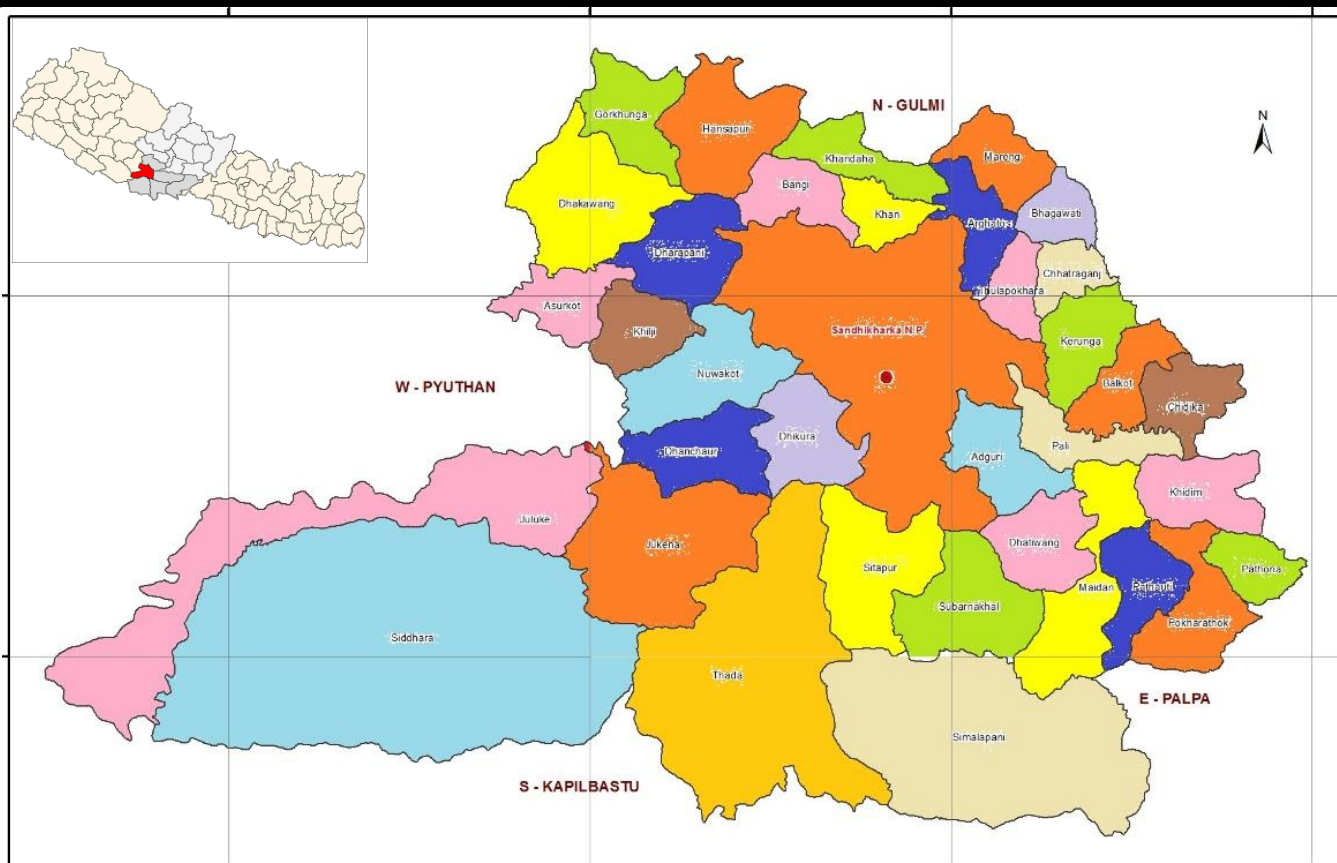


# District Strategic Water, Sanitation and Hygiene Plan (DWASHP), Arghakhanchi 2016-2020



*District Strategic WASH Plan  
Approved by: District Council on  
17/11/2072 (29 Feb. 2016)*

District Water Supply Sanitation and Hygiene  
Coordination Committee (D-WASH-CC), Arghakhanchi

# Table of Contents

<b>ABBREVIATIONS:</b>	<b>III</b>
<b>FOREWORD:</b>	<b>IV</b>
<b>1. INTRODUCTION</b>	<b>1</b>
1.1 BACKGROUND	1
1.2 RATIONALE AND OBJECTIVES	1
<b>1.2.1 Rationale</b>	<b>1</b>
<b>1.2.2 Objectives</b>	<b>1</b>
1.3 METHODOLOGY	2
<b>2. BRIEF INTRODUCTION OF THE DISTRICT</b>	<b>3</b>
2.1 LOCATION, BOUNDARY AND ADMINISTRATION	3
2.2 LAND CONSERVATION, FOREST AND ENVIRONMENT	3
2.3 POPULATION AND ETHNICITY	4
2.4 ECONOMIC AND POVERTY STATUS	4
2.5 PHYSICAL INFRASTRUCTURES	5
2.6 SOCIAL INFRASTRUCTURE	5
<b>3. WASH STATUS OF THE DISTRICT</b>	<b>5</b>
3.1 DRINKING WATER SUPPLY	5
<b>3.1.1 District Coverage</b>	<b>5</b>
<b>3.1.2 Functionality</b>	<b>6</b>
<b>3.1.3 WASH in Schools and Institutions</b>	<b>7</b>
<b>3.1.4 Unserved Households</b>	<b>8</b>
<b>3.1.5 Key Challenges for water supply</b>	<b>8</b>
3.2 SANITATION AND HYGIENE	9
<b>3.2.1 Domestic sanitation coverage</b>	<b>9</b>
<b>3.2.2 School and Institutions</b>	<b>9</b>
<b>3.2.3 Incidences of communicable diseases</b>	<b>10</b>
<b>3.2.4 Key Challenges on Sanitation and Hygiene</b>	<b>10</b>
<b>4. CLIMATE CHANGE VULNERABILITY AND DISASTER RISKS</b>	<b>10</b>
4.1 CLIMATIC CONDITION OF THE DISTRICT	11
<b>4.1.1 Rainfall pattern:</b>	<b>11</b>
<b>4.1.2 Temperature:</b>	<b>12</b>
4.2 CLIMATE CHANGE IMPACTS AND DISASTER RISKS RELATED TO WASH SECTOR IN THE DISTRICT	13
4.3 KEY CHALLENGES	13
<b>5. DISTRICT WASH TARGETS AND STRATEGIES</b>	<b>14</b>
5.1 DISTRICT WASH TARGETS	14
<b>5.1.1 Water Supply Target:</b>	<b>14</b>
<b>5.1.2 Sanitation Targets</b>	<b>14</b>
5.2 TECHNOLOGICAL OPTIONS	15
5.3 PRINCIPLE WASH STRATEGY	15
5.4 SUSTAINED S&H BEHAVIOUR CHANGE STRATEGY	17
5.5 OPERATIONAL STRATEGIES	17
<b>5.5.1 WASH Operational Strategy</b>	<b>17</b>
<b>5.5.2 Operational Strategy for Sanitation Movement</b>	<b>19</b>
<b>6. PRIORITY RANKING OF VDCA</b>	<b>22</b>
6.1 PRIORITY RANKING FOR DWS INTERVENTIONS	22
6.2 PRIORITY FOR SANITATION AND HYGIENE PROGRAM INTERVENTIONS	23
<b>7. PROGRAMME OF ACTION</b>	<b>23</b>
7.1 WATER SUPPLY	23
<b>7.1.1 Establishment of New Water Supply Schemes</b>	<b>23</b>
<b>7.1.2 Improvement of Existing Water Supply Systems</b>	<b>24</b>
<b>7.1.3 Establishment of Water Supply System in Schools and Other Institutions</b>	<b>24</b>
<b>7.1.4 Implementation of Water Safety Plan</b>	<b>24</b>
<b>7.1.5 Climate Resilient WASH Development</b>	<b>25</b>
<b>8. RESOURCE ANALYSIS</b>	<b>27</b>

8.1	FUND REQUIREMENT .....	27
8.2	PROJECTION OF FUND .....	27
8.3	RESOURCE GAP .....	28
<b>9.</b>	<b>ENDORSEMENT AND ADVOCACY .....</b>	<b>28</b>
<b>10.</b>	<b>IMPLEMENTATION, MONITORING AND UPDATING OF THE PLAN.....</b>	<b>28</b>
10.1	IMPLEMENTATION OF THE PLAN .....	28
10.2	MONITORING OF THE PLAN.....	29
10.3	REVIEW AND UPDATING OF THE PLAN .....	29
<b>11.</b>	<b>INSTITUTIONAL SET UP AND RESOURCE MANAGEMENT .....</b>	<b>29</b>
11.1	DWASHCC, TASK FORCE, DISTRICT WASH UNIT AND V/M-WASHCC .....	29
11.2	INSTITUTIONS ACTIVE ON WASH IN THE DISTRICT .....	31
11.3	SANITATION BASKET FUND .....	31
11.4	ROLES AND RESPONSIBILITIES OF SECTOR ACTORS.....	32
	<b>REFERENCES .....</b>	<b>36</b>
	<b>ANNEX-A: TABLES CALCULATED FOR DWASHP AND PLAN OF ACTION.....</b>	<b>37</b>
	ANNEX A.1: TOTAL SCORE OF VDCs .....	38
	ANNEX A.2: VDCs WITH % OF UNSERVED HH AND THEIR SCORE .....	39
	ANNEX A.3: WATER SUPPLY STATUS IN SCHOOLS.....	40
	ANNEX A.4: % OF DAG IN THE VDCs AND THEIR SCORE .....	42
	ANNEX A.5: REMOTENESS AND THEIR SCORE .....	43
	ANNEX A.6: DISASTER RISKS IN VDCs.....	45
	ANNEX A.7: DETAIL PROGRAMME OF ACTION OF DISTRICT STRATEGIC WASH PLAN .....	46
	<b>ANNEX-B: DISTRICT TOTAL SANITATION STRATEGY 2015-2020 .....</b>	<b>49</b>

## Abbreviations:

ARI	Acute Respiratory Infection
CC	Coordination Committee
CCA	Climate Change Adaptation
CGD	Child, Gender and Disable-friendly
CLTS	Community Led Total Sanitation
CM	Community Mobilizer
DDC	District Development Committee
DEO	District Education Office
DHO	District Health Office
DoLIDAR	Department of Local Infrastructure Development and Agricultural Road
DRR	Disaster Risk Reduction
DSWASHP	District Strategic Water, Sanitation and Hygiene Plan
DTO	District Technical Office
D-WASH-CC	District Water, Sanitation and Hygiene Coordination Committee
DWSS	Department of Water Supply and Sewerage
FCHV	Female Community Health Volunteer
FY	Fiscal Year
GIS	Geographical Information System
GoN	Government of Nepal
HH	Household
I/NGO	International/Non-Government Organization
LAPA	Local Adaptation Plan for Action
LSGA	Local Self-Governance Act
MDG	Millennium Development Goal
MoFALD	Ministry of Federal Affair and Local Development
MPPW	Ministry of Physical Planning and Works
MWASHCC	Municipal Water Sanitation and Hygiene Coordination Committee
NMIP	National Management Information Programme
NPC	National Planning Commission
ODF	Open Defecation Free
OHT	Overhead Tank
OPD	Out Patient Department
RWSSP-WN	Rural Water Supply and Sanitation Project in Western Nepal
SLTS	School Led Total Sanitation
UNICEF	United Nations Children's Fund
V/M-WASHCC	VDC/Municipality WASH Coordination Committee
V/M-WASHP	VDC/Municipality WASH Plan
VDC	Village Development Committee
WASH	Water, Sanitation and Hygiene
WDO	Woman Development Organization
WSP	Water Safety Plan
WSSDO	Water Supply and Sanitation Division Office
WUSC	Water Users and Sanitation Committee

## Foreword:

The continuous effort to focus on development of drinking water supply facilities, sanitation and hygiene in the District Development Committee (DDC) of Arghakhanchi district is the inherent part of this report. DDC, Arghakhanchi has been implementing a series of activities from its own fund and human resources and coordinating with other agencies engaged in the development and promotion of the sector too. The report is an attempt to develop better approaches for further achievement of the target of universal coverage of water supply, sanitation and hygiene.

The report includes inventories of all VDCs and one Municipality with status of drinking water coverage, sanitation, factors vulnerable to climate change in Gender and Social Inclusion perspective.

In the manner, VDCs have been ranked by unserved households, remoteness, and percentage of disadvantaged groups, water and sanitation facilities at schools and institutions. Accordingly, institutions engaged in the development of sector both at the public and private level have been listed and both the fund and human resources that the institutions have been investing in the WASH sector has been analysed and a gap has been projected so as to achieve the universal coverage of water supply and sanitation services. The district has already been declared ODF in November 2014. This district strategic water, sanitation and hygiene plan (DSWASHP) has been prepared by DWASHCC in close collaboration of the sector agencies both at the public and private levels.

It is hoped that the report will serve as guideline to all the agencies/institutions to engage in the development of WASH sector to work in coordinated manner and synergize each other's efforts in achieving the universal coverage of WASH by 2020 in the district.

The report is outcome of participatory and inclusive process of top down and bottom-up planning. It includes the target, operational strategies, plan of actions for development of water supply, sanitation and hygiene and environment. As we could realize the preparation of this document was not an easy task. It is a result of a very committed and consolidated effort made by the all stakeholders at district and VDC levels and of intensive interactions with multi-stakeholders, political leaders and other knowledgeable persons of social life. We take this opportunity to appreciate the enthusiastic participation of the sector agencies active in the district and substantive contribution they made in preparation of this report.

Finally, we express our commitments to materialize the implementation of this plan and request all the other concerned agencies / resource organizations to extend their support in this regard.

We take this opportunity to appreciate the enthusiastic participation of the sector agencies active in the district and substantive contribution they made in preparation of this report.

Finally, we express our commitments to materialize the implementation of this plan and request all the other concerned agencies and resource organizations to extend their support in this regard.

Thanks.

