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*Full Length Research Paper*

## Drug abuse and its impact on Bangladesh

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**This study investigates drug abuse and its impact on Bangladesh and aims to identify the family-related and social reasons for being addicted, and the causes and effects of drug abuse. A descriptive cross-sectional study was conducted in assessing the causes and consequence of its impact in Bangladesh using purposeful sampling for sample collection, involving recent graduates from different public and private university, civil servants, and civil society members. Findings revealed that drug abuse is multidimensional, and should be addressed accordingly. Many of the addicts view the rehabilitation procedures and costs introduced by the Narcotics Department as high and cumbersome. Many people, especially the youths are eager to get rid of drugs, but unfortunately can hardly find any way out. The addicts, while talking with the investigators, sought treatment to wipe out the negative effects of the drugs. Thus, the government should involve both the family and society which are the two most effective institutions to prevent drug addiction within the drug policy covering both the preventive and curative issues. These two institutions side by side with the government and nongovernmental efforts can play vital role in drug demand reduction, and preventing drug abuse in the country. Also, urgent major policy and institutional reforms involving all the concerned bodies is needed for effective response to combat drug abuse in the country.**

**Key words:** Drug abuse, narcotics control, elevated risk, impact, Bangladesh.

### INTRODUCTION

Drug abuse directly influences the economic and social aspects of a country. In Bangladesh, it is a growing challenge in Bangladesh, with most of them being young, between the ages of 18 and 30 years, and are from all strata of the society. Many epidemiological surveys carried out in the Bangladesh shows that the country is going to be transformed into a potential user of drugs with the rapid increase in the number of addicts. For the

safety of our people and the society from this deadly game, illicit drug transportation must be controlled immediately.

Bangladesh is situated in the crucial point between the 'golden triangle' (Mayanmar, Thailand and Laos) and the 'golden crescent' (Pakistan, Afghanistan and Iran) in terms of geographical location. Also, it is surrounded by the major drug producing countries of Asia, many of

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which are strengthening their narcotics legislation and stepping up enforcement measures. Bangladesh with its easy land, sea, and air access is becoming a major transit point. Traffickers who supply drugs in the markets of Northern America, Africa, and Europe are routing their shipments through Dhaka, Chittagong, Comilla, Khulna and other routes in Bangladesh (SAARC Forum, 1995; Rahman et al., 2000 a, b; Ahmad, 2001; Sani, 2010; The Daily Star, 2013; Shemul, 2017). It is believed that with the increasing quantity of the wares more and more people are likely to get involved in drug business. In this way, it ultimately contributes to the number of drug abusers as well.

Bangladesh is a land surrounded by India from three corners. The Northern and Eastern sides are surrounded with hills and mountains. And the Western corner is mainly plain land. The hilly regions are suitable for illicit drug trafficking. The traffickers can easily hide themselves in these hilly forests, and transfer the drugs safely. In Bangladesh there are many border-crossing points from where every day millions of cash are being exchanged for drugs (Rahman, 1999; Ahmed, 2001; Burt, 2002; Shazzad et al., 2013).

Narcotic abuse is a serious, but treatable disorder. When the problem is not treated, people who abuse narcotics usually suffer significant mental and physical problem. The sooner treatment begins, the more favorable the outcome. If anyone suspects he has a problem with narcotic abuse, he should contact a doctor immediately (Rahman, 1990; Henry, 1999).

Drugs are any chemical agent that affects the function of living things. Some, including antibiotics, stimulants, tranquilizers, antidepressants, analgesics, narcotics, and hormones, have generalized effects. Others, including laxatives, heart stimulants, anticoagulants, diuretics, and antihistamines, act on specific systems. Vaccines are sometimes considered drugs. Drugs may protect against attacking organisms (by killing them, stopping them from reproducing, or blocking their effects on the host) substitute for a missing or defective substance in the body, or interrupt an abnormal process. A drug must bind with receptors in or on cells, and cannot work if the inhalation, rectally, or through the skin. The oldest existing catalogue of drugs is a stone tablet from ancient Babylonia (c.1700 BC); the modern drug era began when antibiotics were discovered in 1928. Synthetic versions of natural drugs led to design of drugs based on chemical structure. Drugs must not only be effective but safe; side effects can range from minor to dangerous (Rahman, 1990; Henry, 1999; World Bank, 2001; Sani, 2010, Shazzad et al., 2013; DNC, 2013).

A drug is a substance which may have medicinal, intoxicating, performance enhancing or other effects when taken or put into a human body or the body of another animal, and is not considered a food or exclusively a food. What is considered a drug rather than a food varies between cultures and distinctions between

drugs and foods, and between the kinds of drugs enshrined in laws which may vary between jurisdictions and aim to restrict or prevent the drug usage.

Even within a jurisdiction, however, the status of a substance may be uncertain or contested with respect to both whether it is a drug and how it should be classified if at all. There is no single, precise definition, as there are different meanings in drug control law, government regulations, medicine, and colloquial usage.

In pharmacology, drug is "a chemical substance used in the treatment, cure, prevention, or diagnosis of disease or used to otherwise enhance physical or mental well-being." Drugs may be prescribed for a limited duration, or on a regular basis for chronic disorders. Recreational drugs are chemical substances that affect the central nervous system, such as opioids or hallucinogens. They may be used for perceived beneficial effects on perception, consciousness, personality, and behavior. Some drugs can cause addiction and/or habituation. Drugs are usually distinguished from endogenous biochemicals by being introduced from outside the organism. For example, insulin is a hormone that is synthesized in the body; it is called a hormone when it is synthesized by the pancreas inside the body, but if it is introduced into the body from outside, it is called a drug. Many natural substances, such as beers, wines, and psychoactive mushrooms, blur the line between food and recreational drugs, as when ingested they affect the functioning of both mind and body, and some substances normally considered drugs such as Dimethyltryptamine (DMT) are produced by the human body in trace amounts.

In the United States, it has since become associated with opioids, commonly morphine and heroin and their derivatives, such as hydrocodone. The term is, today, imprecisely defined and typically has negative connotations. When used in a legal context in the U.S., a narcotic drug is simply one that is totally prohibited, or one that is used in violation of strict governmental regulation, such as heroin or morphine. From a pharmacological standpoint, it is not a useful term, as it is given by the fact that spirit and wine are classified differently due to their intoxicating power; while the narcotic principle to opium and tobacco imparts commensurate properties.

In popular language, alcohol is classed among the stimulants; and opium and tobacco among the narcotics; which are substances whose ultimate effect upon the animal system is to produce torpor and insensibility; but taken in small quantities they are at first exhilarate. And since alcohol does the same, most medical writers, at the present day, classified it among the narcotics. Statutory classification of a drug as a narcotic often increases the penalties for violation of drug control statutes. For example, although federal law classifies both cocaine and amphetamines as "Schedule II" drugs, the penalty for possession of cocaine is greater than the penalty for

possession of amphetamines because cocaine, unlike amphetamines, is classified as a narcotic (Tau and Nicholas, 2015).

However, Bangladesh has become a highly risky country for sustainable development due to the increase of drug users, with most of them being the youths. So, anti-drug issues are the important challenges for the betterment of Bangladesh. To ensure better and a new generation, the stake holders of the country should act immediately to eliminate drug use and addiction. Therefore, this study has been undertaken with the following objectives:

1. To identify the family-related and social reasons for being addicted;
2. To find out the causes and effects of drug abuse;
3. To find out the ways and alternatives in coming back from addiction to normality.

## MATERIALS AD METHODS

### Research design

A descriptive cross-sectional study was conducted in assessing the causes and consequence (impact) of drug abuse in Bangladesh. The participants were those who met the criteria needed, completed the structured questionnaire provided.

### Study area and period

The study was conducted all over the country for a period of April 2015 to August 2016 (Figure 1).

### Study population

The target populations of the study were Drug Addicted, Personnel of Narcotics Department and civil society members all over Bangladesh.

### Selection criteria

Inclusion criteria: Respondents were those who volunteered, and were willing to participate in the study. Exclusion criteria: Respondents were those absent during data collection.

### Sampling method

The sample was selected through purposive manner. For the study, we interviewed three types of concern-Recent graduates-40 from different (public or private) university of Bangladesh (as perspective candidates of civil service); Civil Servants-40 (fresh civil servants, mid-level civil servants and ex. civil servants who works/worked in Bangladesh) and Civil Society members-20 (who created awareness within the society and people respect them for their knowledge and social responsibilities in Bangladesh).

### Sample size estimation

Calculation of sample size was done using the following formula:

$$n = Z^2 \frac{1-\alpha/2 P(1-P)}{d^2}$$

Here,

n = the desired sample size

z = standard normal deviation, usually set 1.96, which corresponds to 95% CL

Since there is no ready reference on the political polarization, we can assume p = 10% to be adequate.

So, p-10%= 0.1,

Q = (1-p) = (1-0.1) =0.9

d= Degree of precision and in this study, it will set at 5%

So, sample size

$$n = (1.96)^2 \times (0.1) (0.9) / (.05)^2$$

$$= 138.29$$

Due to allocation of data collection time, the feasible sample size was 100.

### Research instruments

For collection of primary data, a structured questionnaire was developed based on the research objectives. Pre-testing of the questionnaire was done on similar types of community. After the pre-testing, revision of the items and questions was formulated based on the findings.

### Methods of data collection

Data were collected through face to face interview.

### Data processing and management plan

The completed questionnaires were collected and checked for completeness and clarity of information. The data from all the completed questionnaires were analyzed by SPSS software.

### Data presentation

Descriptive statistics was presented with frequency tables. The association was illustrated with cross tables and test statistics was added in the foot notes of the tables. Bar and pie charts was generated to illustrate descriptive statistics.

### Ethical considerations

All ethical issues related to research was addressed according to the guidelines of research ethical review of American World University. Permission from American World University was obtained as pre-requisite. Informed consent was taken before the 'interview. Respondents' had rights to refuse and withdraw from the study, any time was accepted. Confidentiality of the respondents was maintained. Questionnaire and inform consent form was translated into local language (Bengali).

