of ever drug users shared needles or syringes to inject any drug into their body one or more times during their life (Ministry of Education, 2009). A Biological and Behavioural Survey (BBS), using snow ball sampling method identified 144 injecting drug users (IDUs) in Malé and 129 IDUs in Addu Atoll and also found that sharing of unsterile needle and syringes is common among IDUs (31% Malé, 23% Addu) (Corpuz, 2008).

Alcohol consumption is prohibited in Maldives and punishable under Shari'ah law. Records of the Ministry of Justice between 2000 and 2003 indicated a very low and declining trend of alcohol abuse in the Maldives, with just 17 cases reported in 2003 (Statistical Yearbook 2004). However, recent statistics and studies show that alcohol consumption is increasing in the Maldives. For instance, the current prevalence of alcohol consumption among school children aged 13-15 years, was 6.7% (Ministry of Education, 2009). A recent prison based study conducted in the Maldives showed that the third most common illicit substance consumed was alcohol (UNDP, 2011). The prison based study also found that majority of the

inmates were serving a sentence for a drug related offence of which, 70% were sentenced for drug use. Among this group, majority of them had used heroin (69.1%) and cannabis (63.3%) followed by alcohol (47.9%) (UNDP, 2011).

On Drug seizures, Maldives Customs Services have reported that 13kg (15 cases) in 2009, 9kg (9 cases) in 2010, and 6kg (13 cases) in 2011 were seized (Maldives Customs Services, 2011). The data also indicated that the type of drug seized most in 2011 was cannabis, followed by heroin. These records further showed that seizures were very low during 2002 (11.25g of cannabis) and 2003 (14.84g of cannabis, 26.44g of heroin and 21g of psychotropic substances). In 2004, seizures increased considerably (58.82g of cannabis products, 461.65g of heroin, 0.5g of cocaine and 1.184g of psychotropic substances). The statistics for the first eight months of 2005 showed a continuation of the rising trend with seizure of heroin (449.69 g) and cannabis products (0.48 g). According to Maldives Customs Services, most seizures have been made at the international airport.

III. Genesis of this study

Problems Associated with Drug Use:

Drug Use and Social Functioning

Society has a vested interest in understanding the relationship between drug use and social functioning in order to effectively target prevention efforts. According to a number of researches, illicit drug use imposes a significant social burden and has been associated with a range of adverse outcomes such as reduced educational attainment, criminality, mental health problems and delinquency (Fergusson et al., 2002; Kandel et al., 1986; Newcomb et al., 1999).

Various studies had implied that low educational attainment is potentially a cause or result of drug abuse where the latter has been more significant. Some review of longitudinal studies examining illicit drug use and psychosocial harm revealed consistent associations between cannabis use and low educational attainment, as well as some inconsistent associations with psychological and behavioural problems. However, these concluded that the evidence to date cannot support or disprove causal relationships (e.g., Fergusson et al., 2002; Kandel et al., 1986; Newcomb et al., 1999). According to the Annual Report 2003, on the state of the drug problems in European Union, social conditions of drug use were distinct by substance used; where the worst conditions were found among heroin and opiates users. Because of their precarious social conditions, drug users also had problems related to labour status. According to the report, unemployment rates of the drug users were very high compared with the general population (47.4 % among drug clients compared with 8.2 % in the general population). Also finding a job was difficult and was rare for drug users to keep a job for long or to progress in a career.

The relationship between drug use and health

Drug addiction is considered to be a brain disease. Prolonged abuses of drugs have been shown to alter gene expression and brain circuitry, which in turn affect human behaviour. Once addiction develops, these brain changes interfere with an individual's ability to make voluntary decisions, leading to compulsive drug craving, seeking and use. The impact of addiction can be far reaching. Cardiovascular disease, stroke, cancer, HIV/AIDS, hepatitis, and lung disease can all be affected by drug abuse (NIDA, 2012).

A focused study of more than 600 youth has directly linked teenage drug use with health problems in later in life. This study indicated that individuals who had used drugs as teens reported more health problems during adulthood such as respiratory, neurobehavioural, and cognitive problems (Brook et al., 2002).

Drug use is also considered a significant risk factor for HIV infection. That is drug and alcohol intoxication affect judgment and can lead to unsafe sexual practices, which put people at risk for getting HIV or transmitting it to someone else. Secondly when injecting drug users (IDUs) share "equipment"-such as needles, syringes, and other drug injection paraphernalia-HIV can be transmitted between users or to others via risky behaviours. The BBS on HIV/AIDS have found that unprotected sex with multiple partners was common among groups at higher risk and that sharing unsterile needle and syringes was common among IDU's (Corpuz, 2008).

Another health risk of drug use particularly for injecting drug use is the spread of Hepatitis C. The BBS found Hepatitis C, a measure of a widespread needle and syringe sharing among IDUs, was prevalent among the IDU's in both samples from Malé and Addu. In this study they found that 0.7% and 0.8% of the IDU's in Malé and Addu, respectively, had Hepatitis C. Although the prevalence of Hepatitis C is still low, this result implies that the virus is already circulating among the injecting drug users. This study had recruited only selected samples, and did not provide population size estimates hence it cannot be generalised to general IDU population (Corpuz, 2008).

Mental Health

The ill effects of drug use which leads to detrimental health problems both at individual and national levels are well known. There has been no comprehensive study of co-morbidity in the Maldivian population, but evidence of the relationship comes from a number of sources.

People with a psychiatric illness are more likely to have a substance use disorder than people without a psychiatric illness. Similarly, people with a substance use disorder are more likely to have a psychiatric disorder than people without a substance use disorder (Regier, 1990; Burkstein, 1989; Fisher & Bentley, 1996). The association between mental

disorders and substance use is complex. People with such co-existing disorders are not a homogeneous group, they suffer a range of disorders which vary in their severity and which fluctuate over time. Disorders may be primary, secondary or independent of each other but they are nevertheless intrinsically connected and increasingly being identified as intertwined problems.

Strong evidence has emerged showing early drug use to be a risk factor for later substance abuse problems; additional findings suggest that it may also be a risk factor for the later occurrence of other mental illnesses. However, this link is not necessarily a simple one and may hinge upon genetic vulnerability, psychosocial experiences, and/or general environmental influences. A study highlights this complexity, with the finding that frequent marijuana use during adolescence can increase the risk of psychosis in adulthood, but only in individuals who carry a particular gene variant (Caspi et al., 2005). It is also found that having a mental disorder in childhood or adolescence can increase the risk of later drug abuse problems, as frequently occurs with conduct disorder and untreated attention-deficit hyperactivity disorder (ADHD) (NIDA, 2010).

Drug use, crime and offending behaviour

Many believe that drug abuse is strongly associated with offending behaviour. However, this is a complex issue where it is difficult to draw a conclusion regarding a definite cause-and-effect link between the two phenomena. All that aside, the scientific studies conducted over the past two decades provide evidence which tends to show that drug use is one of a number of factors that may explain why some people commit criminal acts. For example, many people who have developed an addiction to expensive drugs such as heroin and crack/cocaine and cannot afford their habit will commit crimes to buy drugs. However, they do not represent all or even most illegal drug users, especially in the case of marijuana users. In other words, illegal drug use does not necessarily lead to an increase in crime, even among people who are regular users or have developed an addiction. The research shows that a number of social, psychological and cultural factors can be used to identify people who are at risk of becoming delinquents and/or drug users. Factors that may explain both drug use and criminal activity include various social, psychological and personal factors. Having said that, several studies have found that many offenders incarcerated, have been intoxicated by either alcohol or illicit drug or both at the time of their offence (Brochu et. Al., 2001; Kouri, Pope, Powell, Oliva, and Campbell, 1997; Prichard and Payne, 2010).

The recent prison based study in the Maldives showed that more than half of the inmates (N=576), were incarcerated in relation to a drug offence (UNDP, 2011). This study had not explored whether those who were serving a sentence for offences such as robbery, theft, assault committed these crimes while under the influence of any drugs. The RSA reported that almost a third of the drug users were also involved in dealing in drugs and many admitted to stealing from their homes.

Thus, to summarize, though there has been some information on drug use and its consequences in the Maldives, there is no reliable data on number of drug users in the country. Hence there was an urgent need to conduct a study which could aid in formulating appropriate evidence-based policies and programmes to deal with drug problems.

CHAPTER II: SURVEY METHODS

A. Objectives of the Study

The purpose of the research was to identify the burden of the drug problem in the Maldives. The primary objective of the survey was to estimate the number of drug users, and hence the prevalence of drug use in the Maldives. The secondary objectives include; understanding the drug use pattern among different demographic groups; extent of drug use in the country; assessing behavioural characteristics associated with drug use and studying the attitude, awareness and perceptions towards drug issues in the community.

B. Methodological Approach

I. Overview

Extensive literature review of local and international researches was undertaken on methods, approaches, definitions, standards and limitations during the preparatory stages of this study

There are two methods used to estimate the prevalence of drug use. That is direct and indirect methods.

Direct methods includes enumeration of known drug users using population surveys based on a representative, random sample of the population of interest.

Examples of this approach to study the prevalence of drug use were abounding in the literature reviewed. The USA periodically conducts national household survey on drug abuse (NHSDA). Similarly, a household survey on a nationally representative sample of males in the general population was carried out in India (Ray, 2004).

While surveys yield valuable information, there are some limitations such as budget and logistical burden of conducting, administering and analysing large scale household surveys. Additionally household surveys by nature are not able to tap into specific populations such as homeless persons, prisoners, hospital patients, etc. Thus, there is a need to explore other techniques, which are more suitable for studying a hidden population like drug users such as indirect methods.

The most common **indirect methods** used in similar research studies in other countries were Capture Recapture method and Multiplier method.

1) Capture Recapture Method

Capture recapture method was originally developed for biological sciences to estimate the size of animal populations. It was based on the principle that a proportion of a sample of a given population, if captured, marked and released back into that population it would reappear in a later sample. The proportion of marked members caught in the second sample represents the proportion that the original marked sample was to the total population. When this technique was applied to drug users, comparisons were made between partial sets of drug users in order to establish the number of overlaps between two or more partial populations.

This method is based on the assumptions that the samples are random; all individuals have the same probability of being included in the sample. The time period and populations are the same in both capture and recapture, identification of individuals is done accurately and sufficient identification information is available to avoid double counting.

While the main advantage of this method is its low cost due to usage of existing secondary data, the unavailability of this secondary data becomes its main disadvantage.

2) Multiplier Method

This method involves applying a 'multiplier' to a 'benchmark' (the total of a sub-group of the drug-using population)

For example, 'benchmark' data can be the total number of drug-related deaths (Mortality Data), total number in-treatment or total number arrested from Police data. The benchmark is then multiplied by an appropriate multiplier to estimate the total of the whole drug using population.

The formula is as follows (in the case of treatment data):

$$T = B / c$$

Where;
T - Estimated total of problematic drug-users
B - Total number of problematic drug users who underwent treatment in a given year
c - Estimated in-treatment rate

The technique known as network analysis can be used to estimate the prevalence of a hidden drug using population. This can be done through direct contact with a small sample of drug users who in turn are asked to 'nominee peer groups', where drug

users are asked for the number of their friends who use drugs or are in treatment. It is usually used to estimate the ratio of known to unknown users. Although, it is a time consuming and a complex process, network analysis yields valuable results.

A single methodology was unlikely to generate a comprehensive scenario of drug use in a country like the Maldives. Hence, a combination of research techniques was implemented in this study. The data collection methods and estimation procedures used were different for both Malé and Atolls. Results from the two segments were combined to arrive at a National level estimate of the number of drug users and thus the prevalence of drug use in the Maldives. Explanation for each segment is as follows.

II. Estimation Method for Malé: Respondent Driven Sample

In this study, the estimation method for Malé was Multiplier method, which involved (a) identification and interview of drug users by 'Respondent Driven Sampling' (RDS) and (b) using secondary data sources to calculate the estimated number of drug users i.e. 'multiplier'. The estimated figure was derived by multiplying the number of people who attended the institution or service over a certain period by the inverse of the proportion of the population who said that they attended the specified institution or sought services during the same period.

Illustration showing: Multiplier method
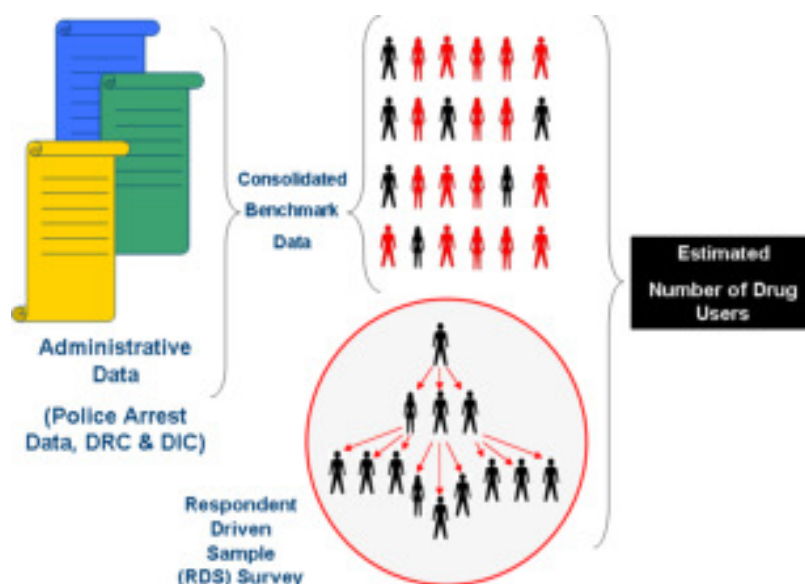
Two types of data i.e. primary and secondary were used for estimation in Malé.

Primary data comprised of drug users' interviews through RDS approach. Secondary data used were institutional data available from records maintained at Maldives Police Services

on arrests of drug users/ drug related crime and data on number of people having received services at the Drug Rehabilitation Centre (DRC), Drop-in-Centre (DIC) and Detoxification Centre, respectively.

III. Estimation Method for Atolls: Household Survey

A household survey approach was adopted to estimate the prevalence since insufficient and lack of consistent data was available across institutions to enable the use of Multiplier method for the Atoll / Islands.

C. Questionnaire

I. Preparation

A total of 4 questionnaires (Annex II: Questionnaires) were used in this study, namely household questionnaire (Form A), screening form (Form B1), Drug user questionnaire for household survey (Form B2) and Drug user questionnaire for Respondent Driven Sampling method (Form B3). All the questionnaires except Form B3 were executed in the household survey component in the Atolls, while Form B3 was executed in Malé. Apart from the above mentioned questionnaires, a specific schedule of thematic questions was used in the focus group to guide discussions.

In the process of questionnaire design, exhaustive desk-research was done using similar studies conducted in different parts of the world. Intensive consultations were also carried out with the Technical Working Group (TWG). With the survey design and major objectives of the study in place, further information on household demographics, individuals' socio-economic characteristics and its linkages to the target of study (drug users) was also decided to be collected.

All the questionnaires were pretested prior to finalising; and the pre-final questionnaires were shared with TWG for comments. The questionnaires were deemed final once it was endorsed by the Survey Steering Group (SSG) members.

Household Questionnaire (Form A) included basic questions on housing information and household composition.

The individual questionnaire (Form B1) was executed to all members in the household within the age bracket of 15 to 64 years. This questionnaire included socio-economic characteristics of the individual such as education level, employment status and type of employment, marital status and the individuals' general social behaviour. It also included screening questions to identify whether the individual has ever used a drug. Those who

were screened positive for 'ever' using drugs were subjected to the next questionnaire (drug user questionnaire).

The drug user questionnaire (Form B2) included questions on different themes such as substance misuse and behaviour and drug using network. It also included questions on problems associated with drug use such as social functioning; physical and mental health; and crime and offending behaviour. Injecting drug use and high risk behaviour; treatment, support and care are also themes included in the questionnaire.

Drug user questionnaire (Form B3) executed for the RDS included additional questions to those in B2. These inclusions were to account for socio economic status, household composition and other relevant linkages needed to understand the respondents' economic and social characteristics.

II. Pilot Test

A pilot survey was conducted in October 2011 in Kaafu Atoll, Guraidhoo. Both Household Survey and Respondent Driven Sample (RDS) Survey was tested along with other tools developed. Amendments were incorporated to the survey tools based on the outcome of the pilot survey and discussions were held with all enumerators, reviewing the problems and challenges encountered.

III. Final Questionnaire

The questionnaire was amended after the pilot was carried out and these were discussed in the TWG before the endorsement of the final questionnaire in SSG.

After five months of preparatory activities including development of methodologies, protocols, tools and others, the National Drug Use Survey was launched in the islands on Monday, the 31st October 2011 and in Malé, on 5th January 2012.

D. Sampling Methods

I. Sample Design: Household Survey

i. Sampling Procedure

The sample design used was stratified multi-stage sampling with enumeration blocks as Primary Sampling Units (PSU) and households in the sample area as Secondary or Ultimate Sampling Units (USU).

A household survey was carried out to represent the Atoll population. The first step was to stratify the islands into two strata. The purpose of stratification was to divide the population into relatively homogeneous groups thereby reducing the total variation within the group. Stratification was done by the atoll capital and by non-capital islands. It was believed that in most of the cases atoll capital had better access to various social services while non-atoll capital islands had limited facilities.

Second step was to identify the islands to be enumerated. All the atoll capitals were included in the sample while for the non capital, a further stratification was done to represent all the 20 administrative Atolls and from each atoll one island was selected based on Probability Proportionate to Size (PPS) method.

Third step was to select the enumeration blocks and households. Enumeration blocks were selected based on Simple Random Sample (SRS) and households were selected using Systematic Random Sampling.

The following inclusion criteria were considered for household selection in the survey:

Inclusion criteria - for households:

- Listed in the Households Census 2006 (excluded foreign households);
- Currently 'active' ;
- At least one eligible respondent was available for interview.

Inclusion criteria - for respondents:

- Between 15-64 years of age;
- Willing to participate in the survey;
- Ability to be engaged in meaningful communication.

ii. Sample Size

Since a national representative prevalence estimate for the country was not available and as there were very limited studies undertaken on this subject, several assumptions had been adopted in the design process. These assumptions were: at least 1% prevalence of drug use with relative precision of 25% and the design effect would be around 1.5. Therefore, with 95% confidence interval, 9,600 eligible respondents based on the inclusion criteria mentioned above were attempted. Assuming that on average 3 eligible persons in each household with 10% non-response, 3,500 households was expected to be enrolled in the study.

