



Government of Nepal  
Ministry of Urban Development  
Department of Water Supply and Sewerage

# **Nationwide Coverage and Functionality Status of Water Supply and Sanitation in Nepal**

National Management Information Project (NMIP)

Panipokhari, Kathmandu

October, 2014





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# Foreword

Historical evidences have proved that human civilization always flourishes near or along the water bodies. Traditionally, water in natural state was considered 'pure and safe'. However, the social evolution and modern development have completely redefined this concept. Today, the overall socio-economic development of a community is measured by the extent of access to safe water supply and sanitation facilities.

The Department of Water Supply and Sewerage (DWSS) was established in 1972. It has a legacy of the first sector institution the *paani goshwara Adda*. It is recognized as sector lead agency for the water supply and sanitation sector in Nepal. DWSS has institutional and personal expertise, experiences and infrastructural network at district, Regional and central level.

National Management Information Project (NMIP) under DWSS is engaged in surveys, management of database and publishing the latest information of water supply and sanitation status on coverage and functionality. The first detailed survey was conducted in 2008 and was published in 2010. NMIP continued the surveys and management of updated database. This second report contains the coverage updates up to last fiscal year and the functionality up to 2012. It shows that in recent years the sector has achieved encouraging progress on sanitation. However, in water supply the progress seems in constant pace in comparison with the acceleration of sanitation progress. Nepal has achieved the basic level coverage of 83.59% in water supply and 70.28% in sanitation services. These figures highlight that though the sector has challenges ahead, there is a prospect of achieving the national goal of basic level coverage for all by 2017.

It is my great pleasure to publish the sector status report on this very auspicious occasion of 42<sup>nd</sup> anniversary of DWSS. I believe that this report will be a milestone in providing authentic sector information. I hope that it will be very useful to the sector policy formulators, planners, monitors, researchers and the project implementers. As a leading agency of the sector, DWSS will continue the information update process in future, will implement the said recommendations, review the indicators, introduce latest technologies and engaged in its improvement.

I am grateful to the secretary of ministry of urban development for endorsing this sector report. I would like to thank NMIP chief Mr. Him Prasad Gautam, his team and divisional/sub-divisional chiefs for their contribution in producing this report. I would like to express my sincere thanks to Ministry of Urban Development, National Planning Commission, development partners, sector actors, DWSS family, regional and district level sector institutions for their valuable inputs, suggestions and feedback provided at series of meeting and workshops organized while producing this nationwide coverage and functionality status report. I look forward further upgrading of the sector services and full coverage of water and sanitation facilities to all people.

**Ramdeep Shah**  
Director General





# Preface

Since 2006, National Management Information Project (NMIP) has engaged in surveying on coverage and functionality of water supply and sanitation services in Nepal. Besides the survey work at fields, NMIP is constantly taking a lead role and responsibility on updating, managing, analyzing and disseminating the WATSAN sector information.

The development of NMIP survey guideline, detailed survey of 2008, establishment of NMIP database system and the 2010 national report on coverage and functionality of water supply and sanitation services are the mile stone of the sector. Besides the coverage status, the first NMIP survey exposed the real scenario of functionality of water supply services in Nepal. Prior to this survey, in comparison with coverage, functionality was not in prime concern among the sector development society. However, the activity of NMIP has successfully drawn an equal attention between functional concerns of built systems and the development of new schemes.

After the dissemination of NMIP report in 2010, Nepal has set very important milestones in WATSAN sector development. The first JSR (5-6 May, 2011), the NECOSAN (14-15 May, 2013), the TACOSAN (23<sup>rd</sup> Sep, 2013), the fifth SACOSAN (22-24, Oct, 2013), the second JSR (31 March-1 April, 2014) and the regional declarations events are already organized successfully. Moreover, in all events, NMIP is recognized as a sole and authentic information manager of WATSAN sector in Nepal.

After the first detailed survey and its reporting, NMIP has focused on updating the information. First, it develops a district database management system. It has already revised the survey guideline. The database management system is upgraded with user friendly interface and digital data sharing enhancement.

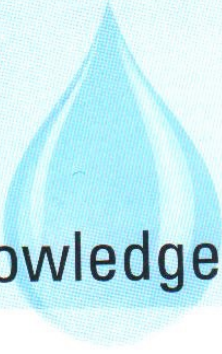
This report is a continuation of the past activities of NMIP. In this report, we have highlighted the coverage of water supply and sanitation of up to last fiscal year but the functionality is based on the detail update of 2012. NMIP has updated and managed its detailed information up to the 2012 and it is updating the information up to last fiscal year.

This report is an outcome of the contribution made by each individual/institution involved in the sector. The users, project unit, VWASHCC/MWASHCC, DWASHCC and the divisional/sub-divisional office are the real field level contributor. NMIP team and the DWSS leadership were the key players of management and monitoring.

Last but not least, I heartily thank to my team, colleagues, seniors, experts, development partners and the sectors as a whole for their valuable inputs. NMIP highly regards the contribution and looks forward for the same in future.

**Him Prasad Gautam**  
Section chief,  
NMIS/DWSS





# Acknowledgements

The Department of Water Supply and Sewerage (DWSS) under the Ministry of Urban Development is the lead agency for the water supply and sanitation sector in Nepal. It has been endeavouring hard works to meet the national goal of water and sanitation facilities for all by 2017. It has been carried out; *inter alia*, the National Management Information Project (NMIP) to conduct and regularly updating information collection, compilation and dissemination of water and sanitation coverage as well as functional status. The information updating system and process can facilitate to enhance future planning and programming processes as well as monitoring and evaluation. The NMIP has been collecting an enormous amount of valuable data which can be utilized for a range of grass roots to national planning purposes.


I would like, on behalf of my team, to thank the NMIP/DWSS for giving us the opportunity to prepare report for present NMIP updated. I express my sincere thanks and appreciation to Messrs Ram Deep Shah, Director General of DWSS, N.K. Mishra, Dy. DG of DWSS, R. L. Mandal Dy. DG of DWSS, Him Prasad Gautam, NMIP Section Chief, Engineer Ek Raj Shakya and Engineer Mr. Saroj Gautam; who were responsible for NMIP information and all others who shouldered the responsibilities of data entry, compilations and checking at the starting point. Other concerned officials who have given their very useful time and suggestions in course of drafting this report equally deserve the due share of appreciation.

My sincere thanks goes to the officials from different organizations viz. Messrs Kabindra Bikram Karki of MoUD, Deepak Puri of DWSS, Madhav Pahari of UNICEF, S. R. Pathak of SNV and Dr. Sudan Raj Panthi of WHO for their invaluable suggestions without them this report would hardly come into this form.

Last but not least, I strongly express my thanks to those all who have tirelessly spent their time and energy to accomplish the phenomenal task of compiling, checking, re-checking and updating the NMIP Water and Sanitation information in a regular basis.

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**October, 2014**





# Executive Summary

In Nepal, at past decades, various agencies had carried out numbers of sample surveys on water supply and sanitation status. From 2006/07, NMIP/DWSS has started a new initiative of national wide detailed survey on coverage of water supply and sanitation service and its functionality. The first nationwide Water and Sanitation (WATSAN) information report had published in March 2011. The report has highlighted the coverage status and has explored new issues of water supply and sanitation services.

Learning from the past experiences and realizing the importance of updated sector status information, NMIP/DWSS has continued the update of the 2008 survey. The information update activity is being carried out by the divisional/sub-divisional offices under direct supervision of NMIP and with close coordination of District Water, Sanitation and Hygiene Coordination Committee (DWASHCC). The designated entities have updated the information of public and private sector at 36,042 wards of 58 municipalities and 3,815 VDCs.

At first, the updated information is managed at the district level. The DWASHCC evaluates the outcome of the updating work and endorses it. After the endorsement, each divisional/sub-divisional office sends the information in digital form to NMIP. NMIP analyses the information received from all divisions and sub-divisions at national level and produces a report. Now, NMIP/DWSS has updated the coverage status of water and sanitation up to last fiscal year. However, the functionality is based on the detailed update of 2012.

The latest information has shown that the national water supply coverage is slightly increased and has reached to 83.59% whereas the sanitation coverage is 70.28% against 80.4 % and 43.0% of 2010 respectively.

The water supply coverage is more than 80% in all Development Regions. Among them, the highest (85.21%) coverage is in Central Development Region (CDR) and the lowest (80.92%) in Mid-Western Development Region (MWDR). Geographically, the highest (84.89%) is observed in the Hill and the lowest (80.19%) in the Mountain.

In some districts, in comparison with 2010 record, the water supply coverage in terms of percent has declined. Though it seems an unusual trend, in reality it often happens. If the additionally increased population supersede the additionally covered population, the negative outcome is an obvious. The population growth phenomenon by natural growth and migration has determined the result.

The population of 2010 was a projected figure based on the growth rate of 2001 census. It was expected that the total population may have gone up to 28,043,557. But the detailed new census of 2011 has shown that the estimate is higher than actual. Nearly 20 lakh population was over estimated. This is another reason of negative progress in some districts.



In case of sanitation coverage, the highest (86.29%) is observed in MWDR and the lowest (62.58%) in EDR. Geographically, the Hill has the highest coverage of 87.14% and the Tarai has the lowest coverage of 56.93 %.

In recent past years, it is observed that there is a phenomenal progress in sanitation. However, there exists a big gap among the development and geological regions.

In case of basic sanitary facility, 40 percent households have *direct to pit* latrines, 57.8 percent have *offset to pit* toilets and 2.2 per cent have other types. About 0.7 percent of the constructed latrines are not used. Among the households using the toilets, seven percent are found in sanitarily managed. They are excluded from the consideration of sanitation coverage. Though the insanitary latrines still prevail, the ratio of such toilets is in declining trend which reflects an increment due to social movement and sanitary awareness.

By the end of FY 2070/71, one zone, fifteen districts, seventeen Municipalities and 1615 VDCs are officially declared as Open Defecation Free (ODF).

Regarding the functionality of piped water supply schemes, there seems an improvement trend in physical state of the schemes. Though the positive trend is mainly contributed by the newly developed 2,897 schemes; to some extent, similar improvement trend is also observed in older systems too.

It is estimated that about 15.3% population are served with higher quality of water supply system. The increment is more than expected. However, still there are huge mass that have to rely on basic level of water supply services. Since NMIP survey does not have detailed information on quality issue, it lags detailed information in this perspective.

The recommendations made in the NMIP 2010 report are still relevant. What is needed further is to align proportionate resource allocation strategically according to the prevailing status. To achieve the national goal of basic water and sanitation facility for all by 2017, a coordinated approach and optimum use of resources together with mobilization of all concerned stakeholders are necessary. In addition, the following points need to be addressed with high priority:

- ❖ In sanitation, a high inter-regional disparity still prevails. To narrow the gap, high priority and due concentration must be paid to the lowest covered area.
- ❖ Water supply and sanitation status survey and its management must be continued.
- ❖ The NMIP information must be used in planning, programming, monitoring and evaluation activities.
- ❖ Periodic updating, field verification and validation should be carried out rigorously. For this purpose, introduction of latest technology like mobile device and applications and networking are essential.





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# ACRONYMS

CBS	Central Bureau of Statistics, Nepal
CDR	Central Development Region
DWASHCC	District Water Sanitation and Hygiene Coordination Committee
DWSS	Department of Water Supply and Sewerage
EDR	Eastern Development Region
FWDR	Far Western Development Region
HH	Household
IRC	International Reference Centre for Community Water Supply and Sanitation
JSR	Joint Sector Review
MDGs	Millennium Development Goals
MIS	Management Information System
MWDR	Mid-Western Development Region
MWASHCC	Municipality Water, Sanitation and Hygiene Coordination Committee
NECOSAN	Nepal Conference on Sanitation
NMIP	National Management Information Project
O&M	Operation and Maintenance
ODF	Open-Defecation-Free
San	Sanitation
TECOSAN	Tarai Conference on Sanitation
UNICEF	United Nations Children's Fund
VDC	Village Development Committee
VWASHCC	Village Water, Sanitation and Hygiene Coordination Committee
Watsan	Water and Sanitation
WDR	Western Development Region
WSST	Water Supply and Sanitation Technician
WSUC	Water and Sanitation Users' Committee





## CHAPTER 1

# INTRODUCTION

### 1.1 Background

Historical evidences have proven that human civilization begins near or along the water bodies. In our society, traditionally the flowing water is considered as 'pure and safe'. Safe drinking water and basic sanitation are very vital needs to all human being. Generally speaking, overall socio-economic development of any society depends upon the access to safe drinking water and basic sanitation to all people as it is also the basic rights of people. Before the beginning of planned development in Nepal, the then Prime Minister, Bir Samsher J.B. Rana, had laid the foundation of modern day drinking water supply, i.e., piped water supply system in Nepal in 1891. Though designed solely for rulers and elites; the first piped water supply system was the new development intervention in Nepal.

In harmony with modern systematic planning, development of public water supply and sanitation system also initiated together with the First Five-Year Plan 1956-1961. Though, since the Second Plan, systematically, water supply and sanitation programs started and it has always been one of the priority areas of the government. Since the declaration of UN Water Supply and Sanitation Decade (1981-1990), not only the government but non-governmental actors have also been supporting drinking water and sanitation programmes. At present, in line with the Millennium Development Goals (MDGs), in every plan and program the government of Nepal has endeavoured to attain targets with the help of development partners. From the very beginning of the planned development, the government of Nepal formulates policy, implements programs and monitors overall progress.

The Department of Water Supply and Sewerage (DWSS) was established in 1972 and has become the designated lead agency for the water supply and sanitation sector in Nepal. The Department has its long term institutional experiences with its infrastructural network throughout the country namely Divisional and Sub-Divisional Offices at district level and five Regional Monitoring and Supervision Offices (RMSO) at the regional level. In addition to these institutional set up, the Department establishes project offices to accomplish special tasks for the specified time as required. The principal goal of the Department is to attain continuous



improvement in the health status of the Nepali people, particularly of lower-income groups in tandem with the provision of adequate, locally managed and sustainable water supply and appropriate sanitation facilities by improving personal, household and community hygiene behaviour. Therefore, the primary aim of DWSS is to provide access to safe water supply and sanitation facilities for all by 2017.

The Department is the designated agency of collecting and disseminating WASH related information. National Management Information Project (NMIP) within the DWSS, under the Ministry of Urban Development Nepal, has carried out a nation-wide survey on water supply and sanitation coverage as well as functionality, in order to know the existing status. In this regard, a Nationwide Coverage and Functionality Status of Water Supply and Sanitation 2010 report was prepared based on the data collected during 2007-2008. Then NMIP has regularly involved in updating current WATSAN scenario on an annual basis across the nation. The update process stands on the baseline survey of 2008. A guideline often called NMIP baseline survey guideline is employed for water supply and sanitation coverage and operational status formally named as खानेपानी तथा सरसफाई सेवाबाट लाभान्वित घरधुरी तथा प्रणालीहरूको संचालनको स्थितिबारे राष्ट्रव्यापी तथ्यांक संकलन, फारम नमूनाको कार्यविधि-२०६३। For the convenience of the readers data of 2008, 2012 and 2014 are included.

## 1.2 Glimpse of the past

### WATSAN Surveys

In Nepal, a number of surveys on the water supply and sanitation situation have been carried out by various agencies since 1991 (Table 1. 1). Nevertheless, these surveys were sample-based with varying sample sizes, methods and procedures. The results have been quite different, making it hard to assess trends over time as well as provide reliable information on progress for the nation as a whole. According to 2010 NMIP report, Nepal has already achieved its MDG target for water supply, with 80 percent national coverage against a target of 73 percent by 2015. Though, the MDG target for sanitation is yet to be achieved, with national coverage of 43 percent against a target of 53 percent by 2015 (NMIP, 2011).

According to the NMIP updated information, the coverage figure of water supply has slightly increased and reached 83.59 percent. However, in case of sanitation it has increased 38.95 points and the coverage figure achieved 70.28 percent.

**Table 1. 1: Water supply and sanitation coverage in various surveyed by agencies**

Survey and year	Water supply						Sanitation	
	Urban			Rural			Urban	Rural
	Piped	Other	Total	Piped	Other	Total	Total	Total
NFHS 1991	51.3	43.6	94.9	16.3	50.4	66.7	65.8	12.0
NDHS 1996	57.4	32.6	90.0	29.1	47.0	76.1	71.3	13.4
BCHIMES 2000	61.9	36.7	98.6	46.3	47.1	93.4	66.5	22.6
Census 2001	66.1	31.0	97.1	51.1	37.6	88.7	72.3	33.6
NDHS 2001	55.2	40.4	95.6	33.0	49.0	82.0	76.6	19.4
NLSS 2004	67.6	25.4	93.0	39.2	39.8	79.0	79.5	25.3
NDHS 2006	50.5	39.5	90.0	38.9	41.1	80.0	77.0	29.4
2010	National water supply coverage			80.4	National sanitation coverage			43.0

Source: NMIP/DWSS, 2010.



The Department has launched the National Management Information Project (NMIP) to undertake the valid statistics on nationwide coverage and functionality of water supply and sanitation facilities aiming to collect and publish such information in a database. The NMIP endeavours hand in hand with the Sector Efficiency Improvement Unit (SEIU) to facilitate the networking of information sources and the formation of a sectoral coordination forum with a focus on the functionality of water supply and sanitation systems.

The first nationwide survey update on the status of drinking water supply and sanitation facilities as well as their functionality that has been conducted and already published its report. The NMIP has continuously updating information through the District Water Sanitation and Hygiene Coordination Committee (DWASHCC). This is the second effort in this connection to prepare the nationwide coverage and functionality report (2014).

### 1.3 Methods of the study

The study team employed the data analysis and desk study methods. Particularly, NMIP updated information were taken for analysis. The report utilized the already published information together with presently updated information which comprises simple comparative analysis.

#### Source of Information

The report is primary relied on the recently collected updated data from all districts of the country through the DWASHCC. Most of the updated information is available in a raw tabular form and some of them have been re-entered. Some information of the report of NMIP/DWSS published in 2011 has also been taken for consideration. Additionally, consultant team collected and compared previous and present information in order to match the broader objective as stated above. The formats and some other supplementary formats being used to collect the information at the ward, VDC/Municipality and district are included in annex.

**Table1. 2: Name of formats and their usage**

S.N.	Name of format	Key methods of information collection
1.Ka	Description of piped water supply scheme	Social mapping
1.Kha	Area covered by piped water supply scheme	Social mapping
1.Ga	Operational status of completed piped water supply scheme	Interview, FGD, observation
2.	Description of tube-well in VDC/Municipality	Social mapping
3	VDC/Municipality profile of drinking water supply	Interview, FGD, observation
4.	VDC/Municipality profile of sanitation facility	Social mapping & observation

#### Method of Data Update

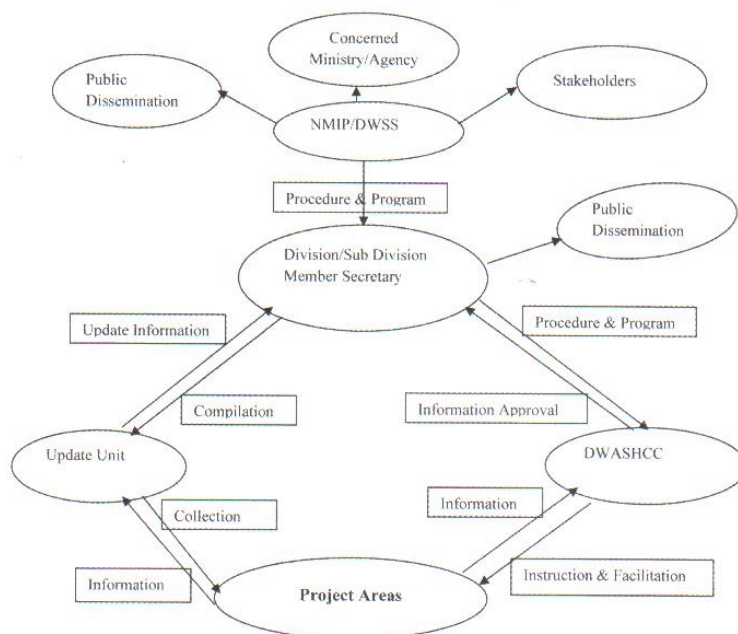
Based on the baseline survey formats of 2008, the water and sanitation data are updated. In other words, new survey has been carried out. The update is based on the activities carried out after the baseline survey. The technicians of District/Division Offices have been involved in collection of data and the task of data entry is being accomplished at district level. Verification of the updated data was made at DWASHCC.

The following figure shows the data flow mechanism in sketch view. The method of update is adopted as per the concept diagram.



### Analysis of data/information and report writing

In order to fulfil the objective of the study, entry, re-entry and compilation of information have been done and comparative table, graph, chart etc., have been prepared as per the requirement. Data presentations are in tabular or graphic forms.



## 1.4 Scope of this report

This report aims to disseminate information obtained from the NMIP water and sanitation update among a wider audience. It also makes recommendations based on the findings of the updated information for monitoring of water supply and sanitation status and on expanding and improving the quality of water supply and sanitation coverage and functionality.

## 1.5 Definitions of terms

### A. Improved sanitation facilities (Toilet)

According to the Joint Monitoring Program (JMP) of UNICEF and WHO, an improved sanitation facility is defined as one that hygienically separates human excreta from human contact. The JMP uses the following classification for improved sanitation facilities:

- a) Flush or pour-flush to:-
  - Piped sewer system
  - Septic tank
  - Pit latrine
- b) Ventilated Improved Pit (VIP) latrine
- c) Pit toilet with slab and lid
- d) Composting toilet (eco-san)

But they are not considered improved when shared with other households or open for public use.