## RESULTS AND DISCUSSION

### Age

The average age of the drug users was 36.09 years, and



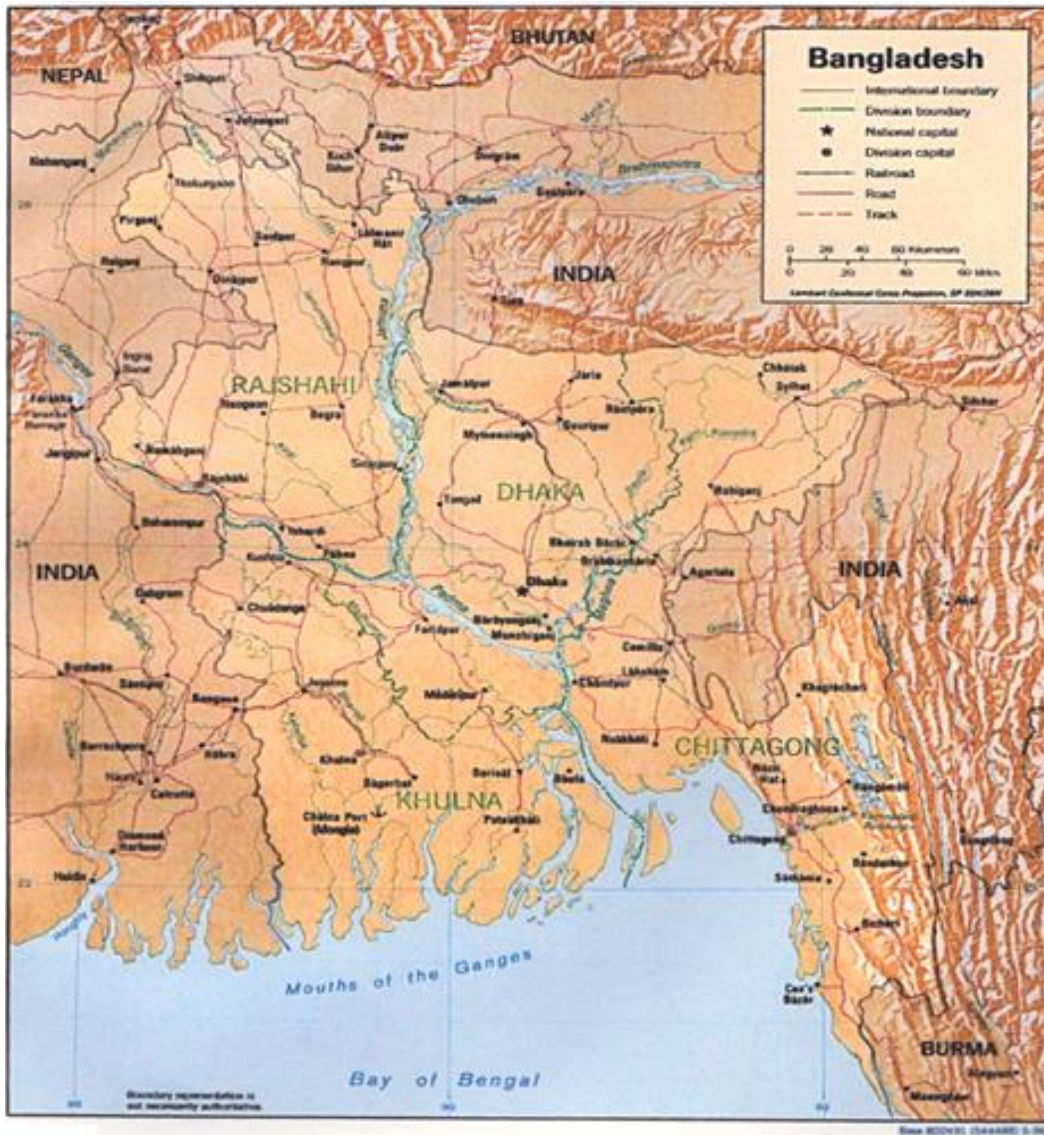


Figure 1. Map of the study area.

standard deviation (SD) was  $0 \pm 9.161$  years. It was found that the highest respondents (drug users) rate age was 30 to 40 (43.0%) years. The average age of the personnel of Narcotics Department was 39.16 years, and standard deviation (SD) was  $0 \pm 06.717$  years and the highest respondents' rate age was 30 to 40 (56.0%) years. The average age of the civil society members was 50.78 years, and standard deviation (SD) was  $0 \pm 8.360$  years. It was found that the highest respondent's rate age was 50 to 60 (44.0%) years (Table 1).

**Gender**

Table 2 shows that 85.0% of the drug users were male, and 15.0% were female. On the other hand, 90.0% personnel of Narcotics Department were male, and

10.0% were female. In the civil society members, 92.0% were male, and 08.0% were female.

**Family**

Table 3 shows that among the respondents, 90.0% recent drug users were nuclear family and only 10.0% were joint family. In the personnel of Narcotics Department, 60.0% were joint and 40% were nuclear family. On the other hand, 58.0% civil society members were joint and 42% were nuclear family.

**Drug users' education**

It was found that about half of the drug users were undergraduates [46 (46.0%)], 30 (30.0%) were graduate

**Table 1.** Age distribution of the respondents.

Drug Users N=100			Personnel of Narcotics N=50			Civil Society n~50		
Age	Frequency (f)	Percentage	Age	Frequency (f)	Percentage	Age	Frequency (f)	Percentage
<20	04	4	20-30	04	8	20-30	05	10
20-30	24	24	30-40	28	56	30-40	07	14
30-40	43	43	40-50	13	26	40-50	10	20
40-50	25	25	50-60	05	10	50-60	22	44
50-60	04	4	Total	50	100%	>60	06	12
Total	100	100				Total	50	100
Mean: 36.09 ± 9.16			Mean: 39.16 ± 6.72			Mean: 50.78 ± 8.36		

**Table 2.** Gender distribution of the respondents.

Gender	Drug users (n~100)		Personnel of narcotics (n~50)		Civil society (n~50)	
	No.	Percentage	No.	Percentage	No.	Percentage
Male	85	85.0	45	90.0	46	92.0
Female	15	15.0	05	10.0	04	08.0
Total	100	100.0	50	100.0	50	100.0

**Table 3.** Family structure of the respondents.

Type of family	Drug users (n~100)		Personnel of Narcotics (n~50)		Civil society (n~50)	
	No.	Percentage	No.	Percentage	No.	Percentage
Nuclear	90	90.0	20	40.0	21	42.0
Joint family	10	10.0	30	60.0	29	58.0
Total	100	100.0	50	100.0	50	100.0

and 24 (24.0%) were master/post graduate (Figure 2).

### Narcotics personnel's education

Figure 3 shows that educational qualification of the personnel of Narcotics Department was more than half of the personnel of Narcotics Department [29 (58.0%)] are graduates, 12 (24%) are master post graduate and 9 (18.0%) are under graduate.

### Drug users' profession

Figure 4 shows the profession of the drug users, it was found that about half of the drug user's profession are into business [46 (46.0%)], 28 (28.0%) were service, and 26 (26.0%) were student.

### Education of civil society members

Figure 5 shows that educational qualification of civil society members, it was found that more than half of the civil society members were graduate [27 (54.0%)] and 18

(36.0%) were master/postgraduate and 5 (10.0%) were undergraduate. It was found out that more than half of the civil society members profession were civil service servant [26 (52%)] and 24 (48.0%) were into business (Table 4).

### Addiction in which drug

Table 5 shows that out of 100 drug users, regarding addiction in which drug/s, which was multiple response question, the results revealed the drug user's addiction in phencydil drug (94%), addiction in ganja (cannabis) (82%), and addiction in pethedine (79%) drug, half of the drug users addiction in heroin (52%), one fifth of the drug users addiction in yabba (ATS) (23%), and few of the drug users addiction in lupijesic (9%).

### Drug users for being addiction to drugs

The results revealed that all of the drug users addiction to drugs was unemployment problem/economic insolvency

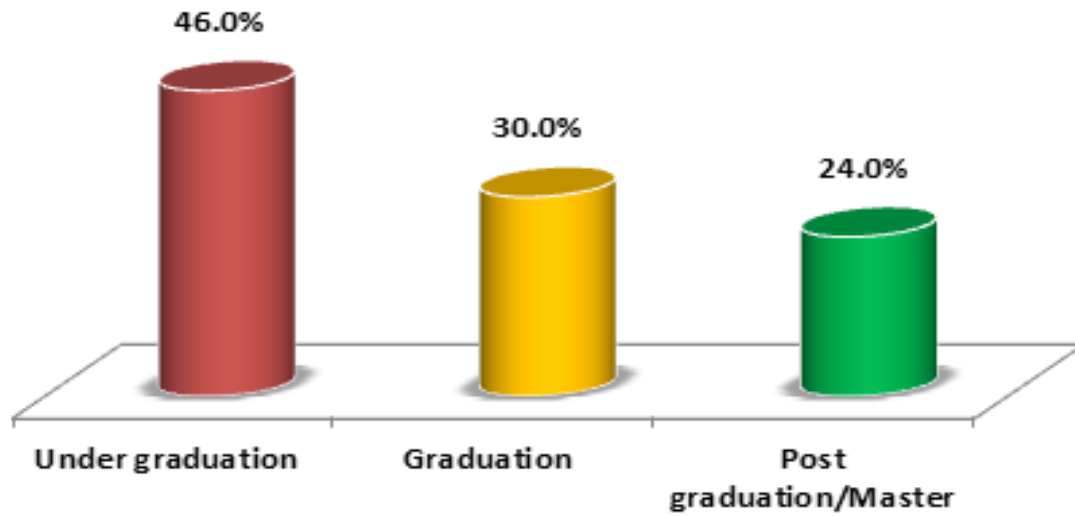


Figure 2. Distribution of the drug users by educational qualification.