The following formula was used to calculate the sample size for household survey:

$$n = \frac{Z_a^2 * p * (1 - p)}{d^2} * design\ effect$$

Where, n= required sample size, Za = Standard normal value at $(1-\alpha/2$)% level of confidence, p = anticipated prevalence and d = precision level

II. Sample Design: Respondent Driven Sample Survey (RDS)/Multiplier Method

i. Sampling Procedure

Respondent-driven sampling (RDS), combines "snowball sampling" (getting individuals to refer those they know, these individuals in turn refer those they know and so on) with a mathematical model that weights the sample to compensate for the fact that the sample was collected in a non-random way (Heckathorn, 1997).

While data requirements for RDS analysis were minimal, there were three fields which were essential for analysis.

- Personal Network Size (Degree) - Number of people the respondent knows within the target population. For this survey, assumption is that the respondent knows at least 3 drug users like him/her.

- Respondent's Serial Number - Serial number of the coupon the respondents were recruited with. In this survey, 43 seeds were selected and each of them was given a unique serial number.

- Respondent's Recruiting Serial Numbers - Serial numbers of the coupons the respondent was given to recruit others. In this survey, each seed was asked to recruit 3 more users, and this continued until the required sample size was achieved.

However, the following criteria were considered to include a respondent in the survey:

Inclusion criteria - for respondents:
- Between 15-64 years of age;

- Current user (i.e. used any type of drugs such as alcohol, Cannabis, Opioids, Sedatives, Hallucinogens, Cocaine and other stimulants in preceding 12 months);

- Usually living in Malé, Hulhumalé or Villimalé;

- Willing to participate in the survey;

- Ability to be engaged in meaningful communication;

- Willing to refer at least three more potential respondents.

iii. Sample Size for RDS

The sample size was calculated using the existing data. Since the primary purpose of the survey was to estimate the prevalence using multiplier method, the key information used was the proportion of the drug users in Malé who were likely to be arrested for a drug related crime, convicted for a drug related crime, admitted to the drug rehabilitation centre and registered as a service recipient at the 'Journey' DIC within the period 1st January 2011 to 31st December 2011.

For RDS it was important to have anticipated prevalence of having been arrested, been to jail or been to treatment centres among all drug users in Malé. Since, no previous prevalence estimates were available; expert opinions were sought and discussions were held with key data providers and stakeholders to arrive at an anticipated prevalence. Thereafter, on the basis of following formula, the sample size was arrived at.

Formula used for calculation of sample size in RDS

$$N = \frac{Z_a^2 * p * (1 - p)}{d^2}$$

Where, n= Required sample size, Za = Standard normal value at 1% level of confidence, p = Prevalence rate and d = Precision level.

Based on the calculations it was decided to enrol 500 - 600 drug users for the RDS Survey. By covering this sample size, it would be possible to provide a reliable estimate of the prevalence and hence the number of drug users in Malé by using the Multiplier Method with 95% confidence level.

III. Community Component - Focus Group Discussions

In addition to the Multiplier Method used in Malé and Household Approach used in the Atolls, a community component was designed and conducted in selected Islands and in Malé. Objectives of this component were to study and understand following:

- Social stigma, community knowledge, attitudes towards drug use problem;

- Community perceptions in drug related issues;

- Drug use behaviour, drug related high risk behaviours and;

- Behaviour change associated with drug use.

In order to get representative views across communities, the following seven target groups were covered:

- Drug Users

- Rehabilitation Personnel (Counsellors working at NDA and DRC)

- NGOs and CBOs

- Youth (males and females)

- Adolescent Females

- Adolescent Males

- Key Stakeholders (teachers, school heads, health personnel, Police, member from Judiciary, Religious scholars, businessmen or private sector members)

A total of 27 FGDs were conducted in Malé and in the Atolls, as shown in the table 1 below.

Table 1: Number of FGDs by target group and location

Type of FGD	Total number of FGDs conducted	Location
Drug Users	1	Malé
Rehabilitation Personnel (Counsellors at NDA and DRC)	1	Malé
NGOs and CBOs	6	Atolls
Adolescent Females	4	Atolls
Adolescent Males	4	Atolls
Youth (males and females)	7	Atolls
Key Stakeholders	4	Atolls

E. Operational Procedures

I. Interviewer Training

A total of 60 interviewers were recruited and trained through a week long extensive training program with two sessions per day, each with three hours of contact time. The program was designed to cover all aspects of field operation and to transfer knowledge to ensure quality data collection. Lectures were delivered by relevant stakeholders to sensitize enumerators on substance use, abuse and dependence, illicit drug use and crime, approaches in managing drug abuse and government policy targets in managing drug abuse along with studies undertaken in Maldives about Illicit drug use.

Special lectures on interviewing techniques, code of ethics, roles and responsibilities of enumerators, rapport building with respondents, and interacting with female drug users were also included in the training.

Question by question training on all four questionnaires, including the objectives and purpose of the survey was followed by mock interviews to test their skills, knowledge and understanding of content taught. Questionnaire schedules developed for the survey were used as a basis for these lectures. An evaluation was done at the onset of the training and at the end which helped the survey management team in selecting enumerators. After the training, 38 enumerators and 12 supervisors cum enumerators were selected for field work.

II. Field Work

1.   Household Survey - Atolls

Field work in the Atolls commenced on 31st October 2011; split over four rounds from October 2011 to February 2012.

Enumerators were provided with Census 2006 block maps along with household listings. Selected addresses were marked on the sheets which also served as control sheets for the field operation. Enumerators were instructed to visit a selected household at least three times before considering a replacement from the list provided. Similarly, individuals were approached thrice before concluding the interview as unsuccessful.

Enumerators travelled to the selected 39 islands and more than 3,500 households were visited. From those households 13,172 screening questionnaires were filled for individuals of age 15-64 years. Teams spent on average a week in an island although on a few islands it took more than two weeks to complete field work.

2.   Respondent Driven Sample Survey (RDS)

RDS Survey in Malé started in January 2012 and was followed by Villimalé and Hulhumalé a few weeks later.

A total of 64 potential "seeds" were identified during December 2011 covering different types of substances, networks, gender and age. Upon successful recruitment of the "seeds" they were given three coupons and asked to bring three more respondents like them. Respondents were rewarded with mobile phone recharge cards for successful interviews and successful recruitment.

A specially developed online RDS Coupon Management System was used during the field operation to ensure no duplication of coupon numbering and/or respondents. Various control sheets and logs were carefully maintained and monitored at all stages.

3.   Focus Group Discussions

Focus Group Discussions were carried out in the islands as well as in Malé. All the FGDs were conducted by a moderator and a co-moderator. All the sessions were audio recorded after taking consent from the respondents. None of the participants' personal identity was recorded. Life story events of drug users have also been recorded.

III. Monitoring and Supervision

Upon commencement of the work for the study, UNODC and the Government of the Maldives formed a national committee (SSG), which comprised of representative from all key stakeholders including various Government organisations, INGOs, local NGOs and others. The mandate of SSG was to oversee and endorse different activities planned and to monitor the progression of work. A number of sessions of the SSG were conducted at different intervals and all activities were reviewed and endorsed prior to implementation.

Field work in the Atolls and in Malé was carefully supervised and monitored. Monitoring teams from UNODC, MOH, NDA, and INOVA visited most of the islands during field work. Daily progress updates from teams were gathered, compiled and circulated among concerned personnel, SSG and others on a weekly basis.

IV. Data Management

To computerize the collected data, a special data entry program was developed. The program had the entry fields on exact same image of the printed questionnaires, for easier readability and accuracy. The application had a range of built in procedures to ensure robust verification and validation of the data keyed in.

Data entry staff were trained to use the software developed for data entry. A dry run of about 2 questionnaires by each trainee was keyed in and checked for consistency. Minor issues identified during this process were fixed and data entry commenced on April 2012. It took 25 days to complete data entry of all the questionnaires.

To ensure consistency and plausibility of the data several checks were carried out during the data entry process and if errors were identified, the data entry operators were prompted to cross-check the information they had entered with that on the forms. This reduces the number of data transcription errors to an acceptable level while allowing obvious errors to be corrected at an early stage.

F. Data Preparation and Analysis

Before data analysis, a carefully designed, three step data-cleaning process was carried out;

1. Screening Phase - systematically looking for problems with the data;

2. Diagnostic Phase - identifying the condition of the suspect data; and

3. Treatment Phase - deleting or editing the data or leaving it.

Data analysis was carried out separately for the Household Survey done in the Atolls and the RDS Survey in Malé.

For household survey, the data was analysed using SPSS v13.0 (Statistical Package for Social Sciences) for all variables. All variables are pre-coded with answer codes along with their corresponding value labels.

Data from the RDS Survey was analysed using Respondent Driven Sampling Analysis Tool (RDSAT), version 6.0.1 by Cornell University, Ithaca, NY; which was developed by the founder of RDS methodology, Prof. Douglas Heckathorn, Professor of Sociology of Department of Sociology at the Cornell University.

All audio recordings of the FGDs were transcribed, analyzed, common themes then identified and responses were grouped accordingly. Attempts were made to discuss the findings of qualitative and quantitative components in each other's' light.

In order to present the data in an easily readable fashion, tables, cross tables and graphic illustrations were made using MS. Excel and other desktop applications.

All variables on the questionnaires for both Household and RDS survey were analysed individually and along with other related variables. However, findings and result presentation was mainly focused to address predefined objectives.

Given the nature of the study it was noteworthy that some percentages disaggregated at basic demographics were not calculated due to very small numbers of the responses received.

G. Delimitations and limitations of the study

The primary aim of this research study was to estimate the number of drug users and percentage prevalence of drug users in the country. The study, measured the number of drug users in both Malé and Atolls. At the same time analysis were carried to find out the following:

- Employment and income;
- Substance use and behaviours;
- Drug using networks;
- Problems associated with drug use;
- Injecting drug use and high risk behaviours;
- Treatment;
- Perception and Opinion.

Limitations of this study were the inherent limitations of the research techniques such as, the study was based primarily on self-report and no objective evidence of drug use was employed. In addition, household surveys are notorious to underestimate the prevalence of drug use since many drug users may simply not be residing in households or may be institutionalised at the time of survey (in prisons or in rehabilitation centres). However, one principal limitation was that two different kinds of final outputs were generated by using two different techniques, i.e. prevalence of drug use in general population through household survey for Atolls and islands and an estimate of absolute number of drug users through multiplier technique in Malé.

Yet another limitation would be the assumption that records in law-enforcement and drug treatment services correspond exactly to the population being studied through RDS.

H. Ethical Issues

Before launching the data collection, survey approval was taken from the Department of National Planning, the Ministry of Finance and Treasury. The National Health Research Committee (NHRC) of the Ministry of Health also issued the approval of conducting the research in the Maldives. Additionally, the following are to be noted:

- All the respondents provided informed consent prior to the interview.

- All interviews were conducted in surroundings which assured full privacy and confidentiality.

- The data was collected and coded in such a manner that precludes tracing the respondents. Identity of the respondents has been kept confidential throughout the study.

- Data collected from the individual respondents is not accessible to anyone except the study team.

- Even the secondary data obtained from the records of services and facilities is not being used to identify individuals.

- The incentives provided to the respondents in the RDS survey were 'reasonable' and did not amount to a perverse incentive to be identified as a drug user and participate in the survey.

CHAPTER III: RESULTS

This chapter comprises of the main findings of the survey, which includes the sample description, drug use patterns, prevalence and the estimation of the number of drug users for both Malé and Atolls. The chapter also looks into drug use pattern among different demographic groups; extent of drug use in the country; behavioural characteristics associated with drug use and attitude, awareness and perceptions towards drug issue in the community.

A. Prevalence and Estimated Number of Drug Users in the Maldives

I. Household Survey; Atolls

Sample Description

In the Atolls, the sample size was 3,582 households, which resulted in achieving more than the targeted population of 10,000 individuals. Enumeration was successfully carried out in 3,561 households, a response rate of 99.4%. Based on the Census 2006 results, this sample size represents about 11% of the total households in the Atolls.

The target age group for the survey was 15-64 years. A total of 13,714 individuals were listed as eligible persons to be surveyed. Out of these, about 74% (i.e. 10,172 individuals) were screened, comprising of 6,334 females and 3,838 males. The significant differences in female and male composition in the screened sample may have been due to the nature of employment of male members in the households. In order to take into account the preponderance of females in the sample (62% females versus 38% males), and to reduce the bias in the estimates, weights were applied to the results using sex ratio from Census 2006 data.

The five year age distribution of the sample showed that out of 6,334 female members screened, about 34% were between 15-24 years and 15% between 25 - 29 years age group. Similarly out of 3,838 males screened, 36% and 13% were between 15 -24 and 25 - 29 age groups, respectively. These percentages showed similar trends with the Census 2006 results. The age distributions of other age groups were also comparable with Census 2006 data.

The objective of the screening form was to identify drug users in the household. As a result of vigilant screening, a total of 297 individuals were identified as eligible (i.e. have 'ever'

used drugs) for detailed interview on drug use parameters (Form B2 - Drug User form). Out of these, 243 individuals (i.e. 230 males and 13 females) were successfully interviewed.

Figure 1: Sample description, Atolls

Households visited = 3,561 (11% of total households in Atolls)

Eligible population (15-64 years) living in these households = 13,714

Females = 7,713   Males = 6,001

Eligible Persons successfully screened = 10,172

Females = 6,334   Males = 3,838

Eligible for detailed interview on Drug Use = 297

Females = 21   Males = 276

Confirmed and labelled as Drug Users ('Ever') = 243

Females = 13   Males = 230

Confirmed and labelled as Drug Users ('Current') = 152

Females = 10   Males = 142

Prevalence weight of Current Drug Use in Atolls = 2.02%

Estimated number of Current Drug Users in Atolls = 3,154

The detailed drug user questionnaire was administered to a total of 243 drug users, who had used any one of the drugs among the categories labelled in the survey as D to L, (i.e. alcohol, Cannabis, Opioids, Cocaine, ATS, Sedatives, Hallucinogens) at least once in their life time (Ever Users). The mean age of "Ever Users" was 28 years (Standard Deviation (SD) =8.12). The mean age of a "Current User" on the other hand was little lower than 26 years of age with a SD of 7.05.

Table 2: Age of the Drug users in Atolls - Any of the illegal Drugs

Category	Age (in years)			
	Mean	**SD**	**Median**	**Range**
Ever Drug Users				
Total	28.1	8.1	26.0	16-40
Female	21.8	5.7	20.0	16-34
Male	28.4	8.1	27.0	16-60
Current Drug Users				
Total	25.9	7.1	25.0	16-51
Female	22.1	6.5	19.5	16-34
Male	26.2	7.0	25.0	16-51

Table 3: Age distribution of current drug users

Age Group	Total		Female		Male	
	Number of drug users	**Percentage**	**Number of drug users**	**Percentage**	**Number of drug users**	**Percentage**
15 - 19	28	18.42	5	50	23	16.20
20 - 24	46	30.26	1	10	45	31.69
25 - 29	31	20.39	2	20	29	20.42
30 - 34	30	19.74	2	20	28	19.72
35 - 39	12	7.89	0	-	12	8.45
40 - 44	2	1.32	0	-	2	1.41
45 - 49	2	1.32	0	-	2	1.41
50 - 54	1	0.66	0	-	1	0.70
55 - 59	0	-	0	-	0	-
60 - 64	0	-	0	-	0	-
Total	**152**	**100**	**10**	**100**	**142**	**100**

A total of 152 individuals were identified as current drug users in the sample. Table 3 indicates that about 30% of the current drug users are in the age group 20-24 and about 2/3 of current drug users are below the age of 30. It is also worth noting that due to the small number of female drug users identified in the atoll sample, meaningful conclusion about the age structure of the current female drug users in Atolls was not possible.

Drug Use Pattern

Figure 2 shows the prevalence percentages for different types of drugs among current drug users in the Atolls. The most prevalent drug in the atoll was cannabinoids (resin/hashish oil), which was used by 67% of the drug users. While 53% of users used opioids other than pharmaceuticals, alcohol was used by 51%. More than a third, (38%) of current drug users also used Cannabinoids (type Herb or Marijuana) in the Atolls. The drugs type "other" includes "oshani", vaanuva" and "bongaru", etc, was used by 20% users.

It is also worth noting that about 10% of current drug users used injecting method in taking drugs. The use of Opioid Pharmaceuticals, Cocaine, Amphetamine type Stimulants, Sedatives and tranquillizers, and Hallucinogens seemed to be less prevalent in the Atolls.

Figure 2: Sample Percentage prevalence and number of current drug users by different class of drugs, Atolls
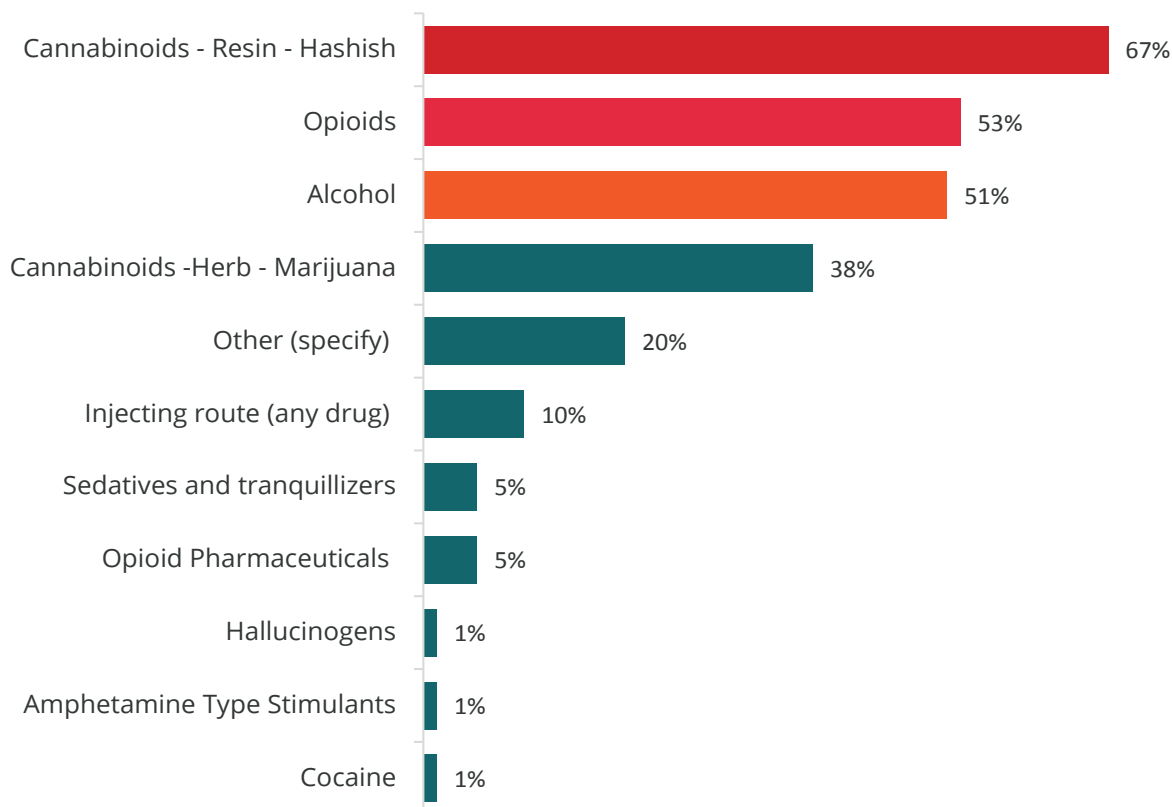
Prevalence & Estimations

The sampling approach used in the Atolls is a self weighting approach, and hence prevalence percentages were calculated based on the total estimate of the drug users, and the population projection figures for the year 2012. The prevalence of drug use, estimated for the Atolls was 2.02%. This figure was arrived after accounting for the sex ratio of Census 2006. The prevalence estimate implied that, if 100 people between 15 - 64 years of age in the Atolls are randomly selected it is likely that two of them will be current drug users.