### **B. Open Defecation Free (ODF) Situation**

Open Defecation (OD) means defecating in the open and leaving the faeces exposed. ODF means 'Open Defecation Free' i.e. no faeces are openly exposed to the air. The collection of faeces in a direct pit with no lid is also a form of OD but with a fly proof lid it then qualifies for ODF. The following indicators/criteria are expected to be prevalent in any given designated areas in order to declare it ODF:-

- ◆ There is no OD in the designated area at any given time;
- ◆ All households have access to improved sanitation facilities (toilets) with full use, operation and maintenance; and
- ◆ All the schools, institutions or offices within the designated areas must have toilet facilities.

### **C. Ultra Poor Households**

Rural Water Supply and Sanitation National Strategy 2004 has defined ultra-poor households by using the following proxy indicators:

- ◆ Households having food sufficiency (security) for less than six months;
- ◆ Households having daily wages as the main source of income;
- ◆ Female-headed households and/or households without adult members and/or households having physically disabled persons, and
- ◆ Other relevant indicators agreed by the community.

### **D. Household**

The household is "the basic residential unit in which economic production, consumption, inheritance, child rearing, and shelter are organized and carried out"; [the household] "may or may not be synonymous with family". And members those who are living under the same house/roof and eating in the same kitchen are treated as a household.

### **E. Executive**

Office bearers of Water and Sanitation User Committee or institution such as Chairperson, Vice Chairperson, Secretary and Treasure are called executive.

## **1.6 Limitations**

The study recognized the following limitations:

- ◆ WATSAN updated data consisted of only basic data on water supply coverage.
- ◆ Functionality of water supply is related to piped water supply systems (it has not covered point sources).
- ◆ Data on water quality are not included in this report.
- ◆ Sanitary use of the toilet is considered as the key indicator of sanitation coverage as usual.
- ◆ The updated data collection does not contain the information of quality of water.
- ◆ Data on water and sanitation coverage were collected from ward/community level.
- ◆ Newly established Municipalities are not taken into account and local bodies are considered as earlier.
- ◆ As detailed data are being collected, only quick updates up to mid-2014 are included in this report.

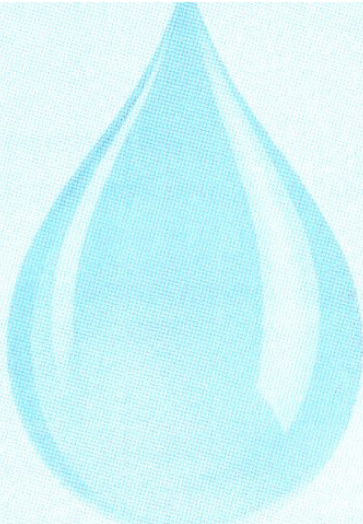


- ◆ A separate count of shared latrines is not accomplished.
- ◆ The population of 2010 and 2014 is a projected figure based on the CBS data base of 2001 and 2011 census.
- ◆ The household figure of the year 2012 as presented in this report is primarily collected data which only covers the residential household. It does not count the institutional household and the floating family. As per the practice, the count of the floating family is not yet established in water supply scheme records. However, the national census incorporates the institutional household and the floating family in its count. Hence, the household figure in this report has a slight variation with the census figure of 2011. Though the household figure differs the calculations of percentage in either case coincide.

## **1.7 Outline of the report**

This report is divided into five chapters. The first chapter comprises of background, methods and limitations. Chapter second highlights water supply and sanitation coverage. Chapter third deals with the source types, functionality of water supply schemes and functionality of toilets. Chapter four includes management of survey database. The last chapter comprises of key findings and major recommendations.





## CHAPTER 2

# COVERAGE

### 2.1 Introduction

In this report, the term of coverage on WATSAN aspect defines the access of basic level of water supply and sanitation facilities. With respect to water supply, the coverage should be understood as minimal meeting of need of consumers which may or may not be sufficient in quantity and desired quality. In case of sanitation, the use of the sanitarily clean ‘permanent’ toilet with no exposure of excreta and no access of any vectors is taken as an indicator of coverage. Any toilet with ‘permanent’ sub-structure up to plinth level irrespective of superstructure types is considered as ‘permanent’ one.

Though the basic survey and its updates covered wards level information of VDC/Municipality, this report contains the compiled summary coverage of district, regional and national levels. It also highlights the source-wise coverage contribution. The detailed of WATSAN coverage has been presented with a comparison of 2010 status.

### 2.2 National level

Update (2014) data revealed that the national level of water supply facility coverage is 83.59 percent whereas previously it was 80.4 percent. The data shows that water supply coverage could not increase noticeably. In case of sanitation coverage it is 70.28 percent in 2014 whereas it was 43.0 percent in 2010. It shows an increment of 27.28 percentages.

Ecologically, Nepal is broadly divided into three zones i.e. Mountain, Hill and Tarai. The NMIP update is based on ecological divisions in water supply coverage, it was 77.6, 79.9 and 81.2 percent in Mountain, Hill and Tarai respectively in 2010 which has gone up 80.19, 84.89 and 84.78 percent in 2014 NMIP update. Incremental percentage of water supply coverage has been progressed in a snail pace in comparison to sanitation coverage in the same ecological zones.

In connection with the sanitation coverage, it was 33.6, 52.9 and 35.6 percent in Mountain, Hill and Tarai respectively in 2010 which progressed in NMIP 2014 updates as 74.48, 87.14



and 56.93 percentage respectively in Mountain, Hill and Tarai. The pace of sanitation progress seemed phenomenal compared with that of water supply coverage in the same period of time (Table 2.1 and Figure 2.1 & 2.2).

**Table 2.1: Status of water and sanitation coverage by national and ecological zone**

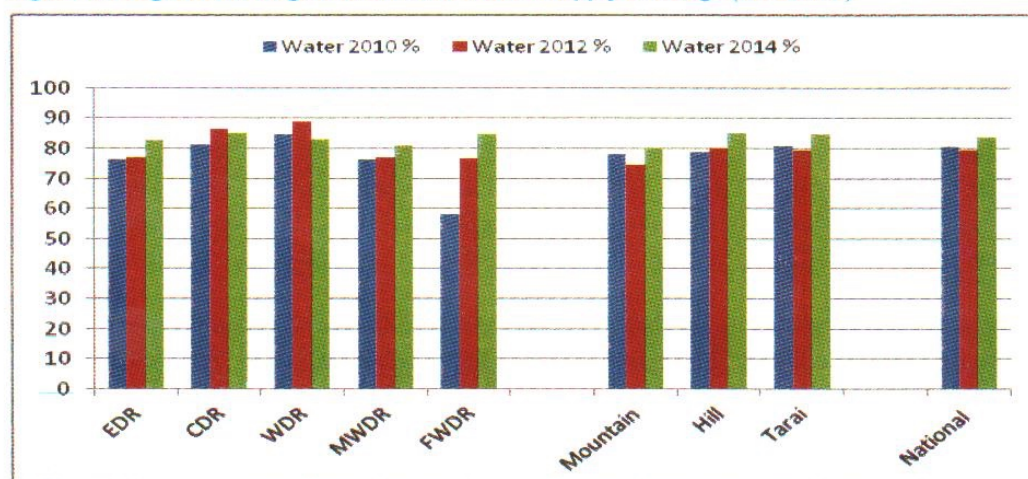
Region	2010			2012					Mid 2014		
	Water	san	Projected Pop <sup>a</sup>	Total	Water	Sanitation			Water	San	Projected Pop <sup>a</sup>
	%	%		HH	HH	%	HH	%	%	%	
EDR	76.4	42.2	6,374,298	1,142,476	885,902	77.5	560,752	49.1	82.45	62.58	5,997,378
CDR	81.3	46.1	9,859,227	1,723,142	1,340,244	77.8	894,612	51.9	85.21	62.77	10,324,734
WDR	84.6	53.5	5,468,946	900,637	791,925	87.9	623,169	69.2	82.84	80.6	5,076,207
MWDR	76.3	30.7	3,646,321	638,510	491,595	77.0	341,692	53.5	80.92	86.29	3,776,833
FWDR	83.32	29.1	2,694,765	43,2659	331,282	76.6	170,353	39.4	84.68	78.19	2,660,729
Ecological											
Mountain	77.6	33.6	1,987,700	296,850	221,366	74.6	136,469	46.0	80.19	74.48	1,549,734
Hill	79.9	52.9	12,292,169	2,265,392	1,819,154	80.3	1,450,040	64.0	84.89	87.14	12,220,211
Tarai	81.2	35.6	13,763,688	2,261,182	1,800,428	79.6	1,004,069	44.4	84.79	56.93	14,065,936
Nepal	80.4	43.3	28,043,657	4,823,424	3,840,948	79.6	2,590,578	53.7	83.59	70.28	27,835,882

## 2.3 Regional level water supply coverage

From comparison of two NMIP updates 2010 and 2014 regarding water supply coverage among development regions, water supply coverage is increased most in EDR (6.05%) and the least increment is observed in FWDR (1.36%). In ecological region, the increment in Hill is the most (4.99%) whereas the increment in Mountain is the least (2.59%).

Across the five development regions, percentage of water supply coverage is increased except WDR compared with the past NMIP information update. The overall progress in water supply coverage is noted only nominal.

**Figure 2.1 Regional, ecological and national water supply coverage (2010-2014)**





## 2.4 Regional sanitation coverage

For sanitation, compared to the 2010 NMIP information with the data of 2014 MWDR (55.59%) increased phenomenally followed by FWDR (%). And in all the development regions percentage of coverage is increased compared to the previous survey update. According to the 2014 information, the slowest growth in sanitation is noticed 16.67% in CDR. In connection with the sanitation aspect, across the development regions; it is really commendable. In this regard, in all three ecological regions an increasing trend is found in 2014 in comparisons with 2010 NMIP information (Table 2.1).

Figure 2.2 Regional, ecological and national sanitation coverage (2010-2014)

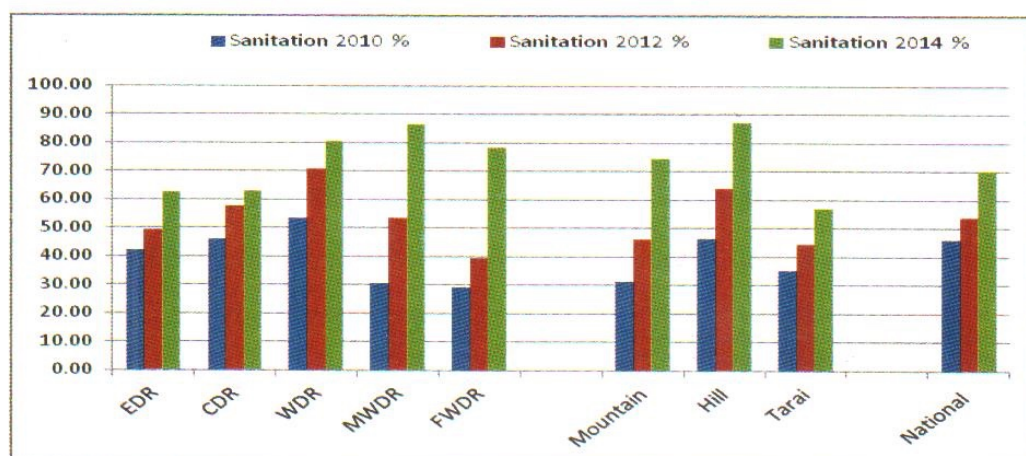


Table 2.2: Water supply and sanitation Coverage by districts in EDR

District	2010			Total	2012				Mid 2014		
	Water %	San %	Projected Pop <sup>a</sup>		Water HH	Water %	Sanitation HH	Sanitation %	Water %	San %	Projected Pop <sup>a</sup>
Taplejung	71.3	53.8	156,398	24,214	17,088	70.6	13,366	55.2	72.1	61.2	126,753
Panchthar	68.1	62.9	237,020	37,444	24,640	65.8	27,018	72.2	69.65	100	197,266
Ilam	68.2	68	340,185	63,358	47,518	75	47,835	75.5	76.98	94.9	299,836
Jhapa	81.3	57.1	808,674	169,811	137,777	81.1	106,122	60.2	81.66	62.5	851,145
Morang	85.8	46.5	1,019,083	197,153	172,311	87.4	101,366	51.4	88.49	69.43	1,004,190
Sunsari	77.5	51.3	778,061	130,598	136,540	91.9	86,575	58.3	88	80	793,076
Dhankuta	76.4	48.6	194,274	31,150	24,180	77.6	16,032	51.5	80.31	81.4	163,435
Terhathum	90.8	58.1	130,346	22,141	15,347	76.2	12,752	57.6	77	59	98,501
S.sava	80.3	53.4	184,845	34,659	27,899	80.5	17,922	51.7	84.27	80.27	159,783
Bhojpur	67	36.8	227,585	39,847	25,680	69.5	15,090	37.9	75.4	67.43	178,520
Solu	77	18.1	124,447	23,828	15,440	64.8	13,093	35	67.24	42.83	106,499
Khotang	76	52.2	264,074	37,259	29,433	79	15,922	42.7	84.27	63.35	202,849
Okhaldhunga	82.4	25.7	182,044	31,032	25,272	81.4	16,987	54.7	86.46	66.23	145,887
Udayapur	64.2	19	352,855	61,937	46,288	74.7	32,965	52.8	80.2	76.6	332,956
Saptari	72.3	18.5	684,101	121,075	69,075	75.1	21,808	18	83	25	670,800
Siraha	72	18.5	690,306	102,970	71,414	79.4	15,899	20.4	80	27.42	665,880
EDR	76.4	42.2	6,374,298	114,2476	880,942	77.1	560,722	49.1	82.45	62.58	5,997,378

## 2.5 Water supply coverage of Eastern Development Region

Regarding the progress in water supply coverage, a positive trend is found among the fourteen districts in 2014 compared with that of 2010 NMIP information. It is surprising that the water

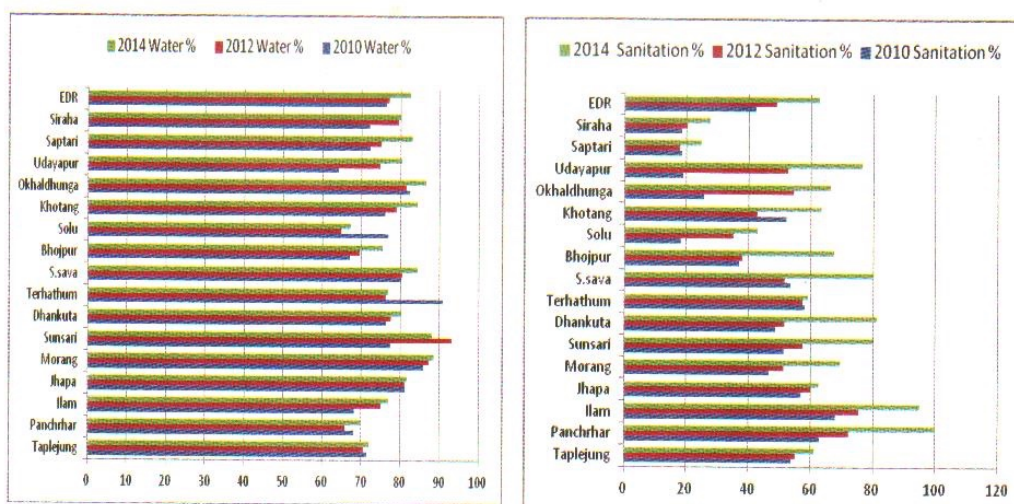


supply coverage dropped down in Terhathum district by 13.8 percent followed by Solukhumbu 9.76 percentage compared with the information of 2010. By and large, the water supply growth trend in 2014 is found sluggish compared with that of 2010. However, the phenomenal growth in water supply coverage noticed in Udayapur district (16%) followed by Saptari (10.7%) compared with that of NMIP 2010. Although, the average regional progress is 6.05 percent during the two update time, i.e., 2010 and 2014.

## 2.6 Sanitation coverage of Eastern Development Region

With respect to the sanitation coverage data between 2010 and 2014, the trend found positive in all the sixteen districts of EDR. In Udayapur the increment is the highest (57.6%) followed by Okhaldhunga (40.53%) whereas in Terhathum the increment is the lowest (0.9%) during the two update time of NMIP. In both sectors, i.e., progress in water supply coverage is found in negative growth in Terhathum district. However, achievement in sanitation coverage is very nominal in this district which is not a normal phenomenon (Table.2.2, Figure 2.3).

Figure 2.3 Water supply and sanitation coverage in EDR



From the perspective of sanitation coverage, Solukhumbu district was the lowest (18.1%) one in 2010 which has gone up (42.83%) and Saptari district is the lowest (25%) in 2014 which has only an increment of only 6.5 percentage point compared with that of NMIP update 2010. The pace of incensement is like a snail move in Saptari district when compared the two updates in sanitation aspect.

Table 2.3: Water supply and sanitation coverage by districts in EDR

District	2010			2012					Mid 2014		
	Water	San	Projected Pop <sup>n</sup>	Total	Water		Sanitation		Water	San	Projected Pop <sup>n</sup>
	%	%		HH	HH	%	HH	%	%	%	
Dhanusha	75	23.9	807,151	129,584	96,102	74.2	38,489	29.7	80	39	799,947
Mahottari	77.7	17.1	669,940	111,988	58,369	76.2	20,923	18.7	82	30	676,971
Sarlahi	81.3	17.5	776,694	129,515	89,734	79.3	26,224	20.3	82	28	813,277
Sindhuli	61.8	21	337,913	56,839	31,279	65.3	19,449	34.4	78	62	299,200
Ramechhap	79.1	31.3	246,989	43,421	32,007	83.7	19,240	44.3	86.03	62.79	203,226



Dolakha	81.4	48.1	241,318	44,010	35,610	80.9	21,329	48.5	81.5	49.66	183,605
S.palchok	80.9	33.8	360,587	62,111	52,237	84.2	23,685	38.2	86.41	93	284,695
Kavre	81.7	71.2	457,184	80,651	64,464	79.9	58,240	72.2	81.11	72	391,254
Lalitpur	89.3	83.7	415,581	80,443	69,679	86.6	66,945	83.2	86.14	87.28	513,560
Bhaktapur	91.7	87.1	276,577	43,939	40,370	91.9	38,731	88.2	93.08	100	330,709
Kathmandu	93.2	93.8	1,432,290	307,528	288,345	93.7	266,380	91.9	93.97	94.85	2,001,483
Nuwakot	77.9	31.1	340,579	57,607	43,968	76.3	25,497	44.3	79.58	60.03	275,905
Rasuwa	89.4	41.9	53,494	10,293	9,206	89.4	4,139	40.2	91.71	65.15	43,522
Dhading	69.3	51.4	405,045	66,718	44,051	76	29,743	44.6	84.53	74.82	335,531
Makawanpur	72.1	48	473,861	79,028	55,045	69.7	41,796	52.9	79.44	100	438,506
Rautahat	73.8	17.6	671,223	106,661	83,961	78.7	23,364	21.9	79.24	28.71	748,578
Bara	88.6	19.1	693,913	107,123	88,055	82.2	23,459	21.9	82.15	25.9	749,687
Parsa	80.2	25.5	615,232	86,202	74,564	86.5	27,498	31.9	92.47	42	636,791
Chitwan	85	83.1	583,656	119,481	83,198	86.9	119,481	100	86.29	100	598,287
CDR	81.3	46.1	9,859,227	1,723,142	1,340,245	86.4	894,614	57.7	85.21	62.77	9,854,797

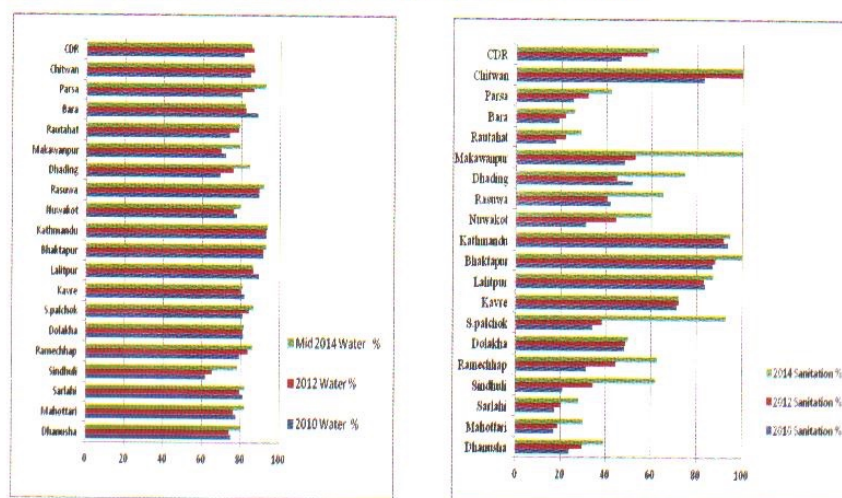
## 2.7 Water supply coverage of Central Development Region

With regard to the water supply coverage in this development region, a positive growth trend is found among sixteen districts in 2014 while a negative trend is found only in three districts viz. Kavrepalanchok, Lalitpur and Bara compared with the 2010 NMIP information. Water supply coverage of Sarlahi, Dolakha and Kathmandu districts is almost stagnant in 2014 compared with that of 2010 NMIP information. The overall regional growth of water supply in the CDR is found 3.19 percentage points in the 2014 updates (Table 2. 3).

## 2.8 Sanitation coverage of Central Development Region

The present update data on sanitation coverage found encouraging comparing the water supply coverage in the same period of time. Compared with the past, a positive trend is found among all districts. Progress in Sindhupalchok district is gone up (59.2%) from 33.8 percentage points during two updates 2010 and 2014. The increasing coverage trend is followed by Ramechhap district 31.49 percentage points. The average change in the region during the two periods is 16.67 percentages (Table 2.3 and Figure 2.4).