.....  
Chairperson, DWASHCC  
Local Development Officer  
Office of the District Development  
Committee, Arghakhanchi

.....  
Member Secretary, DWASHCC  
Chief, Water Supply and Sanitation  
Division Office, Arghakhanchi





नेपाल सरकार  
संघीय मामिला तथा स्थानीय विकास मन्त्रालय

# जिल्ला विकास समितिको कार्यालय, अर्घाखाँची

Office of the District Development Committee, Arghakhanchi

प.सं.-

च.नं.-

लुम्बिनी अञ्चल, नेपाल

## Foreword

Local Self Governance Act (1999) has provided the legal basis for the devolution of responsibilities and authorities for social, economic, institutional, and physical infrastructure development, including water and sanitation systems, to local government. Special efforts have been made in recent years to address critical gaps in the provision of water and sanitation services. However, Due to the of district WASH plan ,water supply and sanitation activities specially water supply sector is not going on smoothly and effectively.

Therefore, formulation of district WASH plan was needed to provide a set of common objectives, goals and approaches of operation of all agencies working in the district to achieve coherent and consistent development of the WASH sector minimizing duplication of efforts and effective utilization of scarce resources. This wash plan has included the introduction, brief introduction of the district, wash status of the district, Climate change vulnerability and disaster risk, district wash target and strategies, program of action, resource analysis, implementation, monitoring and updating of the plan and institutional set up and resource management. This is the first plan in wash sector, so it will be boon for the district . We expect the suggestion from the civil society for further improvement of the plan in the future.

This plan is carried out with the assistance of Rural water supply and sanitation project, western Nepal phase second. I gratefully acknowledge the person who worked day and night to prepare this plan. I would like to thank the plan preparation taskforce for their important effort. District water supply and sanitation coordination committee is highly appreciated for their valuable input and suggestion during the plan preparation.

At last, I expect the successful implementation of the district wash plan.

स्थानीय विकास अधिकारी



# 1. Introduction

## 1.1 Background

Access to basic level of water supply and sanitation is a fundamental human need and basic human right. Acknowledging it as an essential to life, health and dignity, the Government of Nepal has set a goal to provide basic level water supply and sanitation services to all by 2017. The government has also envisaged a need to improve the basic level of water supply and sanitation services to medium and higher levels to all by 2027.

Many towns and market places have emerged in rural communities with improved accessibility by roads and highways and more and more will emerge in the future. The water supply and sanitation services built to provide basic level of services have now become grossly inadequate in many of the rural communities due to increased population and improved living standards of the people. Therefore, more effort has to be laid to provide access to water and sanitation to all by 2017.

## 1.2 Rationale and Objectives

### 1.2.1 Rationale

Local Self Governance Act (1999) has provided the legal basis for the devolution of responsibilities and authorities for social, economic, institutional, and physical infrastructure development, including water and sanitation systems, to local government. Special efforts have been made in recent years to address critical gaps in the provision of water and sanitation services. District Sanitation Strategic Action Plan was prepared on 2012 based on which the district achieved ODF status on 29 November 2014 (13th Mangsir 2071) and D-WASH-CC has already endorsed a Total Sanitation strategy of the district (see strategy in the annex). However, there was a lack of district WASH plan that addresses water, sanitation and hygiene in a more integrated way. Many new experiences in the operational and technical aspects of the sector have been gained locally and nationally over time in the sector which needs to be reflected in the district plan. Similarly many new concept, thinking, opinions, and approaches have emerged over time.

Therefore, formulation/update of District Strategic WASH Plan was needed to provide a set of common objectives, goals and approaches of operation of all agencies working in the district to achieve coherent and consistent development of the WASH sector minimizing duplication of efforts and effective utilization of scarce resources.

### 1.2.2 Objectives

The overall objective of the District Strategic Water, Sanitation and Hygiene Plan (DSWASHP) is to set district targets, milestones and formulate implementation strategies that contribute to achieving universal coverage of basic water supply by 2020; increase the service level in water supply and achieve total sanitation by 2027.

The specific objectives of DSWASHP are to:

- i. assess existing WASH situation in the district;
- ii. set WASH targets for achieving basic water supply coverage by 2020 and increase the service level of 50% by 2025.
- iii. determine the role of stakeholders for the implementation of DWASHP;
- iv. prepare plan of actions to achieve the district milestones;
- v. estimate available fund resources and resource gap for implementation of the planned activities; and
- vi. formulate strategies to bring sector actors active in the district under single umbrella for implementation of the plan

### 1.3 Methodology

The Core Team composed of the representatives of DDC, DTO, WSSDO, DHO, NGOs, and DEO was formed by DWASHCC in order to steer ahead the DSWASHP preparation activities effectively and efficiently. Firstly, type and nature of data required for preparing the plan was listed in perspective of set indicators. Available data/information in NMIP, District Sanitation Strategy and information relevant for the purpose from various published and unpublished documents were utilized. Additional information required was gathered from the VDCs and other institutions existing in the district. The type and nature of information gathered include:

- Water supply coverage – household, school, institution – first to the hardship area
- Sanitation Coverage - household, school, institution – priority to poor sanitation area
- Functionality of water supply schemes
- Incidence of water borne diseases
- Poverty situation
- Concentration of deprived and disadvantaged groups
- Remoteness
- Climate change and disaster risk related data

After collection and analysis of data, a workshop of multi-stakeholder was organized on 6 January 2016. Result of data analysis were presented and participants were divided into 6 groups for the group exercise. On the basis of the outcomes of the group exercise and their presentation, this DWASHP was drafted.



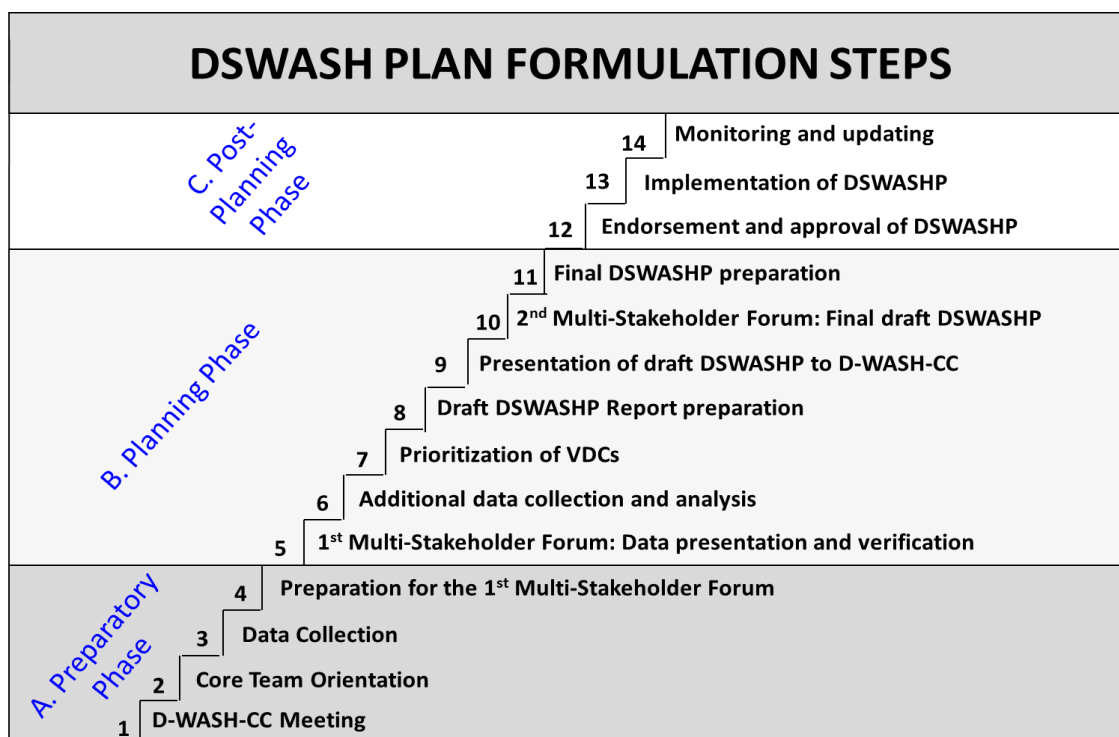


Figure 1: Steps of DSWASHP preparation

## 2. Brief Introduction of the District

### 2.1 Location, Boundary and Administration

Arghakhanchi is one of the districts of Lumbini Zone in the Western Region of the country. The district is situated between 27'45"N to 28'6" N and 80'45" E to 83'23"E covering a total area of 1,193 km<sup>2</sup>. The altitude of the district varies from 305 to 2515 meter above the sea level. Its neighbouring districts are Palpa in the east, Gulmi in the North, Kapilbastu in the south and Pyuthan in the west. It is located almost 300 km southwest of Nepal's capital city Kathmandu.

The district is divided in to 36 administrative divisions: 1 municipality and 35 VDCs. The district has 2 constituencies and 11 ilakas. The district headquarter is at Sandhikharka.

### 2.2 Land Conservation, Forest and Environment

About 68% of the total area of the district lies in the Mahabharat Range, and the remaining belongs to the Siwalik Region. There are 3 lakes, namely Thada lake and Sengleng lake being the major lakes of the district.

District has productive forest in the southern belt and artificiality regenerated forest in the northern belt. Forests in Arghakhanchi are mainly managed by the communities. About 27983 Ha of forests have been handed to 411 numbers of Community Forest Users Group (data of October 2012). Only 3 forests have been registered as Private Forest totalling an area of 4.45 hectares. There are no Leasehold Forest in the district.

The major rivers of the district are Bangi khola, Bangsari Khola, Mathurabesi Khola, Banganga Khola, Durga khola, Sita khola, Khakabesi Khola, Rangsing Khola, Ratne Khola, Jhimruk Khola, Khankbesi Khola etc.

There are 17,982 Improved Cooking Stoves installed in the district. 8 VDCs are declared as smoke free (household level) VDCs (status as of Dec 2015)

About 562 households have installed toilet connected biogas systems. There are 4 urine diversion EcoSan toilets installed in the district. Two are in the public toilets of Sandhikharka municipality while other two are in Kahndaha and Thada VDCs.

Solid waste management becomes a big issue as the number of houses increase and the rural parts convert into urban centres. There is only one municipality in the district. Solid waste management of the municipality is done in nearby landfill site at Sandhikharka Municipality which needs to be upgraded and properly managed.

## 2.3 Population and Ethnicity

According to the 2011 census, the total population is 197,632. Of which 86,266 are male and 111,366 are female. Total no of households, on the basis of usual place of residence, is 46,835 and average household size is 4.22. Sex ratio (No of male per 100 female population) was 77.5 and population density 166. The major religion of the district are Hindu followed by Buddhist and Muslims.

There are different ethnic communities in the district. The majority, about 52.1% of the population as per 2011 census belong to Chettri-Bahun group (Brahmin /Chettri/Thakuri/Sanyashi), while 21% are Dalits and 18% are Magar/Gurungs. Remaining ethnic communities are Kumal (3.42%), Newar (2.8%), Muslim (0.9%), Gharti Bhujel (0.85%) and others (1.32%).

Table 1: Demographic Trends in Arghakhanchi

	1981	1991	Census 2001	2011
Total population	157,304	180,884	208,391	197,632
Male	86,515	84,172	96,349	86,266
Female	70,789	96,712	112,042	111,366
Sex ratio	122	87	86	77.46
Total households	27,543	34,511	40,869	46,835
Average household size	5.70	5.20	5.10	4.22
Literacy rate %	25.6	47.4	55.9	72.6
Population density/ sq.km.	131.9	151.6	175	166

(Source CBS)

## 2.4 Economic and Poverty Status

As per Nepal Human Development Report 2014, economically active population of the district is 101,715. The report has categorised all 75 districts in to 5 groups based on their Human Development Index (HDI). There are 10 districts in the first category with the lowest scores and

16 districts in the second category with slightly higher scores. Arghakhanchi lies in the third category (modest category) where 30 districts, mostly of the hills, with a scores between 0.45 and 0.499 are listed. The score of Arghakhanchi is 0.482.

Commercial activities in Arghakhanchi are mainly vegetable production, goat keeping and buffalo raising for milk. Cultivation of high-value crop like ginger and turmeric are rare but has large potential for expansion. It is also one of the 3 districts with the highest number of households with absent members. Many males of working groups have migrated to India and Gulf countries for work and income. Remittance has a major contribution in the economic activity of the district.

## 2.5 Physical Infrastructures

As per the statistics of Department of Road (2013-14), Arghakhanchi has a 4.12 km of National Highway, 124.79 km of Major Feeder Roads (FRN) and 42 km of Minor Feeder Roads (FRO).

There are no major industries in the district. As per the Department of Industries, one industry has been registered and two approved for the foreign investment. Arghakhanchi Cement industry has a name from the district but has the factory units in Kapilvastu and Rupandehi districts.

There are some small irrigation canals and no major canal in the district. As per the data of Ministry of Agriculture and Cooperatives, only 2,914 hectares of land is irrigated out of 4,799 irrigable total.

## 2.6 Social Infrastructure

There is 1 district hospital in the district and 2 PHC (in Balkot and Thada), 17 Health Posts and 22 Sub-health posts in the district.

As per the information of District Education Office, there are 437 schools in Arghakhanchi, among which 297 are Primary Schools, 53 Lower Secondary Schools, 48 Secondary Schools and 34 Higher Secondary Schools. About 436 Pre-Primary (ECDC) schools are also running in Arghakhanchi.

There are famous temples like Supa Deurali, Argha (MahaKali Temple) and Chhatraganj in the district.

Nepal Rastra Bank Bulletin (2015 April) has listed the numbers of banks and finance companies in the districts, as per which, there are 9 commercial banks, 4 development banks and no finance company in the district.

## 3. WASH Status of the district

### 3.1 Drinking Water Supply

#### 3.1.1 District Coverage

The status of the district based on the primary data collected in 2015 shows 80.8% of households (out of 47,540 households of the district) have access to improved sources of water.