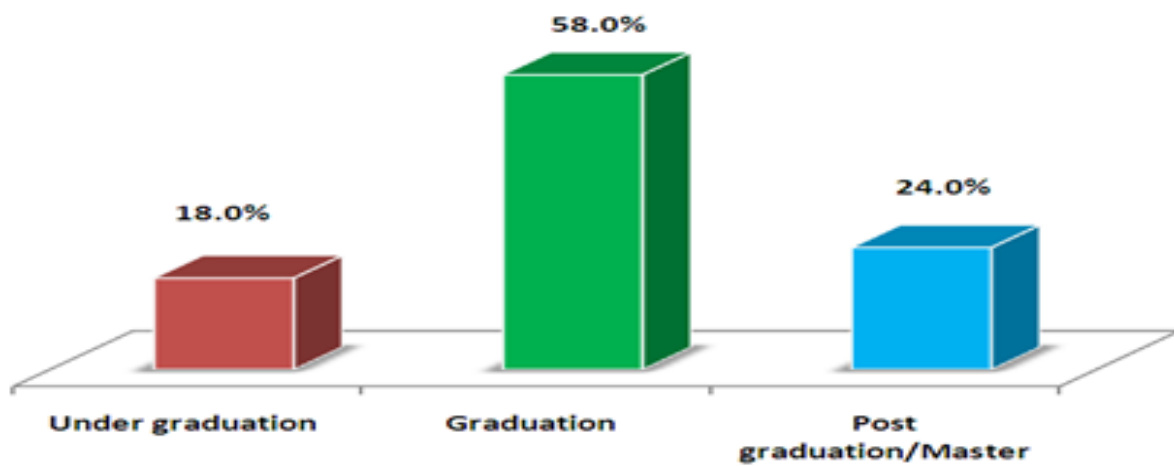


Figure 3. Distribution of the personnel of narcotics by educational qualification.

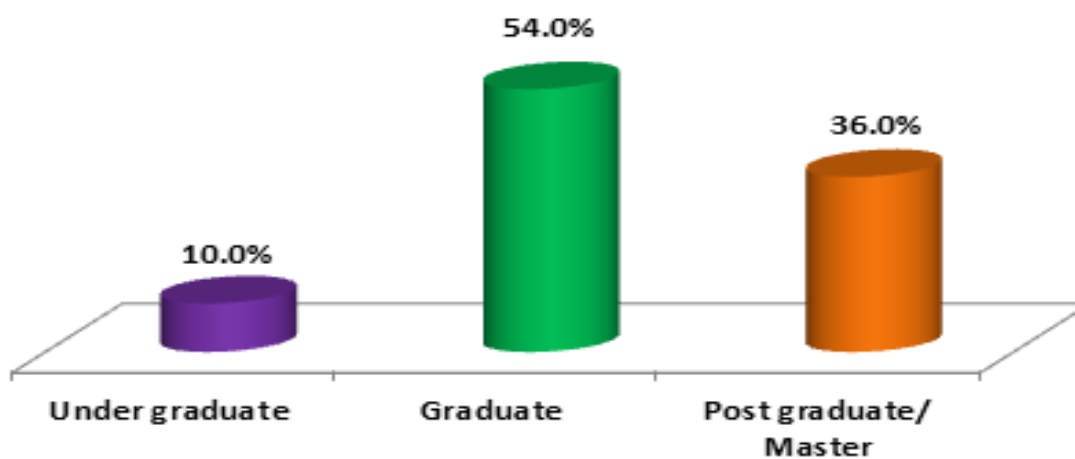
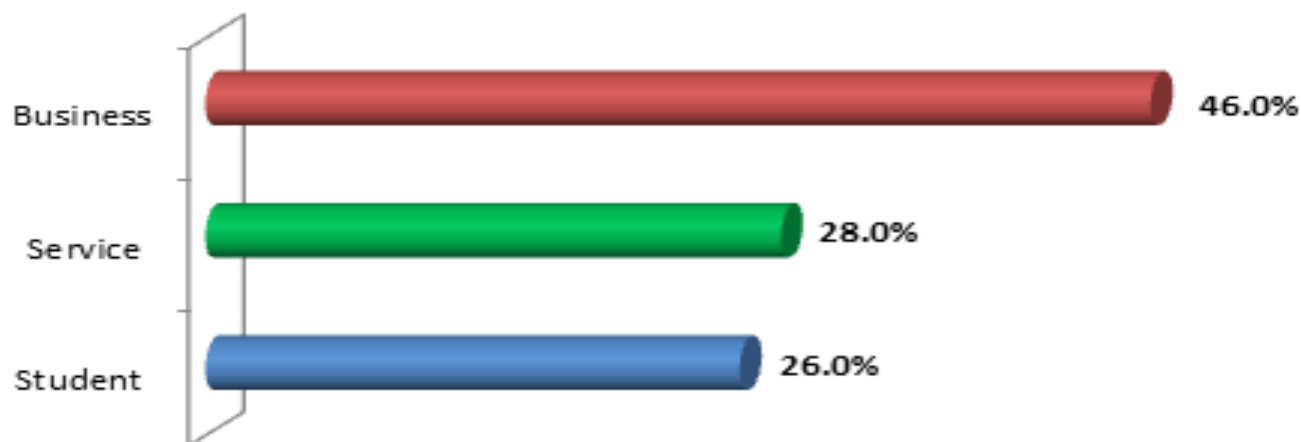


Figure 4. Distribution of the civil society members by educational qualification.



**Figure 5.** Distribution of the drug users by their profession.

**Table 4.** Distribution of the civil society members by their profession.

Profession	Frequency	Percentage
Service	26	52.0
Business	24	48.0
Total	50	100.0

**Table 5.** Number and percent distribution of respondents by addiction in which drug/s.

Variable	No. of respondents	Percentage
Phencydil	94	94.0
Heroin	52	52.0
Yabba(ATS)	23	23.0
Lupijesic	09	09.0
Ganja (cannabis)	82	82.0
Pethedine	79	79.0

(Table 4).

### Addiction in which drug

Table 5 shows that out of 100 drug users, regarding addiction in which drug/s, which was multiple response question, the results revealed the drug user's addiction in phencydil drug (94%), addiction in ganja (cannabis) (82%), and addiction in pethedine (79%) drug, half of the drug users addiction in heroin (52%), one fifth of the drug users addiction in yabba (ATS) (23%), and few of the drug users addiction in lupijesic (9%).

### Drug users for being addiction to drugs

The results revealed that all of the drug users addiction to

drugs was unemployment problem/economic insolvency (100%), encouragement from friends/peer pressure (100%), mental stress due to family problem/frustration from family matters (100%), all most all of the drug users addiction to drugs was easy access to drugs (88%) and to get immediate relief from tension (78%), only few of the drug users addiction to drugs was surrounding atmosphere (10%) and curiosity (17%, Table 6).

### Drug users source of money

Table 7 shows that out of 100 drug users, regarding the source of money for buying drugs, being a multiple response question, the results revealed that all of the drug users source of money for buying drugs was loan from friends, family members (100.0%), all most all of the

**Table 6.** Drug users by reasons for being addiction to drugs.

Variable	No. of respondents	Percentage
Easy access to drugs	88	88.0
Curiosity	17	17.0
Unemployment problem/economic insolvency	100	100.0
Surrounding atmosphere	10	10.0
Encouragement from friends/peer pressure	100	100.0
Mental stress due to family problem/frustration from family matters	100	100.0
To get immediate relief from tension	78	78.0

**Table 7.** Drug users by the source of money for buying drugs.

Variable	No. of respondents	Percentage
From own income	30	30.0
From pocket money	68	68.0
Loan from friends, family members	100	100.0
Collect money by criminal activities like hijacking, extortion etc	80	80.0

**Table 8.** Number and percent distribution of respondents (drug users) by the collect drugs.

Variable	No. of respondents	Percentage
Specific sellers in the locality	77	77.0
Drug smugglers in town	55	55.0
Houses near border area	100	100.0
Drug smugglers in border crossing points	29	29.0
Spots beside lanes/roads	75	75.0

drug users source of money for buying drugs was collected through criminal activities like hijacking, extortion etc (80.0%), more than half of the drug users source of money for buying drugs came from pocket money (68.0%) and from their own income (30.0%).

### Drug users by the collect drugs

Table 8 shows that out of 100 drug users, regarding where they get their drugs the collect their drugs, the results revealed that all of the drug users collect their drugs from a house close to the border area (100%), all most all of the drug users collect their drugs from specific seller in the locality (77%) and from spot beside lanes/roads (75%), more than half of the drug users collect their drugs from drug smugglers in town (55%) and few of the drug users collect their drugs from drug smugglers in border crossing points (29%).

### Physical and mental effects of drug users

Table 9 shows that out of 100 drug users, regarding feeling of physical and mental effects after drug addiction, the results revealed that all of the drug users feeling after

drug addiction was sense of perception doesn't work (100.0%), feeling dizziness until taking drugs (100.0%) and decreased working capability and stability (100.0%), all of the drug users feeling after drug addiction was lack of discipline in daily life (80.0%), few of the drug users feeling after drug addiction was insomnia(20.0%), hallucination syndromes (20.0%), sexual problem (15.0%) and physical impatience (10.0%), increased head-ache (10.0%), and abnormal behavior (10.0%).

### Treatment for get rid of drug addiction

Table 10 shows that out of 40 recent graduate's/respondent's, regarding if they have taken any treatments in order to get rid of drug addiction, the results revealed that all most all of the drug users did not take any treatment in order to get rid of drug addiction (79%), and less than one third of the drug users took treatment for get rid of drug addiction (21%).

### Personnel of Narcotics Department for being addiction to drugs

Table 11 shows that out of 50 personnel of Narcotics

**Table 9.** Number and percent distribution of respondents (drug users) by feeling of physical and mental effects after drug addiction.

