

Pyuthan District Water, Sanitation and Hygiene Strategic Plan (2013 - 2017)



District Development Committee, Pyuthan

District Water Supply, Sanitation and Hygiene Coordination Committee

(DWASHCC)

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Map of Pyuthan District



1 Background

1.1 Introduction of Pyuthan district

Pyuthan district lies between latitudes 27°52" and 28°21" North, and longitude 82°36" and 88°36" East. It is situated in the Mid Western Development region, Rapti Zone. Pyuthan district has tremendous geographical diversity within a short distance ranges of plain, hills and mountains. is a "hill" district some 250 km west of Kathmandu in Rapti Zone of Nepal's Mid-Western Region. The diversity land in landform is one of the characteristics of Pyuthan. The headquarters of Pyuthan is Khalanga which is situated at 1280 metre height from the sea level. The highest and lowest altitude is 3,659 m and 305 m respectively from the sea level. Total area of the district is 1,309 square km. Pyuthan is bordered by five different districts i.e. Arghakhanchi and Gulmi in the East, Rolpa and Dang in the West, Baglung and Rolpa in the North and Arghakhanchi and Dang in the South. There are 49 Village Development Committees in this district.

According to the National Census 2011, the total population of the district is 228,102 in 47,730 households out of which 128,049 are women and 100,053 are male. According District profile 2009 of Pyuthan, Magars are 31.65%, Chhetris are 27.06%, and Brahmins are 11.59%. The other caste and ethnic groups are Dalits, Newar, Gurungs, Newar, Thakuri, Kumal etc.

Pyuthan has three prominent climates- Tropical Climate in the Plain lands, Temperate Climate in the Hilly Region and Artic or Polar Climate in Higher Hills. Climate like Terai is available in Bangesal V.D.C, whereas climate like mountain can be found in Syaulibang, Kalihilekh and Tinpore V.D.Cs. Main occupation of the people of this district is agriculture like, Maize, Potato, Barley, Paddy animal farming etc. The average rain fall of this district is 1300 mm. per year. In addition, normally, the highest and lowest temperature is 24.1°C and 14.8°C, respectively.

There are two big rivers i.e. Jhimruk and Madi which flow from the central part of this district. Most of the plain land of Pyuthan has been irrigated from the Jhimruk River. Furthermore, 12 megawatt hydropower electricity has been produced from this River.

1.2 Plan and Rational of the Report


The government of Nepal has set a target of 100% coverage of basis water supply and sanitation by 2017. Pyuthan district has achieved 100% sanitation coverage by 2013, quite ahead of the national target year and the water supply coverage is around 85% by 2013 which is very close to the national target.

Pyuthan District Water, Sanitation and Hygiene Coordination Committee has set a target of 100% basic water supply coverage and total sanitation (also known as Total Behaviour Change, TBC) by 2017 AD. This report is intended to formulate key strategies, approaches and strategic action plan to ensure these targets. In regards of total sanitation, a separate strategic action plan is available, hence no details are available in this report. It is expected that this report will be guiding document to prioritize VDCs and schemes, plan, implement, monitor water and

sanitation projects in the district as to ensure 100% coverage by 2017. It is also guiding document how sanitation is integrated together with water supply projects.

1.3 Team Composition

Team experts were deployed to produce this strategic WASH action plan. Mr Ramesh Poudel, Develop expert, Senior WASH Engineer Mr Indra Bahadur Chand were the responsible for field studies and desk study review and draft report writing. Mr Chhabi Lal Kafle, Programme Officer of IDC provided overall administrative, logistic and coordination tasks. Senior National WASH Expert Mr Guna Raj Shrestha provided overall guidance, review of the report and sought feedback from the wide stakeholders through multi sectoral WASH forum, DWASHCC and political parties through several district level workshop, meeting, and interaction. The team was assisted by Mr Hari Uadhaya, District Support Advisor of RWSSP-WN, Mr Pramod Shrestha, WASH officer of Pyuthan DDC and other WASH Unit team members. The team was guided by Mr Phatta Bahadur Chhetri, Divisional Engineer of Water Supply and Sanitation Divisional Office and Mr. Bhagawan Aryal, Local Development Officer and Chief of Pyuthan DWASHCC.



2 WASH Situation in the District

Rural Water Supply and Sanitation Project – Western Nepal, a joint collaboration of the government of Finland and Government of Nepal, is one of the major WASH intervention in the district. The project was initiated in 2011 and renewed in 2013 for next five years until 2017.

2.1 Water Supply Situation

Water supply coverage by types of schemes

The National Management Information Programme (NMIP) of the Department of Water Supply and Sewerage (DWSS) has revealed that there are 911 existing water supply schemes in the district. The present coverage of households from improved water in Pyuthan district is about 84.36%. The details of VDC wise coverage is presented in **Annex –3.1**. The table 3.1 shows the existing schemes and their respective coverage.

Table 2.1: Drinking Water Supply Situation

S. N.	Water Supply Coverage	No of water scheme*	Households (HHs)**	Percentage (%)
1	Gravity flow Water Supply	889	38180	80.02%
2	Surface pumping water supply	22	2071	4.34%
3	Water supply from traditional water sources	0	7465	15.64%
	Total	911	47716	100%

Source: *WSSDO Pyuthan, 2012, ** National Census, 2011

Existing Water Supply Condition

Among the 911 existing schemes, 12(1.32%) water schemes were constructed before 30 years while 187 (20.53%) water schemes between 21-30 years, 450(49.40%) schemes between 11-20 years and 263(28.76%) water schemes within last 10 years. It is found out from analysis that 304(33.37%) schemes are well maintained and well-functioning, 340(37.32%) Schemes need simple maintenance, 15(37.91%) Schemes need big maintenance/improvement/expansion and 122(13.39%) schemes need rehabilitation/reconstruction. The VDC wise functional status of water supply schemes is given in **Annex –3.2**.

Regarding the systems of water supply, 80.02% households are using piped drinking water and 4.34% of the households are using surface pumping drinking water. So, 84.36% households of this district has been served with improved water supply services. Conversely, there are about 15.64% households, which are still deprived of basic level of water service. Hence, 15.64% households still use the traditional sources such as neighbouring Kuwa/Dug well, River/Stream/Kulo/Canal/Pond and Pandhero Dhara/Spout. Table 3.2 provides the information about the types of sources being used by the inhabitants of different VDCs and the figure indicated in percentage presents classification of different sources being used for drinking water.

Summary of water supply schemes

No of schemes	: 911
Total Coverage	: 84.36%
Maintained well	:33.37%
Need simple maintenance	:37.32%
Need big maintenance	:8.56%
Need expansion & improvement	:7.35%
Need reconstruction	:11.86%
Not ability of operation	1.54%

Table 2.2: Existing Water Supply Condition

S. N.	Age of Water Supply schemes	No of water scheme	Percentage (%)	Maintained well	Need simple maintenance	Need big maintenance	Need expansion & improvement	Need reconstruction	Not ability of operation
1	More than 30 year	12	1.32%	1	4	3	1	3	0
2	20-30 year	187	20.53%	40	86	17	14	28	2
3	10-20 year	450	49.40%	107	183	48	42	63	7
4	less than 10 year	262	28.76%	156	67	10	10	14	5
	Total No of scheme	911	100.00%	304	340	78	67	108	14
Percentage of water supply scheme with different functional status				33.37%	37.32%	8.56%	7.35%	11.86%	1.54%
40251 household benefitted with different functional status				13054	15038	4390	2982	4180	607
Percentage of benefitted household with different functional status				32.43%	37.36%	10.91%	7.41%	10.38%	1.51%

Note: Functional/maintenance status of water schemes is analysed on the basis of information provided by MIS database of WSSDO of Pyuthan of 2012.