**Table 2: Water Supply Coverage by type**

	No of HH
HH drinking water from Piped Supply-tap	36158
HH drinking water from Protected Kuwa / pandhero-dhara	2986
HH drinking water from Un Protected Kuwa / pandhero-stone tap	3678
HH drinking water from Point Source	928
HH drinking water from stream / river	685
HH drinking water from canal	121
HH drinking water from Pond	177
HH drinking water from RWH	2107
Total HHs having access to improved DWS facilities	39144
Source: Field Survey 2015	

Report of NMIP (2014) reveals that 84.26% of the population of the district have access to water supply. The same report indicates that there are 1,231 total schemes, all the schemes being gravity flow in the district. Categorically, 1,126 schemes use springs as a source, 23 use spring fed streams as source, 78 use streams and 2 use the big streams as a source.

**Table 3: Number of schemes by source type**

Source Type	
Spring	1126
Spring fed Stream	23
Stream	78
Big Stream	2
Other	2
Source: NMIP 2014	

Census report 2011 brought out the data that 35,342 households out of 46,826 households drink water from tap/pipe, 490 households drink water from tubewell/hand pump and 1,807 households drink water from covered well/kuwa while others are drinking water from non-improved sources.

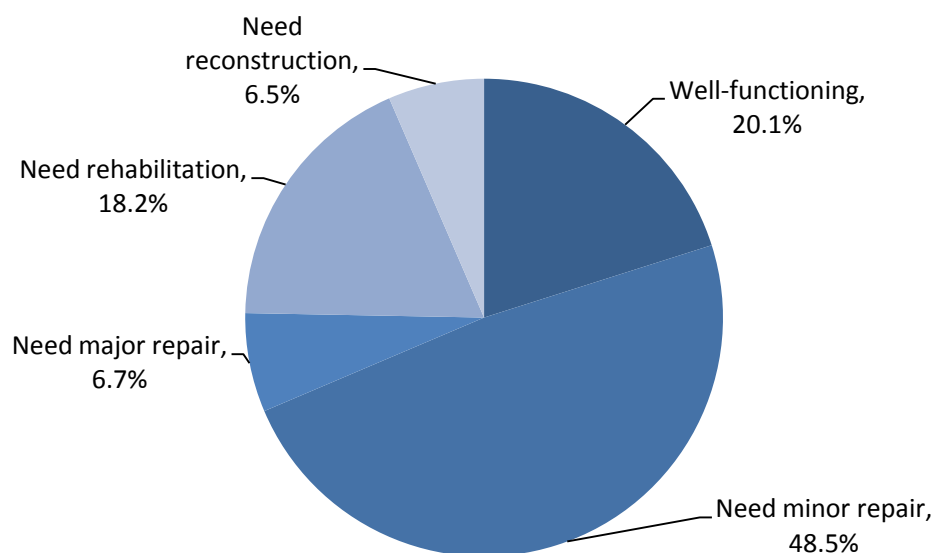
**Table 4: Main source of drinking water of HH**

Main Source of Drinking Water	
Total Household	46,826
Tap/Piped Water	35,342
Tubewell/Hand Pump	490
Covered Well/Kuwa	1,807
Uncovered Well/Kuwa	3,931
Spout Water	4,084
River/Stream	906
Others	114
Not Stated	152
Source: CBS 2014	

### 3.1.2 Functionality



The predominant water supply technology in Arghakhanchi is gravity fed water systems and 84.26 percent of the population are estimated to have access to improved water supplies (NMIP 2014). However, according to NMIP report, only about 75% of the schemes have whole year supply and 20% are well-functioning. Others schemes do not meet the national basic service level standards or need minor to major repair and even reconstruction or rehabilitation.

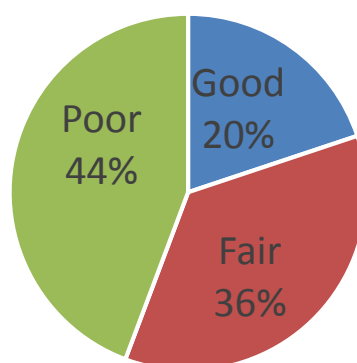


**Fig 2: Physical state of piped schemes in Arghakhanchi (NMIP 2014)**

### 3.1.3 WASH in Schools and Institutions

Students spent most of their day time in the school. Water is not only essential for drinking but also for sanitation and handwashing. Drinking water should be safe to drink and water for toilet and handwashing should be sufficient. However, the situation is different in reality.

As per the information collected in 2015, out of 446 school/institutions visited, only 332 had water facilities. Among the schools with water facilities, a significant number 147 (about 44%) had very poor conditions of the facilities.



**Fig 3: Conditions of Water Supply Systems in Schools/Instituions**

### 3.1.4 Unserved Households

As per the data collected in 2015, only 38,248 number of households out of 47,540 households have access to improved water supply. Rest of the households, about 9,292 households are drinking water from unsafe sources.

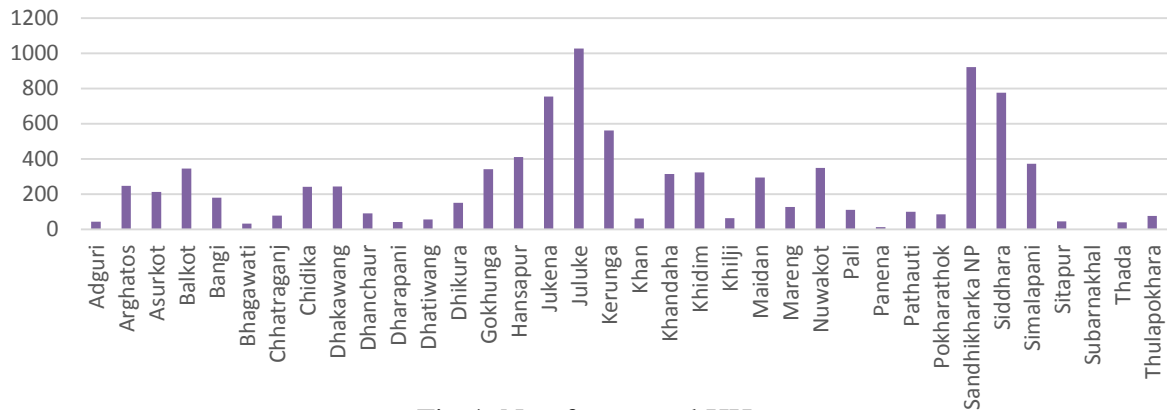


Fig 4: No of unserved HHs

### 3.1.5 Key Challenges for water supply

- i. 19.2% of the population is still out of reach the improved water supply facility.
- ii. Improvement in functionality of the schemes: out of the existing water supply systems, 31.4 percent schemes are not functioning well—they need major repairs or rehabilitation/reconstruction.
- iii. Improvement in the quality of tap water from the spring, stream sources and implement water safety plan in all the schemes
- iv. Effect of climate change on the availability of water sources ;
- v. To ensure quantity, regularity and quality of water to the user community of many schemes
- vi. Operation and maintenance (O&M) has been lacking in many water supply schemes, no O & M fund
- vii. Post-construction services for the schemes, and involvement of stakeholders and private sector service providers.
- viii. Collecting minimum level of water-tariff from the users
- ix. Making WUSCs active, responsible with a required skill and capacity
- x. No water sources available nearby or are not cost-effective; the cost of the project becomes very high; too high intervention costs.
- xi. Remoteness, scattered settlement and small clusters of households.
- xii. Tendency of users to demand new project instead of operating and maintaining the old projects
- xiii. Problem of lime in some sources and sediments during the rainy season and other technical obstacles

- xiv. Many schools and some institutions have no safe and sufficient water supply. Many community schemes don't provide water facility to schools

## 3.2 Sanitation and Hygiene

### 3.2.1 Domestic sanitation coverage

Arghakhanchi district is an ODF declared district. It has made a remarkable achievement in the sanitation. During census 2011, merely 35% of the households had toilet, the coverage increased to 100% and the district was declared ODF on 29th November 2014. All the VDCs and one municipality has achieved universal sanitation coverage and were declared ODF before the declaration of the district. All the households of the district have permanent toilets (structures below the plinth level are permanent and super structures are as per the capacity of the households)

District has already prepared and D-WASH-CC has endorsed Post-ODF strategy "District Total Sanitation Strategy 2015". (Plan is attached in the annex). The main purpose of the Total Sanitation strategy is to guide the districts towards achieving Total Sanitation (different behavioural aspects of sanitation and hygiene).

### 3.2.2 School and Institutions

Schools are the first step of socialization and development of children. For entire development of child, facilities of sanitation and hygiene are also equally important as quality education. New hygiene and sanitation behaviours learned at school can lead to life-long positive habits of the children and it also influences family, other children not going to school and entire community. Sanitation and Hygiene Master Plan 2011 has also given emphasis on school sanitation and has a provision that without adequate sanitation facilities at schools and institutions, no areas can achieve ODF status.

According to the education regulation of Nepal a toilet has to serve at most 50 students i.e. ratio of the toilet to student is equal to 1:50. But in reality many schools fail to meet this standard set by the government.

Arghakhanchi district has been declared ODF and all the institutions and schools have sanitation facilities. However, in 40 schools out of 443, the toilets are inadequate and there are no separate toilets for boys and girls in 259 schools. In many school toilets, there are no proper water facilities--water fetched for drinking has to be used for the toilet too. Similarly, operation and management such as cleanliness, availability of hand washing facilities, menstrual hygiene managements are lacking in many.

There 10 Madarasa (Muslim religious schools) in Arghakhanchi. All of them have access to water and sanitation. There are 7 Campuses including 1 Technical School. All have access to water and sanitation.

All the institutes in the districts have access to toilets and institutions in the VDC like VDC office, Health Posts, Police Posts, Agriculture and Veterinary Service Centres have access to water seal toilets.

### 3.2.3 Incidences of communicable diseases

As per the record of 42 health institutions of Arghakhanchi, in the fiscal year 2069/70 there were 13% cases of ARI among the OPD visitors; in 2070/71 it decreased to 12.4%. Following table illustrates the percentage of the children (below 5 years) with communicable disease who visited OPD clinics of the health institutions.

**Table 5: Percentage of Children with Communicable Diseases**

S.N.	Disease Type	2068/69(%)	2069/70(%)	2070/71(%) Till Falgun
1	ARI: Mild	14.69	27.3	18.37
2	ARI: Severe	0.65	0.51	0.32
3	Diarrhoea with severe dehydration	0.04	0.26	0.12

Source: DWASHCC 2015

### 3.2.4 Key Challenges on Sanitation and Hygiene

Toilets were built in every houses during the ODF campaign. However, open Still Some new migrants and the houses after separation Open defecation is stopped but hand washing with soap at critical times is rare. Of the schools with toilet, a large number of schools (259) are yet to construct toilets separately for girls and boys. Solid waste and waste water problems are growing rapidly as there is massive population influx in some places of the district since the recent past. The rate of growth of per capita waste is also growing coupled with poor drainage affecting safe water. It has also caused significant amount of economic losses every year.

Key challenge of the district is to maintain the ODF status achieved and to move towards achieving total sanitation in line with the approved Total Sanitation Strategy-2015 in the stipulated time. Total Sanitation Strategy Plan has mentioned different challenges in achieving total sanitation status. Some of the challenges are:

- Proper use, maintenance and cleanliness of toilets. Fecal sludge management after few years when the toilets built during the campaign will get filled.
- Institutionalization of different WASH institutions (WASH-CCs) with sufficient manpower
- Integrate action plan and accumulate resources for the implementation of the total sanitation strategy
- Operation and maintenance of public toilets, providing WASH facilities in public places
- Providing sufficient water in many dry areas and unreached areas for sanitation

## 4. Climate Change Vulnerability and Disaster Risks



Nepal's temperature is rising faster than the global average, and rainfall is becoming erratic. Water resource is projected to become one of the most pressing environmental problems with high impacts from climate change in hills and mountains of Nepal.

Effects of climate change on water resources could yield manifold implications either due to too much and /or too little water. Drying water sources and ground water depletion are likely due to long dry seasons, irregular rains, and high intensity rainfall leading to high run-off and less infiltration. Rural communities in hills and mountains of Nepal are already experiencing the impact on water resource due to the climate change.

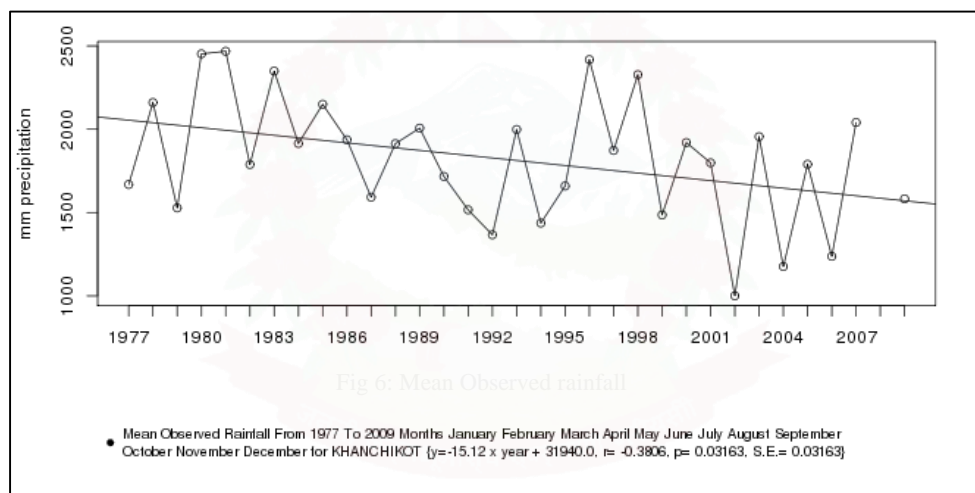
Similarly, heavy downpours can increase the amount of runoff into rivers and lakes, washing sediment, nutrients, pollutants, trash, animal waste, and other materials into water supplies, making them unusable, unsafe, or in need of water treatment. Heavy rainfall may damage or wash away the pipes, intakes and other infrastructures of the water supply systems. Therefore, water supply systems should be designed and constructed considering the probable impacts of climate change and climate change induced disasters.

#### 4.1 Climatic Condition of the district

This section deals with the analysis of climatic data mainly, temperature and rainfall of the district. There are 2 meteorological stations in the district-Khanchikot and Sitapur (Nepaney) stations. Former has a full record of all climatic data whereas the later has only recent rainfall data. Therefore, climatic data of Khanchikot stations are only considered for analysis.