Variable	No. of respondents	Percentage
Physical impatience	10	10.0
Insomnia	20	20.0
Sense of perception doesn't work	100	100.0
Increased head-ache	10	10.0
Feeling dizziness until taking drugs	100	100.0
Hallucination syndromes	20	20.0
Decreased working capability and stability	100	100.0
Sexual problem	15	15.0
Abnormal behavior	10	10.0
Lack of discipline in daily life	80	80.0

**Table 10.** Number and percent distribution of respondents (drug users) by taken any treatment for getting rid of drug addiction.

Variable	No. of respondents	Percentage
Yes	21	21.0
No	79	79.0
Total	100	100.00

**Table 11.** Number and percent distribution of respondents (Personnel of Narcotics Department) by the reasons for being addicted to drugs.

Variable	No. of respondents	Percentage
Easy access to drugs	26	52.0
Unemployment problem/economic insolvency	19	38.0
Surrounding atmosphere	05	10.0
Encouragement from friends/peer pressure	17	34.0
Estranged in love	09	18.0
Mental stress due to family problem/frustration from family matters	28	56.0
To get immediate relief from tension	19	38.0

Department, regarding the reasons for being addicted to drugs, which was multiple response question, the results revealed that more than half of the personnel of Narcotics Department reasons for being addicted to drugs was easy access to drug (52.0%), and mental stress due to family problem/frustration from family matters(56.0%), more than one third of the personnel of Narcotics Department reasons for being addicted to drugs was unemployment problem/economic insolvency (38.0%), encouragement from friends/peer pressure (34.0%) and to get immediate relief from tension (38.0%), only few of the personnel of Narcotics Department reasons for being addicted to drugs was estranged in love (18.0%) and surrounding atmosphere (10.0%).

#### **Personnel of Narcotics Department by the negative effects due to drug addiction**

Table 12 shows that out of 50 personnel of narcotics department, regarding the negative effects due to drug addiction, which was multiple response question, the results revealed that most of the personnel of Narcotics Department negative effects to drug addiction was decreased working capability and stability (72.0%) and physical impatience (70.0%), more than half of the personnel of Narcotics Department negative effects to drug addiction was feeling dizziness until taking drugs (52.0%), abnormal behavior (44.0%), sexual problem (40.0%), few of the personnel of Narcotics Department

**Table 12.** Number and percent distribution of respondents (Personnel of Narcotics Department) by the negative effects due to drug addiction.

Variable	No. of respondents	Percentage
Physical impatience	35	70.0
Insomnia	02	04.0
Sense of perception doesn't work	19	38.0
Increased head-ache	02	04.0
Feeling dizziness until taking drugs	26	52.0
Hallucination syndromes	16	32.0
Decreased working capability and stability	36	72.0
Sexual problem	20	40.0
Abnormal behavior	22	44.0
Loose humanity and every kind of assessment	12	24.0
Lack of discipline in daily life	13	26.0

**Table 13.** Personnel of Narcotics Department with the causes to change drugs.

Variable	No. of respondents	Percentage
A tendency to increase the desired effect of drug	16	32.0
Impatience in body and insomnia in not having drug after a certain time	03	06.0
A psychological and physical dependence on the effects of the drugs	12	24.0
To feel better	13	26.0
Easy access to other drugs	15	30.0
Lower cost	25	50.0
Adventure in tasting different drugs	25	50.0
Desire to have an extreme taste of addiction	04	08.0

negative effects to drug addiction was lack of discipline in daily life (26.0%), loose humanity and every kind of assessment (24.0%), insomnia (4.0%) and increased head-ache (4.0%).

#### **Personnel of Narcotics Department by the causes to change drugs**

Table 13 shows that out of the 50 personnel of Narcotics Department, regarding the cause to change drugs one after another by the addiction, which was multiple response question, the results revealed that more than half of the personnel of Narcotics Department knew the cause to change drugs one after another by the addiction was lower cost (50%) and adventure in tasting different drugs (50%), one third of the personnel of Narcotics Department knew the cause to change drugs one after another by the addiction was a tendency to increase the desired effect of drug (32%) and easy access to other drugs (30%), a psychological and physical dependence on the effects of the drugs (24%), and to feel better (26%).

#### **Personnel of Narcotics Department by persons involved in drug business**

Table 14 shows that out of 50 personnel of Narcotics Department, regarding the persons involved in drug business/smuggling, which was multiple response question, the results revealed that most of the of the personnel of Narcotics Department knew the persons involved in drug business/smuggling was a syndicate of smugglers (86.0%), one third of the personnel of Narcotics Department knew the persons involved in drug business/smuggling was some political leaders/so-called students leader (34.0%), and some elites in society (32.0%).

#### **Personnel of narcotics by the key reasons for inefficiency of department**

Table 15 shows that out of 50 personnel of Narcotics Department, regarding the key reasons for inefficiency of Narcotics Department, which was multiple response question, the results revealed that more than half of the

**Table 14.** Personnel of Narcotics Department by persons involved in drug business.

Variable	No. of respondents	Percentage
Some elites in society	16	32.0
Some political leaders/so-called students' leader	17	34.0
A syndicate of smugglers	43	86.0

**Table 15.** Number and percent distribution of respondents (personnel of Narcotics Department) by the key reasons for inefficiency of Narcotics Department.

Variable	No. of respondents	Percentage
Lack of proper knowledge on newly introduce drugs	19	38.0
Less cooperation from other law enforcing agencies	35	70.0
Lack of legislative, investigating, operation and raiding knowledge of personnel	21	42.0
Less cooperation of senior officials	13	26.0
Corruption	15	30.0

**Table 16.** Number and percent distribution of respondents (personnel of Narcotics Department) by the critical issues of narcotics addict patient to rehabilitate.

Variable	No. of respondents	Percentage
Sustainability of the recovery	19	38.0
Appropriate medication	14	28.0
Comprehensive treatment	27	54.0
Poor environment of the centre	10	20.0
Cooperation of the family	27	54.0
Post recovery professional activity	20	40.0

of the personnel of Narcotics Department knew the key reasons for inefficiency of Narcotics Department was less cooperation from other law enforcing agencies (70.0%), about half of the of the personnel of Narcotics Department knew the key reasons for inefficiency of Narcotics Department was lack of legislative, investigating, operation and raiding knowledge of personnel (42.0%), one third of the personnel of Narcotics Department knew the key reasons for inefficiency of Narcotics Department was lack of proper knowledge on newly introduce drugs (38.0%), corruption (30.0%) and less cooperation of senior officials (26.0%).

#### **Personnel of Narcotics by the critical issues of addict patient to rehabilitate**

Table 16 shows that out of 50 personnel of Narcotics Department, regarding the critical issues of narcotics addict patient to rehabilitate, which was a multiple response question, the results revealed that more than half of the of the personnel of Narcotics Department knew the critical issues of narcotics addict patient to rehabilitate

was comprehensive treatment (54.0%) and cooperation of the family (54.0%), more than one third of the of the personnel of Narcotics Department knew the critical issues of narcotics addict patient to rehabilitate was post recovery professional activity (40.0%), sustainability of the recovery (38.0%), Appropriate medication (28.0%) and poor environment of the centre (38.0%).

#### **Civil society members for being addiction to drugs**

Table 17 shows that out of 50 civil society members, regarding the reasons for being addicted to drugs, which was a multiple response question, the results revealed that about all of the civil society members knew reasons for being addiction to drugs was unemployment problem/economic insolvency (94.0%) and easy access to drug (90.0%), all most all of the civil society members reasons for being addiction to drugs was encouragement from friends/peer pressure (88.0%), mental stress due to family problem/frustration from family matters(84.0%) and to get immediate relief from tension (84.0%), more than half of the civil society members knew reasons for being



**Table 17.** Number and percent distribution of respondents (civil society members) by the reasons for being addicted to drugs.

Variable	No. of respondents	Percentage
Easy access to drugs	45	90.0
Unemployment problem/economic insolvency	47	94.0
Surrounding atmosphere	30	60.0
Encouragement from friends/peer pressure	44	88.0
Estranged in love	16	32.0
Mental stress due to family problem/frustration from family matters	42	84.0
To get immediate relief from tension	42	84.0

**Table 18.** Number and percent distribution of respondents (civil society members) by the source of money for buying drugs.

Variable	No. of respondents	Percentage
From own income	22	44.0
From pocket money	31	62.0
Loan from friends, family members	40	80.0
Collect money by criminal activities like hijacking, extortion etc	44	88.0

**Table 19.** Number and percent distribution of respondents (Civil society members) according to the drugs collected.

Variable	No. of respondents	Percentage
Specific sellers in the locality	43	86.0
Drug smugglers in town	20	40.0
Houses near border area	40	80.0
Drug smugglers in border crossing points	17	34.0
Spots beside lanes/roads	35	70.0

addiction to drugs was surrounding atmosphere (60.0%).

#### **Civil society members by the source of money for buying drugs**

Table 18 shows that out of 50 civil society members, regarding the source of money for buying drugs, which was a multiple response question, the results revealed that all most all of the civil society members knew the source of money for buying drugs was gotten through criminal activities like hijacking, extortion etc. (88.0%) and loan from friends, family members (80.0%), half of the civil society members knew source of money for buying drugs from pocket money (62.0%) and from own income (44.0%).

#### **Civil society members by the collect drugs**

Table 19 shows that out of 50 civil society members,

regarding where to get collect drugs, which was a multiple response question, the results revealed that all most all of the civil society members knew were to get drugs from either from a specific seller in the locality (86.0%), from house near border area (80.0%) and from spot beside lanes/roads (70.0%). While about half of civil society members knew were to get drugs from drug either from smugglers in town (40.0%) and from drug smugglers in border crossing points (34.0%).