Types of Water Source being used for Drinking Water

The total 911 water supply schemes had been constructed from which 40251 households have been benefitting from existing water supply system till 2069. Out of 911 water supply schemes serving 40251 households, 122 existing water supply schemes serving water supply services for 4787 households have been found to be rehabilitated or reconstruction. So 35464(74.32%) households out of total 47716 have been benefitting from actual improved water supply system resulting with the situation of 12252(25.68%) of total households needs water supply services. 3.71% households out of 40251 HH have been benefitted from private tap connection while

96.29% households have been benefitting from public tap stand service with the ratio of 6.62 households per public tap stand. 2410 kilometer of pipe length have been laid for providing the water services to 40251 households with ratio of 60 meter pipe length per household.

According to availability of data on the institutional functioning of water supply schemes, 86.56% tap stands were functional in 2066. Similarly 67.31% schemes out of 826 were functional in terms of availability of water in tap in 12 months. Maintenance workers were found in 31.47% water schemes. Maintenance spare parts were found in 31.96% water schemes. Users committee were registered in 24.57% water supply schemes

Table 2.3: Types of Water Source being used for Drinking Water

SN	Types of Water Source being Used	Households (HHs)	Per cent (%)	Remarks
1	Spring sources	863	94.73%	
2	Stream source	43	4.72%	
3	Underground water source	5	0.55%	
4	Rain water harvesting	0	0.00%	
	Total	911	100%	

Source: WSSDO Pyuthan, 2011

School Water Supply

Table 2.4: School Water Supply

Condition	No of School	%age
Good	56	14.62%
Moderate	138	36.03%
Bad	54	14.10%
Worst	49	12.79%
No Facility	86	22.45%
	383	100%

It is found from information provided by VDC secretary that only 15.88% schools have the good facility of drinking water while 12.53% schools have the worst facility of water supply. 21.45% of schools are still deprived from the facility of water supply. Detailed VDC wise status of water supply of school is illustrated in **Annex-3.3**.

2.2 Sanitation and Hygiene Situation

Open Defecation Free (ODF) campaigning was carried out since 2011 and targeted to declare the district ODF by 2013 with the supports of various development partners active in the district. The most important partners were Rural Water Supply and Sanitation Project – Western Nepal, CARE Nepal, etc. The overall campaign was coordinated by District Water, Sanitation and Hygiene Coordination Committee led by the Local Development Officer.

With the continuous efforts of the DWASHCC and the development partners, the district was declared ODF eventually on March 29, 2013 and it stood 5th district in the country. The official declaration was made by the honourable vice president of Nepal.

The western regional water, sanitation and hygiene coordination committee (RWASHCC) made an official monitoring visit of the district whether it would meet the criteria of Open Defecation Free declaration. The key criteria were:

- 1) No open defecation free situation in any areas.
- 2) Permanent toilets in each household
- 3) Toilets in all the institutions
- 4) Public toilets in the public places

After the declaration of ODF, following sanitation status exist in the district.

Household Sanitation:

All the 100% of the HHs in all the 49 VDCs have access to toilets by the end of March 2013. It is estimated that 2% of the HHs have pit latrines, whereas, remaining 98% HHs have permanent toilets. The pit latrines are expected to be upgraded to permanent toilets in the next one year or so.

School Sanitation

As per the data made available by the District WASH team, following facts were collected regarding school sanitation.

There are 383 public schools in the district. By the end of the ODF declaration, all the 100% schools have access to toilets for both boys and girls.

However, urinal facilities are not available in all the schools. Only 36% of the total schools have access to separate urinal facilities for girls and boys against a fact that 93% of the students use toilets for urination in time day time.

The data also reveals that 5.41% schools have toilets with children friendly perspective. Similarly 74.92% schools have toilets with gender Perspective and 2.19% schools with disable friendly perspective.

Only about 4% of schools have the facility of soap with provision of hand washing basins.

About 17% of schools have maintained solid and liquid waste management.

Although information are not available it is anticipated that most of the schools do not have adequate units of defecation rooms and urinal based on the number of students. As per the Department of Education, a unit of toilet should serve about 50 students, however, the national average is 147 students per unit of toilet. Pyuthan district should also have the more or less average number of students per unit toilet. Details of status of school toilet of each VDC is given

Annex-3.5

Hygiene and Health

Major diseases prevalent in the district are gastro-enteritis, intestinal worm, the water borne diseases like diarrhoea, typhoid, Jaundice, cholera, dysentery and respiratory infection. The incidence of diarrhoea and water borne diseases is given in **Annex 3.7**. Poor indoor air quality due to fuel wood burning in unventilated house conditions and taking of tobacco products are the major causes of respiratory diseases.

Environmental Sanitation

Solid wastes are unwanted/unhygienic/hazardous solid/semi-solid substances produced by human and animal activities. There are various types of solid waste like agro-waste, construction waste, industrial waste, carcasses, households waste etc. The major wastes at village level are agro-waste, households waste and carcasses etc. People have traditionally practiced to collect the cow-dung making a pit nearby the house. There are no fixed spots to dispose the carcasses, and people are used to throwing the carcasses anywhere. Thus, it causes environmental hazards and contamination of water bodies.

2.3 Environment and Climate Change Situation

It is found from information of 46 VDC as provided by concerned VDC of district that 45 VDC have been found of depleting of water sources. Similarly, it is found from information of 28 VDC as provided by concerned VDC of district that intake structures and pipe line have been severely affected in 123 location of 28 VDC due to land slide.

2.4 Institutional Structure and Capacity Building

It is found from information of 47 VDC¹ **out of 49 VDC** as provided by concerned VDC of district that 45 VDC have been found of formation of WASH coordination committee with 12 active committee and 33 moderate activeness. Similarly, it is found from information of 45 VDC as provided by concerned VDC of district that only 12 of VDC have been found of having 100% activeness of V-WASH-CC and 33 VDCs have been found of moderate activeness.

Similarly, it is found from information of 45 VDC as provided by concerned VDC of district that only 2.2% of VDC have been found of having 100% activeness of water users committee, 31.1% VDCs have been found of 80-100% activeness in water users committee while 66.7% of VDC of district have been found of below 60% activeness of users committee.

Table 2.5: No of trained persons and training need

Type of training	Trained Persons	Persons to be trained
Capacity Building Training (Village Maintenance Worker, ,LLB, Plumbing, Accounting etc)	0	1594
Leadership Development Training	35	25
Sanitation Training (Triggers Training)	837	2580
Training of Latrine Use(Users committee, FHW, Child club etc)	48	543
Orientation on ODF (social mobilisor, teachers, VWASHCC members, CHASAC members, Lead mothers, Political parties representatives, WASH journalists, DWASHCC members,)	200	0
Other Trainings	800	2781
Total	1770	7523

It is found from information of all VDC as provided by concerned VDC of district that 1770 persons have been trained of capacity building of WASH sector and 7523 persons are realised to be trained for capacity building in different topics of WASH.

3 Key Challenges

3.1 Challenges of Water Supply

Out of 911 water supply schemes serving 40251 households, 122 existing water supply schemes serving water supply services for 4787 households have been found to be rehabilitated or reconstruction.

According to availability of data on the institutional functioning of water supply schemes of 2066, 13.44% tap stands are not functional. Similarly 32.7% schemes out of 826 were not functional in terms of availability of water in tap in 12 months. Maintenance workers were not found in 62.53% water schemes. Maintenance spare parts were not found in 68.31% water schemes. Users committee were not registered in 75.43% water supply schemes.

It is found from information provided by VDC secretary that 12.53% schools have the worst facility of water supply and 21.45% of schools are still deprived from the facility of water supply.

Other specific challenges are :

- Low coverage in the remote VDCs: The most of remote VDC the district the low coverage of water supply facilities.
- Less access to disadvantaged and poor communities
- Rehabilitation and reconstruction of old schemes. Some of existing water supply system are not functioning to meet the design standard.
- Water depletion is rapidly increasing due to climate change- mitigation
- Institutional mechanism of the users committees is realized to be strengthening
- O&M mechanism of the most of existing water supply scheme is poor.
- Service level of water- quality and quantity is low in the most scheme.
- Disaster preparedness and response on WASH is low in the most water supply scheme.