##### 4.1.1 Rainfall pattern:

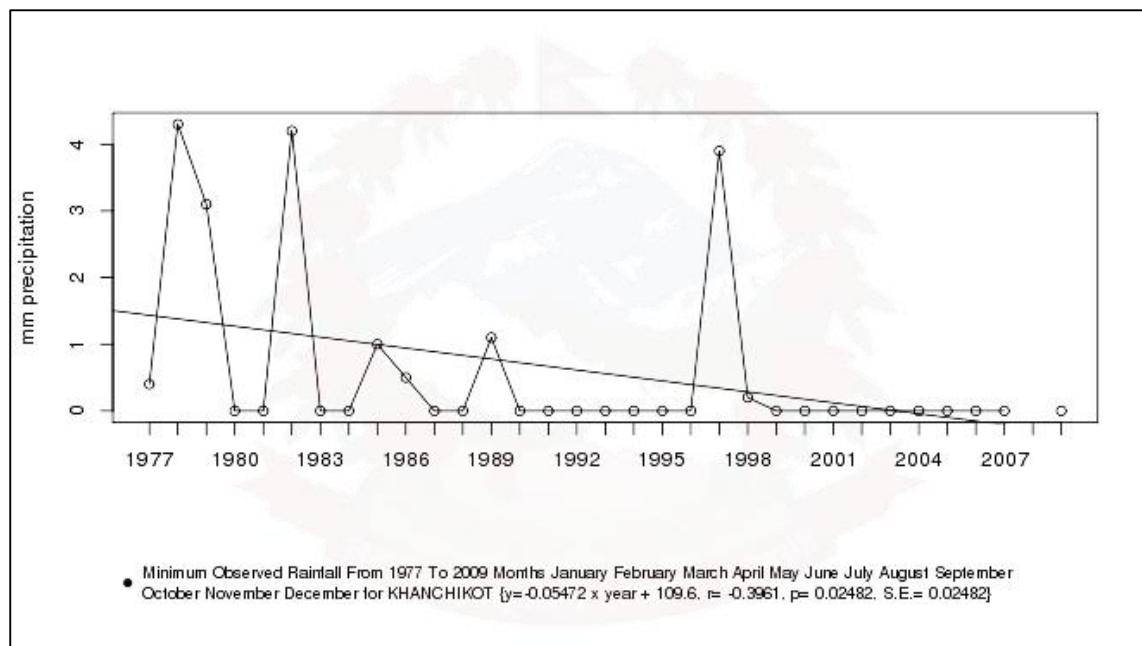
Rainfall is a major factor to indicate climate change in any of the area. Annual mean rainfall of more than 30 years from 1977 to 2009 was taken for analysis. The average annual rainfall over the past 30 years shows that it is



in decreasing trend with erratic pattern. As per the analysis, mean annual rainfall is decreasing in the order of 15.12 mm per year (DHM 2015).

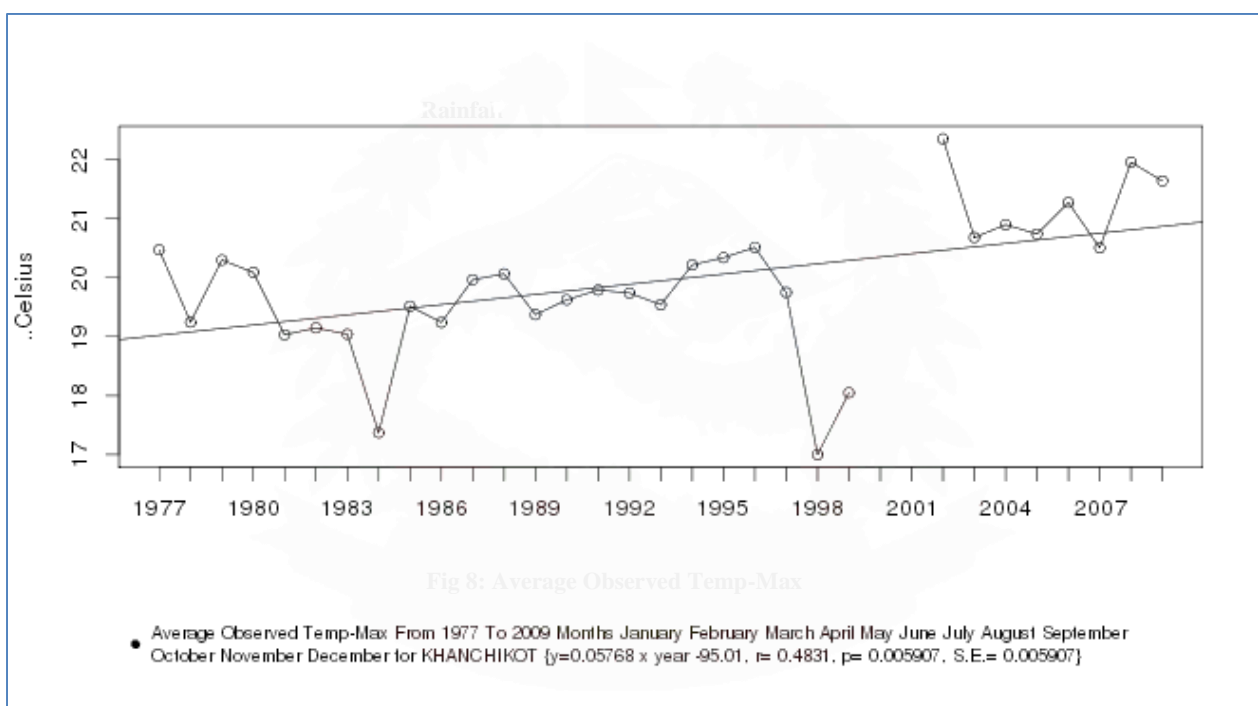
Decrease in rainfall may lead to the decrease in the water yield of the area as the springs or streams which are the sources of drinking water get recharged through the rainfall.

Similarly, minimum rainfall observed (Fig 7) during 1977-2009 also shows the decreasing trend. This shows that both annual mean rainfall and the minimum rainfall are decreasing leading to increased dryness or drought in the area which ultimately affects the water yield of the catchment and sources.



#### 4.1.2 Temperature:

Temperature change (increase) is the direct indicator of climate change. Fig-8 illustrates that the average temperature-maximum is in increasing at a rate of 0.057°C per year with highest temperature in the year 2002, which is similar to national average of 0.06°C per year (DHM 2015)



## 4.2 Climate change impacts and disaster risks related to WASH sector in the district

The major climatic risks/hazards prioritized by DDRMP 2011 are soil erosion, flood, landslide, fire, drought, snowfall, crop damage by insect's epidemics etc. Other hazards are listed in the table 6.

Perception on how much water source depletion is happening in VDC were collected. There were five categories: very much, much, moderately, little, not happening. All the VDCs have given 3 score out of 5 meaning that the impact of climate change in the water resources is moderate.

Long drought is one of the major climatic hazard in the district. Meteorological data shows that the annual mean rainfall and the minimum rainfall are in decreasing trend, indicating long drought in the area. In addition, average annual mean temperature-max is also in increasing trend. Leading to increased loss of water through evaporation and evapotranspiration enhancing the drought.

**Table 6: Prioritization of the hazards In Arghakhanchi**

S.N.	Hazards	S.N.	Hazards
1	Soil Erosion	8	Epidemic
2	Flood	9	Hailstone
3	Landslide	10	Storm
4	Fire	11	Forest Fire
5	Drought	12	Wild animal attacks
6	Snowfall	13	Lightning
7	Crop damage by insects	14	Road accident

Source: DDRMP 2011

## 4.3 Key challenges

- Protection and sustainability of water supply systems from landslides
- Water sources drying up decreasing the water yield
- Shifting of springs
- Households forced to use unsafe water because of the water scarcity or drying of safe source
- Degradation processes in the catchment area of the water system that might, over time, undermine its sustainability and resilience.

## 5. District WASH Targets and Strategies

### 5.1 District WASH Targets

#### 5.1.1 Water Supply Target:

**Basic Water Supply Coverage by 2020:** District has achieved ODF status and universal sanitation coverage 3 years ahead of the national goal of universal coverage by 2017. However, the district is far behind in fulfilling the national goal to provide basic level water supply to all by 2017. Therefore the district has made a District Strategic WASH Plan to achieve the goal of providing basic water supply to all by 2020.

**Water Supply Services to Medium and Higher Levels by 2025:** The government has also envisaged a need to improve the basic level of water supply and sanitation services to medium and higher levels to all by 2027 (Draft WSS policy 2014). Thus, the district also aims to improve the services of at least 50% households to medium and higher levels by 2025.

**All Schools with functional and CGD friendly WASH facilities by 2020:** All the schools and institutions in the district will have child, gender and differently able friendly WASH facilities by 2020.

#### 5.1.2 Sanitation Targets

District Total Sanitation Strategy and Plan (2015-2020) has set a goal to achieve total sanitation status (with sustained behaviour change) by 2020. The plan has set different phases for achieving the goal of total sanitation. The phases are slightly updated as:

**First Stage:** Declare 5 VDCs and 2 wards of the Municipality as Total Sanitation VDC and Ward by the end of 2016.

**Second Stage:** Declare 16 VDCs and 7 wards of the Municipality as Total Sanitation VDC and Ward by the end of 2017. At least 60% of the schools and institutions will have adequate toilet facilities (child, gender and differently able friendly).

**Third Stage:** Declare remaining 14 VDCs and 6 wards of the municipality as Total Sanitation VDC and Wards by the end of 2018. Declare the district as Total Sanitation District. All the schools and the institutions will have adequate toilet facilities (child, gender and differently able friendly).

**Fourth Stage:** Develop the district as a sustained total sanitation model district by 2020.



## 5.2 Technological Options

Appropriate, tested and widely used technology options that meet or follow the standards set by GoN will be promoted in the district. Following are the technological options identified as appropriate for the district:

**Table 7: Technological options**

Type of scheme	Technology options	Notes
<b>Water Supply</b>	Gravity flow systems Rainwater harvesting Point source improvement Solar or electrical lifting Multiple-use of water systems	Gravity flow as the first priority;  First Priority is given to the unreached and unserved.
<b>School/Institutional/ Public Toilets</b>	Gender, Child and Disabled friendly structures	Availability of water; sustainable operation and maintenance is pre-condition.
<b>Environmental Sanitation</b>	Latrines (dry, ecosan, Sulabh) Composting; household solid waste management; Tap stand & washing platform drainage (for home gardens)	Maximum utilization of local materials, skills and technologies. Sustainable technology choice; water scheme locations
<b>Recharge Ponds/Pits</b>	Earthen or side-lined ponds on a suitable location at the higher end of the catchment area, other simple recharge structures such as pits and trenches.	Multi-purpose use ponds recommended. Should consider easy access to animals and human safety (in terms of drowning!) Maximum use of local materials.
<b>Scheme and catchment protection</b>	Bio-engineering and plantation to protect catchment, water sources and scheme structures.	Soil stabilization by plantation, management of excess runoff water etc.
<b>Improved Cooking Stoves</b>	Low cost and mud type improved cooking stove, Metal cooking stove	Capacity enhancement of local masons, awareness raising of households and maximize benefit from government subsidy on metallic cooking stove through Alternative Energy Promotion Centre

## 5.3 Principle WASH Strategy

The fundamental aim of the DSWASHP is to streamline the scattered and uneven efforts of the stakeholders for achieving set WASH targets for the district. Therefore, all the government and non-government institutions, private sector working in the district WASH sector will strictly adhere to this principle strategies while planning and implementing WASH projects:

- i. DWASHCC will be responsible for maintaining coordination with stakeholders and other agencies to ensure implementation of the strategic plan and to raise financial resources to meet the resource gap of the plan.
- ii. WASH sector agencies active in the district will plan their activities aligning with the strategy, target and action plans framed in the district strategic WASH plan on mandatory basis.

- iii. VDC / Municipality will prepare their respective VWASH/MWASH plans for achieving basic water supply coverage and Total Sanitation Status by 2020 and access to high/medium level water supply to 50% households by 2027.
- iv. VDCs will allocate at least 10% of their total capital budget for WASH activities annually. Similarly, DDC will allocate at least 10% of their capital budget to support the WASH activities in the district. Such annual allocation of budgets by local authorities may need to be increased upon nature and extent of activities in the respective areas.
- v. All VWASH plan will identify and focus on activities reducing adverse effects of climate change as well as prepare adaptation plan in order to cope with possible risks emanating from climate change.
- vi. DWASHCC will formulate District Solid Waste Management and city sanitation plan with primary focus on mitigating problems of core-urban, sub-urban and highway corridor. Accordingly, it will implement at least one urban sanitation project (e.g. DEWATS) on pilot basis in order to see operation of the activities on sustained basis.
- vii. DWASHCC will carry out study on status of source depletion and recharge ponds, water quality, and pollution risk and recharge status. It will formulate policy and strategy for water source use for adaptation and sustainability.
- viii. A significant gap between the fund requirement and projected fund resources at the disposal of the sector actors at the district level exists. Therefore, mobilization of resources at the disposal of the sector actors at the local level with concerted efforts is a warranted task in achieving the set target of the plan on one hand and tapping the external fund resource on the other is compelling challenge in materializing the stipulated target in the Strategic Plan. Therefore, institutional capacity enhancement more of the DWASH-CC members and VWASH-CC and MWASH-CC members in tapping of the fund resources and channelling the fund and human resource as underlined in the strategic plan is a warranted need. Therefore, the capacity enhancement of the WASH institutions forms an important strategy in the plan.
- ix. DWASH-CC holds responsibilities of monitoring and updating the District Strategic WASH Plan. VWASH-CCs and M-WASH-CC are made responsible for monitoring and updating of their respective VWASH and MWASH plans.
- x. DWASH-CC will coordinate the concerned stakeholders in the district in smoothing fund and human resource supports for materializing planned activities of VDCs/VWASH-CCs and Municipality/MWASH-CC in achieving basic water supply coverage and Total Sanitation Status by 2020.
- xi. VDC/VWASH-CC, Municipality/MWASH-CC and user committees/groups hold the sole responsibilities of implementation and smooth operation of activities/schemes planned for their respective areas in line with the spirit of decentralization and Sanitation and Hygiene Master Plan of GoN.
- xii. Water safety plan will be built-in in new schemes to be constructed in design phase itself and in case of existing schemes, provision for physical improvement programme will be made to ensure safe water to the people in the district.