Table 4: Number of current drug users and prevalence, Atolls

Estimated Number of "Current Drug Users" in Atolls	**3,154**
Atoll Population (15-64 years)	156,136
Weighted Prevalence in Atolls	**2.02%**

II. Respondent Driven Sample Survey; Malé

As described in the Chapter II Survey Methods, in Malé RDS approach was adopted to collect drug user information, and the estimation was done using the multiplier method.

Sample Description

A total of 43 seeds (females 4, males 39) were identified as primary seeds for the data collection based on the distribution across different drug categories (Refer table 5). Seeds were selected to represent different types of drugs prevailing in Malé.

Table 5: Sample description

Category	Total	Female	Male
Seeds recruited	43	4	39
Recruitment Matrix			
Drug users recruited by Female seeds	29	9	20
Transition probability - Female recruiters	-	31%	89%
Drug users recruited by - Male seeds	563	12	551
Transition probability - Male recruiters	-	2%	98%
Drug users interviewed (Current - last 12 months)	635	25	610

The number of drug users who turned-up for the detail interviews was 635, of whom 29 were recruited by female seeds whereas 563 were recruited by male seeds. An interesting finding was the "transition probability", as shown in Table 5. The probability of a female seed referring a female drug user is only 31% while male seed referring a female user was

just 2% implying that the networks of drug users in Malé were predominantly male.

Out of the 635 drug users interviewed, 610 (96%) were males and 25 (4%) were females. Among the 610 male drug users interviewed, 551 (98%) were recruited by male drug users, while 20 (2%) were recruited through female drug users. In the case of the 25 female drug users interviewed, 20 (69%) were recruited by male drug users while 9 (31%) by female drug users.

Table 6: Age of current drug users in Malé

Category	AGE (in years)	
	Mean (SD)	Median
Total	23 (6.99)	21
Female	25 (8.17)	24
Male	23 (6.93)	21

Among the 635 current drug users interviewed, the mean age was 23 years (SD=6.99). This result showed that the current drug use population in Malé was largely dominated by young males.

Furthermore, the results indicated that close to half (48%) of the drug use population in Malé was between the age of 15 - 19 years and about 72% of the drug use population was under the age of 24 years. **It is also noteworthy that an overwhelmingly large majority (92%) of the drug users were below 30 years.**

Table 7: Population of proportion of current drug users by five year age distribution

Age Group (in years)	Estimated Population Proportions
15-19	0.48
20-24	0.24
25-29	0.20
30-34	0.05
35-39	0.02
40-44	0.00
45-49	0.01
50-54	-
55-59	0.00
60-64	-

Drug Use Pattern among drug users in Malé

Figure 3 show that among all current drug users a large majority - 71% - used cannabinoids. Alcohol and opioids (other than opioid pharmaceuticals) were used by 47% and 40% of current drug users, respectively. About one in four current drug users in Malé used cannabinoids / herbs / marijuana.
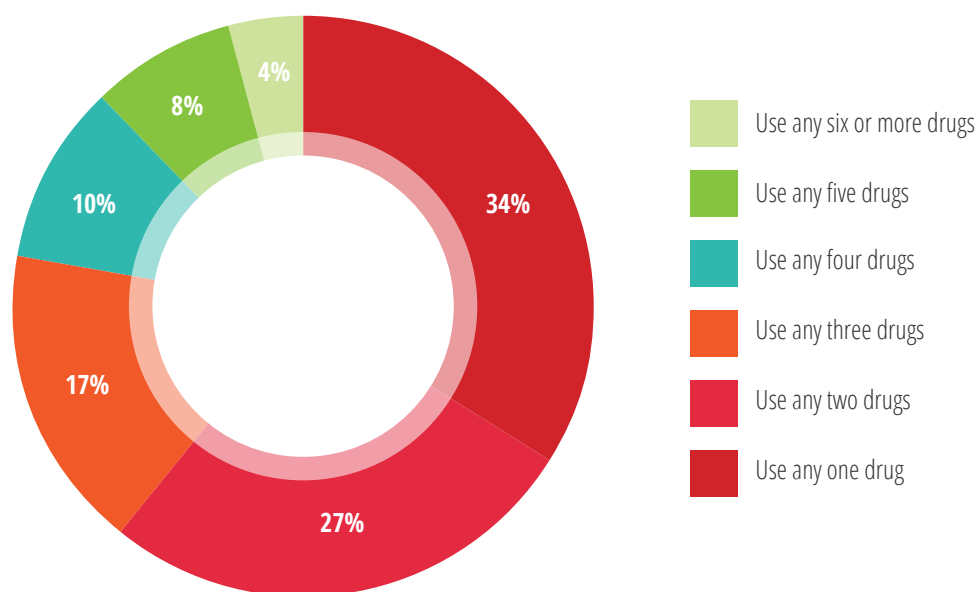
Figure 3: Percentage prevalence and estimated number of current drug users by different class of drugs, Malé
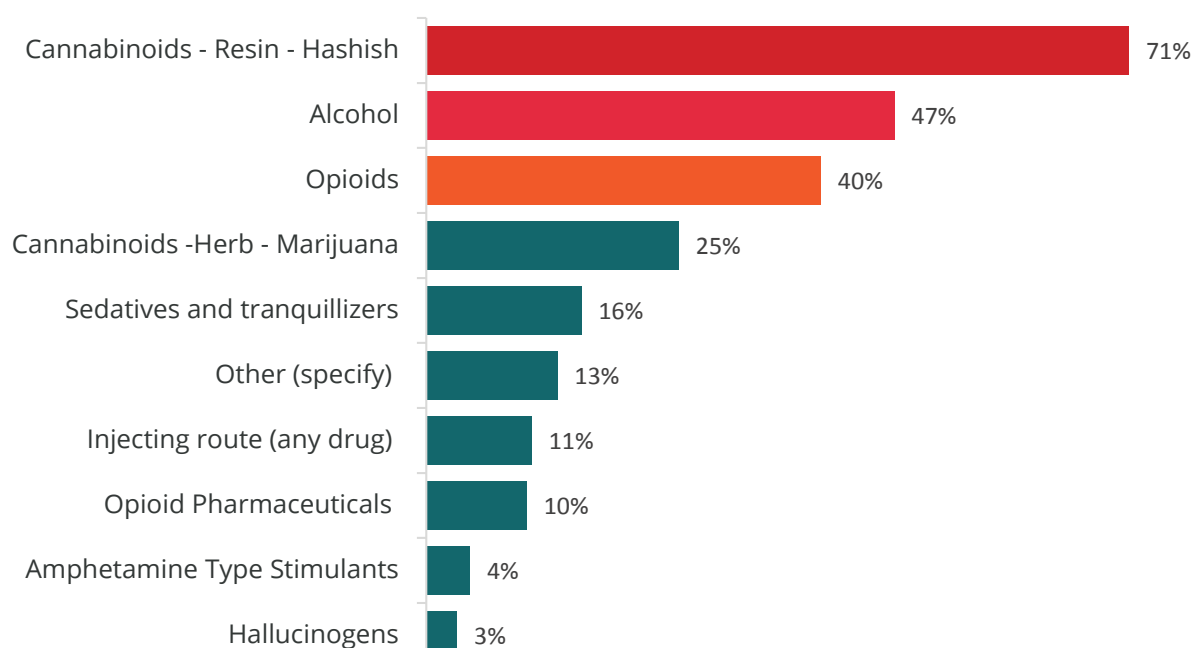
Note: Since many drug users reported use of more than one drug, any attempt to add these numbers to derive total number of drug users would be incorrect. The estimated number of drug users in Malé stands at 4,342 (see below).

Figure 4 below shows the common drug use patterns among the current users in Malé. This data indicated that 66% of the current drug users were poly drug users while 34% reported as using a single type of drug. About 27% drug users used any two types of drugs and 17% used any of the 3 drugs.

Figure 4: Common drug use patterns among current drug users, Malé

Legend:
- Use any six or more drugs
- Use any five drugs
- Use any four drugs
- Use any three drugs
- Use any two drugs
- Use any one drug

Chart values: 34%, 27%, 17%, 10%, 8%, 4%

Prevalence and Estimates

Basically five main questions were used in the estimation of drug users namely; whether they had experienced any of the following in past one year: (a) admitted to **Journey**, (b) **Arrested** by Police, (c) Served a **sentence at Jail**, (d) admitted to **DRC (Rehab)** and (e) went through **Detoxification**. The proportions of drug users reporting "yes" to these questions are shown in the Table 8 below. Also presented in the table are the corresponding data on number of drug users registered for these services. These corresponding figures were multiplied in order to arrive at the estimated number of drug users in Malé using these different data sources.

Table 8: Estimated number of current drug users, Malé

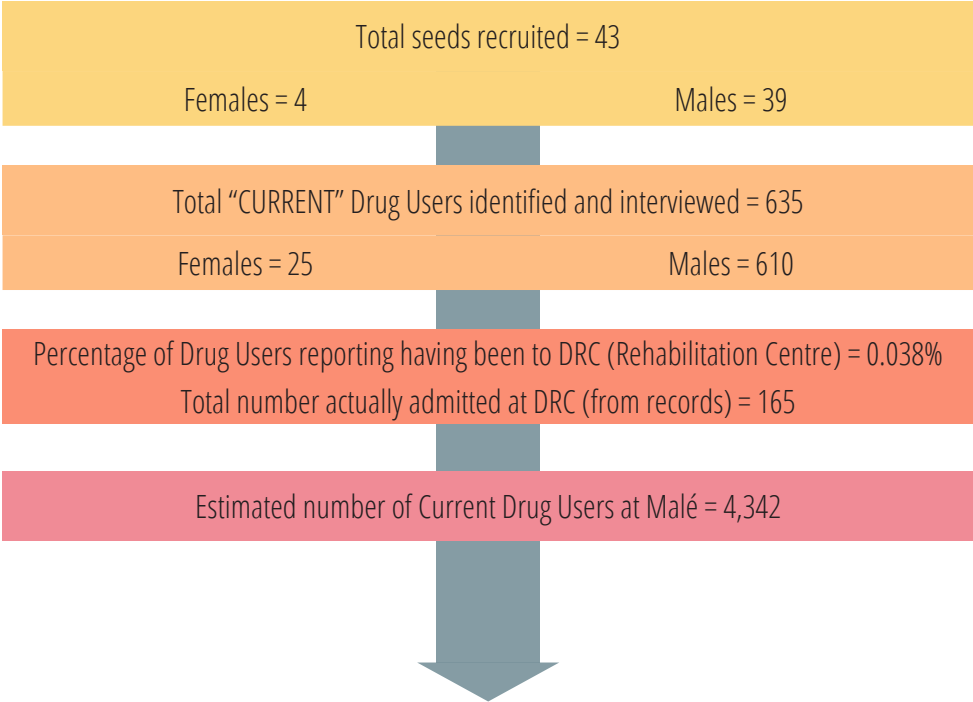| Source	Number of Drug Users actually admitted in 12 months	RDS:% estimates of Drug Users reporting having been admitted to these services	Estimated No. Of current Drug Users
1. Journey	187	0.028	6,679
2. MPS (Police Arrests)	670	0.203	3,300
3. DPRS (Served a sentence at Jail)	213	0.086	2,477
4. DRC (Rehab)	165	0.038	4,342
5. Detoxification	175	0.028	6,250

However, not all these data sources were equally reliable and consistent. Out of all the data sources, the data from DRC (Rehab) appeared to be most suitable to be used as a multiplier since (a) it was most specifically related to drug users and (b) was also maintained more rigorously as compared to other sources of the data.

Table 9: Number of current drug users and prevalence, Malé

Estimated Number of Current Drug Users	4,342
Malé Population (15-64 years)	65,436
Malé - Prevalence (%)	**6.64**

By using the secondary data provided by DRC (rehab) and the information collected by RDS, it was estimated that a total 4,342 current drug users were in Malé. The prevalence estimated in Malé was 6.64%. This prevalence figure was derived using the 15 - 64 age group population projection of 2012 (65,436) for Malé. **The prevalence estimate implied that, if 100 people between 15 - 64 years of age in Malé were randomly selected it was likely that about seven of them will be current drug users.**

Figure 5: Sample description, Malé

Total seeds recruited = 43

Females = 4   Males = 39

Total "CURRENT" Drug Users identified and interviewed = 635

Females = 25   Males = 610

Percentage of Drug Users reporting having been to DRC (Rehabilitation Centre) = 0.038%
Total number actually admitted at DRC (from records) = 165

Estimated number of Current Drug Users at Malé = 4,342

III. Prevalence and Estimated Drug Users in the Maldives

The results of this study showed that there were 7,496 current drug users (3,154 in the Atolls and 4,342 in Malé) aged between 15 to 64 years in the country. The distribution of drug users by type of drug class represented in the following table was based on the ratios of individual drug categories, generated from household survey in the Atolls and RDS in Malé. It appeared that in Malé, about 71% (estimated number is = 3,070) of the drug use population used Cannabinoids - Resin - Hashish followed by 47% Alcohol and 40% Opioids (non-pharmaceuticals). Similarly, in the Atolls about 50% (estimated number is = 1,566) of the drug use population used Cannabinoids - Resin - Hashish followed by 39%Opioids (non-pharmaceuticals) and 38% use Alcohol.

Table 10: Estimated Number of Current Drug Users by classes of drugs

CLASS	Atolls	Malé	Total
Alcohol	1197	2045	3242
Cannabinoids -Herb - Marijuana	890	1103	1993
Cannabinoids - Resin - Hashish	1566	3070	4636
Opioids	1228	1724	2952
Opioid Pharmaceuticals	107	439	546
Cocaine	31	61	92
Amphetamine Type Stimulants	31	191	222
Hallucinogens	31	135	166
Other (specify)	460	573	1033
Injecting route (any drug)	230	460	690

The estimated prevalence for Malé and Atolls were 6.64% and 2.02% respectively. Due to the use of different methodologies in estimating prevalence in different localities, estimating a single prevalence figure for the whole country was not possible.

The average age of a current drug user in the Atolls was 3 years older than Malé; 26 versus 23 years. However, when age distribution was analyzed with 5 year age groups, both Malé and Atolls showed similar trends and younger age groups were predominant among the current drug users.

The most prevalent drug in both Malé and Atolls was Cannabinoids which was a of type Resin or Hashish. Opioids other than pharmaceuticals was found to be the second most common type of drug used in the Atolls, followed by alcohol. However, in Malé, alcohol was the second most prevalent drug followed by Opioids other than pharmaceuticals.

This study also showed that a large proportion of the drug using community used more than two or more drugs (poly drug users) within the last one year.

IV. Caution in Interpreting the Results

Data collected in this study should be interpreted in the right context keeping in mind the differences in the methodologies adopted in the Atolls and in Malé. This study provides baseline information to understand the drug situation in the country.

The RDS method allows for the generation of population proportions in Malé, while in the Atolls the sampling methodology allowed calculation of sample proportions.

The results of this study can be analyzed and estimates can be generated to "Ever users", "Current users" and "Recent users" for Atolls. However, for Malé it would be only possible to generate estimates for current and recent users.

One should be careful in interpreting indicators in terms of percentages, if the total denominator is significantly low (for instance, reporting data on female drug users in the survey). For the same reasons, in some cases gender comparison may not be meaningful as the survey was largely dominated by male drug users.

B. Characteristics of Drug Users and Other Aspects Associated

I. Sample Characteristics and Demographics

As mentioned earlier, in this survey two approaches were used. The Household Survey represented the Atoll population while RDS approach accounted for Malé population. Household survey was conducted in 39 islands visiting a total of 3,582 households of which 3,561 households were surveyed, equivalent to a response rate of 99.4%. A total of 13,714 people were eligible for the interview within these households, and a total of 10,172 were screened for the interview process. Based on the drug use parameters 297 people were eligible for detailed interviews and a total of 243 respondents (82%) claimed to have used a drug at least once in their life.

As for the RDS in Malé, a total of 60 potential seeds were identified, from whom 43 seeds were recruited for the interview process; i.e. 4 females and 39 males. Between these female recruiters, they additionally recruited 9 females and 20 males. Drug users additionally recruited by male recruiters were 12 females and 551 males. A total of 635 current drug users were interviewed in the survey.

Figure 6: Proportion of current drug users by locality and age group
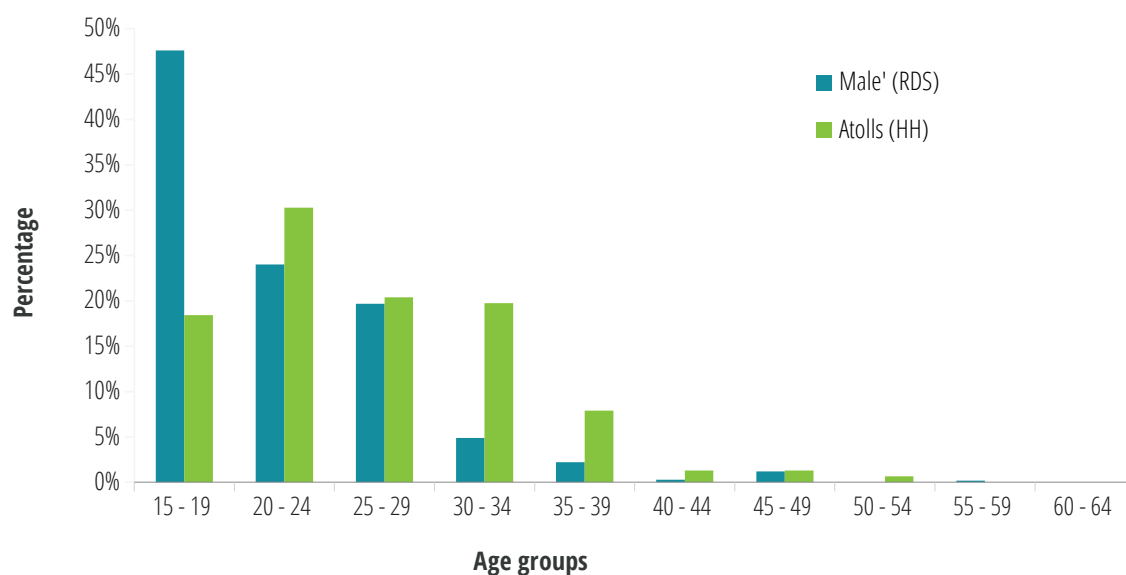

Young adults aged 15-19 years accounted for the highest proportion of current drug users in Malé (see Figure 6), followed by 20-24 years age group. While the majority of the current drug users in Atolls were between the age group of 20-24 years. However, there was a remarkable difference in current drug users aged 30-34 between Malé and Atolls. In this age group, the proportion of current drug users in Malé was about 2% while in Atolls it was more than doubled with 8%. While in both the sampling localities - Malé and Atolls, drug use was seen concentrated among younger populations, in Malé the drug users tended to be even younger compared to the Atolls.