3.2 Challenges of Sanitation and Hygiene

Overall challenges of sanitation are as:

HH sanitation

- The most of household toilet are constructed without safe disposal of human excreta and need upgrading of toilets
- Regular use and maintenance of households' toilets is poor.

School toilets

- School toilets needs further improvement and upgrading.
- The most of school toilets are constructed without Child/gender/disable friendly approaches.
- Menstrual and hand washing facilities in school toilets is poor.
- Regular O&M mechanism is poor.

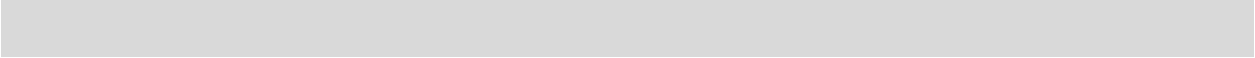
Institutional and public toilets

- Access of institutional toilets in HP/VDC needs improvement.
- Public places needs public toilets
- It needs O&M systems in institutional toilets

Total behavior change (TBC)

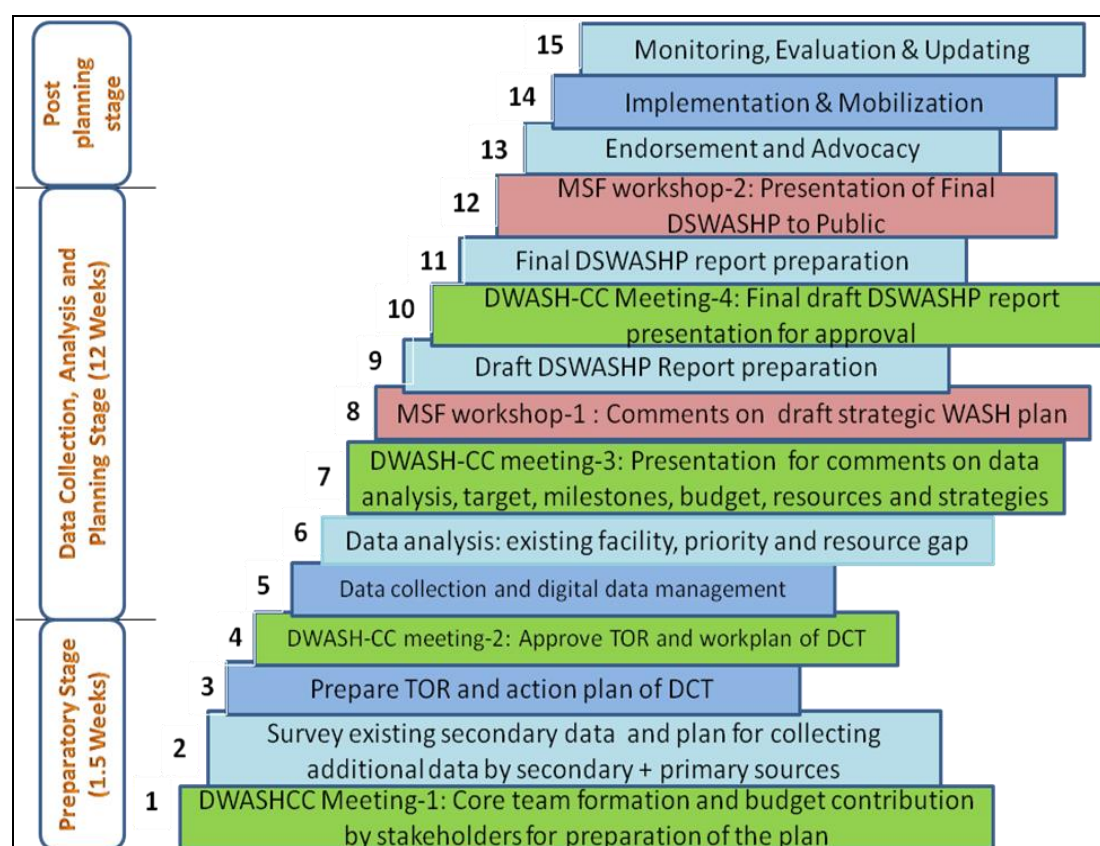
- Needs improvement in Personal hygiene, HH sanitation, Environmental sanitation

General

- Regular monitoring mechanism
 - Social and state norms establishment and dissemination
 - Knowledge management (learning collection, reporting, publication and dissemination)
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4 Methodology

District Water, Hygiene and Sanitation Coordination Committee (DWASH-CC) of Pyuthan decided to prepare District Strategic Water, Sanitation and Hygiene Plan (DSWASHP) and formed a task force core team to complete the task. The District Core Team planned to prepare the strategic WASH plan in following stages.



To accomplish the task of planning stage, the Core Team hired consulting team. The consulting team prepared District Strategic WASH Plan following the steps approved by the DWASH-CC. The consulting team collected and analysed both the secondary and primary data to prepare the District Strategic WASH Plan.

Sources of secondary data:

S. No.	Source	Types of Data
1	Central Bureau of Statistics	<ul style="list-style-type: none"> Total population, Male and female Population
2	District Development Committee (Including Rural Water Supply and Sanitation Project-Western Nepal)	<ul style="list-style-type: none"> Poverty map Remoteness of VDCs Caste distribution of population GESI analysis
3	Village Development Committee	<ul style="list-style-type: none"> Fund mobilised in WASH sector
4	District Water supply and Sanitation Office	<ul style="list-style-type: none"> Access of water Functionality of water

		<ul style="list-style-type: none"> • Types of water sources • Assess of toilet and types
5	District Health Office	<ul style="list-style-type: none"> • Incidence of water borne diseases
6	District Education Office	<ul style="list-style-type: none"> • No of students and staff
7	Non government organisations	<ul style="list-style-type: none"> • Fund mobilised in WASH sector

The consulting team also collected primary data related to sanitation and hygiene situation of institutes including schools and sanitation and hygiene behaviour of people by mobilising enumerators through VDC secretary of all the VDCs.

The activities of the VDCs for next five years were designed jointly in consultation with local people of the respective VDCs through VDC secretary. A series of task force meeting, DWASHCC meeting, multi sectoral WASH forum meeting and even political parties meeting were held to discuss on the draft reports and took input and feedback. The draft was also shared in the annual review meeting of the DDC assembly. The draft was also shared with the District Support Advisor, and technical team of experts of RWSSP- Western Nepal. Vary valuable suggestions and feedback were received from them. All feedback and input received from these meeting, workshop and consultation hence been attempted to incorporate in this final report. Most importantly, the valuable advice and guidance of Mr Bhagawan Aryal, Local Development Officer and chief of Pyuthan DWASHCC was noteworthy to finalize this strategic plan of action.



5 Approach and Key Components

The following approaches are applied while planning and implementing water and sanitation programme in the district:

5.1 Approach

Water supply schemes

- Select VDCs with agreed selection criteria and as per the categorization done in this report.
- 100% coverage approach in the selected VDC; whichever VDC is undertaken, the entire VDC will be made 100% water coverage. All potential water schemes will be implemented.
- Hardship schemes selected separately for implementation in the district. Apart from VDC approach, some schemes that are very hard ship in terms of fetching time, remoteness will also be undertaken. However, the investment on such hard schemes will be about 40% of the annual budget of district water supply intervention. That means 60% of the district WASH budget for VDC wide water supply scheme and 40% for hardship water supply schemes that may fall in any VDCs.
- Various low cost technologies offered; gravity, rain water, lifting, etc. Lifting and rain water harvesting will be given high emphasizing as many villages are now located in the hill tops and other source of water is scarce.
- Support mechanism for new, repair and rehabilitation. While selecting schemes, there will be fair balance of new, and rehabilitation schemes
- Sustainability components inbuilt – such as O&M fund, care takers, tools, insurance, human resource development, markets of repair parts, etc
- Special consideration to ultra poor
- Stocking of water supply materials for emergencies and establish team with proper orientation