## 5.4 Sustained S&H Behaviour Change Strategy

In line with the spirit of the national sanitation and hygiene master plan, the district has prepared a Total Sanitation Strategy Plan (2015-2020) considering the need, capacity, socio-economic and geographical realities of the district. There are many strategies set by the district on the plan, among them few are listed below:

- i. Post-ODF activities will be carried out for total sanitation movement by the support institutions actively engaged in hygiene and sanitation activities in the district in concerted effort of DWASHCC following the Total Sanitation Strategy Plan (2015-2020).
- ii. Commitment shown by political parties, local authorities and that by stakeholders will be taken as driving force in achieving the Total Sanitation in the district.
- iii. VDC/municipality meeting Total Sanitation criteria will be declared as a Total Sanitation VDC/municipality by V/M-WASHCC gradually. The movement will be driven ahead with fund and technical support of government and no-government agencies.
- iv. Hygiene and sanitation activities will be tied with the day to day life of the people in the district and this will be driven ahead as common issues of development activities.
- v. A single entry system will be opted in providing fund support to the communities upon careful analysis of geographical condition, socio-economic and religious situation existing in the district. Policy will be followed in encouraging households to upgrade their toilet and connect with Bio-gas.
- vi. Policy will be opted in engaging fully the community-based institutions for the total sanitation movement.
- vii. Discussion events, advocacy and mass awareness raising programme will be the means to reach the programme at the household level as well as at the individual level. In doing so, both the formal and informal media will be actively mobilized as partner in the movement.
- viii. Local NGOs and CBOs support as a partner organization to accelerate the WASH activities in the district.

## 5.5 Operational Strategies

### 5.5.1 WASH Operational Strategy

The Rural Water Supply and Sanitation National Strategy (2004) will be the main guideline in implementation of activities. The approach and strategy to be adapted in course of implementation WASH schemes basically will be:

- i. Adhere the Sanitation and Hygiene Master Plan 2011 and other policies and guidelines developed by government of Nepal in implementation of project activities including co-ordination between inter-sector and intra-sectoral programs, training, preparation of manuals and technical guidelines, studies and research activities, maintaining database, etc.

- ii. Technology for scheme implementation will be selected to match with geographical condition and community needs. Accordingly, the selected technology will be local resource based, labour intensive, low cost, easy to operate and maintain by the community.
- iii. Design of water supply schemes will primarily be based on the national standards and guidelines. Water Safety Plan will form an integral part of the scheme design.
- iv. Participation of people will invariably be an in-built approach. The communities will be involved in all stage of project cycle - project identification, survey and planning. GESI approach inclusive of poor, deprived and disadvantaged groups, elderly, children, senior citizen and people with disability will be the core thrust in the process.
- v. Proportional representation of gender, caste and disadvantaged ethnic groups in formation of WUSCs will form as the mandatory condition.
- vi. Contribution level for the identified community households will be in line with the National Rural WASH policy. While implementing the WASH activities, contribution from the community will vary based on the relative poverty status, and GESI approach and remoteness of the given area.
- vii. Issues relating to Disaster Risk Reduction (DRR) and Climate Change Resilience (CCR) will be addressed to the extent possible. Avoiding the factors and activities that are prone to climate change will be the core thrust. In the effort, construction activities will avoid soil erosion, landslip/slide. Activities will be geared in mitigating the prominence of soil erosion, landslip/slide, river cutting, flood and other related measures.
- viii. Conservation of wetland/traditional ponds will be done to ensure ground water re-charge and to maintain bio-diversities intact. Accordingly, source protection measures will be an in-built component in every gravity flow based water supply schemes.
- ix. VDCs for implementation of WASH activities will be done on priority basis. The VDCs are prioritized / ranked based on different criteria related to domestic water supply and sanitation. The district and other stakeholders will implement their interventions based on the priority list such that the gaps in WASH facilities among different VDC will be reduced.
- x. There will be two selection modalities for water supply schemes: one where the hardship schemes are identified through the V-WASH Plan and/or another through the local government planning cycle. When all the VDCs will have V-WASH plan, hardship schemes will be selected, till then identification will be done through the local planning process.
- xi. The nine point principles laid down in the Sanitation and Hygiene Master Plan, 2011 will be the guiding principles in promotion of sanitation and hygiene activities. Implementation of the hygiene and sanitation activities-safe disposal of human excreta, hand washing, protection of water & food, clean household yards and waste water management will include the main activities in sanitation and hygiene promotion both at the household and institutional level.
- xii. Community system with suitable options will be established to ensure safe water supply to the households with private taps with substandard water quality and also in the communities using water from open sources – river, canal, Kuwa, Padhero etc. Connection of private tap at household level will be encouraged for sustainability of the schemes because people feel



more ownership and easy to collect the monthly tariff from scenario. Households willing to have connection for private use from community system will have to invest on their own.

- xiii. Existing established water supply systems will be upgraded so as to make functional ensuring quality water. Minor repair will be done by the community itself with technical and training support. External support will be extended in case of major repair and rehabilitation.
- xiv. Testing service centres will be established at VDC level depending upon the magnitude of the water pollution.
- xv. Households having toilet with temporary super structure will be encouraged to construct of permanent super structure.
- xvi. Schools and other institutions will be mandated to establish CGD friendly sanitary facilities maintaining 1:50 user ratio.
- xvii. Public toilet will be facilitated in the needy areas – bus station, Hat Bazaar area, temples and other areas of public events. In doing so, facilities will invariably be of CGD (Child, gender and disable) friendly. Existing toilets of temporary nature in public areas will be upgraded with permanent structure and CGD facility.
- xviii. Rethink, Reduction, Reuse and Recycle (4R) will be the basic principle while promoting solid waste management at the households, institutions (school and public office) and public places. Zero Waste will be the core thrust for the rural areas and also reduction of wastes to the minimum will be main strategy in municipal areas. Attempt will be made to establish proper management system for collected waste to reuse and recycle.
- xix. Information about existing human and fund resources with the sector actors will be collected and future possibility will be assessed. Based on the available information resource need will be projected and resource gap will be found identified keeping in view of the achievement to made in with universal coverage of WASH by 2020. The resources available at hand and possible in future with the sector agencies will be coordinated and harmonize in line with the plan.
- xx. Marketing to meet the gap of resources to meet the WASH target by 2020 will be done at all levels starting from VDC/Municipality to district. In the endeavour, various events - workshops, seminar, and use of media, at various levels will be held to tap the resources required to meet the gap.

#### **5.5.2 Operational Strategy for Sanitation Movement**

The working sanitation movement strategies to be adapted in post-ODF movement will be followed as mentioned in Total Sanitation Strategy 2015. Some of the key strategies will be:

##### **i. Discussion, Advocacy and Mass Awareness Movement**

The methods and means to be utilized to take the programme at the household and personal level will be:

- Mobilization of mass media
- Training/workshop/seminar/mass rally etc.

- Observe sanitation week
- Sanitation exhibition/festivals
- Observation tour
- Leaflets, pamphlet, hoarding board
- Door to door visit, street drama, folklore music competition
- Other means on local ethos and values

## **ii. Recognition, Reward and Punishment**

- Cash prize, recognition and appreciation letters will be provided to the VDCs for sustaining the ODF and moving towards total sanitation. A fund will be established at the VDC level for the purpose.
- Prize and certificate will be awarded to the various institutions, volunteers, Hygiene, and Sanitation Committees at the community level. A special kind of stickers may be used for the households.
- Deprived/disadvantaged family/ies with model latrine/set the outset of the programme will be awarded special prize. Individuals and institutions with innovative sanitation activities will also be awarded.

## **iii. Monitoring and Evaluation**

- Committee's right from the district to community level will be formed and made active to ensure effective implementation of programme on regular basis. For the purpose, a set of objective indicators will be worked out and self-monitoring, participatory monitoring and joint monitoring will be done.
- Mid-term and final evaluation will be carried out either by the programme sponsoring institution or external agencies to assess the impact of the programme.

## **iv. Public Toilet Construction and Its Operation and Management**

- CGD friendly toilet with water facility will be constructed at public places, common yard, Hat Bazaar (periodic market place), highway corridor in cooperation of private and public institutions.
- Public toilets will be connected with biogas plant and ECOSAN (use of urine and excreta for manure purpose) and a suitable operational mechanism to entrust the toilet management to community/ies will be worked out.

## **v. Development of Rules for Use of Constructed Facilities**

- Rules and regulations at community level for making use of constructed facilities to see hygiene & sanitation as way of day-to-day life of people will be formulated and implemented.

## **vi. Capacity Development and Awareness Raising Activities**

- Training/workshop/seminar/mass rally etc.
- Awareness raising activities aimed at community level actors and institutions
- Conduct experimental programme
- Sanitation exhibition/festivals
- Observation tour
- Carry out self-assessment exercise

## **vii. Integration of Sanitation and Hygiene Activities in Development Programme**

- Sanitation and Hygiene activities will be made integral part of all the development programs including education, transport, tourism, agriculture, energy etc.

## **viii. Communication, Coordination and Cooperation**

- Publicize hygiene & sanitation activities
- Publish and broadcast articles and interviews related to notable sanitation activities.
- Broadcast and publish the inspiring information on hygiene and sanitation
- Include Hygiene and Sanitation as one topic in meeting and workshop events at local level.
- Broadcast and publicize “Sanitation as indicator Civilized life”
- Allocate fund for model project for publicity
- Prepare pamphlets/leaflets and keep hoarding board at schools and public places.
- Drive the special publicity works on hygiene and sanitation

## **ix. Innovative Technology**

- Selection of technology will be tuned to socio-economic and geographic condition
- Emphasis will be laid in establishing biogas plants and the income from carbon trade will be invested in sanitation programme activities. Political and administrative effort will be geared to bring income from carbon sale in the district.

## **x. Inter-agency Cooperation**

- The movement to achieve total sanitation will be driven ahead in the district with support and cooperation of the government and non-governmental agencies and institutions active in district.
- Budget allocated by GoN for water supply and sanitation for schools will also be channelized based on the priority and programme stipulated in the strategic plan.

## **xi. Establishment of Sanitation Fund**

- A District Sanitation Fund will be established where in the fund earmarked for sanitation programme of all the actors engaged in implementation of sanitation

programme will be deposited. This fund will be managed as per the procedures formulated by DWASHCC. As per now, existing policy and corresponding rules are yet to be tuned in this direction however; sanitation programme will be implemented by integrating the programme of the sector actors till such fund is established.

- A Sanitation Basket Fund will be established at the VDC level too to be operated and managed separately.
- At school level, a Sanitation Fund with the donation of people will be established aiming at supporting the poor households in the given community.
- Bookkeeping and record keeping of such funds under the sanitation movement programme will be maintained as per the given financial rules of the government. The progress achieved and expenses made will be made public to ensure financial transparency in the programme.
- Basket Programming will be done in the district. DWASHCC will make a plan and other stakeholders, as far as possible, will support the programs. They can pick the programs from the basket and implement.

## 6. Priority Ranking of VDCs

### 6.1 Priority Ranking for DWS interventions

Implementation of WASH activities is not possible to start in all the VDCs both from the available financial and human resources. Therefore, implementation of the activities has to be phased by VDCs considering the service level and pertinent cross-cutting issues persisting in the respective VDCs. In determining the weightage a total of 75 points for service level and 25 for cross-cutting indicators considering geographical and environmental and socio-economic realities existing in the district. The service level weightages are again distributed sub-indicators of service levels. The major weightage is given to water supply coverage (35 points) to address the major challenges of water like reaching to unreached, functionality (30 points) and water in Schools and Institutions (10). The indicators and corresponding weightage include:

**Table 8: Scoring Criteria for VDC Ranking for domestic water supply**

Water Supply Coverage (75)	Remoteness (15)	% of DAG Population (10)
% of Unserved households (35)	Distance from all-weather road head (10)	% of Dalit households (10)
Functionality of existing DWS Schemes (30)	Distance from seasonal road head (5)	
Water in Schools and Institutions (10)		

Implementation of WASH activities in the VDCs will be done on priority basis using the results calculated from the above weighted score. Based on the calculated scores, name of the VDCs in order for implementing the activities by priority order follow as:

**Table 9: Ranking of VDCs based on the scores**

VDC Name	VDC_code	Total Score	Rank
Siddhara	510037	92.95	1
Juluke	510020	92.52	2
Kerunga	510022	90.97	3
Jukena	510019	85.50	4
Balkot	510005	83.00	5
Gokhunga	510017	78.90	6
Chidika	510010	77.97	7
Simalapani	510038	75.66	8
Asurkot	510004	73.01	9
Khidim	510026	72.65	10
Arghatos	510003	71.56	11
Khandaha	510025	66.73	12
Chhatraganj	510009	66.67	13
Hansapur	510018	65.54	14
Maidan	510028	62.16	15
Mareng	510029	61.70	16
Dhakawang	510011	61.55	17
Pali	510032	61.55	18

VDC Name	VDC_code	Total Score	Rank
Nuwakot	510031	61.44	19
Khilji	510027	57.67	20
Thada	510041	57.02	21
Bangi	510006	55.30	22
Sitapur	510039	54.75	23
Dhanchaur	510012	54.75	24
Panena	510034	54.52	25
Sandhikharka NP	510036	53.40	26
Khan	510023	49.36	27
Dhikura	510015	49.20	28
Pathauti	510033	48.93	29
Adguri	510001	48.76	30
Pokharathok	510035	46.98	31
Dhatriwang	510014	45.96	32
Subarnakhal	510040	42.02	33
Thulapokhara	510042	41.22	34
Dharapani	510013	40.78	35
Bhagawati	510008	40.38	36

\* No sufficient data of functionality, therefore all VDCs were given equal score of 15 out of 30

## 6.2 Priority for Sanitation and Hygiene Program Interventions

All the households of the district have toilet which are permanent up to the plinth level as recommended by the SHMP 2011. However, there is no information about the condition of the toilets—how many of the toilets have permanent super structures and how many have temporary? Or how many of them are clean and used? Similarly there are no information regarding the status of the VDCs in respect to different indicators of total sanitation. DWASHCC will take a lead role and initiate other stakeholders for data collection and then rank the VDCs analysing the information collected.