Based on the survey results, the mean age of current drug users in Malé, was 23 years compared to 26 years in the Atolls. When gender wise data was compared between Malé and Atolls, it was noted that the mean age of a female was 25 years in Malé and 22 years in the Atolls. However, in the case of males, mean age of current drug users were younger in Malé (23 years) compared to 26 years in the Atolls.

Categories of drugs used

Cannabinoids - Resin - Hashish was the drug most commonly used among the current drug users in both Malé (70%) and Atolls (68%), followed by alcohol (Malé (47%), Atolls (51%)) and opioids (Malé (40%), Atolls (52%)) (Figure 7). Current opioid pharmaceuticals users were almost twice as high in Malé compared to the Atolls (10% and 5% respectively). Sedatives and tranquillizers also showed a similar pattern wherein Malé the use is 12% compared to 6% in Atolls. Among current drug users cocaine and hallucinogens users was negligible.

Figure 7: Percentage of drug users by drug types among Current drug users
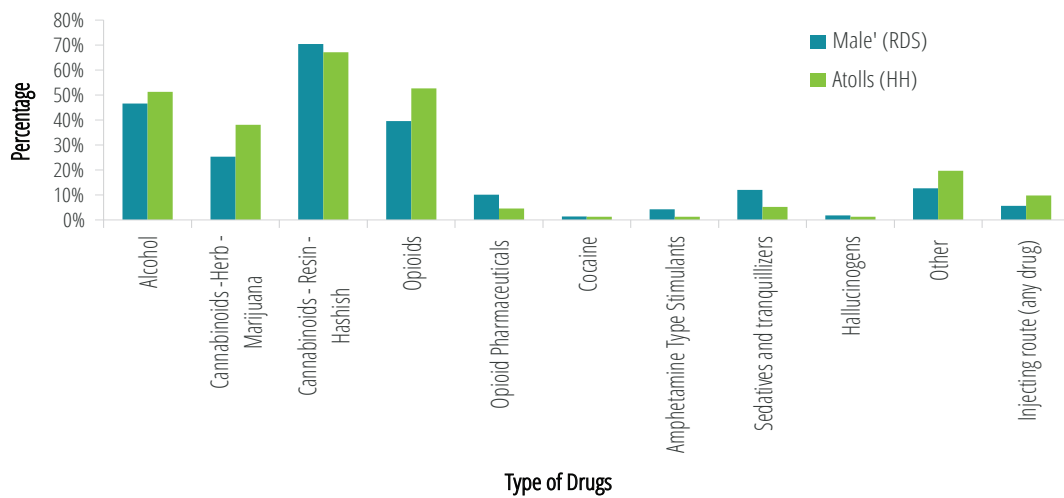
II. Socio-Economic Status

Analysis based on the drug users showed that education status of the general population and drug user population was not much different. A large proportion of the drug users as well as the general population had completed their secondary level.

Among current drug users, majority of the population was unmarried, in both Malé (78%) and Atolls (63%). This may be due to the fact that a large proportion of drug users are below the age of 29 years.

Figure 8: Employment status among the current drug users by locality

Male' (RDS)   **Atolls (HH)**
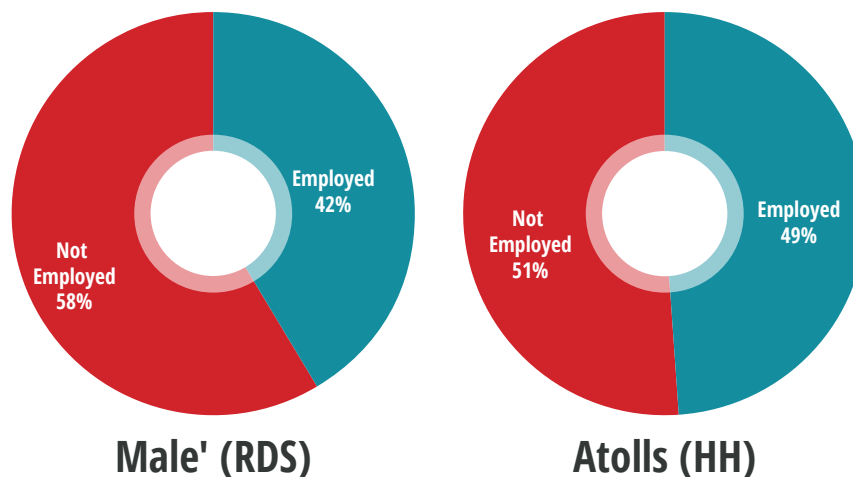
Among current drug users in Malé, only 42% were employed, while in the Atolls drug users 'not employed' was higher by a slight margin.

Other community, social and personal services industry shared the highest proportion of employment of the current drug user population in Male'(16%) (Refer to Figure 9), while

in Atolls, 28 percent of the current drug users work in the fisheries industry. The industry with the second highest proportion of current drug users employed in the Atolls was the construction industry. Almost 16 percent of the current drug users in both Malé and Atolls work in the Hotels and Restaurants Industry which includes resorts sector.

Figure 9: Share of employment by industry and locality
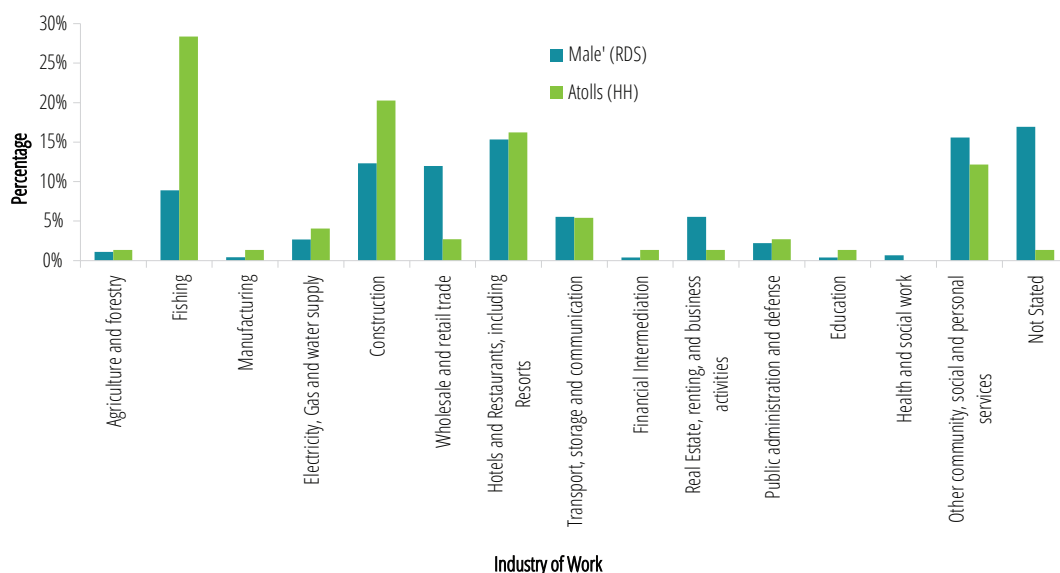
Figure 10: Reasons for being not employed among the current drug users by locality
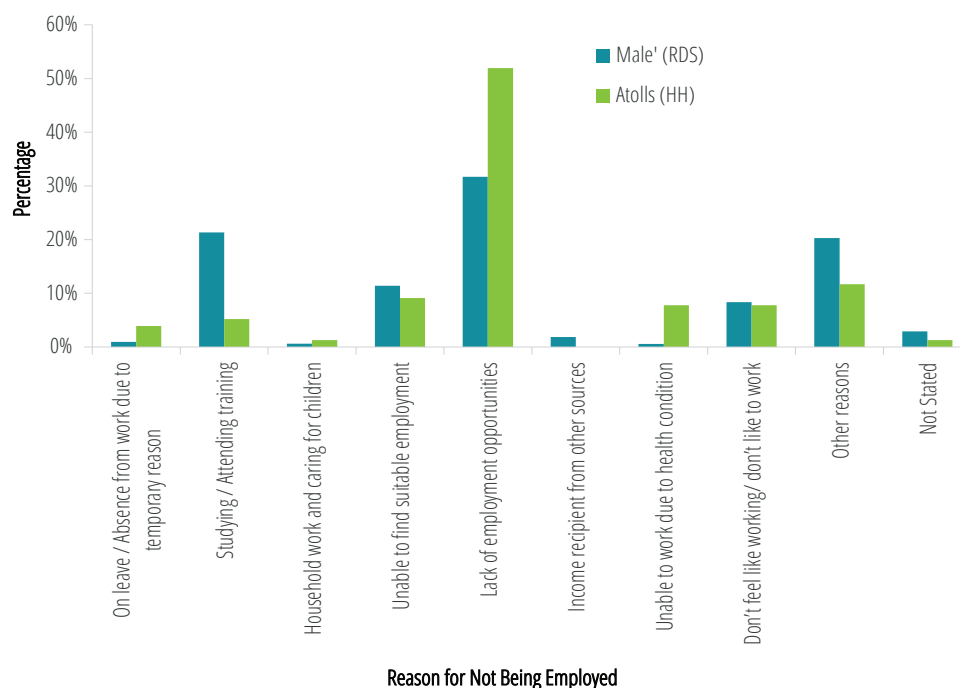
As observed in figure 10, in Malé as well as in Atolls, the majority of the respondents stated lack of employment opportunities in the island as the main reason for not being employed.

The reason that followed in the case of Malé was "being engaged in study or attending training" while in the Atolls it was "due to some other reason" (refer to figure 10).

III. Drug Use Pattern

The drugs mostly used by people aged 15 - 64 years were Cannabinoids and Alcohol. Table 11 presents percentages of the population aged 15 - 64 years who used each of 9 categories of drugs within three time frequencies; ever used (i.e. if the substance had ever been used), current used (if they used during the 12 months preceding the interview date) and recent used (if the substance was used during the 30 days preceding the interview date).

Table 11: Percentage number of drugs users in their life time, the past year and the past month by locality

CLASS	Malé (RDS)			Atolls (HH)		
	Ever Use (among all drug users)	Current Use (among ever users)	Recent Use(among current users)	Ever Use (among all drug users)	Current Use (among ever users)	Recent Use (among current users)
Alcohol	59%	82%	75%	71%	45%	65%
Cannabinoids	77%	95%	82%	75%	64%	77%
Opioids	46%	95%	91%	66%	53%	80%
Cocaine	2%	41%	-	2%	40%	100%
Amphetamine Type Stimulants	6%	73%	64%	2%	33%	100%
Sedatives and tranquillizers	19%	84%	77%	18%	19%	63%
Hallucinogens	5%	72%	42%	2%	40%	50%
Other (specify)	16%	85%	73%	26%	47%	63%
Injecting route (any drug)	14%	84%	73%	9%	71%	13%

As shown in the above table, in Malé, among the people who had used drugs, about 77% of the population had ever used cannabinoids, reflecting its status as the most commonly used drug. Out of those who had ever used cannabinoids, around 95% of the population had used cannabinoids in the past year and in the past month by more than 82% users. The second most commonly used drug was Alcohol with 59% of the population as lifetime users, and among these populations over 80% of the population who had used Alcohol in the past year and 75% of the population in the past month. After cannabinoids and Alcohol, the next most commonly used drug category was Opioids.

Overall, the pattern of drug users among the people in Atolls aged 15 -64 years were similar to Malé, with cannabinoids and Alcohol used more commonly. However, the proportions who used diverse types of drugs were different between Malé and Atolls. The proportion of people in Atolls who had used cannabinoids in their life time was 75% (among all drug users) and among these people 64% of the people still use cannabinoids in the past year and 77% of the people used during the past month.

The proportion of people in Atolls who reported consuming alcohol in their life time was 71% (among all drug users) and currently 45% of people consume alcohol during the past year and 65% in the past month.

Poly-drug users

Poly-drug use - a pattern that has already been observed in many drug-using populations was also found to be common in the Maldives. There are different rationales for mixing different drugs during one consumption period. Drugs, which when taken together can have cumulative or complementary effects, and also may be mixed to increase the overall psychoactive experience. Additionally, offsetting the negative effects of a drug can be another reason to take an additional substance. Finally, when the preferred drug is not available, another may be used as a substitute.

It was common among drug users to have tried a number of drugs. Table 12 shows that 66% of current drug users in Malé were poly-drug users. Similarly in Atolls, 53% of current drug users had used two or more types of drugs.

Table 12: Common drug use patterns among current drug users

| Atolls | | | Male' | |
Number of Drugs Used	Percentage		Number of Drugs Used	Percentage
1	47%	Any 1 drug	1	34%
2	25%	Any 2 drugs	2	27%
3	16%	Any 3 drugs	3	17%
4	6%		4	9%
5	4%		5	8%
6	1%		6	3%
7	1%		7	2%
Total	100%		Total	100%

There were a large number of possible poly-drug use combinations. Table 13 provides a breakdown of poly-drug use combinations according to the drugs used in Malé.

Cannabinoids - Resin - Hashish was by far the most commonly recorded drug among poly drug users. The most commonly recorded poly-drug use combination was Cannabinoids - Resin - Hashish and Alcohol (n= 312) in Malé, followed by Cannabinoids - Resin - Hashish and Opioids (n=190). It was noted that most of the Alcohol drinkers used more combination of drugs compared to other type of drug users.

Table 13: Most common combination of drug categories among current drug users, Malé

Drug Type	Alcohol	Cannabinoids - Herb - Marijuana	Cannabinoids - Resin - Hashih	Opioids	Opioid Pharmaceuticals	Cocaine	Amphetamine Type Stimulants	Sedatives and Tranquillizers	Hallucinogens	Other
Alcohol		150	312	153	71	16	44	113	34	128
Cannabinoids - Herb - Marijuana	150		181	91	47	10	36	65	24	78
Cannabinoids - Resin - Hashih	312	181		190	69	14	41	121	31	132
Opioids	153	91	190		53	10	20	86	12	82
Opioid Pharmaceuticals	71	47	69	52		9	21	48	13	52
Cocaine	16	10	14	10	9		8	9	4	8
Amphetamine Type Stimulants	44	36	41	20	21	8		23	22	28
Sedatives and Tranquillizers	113	65	121	86	48	9	23		20	79
Hallucinogens	34	24	31	12	13	4	22	20		21
Other	128	78	132	82	52	8	28	79	21	

Table 14: Most common combination of drug categories among current drug users, Atolls

Drug Type	Alcohol	Cannabinoids - Herb - Marijuana	Cannabinoids - Resin - Hashih	Opioids	Opioid Pharmaceuticals	Cocaine	Amphetamine Type Stimulants	Sedatives and Tranquillizers	Hallucinogens	Other
Alcohol		36	58	42	5	2	2	8	2	17
Cannabinoids - Herb - Marijuana	36		43	35	4	1	2	5	1	14
Cannabinoids - Resin - Hashih	58	43		53	6	2	2	8	2	26
Opioids	42	35	53		3	2	1	6	2	19
Opioid Pharmaceuticals	5	4	6	3		0	1	2	0	3
Cocaine	2	1	2	2	0		1	1	1	0
Amphetamine Type Stimulants	2	2	2	1	1	1		2	1	1
Sedatives and Tranquillizers	8	5	8	6	2	1	2		1	5
Hallucinogens	2	1	2	2	0	1	1	1		0
Other	17	14	26	19	3	0	1	5	0	

Table 14 presents the most common combination of drug categories used among the current drug users in Atolls. Similar to Malé, the most common combination of drugs tried was Cannabinoids - Resin - Hashish and Alcohol (n=58), followed by Cannabinoids - Resin - Hashish and Opioids (n=53). Unlike Malé, it was observed that most of the Cannabinoids - Resin - Hashish users used more combination of drugs compared to other categories of drug users (refer Table 14).

Age at initiation

Current users

In general, people in Malé and in Atolls, between ages 15-64 years had their first experience with drugs by trying tobacco and inhalants & solvents, at a very young age of 13 and 16 years, respectively. Figure 11 illustrates age of initiation of drug use by locality showing a clear stepwise progression of drug use.

For alcohol, the mean age of initiation was 16 years in Malé and 18 years in Atolls. Among other illicit drugs, Cannabinoids - Resin - Hashish had the youngest average age of initiation, at 16 years in Malé and 18 years in Atolls, followed by Cannabinoids -Herb - Marijuana (17 years in Malé and 18 years in Atolls) and Opioids (17 years in Malé and 18 years in Atolls). Figure 11 clearly depicts that the general trend was that drug users in Malé started using drugs at an earlier age when compared to the Atolls.

Figure 11: Age of initiation of drug use among current users by locality
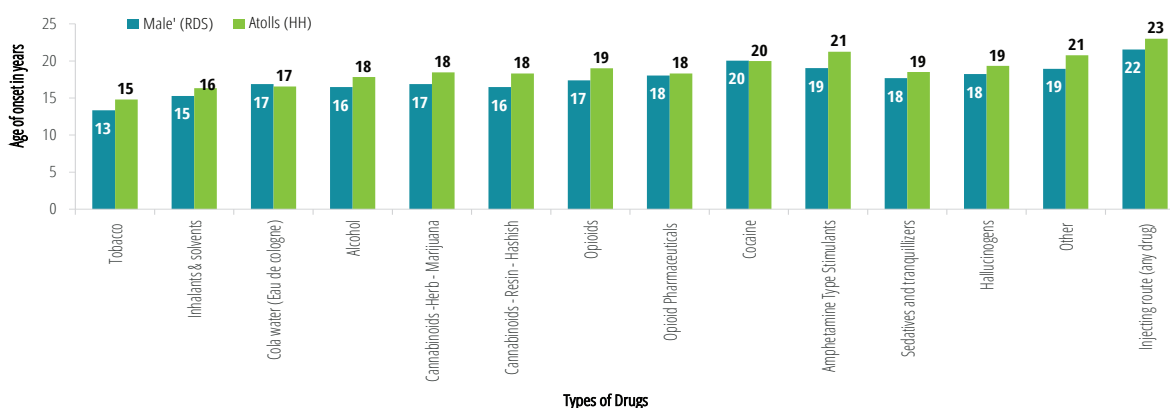
Figure 12 illustrates the frequency of drug use among recent drug users. Among the "recent drug users" in Malé aged 15-64 years, almost 99% were daily smokers, while in Atolls it was 75%. In the case of Alcohol, only 7% of the drug-using population in Malé drinks it daily while in Atolls it is 19%. On the other hand, almost 32% of the drug-using population in Malé drinks alcohol on a weekly basis, while in Atolls almost 40% of the people have a drink every 2-3 days a week. Almost 78%of drug-using population in both Malé and Atolls use opioids daily.