Post ODF Sanitation and hygiene

- All post ODF sanitation programme will be integrated with water supply as far as possible.
- Increase coverage of institutional/public and schools toilets where inadequate and upgrade needed
- Identify local level post ODF indicators- key five indicators:
 - Upgrading, use and maintenance of toilets with water facilities,
 - Hand washing with soap at critical times,
 - One of four POU methods for water purification for drinking,
 - Waste management and
 - Food hygiene.
- Mobilize schools, Heath Posts (HP), Forest Users Group (FUGs), Female Community Health Volunteers (FCHVs), in achieving post ODF indicators and sustaining

- Establish Monitoring teams at different levels, and assign a fixed terms of reference
- Establish social and state norms for post ODF sustainability

The proxy indicators of the total sanitation will be, as per the implementation guidelines of master plan (under approval process) are as per below:

SN	Indicators	Proxy indicators
1	Upgrading, use and maintenance of toilets with water facilities,	<p><i>HH toilets</i></p> <ul style="list-style-type: none"> • Temporary toilets upgraded to permanent • Rebuilding of toilets if collapsed • Cleanliness of toilets, availability of cleaning materials • Availability of water for toilets <p><i>School toilets</i></p> <ul style="list-style-type: none"> • Child, gender and disable friendly facilities available • Hand washing facilities available • Availability of soaps • Menstrual hygiene facilities • Availability of water for toilets • Adequate urinals and defecation rooms for number of students as per the government standards • Child clubs functional and activities to maintain the toilets • School levels norms available for maintenance of toilets <p>Other institutional toilets</p> <ul style="list-style-type: none"> • Hand washing facilities available • Availability of soaps • Menstrual hygiene facilities • Availability of water for toilets
2	hand washing with soap at critical times,	<p>HH level</p> <ul style="list-style-type: none"> • Availability of hand washing facilities • Availability of soaps • Knowledge of three critical times of hand washing with soap
3	One of four POU methods for water purification for drinking	<p>Availability of at least one facility of the following four:</p> <ul style="list-style-type: none"> • Availability of bottles for SODIS/practice observed • Availability of filter • Presence of chlorine • Practice of boiling • Knowledge of four methods
4	Waste management	<ul style="list-style-type: none"> • Availability of two separate pits/bins for organic and inorganic wastes and practice observed • Drainage from kitchen/tapstands to soak pit or to a drain • A kitchen drying rack

5	Food hygiene.	<ul style="list-style-type: none"> • Cooked food items and drinking water covered properly and • No stale and foul/smelly foods
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5.2 Key Components of WASH Activities

Following four components are proposed to achieve the objectives of this strategic plan:

- Integrated WASH approach
- Total Sanitation and hygiene
- Repair and Reconstruction of WASH Approach
- Emergency WASH

Component I: Integrated WASH Approach

Overall WASH implementation approach will be integrated in such a way that it combines water supply, sanitation and hygiene behaviours with livelihood/income generation programs in a sustainable, affordable durable and led/managed by community.

The following components are the major ones:

Selection of Water supply scheme Options

A wide variety of technological options will be offered for water supply schemes and sanitation by considering the geographical locations, source availability, economic viability, social and other factors. The users/beneficiaries will be consulted to select the options as appropriate. They will be well oriented on advantages and disadvantages of each option before the selection.

Following options may be considered:

- Spring/stream fed gravity system
- Source protection
- Rain water collection
- Electrical pumping/solar lifting

Private and public connections

The number of community tap stands and tube wells is based on types of settlement, source sufficiency and most importantly the willingness and affordability of the consumers. The average number of households per tap or tube well will be 7; however it may change case by case based on the above reasons said.

The individual households can be provided with private connections on some conditions such as willingness to pay extra cost associated for this, source sufficiency, and consensus in the community. An extra water tariff is also introduced for the HHs that would have private tap-stands.

The institutions such as schools, health facilities, VDC offices and other institutions should also be provided at least a connection. The cost can be calculated as a private connection for an individual household. In case of schools, pipe line should be designed to meet the requirement for drinking water, toilets and hand washing facilities. Similarly the pipe line for health facilities should be designed to meet the requirement of number of beds.

Focus should be given to include the poor and excluded (P&E) households under the scheme coverage, however, separate tap stands or tube well should not be provided due to caste systems (especially due to untouchability reasons) as it further increases the caste discrimination.

Water safety plan (WSP)

Water Safety Plan is a long lasting participatory plan and action to be performed by users themselves to ensure their health by sustaining quality water right from the source to the consumption points of the people and by maintaining the system functional to its full design period. Following activities must be in-built under the WSP:

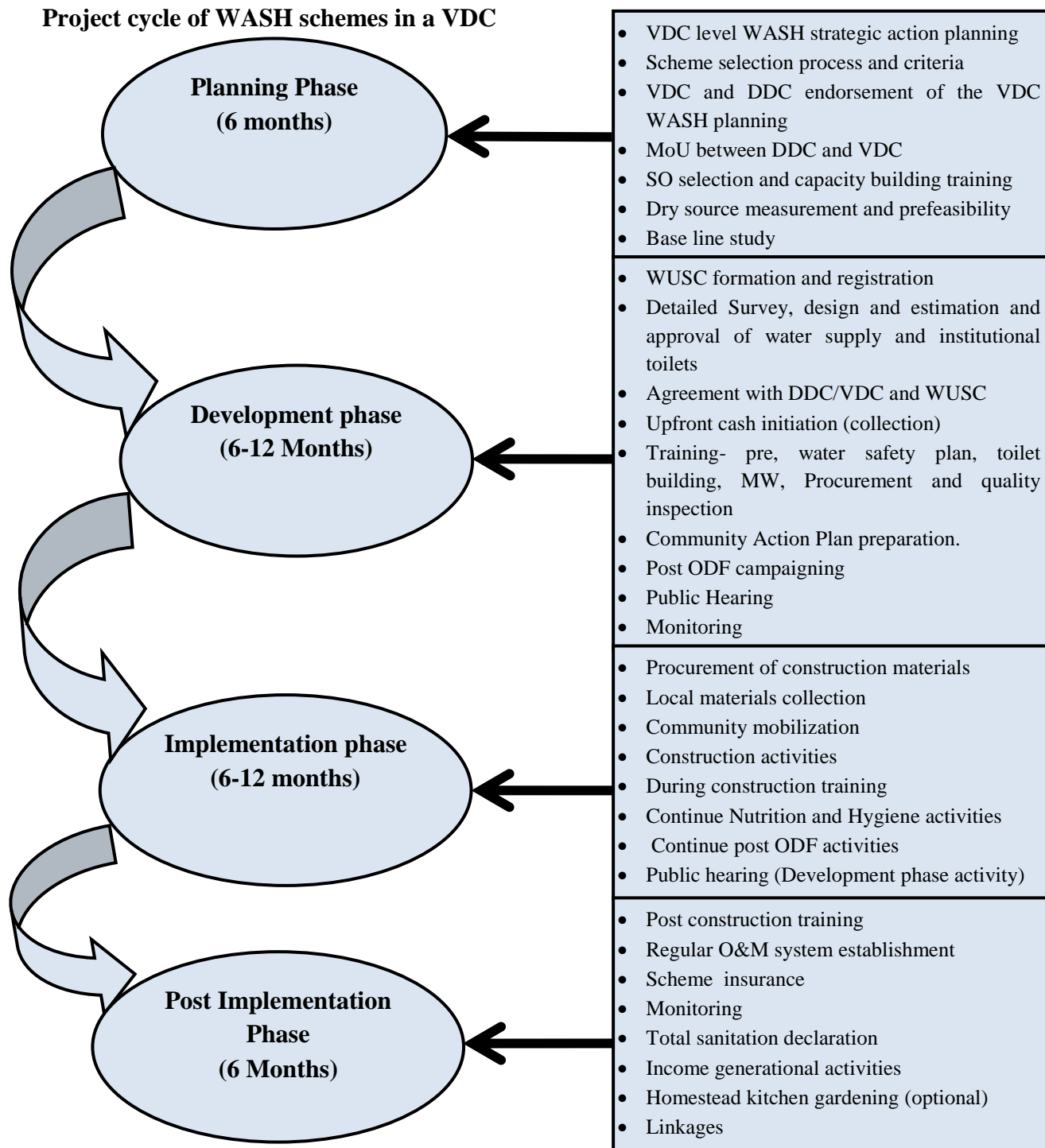
- Training to users' committee on regular O&M of the system
- Establishment of adequate O&M fund,
- System for regular collection of water tariff,
- Provision of Maintenance Worker (MW),
- Regular surveillance monitoring and follow-up of the system by MW and WUSC and taking timely corrective measures which ensures water quality as well as functionality of the scheme.
- Adaptation of Point of Use (POU) methods (The treatment of drinking water at the household level
 - Boiling
 - Filtration (Ceramic filtration, Bio-sand filtration)
 - Chlorination (through water guard, Piyus)
 - SODIS (Solar disinfection)

Being the WSP to be developed, implemented and documented by the users themselves, the users are needed to impart training on the whole process of the WSP. A five-day training curriculum is available for this training.