#### **Civil society members by the impact of changes behavior due to drug addiction**

Table 20 shows that out of 50 civil society members, regarding the impact of changes in social behavior for increasing drug addiction, which was a multiple response question, the results revealed that all most all of the civil society members knew the impact of changes in social behavior for increasing drug addiction which was deteriorated law, order situation and respects to elder

**Table 20.** Number and percent distribution of respondents (civil society members) by the impact of changes in social behavior for increasing drug addiction.

Variable	No. of respondents	Percentage
Increased hijacking	40	80.0
Increased stealing, robbery	31	62.0
Deteriorated law and order situation and respects to elder	50	100.0
Increased personal and family expenditure	17	34.0
Lost interest in education	41	82.0
Change in morality	38	76

**Table 21.** Number and percent distribution of respondents (civil society members) by the suggestions to get rid of drug addiction.

Variable	Respondents	Percentage
Personal will is the main way to get rid of addiction	15	30
Creating more employment opportunities	44	88
Ensuring proper treatment and rehabilitation measures	18	36
Healthy drug free working environment	50	100
To involve in any creative work	42	84
To avoid mixing with bad company	20	40
Enactment of articles on anti-drug issues in the text books and newspapers	50	100
Media campaign against drugs	50	100

(100.0%), lost interest in education (82.0%), increased hijacking (80.0%) and change in morality (76.0%), more than half of civil society members knew the impact of changes in social behavior for increasing drug addiction which was increased in stealing, robbery (62.0%) and increased in personal and family expenditure (34.0%).

#### **Civil society members by the suggestions to get rid of drug addiction**

Table 21 shows that out of 50 civil society members, regarding the suggestions to addicted to getting rid of drug addiction, which was a multiple response question, the results revealed that all of the civil society members knew the suggestions to get rid of drug addiction which are healthy drug free working environment( 100.0%), enactment of articles on anti-drug issues in the text books and newspapers (100.0%) and media campaign against drugs (100.0%). All most all of the civil society members knew the suggestions to get rid of drug addiction which was creating more employment opportunities (88.0%) and to involve in any creative work (84.0%), while about half of the civil society members knew the suggestions to get rid of drug addiction which was to avoid mixing with bad company (40.0%) and ensuring proper treatment and rehabilitation measures (36.0%).

#### **CONCLUSIONS AND RECOMMENDATIONS**

The main elements in combating drug addiction include measures to control availability and use of drugs, treatment of withdrawal symptoms, and restoration of social moral and religious values. To prevent re-addiction in patients, innovative treatment containing medical, social and religious aspects must be put in place. Easy availability of treatment will ensure the elimination of this socially and physically dreaded disease.

Treatment of addiction in our country is still not in a hopeful stage. Some unqualified and unscrupulous people are engaged in making money out of this affliction with mushrooming organizations and signboards, which confuse the patients. Such institutions do not have doctors. Others falsely advertise the availability of services and doctors from abroad. Such doctors even if available cannot be very effective, unless they are truly knowledgeable about our social, cultural and economic environment. It is time that experienced and qualified doctors and health professionals should come to the aid of these addicts in our society, and to give genuine and prolonged treatment and care.

Drug abuse is a multidimensional problem, and it should be viewed from multidimensional perspective and be addressed accordingly. The government should involve both the family and society, which are two most effective institutions to prevent drug addiction within the

drug policy covering both the preventive and curative issues. These two institutions side by side with the government and nongovernmental efforts can play vital role in drug demand reduction and preventing drug abuse in the country. All these urgently demand major policy and institutional reforms involving all the concerned corners for effective response to combat drug abuse in the country. During this research, it has been found that many people, especially the youths are eager to get rid of drugs. But unfortunately, they can hardly find any way out. The departments of narcotics control, police, BDR etc. either do not work or/and even somehow are related to drug smuggling/business. According to the discussion with the concerned people such as drug abusers, guardians, teachers, policemen and related persons in the drug business, behavioral modification of the abusers is not enough to check the spread of drug taking and drug trafficking. The concerned people gave the following suggestions to be free of drugs.

Concerned administration should be reshuffled. Culprits that are hidden in the police, BDR, and narcotics control department must be punished. At the same time, rewards may be declared for superior performance. It is obvious that, drugs business in the country would fall drastically if border-crossing areas can be checked properly. Leaders of social institutions like schools, colleges, clubs etc. should come forward to build resistance against drugs.

The NGOs can play a significant role in Bangladesh, especially in the awareness and rehabilitation processes. It is observed by many of the addicts that, the rehabilitation procedures and costs introduced by the Narcotics Department are high and cumbersome; however only a few NGOs are active. The addicts, while talking with the investigators, sought treatment to wipe out the negative effects of the drugs.

## CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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*Full Length Research Paper*

# Women's perception on technology in relation to enhancing their productivity: The case of Southern Nations, Nationalities and People's Region (SNNPR), Ethiopia

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The aim of this study was to investigate the perception of women in the Southern Nations, Nationalities and People's Region (SNNPR), Ethiopia on using modern technology to enhance their productivity. To achieve this goal, survey design with quantitative method was employed. The primary source of the data was household women. They were selected by using stratified sampling. The data gathering tools were questionnaires, focus group discussions, and interviews. The collected data were analyzed using descriptive and inferential statistics. The results showed that 73.2% of the study participants have been using modern technology in their day-to-day life. Additionally, over half of the women indicated that using modern technology has saved their time, increased their income from agriculture, and helped them to live a better life. However, 80% of respondents in Gamo Gofa and 76% in Bench Maji believed that modern technology had no effect in reducing environmental impact. 47.6% of the respondents believed that modern technology reduced cost. In Sidama and Silte zones, 74.5 and 74.88% respectively, of the study participants recognized as modern technology have brought change in their life. 61.83% believed that leading a better life as a result of using modern technology. On the other hand, in Basketo and Semenomo, 68 and 70% of women respectively had negative attitudes towards modern technology in saving their time. In Bench Maji zone, 77% of the respondents believed that modern technology never increased their income. Finally, to improve the existing negative perception of women towards modern technology in some areas of the region, feasible recommendations are made by showing directions to different stakeholders on how to solve the identified shortcomings.

**Key words:** Women, agriculture, perception, modern technology.

## INTRODUCTION

Modern technology plays a great role in reducing the burden on women, especially in developing countries

such as Ethiopia. Technology helps Ethiopian women to maximize their productivity and changes their ways of life.

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Nowadays, technology is used everywhere in the world, and is an integral part of people's lives.

Access to technology can affect the lives of both women and men living all over the world. Its accessibility differs from one continent to another, as well as from rural to urban areas. People who live in developed countries have better access to technology than people living in developing countries (Beliak, 2013).

According to Gill et al. (2010), technology is an engine for economic growth. Therefore, introducing modern technology in the country in general, and in the SNNPR in particular, empowers women and improves efficiency of their work, and thereby increases women's productivity. Gill et al. (2010) stated that women's improved economic status produces many positive economic and welfare outcomes for their children, families, and societies. Furthermore, he explained that women accessing similar resources as men such as the ability to have income, technology, and paid work improves not only their children's wellbeing, but also the overall life of their families. According to Gena ARDIS (2010), governments in developing countries give more attention to urban than rural areas in introducing modern technologies, largely due to their low income levels and dispersed settlement of the people.

Accordingly, efforts to build new technological infrastructure and offer proper trainings are focused in urban areas. Men and women use technology in different ways during their daily activities. Hence, lack of access to modern technology affects women to a higher degree than men. As Gargallo et al. (2010) stated, "evidence shows that men tend to be the first to use new technologies and to use them more, whereas women are underrepresented." The majorities of rural women in developing countries are deprived of modern technology, and rather depend on traditional energy sources (Victoria and Aguilar, 2012).

In Sub-Saharan African countries, there are numerous factors that can affect the adaptation of modern technologies. According to Meinzen-Dick et al. (2004), assets, vulnerability and institutions are the main factors that can affect technology adoption in Sub-Saharan Africa. Accordingly, all the above-mentioned factors could affect the perception of Ethiopian women on modern technology.

In Ethiopia, most women have not benefited from modern technology. Berhanu (2003) stated that in Ethiopia, majority of the populations are not using modern technology rather implements product of traditional knowledge. Women are not given an equal opportunity to be productive and care for her family in the villages. Rather, they were engaged in traditional ways of food processing.

In the SNNPR region, the government has attempted to introduce technology through the women development and change package (2002 to 2007). One of the focus

areas in this project is the empowerment of women to use technology for sustainable development (SNNPRG BoWYCA, 2013).

According to Okafor (2002), women across the developing world are denied equal access to land, technology, and credit potential. Ethiopian women who are living in rural area are most likely engaged in agricultural activity. Most of them are working their agricultural activities manually.

However, they are the backbone of economic development and poverty reduction. Thus studying their perception on modern technology will have impact on creating awareness as well enhancing their productivity. Therefore, the intention of this study is assessing how technology is used by women in the study area and their perception on how technologies enhance their productivity.