Figure 12: Frequency of drug use among the recent (last 30 days) drug users by locality

	Daily	3-2 days a week	Weekly	Less than weekly	Daily	3-2 days a week	Weekly	Less than weekly
	Male' (RDS)				Atolls (HH)			
■ Alcohol	%7	%21	%32	%40	%19	%39	%19	%23
■ Cannabinoids -Herb - Marijuana	%31	%25	%14	%31	%37	%42	%0	%21
■ Cannabinoids - Resin - Hashish	%47	%27	%12	%14	%36	%42	%8	%14
■ Opioids	%78	%8	%6	%8	%77	%13	%0	%10
■ Opioid Pharmaceuticals	%41	%13	%13	%33	%0	%0	%0	%100
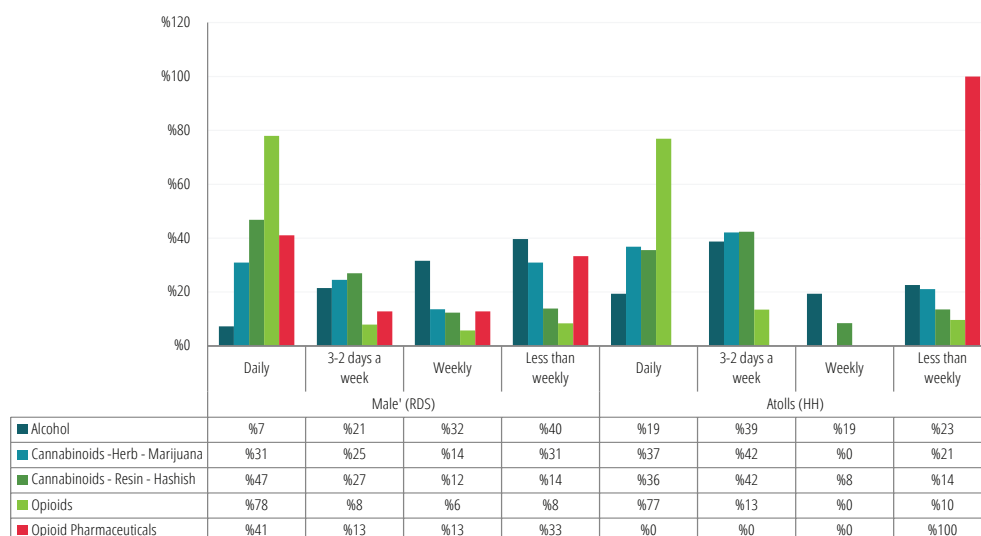
Figure 13: Reasons for starting drugs (all current drug users) by locality
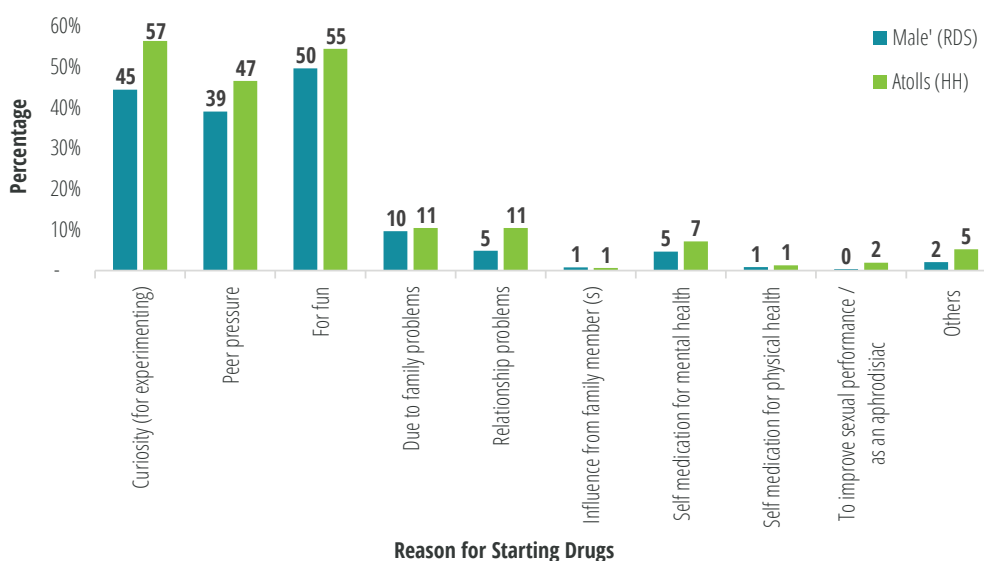
Almost half of the drug-using population in Malé reported that the reason for starting drugs was "for fun" while in the Atolls more than half (57%) started using drugs for "experimental purpose" and "out of curiosity". This was recorded as the second highest reason in case of drug users in Malé.

Figure 14 compare the sources from which users obtain drugs in Malé and Atolls. In Malé, almost half (75%) of the drug users reported getting drugs from dealers. The proportion of drugs obtained from friends was the second highest source for Malé. Similarly in Atolls, 74 percent of drug users obtain drugs from friends, while the second highest source of drug was recorded as from dealers.

Fig 14: Sources of drugs (among current drug users, ie. Past 12 months) by locality

Source of Drugs
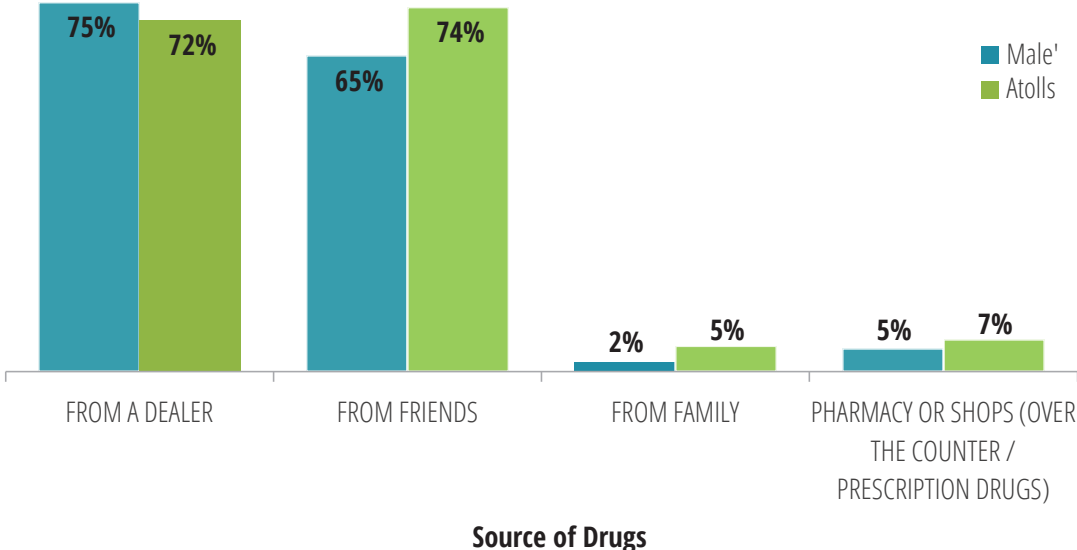
IV. Consequences of Drug Use

Drug use is less about the amount of substance consumed or the frequency, and more to do with the consequences of drug abuse. Accidents, crime, domestic violence, illness, lost opportunity, and reduced productivity are direct consequences of substance abuse. Drug and alcohol use by young population often is associated with other forms of unhealthy, unproductive behaviour, including delinquency and high-risk sexual activity. Assessing economic, social and other consequences related to drug abuse is vital in taking preventive measures and understanding the economic as well as social impact to society at large. This research aspires to study the consequences of drug abuse from economic, financial, medical and social perspectives.

Economic Consequences

Drugs costs our society at large and households' substantial amounts in expenses, in terms of foregone income.

Figure 15: Expenditure on drug use on a typical day among current drug users in Atolls and Malé, in MVR
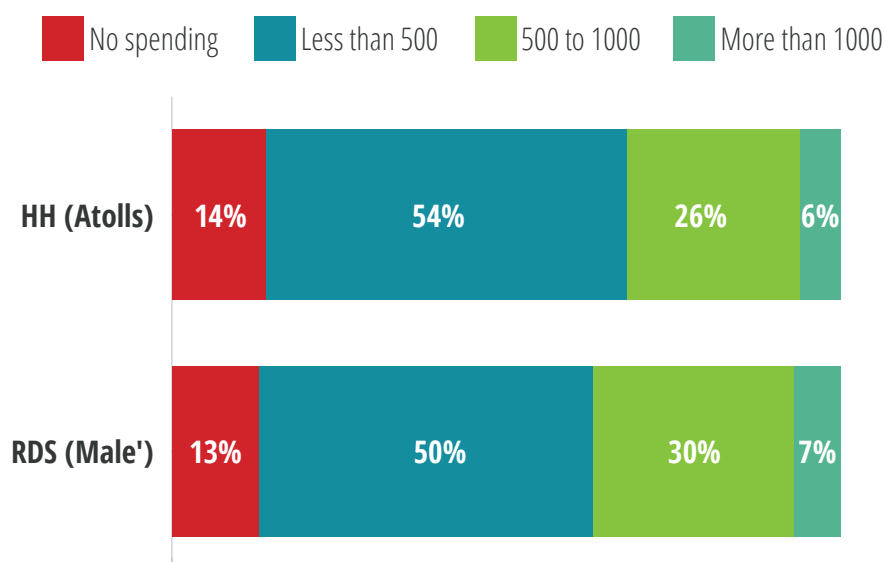
As seen in the figure 15, slightly more than a third of drug users in Malé spend more than 500 MVR on an average day on drugs while half of the users spend less than 500 MVR. A mere 13% do not spend anything. Even though the picture is not very different in the Atolls, the percentages indicate slightly less drug users in the Atolls spend more than 500 MVR.

Occupational Consequences

Drug use erodes human capital. Drug abuse occurs most frequently among young people between 15-35 age groups (89%), with a particular concentration in the 20-24 age groups (30%). It thus includes those who have entered or who are just about to enter the workforce. Given the high unemployment rates (12%) in the Maldives (HIES, 2010), entry into the workforce is often a major problem. Consumption of illicit drugs limits chances of entering or remaining in the workforce, while frustration caused by failure to find adequate employment favours drug consumption, thus creating a vicious circle.

Out of the current drug users, about 49% in the Atolls, and 42% in Malé are currently employed, and 34% in Atolls and 48% in Malé has not encountered any problems in their work place. However, some have been facing problems in the work place as seen from the table below, the three most significant being, arriving late to work, irregular attendance and difficulty in maintaining concentration.

Table 15: Problems encountered at work place for current drug users who are employed

Problems encountered among drug users who are employed	HH (Atolls) N=74	RDS (Malé) N=42
Arrive late to work	32%	25%
Irregular attendance	38%	25%
Difficult to maintain concentration	34%	29%
Unable to work as a team	18%	29%
Poor performance at work due to ill physical health	19%	11%
Poor performance at work due to ill mental health	19%	5%
Others	14%	6%

Due to problems encountered in the workplace of above nature, 35% of current drug users in the Atolls who are now employed had to change their jobs at least once in the past one year, while 12% in Male' faced the same state of affairs.

Health Consequences

The methodology of the survey did not permit making a formal diagnosis of Substance Use Disorders using a structured diagnostic tool. However some of the items in the questionnaires corresponded to some of the diagnostic criteria used in the formal diagnostic and classificatory systems (such as DSM IV and ICD10) or questions which are part of some screening instruments such as WHO ASSIST. These criteria included:

1. Tolerance: need for increased amount of the substance

2. Withdrawal: problems due to the cessation of, or reduction in use of a drug that has been taken repeatedly

3. Great deal of time is spent in activities related to drug use

4. Continued use despite harm

5. Ever tried to stop

6. Family/Friends expressing concern over drug use or asking to reduce/stop

7. Accident injury to self/others because of drugs

Out of these, all the criteria were used to indicate probable Problem Drug Use while criteria 1 to 5 were used to indicate probable dependence.

Thus using these criteria an attempt has been made to estimate the prevalence of Problem Drug Users and Likely Dependent Drug Users among current drug users of the specific drug

categories (in figure 16A and 16B).

Figure 16A: Percentage of likely dependent drug users and problem drug users, among those reporting current drug use of that specific drug, Malé (RDS)

Malé (RDS)

■ Problem Drug Users ■ Likely Dependent Drug Users
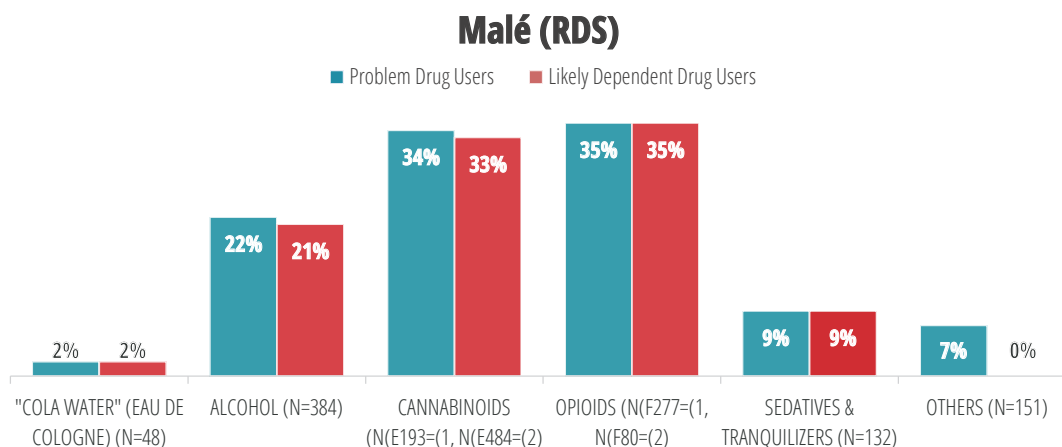
Note: 'n' has been obtained from the diagonal in table on 'common drug combinations'. For RDS, a combined number of users for cannabinoids E1 and E2 and for opioids F1 and F2 was not possible from the table, hence both numbers have been stated here. n(E) = 496. n(F) = 305

Among the different drug categories, opioids and cannabinoids share the highest number of problem drug users in Malé with slightly more than a third of them reported as problem drug users with same percentage recognized as likely dependent drug users.

Figure 16B: Percentage of likely dependent drug users and problem drug users, among those reporting current drug use of that specific drug, Atolls (HH)

Atolls (HH)

■ Problem Drug Users ■ Likely Dependent Drug Users
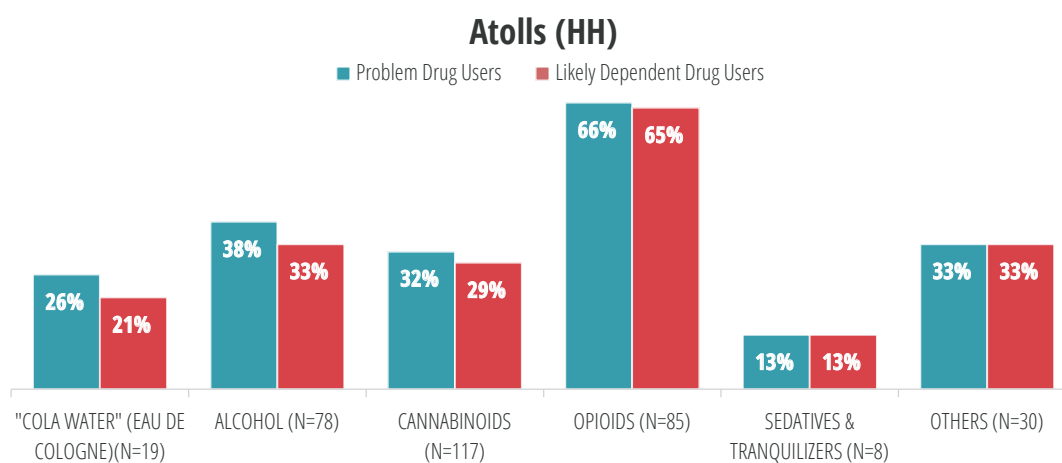
In the Atolls, the highest proportion of problem drug users is seen among the Opioids users followed by among users of Alcohol and Others, (which consists of locally brewed, and mixtures of intoxicating and similar substances). As opposed to Malé, in the Atolls, almost all types of drugs have relatively similar shares of problem drug users, except for sedatives and tranquillizers and opioids.

The drug category with the highest likely dependent drug users is Opioids, with 65% of users of this drug considered as likely dependent drug users. Almost a third of drug users using Alcohol, Cannabinoids and others are identified as likely dependent drug users.

Among the current drug users, 62% in Malé and 59% in the Atolls reported weight loss as a medical problem they endure while 6% in Malé and 16% in the Atolls reported of being drug overdosed.

As seen in the table 16; a large proportion of the current drug users were aware of HIV and informed about the phenomena, however not many was informed or had undergone any testing or vaccinations against Hepatitis B, Hepatitis C or Tuberculosis (TB).

Table 16: Awareness among the community on specific medical problems and procedures

Percentage of Current Drug Users	HH (Atolls)	RDS (Malé)
Who has HEARD about HIV	94% (N=152)	87% (N=635)
Who is INFORMED about HIV	88% (N=152)	81% (N=635)
Who has DONE HIV TESTING	64% (N=152)	37% (N=635)
Who has DONE HIV test and AWARE of their HIV STATUS	48% (N=64)	97% (N=244)
Who has DONE Hepatitis B TESTING	23% (N=152)	18% (N=635)
Who has HAD Hepatitis B VACCINE	13% (N=152)	10% (N=635)
Who has DONE Hepatitis C TESTING	14% (N=152)	7% (N=635)
Who has DONE TB TESTING	16% (N=152)	13% (N=635)

While 21% of current drug users in Malé and also in the Atolls perceive they have some mental problem, only 15% in Malé and 9% in the Atolls have been diagnosed for any psychological disorders.