WASH project cycle

The WASH project cycle comprises of major four stages- Pre-development, Development, Implementation and Post implementation. The total period of the four stages is two to three years to plan and implement WSS schemes in universal VDC approach. If the number of WASH schemes are less (up to 5), the total project period is two years, whereas, if the number of WASH schemes are more (up to 10), the project period is three years.

Project cycle of WASH schemes in a VDC



Component II: Total Sanitation and Hygiene Approach (Post ODF)

The sustained ODF and other hygiene and sanitation behaviour change/ build-up under the leadership of the V-WASH-CC, schools, health facilities, communities and VDC would continue to monitor the ODF status in their respective areas. In addition, toilets will be upgraded and hygiene behaviour activities such as hand washing with soap at critical times and water and food hygiene are maintained, waste management will be undertaken, households and environmental sanitation is further enhanced by attaining the status of a 'clean and healthy village' and ultimately 'Total Sanitized Community' is declared. To sustain behaviour, refresher trainings, exposure visits, networking, documentation and publicity, etc. will be held from time to time. Region and district also support to implement and monitor the program activities.

Project cycle

To implement the stand alone sanitation and hygiene programme for TBC after ODF, following two steps are designed in a VDC. The total project period requires one year for declaring total sanitation the whole VDC.

Project Cycle of TBC project cycle in a district and VDC levels

Phase 1: Planning and programming (4 months)	Phase 2: Post ODF campaigning (8 months)
Sensitization and planning workshops at the district level	Continuous monitoring of ODF status by the action committees, VDC authorities, schools
A unified district, and VDC level Strategic Plan/ Plan of Action on total sanitation promotion developed and endorsed by local bodies' council	Upgrading of toilets
Local bodies/VDC will allocate their own development budget for hygiene and sanitation	Behaviour built up activities continues
Establish a WASH fund.	Hand washing with soap at critical times practices continue with availability of hand washing facilities
Recruitment of NGOs partners and district triggerers and capacity building training	Food and water hygiene maintained
Monitoring team organized at district and VDC/municipality levels	Waste management, HH and environmental sanitation enhanced
	Total Sanitized VDC declared

Component III: Repair and Reconstruction of WASH Approach

A fair balance of water supply schemes will be made in terms of new, rehabilitation, repair and reconstruction while selecting the schemes in each VDC or district or in the country. At any level, 50% of the investment will be made for new schemes whereas, remaining 50% for rehabilitation, repair and reconstruction water supply schemes.

Wherever any type of schemes is undertaken for the implementation, sanitation and hygiene including school water and sanitation components will also be made integral part of the project. During the project period, TBC is the minimum condition and bottom line.

When Repair and Reconstruction water supply and sanitation schemes are undertaken, the coverage data should not be reported until it has reached its full design period by considering its previous design period.

Community contribution is sought more by 25% than the new scheme (cash and kind) for Rehabilitation/Repair and Reconstruction water supply and sanitation scheme as compared to the new schemes. Besides, VDC contribution is also sought for Rehabilitation/Repair and Reconstruction.

Component IV: Emergency WASH Approach

During disaster, the situation of WASH becomes worse due to lack of proper and adequate water and sanitation facilities. Pyuthan district also faces disasters such as flood, landslides and epidemic, so it should make the plans for the preparedness and responding to the emergency in coordination with the District Disaster Relief Committee (DDRC). As suggested in the national sanitation and hygiene master plan, following measures can be taken up in this regard:

- Emergency sanitation fund in the district;
- Stock of chlorines and medicines in the district,
- Stocks of toilet building materials
- Water quality testing tools/equipments, and
- Trained facilitators/ volunteers for emergency water and sanitation and hygiene.

The emergency water and sanitation fund will be established in each of the high flood prone and epidemic prone districts. The fund will be mobilized for community awareness, water source protection, water quality surveillance, toilet building, volunteer mobilization, transportation, etc. The District Public Health Office (DPHO) including WSSD/SDO will keep a stock of chlorine and other medicines in case of outbreak of diarrhea and cholera and other epidemics. A number of sanitation and hygiene volunteers, Female Community Health Volunteers (FCHVs), facilitators will be trained on emergency sanitation and hygiene in each district.

In summary, the following are the main key approaches of water and sanitation to be adopted for district are;



6 VDC Selection Procedures

6.1 Criteria of VDC Priorities

During the draft report presentation to the DWASHCC and even to the political parties, various indicators were discussed to select the VDC in priority order. However, all the indicators that were discussed could not be included in the reports as the data were not available. Hence only seven indicators, the data of which was readily available were selected for prioritizing the VDCs. Each indicator was also given a certain weightage. The weightage was agreed in the DWASHCC and political parties meeting as well. Some of the criteria suggested by RWSSP-WN were excluded as those indicators were absurd in the present case, such as institutional toilets, toilet coverage. In the context that the district is declared ODF and there is 100% sanitation coverage in the HH level and institutional levels, these indicators are no more applicable.

The weightage given against each indicator is given below:

SN	Parameters	Scores
1	Poor water supply coverage	20
2	Incidence of water borne disease	5
3	Remoteness (distance and road accessibility)	5
4	High poverty level	5
5	Water supply facility in school and institutions	10
6	Deprived social group	5
7	Risk to climate change	5
	Total	55

Each VDC was then given certain score within the limit given based on the data available. The detailed scores obtained by each VDC is given below:

Then the VDCs have been classified into three categories. The priority I VDCs are the ones with scores above 65%; priority II VDCs with score 50% to 65% and priority III VDCs with less than 50% scores.

Priority I (more than 65%)

VDC that have scored more than 65% of the weightage has been proposed as Priority 1 as follows:

SN	VDC	Coverage of water supply (20)	Water supply facility in school and institutions (10)	Deprived social group (5)	Poverty (5)	Remoteness (5)	Incidence of water borne disease (5)	Risk to climate change (5)	Total score (55)	Total Score in %
1	Dhuwang	20	10	5	3	3	3	2	46	83.6%
2	Tiram	19	10	5	4	3	2	2	45	81.8%
3	Ramdi	20	10	4	3	2	3	2	44	80.0%
4	Bijuli	20	10	3	3	3	3	2	44	80.0%
5	Phopli	17	10	3	5	3	2	1	41	74.5%
6	Dhobaghat (Udayapur Kot)	15	6	4	5	5	4	1	40	72.7%
7	Badikot	15	10	2	5	3	2	2	39	70.9%
8	Wangemarot	15	10	3	3	4	2	2	39	70.9%
9	Damri	20	4	4	3	4	2	2	39	70.9%
10	Arkha	10	10	5	5	5	1	2	38	69.1%

Priority II (50% to 65%)

VDCs that have scored more than 50% but less than 65% have been put in the priority II. Besides, some VDCs that have scored more than 65% but have touched with the national highway and feeder road joining to the district headquarters have been put in this priority.