## 7. Programme of Action

### 7.1 Water Supply

#### 7.1.1 Establishment of New Water Supply Schemes

At present, as per the data collected in 2015, a total of 9,376 (about 20%) have been using water from unprotected sources such as Kuwa, stream canal and other water points. Therefore, new water supply systems will be established to serve this section of population in the district by different water supply technologies - gravity flow system, lifting system and rain water harvesting. Table-10 below provides the households to be served by these type of technology. In serving the population only 15% is planned to be served in year 2016 and 25, 25, 20 and 15 percents in the years 2017, 2018, 2019 and 2020 respectively.

**Table 10: Households to be served by new schemes**

SN	Type of Water Supply System	Present HH to be served	Projected HH to be Served					
			2016	2017	2018	2019	2020	Total
1	Gravity Flow, Lift and RWH	9,367	1405	2342	2342	1873	1405	9367

### 7.1.2 Improvement of Existing Water Supply Systems

There are many schemes in the district which are not properly functioning or some of them are even totally defunct. Therefore, through major repair, rehabilitation and reconstruction, it is estimated that about 14,704 HH needs to be benefitted.

**Table 11: Household to be served by improving the schemes (Major repair, Rehab/reconstruct)**

SN	Type of Water Supply System	Present HH to be served	Projected HH to be Served					
			2016	2017	2018	2019	2020	Total
1	Gravity Flow, Lift and RWH	14,704	2206	3676	3676	2941	2206	14705

### 7.1.3 Establishment of Water Supply System in Schools and Other Institutions

**Table 12: School/Institutions to be served/improved**

S N	Water supply facility improvement in school and institution-	No of School/ Institution to be served	Projected HH to be Served					
			2016	2017	2018	2019	2020	Total
1	New Water supply in schools and institutions	147	22	37	37	29	22	147
2	Rehab/ Major repair of Water supply schools in schools and institution	114	17	29	29	22	17	114

### 7.1.4 Implementation of Water Safety Plan

Quality of water from the existing schemes for drinking purpose has been questioned in various occasions, calling for immediate improvement. Water safety plan will be built-in in new schemes to be constructed in design phase itself and in case of existing scheme, provision for physical improvement programme has been made to ensure safe water to the people in the district. In the front, all the VDCs will implement Water Safety Plan in all the water points and schemes on mandatory basis. For the purpose, repair, and rehabilitation of existing poorly functioning schemes is planned in all the VDCs before implementation of Water Safety Plan. The universal coverage by Water supply with assured quality will be achieved in all VDCs and municipalities starting from the year 2015 respectively. Priority ranking of VDCs in order and type of programme activities to be implemented are provided in Table 9. Provision for Basket



Fund has been made to facilitate the purchase of laboratory equipment and reagents and human resource to ensure the safe quality water in the supply system in each VDC of the district.

### 7.1.5 Climate Resilient WASH Development

Progress in extending and sustaining services will be undermined unless investments are resilient to both existing levels of climate variability and future change. Climate change is expected to alter the distribution, timing and intensity of weather-related events, affecting the availability and quality of water resources, the infrastructure needed to deliver water, sanitation and hygiene (WASH) services.

It is well recognized that water is predicted to be the main channel through which climate change impacts will be felt by people. The aim of our activities will be to extend the risk management approach to address the impacts of climate variability and change on water resources, systems and services.

All the WASH systems to be constructed will consider the adaptation options mentioned below:

**Table 13: Possible interventions to build climate resilience WASH systems**

Hazard	Impact on water supply Systems and Sanitation		Adaptation options
	Direct	Indirect	
Drought	Reduced water availability	<ul style="list-style-type: none"> <li>Population movements to other areas, posing further stress on remaining water sources and use of unsafe sources</li> <li>Users discouraged to use toilet; and OD increased near water bodies polluting water sources</li> </ul>	<b>Collection and storage of surface water runoff:</b> <ul style="list-style-type: none"> <li>Below ground tanks (i.e. cisterns) and excavations into which rainwater is directed from the ground surface</li> <li>Small reservoirs with earthen bunds or embankments to contain runoff or river flows</li> <li>Managed aquifer recharge: capturing and recharging excess runoff in the vicinity of a well or borehole</li> </ul>
			Dry EcoSan toilets, poor flush toilets or other options using less water
			Rainwater collection and storage – e.g. via rainwater harvesting from roofs (RWH) to collect water for potable and other uses.
Extreme Rainfall events	<ul style="list-style-type: none"> <li>Damage to Infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>Landslides around water sources</li> </ul>	<ul style="list-style-type: none"> <li>Retention walls</li> <li>Afforestation of a large area around landslide-prone slopes</li> </ul>

		<ul style="list-style-type: none"> <li>• Damage to pipelines</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Fencing to reduce further destruction of vegetation cover</li> <li>• Controlled grazing of livestock</li> </ul>
	<ul style="list-style-type: none"> <li>• Gully erosion, e.g. due to intense rainfall</li> </ul>	<ul style="list-style-type: none"> <li>• Sedimentation and turbidity</li> </ul>	<p><b>Control gully development/gully protection and rehabilitation</b></p> <ul style="list-style-type: none"> <li>• Improvement of gully catchment to reduce and regulate runoff volume and peak amounts, including land management practices, soil and water conservation, afforestation, controlled grazing, etc.</li> <li>• Diversion of runoff water upstream of the gully area, including cut-off drains, retention and infiltration ditches, etc.</li> <li>• Stabilisation of gullies by structural and vegetative measures, including gully head control, gully reshaping, check dams and vegetative measures inside gully to encourage deposition of sediments</li> <li>• Where possible, avoid building wells in gullies – or cap unused bores and ensure current wells are appropriately sealed from surface runoff</li> </ul>
<ul style="list-style-type: none"> <li>• Natural resource degradation</li> <li>• Catchment degradation</li> </ul>		<p>Decreasing soil depth and vegetation cover reduces infiltration and increases runoff which can lead to falling groundwater tables</p>	<ul style="list-style-type: none"> <li>• A broad range of natural resource management and soil and water conservation interventions exist:</li> <li>• Soil erosion on crop land: land management practices (e.g. ploughing along contours, increasing organic matter content of the soil, etc.), soil and stone bunds, terraces, artificial water ways, cut-off drains above crop land</li> <li>• Vegetation degradation: controlled grazing of livestock, reforestation</li> <li>• Afforestation</li> <li>• Runoff management</li> <li>• Gully rehabilitation</li> <li>• Water harvesting</li> </ul>

## 8. Resource Analysis

### 8.1 Fund Requirement

Fund estimates are based on the activities planned (see Annex A.7) to reach the universal coverage of water supply and total sanitation by 2020 and increasing the level of services of 50% of the population to high/medium level by 2025. It is a rough estimate and the rate of inflation or other economic and social factors are not considered for the calculation. It is estimated that the total budget required for implementation of this plan (2015-2020) is NRs. 1,200,442,000 which excludes the amount required for upgrading of service level to high/medium level by 2025. The tentative amount estimated for upgrading the level of services of 50% population is NRs. 444,155,000 for 2020-2025 (see Annex A.7).

**Table 14: Estimated Fund**

Year	2016 (15%)	2017 (25%)	2018 (25%)	2019 (20%)	2020 (15%)	Total (Till 2020)
Fund Estimate	180066300	300110500	300110500	240088400	180066300	1,200,442,000

The estimated fund for the first year is comparatively low because the first year will be more like a capacity development year with less investment in infrastructures, successive 2 years have high percentage of share as they will be the year of implementations and the requirement will decrease in the last 2 years as they will be the year of completion.

### 8.2 Projection of Fund

Of the total fund requirement (Rs. 1,200 million), most of the fund will be tapped from WSSDO, DDC, DEO, DPHO and other actors engaged in the sector like RWSSP-WN, UNHabitat, Fund Board, SUA AHARA and other national and international institutions, VDC and from the users including both cash and kind.

District Total Sanitation Strategy 2015 has projected available fund in the district for 6 years from 2015 to 2020 equivalent to 925,300,000. As 2015 is already crossed, the fund available for 5 years from 2016 to 2020 is estimated to be 791,545,000. Year wise projection is shown in the table below:

**Table 15: Available Fund Projection**

Year	2016	2017	2018	2019	2020	Total
Avilable Fund Estimate	149745000	159700000	161700000	160200000	160200000	791545000

(Source: District Total Sanitation Strategy 2015)

### 8.3 Resource Gap

Year wise resource gap has been estimated in the table below:

**Table 16: Resource Gap**

Year	2016	2017	2018	2019	2020	Total
Resource Gap	30321300	140410500	138410500	79888400	19866300	408897000

The fund gap pin point that DWASHCC should actively opt for the strategy to meet the fund gap required for implementation of the planned activities. In the direction, DWASHCC should make its utmost effort in urging sector actors working in the district to increase their fund resources to meet the fund gap for the strategic WASH plan on the one hand, create buoyancy of pressure to the government machinery at the centre to provided the required fund either from its own source or tap the fund from the multi/bi donors active in the sector.

## 9. Endorsement and Advocacy

The DSWASHP at the district level, is an official district strategy and will be endorsed by the District Council, therefore, it is an official policy document to be followed by all WASH stakeholders in the District. The plan is to be endorsed by the District Council in order to become an official district policy document. After then, the DWASHCC will soon organise a dissemination workshop in participation of multi-stakeholders and representatives of political parties as the first step of advocacy of the plan for VDC secretaries and VDC-WASH Coordination Committee (VWASHCC) members in all VDCs of the district. It will be followed by workshop and coordination meetings in every six months to review the progress, identify the problems and support needs. Finally the concerned WASH stakeholders will be reminded to adhere the DSWASHP strictly. Moreover, there is a significant gap between available fund and required amount for entire implementation of planned activities therefore, DWASHCC should make its utmost efforts to tap the fund especially from the government at the centre and also in convincing the multi/bi-lateral donors active in the sector for their support in this regard.

## 10. Implementation, Monitoring and Updating of the Plan

### 10.1 Implementation of the Plan

All the government and non-government organizations and stakeholders implementing WASH related activities will follow the strategies and principles of this DSWASHP. DWASHCC will be responsible to ensure that the concerned WASH stakeholders implement the activities laid in DSWASHP in the spirit of the Local Self Governance Act and the Principles underlined in the Water Supply and Sanitation Policy and Strategy (2004).

## 10.2 Monitoring of the Plan

Monitoring system will be established at the district and VDC level. The existing District Core Team within D-WASH-CC will be responsible for periodic monitoring of the WASH activities undertaken in the district. At the VDC/Municipality, V/M-WASH-CC will form a Monitoring Team, the members for which will be decided by V/M-WASH-CC. Such a team may compose of member/s of V/M-WASH-CC, schoolteacher, political representatives, people selected by community etc. The team on behalf of the DWASHCC and V/MWASHCC will be responsible to oversee the monitoring of the planned activities. For monitoring purpose, a set of objective output and process indicators will be developed. The Monitoring Team will carry out the monitoring of the activities in participation of the users, user committee/s and agency engaged in facilitating the activities.

## 10.3 Review and Updating of the Plan

Review of the plan will be undertaken at the end of each year both at the VDC/municipality and district level and it will be the responsibility of the DWASHCC. Level of the progress achieved against the planned activities and problems/constraints faced will be the main aspects to analyze and recommend required adjustment in planned activities and update the plan accordingly however, but not compromising with target of achieving universal coverage of water supply by 2017.

# 11. Institutional Set up and Resource Management

## 11.1 DWASHCC, Task Force, District WASH Unit and V/M-WASHCC

DWASHCC will take a leadership for planning, programming, coordination, monitoring and advocacy of WASH sector in the district and the V/MWASHCC at the VDC/Municipality level. The composition of DWASHCC and V/MWASHCC will be as guided by Sanitation and Hygiene Master Plan 2011. Roles and responsibilities of the coordination committees in implementation of the plan are as follows:

### DWASHCC

- Prepare strategic plan on DSWASHP and get it endorsed by District Council
- Coordinate; provide support and assistance to VDCs and Municipality in preparing procedures and formulating of their V/MWASH plans.
- Carryout performance monitoring of the WASH activities being implemented in VDCs and Municipality
- Establish and manage the WASH Fund at the district level

- Help extend fund support to VDCs and Municipality from the District Wash Fund and encourage them for the universal coverage of water supply in their areas.
- Organize workshop and meetings on regular basis to review the WASH programme going in VDC and Municipality.
- Organize meeting/workshop to review and update DSWASHP activities in every six months.
- Prepare implementation and monitoring plan upon common consensus of the stakeholders for undertaking WASHP activities.
- Help create conducive environment to encourage private sector for their involvement in WASH sector.
- Establish District WASH Resource Centre and update its database.
- Monitor and supervise on regular basis the expenditure incurred from WASH funds established at the district, VDC and Municipality level
- Get support required for implementation of WASH Plan in cordial relation with stakeholders of civic society and external support agencies.
- Maintain coordination and cooperation with regional and national WASHCC for mutual exchange of information WASH
- Assess and analyze resource available with stakeholders to utilize in implementing the WASH plan.

### **Task Force and District WASH Unit**

A Task Force comprising the major stakeholders under DWASHCC responsible to see programme management will be formed in the district. District WASH unit will be established and strengthened at DDC. Task Forces under V/M-WASHCC may also be established at VDC and Municipality level depending upon the need. Capacity enhancement of the Coordination Committees at the district and VDC level will be strengthened in fulfilling their expected roles and responsibilities effectively and efficiently. Accordingly, the VWASHCC and MWASHCC—the instrumental entities that are in frontline in implementation of WASH programme need to be institutionally strengthened equally. Therefore, various activities such as training, workshop, seminars, study visits etc., to the office bearers of entities are planned in the direction.