Furthermore, close to three fourths of the current drug users have reported to have experienced eating and sleeping problems, both in Malé and the Atolls. More than one in three current drug users in Malé stated they experience mental problems, the situation is slightly better in the Atolls with one in six facing this problem.

Table 17: Mental health problems among the current drug users

Percentage of Current Drug Users	HH (Atolls)	RDS (Malé)
Who experienced BLACKOUTS	51% (N=152)	58% (N=635)
Who experienced SLEEP disorder	74% (N=152)	72% (N=635)
Who experienced EATING disorder	76% (N=152)	72% (N=635)
Who PERCEIVES having experienced MENTAL problems	21% (N=64)	21% (N=244)
Who has been DIAGNOSED with any PSYCHOLOGICAL disorder	9% (N=152)	15% (N=635)
Who CURRENTLY experience MENTAL problems	16% (N=152)	34% (N=635)

Sexual health is a state of physical, emotional, mental and social well being in relation to sexuality; and it is not merely the absence of disease, dysfunction or ill-health. It also requires a positive and respectful approach to sexuality and sexual relationships and entail the option of having agreeable and protected sexual experience, free of cruelty, discrimination and violence.

Out of the current drug users 77% in Malé and 86% in the Atolls have had sex at least once in their life. Out of the people who ever had sex, 88% in Malé and 92% in the Atolls had sex in the last year, of which 65% in Malé and 59% in the Atolls reported having sex with regular sex partners.

However, a large percentage of current drug users who had ever had sex reported, buying sexual services or having sex with a sex worker is noteworthy. In Malé, among the current drug users who has ever had sex, one in every four had at least once bought sexual services, while the ratio is one in every six in the Atolls.

About half of the current drug users in Malé had at least one sexual partner who takes drugs. The situation is slightly less serious in the Atolls where two in every five current drug users have a partner who takes drugs.

Figure 17: Percentage of current drug users whose partner is on drugs

% of current drug users whose partner is on drugs (HH) Atolls

42%

Atolls

% of current drug users whose partner is on drugs (RDS) Male'

51%
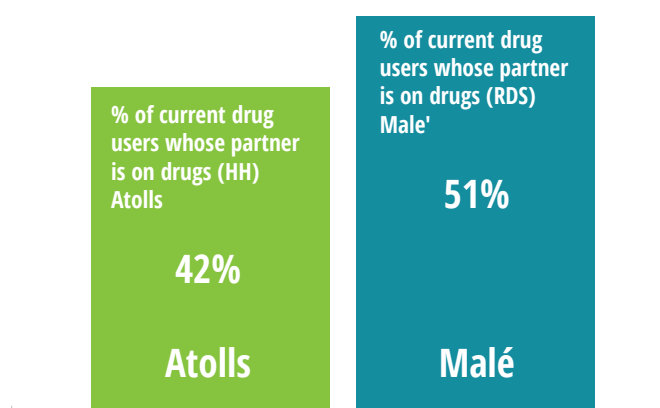
Malé

Among the current drug users in Malé who ever had sex, 23% always used protection, while 48% never did. The situation in the Atolls was worse where only a mere 8% used protection always while more than half of them never did, which may increase the possibility of transmitting diseases such as HIV and other sexually transmitted infections which in turn aggravate sexual health problems.

Figure 18: Percentage of sexually active current drug users who had protected sex
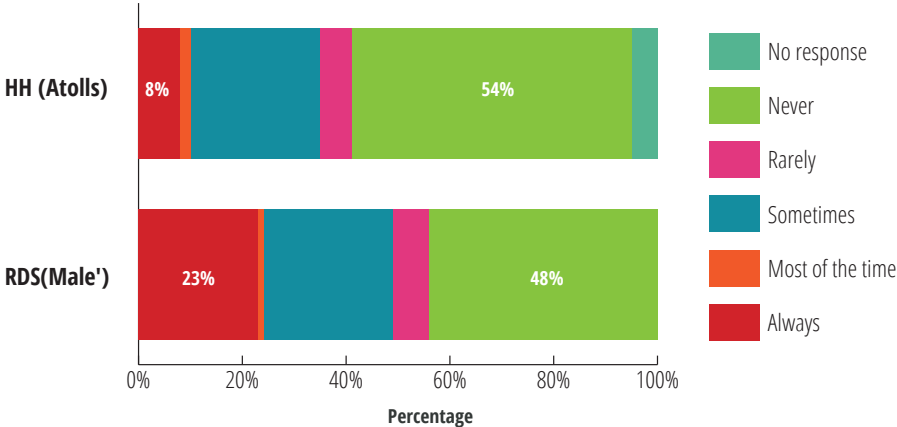
Among those current drug users who ever had sex, 26% in the Atolls and 27% in Malé had at least once experienced some symptoms suggestive of STI such as, genital itching or burning, unusual discharge from penis or vagina, irritation or discharge from anus, pain or bleeding when passing urine and blisters or small bumps around the genital area. Percentage of current drug users who had sex last year and experienced at least one of the discomforts mentioned above was slightly higher in Malé (25%) than that in the Atolls (19%).

IDU Behaviour

Out of the 159 users in the Atoll sample, 15 individuals identified themselves as having used needles to inject drug in the past one year. Out of the 15 individuals, 9 stated they have stopped this practice and have not injected in the past month while 2 confirmed to have used it everyday in the last month while another 2 confirmed to have used the needles on a 2 to 3 days a week basis. However this trend of reporting 'recent' drug use by very few of the 'current' drug users was visible across all drugs in both - Malé as well as Atolls.

About a third of the injecting drug users confirmed to have shared the needles, while a third never shared. Five of the 15 users confirmed to have reused the same needles more then once. When asked specifically about the needle syringe exchange service, only 5 individuals stated they would accept if clean needles and syringes are offered free of charge if when a needle exchange programme was set up. Six individuals stated they do not want needle and syringe exchange programmes to be established, or needle and syringes to be offered to them, the reason being that they felt it is harmful for the body and hence has stopped or is trying to stop.

Among the current drug users in Malé using Opioids pharmaceuticals, Cocaine, Amphetamine type stimulants and sedatives and tranquillizers, 84% have injected drugs in the past 12 months with about 83% of them using the same needle more than once.

Social Consequences

Drug abuse affects the emotional, psychological well being of the individual and those close to them, their families, friends and also the community. Generally drug users are often alienated from and stigmatized by their families, friends and peers. Almost 44% of current drug users in Malé and 53% in the Atolls reported of having problems and conflicts with family and friends. Figure 19 depicts the stigmatization and discrimination within the family, among friends and within the community. As seen from the figure, families, friends and the community of current drug users in Atolls seem to be less tolerant and understanding than those in the Malé.

Figure 19: Stigma and discrimination among current drug users, Malé and Atolls

% of drug users neglected or perceived as a social outcast by community
% of drug users neglected or perceived as a social outcast by friends
% of drug users neglected or perceived as a social outcast by family
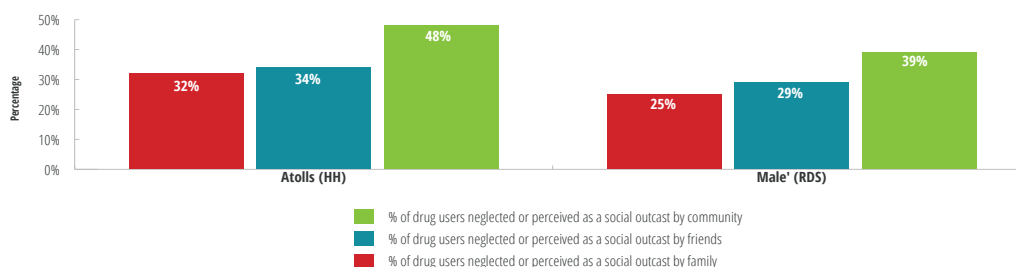
Drug abuse and delinquent behaviour often go hand in hand, and arrests, adjudication and intervention by the system is unavoidable. Not only a high proportion of drug users reported having been arrested at least once (61% in Male and 79% in Atolls) but a sizable proportion among them were also handed a sentence (41% in Malé and 26% in Atolls). In the last year itself, 34% of current drug users in Malé and 39% in the Atolls were arrested.

Among the convicted offences listed, the most prominent is selling drugs, both in Malé and in the Atolls, however this percentage is double that of Atolls in Malé (47% versus 89%). Almost 90% of those convicted of a criminal offence among the current drug users in Malé was convicted for selling drugs.

One in four in Malé reported possession of drugs and gang related violence as offences for which they were convicted while a little more than a third in the Atolls reported violence to be the offence for which they were convicted for. Almost all the crimes listed was higher in Malé than the Atolls except for violence and gang related violence, as seen from the figure 20.

Figure 20: Type of crime for which convicted
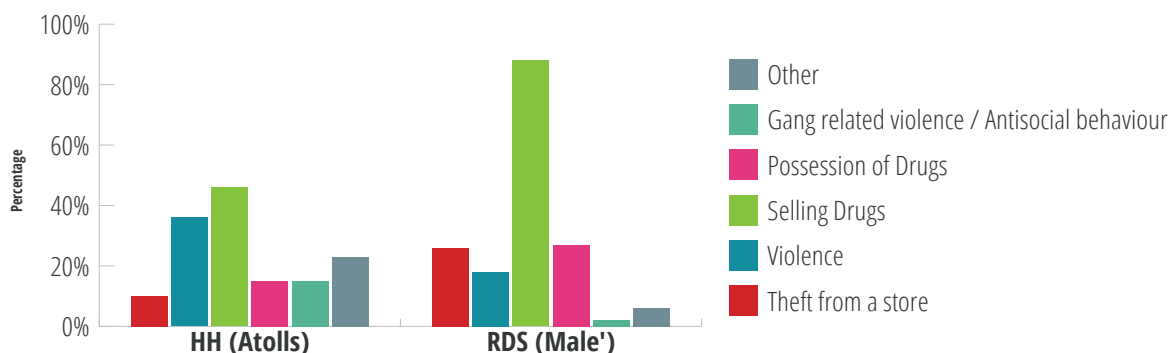
 Out of the current drug users in the Atolls who have ever been convicted, 87% have reported to have served a sentence. Jail is the most prominent place where a sentence for a non-drug related crime is served by current drug users in Malé and Atolls. For drug related crimes, for Malé, rehabilitaion is more prominent than jail, 100% versus 86% respectively while for the Atolls jail and rehab exhibited same proportions.

Table 18: Percentage of current drug users who have served a sentence by drug related or unrelated crimes

Percentage of current drug users who have served a sentence	Non drug related crime		Drug related crime	
	HH (Atolls)	RDS (Malé)	HH (Atolls)	RDS (Malé)
Rehabilitation centres	31% (N=39)	36% (N=42)	31% (N=39)	100% (N=42)
Jail/ prison	51% (N=39)	89% (N=139)	31% (N=39)	86% (N=117)
House arrest	41% (N=39)	63% (N=53)	13% (N=39)	46% (N=27)
Banishment	23% (N=39)	49% (N=59)	5% (N=39)	7% (N=12)

V. Services

Mental health care services are by definition, medically necessary outpatient and inpatient services provided to treat mental illnesses which are sought by individuals who seek medical care regarding their mental well being.

More than a third of the current drug users in Malé and one in six in the Atolls stated that they were experiencing some mental problems such as stress, emotional break downs, anger issues, eating and sleeping problems, suffocation, depression and memory loss. Out of these individuals, 61% in Malé and 53% in the Atolls did not seek any type of treatment.

Among those who went for seeking help, 16% in the Atolls sought support from family and peers while 12% went for any formal institutions such as counselling and psychological help and in-patient psychiatric treatment. However in Malé, equal proportions of individuals

seeking help sought support from family and peers and also formal institutions such as counselling and psychological help.

Table 19: Types of treatment sought for mental health

	HH (Atolls)	RDS (Malé)
Counselling / Psychological help / non-pharmacological	12%	12%
In-patient Psychiatric treatment / interventions	12%	NA
Out-patient treatment with medicines / pharmacological	9%	10%
Self medication	9%	3%
Religious counselling	6%	7%
Peer support / family support	16%	12%
Other (Specify)	9%	10%

Only 13% in the Atolls and 7% in Malé sought support from structured treatment centres such as the residential rehabilitation, methadone, psychosocial treatment counselling or doctors/hospital and detoxification centres managed by the former DDPRS or NGO led psychosocial treatment counselling, specialized in mental health of drug users. In the last one year, 28% of the current drug users in the Atolls have been admitted in detoxification centres and 4% of current drug users in Malé admitted at the rehab.

Among the likely dependent drug user, the situation is slightly better that about one in five person in the Atolls and one in every 10 person in Malé uses these structured support systems. In the last one year 30% of likely dependent drug users from the Atolls and 19% from Malé has been admitted in detoxification centres.

Table 20: Percentage of current drug users and likely dependent drug users admitted in the last one year

	Current drug users		Likely dependants	
	HH (Atolls)	RDS (Malé)	HH (Atolls)	RDS (Malé)
Rehab	5%	4%	4%	NA
Detoxification	28%	3%	30%	19%
Drop In Centre	15%	0%	6%	NA
Journey	11%	1%	11%	8%
Other NGO's	15%	0%	6%	NA
Other	18%	2%	17%	20%

VI. Perception of Drug Problems

The bulk of current drug users in the Atolls and Malé consider their status of life as good but not extremely wealthy and 51% in the Atolls, and 62% in Malé deem themselves to live a satisfied happy life.

In both Malé as well as in the Atolls, majority of persons believe that drug abuse problem is on the increase, as seen from figure 21.

Figure 21: Perception on the current situation of drug abuse in the country
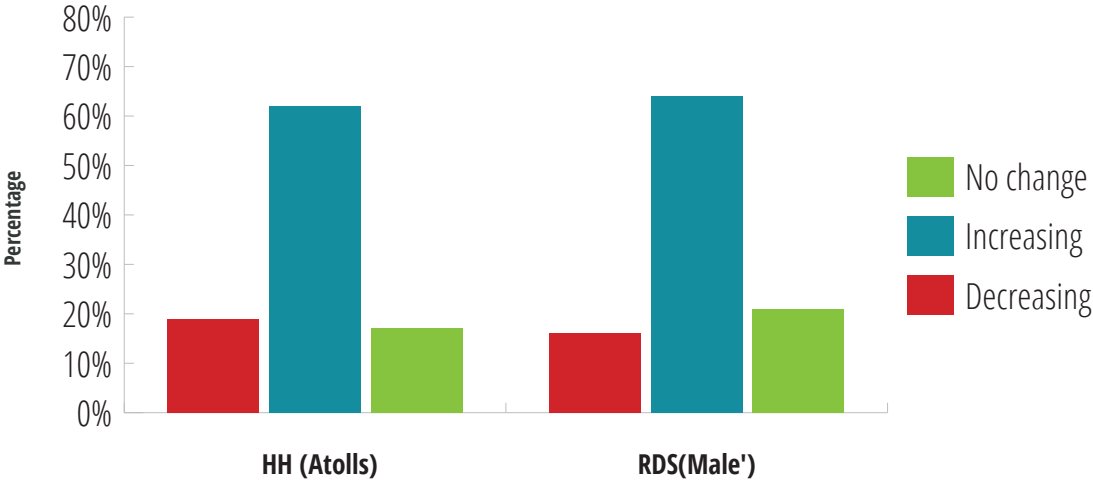
According to the respondents in Malé, measures which need to be put in place and exercised are: to instil better moral education and value-based education in children and young people, better control of drug supply and smuggling, provision of better treatment and rehabilitation facilities enabling and motivating drug users for voluntary enrolment for treatment, increase the number of religious education / fatwas / dharus /awareness programs and enforcing stricter penalties for drug sellers / traffickers as well as users.

VII. Summary

Table 22: Comparison of economic, mental health and other conditions of the current drug users and likely dependent drug users

	HH (Atolls)		RDS (Malé)	
	Likely Dependent drug users	Current Drug users	Likely Dependent drug users	Current Drug users
Lost Job	39%	19%	17%	NA
Conflict	69%	38%	42%	36%
Health Problems	23%	14%	25%	7%
Mental Problems	30%	14%	28%	3%
Arrested	89%	70%	82%	23%
Ever Sentenced	32%	20%	49%	31%
Last Year Served a Jail sentence due to Drugs	NA	1%	45%	NA
Voluntary Treatment	77%	53%	85%	69%

In all aspects compared in the above table, likely dependent drug users seem to exhibit a worse situation than those current users.

C. Focus Group Study

Understanding Drug Addiction

Across different groups, there were not many variations on this issue. By and large, a reluctance to view drug addiction as an illness or a disease was starkly apparent. From NGOs to Stakeholders, adolescents to young people, all of them found it difficult to accept drug addiction as an illness. Adolescent females however, appeared to see it as an illness more than other groups. Similarly counsellors strongly believed that drug addiction is an illness. Most of the population groups appeared to attribute addiction to personal choice.

Methods of Dealing with Drug Addiction:

As stated earlier, since most population groups attributed addiction to personal choice, the similar trend was visible here as well, where most respondents seemed to place the burden of recovery on the victims themselves. While 'treatment' was understood as important, many respondents expressed a rather pessimistic opinion about effectiveness of treatment. Many regarded treatment - as provided in Maldives - to be ineffective. Among opinions regarding strategies to deal with drug addiction some interesting patterns were visible: While Counsellors, adolescents and young people appeared to favour treatment as

opposed to punishment the reverse was true for NGOs, CBOs and stakeholders. The latter groups appeared to lay heavy emphasis on law enforcement and faith based value systems. A strong endorsement of Sharia'h law was apparent in the responses of key stakeholders. In words of a key stakeholder *"Treatment alone will not yield results. It must be in conjunction with proper punishment"*. Even among those who seemed to favour treatment as a strategy (as opposed to jail / punishment) certain myths and misconceptions regarding treatment process was apparent as evident from the tendency to see relapse as indicating failure of treatment strategy.

Young people and adolescents also seemed to distinguish the criminal liability of drug users versus drug traffickers and favoured much harsher punishments for traffickers. Similarly, counsellors also agreed that much harsher punishment for traffickers must be implemented but not peddlers *"yes for traffickers but not peddlers, peddlers are selling because they want money to buy drugs and they are addicted so they need treatment"*. Another interesting observation was that awareness programmes (as experienced by the respondents) seemed to enhance the risk of drug use by leading to a tendency of experimentation of drug use! As evident from these statements: *"awareness usually leads to drugs, when they tell people how to use and identify drugs so it has led to people trying them to check it out"* or *"Most of them start taking drugs as experimentation after the awareness program held by police"*. Yet another interesting observation was about the law enforcement where while the young people saw laws and provision of punishments to be largely adequate, the NGOs / CBOs and stakeholders seemed to be wanting even more stricter laws and their implementation (*"In the entire world, Maldives is probably the only place with very loose laws"*). Young people on the other hand appeared to see effectiveness of jail punishment with some suspicion since according to them *"most of the drug users continue to use drugs even in jail while imprisoned"*.