Figure 2.4 Water supply and sanitation coverage by Districts in CDR



**Table 2.4: Water supply and sanitation coverage by districts in WDR**

District	2010			2012					Mid 2014		
	Water	San	Projected Pop <sup>a</sup>	Total	Water		Sanitation		Water	San	Projected Pop <sup>a</sup>
	%	%		HH	HH	%	HH	%	%	%	
Gorkha	70.1	44.1	336,518	64,773	44,594	68.9	37,029	57.2	71	92.88	263,988
Lamjung	89.2	56.2	207,677	35,524	32,408	91.2	17,678	49.8	91.67	99.73	166,757
Manang	96.1	45.6	13,216	1,415	1,364	96.1	643	45.3	97.37	59.61	5,803
Kaski	92.2	87.5	466,379	82,894	76,521	92.3	82,950	100	90.7	100	528,714
Tanahu	82.4	56.6	372,329	66,245	54,952	82	67,040	100	81.76	100	335,317
Syangja	78.5	68.4	363,205	57,544	49,257	85.6	49,430	85.9	88.52	98.48	279,755
Parbat	88	75.3	181,795	32,163	28,765	87.9	28,293	86.5	90.47	100	143,985
Baglung	90.9	59.3	315,702	54,460	50,060	95.8	41,252	79	88.68	100	270,331
Myagdi	85.8	48.2	133,541	22,165	18,657	87.9	20,030	83.6	90.15	100	113,517
Mustang	82.3	41.1	16,953	2,591	2,252	82.9	1,409	51.9	95.3	100	13,462
Palpa	82.2	52.7	313,186	53,162	43,636	82.1	26,346	49.6	82.9	72.25	269,617
N.parasi	83.9	47.6	688,166	102,615	85,478	83.3	46,074	44.9	84	90.4	659,314
Rupandehi	91.8	48.7	882,367	131,928	131,641	75.5	108,950	62.5	97.51	77.24	947,770
Kapilbastu	81	21.8	590,298	86,813	74,746	86.1	30,627	34.3	87	57	600,001
Arghakhanchi	83	46.2	244,257	43,901	36,482	83	19,630	44.7	84.26	98.33	198,118
Gulmi	77.8	67	343,357	62,444	49,045	78.5	45,788	73.3	91.26	90.16	279,759
WDR	84.6	53.5	5,468,946	900,637	791,926	87.9	623,133	69.2	82.84	80.6	5,076,207

## 2.9 Water supply coverage of Western Development Region

The overall water supply coverage according to earlier update was 84.6 percent and presently it is 82.84 percent. It decreased by 1.76 percentage points. In case of district scenario, the water supply coverage decreased in three districts Kaski (1.5%), Tanahu (0.64%) and Baglung (2.22%) in 2014 NMIP updates with that of NMIP 2010. Across this region, the progress is slow during the same period. Gorkha district remained in the lowest position in both NMIP updates; it was 70.1 percent in 2010 whereas it is only 71 percent in 2014.

## 2.10 Sanitation coverage of Western Development Region

In case of sanitation coverage, progress in Arghakhanchi district is found immensely (52.13%), from 46.2 to 98.33 percent between 2010 and 2014. Kaski, Tanahu, Parbat, Myagdi and Mustang districts have achieved hundred percent sanitation coverage and they are open defecation free (ODF). Kapilbastu district was in the lowest rank (21.8) in the region at the time of 2010 updates and it has progressed more than double (57%) but unfortunately it is still in the lowest position in the regional sanitation coverage (Table 2.4 and Figure 2.5).



Figure 2.5 Water supply and sanitation coverage by Districts in WDR

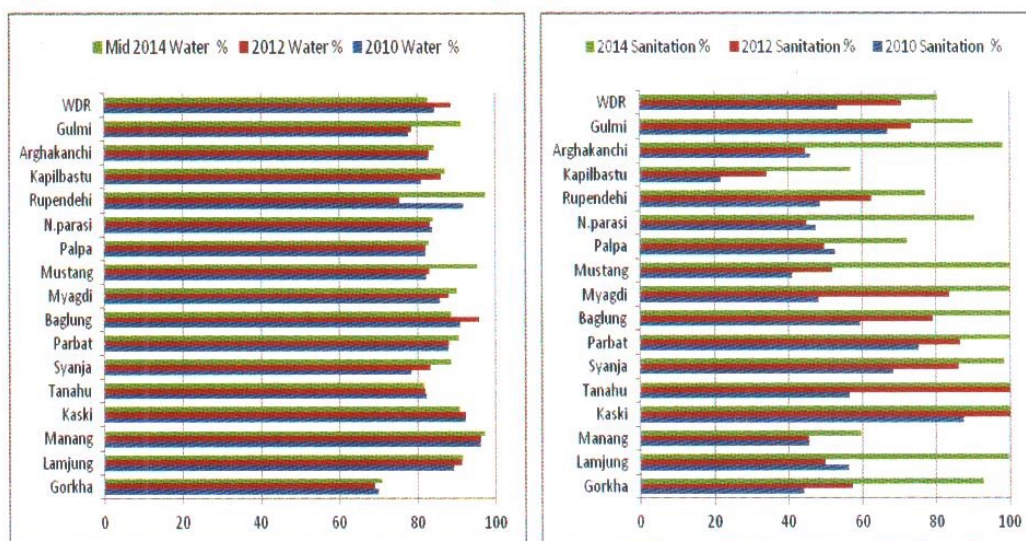


Table 2.5: Water supply and sanitation coverage by districts in MWDR

District	2010			2012					Mid 2014		
	Water	San	Projected Pop <sup>a</sup>	Total	Water		Sanitation		Water	San	Projected Pop <sup>a</sup>
	%	%		HH	HH	%	HH	%	%	%	
Rukum	79	20.3	224,334	42,719	35,485	83.1	17,908	41.9	86.9	95.5	218,076
Salyan	57.3	16.4	250,372	40,562	27,320	72.2	20,105	49.6	73.58	67.83	253,333
Rolpa	76.2	20.4	245,725	44,180	36,339	82.5	18,009	40.8	89.25	88.91	232,441
Pyuthan	88	21	253,881	47,220	41,818	88.6	18,130	80.8	83.03	100	242,393
Dang	69.3	44.1	570,603	102,539	61,760	72.1	61,780	60.2	72.95	100	589,859
Banke	90.6	36	484,266	71,712	65,209	90.9	24,152	33.7	87.52	60.27	530,168
Bardiya	82.2	39.2	474,561	75,612	64,754	85.6	52,001	68.8	87.84	92.2	441,130
Surkhet	77.5	36.5	352,516	65,762	53,312	81.1	45,221	68.8	82.52	93	384,579
Jajarkot	77	25.3	158,752	32,113	25,039	78	17,057	53.1	85	98.02	185,642
Dailekh	55.7	19.9	267,050	48,014	28,360	59.1	25,159	52.4	71	87.7	276,566
Dolpa	69.7	17.6	34,744	7,475	4,950	76.2	4,098	54.8	80.5	68.37	39,141
Jumla	87.9	37.2	104,994	19,167	16,003	83.5	14,059	73.4	86.49	99.39	115,236
Kalikot	79.1	21.9	124,552	22,828	18,110	79.3	14,180	62.1	80.4	100	154,467
Mugu	81.3	24.4	52,241	9,558	7,358	77	5,964	42.4	79.1	51.62	59,220
Humla	48.4	25.8	47,730	9,049	5,778	63.9	3,869	42.8	72.38	56.75	54,583
MWDR	76.3	30.7	3,646,321	638,510	491,595	77	341,692	53.5	80.92	86.29	3,776,833

## 2.11 Water supply coverage of Mid-Western Development Region

In this development region, the overall improvement in water supply coverage is 4.62 percent compared with that of NMIP 2010. Of the total fifteen districts, eleven districts progressed during the two update period 2010 and 2014. Nonetheless, water supply coverage in four districts namely, Pyuthan (4.97%), Banke (3.08%), Jumla (1.4%) and Mugu (2.2%) decreased in 2014 compared with the 2010 NMIP. In an average, water supply coverage in the MWDR is 76.3 percentage points in 2010 but it is only 80.92 percent in 2014. It means the progress made during the two NMIP updates is sluggish (Table 2. 5 and Figure 2.6).



## 2.12 Sanitation coverage of Mid-Western Development Region

It is interesting to note that the progress in sanitation in this development region found encouraging. All fifteen districts of this development region are making improvement significantly. Pyuthan, Dang and Kalikot districts have achieved hundred percent sanitation coverage in 2014 which have extraordinarily progressed 59.75 in the present update against the 21 percentage in the NMIP update 2010. Salyan had the lowest (16.4%) coverage in 2010 whereas it is Mugu (51.62%) in 2014. The regional average is 86.29 percent in the recent update and the differences is 55.59 percentage points as it was 30.7 percent in 2010. It has gone up 86.29 percent in 2014 (Table 2.5 and Figure 2.6).

Figure 2.6 Water supply and sanitation coverage by districts in MWDR

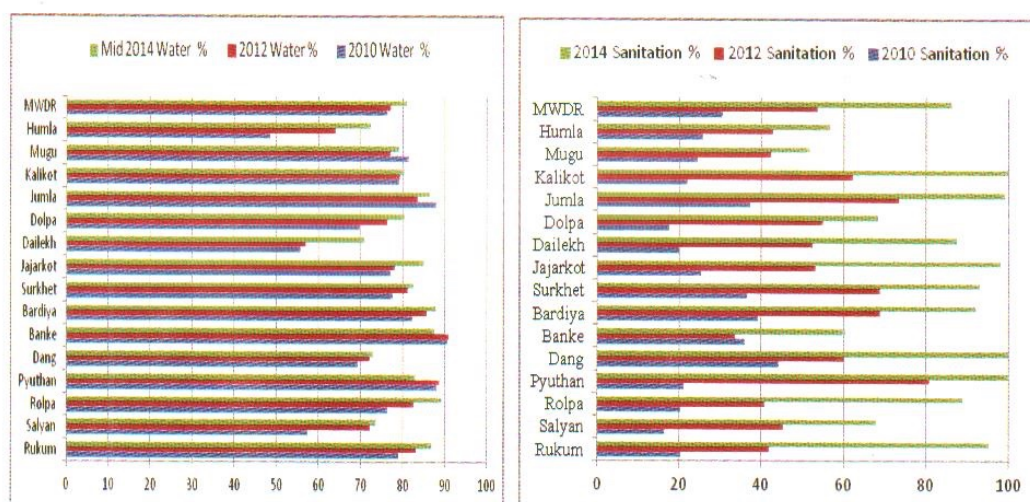


Table 2.6: Water supply and sanitation Coverage by in FWDR

District	2010			2012					Mid 2014		
	Water	San	Projected Pop <sup>n</sup>	Total	Water		Sanitation		Water	San	Projected Pop <sup>n</sup>
	%	%		HH	HH	%	HH	%	%	%	
Bajhang	58.2	14	198,588	33,206	20,671	62.3	9,328	28.1	75	89	205,934
Bajura	86.8	10.6	128,590	26,325	22,801	86.6	4,962	18.9	89.79	97.43	144,634
Achham	88	19.1	272,064	48,351	42,089	87.1	34,875	72.1	87.68	100	266,583
Doti	80	23.3	249,064	41,279	30,852	82.7	11,868	28.8	85.77	77.73	213,275
Kailali	88.6	39.2	791,596	102,488	89,017	86.9	37,094	46.2	88.3	68.55	822,817
Kanchanpur	82.2	33.8	483,797	75,314	54,656	82.1	32,183	42.7	82.35	69.82	466,248
Dadeldhura	77.5	43.1	150,224	25,291	20,826	82.4	15,527	61.4	82.84	100	146,484
Baitadi	89.7	25.6	275,839	52,173	33,534	79.3	16,408	31.5	88.5	68.79	257,661
Darchula	80.2	16.4	145,003	28,232	16,836	79.6	8,108	28.7	81.2	78.98	137,094
FWDR	83.32	29.1	2,694,765	432,659	331,282	76.6	170,353	39.4	84.68	78.19	2,660,729

## 2.13 Water supply coverage of Far-Western Development Region

In recently updated information, out of the nine districts of this development region, only two (Bajhang 16.8% and Doti 5.77%) districts are progressing in the water supply coverage compared with the 2010 update information. Three districts- Achham, (88% in 2010 and 87.6% in 2014), Kailali (88.6 in 2010 and 88.3 in 2014) and Baitadi (89.7 in 2010 and 81.5%)

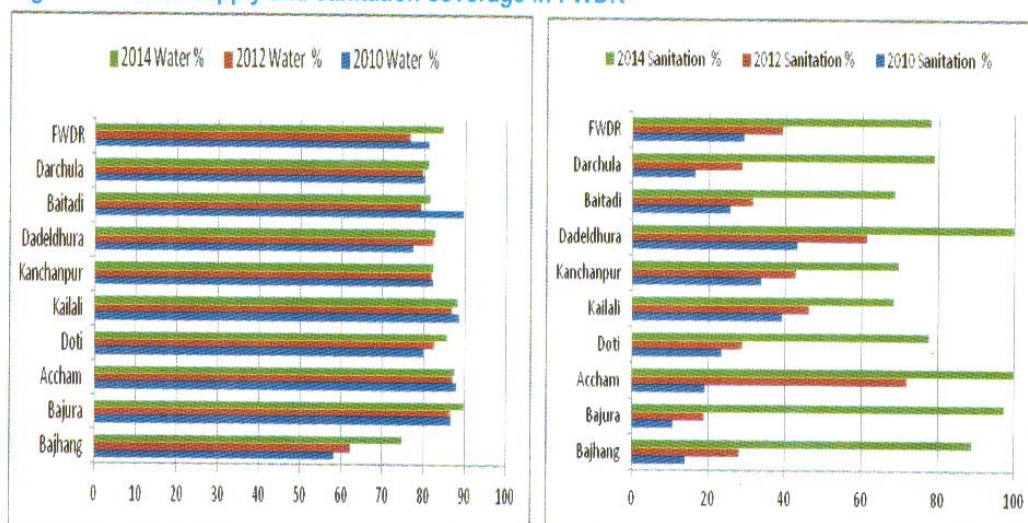


water supply percent declined 0.32, 0.3 and 1.2 percent respectively between 2010 and 2014 update periods. Baitadi was the highest water supply coverage in 2010 while in 2014 it is Bajura district.

## 2.14 Sanitation coverage of Far-Western Development Region

Sanitation coverage in this development region shows very much progress in this update period. All districts in this region are making progress well compared with that of previous one (2010). Achham and Dadeldhura districts have achieved hundred percent sanitation coverage as shown in recent NMIP update and the most significant progress made by Bajura district from 10.6 percent to 97.43 percent during 2010 and 2014 respectively. It means the district achieved 86.83 percentage progress during the two (2010-2014) NMIP update period.

Figure 2.7 Water supply and sanitation coverage in FWDR



## 2.15 Some causes of differences in water supply coverage

In some cases, a negative inclination is seen regarding the water supply coverage in terms of percentage. There are many reasons behind such unusual trend. Generally, it is perceived that there must be a positive increment as year passes. But in reality, this is not a true assumption. The volume of the total population is governed by the rate of growth and the migration pattern. If the additionally increased population supersede the additionally covered population, the negative outcome is an obvious. The coverage figure alters drastically when migration takes place. If a migration from an uncovered areas to a water supply covered areas takes place; the uncovered figure gets reduced and covered figure gets swell. Without providing any additional water supply schemes, an increment of coverage in percentage can be observed. Conversely, if the migration is vice-versa; even a development of new water supply schemes may not increased the covered figure. This phenomenon must be understood as population dynamics instead.

Another reason of negative trend is due to the difference of projected growth of 2001 and actual growth observed after 2011 census. The total projected population figure of 2010 was 2,80,43,557 and the CBS census of 2011 figure is 2,66,28,809. It clearly indicates the shrinkage of the growth rate than assumed.

## 2.16 Water supply coverage in ecological districts

There are unequal number of districts in each ecological zone. Fifteen districts falls in the Mountain, forty districts are located in the Hill and twenty districts are located in Tarai. Generally, in all the ecological regions, no distinctive gap has been found between 2010 and 2014 update in the water supply coverage as shown in Figure 2.8. Geo-physically, it is hard to access location and building infrastructure such as water supply systems are difficult in Mountain region. In Hill areas, water supply coverage is comparatively better and in Tarai progress between 2010 and 2014 is significantly different (Figure 2.8).

Figure 2.8 Water supply coverage on ecological districts

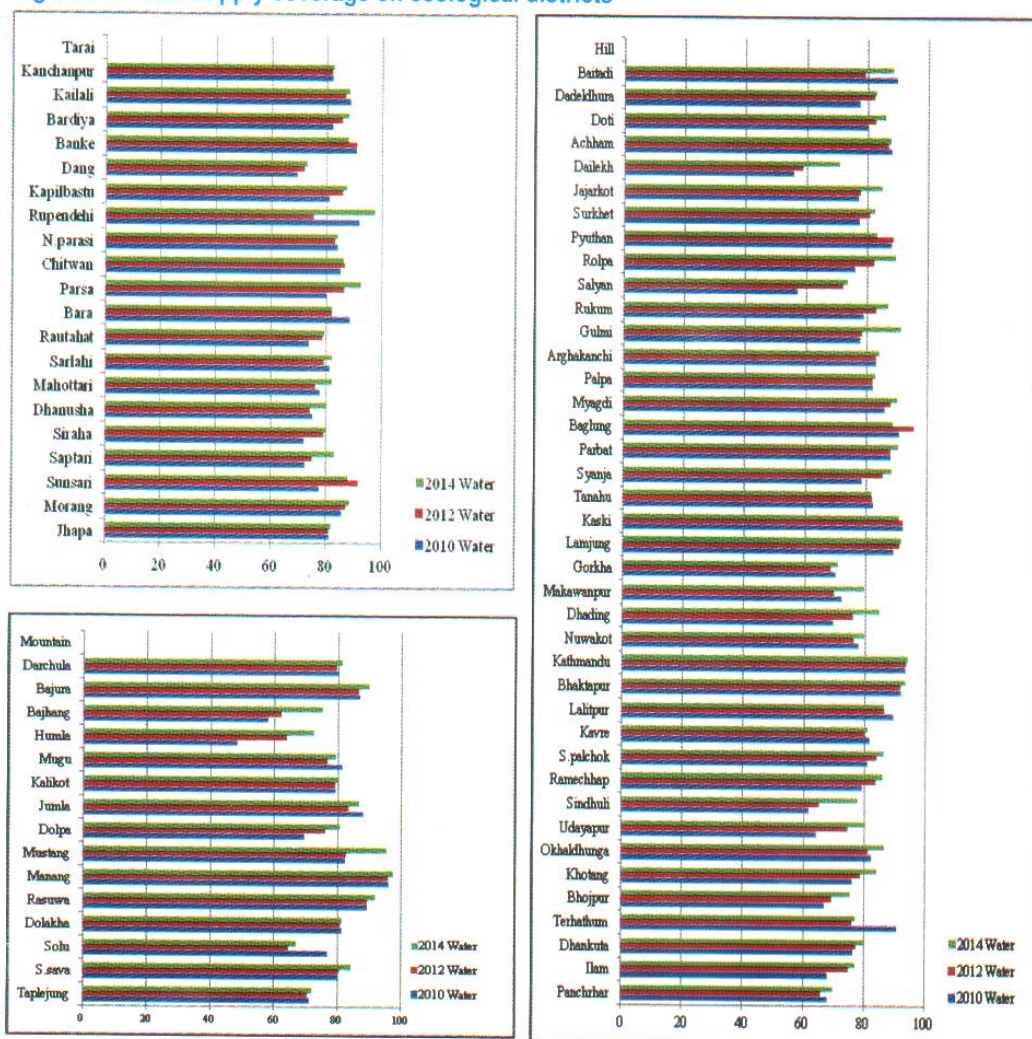
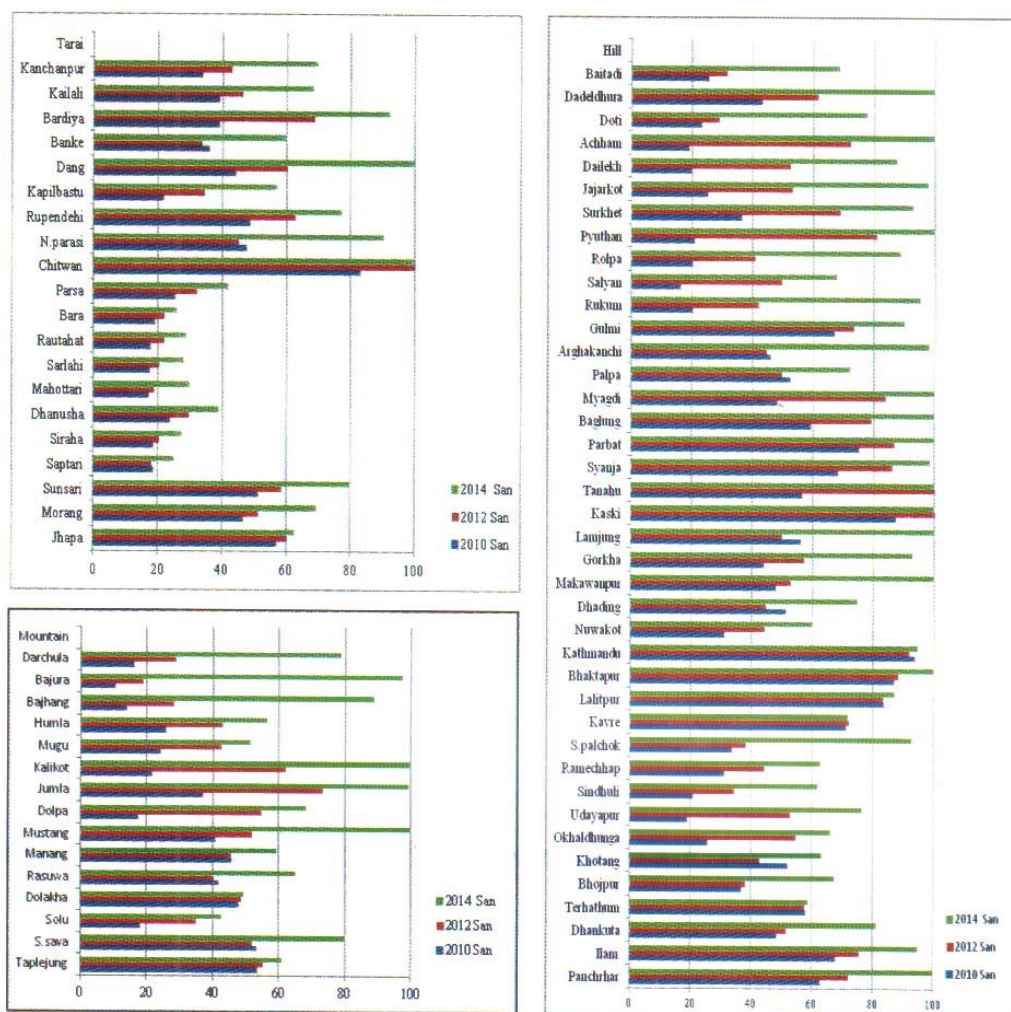




Figure 2.9 Sanitation coverage on ecological districts



## 2.17 Sanitation coverage in ecological districts

Districts in three ecological zones (Mountain, Hill and Tarai) made progress in sanitation coverage is distinctive in NMIP 2014. The seven districts of mid Tarai are yet to cross the forty percent sanitation coverage, the fact should be of serious concern to all the stakeholders.