SN	VDC	Coverage of water supply (20)	Water supply facility in school and institutions (10)	Deprived social group (5)	Poverty (5)	Remote ness (5)	Incidence of water borne disease (5)	Risk to climate change (5)	Total score (55)	Total Score in %
VDCs scored in the first priority but touched by highway; hence put in the priority II										
11	Bangesal	17	9	4	5	1	3	3	42	76.4%
12	Dunegadi	15	6	5	5	3	3	2	39	70.9%
13	Belwas	20	5	3	3	3	3	1	38	69.1%
VDCs scored 50- 65%										
14	Majhakot	5	10	4	5	3	3	4	34	61.8%
15	Liwang	10	10	3	3	5	1	2	34	61.8%
16	Bhingri	9	8	4	3	4	4	1	33	60.0%
17	Chuja	10	8	4	3	3	2	3	33	60.0%
18	Markawang	10	6	3	5	4	4	1	33	60.0%
19	Okharkot	10	8	2	3	3	2	5	33	60.0%
20	Khung	10	8	3	3	4	4	1	33	60.0%
21	Syauliwang	9	6	5	5	5	2	1	33	60.0%
22	Puja	10	8	3	3	4	3	1	32	58.2%
23	Khaira	9	8	3	3	2	3	3	31	56.4%
24	Rajbara	7	6	5	5	5	1	1	30	54.5%
25	Maranthana	15	4	3	3	2	2	1	30	54.5%
26	Dharampani	8	6	4	3	3	5	1	30	54.5%
27	Naya Gaun	10	8	3	3	3	2	1	30	54.5%
28	Pakala	5	8	4	5	3	3	1	29	52.7%
29	Bijubar	15	2	3	3	3	2	1	29	52.7%
30	Gothiawang	5	8	4	5	4	2	1	29	52.7%
31	Sari	5	8	3	3	4	5	1	29	52.7%
32	Puythan Khalanga	10	8	3	3	0	3	1	28	50.9%
33	Torwang	5	8	3	5	3	3	1	28	50.9%
34	Baraula	5	6	4	5	4	3	1	28	50.9%
35	Tusara	5	10	2	3	4	2	2	28	50.9%

Priority III (less than 50%)

VDCs that have scored less than 50% have been put in this priority III. Besides, VDCs that were undertaken by Rural Water Supply and Sanitation Project –Western Nepal during its first phase have been put at the bottom of this priority irrespective of its scores.

SN	VDC	Coverage of water supply (20)	Water supply facility in school and institutions (10)	Deprived social group (5)	Poverty (5)	Remote ness (5)	Incidence of water borne disease (5)	Risk to climate change (5)	Total score (55)	Total Score in %
VDCs scored less than 50%										
36	Dakhakwadi	10	4	3	5	2	1	2	27	49.1%
37	Lung	5	8	2	3	3	4	1	26	47.3%
38	Jumrikanda	5	6	4	5	3	1	2	26	47.3%
39	Barjiwang	10	4	2	3	3	3	1	26	47.3%
40	Dharmawoti	10	4	2	3	3	2	1	25	45.5%
41	Narikot	5	6	4	3	3	3	1	25	45.5%
42	Bijaya Nagar	5	6	3	5	2	2	1	24	43.6%
43	Rasipur Kot	8	6	2	1	2	3	1	23	41.8%
VDCs scored in priority I and II but implemented by previous RWSSP-WN										
44	Swargadwari Khal	20	10	5	3	4	1	2	45	81.8%
45	Khawang	17	8	5	5	4	1	2	42	76.4%
46	Hansapur	15	6	5	5	4	2	1	38	69.1%
47	Ligha	5	8	4	5	4	3	1	30	54.5%
48	Dangwang	5	6	4	5	5	2	1	28	50.9%
49	Kochiwang	5	8	4	3	4	2	1	27	49.1%

The above table shows that there are 10 VDCs in priority I, 25 VDCs in priority II and 14 VDCs in priority III.

Apart from this, VDC with larger population can also be given higher priority if the D-WASH-CC takes the decision.

6.2 Criteria of water supply scheme Priorities

Once the VDCs are selected or hard ship water supply schemes are to be selected, following selection criteria will be applied. The schemes might be at community level, ward level or in a couple of wards.

SN	Parameters	Scores
1	No scheme at all; People using unprotected sources-rivers/streams	20
2	Non functional water schemes	10
3	Fetching time more than one hour	20
4	High prevalence of diarrheal diseases	10
5	ODF is well maintained	10
6	High presence of poor people	15
7	High presence of disadvantaged communities	15
	Total	100

7 WASH Action Plan

7.1 Milestone setting

Table No 7.1: Milestone of WASH

Activities	Total milestones in 5 years	2013	2014	2015	2016	2017
Universal water access (No of schemes/VDC)	100% with 429 water schemes (284 new schemes and improvement in 145 schemes)	75% with 86 schemes as per priority	80% with 86 schemes as per priority	85% with 86 schemes as per priority	90% with 86 schemes as per priority	100% with 85 schemes as per priority
Upgrading toilets (No of toilet/VDC)	100% with constructing new 2636 improved toilets	96% with 527 toilets/10 VDC	97% with 527 toilets/10 VDC	98% with 527 toilets/10 VDC	99% with 527 toilets/10 VDC	100% with 528 toilets/9 VDC

Extension of school Toilet Construction	59 school toilets	12 school toilets/ 10 VDC	12 school toilets/ 10 VDC	12 school toilets/ 10 VDC	12 school toilets/ 10 VDC	11 school toilets/ 9VDC
Capacity building of VWASH CC	49 VDCs	10 VDCs	10 VDCs	10 VDCs	10 VDCs	9 VDCs
Environment and climate change adaptation (cluster/VDC)	47 water depletion cases and 123 landslide	9 water depletion cases and 25 landslide	9 water depletion cases and 25 landslide	9 water depletion cases and 25 landslide	9 water depletion cases and 25 landslide	11 water depletion cases and 23 landslide
Waste management (cluster/VDC)	12 clusters	12 clusters	12 clusters	12 clusters	12 clusters	11 clusters
Declaration of Total Sanitized ward (Nos of VDC	49 VDCs	10 VDCs	10 VDCs	10 VDCs	10 VDCs	9 VDCs
Institutional development of UC and V-WASH-CC	49 VDCs	10 VDCs	10 VDCs	10 VDCs	10 VDCs	9 VDCs

7.2 Plan of Action for Water Supply and Sanitation

Action Plan for Basic Level Water Supply Service at Household level

Regarding the systems of water supply, 80.02% households are using piped drinking water and 4.34% of the households are using surface pumping drinking water. So, 84.36% households of this district has been served with improved water supply services. Conversely, there are about 15.64% households, which are still deprived of basic level of water service. Hence, 15.64% households still use the traditional sources such as neighbouring Kuwa/Dug well, River/Stream/Kulo/Canal/Pond and Pandhero Dhara/Spout.

35464(74.32%) households out of total 47716 have been benefitting from actual improved water supply system resulting with the situation of 12252(25.68%) of total households needs water supply services. 3.71% households out of 40251 HH have been benefitted from private tap connection while 96.29% households have been benefitting from public tap stand service with the ratio of 6.62 households per public tap stand. 2410 kilometer of pipe length have been laid for providing the water services to 40251 households with ratio of 60 meter pipe length per household.