Characteristics of Drug Users and Extent of the Problem:

There was not a lot of variation across the groups on this issue. All groups recognised that drug use problem exists in their communities and it is increasing. Most participants in each group believed that drug initiation occurs in teenage years. All groups also agreed that drug users can be identified by certain behavioural and physical characteristics: some of these characteristics described were; *"they have long hair, poor hygiene, bloodshot eyes, they ask for money, some are very thin, they make no sense when talking"*. All groups reported that the most common drugs consumed by users were opioids, alcohol, and cannabis. In addition to these three types of drugs, adolescent males and females stated that inhalants were also a common drug consumed in their communities.

Consequences of Drug Use Problem:

Across the groups there was little variation on the perceived consequences of drug use. All the groups believed that there were physical, psychological, social, and occupational consequences of drug use problem. Some of these consequences include increase in health problems such as STIs, undernourishment, mental illness, poor self-control, memory loss, increase in violence and theft, increase in unemployment among young people.

CHAPTER IV: DISCUSSION

I. About the Survey

This was the first survey on drug use in the Maldives which attempted to generate a nationwide picture of the drug use problem in the country. The objectives of this survey was to estimate drug use prevalence in the Maldives, identify patterns and extent of drug use across the country; assess behavioural characteristics associated with drug use; community knowledge, attitudes and perceptions towards the drug problem.

There were many features which made this survey a unique piece of work. Firstly, so far no study in the country could provide an estimate of total burden of drug use in the country. Secondly, the survey utilized multiple methods and data collection modalities, the individual reports of which - when combined - generate a comprehensive scenario of drug use in the country and thus completes the picture. In essence, this was a combination of three distinct research studies:

1. A Household survey, which provided prevalence of drug use in Atolls (which has generated the estimated number of drug users in Atolls)

2. A Multiplier survey which provided the estimated number of drug users in Malé

3. A Qualitative study which described perceptions and opinions of different segments of the population regarding drug use in the Maldives

However, as noted earlier, household surveys - though statistically very superior - are not regarded the best approach to study stigmatized phenomena such as drug use. Still, as the second best option this method was employed in Atolls and the reliability of the results of this household survey is indicated by many factors:

• A large sample size, almost 10,000 people from the general population were interviewed which corresponds to roughly 10% of the total eligible population from the Atolls. Even the number of households surveyed corresponded to about 11% of the total households in the Atolls.

• An unbiased selection of locations for the survey.

• A questionnaire which was designed and administered by trained interviewers in a way that minimized the risk of under reporting

Additional impetus to the reliability of the household survey comes from the data itself. One of the questions asked was "How many drug users you know in this island". This data was also analysed (though not presented in detail here) and it revealed a very interesting pattern. The total number of drug users known to the respondents corresponds to the

total prevalence of drug use estimated in the survey. Thus, there are multiple pointers to reliability of the data from the household survey.

However as stated earlier, the researchers - even at the time of designing the survey - tended to lean more towards the direct methods of estimation of drug use since these methods have been reported to be superior to indirect methods (FHI and UNAIDS, 2010). Thus, the first choice of the methodology for this survey was Multiplier Method which was used in Malé. It is the unavailability of reliable and consistent secondary data to be used in the Multiplier technique and logistic difficulties of employing this technique in the Atolls, which forced the research team to look for the second best alternative (i.e. the household survey). In the end however, the data appears to justify selection of these two different approaches, which when combined, help in generating the national picture.

II. Number Versus Prevalence of Drug Users in the Country

It was clear from the very beginning that this survey sought to estimate the absolute number of drug users in the Maldives. The 'drug' was also defined, and in general, the survey sought to estimate the number of illicit drug users. Thus, while the data on use of legal substances like tobacco, cola water and inhalants was also collected, this data indicates that how many users of illicit drugs were also using these legal substances. Additionally, the unique combination of two separate methodologies ensured that while the estimated absolute number of drug users can be commented upon, the same is not true for the prevalence. In other words, the methodology does not permit estimating the prevalence of drug use in the country (i.e. we can say that there are about 7500 drug users in the country but we cannot reliably say that X% of population of the country are drug users). Use of a direct estimation method (RDS with multiplier) in Malé proves to be a double edged sword; while it is more appropriate to reach out to drug users using this approach, it does not generate population statistics (i.e. prevalence in the general population).

The survey finding of the prevalence of illicit drug use in Atolls is about 2%, indicates that the prevalence of drug use in Maldives is not very high compared to other neighbouring countries. For instance, India (the only country in South Asia, where prevalence figures for the general population are available), has prevalence of drug use around 3% (Ray, 2004). However a caveat must be borne in mind. The Survey in India did not differentiate between various preparations of cannabis. One particular preparation of cannabis - 'bhang' is legal and socially acceptable in many parts of India and the Indian prevalence figure includes many users who reported using bhang.

Nevertheless the estimated number of drug users in the Maldives - around 7500 - is sizable. This represents a definite public health problem for the country with obvious implications for policy, programming and resource allocation. Data clearly indicates that there may

be 100s of drug users in Maldives who need help and the treatment services should be proportionately scaled-up.

III. Profile of Drug Users

Many people tend to believe that drug users are somehow 'different' from non-drug users in the general population. Such assumptions serve to enhance the stigma related to drug use and contribute to the reduced help-seeking among drug users and ultimately enhancing the burden in the community. Such myths were noted in some of the responses of the FGDs as well where respondents attempted to describe the identifying characteristics of drug users. However, the quantitative data does not appear to support such assumptions. It clearly revealed that on many of the socio demographic parameters, drug users were not markedly different from the general population. This fact may indicate that drug users in Maldives (found in the survey) are still young and have yet to experience too many untoward consequences of drug use and hence resemble the general, non-drug-using population in many respects.

As expected from the previous studies from Maldives as well as in other countries, an overwhelming majority of drug users were males. Thus drug use in Maldives is predominantly a male phenomenon, a fact which must be considered for designing intervention programmes. Additionally, since the drug use phenomenon is dominated by males, it becomes difficult to explore the finer nuances of female drug use if the same research methodology is applied to both the genders. Hence, for future large-scale research studies, including females in the same sample as males should be avoided. Instead, specially designed research studies, which focus on female drug use and associated issues, would prove to be much more useful.

One point must be discussed in the context of gender differences among drug users in the Maldives. This survey puts the estimated ratio of female: male drug users to be about 5:95 or even less. However, another piece of data revealed that a large majority of male drug users were sexually active and about 40 to 50% of them reported having a sex partner who was also a drug user. That would mean a large number of female drug users in the country which is not in keeping with the findings of this survey. This contradiction can be explained through one or more of the following possibilities: (a) there are many more female drug users in the country than found in this survey; (b) there are very few female drug users but some of them are sex-partners of multiple, male drug users; or (c) the "sex partner who is a drug user" reported by drug users happens to be another male drug user. Clearly, more research is required to understand the finer nuances of gender dimensions and dynamics of drug use in the Maldives.

Another remarkable observation is the relatively younger age of drug users. The median

age of current drug users was around 21 years in Malé and about 25 years in the Atolls. Among current drug users, as many as 73% in Malé and 49% in Atolls were less than 24 years of age. The national Census data also indicates that the population of the country is comprised largely of young people, the similar trend was observed among drug users as well. A large majority of drug users are young adults at the cusp of age of entering the workforce. Since a significant number of the drug use population are young adults, it has a potential to affect the workforce of the country. In addition, because previous studies have linked teenage drug use with health problems later in life the potential to increase the long-term health consequences and its burden is likely to be huge without early intervention.

IV. Pattern of Drug Use

Another interesting feature observed in the data was the step ladder pattern of drug use. In Malé as well as Atolls, drug users tend to start with legal drugs such as tobacco, inhalants and cola water and then graduate to use of Alcohol, followed by drugs such as cannabis and Opioids. Indeed, such step ladder pattern of drug use (initiation of legal and softer drugs and later use of harder of drugs) has been much researched and debated in the literature (Vanyukov et al, 2012, Van Gundy and Rebellon, 2010). Nevertheless, whichever routes drug users take, most drug users interviewed reported use of more than one class of drugs.

The finding that most common illicit drugs of use in the country are Alcohol, Cannabis and Opioids also seeks to confirm the hitherto understanding derived from anecdotal experience, as well as from earlier studies from the Maldives. In other words, what was a general perception till now, has now been confirmed with a strong evidence base. However, a more important issue worth discussing is the difference in legal status of these drugs. While all three - Alcohol, Cannabis and Opioids - are illegal, the former is illegal under the sharia'h law while the latter two are listed as narcotic drugs. It is also important to note the difference in punishment for using these substances. Punishment for Alcohol use remains jail with no provision of treatment. On the other hand, since the new drug Act 17/2011 came into effect, narcotic use can be 'punished' by providing treatment and not necessary the jail. In this regard it is worth noting that the age of onset of Alcohol is lower than that of Cannabis and Opioids. This demands an enquiry. Is Alcohol use less taboo than using Cannabis or Opioids? Are legal controls over Cannabis and Opioids much tighter than they are on Alcohol? It is worth remembering that Alcohol enjoys the status of a permissible substance for non-Maldivians in the Resorts and some uninhabited islands. The data available here is not sufficient to throw light on this issue but it is worth researching in the future.

While the survey does confirm that Alcohol, Cannabis and Opioids are the most common illegal drugs in the country, the finding that - though in minority - some drug users did report using ATS, Hallucinogens and Cocaine, is of concern. This indicates that some newer drugs

are also making inroads in the drug market in the country. Since the treatment strategies for these newer drugs are likely to be different from those used for conventional drugs, the treatment professionals in the country must be geared up to respond to the challenges posed by people seeking treatment for addiction to these newer drugs. While, an assessment of the quality of treatment services and capacities of service providers was out of scope for this survey, the findings indicate that there is a need to look into appropriateness of the treatment services as per the demands and needs of the drug using populations.

Though, it has been argued earlier that the survey methodology was robust enough to deem the responses as reliable, there is one particular parameter on which under-reporting cannot be ruled out. While a substantial proportion of 'ever' users reported 'current' (in the last 12 months) use, a very small minority admitted that they had used the drugs in the 'recent' past (in the last 30 days). One explanation of this could be that respondents had received treatment for using drugs in the recent past and thus were now 'drug-free (i.e. they were current users but not recent users). Another explanation could be that respondents were reluctant to be identified as people still using drugs for fear of certain untoward consequences of this revelation, such as stigma, discrimination and legal implications. The finding that, a small minority of people reported having received treatment in the last 12 months (which would have helped them quit drugs and thus justify their status as current users but not recent users) indicates the possibility of under-reporting of recent drug use.

V. Burden of Drug Use

While the data on absolute number of drug 'users' is important from an overall national perspective, much vital importance should be given to the data on numbers of 'problem drug users'. While the survey did not generate a clinical diagnosis of Drug Dependence, some items do suggest a likelihood of substance dependence or problem use. Questions pertaining to tolerance, withdrawal, unsuccessful attempts to stop, spending significant amount of time in drug-use related activities and continued use despite harm closely mimic the standard diagnostic guidelines. Moreover, these questions were asked with respect to each of the specific drugs used by the respondent. In this light, the survey has succeeded in indicating that a substantial proportion of drug users need help. As many as 1/5th of Alcohol users and 1/3rd of Cannabis and Opioid users in Malé need help. Overall in the country a significant number of drug users are those in need of immediate help and this figure represents the burden of work on treatment and rehabilitation services. However as indicated from the data on multipliers, only 174 drug users can be helped by the existing services at any given point in time. Even the Methadone Treatment service has a slot for only 70 patients, while the data indicates that we have about 1,101 opioid dependent users in the country. Clearly, we have a huge service-delivery gap on our hands and urgent scale-up of treatment and rehabilitation services is need of the hour.

It should be noted that we do not need just the quantitative change in treatment services, but a qualitative one as well. Looking at high proportion of drug users needing treatment, better pharmacological treatment options are the need of hour. It is interesting to note that the list of controlled drugs in the country includes Naltrexone (which is a non-psychoactive medication used for treatment of opioid dependence) and even Naloxone (which is an opioid antagonist used for emergency, life-saving treatment of opioid overdose) has been listed as a 'Narcotic' (Maldives Food and Drug Authority 2011). Does being listed as controlled drugs, makes these medications difficult to be prescribed and accessed? The answer is not known at this point in time, but undue controls on medications do act as hindrance in service delivery for legitimate purposes. Thus, a qualitative change in the regulatory systems - which facilitates provision of evidence-based and safe treatment of drug dependence - must be advocated for. Future research should look into quantity, quality and capacity of drug-treatment services in the country.

VI. Reasons for Initial Drug Use and Risk Factors

Data reveals that most drug users reported onset of drug use at young age. It was also noteworthy that more common reasons for initiation of drug use could be seen as 'pull' factors because of perceived positive outcomes of drug use as opposed to the 'push' factors where drugs are used to deal with certain perceived negative factors in life. For instance majority of drug users - in both Malé and Atolls - reported reasons like "curiosity or experimentation", "for fun" or "peer pressure" for initiation of drug use. In contrast only small minorities reported reasons like 'family / relationship problems' or 'self-medication for mental or physical health issues'. In other words, data does not support the notion of unhappy youth resorting to drug use, but indicates that young people experiment with drugs since they are looking for pleasure, euphoria or a 'high'. Thus, there is a need to engage the youth in healthy recreational and interesting pursuits. This has obvious implications for designing messages aimed at primary prevention.

VII. Drugs and Sex

Yet another noteworthy data is that on sexual behaviours. An overwhelming majority of drug users were sexually active and many reported buying sex. It must be noted that only a minority of drug users were married. Close to half of sexually active drug users had a sex partner who was also a drug user. The condom use pattern was low and only a minority reported consistent condom use. Indeed a sizable proportion reported having experienced symptoms suggestive of STIs. A similar trend of high risk sexual behaviour was also reported in the earlier RSA of drug abuse in the country (Fashan & NCB, 2003). In the face of these findings, - since the link between high risk sex and HIV is well established - drug users must be regarded as a group at-risk for HIV and interventions to address this must be instituted.

VIII. Injecting Drug Use

Other than risky sexual behaviours, injecting practices put drug users at the risk of HIV. In some previous studies, it has been estimated that there are about 700-900 IDUs in the country (National AIDS Programme, 2012). In our study, a small minority of drug users reported injecting drug use. Based on the data, we can estimate the number of IDUs to be about 200 in Malé (i.e. about 5% of drug users) and about 300 in Atolls (i.e. about 10% of drug users). Thus, differences in these figures notwithstanding, we do have a sizable population of IDUs in the country. Epidemics of HIV in IDU population are known to be explosive in nature, and given the prevalence of risky sexual behaviour of drug users; we must remain vigilant about IDU-sex-HIV risk and urgently initiate specific HIV prevention interventions. It is interesting to note than some drug users did opine that we need needle syringe exchange programs in the country (data not shown).

IX. Drugs and Crime

A very large proportion of drug users (61% in Malé and 79% in the Atolls) reported having been arrested ever - (Contrast this to proportion who have received drug treatment services; only a small minority - mostly in single digits - have received treatment and rehabilitation services). Clearly the response to drug use problem at the moment appears to be skewed heavily towards criminal justice systems rather than health and social welfare systems. Not only figures for arrests of drug users are high, a substantial proportion was also convicted. Of those convicted of a drug related crime, almost 86% in Malé and 31% in Atolls reported having been to jail.

The relationship of drug use and crime is well established and is in fact a text-book level knowledge. Drug users may be vulnerable for engaging in criminal activities on account of various factors: (a) they may need to indulge in criminal activities to support their drug habits since the illegal black markets of drugs make them very expensive, (b) drug use may influence users' judgment, (c) drug users may have anti-social personality traits which make them vulnerable to drug use as well as other criminal activities.

In this survey we found that a higher proportion of drug users were arrested among whom many were also convicted. It is noteworthy that among the current drug users in Maldives, of those convicted of a drug related crime most have been convicted of 'selling drugs'. Going by the results of this survey, the criminal justice systems and law enforcement appear to be actively engaged in arresting and convicting drug users for many offences, which may or may not be drug-related.

X. Drug Treatment and Rehabilitation Services

As opposed to data on having been arrested, only a small minority reported having received drug treatment services. Even among those 'likely dependent' only 19% in Malé and 30% in Atolls have received detoxification services. The proportions of those who have received other services (rehabilitation, services from NGOs, Drop in centre) are even lower. Thus on one hand we have a substantial treatment demand in the country, and on the other we have very low utilization of existing services - in the face of disproportionately lower number of treatment slots. This data screams for attention towards the service delivery gap, which must be urgently addressed. Additional note should be made of need of mental health services. Although the primary objective of this study was not about prevalence of co-existing mental illness among drug users, we did explore some pointers towards mental health problems in drug users. The findings should be seen as preliminary data and should prompt further studies on 'dual-diagnosis' and service improvement for this target group.

CHAPTER V: CONCLUSIONS AND RECOMMENDATIONS

The Country has a Sizable Burden of Drug Use which Calls for an Effective National Response

The data indicates that there are about 4,300 'current' drug users in Malé and about 3,150 'current' drug users in the Atolls, a very large majority of which happen to be young males. A significant proportion of Alcohol, Cannabis and Opioid users fall in the category of problem or likely dependent users and consequently are in need of help. Thus we have a sizable burden of drug use in the country. Response to this epidemic of drug use in country will necessitate acting on multiple fronts simultaneously. Thus recommendations regarding response to drug use problems could be listed in the following three categories: Supply reduction, Demand reduction and Harm reduction.

I. Supply Reduction

Findings of the survey indicate that (the figures for successful drug-seizures not withstanding) illegal drugs do make an entry in the illicit market in the Maldives. Many drug users reported obtaining their drugs from drug dealers (or probably euphemistically labelled their drug dealers as 'friends'). It is well known that Maldives is not a source country for most of the drugs (except may be the rare cases of home brewed Alcohol). Thus adequate law enforcement activities to curtail the supply of illicit drugs in the country should continue. This would entail well-coordinated efforts among all stakeholders and drug enforcement agencies working on the supply reduction side. Additionally these efforts should be aimed at not just protecting the borders (i.e. preventing smuggling of drugs in the country) but also controlling the internal trafficking of drugs within the country.

However it should also be remembered that no country in the world has been able to address drug problems by employing supply reduction strategies alone. An effective response would entail a judicious combination of supply reduction, demand reduction and harm reduction strategies.

II. Demand Reduction

Data indicates a need to strengthen the national response on drug demand reduction, which must include a judicious mix of evidence-based prevention and treatment strategies. Thus, reducing the demand for drugs in the country would entail acting on two different

fronts simultaneously; (a) those who are yet to begin using drugs need to be helped (so that they can be protected from becoming potential drug users in the future) through Primary Prevention approaches; (b) On the other hand those who are already using drugs should be helped so that they can quit taking drugs through availing Treatment services (i.e. secondary prevention).