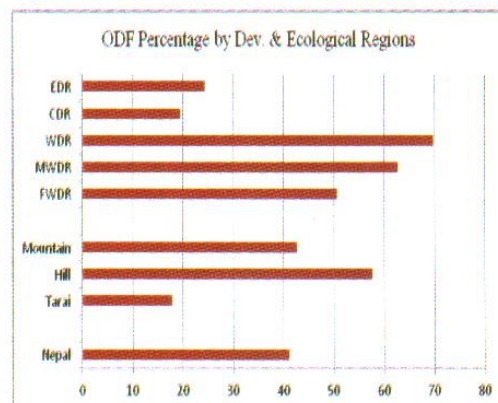
## 2.18 Declaration of Open Defecation Free Area

The declaration of 'open defecation free area' is taken another indicator of sanitation coverage. Though it does not reflect the exact coverage of an area, but it indicates the commitment of the local administration units. The VDC and district are considered the main element of ODF declaration. The following tables show the ODF declaration status made by the end of fiscal year 2070/71(B.S.) :

**Table 2.7: ODF Status at National Level**

Region	Municipality		VDCs		Total Local Bodies		ODF %
	Total	ODF	Total	ODF	Total	ODF	
EDR	14	3	893	218	907	221	24.37
CDR	20	5	1199	233	1219	238	19.52
WDR	12	6	865	606	877	612	69.78
MWDR	6	2	575	362	581	364	62.65
FWDR	6	1	383	196	389	197	50.64
Mountain	2	0	464	199	466	199	42.7
Hill	26	11	2021	1167	2047	1178	57.55
Tarai	29	6	1365	242	1394	248	17.79
Nepal	58	17	3915	1615	3973	1632	41.08

**Figure 2.10 ODF status by Dev. & Ecological Regions**

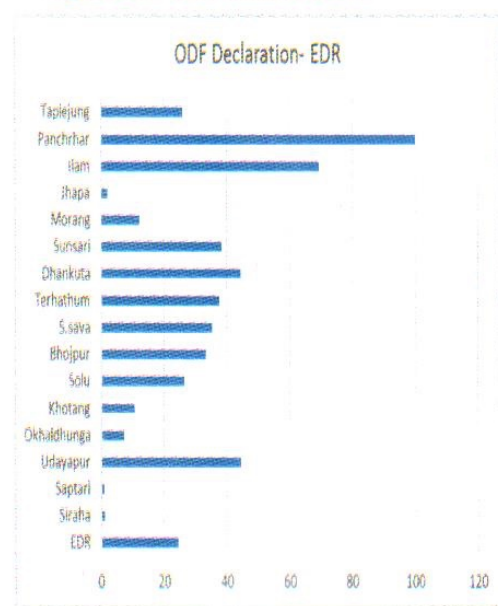


So far, one zone (Dhaulagiri), fifteen districts, seventeen Municipalities and 1615 VDCs have been declared as ODF by the end of this fiscal year 2070/071(B.S.)

**Table 2.8: ODF Status of EDR**

District	Municipality		VDCs		Total Local Bodies		ODF %
	Total	ODF	Total	ODF	Total	ODF	
Taplejung			50	13	50	13	26
Panchthar			41	41	41	41	100
Ilam	1	1	48	33	49	34	69.39
Jhapa	3		47	1	50	1	2
Morang	1		65	8	66	8	12.12
Sunsari	3	2	49	18	52	20	38.46
Dhankuta	1		35	16	36	16	44.44
Terhathum			32	12	32	12	37.5
S.sava	1		33	12	34	12	35.29
Bhojpur			63	21	63	21	33.33
Solu			34	9	34	9	26.47
Khotang			76	8	76	8	10.53
Okhaldhunga			56	4	56	4	7.14
Udayapur	1		44	20	45	20	44.44
Saptari	1		114	1	115	1	0.87
Siraha	2		106	1	108	1	0.93
EDR	14	3	893	218	907	221	24.37

**Figure 2.11 ODF status of EDR**



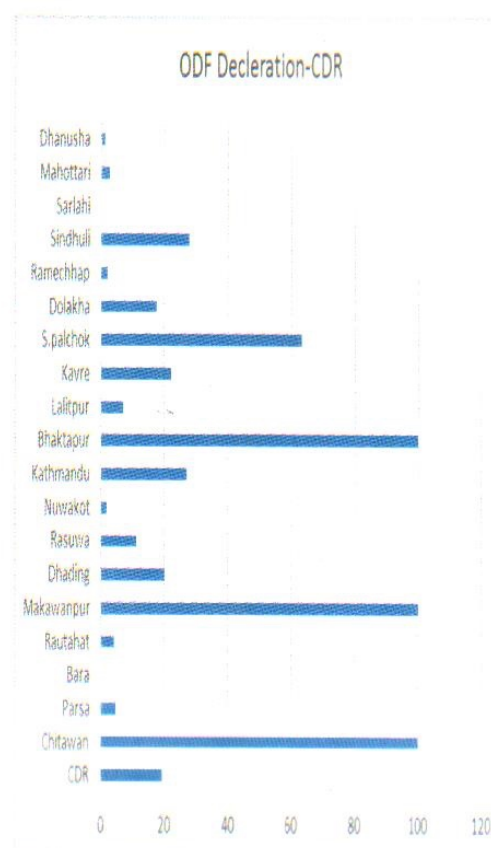
In EDR only Panchthar has declared as ODF district. Saptari and Siraha districts covered the least.



**Table 2.9: ODF Status of CDR**

District	Municipality		VDCs		Total Local Bodies		ODF %
	Total	ODF	Total	ODF	Total	ODF	
Dhanusha	1		101	1	102	1	0.98
Mahottari	1		76	2	77	2	2.6
Sarlahi	1		99		100	0	0
Sindhuli	1		53	15	54	15	27.78
Ramechhap			55	1	55	1	1.82
Dolakha	1		51	9	52	9	17.31
S.palchok			79	50	79	50	63.29
Kavre	3		87	20	90	20	22.22
Lalitpur	1		41	3	42	3	7.14
Bhaktapur	2	2	16	16	18	18	100
Kathmandu	2		57	16	59	16	27.12
Nuwakot	1		61	1	62	1	1.61
Rasuwa			18	2	18	2	11.11
Dhading			50	10	50	10	20
Makawanpur	1	1	43	43	44	44	100
Rautahat	1		96	4	97	4	4.12
Bara	1		98		99	0	0
Parsa	1		82	4	83	4	4.82
Chitwan	2	2	36	36	38	38	100
CDR	20	5	1199	233	1219	238	19.52

**Figure 2.12 ODF status of CDR**



In CDR, Bhaktapur, Makawanpur and Chitwan districts have been declared as hundred percent open defecation free areas. Unfortunately, however, the same number, i.e., Dhanusha, Sarlahi and Bara districts have not achieved even one percent open defecation free status. Parsa, Rautahat and Mohattari districts are also painted the bleak picture of sanitation.

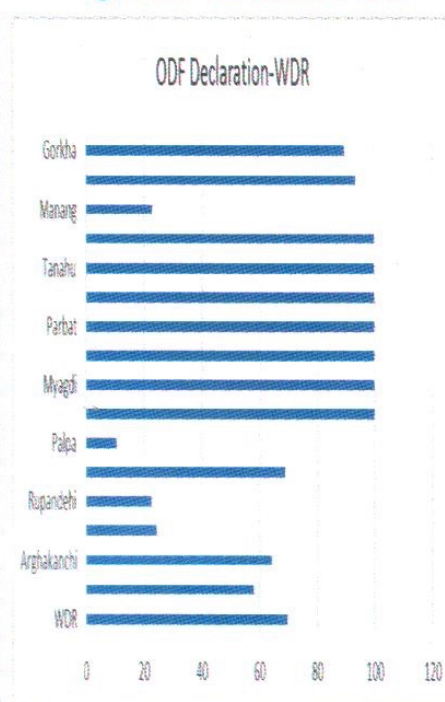
In the hill, Ramechhap and Nuwakot districts have remained below two percent of ODF coverage which is also the miserable situation. Within the Kathmandu valley, Lalitpur district has not crossed more than eight percent in ODF status.

Altogether, above mentioned districts have a discouraging picture in sanitation situation. Therefore, the concerned agencies and the development partners have to be serious on how to improve the ODF situation.

Table 2.10: ODF Status of WDR

District	Municipality		VDCs		Total Local Bodies		ODF %
	Total	ODF	Total	ODF	Total	ODF	
Gorkha	1		66	60	67	60	89.55
Lamjung			61	57	61	57	93.44
Manang			13	3	13	3	23.08
Kaski	2	2	43	43	45	45	100
Tanahu	1	1	46	46	47	47	100
Syangja	2	2	60	60	62	62	100
Parbat			55	55	55	55	100
Baglung	1	1	59	59	60	60	100
Myagdi			41	41	41	41	100
Mustang			16	16	16	16	100
Palpa	1		65	7	66	7	10.61
N.parasi	1		73	51	74	51	68.92
Rupandehi	2		69	16	71	16	22.54
Kapilvastu	1		77	19	78	19	24.36
Arghakanchi			42	27	42	27	64.29
Gulmi			79	46	79	46	58.23
WDR	12	6	865	606	877	612	69.78

Figure 2.13 ODF status of WDR



Among sixteen districts, six are already declared ODF. Though Syangja has obtained hundred percent, ODF is yet to be remained declared. The least ODF covered district is Palpa.

Table 2.11: ODF Status of MWDR

District	Municipality		VDCs		Total Local Bodies		ODF %
	Total	ODF	Total	ODF	Total	ODF	
Rukum			43	31	43	31	72.09
Salyan			47	9	47	9	19.15
Rolpa			51	24	51	24	47.06
Pyuthan			49	49	49	49	100
Dang	2	2	39	39	41	41	100
Banke	1		46	8	47	8	17.02
Bardiya	1		31	22	32	22	68.75
Surkhet	1		50	32	51	32	62.75
Jajarkot			30	30	30	30	100
Dailekh	1		55	36	56	36	64.29
Dolpa			23	6	23	6	26.09
Jumla			30	28	30	28	93.33
Kalikot			30	30	30	30	100
Mugu			24	8	24	8	33.33
Humla			27	10	27	10	37.04
MWDR	6	2	575	362	581	364	62.65

Figure 2.14 ODF status of MWDR

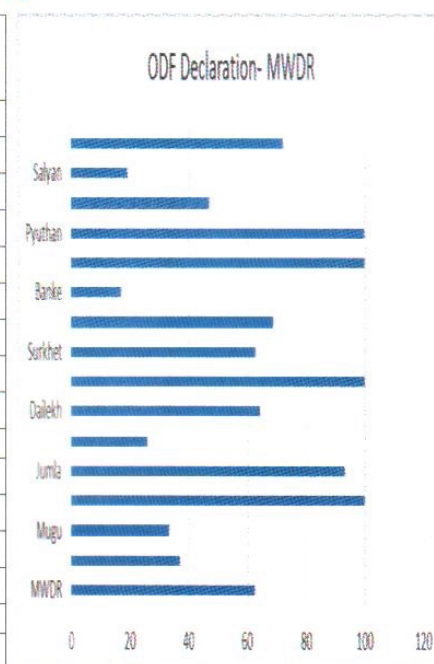
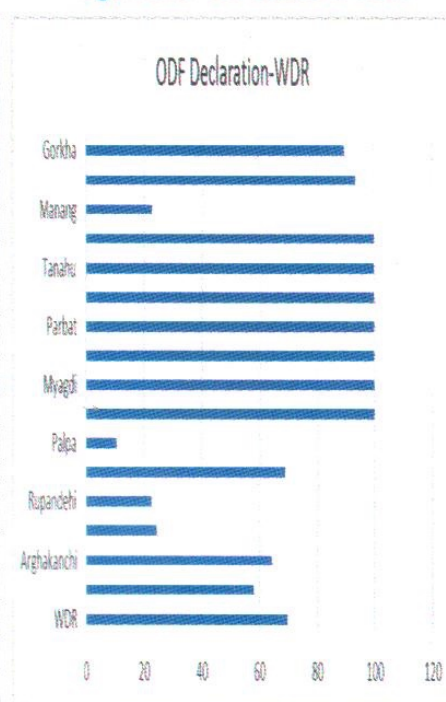




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District	Municipality		VDCs		Total Local Bodies		ODF %
	Total	ODF	Total	ODF	Total	ODF	
Gorkha	1		66	60	67	60	89.55
Lamjung			61	57	61	57	93.44
Manang			13	3	13	3	23.08
Kaski	2	2	43	43	45	45	100
Tanahu	1	1	46	46	47	47	100
Syangja	2	2	60	60	62	62	100
Parbat			55	55	55	55	100
Baglung	1	1	59	59	60	60	100
Myagdi			41	41	41	41	100
Mustang			16	16	16	16	100
Palpa	1		65	7	66	7	10.61
N.parasi	1		73	51	74	51	68.92
Rupandehi	2		69	16	71	16	22.54
Kapilvastu	1		77	19	78	19	24.36
Arghakanchi			42	27	42	27	64.29
Gulmi			79	46	79	46	58.23
WDR	12	6	865	606	877	612	69.78

Figure 2.13 ODF status of WDR

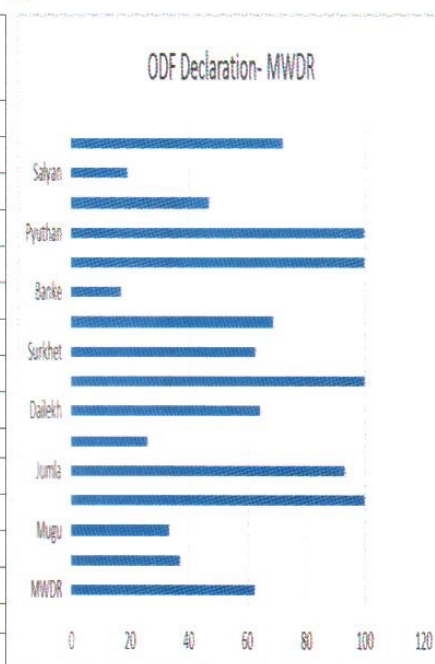


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Salyan			47	9	47	9	19.15
Rolpa			51	24	51	24	47.06
Pyuthan			49	49	49	49	100
Dang	2	2	39	39	41	41	100
Banke	1		46	8	47	8	17.02
Bardiya	1		31	22	32	22	68.75
Surkhet	1		50	32	51	32	62.75
Jajarkot			30	30	30	30	100
Dailekh	1		55	36	56	36	64.29
Dolpa			23	6	23	6	26.09
Jumla			30	28	30	28	93.33
Kalikot			30	30	30	30	100
Mugu			24	8	24	8	33.33
Humla			27	10	27	10	37.04
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Figure 2.14 ODF status of MWDR

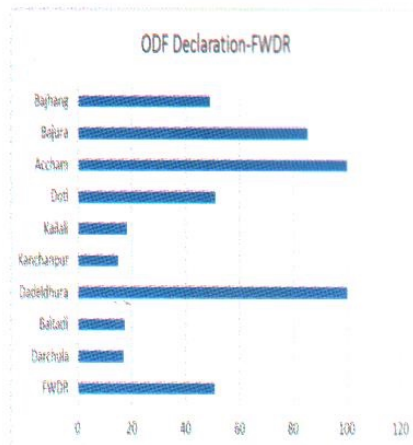


In MWDR region, the four district stand as hundred percent coverage of ODF and least one is Banke district. The following table and chart show the scenario of FWDR:

**Table 2.12: ODF Status of FWDR**

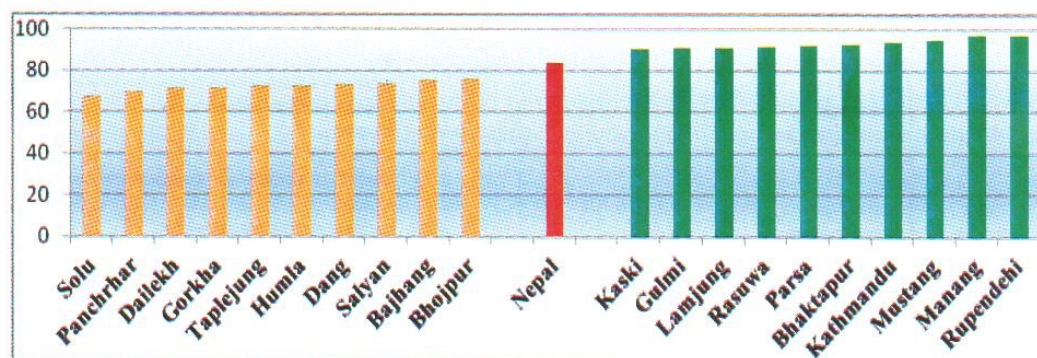
District	Municipality		VDCs		Total Local Bodies		ODF %
	Total	ODF	Total	ODF	Total	ODF	
Bajhang			47	23	47	23	48.94
Bajura			27	23	27	23	85.19
Achham			75	75	75	75	100
Doti	1		50	26	51	26	50.98
Kailali	2		42	8	44	8	18.18
Kanchanpur	1		19	3	20	3	15
Dadeldhura	1	1	20	20	21	21	100
Baitadi	1		62	11	63	11	17.46
Darchula			41	7	41	7	17.07
FWDR	6	1	383	196	389	197	50.64

**Figure 2.15 ODF status of FWDR**



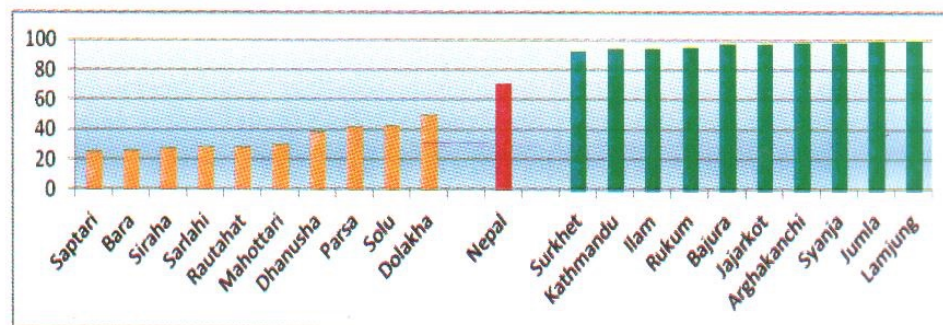
Achham and Dadeldhura districts achieved cent percent ODF and the least one is Kanchanpur in FWDR. The following chart shows the bottom and top district in water supply:

**Figure 2.16 Bottom & Top ten districts-Water Supply**



Similarly, the following chart shows the top and bottom district in term of sanitation:

**Figure 2.17 Bottom & Top ten districts-Sanitation**



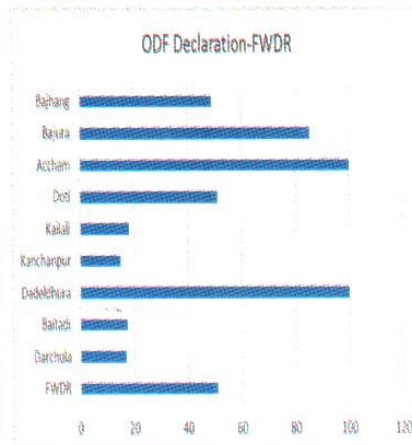


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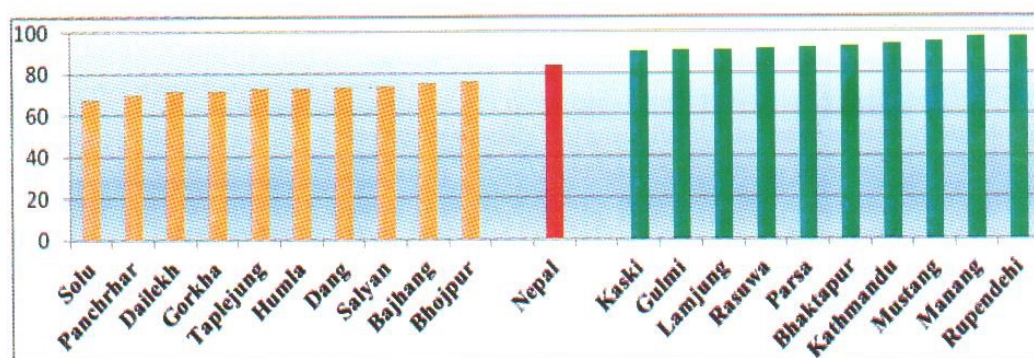
District	Municipality		VDCs		Total Local Bodies		ODF %
	Total	ODF	Total	ODF	Total	ODF	
Bajhang			47	23	47	23	48.94
Bajura			27	23	27	23	85.19
Achham			75	75	75	75	100
Doti	1		50	26	51	26	50.98
Kailali	2		42	8	44	8	18.18
Kanchanpur	1		19	3	20	3	15
Dadeldhura	1	1	20	20	21	21	100
Baitadi	1		62	11	63	11	17.46
Darchula			41	7	41	7	17.07
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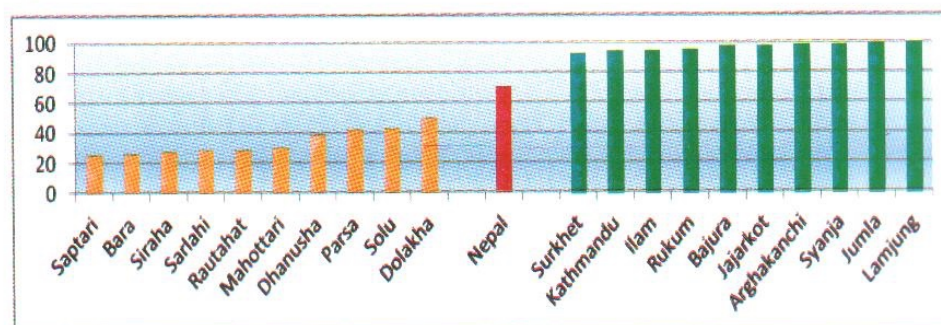
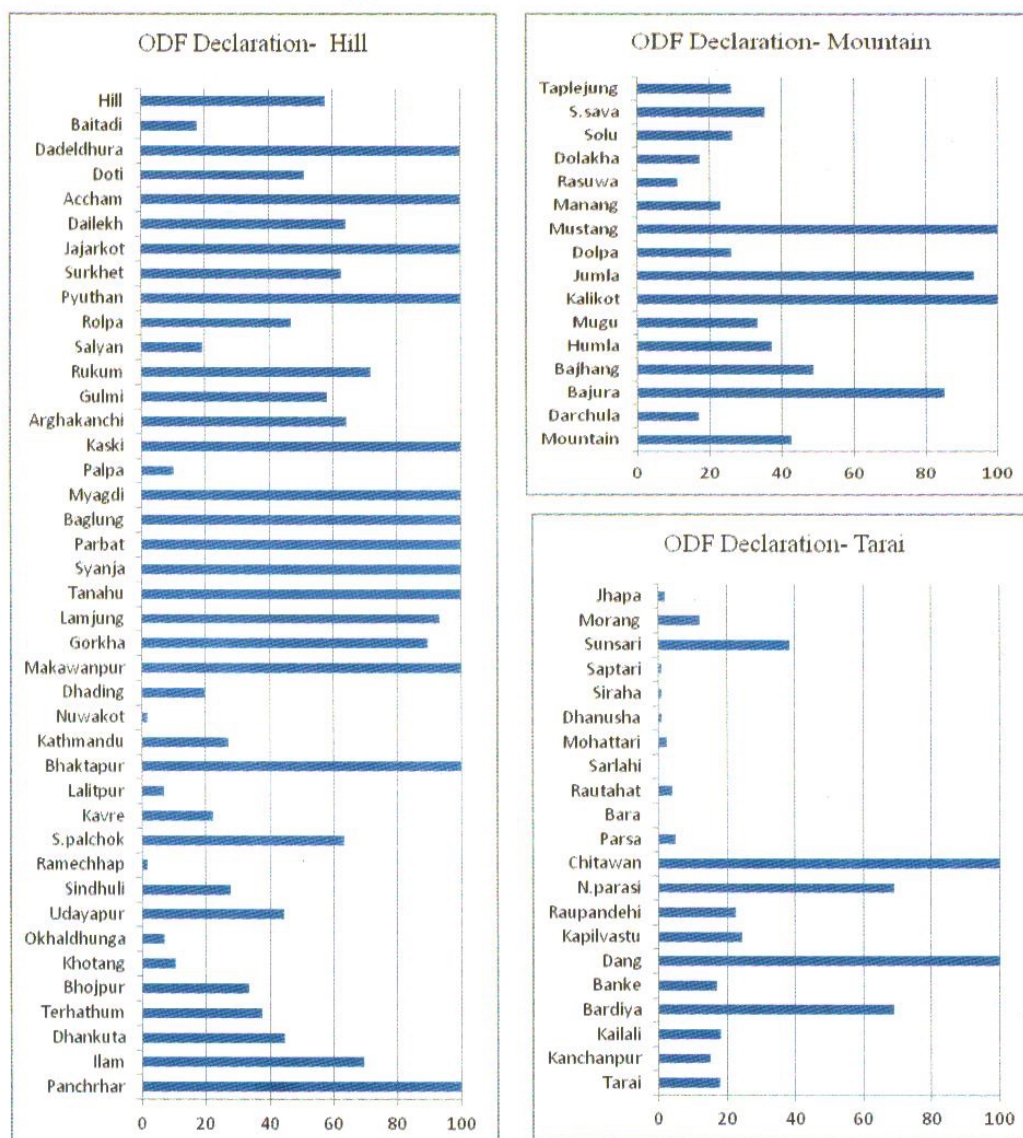
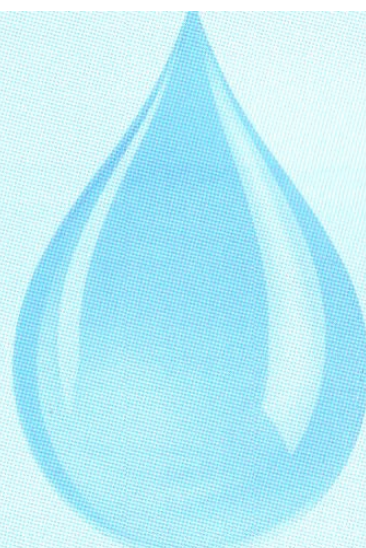


Figure 2.18 ODF status by Ecological Zone



Districts located in the mid-hill presented the encouraging fact whereas mid-Tarai painted a bleak picture. Districts already achieved hundred percent ODF have to concentrate post-ODF activities. However, those districts which are still far away to achieve the ODF situation, all the concerned have to put their utmost efforts to achieve it.





## CHAPTER 3

# FUNCTIONALITY

### 3.1 Introduction

The analysis of functionality of water supply services needs elaborate and qualitative information of each water supply schemes. In case of sanitation, detailed information about the ward-wise status of toilets with their technology and use must be available. Without more resources and programs, it is not possible to have an annual functionality update. However, in case of coverage, an annual update seems more practical. Now, NMIP has set a different milestone of evaluation for coverage and functionality.

The coverage of water supply and sanitation described on previous chapter is based on NMIP update of mid-2012 and 2014. However, in case of functionality, the latest update of 2014 (up to last Fiscal year) is yet to be documented, verified and analysed. Within the past two months of this fiscal year, we succeeded to capture only the district-wise coverage scenario. The details of functionality parameters are on documentation process. Right now, the functionality status is described on the basis of detailed analysis of 2012. Hence any figures, presentation or description of this chapter is purely based on NMIP 2012 update.

### 3.2 Sources of water supply

In Nepal, the source type of water supply is predominantly determined by the topography of the particular location. Generally speaking, in mountainous and hilly areas, the standalone spring, spring fed canyons and stream are the main source of water supply. The shallow/deep tube well or dug well are the predominant sources at the plain areas. In case of Chure range, both types viz. stream and ground water are observed. Rain water is a next potential source of water but in our case, though in practice in many spots, it does not govern a significant contribution. Similarly, big lake/rivers are not found the main source of water supply. However, in recent years, in mountain areas too, some larger sub-projects, pumping from rivers from the bottom of the hills are found increasing. Among the yet built piped network schemes, the following district-wise scenario is observed:



**Table 3.1: District wise coverage of source types by EDR**

District	Piped System	Tube Well			Rain Water		Preserved Point Sources				Total
		Public Tube Well		Private			Spring		Well		
		HH	No	HH	HH	No	HH	No	HH	No	HH
Taplejung	13567	0	0	0	0	0	450	3528	0	0	17095
Panchthar	23884	0	0	0	0	0	120	740	1	14	24638
Ilam	50322	42	275	1332	0	0	1302	8504	80	586	61019
Jhapa	45733	4908	14780	67432	0	0	104	381	6340	9391	137717
Morang	49607	7573	30963	87532	0	0	43	564	98	150	168816
Sunsari	35691	7772	19578	64852	0	0	65	1286	62	180	121587
Dhankuta	23502	0	0	0	31	39	146	631	0	0	24172
Terhathum	16072	0	0	0	8	8	273	765	15	26	16871
S.sava	26058	0	0	0	3	35	177	1796	1	11	27900
Bhojpur	26462	0	0	0	0	0	107	778	27	454	27694
Soi	14836	0	0	0	0	0	25	578	1	27	15441
Khotang	27170	0	0	0	1	3	523	2262	0	0	29435
Okhaldhunga	24344	0	0	0	0	0	103	882	3	34	25260
Udayapur	36653	369	1936	6716	0	0	61	291	49	671	46267
Saptari	30420	5906	23698	35277	0	0	0	0	431	1532	90927
Siraha	20173	3376	15654	45501	0	0	0	0	66	430	81758
EDR	464494	29946	106884	308642	43	85	3499	22986	7174	13506	916597

**Table 3.2: District-wise coverage of source types by CDR**

District	Piped System	Tube Well			Rain Water		Preserved Point Sources				Total
		Public Tube Well		Private			Spring		Well		
	HH	No	HH	HH	No	HH	No	HH	No	HH	HH
Dhanusha	5333	5049	32683	51109	0	0	227	4147	399	2879	96151
Mahottari	10031	2828	45460	27894	0	0	0	0	124	1950	85335
Sarlahi	19704	4872	26288	55118	0	0	2	12	93	1583	102705
Sindhuli	32200	38	301	368	0	0	283	2998	74	1249	37116
Ramechhap	33887	0	0	0	23	23	221	2273	15	160	36343
Dolakha	34528	0	0	0	3	3	131	1060	3	13	35604
S.palchok	47018	0	0	0	0	0	405	5263	2	16	52297
Kavre	53655	0	0	1027	10	15	182	4760	1191	4983	64440
Lalitpur	65145	0	0	0	0	0	74	821	279	3698	69664
Bhaktapur	38194	0	0	0	0	0	238	1826	177	360	40380
Kathmandu	251063	16	116	635	23	89	254	1840	1803	2498	256241
Nuwakot	43006	0	0	0	0	0	8	842	3	106	43954
Rasuwa	8635	0	0	0	0	0	59	567	0	0	9202
Dhading	47066	0	0	0	24	26	242	3614	0	0	50706
Makawanpur	52963	81	662	420	196	196	29	660	12	182	55083
Rautahat	5805	3812	20881	56774	0	0	0	0	134	482	83942



District	Piped System	Tube Well			Rain Water		Preserved Point Sources				Total
		Public Tube Well		Private			Spring		Well		
	HH	No	HH	HH	No	HH	No	HH	No	HH	HH
Bara	22858	3880	34397	48884	0	0	0	0	0	0	106139
Parsa	17208	6481	43443	22458	0	0	0	0	21	106	83215
Chitwan	46973	1429	5620	44066	82	110	12	482	2324	6578	103829
CDR	835272	28486	209851	308753	361	462	2367	31165	6654	26843	1412346

**Table 3.3: District wise coverage of source types by WDR**

District	Piped System	Tube Well			Rain Water		Preserved Point Sources				Total
		Public Tube Well		Private			Spring		Well		
		HH	No	HH	HH	No	HH	No	HH	No	HH
Gorkha	41445	0	0	0	28	147	150	2928	13	109	44629
Lamjung	31941	0	0	0	23	69	94	299	18	89	32398
Manang	1344	0	0	0	0	0	5	7	2	9	1360
Kaski	2400	76	0	0	0	0	7113	74111	0	0	76511
Tanahu	51935	1	2	18	123	594	6	1726	2	46	54321
Syangja	55721	0	0	0	3	132	13	165	18	179	56197
Parbat	27963	0	0	0	45	45	50	263	0	0	28271
Baglung	50823	0	0	0	13	121	166	1225	3	4	52173
Myagdi	12713	0	0	0	815	4382	361	2388	0	0	19483
Mustang	2138	0	0	0	0	0	5	10	0	0	2148
Palpa	40548	0	0	314	1153	1066	210	1420	39	298	43646
N.parasi	32941	1538	6988	18123	4	4	9	299	343	2133	60488
Rupandehi	12124	4607	27147	59565	1	1	1	3	72	766	99606
Kapilvastu	14723	5628	26849	42897	0	0	0	0	0	0	84469
Arghakanchi	35582	0	0	89	112	312	4	455	0	0	36438
Gulmi	46637	0	0	0	1564	1442	109	726	11	214	49019
WDR	460978	11850	60986	121006	3884	8315	8296	86025	521	3847	741157

**Table 3.4: District-wise coverage of source types by MWDR**

District	Piped System	Tube Well			Rain Water		Preserved Point Sources				Total
		Public Tube Well		Private			Spring		Well		
		HH	No	HH	HH	No	HH	No	HH	No	HH
Rukum	28701	0	0	0	0	0	643	6798	0	0	35499
Salyan	22144	0	0	0	0	0	402	2797	4	13	24954
Rolpa	35437	0	0	0	10	10	54	987	1	15	36449
Pyuthan	41338	1	27	6	89	89	14	260	15	117	41837
Dang	47971	842	3694	17314	77	81	123	1023	1221	3848	73931
Banke	6064	5781	16715	42361	0	0	0	0	10	46	65186
Bardiya	610	5649	11723	52336	0	0	0	0	4	55	64724
Surkhet	51257	0	0	227	0	0	41	1188	130	661	53333
Jajarkot	23404	0	0	0	1	15	71	1580	2	49	25048
Dailekh	30584	0	0	0	0	0	13	125	2	25	30734
Dolpa	5349	0	0	0	0	0	40	347	0	0	5696

District	Piped System	Tube Well			Rain Water		Preserved Point Sources				Total
		Public Tube Well		Private			Spring		Well		
	HH	No	HH	HH	No	HH	No	HH	No	HH	HH
Jumla	15438	0	0	0	0	0	17	566	0	0	16004
Kalikot	17776	0	0	0	0	0	18	327	0	0	18103
Mugu	7272	0	0	0	0	0	5	88	0	0	7360
Humla	5782	0	0	0	0	0	0	0	0	0	5782
MWDR	339127	12273	32159	112244	177	195	1441	16086	1389	4829	504640

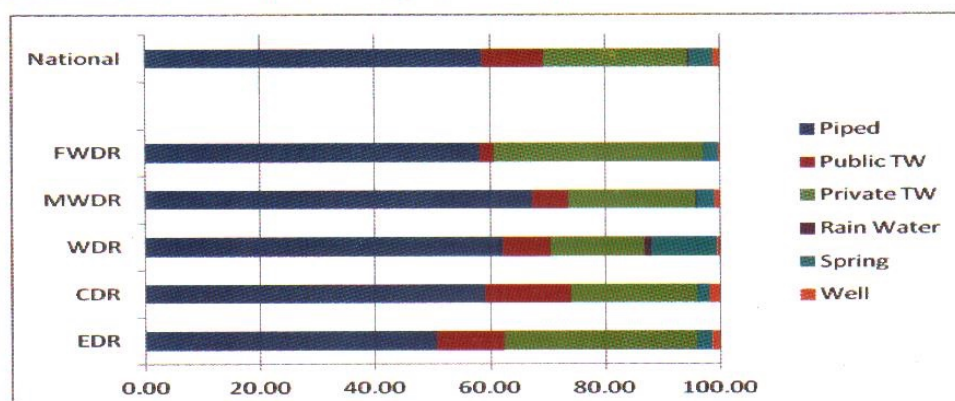
**Table 3.5: District-wise coverage of source types by FWDR**

District	Piped System	Tube Well			Rain Water		Preserved Point Sources				Total
		Public Tube Well		Private			Spring		Well		
	HH	No	HH	HH	No	HH	No	HH	No	HH	HH
Bajhang	20679	0	0	0	0	8	87	0	0	0	20687
Bajura	18747	0	0	0	5	268	254	3662	15	120	22797
Achham	41238	0	0	0	0	0	125	876	0	0	42114
Doti	31916	0	0	0	0	0	62	1965	26	257	34138
Kailali	4517	2025	6415	77315	0	0	25	201	115	614	89062
Kanchanpur	7650	666	2185	51852	0	0	12	103	7	43	61833
Dadeldhura	20787	0	0	0	0	0	7	53	0	0	20840
Baitadi	39083	0	0	10	16	148	169	1914	3	218	41373
Darchula	22322	0	0	0	0	0	9	151	0	0	22473
FWDR	206939	2691	8600	129177	21	424	750	8925	166	1252	355317

**Table 3.6: National coverage of source types**

Region	Piped System	Tube Well			Rain Water		Preserved Point Sources				Total
		Public Tube Well	Private				Spring		Well		
	HH	No	HH	HH	No	HH	No	HH	No	HH	HH
EDR	464494	29946	106884	308642	43	85	3499	22986	7174	13506	916597
CDR	835272	28486	209851	308753	361	462	2367	31165	6654	26843	1412346
WDR	460978	11850	60986	121006	3884	8315	8296	86025	521	3847	741157
MWDR	339127	12273	32159	112244	177	195	1441	16086	1389	4829	504640
FWDR	206939	2691	8600	129177	21	424	750	8925	166	1252	355317
Nepal	2306810	85246	418480	979822	4486	9481	16353	165187	15904	50277	3930057

**Figure 3.1 National water supply coverage by source types**





### 3.3 System and source types of piped WS schemes

Table 3.7: Number of system and source types by districts in EDR

District	System Type				Source type							
	Total schemes	Gravity	Surface	Overhead	Spring	Spring fed stream	Stream	Big stream	Pond	Under-ground	River	Other
Taplejung	353	353	0	0	270	59	22	2	0	0	0	0
Panchthar	823	822	1	0	660	36	1	126	0	0	0	0
Ilam	1037	1030	7	0	759	15	222	31	0	4	0	6
Jhapa	88	48	1	39	18	39	5	19	0	7	0	0
Morang	173	145	3	25	71	10	27	37	0	28	0	0
Sunsari	98	74	0	24	10	10	55	0	0	21	0	2
Dhankuta	908	905	3	0	717	134	37	14	0	0	0	6
Terhathum	504	504	0	0	449	16	0	39	0	0	0	0
Sankhusava	799	797	2	0	633	84	5	75	0	0	0	2
Bhojpur	1050	1050	0	0	819	114	0	117	0	0	0	0
Solu	498	498	0	0	458	11	25	4	0	0	0	0
Khotang	1238	1236	2	0	795	62	2	379	0	0	0	0
Okhaldhunga	935	935	0	0	729	47	1	158	0	0	0	0
Udayapur	356	354	2	0	163	43	0	150	0	0	0	0
Saptari	27	9	0	18	2	12	0	4	0	9	0	0
Siraha	17	8	2	7	2	13	1	1	0	0	0	0
EDR	8904	8768	23	113	6555	705	403	1156	0	69	0	16

Table 3.8: Number of system and source types by Districts in CDR

District	System Type				Source Type							
	Total schemes	Gravity	Surface	Overhead	Spring	Spring fed stream	Stream	Big stream	Pond	Under-ground	River	Other
Dhanusha	36	26	2	8	14	14	0	5	0	3	0	0
Mahottari	58	43	2	13	10	11	24	0	0	13	0	0
Sarlahi	25	14	2	9	9	4	2	3	0	7	0	0
Sindhuli	641	635	6	0	233	5	1	402	0	0	0	0
Ramechhap	1039	1035	4	0	748	132	156	0	0	3	0	0
Dolakha	1314	1314	0	0	1312	0	0	1	0	0	0	1
S.palchok	1158	1158	0	0	1055	4	0	99	0	0	0	0
Kavre	931	926	4	1	324	552	52	0	0	3	0	0
Lalitpur	211	208	3	0	139	20	1	51	0	0	0	0
Bhaktapur	172	155	2	15	102	31	1	38	0	0	0	0
Kathmandu	317	276	26	15	176	0	88	4	0	38	1	10
Nuwakot	1478	1477	1	0	1318	147	1	11	0	0	0	1
Rasuwa	189	189	0	0	151	8	0	30	0	0	0	0
Dhading	1135	1124	11	0	852	11	163	104	0	0	0	5
Makawanpur	633	617	14	2	336	3	284	5	0	1	0	4
Rautahat	46	10	0	36	6	1	1	2	0	36	0	0
Bara	22	16	0	6	7	3	2	5	0	5	0	0
Parsa	24	15	0	9	1	5	2	12	0	4	0	0
Chitwan	251	234	4	13	219	2	9	11	0	10	0	0
CDR	9680	9472	81	127	7012	953	787	783	0	123	1	21

**Table 3.9: Number of system and source types by districts in WDR**

District	System Type				Source type							
	Total schemes	Gravity	Surface	Overhead	Spring	Spring fed stream	Stream	Big stream	Pond	Under-ground	River	Other
Gorkha	1165	1147	18	0	44	1106	8	7	0	0	0	0
Lamjung	789	788	1	0	670	1	0	118	0	0	0	0
Manang	44	44	0	0	1	43	0	0	0	0	0	0
Kaski	1002	998	4	0	714	79	166	32	0	5	0	6
Tanahu	1528	1515	13	0	1182	6	223	4	1	4	0	108
Syangja	1476	1470	6	0	1364	0	110	0	0	0	0	2
Parbat	871	871	0	0	759	0	1	111	0	0	0	0
Baglung	1159	1159	0	0	1020	109	9	21	0	0	0	0
Myagdi	446	446	0	0	421	0	25	0	0	0	0	0
Mustang	75	75	0	0	75	0	0	0	0	0	0	0
Palpa	1479	1470	9	0	0	1479	0	0	0	0	0	0
N.parasi	369	363	1	5	30	319	3	15	0	2	0	0
Rupandehi	87	39	17	31	32	2	6	3	0	44	0	0
Kapilbastu	15	3	0	12	4	0	0	0	0	11	0	0
Arghakanchi	1231	1231	0	0	1126	23	78	2	0	0	0	2
Gulmi	1339	1339	0	0	1150	64	7	101	0	0	0	17
WDR	13075	12958	69	48	8592	3231	636	414	1	66	0	135