### Research questions

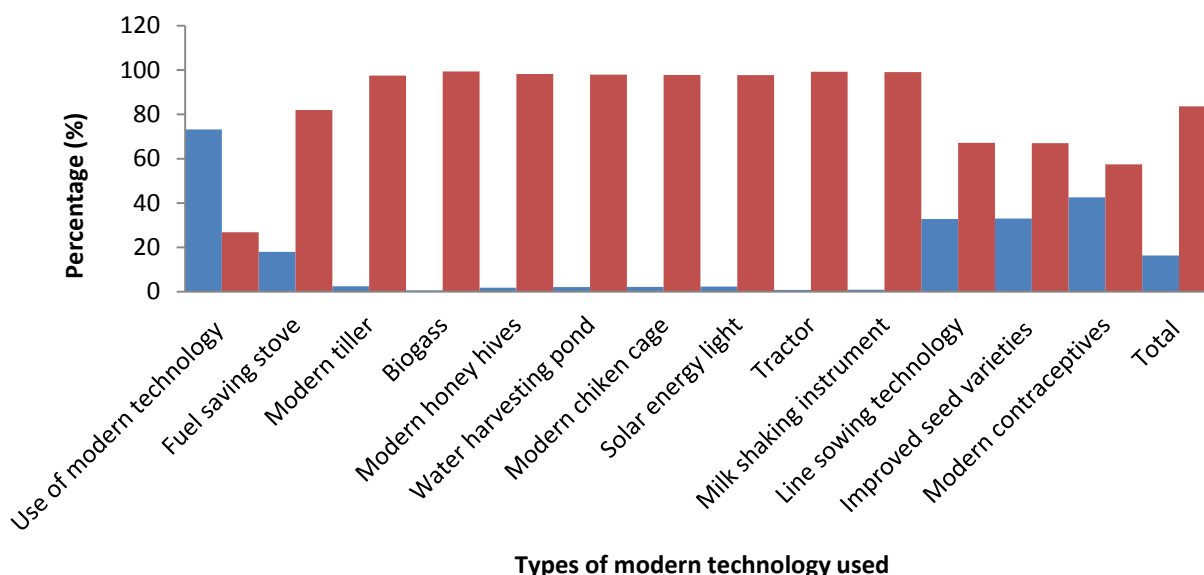
This study attempts to address the following research questions:

1. What are the technologies that women use in the Southern Nations, Nationalities and People's Region (SNNPR)?
2. What is the perception of women in the SNNPR towards modern technology (like modern tiller, biogas, chicken cage, honey hives, solar energy light, tractor)?

### Objectives of the study

The southern Nation Nationalities and Peoples Region (SNNPR), one of the nine states making the federal government of Ethiopia is located in the southern part of the country. It is the third largest state of the Federal Democratic Ethiopia. It has an area of 113,539 square kilometers and shares boundary with the Oromia region in the north and northwest, east and southeast. Administratively, the region is divided into 14 zones, one city administration and four special *woredas*/districts, viz. Bench-Maji, Dawro, Keffa, Gamo-Gofa, Gedeo, Gurage, Hadiya, Kembata-Tembaro, Segen Akababi Hezeboch, Sheka, Sidama, Silte, and Woliya zones and Basketo, Konta, Halaba & Yem Special Woredas, Hawassa City Administration.

The region is a multination which consists of about 56 ethnic groups with their own distinct geographical location, language, cultures, and social identities living together. According to the 2007 Population and House Census (CSA, 2007), women accounts for about 50.48% of the region's population (UNFPA, 2008). Since 2004, the regional government, has adopted what is known as "women development and change package" that aims to



**Figure 1.** Modern technologies used by the study participants in their daily life.

encourage the inclusion of women as the beneficiaries of the ongoing development efforts by the government. Various development packages that aimed at benefiting women have been implemented by different sectors in the area including, but not limited to, education, health, microfinance, trade and industry, agriculture and technology scaling up.

Therefore, the study was conducted on representative sample of randomly selected *Woredas* in all Zones and special *Woredas* of SNNPRS to investigate the perception of women to achieve the following objectives. The main objective of this study was to assess the perception of women regarding modern technology in relation to enhancing their productivity. The specific objectives of this study are:

1. To identify the technologies used by women in the SNNPR, and
2. To investigate the perception of women in the SNNPR towards modern technology.

**METHODOLOGY**

This study used survey design with quantitative method to explore the perceptions, attitudes and beliefs of the respondents about modern technology usage, because as sighted by Creswell (2014) survey method is more preferable because it provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population.

**Sources of data**

The main data for this study were generated from primary source.

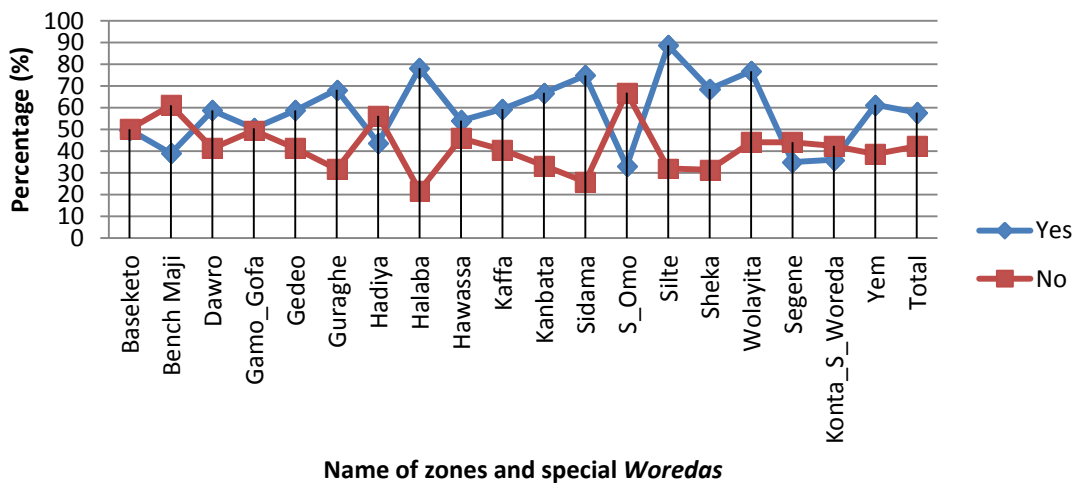
The bulk of the data for the study were generated through household survey questionnaire. Primary data source was obtained from household survey in sample area of different zones in the region using multistage sampling techniques. 604 households were selected from each zone (18 zones and 2 special *woredas*/districts), and therefore, a total of 12,080 were selected in the region by using the Cochran (1977) sample size determination. Of which questionnaire was distributed to 11,162 households.

**RESULTS AND DISCUSSION**

**Modern technology used by women in the study area**

In SNNPR, most women who are living in the rural area have limited access to technology. Even the technologies they are using are not that much advanced. Some of the modern technologies they are using in their day to day life are fuel saving stove, tiller, biogas, honey hives, water harvesting pond, chicken cage, solar energy light, tractor, milk shaking instrument, line sowing and improved seed variety.

Figure 1 shows that out of the total respondents, 73% (8,166) replied that they have been using modern technologies. However, there was a large variation in using the technologies among the different zones and *woredas*. For instance, 43% (4,753) of the study participants responded that they used modern contraceptives, while 33.3% (3,680) of the study participants responded that they used improved seed varieties in their agricultural practices. Since 85% of the population in Ethiopia depends on subsistence agriculture, the agricultural community using improved seed varieties is not that appreciable.



**Figure 2.** Respondents' perception on whether modern technologies have improved their productivity.

More than 33% of the study participants stated that they were using line-sowing technology. These data suggest that about one-third of the women are applying modern technologies to enhance productivity and increase their income, which may be attributed to the Ethiopian federal and state government's lobbying farmers to apply the latest technology of line-sowing to improve productivity. However, it appears that in Figure 1, the majority of the women (7502) are still using traditional way of sowing.

On the other hand, only 18% (2000) of the study participants responded that they used fuel saving stove. The survey results that most respondents are still using traditional methods of cooking food, which can have negative health consequences (Karki, 2010).

Traditional cooking methods also use wood and animal manure, which can result in the cutting of trees and degradation of soil. However, less than 1 percent (70) responded that they used biogas technology as an alternative to traditional fuel types like wood fire and animal manure. This is because using biogas technology can relieve women from the hard work of cooking with firewood which produces hazardous smoke which can affect their health (Karki, 2010).

Figure 2 indicates that 58% of the women believed that using modern technologies improved their productivity. Nevertheless, 42% of them did not recognize the contribution of technology on their productivity, implying that these women either did not have access to modern technology or not recognize its contribution on productivity.

In addition, women's perception of modern technology varied among the different zones in the region. Gill et al. (2010) affirmed that the introduction and utilization of modern technology lengthens the productive work day for

women and other members of the family. Thus, United Nations Industrial Development Organization (UNIDO) (2008), affirmed this idea as providing women access to modern technology increases their productivity and economy.

As shown in Figure 3, a majority of respondents (52%) in the region believed that modern technology saved their time. However, the perception of women varied from zone to zone. From this, one can understand that the zones are located farther from the center and in different access level of technology. Thus, women who are living in *Basketo* and *Semenomo* zones are most likely disadvantaged in accessing the available technologies than the other zones or the technology they are using may not save time. Upadhyay and Giordano (2005) affirmed that the workload of women decreased by adopting drip irrigation system. Gill et al. (2010) also stated that using *Upesi* stove in Kenya by rural women reduced the time spent on cooking.

As shown in Figure 4, 51.5% (5752) of respondents replied that there was a change in their income due to applying modern technology in their daily activities. However, the level of perception varied among the different zones and special *Woredas* in the region. For instance, 77% (469) of the women in the *Silti* zone responded that using modern technology increased their income.

On the contrary, in the *Bench Maji* zone, 77% (468) of the respondents believed that modern technology did not increase their income. This data suggests that women living in zones and *Woredas* where modern technology was introduced and advocated benefited more in using modern technology than women who did not have either access to modern technology or who do not want use the available technologies. Thus, women who responded

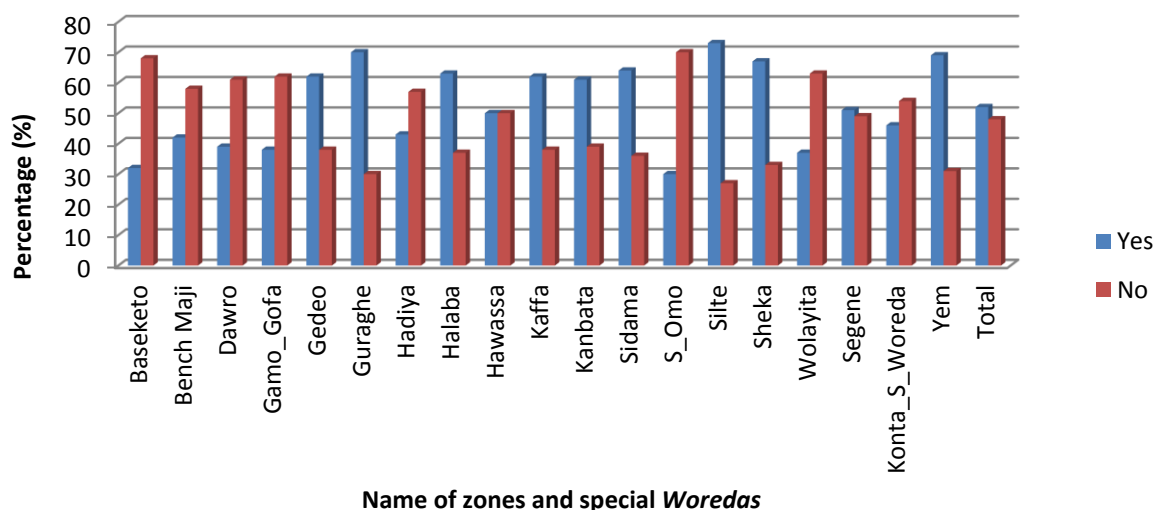


Figure 3. Respondents' perception on whether using modern technologies saved their time.