• PRIMARY PREVENTION STRATEGIES:

Data indicates that most drug users are in the late adolescence or young adulthood. It is also clear that most drug users report onset of drug use with the legal drugs in the late adolescent years. Thus, teens or youth using legal substances (tobacco, inhalants etc.) should be seen as the at-risk group for progression to use of harder and illegal drugs. Specific strategies would be required to address the needs of youth to prevent onset of illegal drug use. It is important to implement these strategies in various settings such as educational institutions, workplaces, community so as to provide a comprehensive coverage to the at-risk population. While (a) *Awareness building* would be one of the important components of the prevention programs, it cannot be seen as the mainstay of prevention. Another component is for young people to get the necessary skills (assertiveness, decision making skills) to withstand the peer pressure from friends (learning to say NO) so as to prevent young people from going in to experimentation and using of drugs for fun.

At-risk populations would require (b) help with *quitting legal drugs like tobacco or inhalants* (c) *coping skills* so that they can cope with stresses of life without using drugs as a stress-coping mechanism, (d) *better opportunities for recreation and employment* so that they can fruitfully pursue their interests and life-goals, and finally, (e) *assurance that they would not be penalised or stigmatised* should they decide to seek help. The last would require an enabling legal and policy environment in the country.

In addition it would be important to reach not just the young people but their parents as well. Even the care-givers would also need help with developing necessary knowledge and skills to be able to protect the young people from initiation of drugs use and to enable them to access timely professional help in the event of drug use.

• TREATMENT STRATEGIES

Provision of evidence-based drug treatment is important for those who are currently dependent on drugs. For such individuals drug-treatment serves the purpose of secondary prevention. However, it also serves the purpose of reducing the risk of others initiating drugs by reducing the numbers of peers who could exert the 'peer pressure'. The data indicates that the most common drugs used are Alcohol, Cannabis and Opioids and a sizable proportion of users of these drugs are likely to be dependent. The differences in

pharmacology of these drugs must be appreciated to plan effective treatment strategies. While Alcohol and Opioids can, and do cause significant physical dependence, cannabis does not. In other words detoxification (i.e. treatment of drug withdrawal) services would be of paramount importance for users dependent on Alcohol and Opioids. Thus, while some psycho-social interventions may be common for users of all categories of drugs, specific medical-pharmaceutical interventions would be required for alcohol and opioid dependence. This would entail:

- Understanding the capacity of drug-treatment service providers;
- Enhancing the capacity of drug-treatment service providers (doctors, nurses, counsellors);
- Making necessary provisions in the legal and policy environment so that appropriate access to appropriate pharmacological treatment can be facilitated

The last point above is important since for Medication Assisted Treatment (i.e. detoxification), medications like Benzodiazepines or Opioid agonists along with Opioid substitution treatment would be required, which happened to be listed as controlled medications.

However, other than the capacities of service providers or availability of pharmacotherapy, more crucial bottle-neck is likely to be access to treatment. Data from the survey indicates that a small minority of drug users report having been to treatment.

Treatment services should be adequate in number, easily accessible (without fear of retribution by law, stigmatization or other untoward consequences) and affordable to anyone who needs help. For this purpose - along with specialised drug-treatment facilities - treatment provision at the general health care setting should be improved. In other words, the doctors at the primary health care level should form the first level of contact for people using drugs.

Since most drug users happen to be young people, the service providers need to be sensitised to special needs of this population group. Thereafter, those who require more intense or specialized services can be referred. This would entail enhancing the capacities of primary health care staff in recognizing and providing treatment for drug use disorders.

It is also important that a continuum of drug treatment services is maintained which includes the sequential provision of detoxification, treatment and long-term rehabilitation (after-care) services.

III. Harm Reduction

While strategies like supply reduction (which would restrict the availability of drugs) and demand reduction (which will reduce the need for taking drugs) are likely to be effective, they are certainly not going to be enough. Research conducted everywhere else in the world indicates that despite effective implementation of supply reduction and demand reduction strategies, some drug users continue to remain affected. No degree of law enforcement could ever ensure a totally drug free society. Similarly, even providing treatment to all drug users would mean that some drug users will relapse to continued drug use since drug dependence is a chronic, relapsing condition (much like Diabetes or Hypertension as opposed to acute conditions like malaria or typhoid). Chronic health conditions require treatment on a long term basis. Thus, hoping that just providing detoxification services would help all drug users maintain long-term abstinence from drugs would not be practical. Those drug users, who continue to take drugs despite effective supply and demand reduction in place, remain exposed to risks and harmful consequences of drug use. Therefore, an effective national response to drug problems would ensure that Harm Reduction approaches also find a place in national strategies. Psychosocial interventions should be made an integral part of all harm reduction initiatives.

Maldives has already displayed its willingness to provide effective, evidence-based, long-term treatment to drug users (which is also regarded a harm-reduction strategy) in the form of Methadone Maintenance Treatment (MMT). Need of the hour is to scale-up MMT services. Additionally a harm reduction approach would entail accepting the definition of harm reduction in its true spirit, i.e. 'Policies and Programs that aim to reduce the harms caused by drugs, without reducing drug use per se'. In practice this may mean removing the barriers (if any) in the way of implementing Needle Syringe exchange programmes for IDUs (though at the moment, the numbers of IDUs do not appear to be large enough to warrant immediate implementation of needle syringe programme).

Additionally, providing easy access to condoms to drug users would also fit-in with the concept of harm reduction keeping in view the prevalence of risky sexual behaviour. Finally, providing anti-craving medications to those with Alcohol use, who want to reduce their craving to help them reduce drinking, would also qualify as harm reduction in the Maldivian context and would help people using Alcohol.

However, even widespread availability of help in the form of demand reduction and harm reduction initiatives would only be useful when we have an enabling environment in the community which encourages help-seeking.

IV. An enabling Policy and Legal Environment

As evident from the findings, a large proportion of drug users interviewed report having had a brush with the law - a much larger proportion as compared to those reporting having accessed treatment services.

Until recently, our response to drug problems appears to be heavily skewed towards criminal justice systems as opposed to health centred approach. The launching of the new Drug Act 17/2011, which is one of its kind in the entire Asia-Pacific region, has been a major milestone for the country. The law clearly has a provision for treating drug users instead of incarceration. Under this Act, the National Drug Agency has been mandated as the lead agency dealing with all issues related to drug prevention, harm reduction and treatment. The recent policy changes have brought a lot of positive reforms and this trend of policy reforms could be immensely beneficial for the future developments. Numbers of drug users in the criminal justice system should go down and numbers in the drug treatment services should go up. The existing regulatory environment in the country should be suitably modified to enable more people and organisations to provide drug treatment services - with nationally defined minimum standards of care, of course. A very important role in this regard will be played by the civil society. More NGOs should be encouraged to provide help to drug users, in partnership with the government. The overall environment should shift from "drugs are illegal and crime" to "drug dependence is a medical condition which can be managed". Awareness programs which usually talk largely about the ill effects of drugs and seek to ask people to stay away from drugs should also include messages pertaining to availability of help for people using drugs.

V. Developing a Strategic Information System

A wide variety of stakeholders are involved currently in addressing the drug use problems in the country, These include those working on the supply side as well as those working on the demand side of the drug market, There is a need to develop an information management system which would entail collection and sharing of key data on various aspects of drug use. Moreover, mechanisms should be established so that the data collected is easily accessible to all the involved stakeholders and is timely acted upon. Given that a large proportion of drug users are young people, importance should be given to coordinate efforts and increase communication among agencies/ organizations across disciplines in the prevention, intervention, and treatment of adolescent substance use problems. In addition to mental health and substance abuse stakeholders, these efforts should include public assistance programs, child welfare, schools, community coalitions, law enforcement, juvenile justice, and medicine.

VI. Prioritisation of Drug Issues in National Policies and Programs

Data indicates a sizable burden of drug use in the country. However the implications of drug use are not limited to only the drug users or their families. There are a host of ripple effects on other domains like social, economic and health of the nation, consequently, the issue of drug use and related problems should now receive the due priority in the national policies and programmes. In other words there is a need to mainstream drug issues in the programmes of various other sectors (mental health, HIV, children and youth, education, human resources).

VII. International Ramifications

As stated earlier, since Maldives is not a source country for most of the drugs, on-going collaboration and cooperation with other countries (which may be source or transit countries for drugs) on supply reduction must continue to enhance. However, such collaboration need not limit itself to only the supply reduction issues. Collaboration could also be made with other neighbouring countries where attractive models of drug demand reduction and drug harm reduction exist. Indeed, this survey itself could be seen as a model of international collaboration, whereby the national capacity was sought to be enhanced by collaborating with international experts from the neighbouring country. Help can be co-opted from the region and countries like India which has rich and long experience of implementing drug-treatment and harm-reduction programs. International organisations like UN agencies could play a catalytic and facilitator's role in this regard.

VIII. The Country has Capacity to Undertake Large-Scale, Scientifically-Sound Studies

The manner in which this survey has been conceptualized and undertaken demonstrates that since we have a combination of technical-expertise and experience, together with a willingness and zeal to learn from experience of others, we are now able to undertake nation-wide research studies on any of the issues. The factors which were instrumental in the success of this survey were: coming together of expertise from various professional and technical backgrounds, a spirit of camaraderie and sharing, involvement of all stakeholders at all the stage of survey and a shared commitment towards excellence and efficiency. Thus, this survey has provided important lessons and experiences not only towards the issue of drug abuse but also towards the science and art of conducting large-scale surveys in the Maldives. The experiences gained and lessons learnt from this survey would go a long way in planning and conducting epidemiological research in country in the future.

IX. Future Research

This large-scale national survey on drug use did succeed in providing a comprehensive picture of drug use in the country. However the findings also raise certain questions about certain finer, as-yet poorly understood issues. While we do get an idea that a small proportion of drug users receive drug treatment services, questions about (a) quality of existing drug treatment services and (b) perception of drug users about the treatment provided, remain unanswered. Similarly (c) needs and specific issues of special population groups like women, children and adolescents, drug users with physical illnesses, drug users with mental illnesses remain unknown through this survey.

It is important to increase support for research comparing treatment approaches specifically for adolescents. These approaches should include a broad range of variables, i.e. client characteristics, healthcare networks that identify and refer youth to treatment, gender issues, parents' sensitivity to types of problem behaviours by young people, and treatment programs themselves—therapeutic approaches, treatment characteristics, attention to specialized problems, and definition of treatment response. There is also a need to explore the (d) relationship between drug use and crime in the Maldivian context; and (e) the economics of drug use including the burden of drug use on the national economy. Additionally, (f) outcome of different types of interventions such as jail-sentence, drug-rehabilitation, detoxification, MMT must be studied; (g) Developing culture-specific models of interventions and testing their effectiveness would be yet another area for future research. Finally, (h) the impact of recently introduced policy and legal reforms should also be subjected to a scientific enquiry.

DEFINITIONS

Direct methods - Enumeration (counting) of known drug users and conducting surveys.

Drug: Any psychoactive substance used in a non-medical context. The list of the drug categories used in the survey is based on the standard list suggested by the World Health Organisation (WHO) as well as on the previous studies from the Maldives.

Class of substance	Types and Names
D -Alcohol	Beer, Whisky, Gin, Vodka, Rum, Spirit, Tequila, Brandy, 'Bangu-raa', 'Booze', 'ra'
E1 - Cannabinoids -Herb - Marijuana	Marijuana, Ganja, Pot, Weed, Joint
E2 - Cannabinoids - Resin - Hashish	Hashish oil, charas, 'theyo', 'joint', 'dope'
F1- Opioids	Heroin, Brown Sugar, 'Hakuru', 'Ehcheh', 'Piece', 'Afihun'
F2 - Opioid Pharmaceuticals	Methadone, buprenorphine, d-propoxyphene, loperamide, opioid-based cough-syrups, Proxyvon. Spasmoproxyvon, , Cough syrups, Corex-d, Phencidyle,
G - Cocaine	Coke, Crack, Rock
H - Amphetamine Type Stimulants	Speed crystal, Ecstasy
I. Sedatives and tranquillizers	Valium, Serepax, Rohypnol, Downers, Sleeping pills, "Beys", Tabs, Alprex, Buscopan, Nitravet-ten, Avil, Phenergan
J - Hallucinogens	LSD, Magic mushroom
K - Other (specify)	"Oshani" (Datura), "Bongaru" (locally made Alcohol), "Vaanuvaa" (mixture of brown sugar, benzo and sometimes animal tranquillizers like Ketamine etc. in different ratios)

Drug user: Any individual reporting use of any drug (see 'drugs' above)

Estimation methods: The range of methods which can be used to estimate the prevalence of illicit drug use.

Household: A Household may be either:

a) A single person household who makes provision for his own food and other essentials of living without combining with any other person and has no usual place of residence elsewhere.

b) Multi-person household: A group of two or more persons who make some common provision for food or other essentials of living and have no usual place of residence elsewhere. The persons constituting the group may pool their incomes and have a common budget to a greater or lesser extent; they may be related or unrelated or a combination of both. The general criterion to be used in identifying the members of a multi-person household relates to whether they live and eat together and have no usual place of residence elsewhere

Indirect methods - Estimating numbers from samples of known drug users

Indicators: Data which give pointers or act as tools in the estimation of prevalence e.g. data collected routinely by government agencies such as arrest data, drug treatment data. The data reflects only those who have come into contact with services and not all users of illicit drugs.

Population: The entire group of individuals or items of interest in the study.

Target population: The population from which representative information is desired and to which inferences will be made.

Sampling: The process of selecting a portion of a population in order to make inferences about the larger population from which the sample was drawn. Sampling is of crucial importance in measuring trends over time. Sampling strategies should therefore be systemic and replicable overtime.

Respondent: Individual being interviewed for the survey.

Non-response / non-responder: When an individual refuses to be interviewed.

Injecting Drug Use (IDU): Using psychoactive drug(s) through the injecting route in a non-medical context.

Routine data sources - Statistics that are collected routinely i.e. in the course of duty.

Non-routine data sources - Statistics that are not routinely collected but are "once-offs" such as the results of studies of drug use in the general population or in a specific group. These can be gathered for research or planning purposes.

Prevalence: The number of all new and old cases of a disease (drug use in this case) in a given population. Prevalence is expressed as a ratio in which the number of cases is the numerator and the population at risk is the denominator. In simple words, it means, what percentage of the population is drug users in a community or country and how they are distributed across the population e.g. by age, gender, geographical location or type of drug used.

The **prevalence** of a certain social attribute is defined as the proportion of people possessing that attribute. It is often expressed as a percentage, or sometimes as "per thousand" or even "per million" of the total population. The actual number of individuals is sometimes used instead of the prevalence, however without information on the baseline population, this number may be meaningless.

 "Lifetime Prevalence": Refers to: the proportion of the population who have used a particular drug at least once, whereas **"Current Prevalence"** refers to those who have used a particular drug in a specific period of time such as the last 12 months

Sampling: the process of selecting a portion of a population in order to make inferences about the larger population from which the sample was drawn. Sampling is of crucial importance in measuring trends over time. Sampling strategies should therefore be systemic and replicable over time.

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APPENDIX I: LIST OF TABLES AND GRAPHS

APPENDIX II

National Drug Use Prevalence Survey
Steering Group Meeting

Membership

Name	Position	Representation
Mr. Abdul Bari Abdulla (Chair)	State Minister (Former)	MoHF
Ms. Lubna Mohamed Zahir Hussain	State Minister / NDA Board Chairperson	NDA/ MoHF
Ms. Maimoona Aboobakur	Director	MoHF
Ms. Aishath Shuweikar	Deputy Undersecretary (Former)	Presidents Office
Ms. Sarah Waller	Project Coordinator	UNODC Maldives
Ms. Shahula Ahmed	Project Coordinator	UNODC Maldives
Dr. Abdul Malik	Technical Officer	UNODC Maldives
Ms. Aishath Arufa	Prog & Fin Assistant	UNODC Maldives
Ms. Ivana Lohar	Project Coordinator	UNDP HIV / AIDS Programme
Ms. Aminath Zeeniya	Director General (Former)	NDA/ DDPRS , MoHF
Dr. Nathalie Panabokke	Consultant	NDA/ DDPRS , MoHF
Mr. Hassan Waheed	Deputy Director	DPRS
Mr. Hassan Zilaal	Asst. Superintendent	DPRS
Mr. Mohamed Nishan	Investigator	Maldives Police Service
Ms. Aishath Nazhath	Director	MoHRYS
Mr. Hussain Rasheed	Director General	MoE
Ms. Aishath Shifa	Director	MoE
Ms. Fathmath Shafeega	Deputy Director General	DNP
Ms. Aminath Lugma	Director	MHRYS
Professor Pandey	Expert	UNODC
Dr. Atul Ambekar	Expert	UNODC
Mr. Yasir Waseem	Managing Director	Inova Pvt.
Mr. Idham Fahumy	Project Manager / Survey Expert	Inova Pvt.
Ms. Afiya Ali	Consultant	Inova Pvt.
Ms. Mazeena Jameel	Consultant (Former)	Inova Pvt.
Mr. Ahmed Naazim	CEO, Journey (Former)	NGO Representative
Ms. Aminath Enas	Consultant	Inova Pvt.
Mr. Mohamed Shuaib	CEO, Journey	NGO Representative
Mr. Adam Nimal	Journey Volunteer	Service User

National Drug Use Prevalence Survey
Technical Working Group

Membership

Name	Position	Representation
Professor Pandey	Expert	UNODC
Dr. Atul Ambekar	Expert	UNODC
Mr. Yasir Waseem	Managing Director	Inova Pvt.
Mr. Idham Fahumy	Project Manager / Survey Expert	Inova Pvt.
Ms. Afiya Ali	Consultant	Inova Pvt.
Ms. Maimoona Aboobakur	Director	MoHF
Ms. Sarah Waller	Project Coordinator	UNODC Maldives
Ms. Shahula Ahmed	Project Coordinator	UNODC Maldives
Ms. Aminath Enas	Consultant	Inova Pvt.
Mr. Abdul Faseeh	Senior Counsellor	NDA/ DDPRS , MoHF
Dr. Abdul Malik	Technical Officer	UNODC Maldives
Dr. Nathalie Panabokke	Consultant	NDA/ DDPRS , MoHF
Ms. Hunana Latheef	Senior Counsellor	NDA/ DDPRS , MoHF
Mr. Aly Adyb	Journey Staff	NGO Representative
Mr. Abdul Hameed	National Programme Coordinator, HIV/AIDS	MoH
Mr. Hussain Rasheed	Director General	MoE