**Table 3.10: Number of system and source types by districts in MWDR**

District	System Type				Source type							
	Total scheme	Gravity	Surface	Over-head	Spring	Spring fed stream	Stream	Big stream	pond	Under-ground	River	Other
Rukum	394	394	0	0	334	32	0	28	0	0	0	0
Salyan	836	831	1	4	829	2	0	5	0	0	0	0
Rolpa	565	565	0	0	12	553	0	0	0	0	0	0
Pyuthan	935	915	20	0	843	50	0	42	0	0	0	0
Dang	243	243	0	0	0	243	0	0	0	0	0	0
Banke	17	7	1	9	2	0	0	3	0	12	0	0
Bardiya	20	8	0	12	3	0	4	0	0	13	0	0
Surkhet	487	484	2	1	119	349	0	19	0	0	0	0
Jajarkot	330	330	0	0	266	5	50	8	0	0	0	1
Dailekh	621	621	0	0	51	568	0	0	0	0	0	2
Dolpa	86	86	0	0	68	5	0	13	0	0	0	0
Jumla	167	167	0	0	158	7	1	1	0	0	0	0
Kalikot	204	204	0	0	168	19	0	17	0	0	0	0
Mugu	139	139	0	0	110	20	0	9	0	0	0	0
Humla	125	125	0	0	104	3	0	18	0	0	0	0
MWDR	5169	5119	24	26	3067	1856	55	163	0	25	0	3



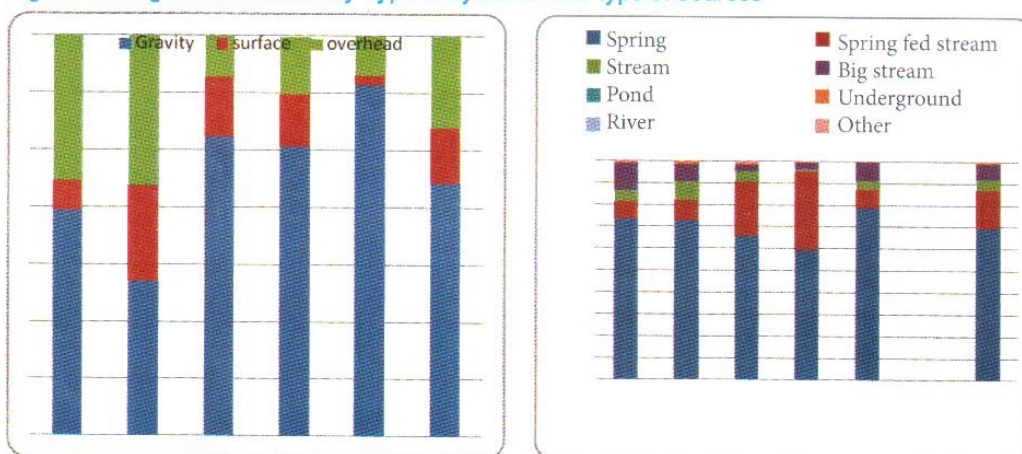
**Table 3.11: Number of system and source types by districts in FWDR**

District	System Type				Source type							
	Total scheme	Gravity	Surface	Overhead	Spring	Spring fed stream	Stream	Big stream	Pond	Under-ground	River	Other
Bajhang	516	516	0	0	515	0	0	1	0	0	0	0
Bajura	352	351	1	0	338	7	0	7	0	0	0	0
Achham	673	673	0	0	618	31	3	21	0	0	0	0
Doti	380	380	0	0	224	3	149	0	0	0	0	4
Kailali	185	185	0	0	0	185	0	0	0	0	0	0
Kanchanpur	33	18	0	15	16	0	1	0	1	15	0	0
Dadeldhura	510	510	0	0	198	13	10	289	0	0	0	0
Baitadi	1185	1182	3	0	1057	69	0	59	0	0	0	0
Darchula	543	543	0	0	481	61	1	0	0	0	0	0
FWDR	4377	4358	4	15	3447	369	164	377	1	15	0	4

**Table 3.12: Region-wise status by type of systems and type of sources**

Region	System Types				Source Types							
	Total scheme	Gravity	Surface	Over-head	Spring	Spring fed stream	Stream	Big stream	Pond	Under-ground	River	Other
EDR	8904	8768	23	113	6555	705	403	1156	0	69	0	16
CDR	9680	9472	81	127	7012	953	787	783	0	123	1	21
WDR	13075	12958	69	48	8592	3231	636	414	1	66	0	135
MWDR	5169	5119	24	26	3067	1856	55	163	0	25	0	3
FWDR	4377	4358	4	15	3447	369	164	377	1	15	0	4
Nepal	41205	40675	201	329	28673	7114	2045	2893	2	298	1	179

**Figure 3.2 Region-wise status by type of systems and type of sources**



On the basis of the yet built total 41,205 numbers of schemes (irrespective of their sizes and served population), gravity fed water supply schemes prevailed more than 97 percent in all development regions, which is 98.71 percent in national perspective, followed by overhead of 0.80% and surface types by 0.49%.

According to the types of sources, out of the total schemes, the existence of spring fed sources is 73.6, 72.4, 65.7, 59.3 and 78.8 percent in EDR, CDR, WDR, MWDR and FWDR respectively.



### 3.4 Physical state and management of piped schemes

The survey assessed coverage and functionality of schemes but did not examine the level of service/quality of systems. First, schemes were assessed for whole-year supply. Then the status of physical components and management systems were observed. Schemes that need no repair are categorized as 'physically intact'. Schemes that are functioning and need repairs that are within the capacity of users (with no external inputs required) are categorized as 'need minor repair'. The schemes that are functioning but need major repairs (with external inputs for construction components and technical supports required) are categorized as 'need major repair'. Schemes that are functioning at their design level but are incapable of meeting present demand in quantity and/or quality are categorized as 'need rehabilitation'. Schemes that are serving least and need major technical and financial inputs from external sources as well as sizeable contributions from users before they can function again are categorized as 'need reconstruction'.

The key indicators taken for evaluation of good managerial functionality are technical human resources (Technician- WSST), availability of essential tools and plants, institutionalization of the operator and the existence of an operation and maintenance (O&M) fund. Those schemes that cannot be made operational again even with rehabilitation or reconstruction owing to a variety of reasons (e.g., dried-out source) is categorized as 'non- refunctionable'. The following tables present the state of functionality from physical and managerial aspect as described above:

**Table: 3. 13 Physical state and management of piped schemes- EDR**

District	No. of schemes	Percentage of the schemes.									
		Whole-year supply	Well-functioning	Need minor repair	Need major repair	Need rehabilitation	Need reconstruction	Have WSST	Adequate tools	WSUC registered	O&M fund
Taplejung	353	34.7	18.2	44.6	11.2	17.2	8.8	31.7	43.8	4.3	2.3
Panchthar	823	58.8	20.6	38.9	11.6	21.2	7.8	39.3	38.8	25.2	4.9
Ilam	1037	88.1	26.8	39.1	11.2	17.7	5.2	51.8	46.5	68.3	8.4
Jhapa	88	62.1	41.3	25.8	9.8	16.4	6.8	86.6	76.6	89.8	27.3
Morang	173	50.4	29.9	37.8	6.1	20.5	5.8	67.8	65.7	46.7	14.2
Sunsari	98	60.2	29.0	43.2	2.3	23.4	2.1	47.9	44.9	38.8	10.2
Dhankuta	908	82.2	22.0	39.0	11.0	19.2	8.8	33.4	26.7	43.2	3.1
Terhathum	504	79.4	22.5	37.2	11.2	20.7	8.4	30.7	26.1	39.0	4.5
S.sabha	799	47.2	25.9	35.8	8.9	21.2	8.2	16.3	18.9	13.3	2.6
Bhojpur	1050	57.9	21.0	46.0	8.8	16.5	7.7	17.9	17.5	25.6	2.9
Solukhumbu	498	78.9	28.9	39.1	10.1	15.5	6.5	22.1	35.0	35.6	3.9
Khotang	1238	60.8	36.2	34.3	5.1	17.7	6.8	19.3	20.9	43.8	3.4
Okhaldhunga	935	60.5	34.5	29.9	7.8	21.2	6.6	21.2	17.7	17.9	2.8
Udayapur	356	63.6	35.7	29.0	9.9	20.4	5.0	52.8	49.1	50.3	10.7
Saptari	27	67.0	47.3	34.5	2.1	12.3	3.7	67.4	67.2	71.3	35.2
Siraha	17	56.5	20.5	51.5	10.1	12.1	5.9	54.2	43.5	94.1	11.8
EDR	8904	65.3	27.2	37.4	9.2	19.0	7.1	30.9	30.2	35.9	4.8



Table: 3. 14 Physical state and management of piped schemes-CDR,

District	No. of schemes	Percentage of the schemes.									
		Whole-year supply	Well-functioning	Need minor repair	Need major repair	Need rehabilitation	Need reconstruction	Have WSST	Adequate tools	WSUC registered	O&M fund
Dhanusa	36	87.6	23.1	26.8	12.3	21.2	16.5	43.4	65.8	51.4	2.8
Mahottari	58	63.7	37.7	18.5	6.9	32.3	4.6	20.3	11.8	37.5	0.9
Sarlahi	25	60.0	34.8	6.0	13.2	26.0	20.0	56.0	46.0	58.0	20.0
Sindhuli	641	84.7	25.4	34.9	11.9	21.2	6.5	47.6	72.3	55.5	10.9
Ramechhap	1039	45.4	21.5	33.4	12.7	21.2	11.2	23.2	23.5	21.5	0.4
Dolakha	1314	56.5	17.2	38.2	11.9	22.9	9.9	12.4	19.7	9.2	2.2
Sindhupalchok	1158	59.5	20.0	37.6	12.1	22.2	8.1	16.6	9.8	28.5	0.7
Kavrepalanchok	931	82.6	17.4	45.3	12.5	18.2	6.5	40.2	32.3	95.0	1.6
Lalitpur	211	74.2	23.3	44.1	2.8	21.2	8.5	44.2	48.7	32.6	6.9
Bhaktapur	172	86.1	47.9	23.4	2.1	21.2	5.4	45.8	37.0	41.9	11.0
Kathmandu	317	88.4	20.1	53.5	3.5	18.4	4.5	73.1	70.9	66.8	0.2
Nuwakot	1478	84.3	27.4	42.3	6.3	17.5	6.5	9.3	25.1	31.6	0.4
Rasuwa	189	53.1	13.8	44.6	12.8	17.7	11.1	28.9	52.9	54.7	1.9
Dhading	1135	86.6	36.4	26.7	11.4	18.1	7.5	40.4	43.9	72.1	10.0
Makwanpur	633	80.4	25.4	33.0	12.2	22.1	7.3	50.9	71.8	60.3	3.9
Rautahat	46	85.7	70.3	3.2	11.0	13.2	2.3	75.7	73.0	63.0	39.1
Bara	22	61.2	80.5	-7.7	10.5	12.2	4.6	81.8	88.6	79.6	22.7
Parsa	24	70.0	24.5	46.0	4.7	16.5	8.3	71.7	85.0	45.8	8.3
Chitwan	251	59.3	46.1	21.3	9.6	16.5	6.5	39.7	47.1	61.7	6.4
CDR	9680	71.7	25.0	36.4	10.4	20.2	7.9	29.6	35.5	44.5	3.7

Table: 3. 15 Physical state and management of piped schemes- WDR,

District	No. of schemes	Percentage of the schemes.									
		Whole-year supply	Well-functioning	Need minor repair	Need major repair	Need rehabilitation	Need reconstruction	Have WSST	Adequate tools	WSUC registered	O&M fund
Gorkha	1165	47.9	20.1	33.3	11.4	18.2	16.9	31.8	30.5	34.4	6.6
Lamjung	789	78.4	23.0	42.1	6.1	21.2	7.7	37.7	50.8	31.0	0.4
Manang	44	69.6	42.0	21.9	4.8	17.7	13.6	45.9	35.0	47.7	4.6
Kaski	1002	59.8	18.5	48.4	9.6	17.2	6.3	29.7	29.6	26.5	0.2
Tanahun	1528	83.9	29.6	31.3	11.2	21.2	6.7	41.5	40.1	39.0	7.7
Syangja	1476	70.8	27.5	34.9	9.9	21.2	6.5	28.6	27.9	27.6	4.8
Parbat	871	76.8	28.6	39.6	6.3	18.7	6.9	28.7	31.7	29.1	2.4
Baglung	1159	58.1	21.4	39.7	5.3	21.2	12.4	35.7	41.8	60.3	4.2
Myagdi	446	81.6	24.2	38.7	8.3	22.2	6.5	22.0	25.8	9.4	0.0
Mustang	75	63.7	35.3	28.8	5.9	22.1	8.0	24.8	64.3	40.0	8.0
Palpa	1479	69.4	22.8	42.4	4.9	23.2	6.7	20.7	30.5	7.5	1.5
Nawalparasi	369	59.6	26.4	37.9	12.1	16.5	7.1	69.1	49.4	54.8	6.9
Rupandehi	87	92.4	56.3	14.5	3.4	21.2	4.6	84.8	88.6	67.3	37.9



Kapilvastu	15	52.1	18.3	45.5	13.2	20.7	2.3	10.7	11.3	10.0	6.7
Arghakhanchi	1231	74.9	20.1	48.5	6.7	18.2	6.5	19.4	22.5	26.4	0.8
Gulmi	1339	72.6	25.0	42.6	5.7	17.7	9.2	29.0	25.0	28.1	4.1
WDR	13075	69.7	24.3	39.5	7.9	19.9	8.4	31.3	33.2	30.9	3.8

**Table: 3. 16 Physical state and management of piped schemes-MWDR**

District	No. of schemes	Percentage of the schemes									
		Whole-year supply	Well-functioning	Need minor repair	Need major repair	Need rehabilitation	Need reconstruction	Have WSST	Adequate tools	WSUC registered	O&M fund
Rukum	394	52.0	28.3	20.2	8.2	20.2	23.1	17.2	29.3	23.1	1.5
Salyan	836	75.8	37.7	24.5	9.0	21.2	7.7	47.5	37.4	45.0	14.2
Rolpa	565	72.2	20.6	27.2	11.2	19.6	21.4	34.1	34.7	34.5	1.3
Pyuthan	935	70.8	31.2	35.0	6.2	17.7	10.0	37.7	38.9	31.0	6.3
Dang	243	59.3	22.6	46.5	10.1	15.5	5.4	47.8	31.6	43.1	1.9
Banke	17	84.7	41.1	26.3	12.8	15.5	4.3	81.2	77.1	85.3	17.7
Bardiya	20	60.0	36.5	29.5	6.5	12.5	15.0	60.0	77.5	47.5	25.0
Surkhet	487	61.7	14.2	47.4	11.2	20.2	7.0	43.1	37.9	42.8	2.3
Jajarkot	330	65.7	24.8	28.5	7.0	21.2	18.5	49.8	56.0	30.1	9.6
Dailekh	621	49.9	20.2	33.9	12.3	21.2	12.3	31.1	31.4	33.9	4.7
Dolpa	86	55.6	16.3	43.4	7.3	16.6	16.5	34.2	34.7	10.5	4.7
Jumla	167	75.6	21.3	32.2	10.5	18.0	18.0	36.3	26.2	20.7	0.6
Kalikot	204	59.0	26.9	23.7	9.1	24.9	15.4	26.8	19.4	48.6	3.9
Mugu	139	71.2	16.2	39.9	10.1	16.1	17.7	11.9	19.4	81.5	2.5
Humla	125	81.7	27.0	37.4	10.4	16.4	8.8	56.2	69.3	47.0	27.6
MWDR	5169	65.8	25.9	32.0	9.3	19.6	12.9	37.8	36.5	37.1	6.3

**Table: 3. 17 Physical state and management of piped schemes-FWDR.**

District	No. of schemes	Percentage of the Schemes.									
		Whole-year supply	Well-functioning	Need minor repair	Need major repair	Need rehabilitation	Need reconstruction	Have WSST	Adequate tools	WSUC registered	O&M fund
Bajhang	516	50.5	29.0	24.1	12.1	21.2	13.6	34.9	42.6	41.2	9.1
Bajura	352	49.4	19.2	33.6	11.2	21.2	14.8	27.2	25.7	35.0	0.4
Achham	673	66.8	25.0	37.3	8.7	18.6	10.5	18.5	35.9	50.8	0.9
Doti	380	63.2	20.5	47.3	7.6	21.2	3.4	52.6	90.2	57.9	3.2
Kailali	185	87.0	29.6	22.9	11.2	25.4	10.8	49.4	53.5	63.1	8.9
Kanchanpur	33	71.0	26.0	36.0	10.4	18.6	9.1	58.2	57.2	50.0	21.2
Dadeldhura	510	78.2	28.1	31.4	11.2	21.2	8.1	28.6	52.3	66.7	0.9
Baitadi	1185	68.0	28.4	36.7	10.2	21.2	3.5	26.5	32.2	38.9	11.6
Darchula	543	56.8	19.4	38.8	11.2	17.7	12.9	27.3	35.6	61.8	4.9
FWDR	4377	64.5	25.5	34.7	10.4	20.6	8.7	30.1	42.4	49.6	5.9



Table: 3. 18 Physical State and management of piped schemes-National

Region	No. of schemes	Percentage of the schemes									
		Whole-year supply	Well-functioning	Need minor repair	Need major repair	Need rehabilitation	Need reconstruction	Have WSST	Adequate tools	WSUC registered	O&M fund
EDR	8904	65.3	27.2	37.4	9.2	19.0	7.1	30.9	30.2	35.9	4.8
CDR	9680	71.7	25.0	36.4	10.4	20.2	7.9	29.6	35.5	44.5	3.7
WDR	13075	69.7	24.3	39.5	7.9	19.9	8.4	31.3	33.2	30.9	3.8
MWDR	5169	65.8	25.9	32.0	9.3	19.6	12.9	37.8	36.5	37.1	6.3
FWDR	4377	64.5	25.5	34.7	10.4	20.6	8.7	30.1	42.4	49.6	5.9
Mountain	5404	56.5	22.2	36.1	10.7	20.1	11	23.4	30.2	28.9	4
Hill	33967	68	24.5	36.3	8.6	19.1	8.2	30.5	33.1	37.1	3.9
Tarai	1834	65	34.1	31.1	9.2	18.8	6.8	57.9	52.9	56.1	11.6
Nepal	41205	68.2	25.4	36.1	9.2	19.8	8.6	31.5	34.5	37.9	4.5

Figure 3.3 Physical statuses of schemes in different regional divisions.

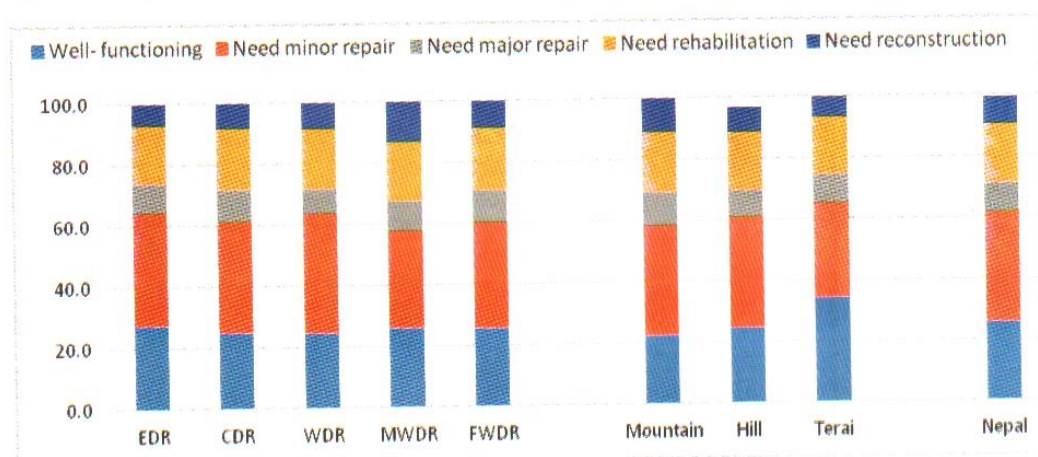
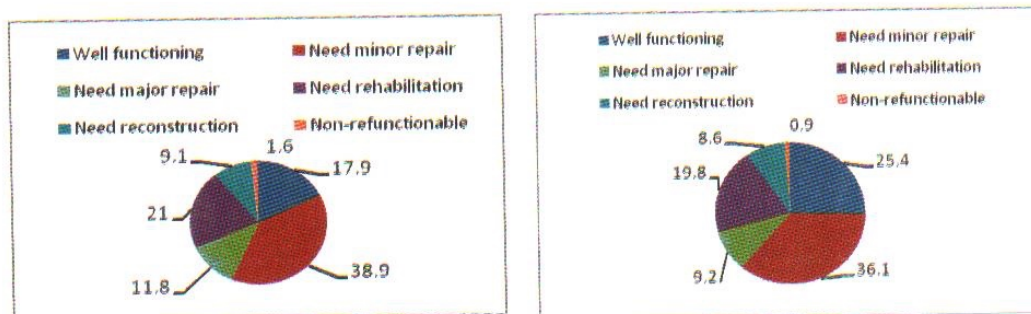


Figure 3.4 Functionality statuses of 2010 & 2012.



### 3.5 Comparative Statuses of Functionality between 2010 and 2012

Because of sectoral efforts in overall improvement of functionality status in water supply systems, the percentage of well-functioning system increased by 7.5 percent from 17.9 in 2010 to 25.4 percent in 2012. Need minor repair category it decreased by 2.8 percent. The other category of need major repair also in the decreasing trend in the two update periods it went down by 2.6 percent followed by need rehabilitation (1.2%) and need reconstruction (0.5%) categories. The last category of functional status, i.e., non-refunctionable also decreased by 0.7 percent. It is easy to compare between the two updates and the charts vividly depicted the changes.