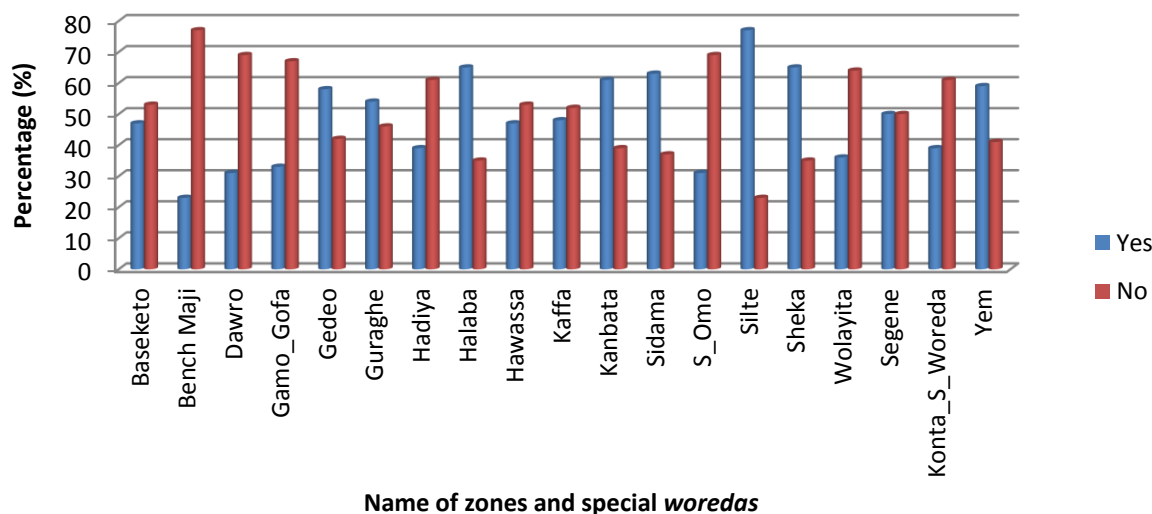


Figure 4. Respondents' perception on whether or not using modern technologies resulted in increase in income.

negatively saying that technology did not help them increase their income were due to lack of adequate access to technology.

As shown in Figure 5, 48% (5336) of the study participants replied that using modern technology helped them to save their labor needs. For example, in the *Sheka* and *Silte* zones, 66% each, *Yem* special *woreda* 64%, *Kambata* 63%, *Sidama* and *Gedeo* zones 62% of the respondents believed that using modern technology decreased their labor demands. This data suggests that modern technology helps women to reduce their burden in their day-to-day life.

According to FAO (2015), labour-saving technologies services can help women's to have free time and improve their quality of life, enabling them to engage in activities of their own choice. Thus, labor saving technology may help to improve the livelihood of women. This is confirmed by FAO (2017) using labour-saving technologies is a valuable solution to reduce women's labour, health hazards and improve livelihoods. However, as shown in Figure 1, 83.6% (93314) of women who lived in the study area used labor intensively in their work due to lack of modern technology.

The study showed that 57.3% (6393) of participants



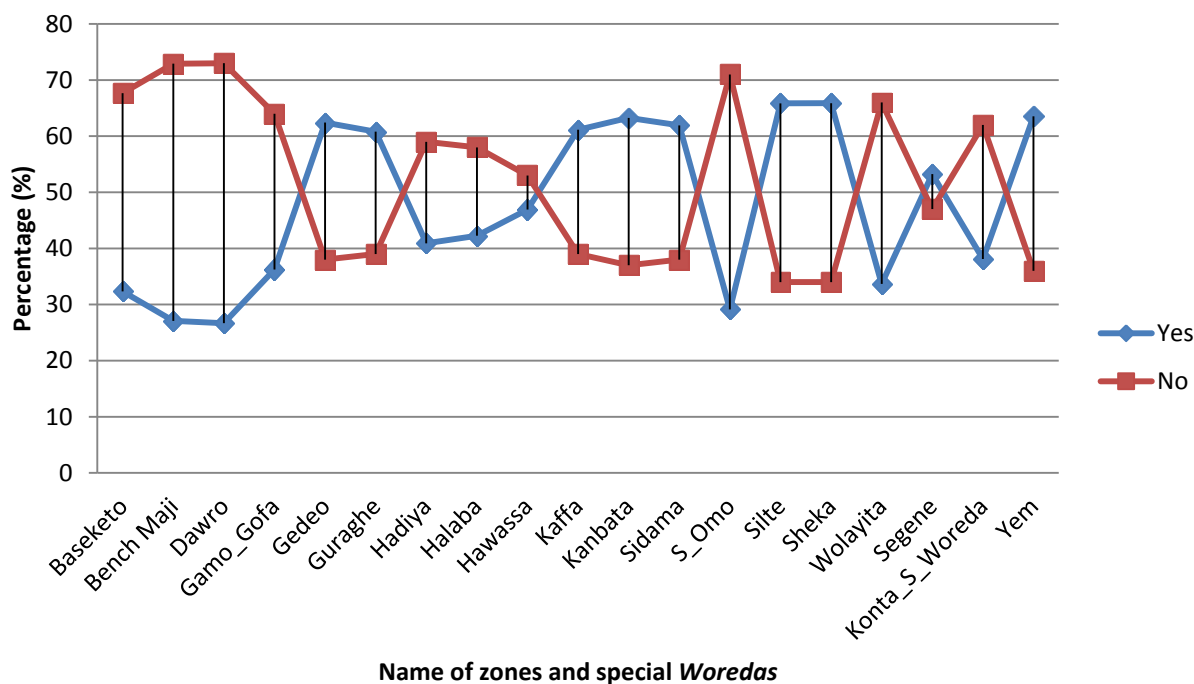


Figure 5. Respondents' perception on whether or not modern technology helped to save their labor needs.

responded that modern technology had no contribution in reducing environmental impact. There is however a difference of perception among respondents of the different zones and special *woredas*. Figure 6 shows that in the *Sidama*, *Sheka* and *Silte* zones more than two third of the respondents believed that modern technology reduced environmental impact.

On the other hand, a strong majority of women in *Gamo Gofa*, *Bench Maji*, *Basketo*, and *Dawro* zones believed that modern technology had no impact in reducing environmental impact. This implies that these women did not either recognize the contribution of modern technology in reducing the environment impact or the technology did not bring any change on environmental impact in their area.

As stated in FAO (2001), environmental degradation affects women to a larger extent than men. Extensive and increasing deforestation, pollution, soil degradation and the drying-up of water sources force women to travel a longer distance, spending more time and energy in producing and finding essential commodities.

As shown in Figure 7, 47.81% (5309) of the respondents believed that modern technologies reduced cost of labor. Over 60% of the women who participated in the study from *Silti*, *Sidama*, *Sheka* and *Kambata* zones responded that modern technology contributed to labour cost reduction.

On the contrary, over 65% of the study participants from *Bench Maji*, *Semenomo* and *Basketo* zones did not

believe their labour costs decreased through technology. This indicates that the study participants who used the technologies in their daily life did recognize its contribution to cost reduction very well. However, those respondents who did not have either access to modern technology or not used didn't recognize the contribution of technology to cost reduction.

As shown in Figure 8, more than 50% of the study participants believed that modern technology improved their life, and more than 70% from *Sidama* and *Silte* zones responded that modern technology improved their life. However, more than 65% from *Basketo* and *Wolaita* zone respondents disagree with this idea. This is due to lack of adequate modern technology in the area or not using it. On the other hand, S-Omo 69.89%, Wolaita 69.15%, Basketo 69.66% and Gamogofa 54.75%, of the respondents didn't perceive that using modern technologies improved their life.