VDCs have been prioritized for providing of water services as in following table

Table No 7.2: Priority of water supply services

Rank No	Name of VDC	Total Households	No of HH Planned for new water supply system			
			Rehab/Reco	New	Total	%age of HH
1	Bangesal	1,320	50	704	754	6.14%
2	Belwas	1,318	742	7	749	6.10%
3	Damri	882	511	96	607	4.95%
4	Khawang	1,147	361	227	588	4.79%
5	Badikot	1,140	331	199	530	4.32%
6	Bijubar	1,851	0	526	526	4.29%
7	Dakhakwadi	1,434	0	507	507	4.13%
8	Hansapur	724	98	344	442	3.60%
9	Pythan Khalanga	1,536	197	234	431	3.51%
10	Swargadwarikhal	1,058	172	256	428	3.49%
11	Wangemarot	1,004	291	114	405	3.30%
12	Maranthana	1,455	378	8	386	3.15%
13	Chuja	1,232	97	256	353	2.88%
14	Arkha	900	0	333	333	2.71%
15	Markawang	606	271	56	327	2.66%
16	Liwang	933	0	314	314	2.56%
17	Okharkot	1,202	30	281	311	2.53%
18	Puja	1,087	165	124	289	2.36%
19	Khung	706	1	264	265	2.16%
20	Dharmawati	1,132	135	114	249	2.03%
21	Ramdi	525	132	112	244	1.99%
22	Phopli	1,537	185	39	224	1.83%
23	Rajbara	845	0	215	215	1.75%
24	Bhingri	1,301	51	146	197	1.61%
25	Tiram	1,122	104	83	187	1.52%
26	Barjiwang	596	99	86	185	1.51%
27	Tusara	1,193	0	184	184	1.50%
28	Pakala	936	97	82	179	1.46%
29	Jumrikanda	898	30	118	148	1.21%
30	Syauliwang	636	0	139	139	1.13%
31	Dharampani	710	0	132	132	1.08%
32	Lung	1,019	7	124	131	1.07%
33	Narikot	706	30	98	128	1.04%
34	Torwang	937	7	121	128	1.04%
35	Bijuli	923	0	118	118	0.96%
36	Baraula	883	50	67	117	0.95%
37	Dhobaghat (Udayapur Kot)	604	38	75	113	0.92%
38	Bijaya Nagar	937	43	65	108	0.88%
39	Dhuwang	708	0	106	106	0.86%
40	Dangwang	838	6	76	82	0.67%
41	Sari	850	0	76	76	0.62%
42	Dungegadi	763	28	42	70	0.57%
43	Khaira	914	22	44	66	0.54%
44	Ruspur Kot	778	15	45	60	0.49%
45	Naya Gaun	760	0	56	56	0.46%
46	Ligha	588	0	32	32	0.26%
47	Majhakot	697	0	28	28	0.23%

48	Gothiawang	1,190	13	4	17	0.14%
49	Kochiwang	655	0	7	7	0.06%
Total		47716	4787	7484	12271	100%

Action Plan for Basic Level Water Supply Service in Institutional Level

There are 103 institutions in the district. Out 103 institutions 43 (41.74%) have improved water supply facility and remaining institutions have bad/worst/ no facility of improved water supply facility in their institution.

Action Plan for Basic Level Sanitation Service at Household level

To achieve the intended results on hygiene and sanitation, the DWASHS Action Plan consist of a comprehensive sanitation and hygiene plan. Under this plan, it includes both software and hardware activities. Promotion of total sanitation and hygiene needs more software activities whereas access to improved sanitation needs hardware activities. Under the software activities awareness raising programme; training, demonstration of pit latrine and construction at households level and school level; health and education programme; awareness towards waste disposal at households level; awareness towards personal, domestic and environmental sanitation; are considered and are intended and proposed to be communicated at various programmes organized on the occasion of “Sanitation Week”, “World Water Day”, “World Environment Day”. Likewise under the hardware part households and institutional toilets are proposed to be built along with DWS schemes.

From the data provided by D-WASH-CC on social and technical assessment of environmental sanitation specially in terms of coverage of latrine of district in Magh (February 15) Month of 2069, it is observed that the personal, domestic, and environmental sanitation status in all VDCs of Pyuthan district is improved due to 100% household of all VDC of district defecating in toilet. Regarding the quality of toilet, it is recorded that 94.23% households of district have constructed permanent/improved latrine in own family.

Table No 7.3: Priority of water sanitation services

Priority Rank	VDC	HHs	Temporary
1	Dakhakwadi	1430	173
2	Khaira	887	162
3	Bijuwar	1388	147
4	Tusara	1156	139
5	Chunja	1212	129
6	Punja	1037	103
7	Gothibang	1159	95

8	Bijuli	800	93
9	Bhingri	1216	86
10	Ramdi	476	85
11	Okharkot	1123	80
12	Dharampani	611	79
13	Wangemarot	978	73
14	Sari	819	70
15	Jumrikanda	929	69
16	Pakala	906	69
17	Phopli	1500	69
18	Badikot	1057	66
19	Lung	931	65
20	Arkha	892	64
21	Belbas	1320	60
22	Syaulibang	610	60
23	Hansapur	711	57
24	Maranthana	1467	55
25	Narikot	642	44
26	Rajbara	752	43
27	Raspurkot	752	43
28	Nayagaun	736	42
29	Damri	887	37
30	Sworgadwari	1086	37
31	Baraula	824	36
32	Markabang	588	33
33	Dharmawati	1055	32
34	Khabang	1063	28
35	Bangesal	1323	27
36	Bijayanagar	904	27
37	Torbang	982	21
38	Majhakot	712	17
39	Kochibang	667	12
40	Dangwbang	1015	9
Total		2636	

7.3 Solid and Liquid Waste Management

It is found from information of 27 VDC as provided by concerned VDC of district that only no VDC have been found of managing of liquid and solid waste, 6.5% VDCs have been found of managing of liquid and solid waste by 80-100% households while 93.5% of VDC of district have been found of managing of liquid and solid waste by below 60% households. It is found from information of 31 VDC as provided by concerned VDC of district that 89 communities have been realised the need of managing of liquid and solid waste.

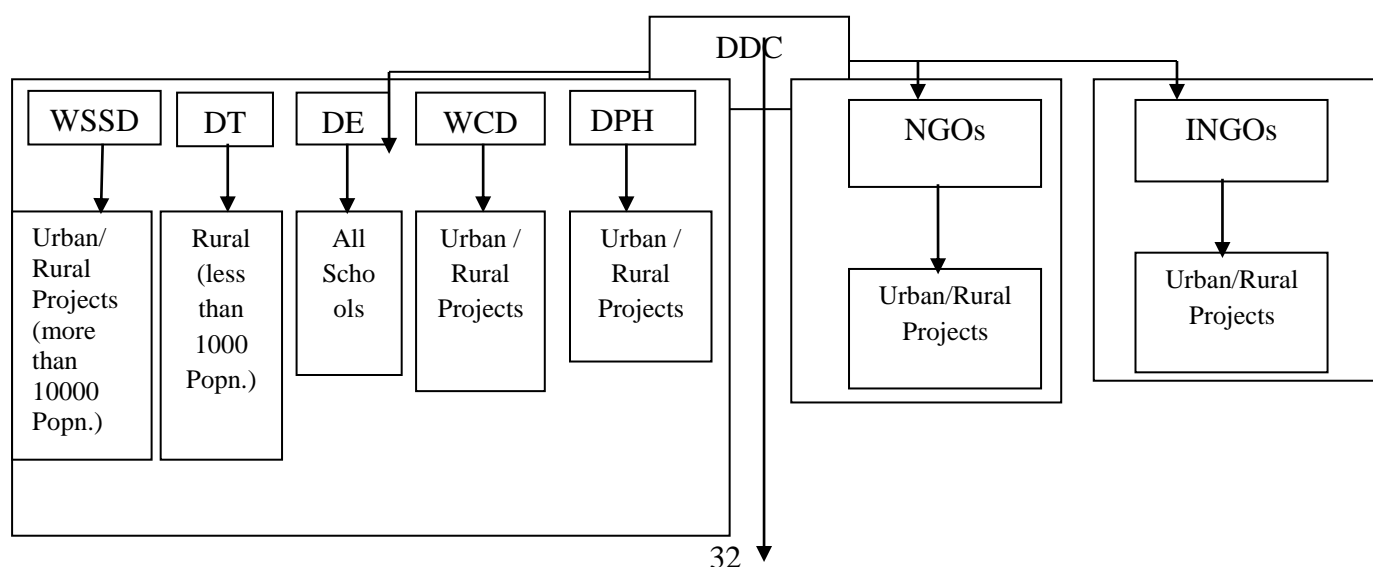
7.4 Climate change adaptation in WASH

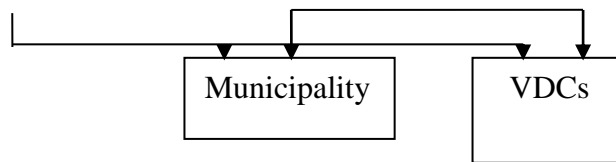
It is found from information of 46 VDC as provided by concerned VDC of district that 45 VDC have been found of depleting of water sources. Similarly, it is found from information of 28 VDC as provided by concerned VDC of district that intake structures and pipe line have been severely affected in 123 location of 28 VDC due to land slide.