Figure 3.5 Managerial indicators of piped schemes of functionality (Regional).

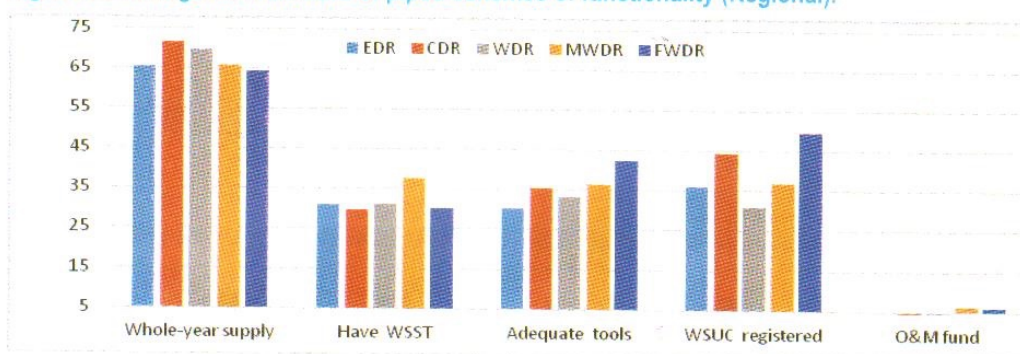
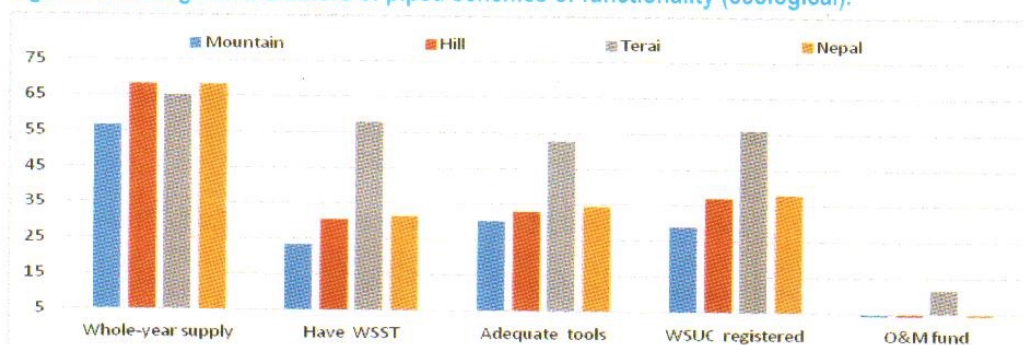


Figure 3.6 Managerial indicators of piped schemes of functionality (ecological).



From the figures, it is clear that the key indicators of functionality from managerial aspect are in poor state. However, in comparison with 2010 survey, the updated figure has shown positive trend. The whole year supply is increased by more than 3%, the WSUC registration, the arrangement of WSSTs, the availability of Tools and O&M fund are found in trend of increment. However, the absolute magnitude lags far behind than a satisfactory level. Theoretically speaking, all these indicator must have a value of hundred percent! However, except the case of whole year supply; none of the indicators has reached half of the value expected in ideal condition. The availability of O&M fund is extremely poor condition (just 4.5%). It reflects the reason of falling the major portion of schemes in minor repair category (36.1%) which is defined as the work of that level within the capacity of the users. Though a optimistic trends of positive growth; perhaps, the result is mainly govern by the recently built schemes rather than an improvement in older schemes.



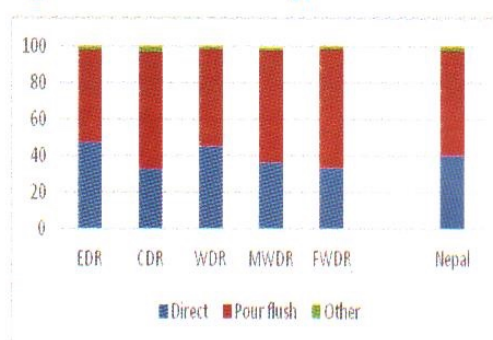
### 3.6 Sanitation aspects

Out of the surveyed total latrines 21.4 percent were physically observed. In the observation, two main parameters were taken into account. They were the placement of superstructure (whatever the type!) and the management of the latrines from sanitary aspect. The detailed information is tabulated hereunder.

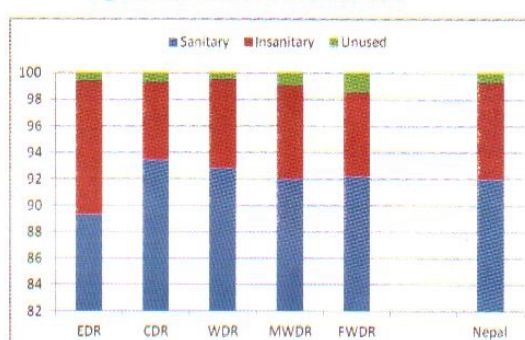
**Table 3.19: Region wise details of toilets**

Region	Managed	Observed		Direct to pit		Offset to pit		Others		Insanitary		Unused	
		No	%	No	%	No	%	No	%	No	%	No	%
EDR	560722	137879	24.6	64901	47.8	69679	50.5	3299	2.4	13858	10.1	912	0.7
CDR	894614	187547	21.0	61687	32.9	120081	64.0	5779	3.1	11010	5.9	1411	0.8
WDR	622518	128855	20.7	58596	45.5	68746	53.4	1513	1.2	8694	6.7	632	0.5
MWDR	341692	100379	29.4	36548	36.6	61843	61.6	1515	1.5	7102	7.1	916	0.9
FWDR	170353	46910	27.5	15510	33.1	30755	65.6	735	1.6	2956	6.3	710	1.5
Nepal	2589899	601570	21.4	237242	40.0	351104	57.8	12841	2.2	43620	7.3	4581	0.7

**Figure 3.7 Status of toilet type**



**Figure 3.8 Status of toilet uses**



According to the 2014 update, the highest coverage of direct to covered pit super structural latrines of 47.1% is found in EDR followed by WDR with 45.5%. The least figure of such type of super structural latrine is found at CDR. In 2010 survey, at the national level, it was 42.2%, 53.8% and 3.9 percent; direct to pit, offset and other types of latrine respectively. Whereas according to 2014 NMIP updates it is 40%, 57.8% and 2.2 percent by direct to pit, offset to pit and others respectively.

Similarly, from the management aspects the insanitary latrines covered in 2010 in FWDR was 15.8 percent the highest one and CDR (9.47%) was the lowest one. However, in 2012, EDR (10.1 %) is the highest on followed by MWDR (7.1%).

In Comparison with the NMIP 2010, in the perspective of management of latrine, the insanitary figure was 11.7% and the unused 1 was 1.8%. whereas it is found 7.3 percent and 0.7 percent at 2012 NMIP updates. In comparison between the two survey years 2010 and 2012, it is found in decreasing trends, but the pace is still slow.

Table 3.20: District-wise details of toilets by EDR

District	Managed	Observed	Direct to pit	Offset to pit	Others	Insanitary	Unused
Taplejung	13366	4382	3010	1140	232	378	66
Panchthar	27018	7728	2846	4628	254	967	184
Ilam	61383	7165	4253	2681	231	811	50
Jhapa	106122	10223	8013	1784	426	3936	88
Morang	99243	9928	5993	3443	492	1052	63
Sunsari	75120	13969	3665	10137	167	1575	70
Dhankuta	16032	9430	2155	7119	156	533	88
Terhathum	12752	7185	4554	2593	38	441	53
S.sava	17922	3534	777	2701	56	333	4
Bhojpur	15090	11525	6648	4665	212	773	47
Solu	13093	4340	1234	2917	189	50	4
Khotang	15922	5910	2654	3096	160	910	70
Okhaldhunga	16987	10941	2897	7948	96	691	42
Udayapur	32965	9075	6310	2715	50	539	15
Saptari	21808	11794	8347	2912	535	842	45
Siraha	15899	10750	1545	9200	5	27	23
EDR	560722	137879	64901	69679	3299	13858	912

Table 3.21: District-wise details of toilets by CDR

District	Managed	Observed	Direct to pit	Offset to pit	Others	Insanitary	Unused
Dhanusha	38489	9499	5407	4092	0	949	231
Mahottari	20923	8266	1962	6304	0	54	15
Sarlahi	26224	9690	4712	4969	9	1012	123
Sindhuli	19449	4284	2067	2127	90	218	10
Ramechhap	19240	18860	308	18498	54	128	58
Dolakha	21329	16335	6454	9872	9	887	81
S.palchok	23685	7644	2136	5064	444	307	153
Kavre	58240	8230	3537	4658	35	1234	31
Lalitpur	66945	7182	3181	3593	408	1264	34
Bhaktapur	38731	3875	3292	103	480	456	12
Kathmandu	258403	25321	4281	17228	3812	603	1
Nuwakot	25497	6060	1680	4328	52	70	17
Rasuwa	4139	3242	1896	1346	0	41	28
Dhading	29743	6041	3449	2582	10	876	78
Makawanpur	41796	4385	1492	2760	133	522	216
Rautahat	23364	18042	2420	15551	71	216	60
Bara	28243	8237	3361	4864	12	763	123
Parsa	30693	6406	110	6259	37	156	104
Chitwan	119481	15948	9942	5883	123	1254	36
CDR	894614	187547	61687	120081	5779	11010	1411

Table 3.22: District-wise details of toilets by WDR

District	Managed	Observed	Direct to pit	Offset to pit	Others	Insanitary	Unused
Gorkha	37029	10713	5800	4908	5	543	21
Lamjung	17678	4456	1882	2574	0	432	43
Manang	643	641	135	506	0	33	3
Kaski	82950	15894	8180	7638	76	432	21
Tanahu	67040	13245	6390	6624	231	155	3



District	Managed	Observed	Direct to pit	Offset to pit	Others	Insanitary	Unused
Syangja	58571	9460	5372	4021	67	779	32
Parbat	28293	5982	2039	3937	6	205	7
Baglung	41252	6629	1412	5004	213	1087	19
Myagdi	20030	4382	988	3382	12	876	125
Mustang	1409	1345	166	1179	0	210	3
Palpa	26346	10064	2131	7765	168	764	54
N.parasi	36282	9297	4400	4588	309	845	43
Rupandehi	108950	16765	9588	6926	251	987	98
Kapilvastu	30627	6777	3432	3332	13	764	102
Arghakanchi	19630	4427	2397	2020	10	776	25
Gulmi	45788	8778	4284	4342	152	652	33
WDR	622518	128855	58596	68746	1513	8694	632

**Table 3.23: District-wise details of toilets by MWDR**

District	Managed	Observed	Direct to pit	Offset to pit	Others	Insanitary	Unused
Rukum	17908	4781	1072	3697	12	203	11
Salyan	16980	5053	2869	1902	282	113	9
Rolpa	18009	5796	1599	4185	12	432	43
Pyuthan	18130	10172	3445	6395	332	437	55
Dang	61780	14919	5845	8915	159	605	105
Banke	24152	6113	3462	2532	119	823	14
Bardiya	52001	6647	2075	4044	55	235	11
Surkhet	45221	11610	4001	7575	34	1463	123
Jajarkot	17057	6509	3167	3282	60	1717	285
Dailekh	28284	6761	3026	3730	5	154	99
Dolpa	4098	4096	2426	1670	0	314	43
Jumla	14059	5067	1646	3253	168	76	23
Kalikot	14180	4933	925	3782	226	321	76
Mugu	5964	4053	944	3058	51	186	14
Humla	3869	3869	46	3823	0	23	5
MWDR	341692	100379	36548	61843	1515	7102	916

**Table 3.24: District-wise details of toilets by FWDR**

District	Managed	Observed	Direct to pit	Offset to pit	Others	Insanitary	Unused
Bajhang	9328	3871	1057	2788	26	462	152
Bajura	4962	4038	1218	2664	156	663	153
Achham	34875	6762	1083	5679	23	345	93
Doti	11868	5415	2320	3080	15	148	56
Kailali	37094	9735	4323	5412	67	231	56
Kanchanpur	32183	7159	3223	3854	82	506	43
Dadeldhura	15527	3254	660	2363	231	234	55
Baitadi	16408	3570	947	2511	112	213	78
Darchula	8108	3106	679	2404	23	154	24
FWDR	170353	46910	15510	30755	735	2956	710





## CHAPTER 4

# MANAGEMENT OF SURVEY DATABASE

### 4.1 Introduction

The update data of the NMIP Water and Sanitation Survey were collected by Division/Sub-Division Offices at district. The data was recorded at the prescribed software system developed specially for the NMIP database update. After documents, a soft copy of the data was sent to NMIP in Kathmandu. A central database management information system (MIS) was developed in the dot net/MS access platform. The coding system adopted for administrative units—regions, zones, districts, municipalities and VDCs—is as codified by the Nepal National Standard Code for Information Inter-Exchange (NASCII) (नेपाल राष्ट्रिय मानक संकेत पुस्तिका).

The dot net plus MS access -based software for the database system has a user-friendly interface for imputing data from the prescribed formats. It is a single-user data-entry system. The back-in of data is on the MS access. The database system has developed many standard report formats (queries) for information at the ward, VDC/municipality, district, regional and national levels, as required. The external interface is built in Nepali Unicode and internal data is recorded in English.

### 4.2 Upgrading the system

The district entry system was often reported that it is not versatile enough for common computer operators. A new interface entry system of database with more simplified, easy and users' friendly environment is built. The standardized new system is fed with the existing data by transferring them with a new format.

The new system broadly categorise the data recording system in three spectrums. First is the basic information of individual wards viz. households, populations, settlement pattern, ecological nature, and accessibility. The second information is about the project (scheme) of an individual water supply system. The third interface covers the detail water supply and sanitation status of each ward. The old system was lacking in this regard. Project-level information is mixed up with scheme information; and project identification numbers and scheme identification numbers are not maintained. Formats 1A, 1B and 1C are now merged to a single scheme information interface. The format 2, 3 and 4 which contain tube-well, coverage overwrite nature records. Similarly, formats 1, 2 and 3 are related to water supply and format 4 is for sanitation. Since,



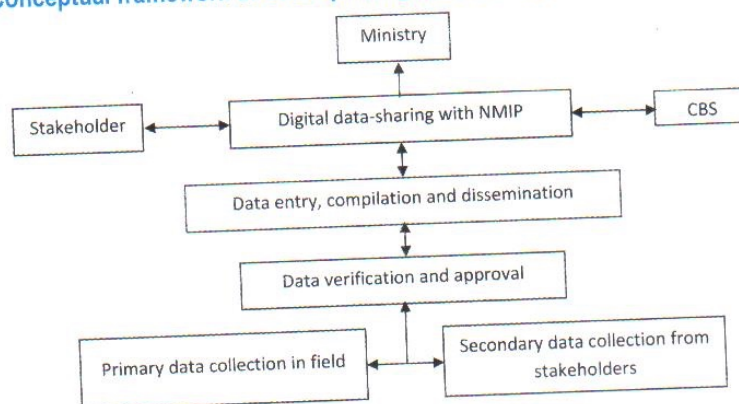
in comparison to the water supply schemes detailed information, updating of basic coverage is quicker, simpler and of higher frequency. It was felt necessary to disintegrate the water supply scheme based and VDCs based coverage survey for the updating process.

In the older system, some errors were detected: Particularly, the code numbers of VDCs were sometimes repeated or missed, and identification of VDCs and municipalities with their categories was not included in system programming. There was double entry of the same data records in ward-level information. Same information mentioned in the formats was found confusing. A need of reprogramming (re-coding) and upgrading to eliminate these shortcomings. Now, all such shortcomings are addressed properly and the new digitization system is in full launching state at district level. The existing databases from 2008 to 2012 are successfully ported to the new format and template. The more users friendly interface, prompt report generation facility and addition of the feature of exporting the standard reports into Microsoft excel sheet has enhanced the database management. Moreover, NMIP/DWSS is planning to make this information available in official web sites.

### 4.3 Updating mechanism

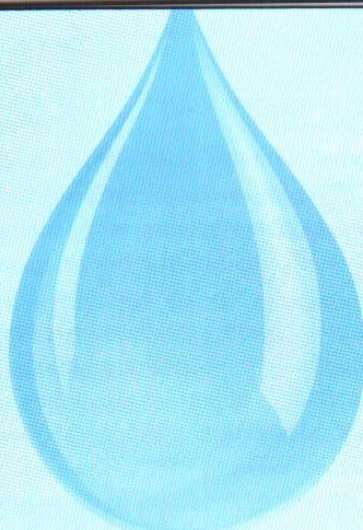
After the collection, entry, compilation and dissemination of the NMIP Water and Sanitation detailed Survey 2008, work is regularly concentrating on periodic updating, upgrading and disseminating of the compiled information at local, regional and national levels. After the first national detailed survey, NMIP/DWSS is constantly engaged to update the information system. It is working under the conceptual guideline as presented in Figure 4.1.

**Figure 4.1 Conceptual framework of data updating and sharing mechanism**



To operationalize this concept, the NMIP/DWSS has already developed a water supply and sanitation status update guideline. The district-level data management system in digital mode has to be strengthened. It must be efficient, up to date, authentic and validated. The information must be shared among stakeholders, concerned users and common public. The district-level database should transfer to NMIP/DWSS in digital form using modern technology. After receiving the databases, NMIP/DWSS compiles the information at national perspective, shares the result with stakeholders as well as publicly disseminates. NMIP/DWSS has a plan of more over automated digital data-exchange/transfer mechanism between NMIP and districts as well as with the concerned ministry. However, due to some financial, technical, human resource and infrastructural constraints, the dream is yet to be translated into reality. Upgrading of the new system is currently in consideration and under study. We are quite hopeful to functionalize the information management system more dynamic, accessible to public through all available modern means of information.





## CHAPTER 5

# KEY FINDINGS AND RECOMMENDATIONS

The first NMIP baseline survey was conducted in 2007/08 and updated in 2010. The first publicly available publication about NMIP/DWSS survey is the report of 2011. The information update process to cover up the achievements is continued till now. This report covers the second state of NMIP reporting. By and large, the slow pace of progress in water supply coverage has been noticed since the first NMIP updates. However, fast rate of growth is observed in the sanitation aspect. Learning from the past, some data collection formats have been reviewed and some are introduced. However, since it is just an update of the baseline survey 2007/08, it still lacks to address all contemporary issues like post ODF scenario or an ethnic perspective or quality of served water etc.

### 5.1 Findings

- ❖ The NMIP update (2014) has shown that the national level water supply facility coverage is 83.59 percent whereas it was 80.4 percent in the previous update. The increment of coverage is noticed in slow pace in context of covering up the unserved.
- ❖ In case of sanitation, the coverage is 70.28 percent in 2014 whereas it was 43.03 percent in 2010. It shows an increment of 27.25 percentage points.
- ❖ Ecologically, water supply coverage during this update is 80.19, 84.89 and 84.79 percent in the Mountain, Hill and Tarai respectively. Percentage of water supply coverage increased in a snail pace in comparison to NMIP update 2010 which were Mountain 77.6 percent, Hill 78.9 percent and 81.2 percent Tarai.
- ❖ The pace of progress in sanitation has been phenomenal compared with that of water supply coverage in the same period of time. It was 33.6, 52.9 and 35.6 percent in Mountain, Hill and Tarai respectively in 2010 which progressed in NMIP 2014 updates as 74.48, 87.14 and 56.93 percentage in Mountain, Hill and Tarai respectively.
- ❖ So far the Development region wise water supply coverage increment is concerned, it is the highest in FWDR (26.48%) whereas it has decreased by 1.76 percentages in WDR. Overall national growth is noted 3.19 percentage points in the present NMIP update. The percentage of water supply coverage is increased in all development regions, though sluggish, except WDR compared with the past NMIP.



- ❖ In sanitation, compared with the past NMIP, in 2014 MWDR has the highest incremental rate (55.59%) followed by FWDR. And in all the development regions percentage of coverage is increased compared to the past survey.
- ❖ According to the 2014 information, the lowest growth of sanitation is noticed in CDR (16.67%).
- ❖ Regarding sanitation, an increasing trend is noticed in all three ecological regions in 2014 in comparisons with 2010 NMIP information.
- ❖ Still more than 45 percentages of latrines are in the status of pit latrines or direct pit. As of the 2014 updated information, the highest coverage of pit latrines (47.1%) are found in EDR followed by WDR (45.5%). However, it is 40 percent considering the Nepal as a whole which was 42.2 percent in the previous update.
- ❖ The sanitary use/management of toilets is in increasing trend. Insanitary latrines and trend of unused is 7.3 and 0.7 percent respectively but it was 11.7 and 1.8 percent respectively in the past NMIP.
- ❖ The Department has Sanitation Master Plan and progress in sanitation coverage is phenomenal whereas there is not water supply master plan.
- ❖ It is highly likely that the national goal of water supply by 2017 may not be achieved.
- ❖ The information updating process at present is cumbersome.
- ❖ In recent years, the trend of declaring ODF is getting momentum.

## 5.2 Recommendations

All recommendations offered by the NMIP 2010 report are still valid. What are needed are the strategically aligned proportionate resources to be allocated according to the status of water supply and sanitation coverage so as to fulfill the goal of water and sanitation for all by 2017. In addition to these, following points are recommended:

- ❖ Continuous emphasis has to be given for timely updating and using the NMIP information for planning and programming purpose. Periodic updating, checking and cross-checking should be considered as the core responsibility of the concerned officials of the DWSS. In this regard, latest technology (e.g. mobile devices and applications) should be used for quick and timely updating the information.
- ❖ The present coverage of water supply functionality is only quantitative. It does not reflect the quality services of water supply coverage. Thus, it is a high time to consider and act for the quality services.
- ❖ Because of having Sanitation Master Plan, phenomenal progress has been achieved. However, lack of such plan; progress in water supply coverage from NMIP 2010 to 2014 seemed very slow pace. Looking into the present pace of the progress, the national goal for all by 2017 does not easily attain. In order to accelerate the pace to achieve the national goal by 2017, strategically prudent action is needed.
- ❖ There is still huge disparity in sanitation coverage across the development regions. Inter-regional disparity is more than 23 percentage points which is alarming. Thus, emphasis efforts and allocation of resource to the lowest sanitation coverage Development Region be made based on the present progress, the national goal.
- ❖ Monitoring and follow up of ODF related activities are necessary for ensuring the quality of change.