Figure 9 shows that more than 60% of the respondents in SNNPR believed that modern technology had a contribution in improving women's health. In addition, over 70% of the study participants from *Semenomo*, *Kaffa*, *Silte*, *Sidama* and *Kambata* zones had a positive attitude on modern technology in improving their health. On the hand, in Baseketo 65%, in Dawro 52%, in Hadiya 51% and in Wolaita 57% of the respondents did not perceive that modern technology improved their health. This implies that some of the respondents didn't realize the contribution of modern technology in improving

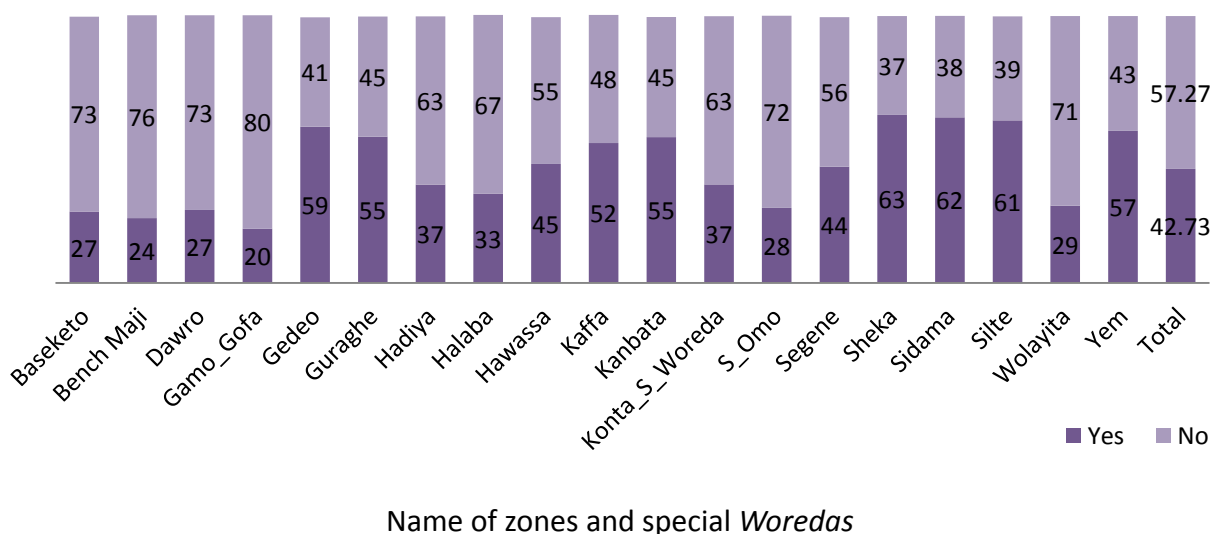


Figure 6. Respondents' perception on whether or not modern technology reduced environmental impact.

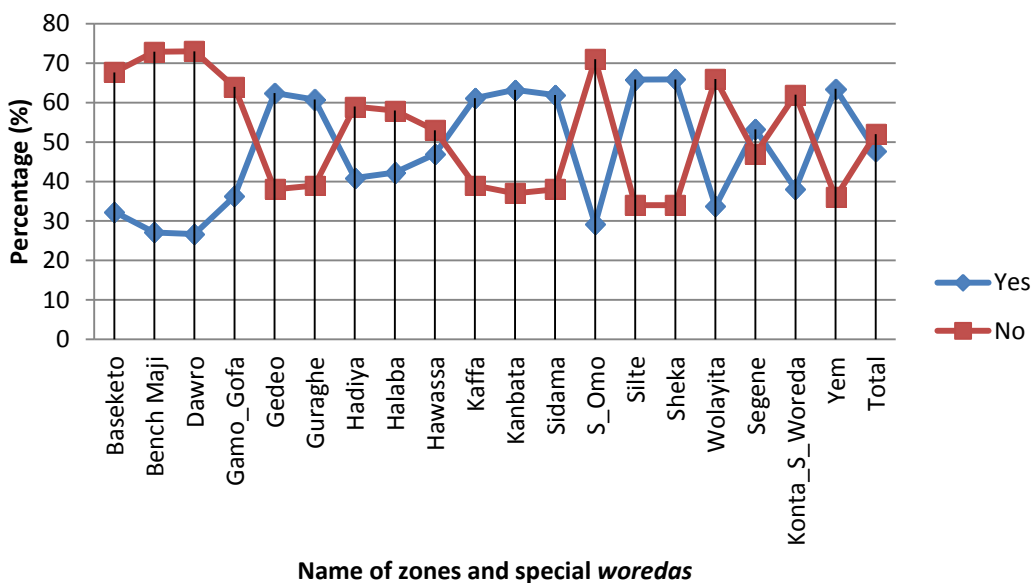


Figure 7. Respondents' perception on whether or not modern technologies reduced cost of labour.

health or they are not beneficiaries.

**Conclusions**

The results of the study revealed that women expressed belief that utilization of modern technology increased their productivity (40.4%) and improved their health (44.4%). Thus, most of women who participated in this study disagree with the idea of using modern technology

enhance their productivity. Among the modern technologies available to them, most women in the study area predominantly used modern contraceptives. A significant number of women also used improved seed varieties and line sowing technology in agricultural production. Regarding their perception on modern technology, they have less awareness on some modern technologies because, in most zones and special *woredas*, either it was not introduced to improve the life of the community or they are not using it. More than half

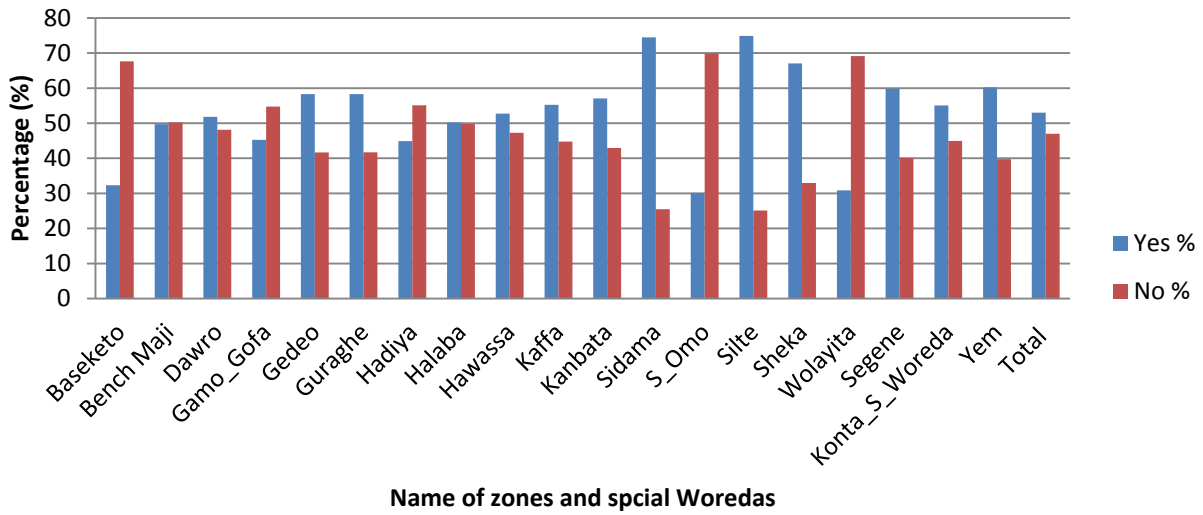


Figure 8. Respondents' perception on whether or not using modern technologies improved women's life.

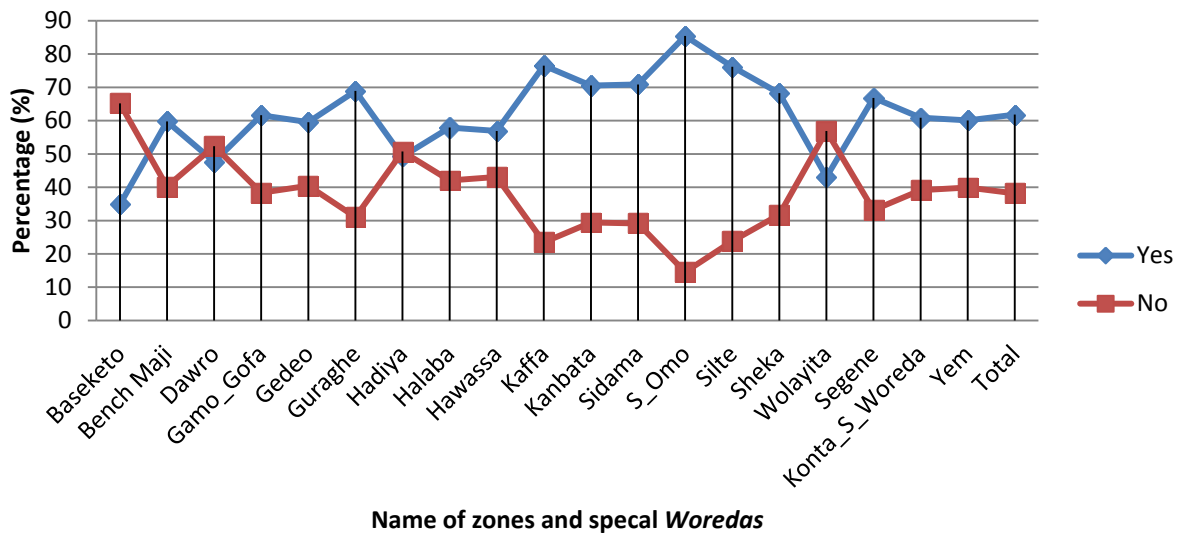


Figure 9. Respondents' perception on whether or not modern technology improved women's health

of the study participants in the SNNPR region have a strong belief in modern technology since it saved their time, increased their income, and improved their life standard and health. However, they were not convinced that using technology could reduce environmental impact and cost.

**RECOMMENDATION**

If women are empowered to make decisions in agricultural activities, they may become more productive

and could advance the agricultural development. Women play a major role in agricultural production by investing long hours on work. Thus, introducing and benefiting them in using modern technology which could be applied in agricultural process may help them to minimize their time on work and maximize their productivity.

Training and familiarizing them on how to use modern technology can enhance their income and bring sustainable development. Moreover, it is helpful in reducing poverty as well. In order to improve the life of women and their families, the government and other development partners such as FAO, World vision, need

to work aggressively to introduce modern technologies in communities that are in need.

To enhance the perception of women towards modern technology, the SNNPR government should provide access to use the available technologies in their day-to-day life either on credit basis or as a gift. It is essential to train them on technological capabilities and enhance their productive skills. The concerned bodies such as the Ministry of agriculture and Ministry of women, children and youth affairs should provide them with chances to access modern technology freely or on credit basis; and, there should be a follow-up on its effective utilization.

Especially, the introduction of somewhat less expensive technologies such as fuel saving stoves that reduces the workload of women and environmental impact need to be given high priority. Thus, institutions should focus on maximizing access to technological innovation for women of the region, as it saves their time and energy, improves their health, decreases their workload and reduces negative environmental impacts such as deforestation, pollution and soil degradation.

## CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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