### **V/M-WASHCC**

- Prepare and update the V/M-WASH Plan together with budget, plan of action and responsibilities and get it endorsed from the Village Council
- Analyze WASH issues and strategies to overcome the implementation barriers



- Form a monitoring team monitor and provide technical backstopping services to the communities and schools.
- Organize review workshop and other events during implementation and monitoring of their plans.
- Maintain coordination and cooperation with DWASHCC
- Look for the actors and fund/human resources to expedite effective implementation of planned activities
- Organize meetings in each 3 month to assess the progress status in the respective of the VDCs/municipality

## 11.2 Institutions active on WASH in the District

DDC is the umbrella body for water supply and sanitation service provider in the district. The sector stakeholders are categorized in three groups. The group-wise institutional name list is given below:

**Table 15: Actors active in the District**

<b>Government Agencies</b>	<b>Non-governmental Organizations</b>	<b>UN Agencies and INGOs</b>
<ul style="list-style-type: none"> <li>• District Administration Office</li> <li>• District Development Office</li> <li>• District Technical Office</li> <li>• Water Supply and Sanitation Sub-Division Office</li> <li>• District Education Office</li> <li>• District Public Health Office</li> <li>• District Women and Children Development Office</li> <li>• 1 Municipality Office</li> <li>• Village Development Committee</li> <li>• Health Centers and Sub-health Posts</li> </ul>	<ul style="list-style-type: none"> <li>• District Non-governmental Organization</li> <li>• Water Supply and Sanitation User Committees (FEDWASUN)</li> <li>• Forest User Groups (FeCoFUN)</li> <li>• Mother Groups</li> <li>• Youth Clubs</li> <li>• Civil Society</li> <li>• Political Parties</li> </ul>	<ul style="list-style-type: none"> <li>• UNICEF</li> <li>• UNDP</li> <li>• RWSSP-WN</li> <li>• USAid/Suaahara</li> <li>• UN Habitat/GSF</li> </ul>

## 11.3 Sanitation Basket Fund

WASH Fund at the district level will be established where in the fund earmarked for hygiene and sanitation activities of all the agency and actors engaged in development of WASH sector will be deposited. Such a fund will be managed as per the procedures formulated by DWASHCC. As of now, existing policy and corresponding rules are yet to be tuned in this

direction however, the programme will be implemented by bringing the respective programs of sector actors under single umbrella till such fund is established. Similar mechanism will be followed in case of VDC/ municipality and at the school level too. The Book keeping and record keeping of the funds at the district, VDC and school level will be maintained as per the given financial rules of the government. The progress achieved and expenses made will be made public to ensure financial transparency in the programme.

A gap of 408,897,000 between the fund required and projected fund resources at the disposal of the sector actors at the district level exists, therefore mobilization of resources either from the national and international sources is a warranted imperative besides efficient use of available resources. At the fore, actors involved in the development of the WASH sector but more that of the DWASH-CC members will play a significant role in marketing the DSWASHP for tapping the fund resources both from the national and international sources. Equally, crucial role of the V/MWASHCC is seen in channeling the available fund for the WASH sector as well as tapping the fund resources from the district and national levels.

#### **11.4 Roles and Responsibilities of Sector Actors**

Roles and responsibilities of the relevant actors in implementation of the plan are followed in a succeeding way.

##### **DDC**

- Instruct local bodies to implement WASH policies and plan and monitor implementation status of the planned activities.
- Allocate at least 3 percent of total capital budget for WASH activities and take the lead role in raising fund resources to implement the planned activities of DSWASHP.
- Construct and help to construct public/community toilets
- Allocate budget for hygiene and sanitation activities and for cash reward to total sanitation model VDCs and Municipality.

##### **WSSDO**

- Ensure coordination of all the WASH activities in the district
- Extend/provide technical support to DDC, Red CROSS and other agencies engaged in WASH activities
- Prepare a roster of resource persons and facilitators and mobilize them in need
- Prepare and implement Stand Alone Sanitation activities in the manner that overcome the persisting weaknesses at present
- Extend support and assistance to achieve total sanitation in VDCs and municipality by mobilizing schools and communities under different Programmes.

- Extend support and assistance to various agencies in implementing programme like Eco-san and POU in translating the concept of total sanitation VDC and municipality
- Coordinate and cooperate the DWASHCC and V/MWASHCC in operation of WASH programme.
- Take lead role in declaring the district as total sanitation model district.

## **DEO**

- Take lead role in establishing water supply and CGD friendly latrines in the schools in the district.
- Mobilize schools to celebrate Baishakh as Sanitation Month and to observe National Sanitation Week
- Ensure that schools are equipped with CGD friendly water supply and sanitation facilities and help school in achieving total sanitation in school catchment through SSHE and SLTS Approach.
- Establish Sanitation Desk in Resource Centers of schools

## **DHO**

- Establish Sanitation Desk in all Health Post , Sub-health Post, Health Centers and Hospitals
- Maximize mobilization of FCHVs and CMs network in awareness raising drive on hygiene and sanitation at household level in the district

## **DTO**

- Extend support and assistance to run post ODF in VDCs and municipality by mobilizing schools and communities under DDC Programme
- Integrate latrine construction and promotion activities in water supply and sanitation projects to contribute in achieving total sanitation.
- Extend/provide technical support to DDC, Red CROSS and other agencies engaged in WASH activities
- Extend support in implementing WASH activities in the district
- Provide help and support DWASHCC and V/MWASHCC in operation of WASH programme.

## **WDO**

- Integrate hygiene and sanitation activities in income generating activities of women groups.

## **VDC/Municipality**

- Prepare and update the V/MWASH Plan together with budget, plan of action and responsibilities and get it endorsed from the Village/Municipal Council

- Allocate at least 5 percent of total capital budget for WASH activities
- Analyze WASH issues and strategies to overcome the implementation barriers
- Manage construction of toilets in schools
- Promote latrine construction poor dominated and landless settlements in coordination with NGO and WASH stakeholders
- Drive hygiene and sanitation activities as integral part of total sanitation movement in respective areas
- Establish and update database on WASH
- Establish public and community toilets in needy locations and ensure smooth operation of these toilets
- Maintain coordination and cooperation with DWASHCC
- Look for the actors and fund/human resources to expedite effective implementation of planned activities
- Organize meetings in each 3 month to assess the progress status in the respective of the VDCs/municipality

#### **NGO Network**

- Ensure coordination with different NGOs active in the district
- Implement awareness raising activities through the medium of NGO Networks.
- Provide support and assistance to fortify the communication and political commitment.

#### **Political Parties**

- Mobilize the ancillaries in the VDC and Municipality as committed at the district level
- Make effort in finding resources and their mobilization for contributing to implementation of planned WASH activities
- Include hygiene and sanitation messages in the publicity materials
- Participate in the monitoring of WASH activities

#### **Mass Media**

- Either observes singly or in-group the latrine use, WASH programme activities, total sanitation movement going-on in the district and include them in the various forum of mass media.

#### **Donor Agencies**

- Provide financial, logistic/material, technical and human resource supports for implementation of planned WASH activities approved by the District/VDC/Municipal Councils;

- Harmonization of concerned funds among donors;
- Replicate the best practice/model

## References

Rural Water Supply and Sanitation National Policy and Strategies, MPPW, Nepal, 2004

SHMP 2011, Sanitation and Hygiene Master Plan, Steering Committee for National Sanitation Action, 2011

DWASHCC 2015, District Total Sanitation Strategy 2015, District Water Supply, Sanitation and Hygiene Coordination Committee, Arghakhanchi

NMIP 2014

DHM 2015, Climate Data Portal, Department of Hydrology and Metrology  
<http://www.dhm.gov.np/dpc/>

CBS 2014 Population Census 2011 report Central Bureau of Statistics.



## **Annex-A: Tables calculated for DWASHP and Plan of Action**

### Annex A.1: Total Score of VDCs

VDC Name	VDC_CO DE	Unserved HH score	WS in School s	Function ality	Remoteness *	% DAG pop	Total Score
Adguri	510001	3.15	4.29	15	19.29	7.04	48.76
Arghatos	510003	16.01	7.78	15	22.78	10.00	71.56
Asurkot	510004	26.74	5.00	15	20.00	6.27	73.01
Balkot	510005	23.00	10.00	15	25.00	10.00	83.00
Bangi	510006	10.89	4.17	15	19.17	6.08	55.30
Bhagawati	510008	2.24	2.00	15	17.00	4.15	40.38
Chhatraganj	510009	7.94	10.00	15	25.00	8.73	66.67
Chidika	510010	19.79	9.09	15	24.09	10.00	77.97
Dhakawang	510011	9.96	6.67	15	21.67	8.25	61.55
Dhanchaur	510012	7.25	5.00	15	20.00	7.50	54.75
Dharapani	510013	1.90	1.00	15	16.00	6.88	40.78
Dhatiwang	510014	9.47	0.00	15	15.00	6.49	45.96
Dhikura	510015	10.27	0.00	15	15.00	8.93	49.20
Gokhunga	510017	31.84	6.00	15	21.00	5.07	78.90
Hansapur	510018	15.48	6.40	15	21.40	7.25	65.54
Jukena	510019	35.00	5.33	15	20.33	9.83	85.50
Juluke	510020	35.00	9.33	15	24.33	8.86	92.52
Kerunga	510022	34.39	10.00	15	25.00	6.58	90.97
Khan	510023	3.91	2.73	15	17.73	10.00	49.36
Khandaha	510025	22.25	5.00	15	20.00	4.48	66.73
Khidim	510026	25.98	3.33	15	18.33	10.00	72.65
Khilji	510027	5.37	6.15	15	21.15	10.00	57.67
Maidan	510028	21.90	3.33	15	18.33	3.59	62.16
Mareng	510029	9.12	6.67	15	21.67	9.24	61.70
Nuwakot	510031	13.93	4.55	15	19.55	8.42	61.44
Pali	510032	8.21	6.67	15	21.67	10.00	61.55
Panena	510034	1.56	8.33	15	23.33	6.29	54.52
Pathauti	510033	8.74	2.50	15	17.50	5.19	48.93
Pokharathok	510035	7.54	0.00	15	15.00	9.44	46.98
Sandhikharka NP	510036	6.12	4.57	15	19.57	8.13	53.40
Siddhara	510037	34.80	9.62	15	24.62	8.92	92.95
Simalapani	510038	23.08	9.52	15	24.52	3.52	75.66
Sitapur	510039	3.63	6.15	15	21.15	8.81	54.75
Subarnakhal	510040	0.00	4.29	15	19.29	3.45	42.02
Thada	510041	1.62	9.09	15	24.09	7.22	57.02
Thulapokhar a	510042	5.55	0.00	15	15.00	5.67	41.22
* No sufficient data of functionality, therefore all VDCs are given equal score of 15 out of 30							

## Annex A.2: VDCs with % of Unserved HH and their score

VDC Name	VDC_CODE	% of Unserved Households	Score	Refined Score
Adguri	510001	4.5%	3.15	3.15
Arghatos	510003	22.9%	16.01	16.01
Asurkot	510004	38.2%	26.74	26.74
Balkot	510005	32.9%	23.00	23.00
Bangi	510006	15.6%	10.89	10.89
Bhagawati	510008	3.2%	2.24	2.24
Chhatraganj	510009	11.3%	7.94	7.94
Chidika	510010	28.3%	19.79	19.79
Dhakawang	510011	14.2%	9.96	9.96
Dhanchaur	510012	10.4%	7.25	7.25
Dharapani	510013	2.7%	1.90	1.90
Dhatiwang	510014	13.5%	9.47	9.47
Dhikura	510015	14.7%	10.27	10.27
Gokhunga	510017	45.5%	31.84	31.84
Hansapur	510018	22.1%	15.48	15.48
Jukena	510019	51.7%	36.20	35.00
Juluke	510020	71.6%	50.15	35.00
Kerunga	510022	49.1%	34.39	34.39
Khan	510023	5.6%	3.91	3.91
Khandaha	510025	31.8%	22.25	22.25
Khidim	510026	37.1%	25.98	25.98
Khilji	510027	7.7%	5.37	5.37
Maidan	510028	31.3%	21.90	21.90
Mareng	510029	13.0%	9.12	9.12
Nuwakot	510031	19.9%	13.93	13.93
Pali	510032	11.7%	8.21	8.21
Panena	510034	2.2%	1.56	1.56
Pathauti	510033	12.5%	8.74	8.74
Pokharathok	510035	10.8%	7.54	7.54
Sandhikharka NP	510036	8.7%	6.12	6.12
Siddhara	510037	49.7%	34.80	34.80
Simalapani	510038	33.0%	23.08	23.08
Sitapur	510039	5.2%	3.63	3.63
Subarnakhal	510040	0.0%	0.00	0.00
Thada	510041	2.3%	1.62	1.62
Thulapokhara	510042	7.9%	5.55	5.55

### Annex A.3: Water Supply Status in Schools

VDC name	Without water Supply	Well-functioning	Not functional	Schools/Institutions with condition of water supply system				% *	Score
				Very good	Good	Fair	Poor		
Adguri	-	4	3		2	2	3	42.86	4.29
Arghatos	3	2	4		1	1	4	77.78	7.78
Asurkot	-	2	2			2	2	50.00	5.00
Balkot	8	-	1				1	100.00	10.00
Bangi	-	7	5		4	3	5	41.67	4.17
Bhagawati	-	4	1		2	2	1	20.00	2.00
Chhatraganj	4	-	1				1	100.00	10.00
Chidika	8	1	2			1	2	90.91	9.09
Dhakawang	-	4	8			4	8	66.67	6.67
Dhanchaur	3	6	3		2	4	3	50.00	5.00
Dharapani	-	9	1		5	4	1	10.00	1.00
Dhatriwang	-	5	-		1	4		0.00	0.00
Dhikura	-	10	-		1	9		0.00	0.00
Gokhunga	2	4	4			4	4	60.00	6.00
Hansapur	11	9	5	1	7	1	5	64.00	6.40
Jukena	3	7	5		1	6	5	53.33	5.33
Juluke	12	1	2			1	2	93.33	9.33
Kerunga	2	-	5				5	100.00	10.00
Khan	-	8	3		5	3	3	27.27	2.73
Khandaha	-	4	4		2	2	4	50.00	5.00
Khidim	2	6	1		4	2	1	33.33	3.33
Khilji	7	5	1			5	1	61.54	6.15
Maidan	-	6	3		1	5	3	33.33	3.33
Mareng	3	4	5			4	5	66.67	6.67
Nuwakot	-	6	5		2	4	5	45.45	4.55
Pali	-	2	4		2		4	66.67	6.67
Panena	-	1	5		1		5	83.33	8.33
Pathauti	-	6	2			6	2	25.00	2.50
Pokharathok	-	5	-		4	1		0.00	0.00
Sandhikharka NP	5	38	27		12	26	27	45.71	4.57