## Bibliography

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# ANNEXES

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वार्डको आधारभूत विवरण

जिल्ला..... नपा/गाविस.....

क्रम स	विवरण	वार्ड नं १	वार्ड नं २	वार्ड नं ३	वार्ड नं ४	वार्ड नं ५	वार्ड नं ६	वार्ड नं ७	वार्ड नं ८	वार्ड नं ९	जम्मा	कैफियत
१	जम्मा हालको घर धुरी सङ्ख्या											
२	वार्डको कूल जनसङ्ख्या											
३	वार्डमा अवस्थित सबै खालका विद्यालयहरूको सङ्ख्या											
४	सबै विद्यालयहरूका विद्यार्थी र शिक्षकको कूल सङ्ख्या											
५	वार्डमा अवस्थित विभिन्न सार्वजनिक संस्थाहरूको सङ्ख्या											
६	सि. नं ५ का सबै संस्थामा औसत दैनिक आगन्तुक सङ्ख्या											
७	बसोबासको प्रकृति- <sup>क</sup> (खान्ने)											
८	भौगोलिक बनोटको किसिम- <sup>ख</sup> (खान्ने)											
९	जात-जातिको वाहुल्यता- <sup>ग</sup> (खान्ने)											
१०	सदरमुकामबाट आवतजावत गर्न लाग्ने समय (घण्टामा) - <sup>घ</sup>											
१०.१	बाह्रै महिना चल्ने सवारी साधनमा लाग्ने समय											
१०.२	सुक्खा मौसममा चल्ने सवारी साधनमा लाग्ने समय											
१०.३	पैदल यात्रा गर्ने पर्ने भए लाग्ने समय											
१०.४	सदरमुकाम वाट सम्बन्धित वार्डमा पुग्न लाग्ने कुल समय- <sup>ङ</sup>											

क- (१) विशुद्ध ग्रामीण वस्ति, (२) अर्ध सहर वस्ति, (३) सहर वस्ति, (४) पूर्ण सहर वस्ति

ख- (१) हिमाली, (२) मध्य पहाडी, (३) भित्री प्रदेश, (४) उपत्यका, (५) तराई-समथर

ग- (१) खस जाति, (२) जनजाति, (३) मधेशी, (४) दलित, (५) कसैको वाहुल्यता नभएको- मिश्रित

घ- सम्बन्धित वार्डमा पुग्नका लागि १०.१, १०.२ र १०.३ मा उल्लिखित यात्रा गर्ने माध्यम मध्ये जुन- जुन साधनको प्रयोग जति-जति घण्टा लग्दछ त्यति नै घण्टा उल्लेख गर्ने, तर यदि कुनै

सवारी माध्यमको प्रयोग नहुने भए त्यसमा लाग्ने समय शून्य लेख्ने ।

ङ- यसमा १०.१, १०.२, र १०.३ मा लाग्ने समय जोडेर लेख्ने (घण्टामा)





को क्षेत्र (सम्पन्न, निर्माणाधीन तथा अध्ययन भएका) जिल्ला निजी धारा भएका घर धुरी सङ्ख्या र सार्वजनिक धारा तथा सो ले सेवा पुर्‍याए घर धुरी सङ्ख्या

निजी धारा भएका घर धुरी सङ्ख्या र सार्वजनिक धारा तथा सो ले सेवा पुग्याए घर धुरी सङ्ख्या										कैफियत																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
वार्ड १	सार्वजनिक	निजी धारा		वार्ड २	सार्वजनिक	निजी धारा		वार्ड ३	सार्वजनिक	निजी धारा		वार्ड ४	सार्वजनिक	निजी धारा		वार्ड ५	सार्वजनिक	निजी धारा		वार्ड ६	सार्वजनिक	निजी धारा		वार्ड ७	सार्वजनिक	निजी धारा		वार्ड ८	सार्वजनिक	निजी धारा		वार्ड ९	सार्वजनिक	निजी धारा		जम्मा	सार्वजनिक	निजी धारा																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
		घर धुरी	धारा			घर धुरी	धारा			घर धुरी	धारा			घर धुरी	धारा			घर धुरी	धारा			घर धुरी	धारा			घर धुरी	धारा			घर धुरी	धारा			घर धुरी	धारा			घर धुरी	धारा	घर धुरी	धारा	घर धुरी	धारा	घर धुरी	धारा	घर धुरी	धारा	घर धुरी	धारा	घर धुरी	धारा	घर धुरी	धारा	घर धुरी	धारा																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				





## फाराम -२ गाविसमा सञ्चालनमा रहेका ट्युबवेल विवरण

जिल्ला - ..... गा. वि. स. ....

क.स		प्रणाली वर्गीकरण	सञ्चालनमा रहेका(१३) वडा गत कल सङ्ख्या तथा लाभान्वित घर धुरी (१४) सङ्ख्या																कैफियत १५
			वडा १	वडा २	वडा ३	वडा ४	वडा ५	वडा ६	वडा ७	वडा ८	वडा ९	जम्मा							
			कल सङ्ख्या	घर धुरी	कल सङ्ख्या	घर धुरी	कल सङ्ख्या	घर धुरी	कल सङ्ख्या	घर धुरी	कल सङ्ख्या	घर धुरी	कल सङ्ख्या	घर धुरी	कल सङ्ख्या	घर धुरी			
१		सामुदायिक स्यालो ट्युबवेल्																	
२		सामुदायिक छिपेट ट्युबवेल्																	
३		सामुदायिक आटिजन																	
४		जम्मा सामुदायिक ट्युबवेल् १६																	
५		निजी स्यालो ट्ववेल्																	
५		निजी छिप सेट ट्युबवेल्																	
६		निजी आटिजन																	
		जम्मा निजी ट्युबवेल् १६																	
७		आईरन युक्त ट्युबवेल् (कुनै परीक्षण भएको भए सो को आधारमा भर्ने)																	
८		आर्सेनिक युक्त ट्युबवेल् (कुनै परीक्षण भएको भए सो को आधारमा भर्ने)																	
		कैफियत																	

१३- सञ्चालनमा नरहेका कल सम्बन्धी मुख्य जानकारी समष्टि गतमा कैफियतमा जनाउने

१४- यदि कुनै घर धुरीले निजी र सामुदायिक दुवै ट्युबवेल प्रयोग गर्ने भएमा त्यस्तोलाई लाई कुनै एउटा श्रोतमा मात्र जनाउने ।

१५- कार्यान्वयन गर्ने निकाय, संरचनाको अवस्था, सञ्चालनमा नरहेका संरचना जस्ता विषयमा देखा परेका महत् पूर्ण जानकारी उल्लेख गर्ने ।

१६- एक घरमा एक भन्दा धेरै निजी ट्युबवेल भए कल सङ्ख्या एक मात्र मान्ने र फाराम १ मा उल्लिखित योजनाबाट निजी वा सामुदायिक धाराबाट सेवा लिने घर धुरीको हकमा यो फाराम न

२ मा ट्युबवेल सम्बन्धी विवरण नभर्ने (एउटै घर धुरी नदोहोर्नुपर्ने) ।



फाराम - ३ गाविस को खानेपानी प्रोफाइल

जिल्ला .....

गाविस .....

खानेपानीको प्रणाली तथा स्रोत को वर्गीकरण				धारा (वा कल, इनार, स्रोत, आदि) सङ्ख्या तथा लाभान्वित घर धुरी सङ्ख्या										सुदृढता	गाविस को %
१	२	३	४	वडा १	वडा २	वडा ३	वडा ४	वडा ५	वडा ६	वडा ७	वडा ८	वडा ९	वडा १०	सुदृढता	गाविस को %
				वडा १	वडा २	वडा ३	वडा ४	वडा ५	वडा ६	वडा ७	वडा ८	वडा ९	वडा १०		
क) व्यवस्थित प्रणाली प्रयोग	सर्वजनिक धारा	जम्मा	जम्मा												
	निजी धारा	जम्मा	जम्मा												
	सर्वजनिक / सामुदायिक ट्युबवेल	जम्मा	जम्मा												
ख) असुरक्षित परम्परागत स्रोत प्रयोग	क) बसोते पानी	जम्मा	जम्मा												
	ख) सरसित मूल	जम्मा	जम्मा												
	ग) सरसित इनार	जम्मा	जम्मा												
छिमेकीको निजी प्रणाली मुख्य स्रोतको रूपमा प्रयोग गर्ने घर धुरी															
ग) बाट लाभान्वित जम्मा घर धुरी सङ्ख्या	१ मूल	जम्मा	जम्मा												
	कुवा, इनार	जम्मा	जम्मा												
	३ खोला, कुलो	जम्मा	जम्मा												
ख) बाट समेटिएका जम घर सङ्ख्या															
ग) बाट लाभान्वित हुने जम्मा घर धुरी	१ निर्माणधिन पाइप प्रणाली	जम्मा	जम्मा												
	सम्भाव्यता अध्ययन सकिएको / भइरहेको पाइप प्रणाली	जम्मा	जम्मा												
	ग) बाट लाभान्वित हुने जम्मा घर धुरी	जम्मा	जम्मा												





फाराम -४ गाविसको चर्पी सम्बन्धी जानकारी

जिल्ला : ..... गाविस : .....

क	व्यवस्थित चर्पी प्रयोग गर्ने घर धुरी सङ्ख्या	वार्ड नं १	वार्ड नं २	वार्ड नं ३	वार्ड नं ४	वार्ड नं ५	वार्ड नं ६	वार्ड नं ७	वार्ड नं ८	वार्ड नं ९	जम्मा	कैफियत
क १	एउटा घरले एकल चर्पी प्रयोग गर्ने घर धुरी											
क २	दुई घर मिलेर एकल चर्पी प्रयोग गर्ने घर धुरी सङ्ख्या											
क ३	तीन घर मिलेर एकल चर्पी प्रयोग गर्ने घर धुरी सङ्ख्या											
क ४	तीन भन्दा बढा घर मिलेर एकल चर्पी प्रयोग गर्ने घर धुरी सङ्ख्या											
क ५	वाडमा चर्पी प्रयोग गर्ने जम्मा घर धुरी सङ्ख्या											
ख १	प्रत्येक वडाका चर्पीको अवलोकन विवरण											
ख १	अवलोकन गरेको चर्पी सङ्ख्या											
ख २	अवलोकन गरेको चर्पीको प्रकार											
ख २.१	खान्दो चर्पीको सङ्ख्या											
ख २.२	वाटर सिल भएको चर्पी सङ्ख्या											
ख २.३	अन्य चर्पी सङ्ख्या											
ख ३	फोहर चर्पी सङ्ख्या											
ख ४	प्रयोग नभएको चर्पी सङ्ख्या											
ख ५	व्यवस्थित नदेखिएको चर्पी सङ्ख्या											
ख ६	पक्का चर्पी घर भएका सङ्ख्या											
ख ७	कच्चा चर्पी - घर भएका सङ्ख्या											
ग	सार्वजनिक संस्थामा <sup>१८</sup> चर्पीको अवस्था											
ग १	चर्पी भएका विद्यालयको सङ्ख्या											
ग २	सबै विद्यालयमा भएका चर्पीको कुल सङ्ख्या											
ग ३	सबै सार्वजनिक संस्थाहरूमा निर्मित चर्पीको कुल सङ्ख्या											
घ)	व्यवस्थित ढल प्रणालीमा आबद्ध घर धुरी											
ड)	कैफियत											

१८- सार्वजनिक संस्था भन्नाले- विद्यालय, स्वास्थ्य संस्था, स्थानीय कार्यालयहरू र अन्य सामुदायिक केन्द्रलाई जनाउँछ ।

कैफियत- बडाको जम्मा वर्तमान जम्मा घर धुरी सङ्ख्या  
ख २-१ देखि २-३ सम्मको जम्मा सङ्ख्या ख१ को सङ्ख्या बराबर हुनु पर्छ ।  
प्रत्येक वडामा रहेका व्यवस्थित चर्पीको सङ्ख्या फारामको क) खण्डमा लिइन्छ भने ख) खण्डमा तीनमध्ये छनोट गरिएका चर्पीहरूको अवलोकन गरिन्छ । चर्पीको अवलोकनको लागि सङ्ख्या  
निर्धारण निम्न अनुसार गर्ने । १) कुनै वडामा रहेका जम्मा चर्पीको सङ्ख्या १२ वा कम भए सम्पूर्ण चर्पी अवलोकन गर्ने  
२) वडाका जम्मा चर्पी सङ्ख्या १२ भन्दा धेरै तर जम्मा चर्पीको सङ्ख्या १० प्रतिशत हुन आउने सङ्ख्या ११ वा कम भए, कम्तीमा १२ चर्पी छनोट गरि अवलोकन गर्ने ।  
३) प्रत्येक वडामा रहेका चर्पी सङ्ख्याको १० प्रतिशतले हुन आउने सङ्ख्या १२ भन्दा बढी भए उक्त १० प्रतिशतले हुन आउने सबै चर्पीहरू अवलोकनको गर्ने  
क्रमबद्ध ढाँचामा ९ वौं घर छाडी १० औं अवलोकनको लागि छानेर छनोट गरी अवलोकन गर्ने ।

नोट : -१) एक गाविसको लागि एक पाना प्रयोग गर्ने । २) गाविस प्रोफाइलमा चाहिने जानकारीहरू स्थलगत भ्रमणको बेला सङ्कलन गर्न अनुसूची २ मा दिएको सहायक फाराम प्रयोग गर्नु पर्ने हुन्छ । ३) फोहर चर्पी भन्नाले दिशा देखिने वा झिगा भन्नेको वा गनाउने चर्पीलाई लीन पर्छ । ४) फाराम समावेश गरिएको क्र.स. ख २ -१ देखि ख २-३ सम्मका चर्पी प्रणालीको किसिम बारे जानकारी निर्देशिकाको अनुसूची -३ को चित्रबाट लीन सकिन्छ ।



सहायक फाराम

(स्थलगत तथ्याङ्क सङ्कलनका प्रयोजनको लागि)

अनुसूची -२

(१)- पाइप प्रणाली सञ्चालनको स्थिति अवलोकन (फाराम १- ग सँग सम्बन्धित) जिल्ला ..... गाविस.....

क्रम स	वार्ड	समुदाय	आयोजनाको/स्किमको नाम	नचल्ने धारा सङ्ख्या		नचल्ने धाराका घर धुरी	नचल्ने कारण १९	नचल्ने धारा सङ्ख्या	चलेका धारामा		कैफियत
				निजी	सार्वजनिक				विगत १ वर्षमा पर्याप्त पानी चलेको महिना (औसत)	दैनिक पानी चल्ने घण्टा (औसत)	

(२) सञ्चालनमा रहेका ट्युबवेल को विवरण (फाराम २ सँग सम्बन्धित) जिल्ला..... गाविस .....

क्रम स	वार्ड	समुदाय	ट्युबवेलको प्रकार २०	सङ्ख्या	लाभान्वित घर धुरी सङ्ख्या	पाइप प्रणालीको साथै प्रयोग गर्ने घर धुरी सङ्ख्या	आइरन युक्त ट्युबवेल सङ्ख्या २१	आर्सनिक युक्त ट्युबवेल २२	कैफियत

(३) इनार, वर्षाते पानी तथा परम्परागत श्रोत सम्बन्धी जानकारी जिल्ला ..... गाविस .....

क्र स	वार्ड	समुदाय	ट्युबवेलको प्रकार २३	सङ्ख्या २४		लाभान्वित घर धुरी सङ्ख्या	श्रोत पर्याप्त हुनुको साथै पायक पर्ने घर सङ्ख्या	कैफियत
				संरक्षित	असंरक्षित			

(४) खानेपानी सेवा बाट छुट भएका समुदायको विवरण (फाराम ३ सँग सम्बन्धित) जिल्ला ..... गाविस .....

क्र स	वार्ड	समुदाय	सङ्ख्या	हाल सम्म कुनै व्यवस्थित प्रणाली पर्न नसकेका समुदाय वा घर धुरी को अवस्था (छान्ने) २५	छिमेकीको निजी प्रणाली (पाइप प्रणाली र ट्युबवेल) मुख्य स्रोतको रूपमा प्रयोग गर्ने घर धुरी सङ्ख्या

(५) व्यवस्थित चर्पीको सङ्ख्या तथा अवलोकन विवरण (फाराम ४ सँग सम्बन्धित) जिल्ला ..... गाविस .....

क्र स	वार्ड	समुदाय	चर्पी भएका घर सङ्ख्या	चर्पी अवलोकन विवरण					कैफियत
				अवलोकन गरेको चर्पी सङ्ख्या			फोहोर चर्पी सङ्ख्या	पक्का चर्पी भएको घर सङ्ख्या	व्यवस्थित नदेखिएका चर्पी सङ्ख्या २६
				खाल्डो	वाटरसिल	अन्य			

१९- धारा नचल्नुको कारण:- (१) मुहानमा कम पानी भएको, (२) मुहान बिग्रेको, (३) पानी पोखरी बिग्रेको, (४) विपिटि, भल् च्याम्बर आदि बिग्रेको, (५) पाइपलाइन चुहिएको या जाम भएको, (६) पानी सबै धाराहरूमा बराबर वितरण हुन नसकेको, (७) विवाद भएको, (८) अन्य

२०- ट्युबवेलका प्रकार:- सामुदायिक स्यालो, (२) सामुदायिक डिपसेट, (३) निजी स्यालो, (३) निजी स्यालो, (४) निजी डिपसेट, (६) आर्टिजन

२१- कुनै परीक्षण भएको भए सो को आधारमा भर्ने

२२- कुनै परीक्षण भएको भए सो को आधारमा भर्ने

२३ (१) इनार, (२) मूल, (३) कुवा, (४) खोला/कुलो (५) वर्षाते पानी

२४ संरक्षित तथा असंरक्षित मध्ये क अवस्थाको लागि एक रो प्रयोग गर्ने

२५- (१) गरिबहरूको वाहुल्यता रहेको, (२) दलितहरूको वाहुल्यता रहेको, (३) प्राविधिक कारणले आयोजना सम्भव नभएको, (४) अन्य

२६- व्यवस्थित चर्पी भनी लिएको सङ्ख्यामा अव्यवस्थित चर्पी परेको भए तिनलाई सच्याउनको लागि



लागत नमुना नर्मस (प्रस्तावित)

अनुसूची- ६

(क) सरोकारवालाहरू बीच एक दिने कार्यशाला गोष्ठी (एक जिल्लाको लागि एक गोष्ठी)

क्रस	क्रियाकलाप	परिमाण	इकाई	दर (रु)	जम्मा (रु)	कैफियत
१	भत्ता					
२	स्टेसनरी					
३	खाजा					
४	अन्य					
	जम्मा					

(ख) तालिम, तथ्याङ्क सङ्कलन, कम्पाइलेशन (compilation) तथा प्रतिवेदन (एक गाविसको लागि)

क्रस	क्रियाकलाप	परिमाण	इकाई	दर (रु)	जम्मा (रु)	कैफियत
१	स्थलगत तथ्याङ्क सङ्कलनको लागि दैनिक भ्रमण भत्ता (एक गाविसको लागि)					
२	अनुगमन गर्न सुपरिवेक्षकको पारिश्रमिक भत्ता					
३	स्थलगत तथ्याङ्क सङ्कलन कर्ताहरूको तालिम					
४	सङ्कलित तथ्याङ्कको अध्ययन एवं compilation गोष्ठी					
५	स्थलगत भ्रमण खर्च					
६	तथ्याङ्क सङ्कलन फाराम					
७	स्थलगत तथ्याङ्क सङ्कलन कर्ताहरूको लागि सामग्री					
८	कम्प्युटरमा तथ्याङ्क भर्ने र ईलेक्ट्रोनिक प्रतिवेदन तयार गर्ने					
	जम्मा खर्च (एक गाविसको लागि) रु					
	भइपरीआउने (contingency)					
	कुल जम्मा खर्च (एक गाविसको लागि) रु					

(ग) अनुसूची: - ५२ गाविसको जिल्लालाई आधार मानी ख-२,३,४, र ८ का क्रियाकलापलाई एक गाविसमा सञ्चालन गर्न लाग्ने खर्चको अनुमान

क्रस	क्रियाकलाप	परिमाण	ईकाइ	दर (रु)	जम्मा (रु)	कैफियत
१	अनुगमन गर्ने सुपरिवेक्षकको पारिश्रमिक भत्ता					
	तालिम (१३) तथ्याङ्क सङ्कलन कर्ताको लागि २ दिन)					
	श्रोत व्यक्ती भत्ता					
	सहभागी भत्ता					
	खाजा					
	स्टेसनरी					
	अन्य					
	जम्मा					
३	तथ्याङ्कको compilation गोष्ठी					
४	ईलेक्ट्रोनिक प्रतिवेदन तयार गर्ने					

प्रत्येक जिल्लामा तथ्याङ्क सङ्कलन गर्न लाग्ने खर्च तल उल्लिखित (क) र (ख) को जम्मा खर्च हुनेछ

क). सरोकारवालाहरूको लागि एक दिने कार्यशाला गोष्ठी रु १०,०००।-

ख). तालिम, तथ्याङ्क सङ्कलन compilation एवं रिपोर्टिङ -(एक गाविसको लागि रु ००००००० का दरले जम्मा खर्च



**Nationwide Coverage and  
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