Siddhara	22	1	3		1		3	96.15	9.62
Simalapani	9	1	11			1	11	95.24	9.52
Sitapur	-	5	8		2	3	8	61.54	6.15
Subarnakhal	-	4	3		2	2	3	42.86	4.29
Thada	10	2	10			2	10	90.91	9.09
Thulapokhara	-	6	-		1	5		0.00	0.00

1                      65                      119                      147

**\*% of not having water need major repair**

#### Annex A.4: % of DAG in the VDCs and their score

VDC Name	Dalit (DAG)	Score
Adguri	21%	7.0
Arghatos	33%	10.0
Asurkot	19%	6.3
Balkot	37%	10.0
Bangi	18%	6.1
Bhagawati	12%	4.1
Chhatraganj	26%	8.7
Chidika	45%	10.0
Dhakawang	25%	8.3
Dhanchaur	23%	7.5
Dharapani	21%	6.9
Dhatiwang	19%	6.5
Dhikura	27%	8.9
Gokhunga	15%	5.1
Hansapur	22%	7.3
Jaluke	29%	9.8
Jukena	27%	8.9
Kerunga	20%	6.6
Khana	43%	10.0
Khandaha	13%	4.5
Khidim	31%	10.0
Khilji	31%	10.0
Maidan	11%	3.6
Mareng	28%	9.2
Nuwakot	25%	8.4
Pali	49%	10.0
Panena	19%	6.3
Patauti	16%	5.2
Pokharathok	28%	9.4
Sandhikharka N.P.	24%	8.1
Siddhara	27%	8.9
Simalpani	11%	3.5
Sitapur	26%	8.8
Subarnakhal	10%	3.4
Thada	22%	7.2
Thulapokhara	17%	5.7



### Annex A.5: Remoteness and their score

S. N	Name of VDC	All weather (Black top and Gravel) road head		Seasonal road (Earthen) road head		10 for distance from all-weather road	5 for distance from seasonal road	Remoteness score in 15 points
		Road Head Name	Distance from VDC Centre (Km)	Road Head Name	Distance from VDC Centre (Km)			
1	Adguri	Bhanjhang	0.00	Up to end of VDC	4.00	0.0	2	2.0
2	Arghatos	Dhorachaupari, Chhatraganja	12.00	Up to end of VDC	3.00	4.0	1.5	5.5
3	Asurkot	Banchare	16.00	Up to end of VDC	4.00	5.3	2	7.3
4	Balkot	pauwa/ Balkot	0.00	Up to end of VDC	4.00	0.0	2	2.0
5	Bangi	Bihara/sa na pa 13	8.00	Up to end of VDC	5.00	2.7	2.5	5.2
6	Bhagawati	Dhorachaupari, Chhatraganja	14.00	Up to end of VDC	2.00	4.7	1	5.7
7	Chhatraganja	Dhorachaupari, Chhatraganja	3.00	Up to end of VDC	4.00	1.0	2	3.0
8	Chidika	Kavre, Balkot	5.00	Up to end of VDC	4.00	1.7	2	3.7
9	Dhakabang	Amala chaur	3.00	Up to end of VDC	4.00	1.0	2	3.0
10	Dhanchour	Gachhe	19.00	Up to end of VDC	4.00	6.3	2	8.3
11	Dharapani	Dharapani Bazzar	0.00	Up to end of VDC	4.00	0.0	2	2.0
12	Dhatibang	Bhanjhang	8.00	Up to end of VDC	4.00	2.7	2	4.7
13	Dhikura	Gachhe	4.00	Up to end of VDC	4.00	1.3	2	3.3
14	Gokhunga	Bihara/sa na pa 13	20.00	Up to end of VDC	4.00	6.7	2	8.7
15	Hansapur	Bihara/sa na pa 13	15.00	Up to end of VDC	4.00	5.0	2	7.0
16	Jukena	Thada	7.00	Up to end of VDC	4.00	2.3	2	4.3
17	Juluke	Thada	17.00	Up to end of VDC	4.00	5.7	2	7.7
18	Kerunga	Amarai, Kerunga	0.00	Up to end of VDC	4.00	0.0	2	2.0
19	Khana	Chihandanda	14.00	Up to end of VDC	4.00	4.7	2	6.7
20	Khanadaha	Chihandanda	16.00	Up to end of VDC	4.00	5.3	2	7.3
21	Khidim	Bhanjhang	20.00	Up to end of VDC	8.00	6.7	4	10.7
22	Khilji	Banchare	12.00	Up to end of VDC	4.00	4.0	2	6.0

23	Maidan	Bhanjhang	18.00	Up to end of VDC	4.00	6.0	2	8.0
24	Mareng	Dhorachaupari, Chhatraganja	15.00	Up to end of VDC	4.00	5.0	2	7.0
25	Nuwakot	Banchare	2.00	Up to end of VDC	6.00	0.7	3	3.7
26	Pali	Bhanjhang	4.00	Up to end of VDC	10.00	1.3	5	6.3
27	Panena	Bhanjhang	30.00	Up to end of VDC	10.00	10.0	5	15.0
28	Patauti	Bhanjhang	20.00	Up to end of VDC	4.00	6.7	2	8.7
29	Pokharathok	Bhanjhang	21.00	Up to end of VDC	4.00	7.0	2	9.0
30	Sandhikharka	Sandhikharka	0.00	Up to end of VDC	4.00	0.0	2	2.0
31	Siddhara	Chakla	15.00	Up to end of VDC	4.00	5.0	2	7.0
32	Simalpani	Bhedamare	10.00	Up to end of VDC	4.00	3.3	2	5.3
33	Sitapur	Badachaur	0.00	Up to end of VDC	4.00	0.0	2	2.0
34	Subarnakhal	Badachaur	8.00	Up to end of VDC	4.00	2.7	2	4.7
35	Thada	Thada	0.00	Up to end of VDC	4.00	0.0	2	2.0
36	Thulapokhara	Chihandanda	10.00	Up to end of VDC	4.00	3.3	2	5.3

30

10

### Annex A.6: Disaster risks in VDCs

S.N	Name of VDC	Risk*					
		Flood	Landslide	Drought	Fire	Storm	Epidemic
1	Chidika	3	3	2	2	2	2
2	Balkot	3	3	2	2	2	2
3	kerunga	3	3	2	2	2	2
4	chhatragunj	2	4	2	2	2	2
5	Bhagwati	2	3	2	2	2	2
6	Mareng	2	3	2	2	2	2
7	Thulapokhara	4	3	2	2	2	2
8	Arghatosh	3	3	2	2	2	2
9	Khana	3	3	2	2	2	2
10	Khanadaha	3	3	2	2	2	2
11	Bagi	2	4	2	2	2	2
12	Sandhikharka Municipality	2	3	2	2	2	2
13	Gokhunga	2	3	2	2	2	2
14	Hansapur	4	3	2	2	2	2
15	Dharapani	3	3	2	2	2	2
16	Dhakabang	3	3	2	2	2	2
17	Thada	3	3	2	2	2	2
18	Sitapur	2	4	2	2	2	2
19	Subarnakhal	2	3	2	2	2	2
20	Simalpani	2	3	2	2	2	2
21	Jukena	4	3	2	2	2	2
22	Jaluke	3	3	2	2	2	2
23	Siddhara	3	3	2	2	2	2
24	Nuwakot	3	3	2	2	2	2
25	Khilji	2	4	2	2	2	2
26	Asurkot	2	3	2	2	2	2
27	Panena	2	3	2	2	2	2
28	Pokharathok	4	3	2	2	2	2
29	Khidim	3	3	2	2	2	2
30	Patauti	3	3	2	2	2	2
31	Maidan	3	3	2	2	2	2
32	Dhatibang	2	4	2	2	2	2
33	Pali	2	3	2	2	2	2
34	Adguri	2	3	2	2	2	2
35	Dhanchaur	4	3	2	2	2	2
36	Dhikura	3	3	2	2	2	2

\*Score: Very high (5), high (4), moderate (3), low (2), no risk (1)

## Annex A.7: Detail programme of action of District Strategic WASH Plan

SN	Activities	Unit	Quantity	Rate ('000)	Total ('000)	Grand total ('000)
<b>1</b>	<b>Water supply, sanitation and hygiene plan - M/V-WASH Plan preparation and update:</b>					<b>3,500</b>
1.1	Preparation of VWASH plan with climate change resilient WASH	VDC	35	80	2,800	
1.2	Preparation of MWASH plan with climate change resilient WASH	M	1	200	200	
1.3	VWASH plan preparation guideline review/improvement and training to local NGOs/individuals on V/M WASH plan	Event	3	100	300	
1.4	D-WASH-Plan printing and dissemination workshops	Event	1	200	200	
<b>2</b>	<b>Access to basic water supply to all by 2020:</b>					<b>1,100,997</b>
1	Reaching to unreached-new projects/Gravity/Pumping/other	HH	9367	63	590,121	
2	Minor repair of Water Supply schemes	HH	22715	4	90,860	
3	Major repair of Water Supply Schemes	HH	3137	20	62,740	
4	Rehabilitation of water supply schemes	HH	8,523	22	187,506	
5	Reconstruction of water supply schemes	HH	3,044	25	76,100	
6	Regulation of well function projects and management support	HH	46,835	2	93,670	
<b>3</b>	<b>Access to high/medium level water supply to 50% HHs by 2025:</b>					
2.1	Assessing of base line for high/medium level coverage of district	Scheme	615	400	246,000	<b>444,155</b>
2.2	Extension/modification/rebuilt of units of water supply system of old water supply system	Scheme	615	300	184,500	
2.3	Implementation of water safety plan	Scheme	1,231	5	6,155	
2.4	Watershed management for recharging/increase yield of sources	Nos	15	500	7,500	
<b>4</b>	<b>Water supply facility improvement in school and institution-</b>					<b>23,820</b>
1	Rehab/ Major repair of Water supply schools in schools and institution	Nos	114	80	9,120	
2	New Water supply in schools and institutions	Nos	147	100	14,700	
<b>5</b>	<b>Post ODF -Hardware</b>					<b>24,475</b>
1	Monitoring/ followup/ of condition of use of toilets	LS			500	
2	Triggering for scale up/rebuild of old toilets-	LS			500	
3	School latrine- new	Nos	5	175	875	
3	School latrines-supplementary to existing toilets to make GESI friendly & adequate	Nos	100	175	17,500	
4	Institutional latrine- new	Nos	10	50	500	
5	Latrines for public places	Nos	20	200	4,000	
6	ECOSAN promotion	Nos	10	30	300	
7	Biogas promotion	Nos	10	30	300	
<b>6</b>	<b>Post ODF -Human resources development</b>					<b>5,120</b>

1	Triggering to VWASH/M-WASH CC	Person	250	2	500	
2	Orientation/training of total sanitation for VWASH/M-WASH CC	Person	720	2	1,440	
3	Total sanitation volunteers' orientation/mobilization at ward levels	Person	700	3	2,100	
4	Mason's training for ECOSAN and Biogas and market chain development	Person	108	10	1,080	
7	<b>Sustainability of Hygiene &amp; Sanitation (for post ODF)</b>					<b>3,600</b>
1	Volunteers/ community mobilization for sustainable hygiene and sanitation	VDC	36	100	3,600	
8	<b>Water quality monitoring and surveillance</b>					<b>180</b>
1	Water quality monitoring and test	sample	3,000	0.06	180	
9	<b>Solid and liquid waste management:</b>					<b>0,750</b>
1	Preparation of solid waste management plan in urban and semi urban area	District	1	500	500	
2	Campaign for 3R in solid waste management	VDC	35	30	1,050	
3	campaign for isolated septic tank and soak pit	District	1	200	200	
4	construction of storm water drainage and intercepting pond for recharge	Nos	40	100	4,000	
5	land fill site construction	Nos	1	5,000	5,000	
10	<b>Climate change induced disaster resilient WASH System</b>					<b>21,000</b>
1	Implementation & promotion of ICS program	VDC	36	50	1,800	
2	Source conservation in water source catchment in foothills	Sources	600	20	12,000	
3	Promotion of recharge ponds	VDC	36	200	7,200	
13	<b>Institutional development (orientation, exposure visits):</b>					<b>600</b>
1	Capacity building of VWASH-CC	Person	900	0.50	450	
2	Capacity building of DWASH-CC	Person	150	1	150	
14	<b>Advocacy, monitoring and updating of District Strategic WASH Plan:</b>					<b>1,650</b>
1	Coordination meeting with WASH stakeholders for monitoring of implemented activities of the plan (Quarterly)	Events	15	10	150	
2	Workshop for coordinated action and financing of the planned activities for implementing the strategic WASH plan (six monthly)	Events	10	100	1,000	
3	Review and update the action plan (annual)	Year	5	100	500	
15	<b>Other (honour/reward to person/institution, etc)</b>					<b>4,750</b>
1	Honour and Reward (person/institution working in WASH)	VDC	35	50	1,750.00	
2	IEC/BCC materials	year	5	500	2,500.00	
3	Media Mobilization/Newsletter etc	year	5	100	500.00	
	<b>Total district budget required for ten years (2016-2025) including upgrade of services</b>					<b>1,644,597</b>
	<b>Total district budget required for five years (2016-2020)</b>					<b>1,200,442</b>



## **Annex-B: District Total Sanitation Strategy 2015-2020**

*See separate Documents: 4.3.1. District Post ODF Strategy Arghakhanchi 8.26.2015*