7.5 Institutional Development

District Development Committee (DDC) is the overall WatSan service provider in the district. The WSSDO is responsible for executing water supply, sanitation and hygiene projects/schemes for a population of over 1000 in urban and rural areas. However, Rural Water Supply and Sanitation Fund Development Board (RWSSFDB) also execute rural water and sanitation project/schemes in rural area having less than 1000 population. The small projects/schemes (less than 1000 population) executes through District Technical Office (DTO). The NGOs are the service provider in the district which are good in social mobilization but lack the technical manpower to implement the WASH programme. The Water Users and Sanitation Committees (WUSC) are responsible for managing and sustaining the WASH schemes, but they largely lack the financial, institutional and technical knowhow to sustain the schemes. The District Education Office (DEO) takes care of the WASH in schools and the District Public Health Office has its access to ward level through Female Community Health Volunteer (FCHV).

Table No 8.5: Structure of Institutional development of WASH





7.6 Capacity Building

Human Resource Development (HRD) is a backbone of the development. The knowledge and skills are transformed to a productive force through HRD intervention such as training, orientation, workshop, seminar, study visit, etc. Besides, involvement in Research and Development activities enhance willingness, commitments and competitiveness.

The successful implementation of this strategy will depend on adequate and quality human resources at all levels of implementation. Thus, there will be the need to develop capacity development training for some stakeholders, to provide them with the knowledge, attitudes and skills required for the effective fulfillment of their roles. Training should cover managers at the central and intermediary levels, field staff, beneficiaries, media professionals, traditional communicators or artists and designers. A more comprehensive training plan should be developed, describing the training needs, intended audiences, general goals and objectives, major axes of the content, responsible people, time-span and other relevant aspects.

8 Resource Analysis

The budget trend of district sector stakeholders is detailed below.

Table No 8.1: Trend of Investment in WASH sector since last 5 years

Government and Funding Agencies	Investment of VDC, Donor Agency and Government in WASH Sector in NRS									
	2066/67 BS		2067/68 BS		2068/69 BS		2069/70 BS		2070/71 BS	
	DW	Sanitation	DW	Sanitation	DW	Sanitation	DW	Sanitation	DW	Sanitation
GON/DDC/ WSSDO /Donor Agencies	11,705,000	903,000	11,594,000	1,800,300	11,672,762	2,622,000	2,718,351	2,823,715	5,185,000	1,445,000
VDC	3,762,236	886,100	2,982,904	3,963,791	3,613,706	5,672,017	3,593,147	4,540,739	3,013,381	3,961,415
Total	15,467,236	1,789,100	14,576,904	5,764,091	15,286,468	8,294,017	6,311,498	7,364,454	8,198,381	5,406,415
Grand Total	17,256,336		20,340,995		23,580,485		13,675,952		13,604,796	

Note: Details in Annex:

It is analyzed that average NRS 14,240,446 per year is being invested in WASH sector of district since last five years.

Tentative budget estimated of WASH sector for 100% sanitized district for next five years is given as below

Table No 8.2: Budget of Investment in WASH sector for next 5 years

SN	Activities	Unit	Quantity	Rate/ unit ('000NRs)	Total ('000NRs)	Grand total ('000NRs)
1	Water supply, sanitation and hygiene plan - VWASH Plan preparation and update:					27,030
I	Preparation of VWASH plan and CAPA	VDC	49	200.00	9,800	
Ii	Preparation of District LAPA	District	1	600.00	600	
Iii	Updating of VWASH plan and CAPA	VDC	49	20.00	980	
Iv	Updating of District LAPA	District	1	150.00	150	
V	VWASH plan preparation guideline review/improvement and training to local NGOs/individuals on WASH plan and CAPA/LAPA preparation	Event	124	125.00	15,500	
2	Water supply facility improvement in household- New scheme to unserved and rehabilitation:					1,087,786
I	New water supply scheme (Gravity and innovative technologies) 248 schemes	Pop	52732	8.00	421,859	
Ii	New water supply scheme (Lifting technologies) 18 schemes	Pop	2728	10.00	27,284	

Iii	New water supply scheme (Rain Water Harvesting technologies) 18 schemes	Pop	3072	12.00	36,863	
Iv	Reconstruction of Water Supply schemes (Improvement and expansion with Major rehabilitation)	Pop	168786.5	3.50	590,753	
V	Minor Repair of Water Supply Schemes	Pop	7352	1.50	11,028	
3	Water supply facility improvement in school and institution- New scheme:					26,400
I	Water supply in school	Nos	86	225.00	19,350	
Ii	Water supply in institutions	Nos	47	150.00	7,050	
4	Water supply facility improvement in school and institution- Major rehabilitation of scheme:					5,410
I	Water supply in schools	Nos	103	50.00	5,150	
Ii	Water supply in institutions	Nos	13	20.00	260	
5	Water supply facility improvement in school and institution- Minor Repairs of scheme:					4,390
I	Water supply in school	Nos	138	30.00	4,140	
Ii	Water supply in institutions	Nos	25	10.00	250	
6	Latrine construction (Post ODF activities):					125,140
I	School latrine- new	Nos	69	400.00	27,600	
Ii	School latrines-supplementary to existing toilets to make GCD friendly & adequate	Nos	320	200.00	64,000	
Iii	Institutional latrine- new	Nos	37	120.00	4,440	
Iv	Latrines for public places	Nos	50	550.00	27,500	
V	ECOSAN promotion	VDC/DDC	15	25.00	375	
Vi	Biogas promotion	Nos/DDC	49	25.00	1,225	
7	Human resources development (for CC, DWS and post ODF)					1,625
I	Training to district level human resources	Person/day	100	2.00	200	
Ii	Training to VDC level human resources	Person/day	500	0.70	350	
Iii	Training to community level human resources	Person/day	1,000	0.70	700	
Iv	Mason's training for ECOSAN and Biogas and market chainage	Person/day	250	1.50	375	

8	Sustainability of Hygiene & Sanitation (for post ODF)					14,700
I	Community mobilisation for post ODF activities in VDC	VDC	49	300.00	14,700	
9	Sustaining water supply systems/schemes and implementation of community-wide water safety plan (WSP):					22,295
I	Physical improvement of system (for WSP application)	VDC	49	250.00	12,250	
Ii	Implementation of community-wide WSP in the VDC	VDC	49	100.00	4,900	
Iii	Establishment of pooled fund for WSP monitoring in the VDC	VDC	49	50.00	2,450	
Iv	Support for equipment and laboratory in VDC	VDC	49	50.00	2,450	
V	Water quality monitoring and test	Test sample	4,900	0.05	245	
10	Solid and liquid waste management:					151,500
I	Preparation of solid waste management plan in core sub-urban and highway areas in the district- City Sanitation Plan	Cluster	90	850.00	76,500	
Ii	Implementation of pilot project in selected area	Scheme	15	5,000.00	75,000	
11	Climate change adaptation implementation activities:					27,300
I	Implementation & promotion of ICS program	VDC	49	50.00	2,450	
Ii	Establishing carbon credits for HWTS and monitoring mechanism	VDC	49	50.00	2,450	
Iii	Source conservation in water source catchment in foothills	Sources	500	35.00	17,500	
iv)	Promotion of recharge ponds	VDC	49	100.00	4,900	
12	Income generation					2,950
I	Capacity building	Person/day	500	1.00	500	
Ii	Promotion and linkage	VDC	49	50.00	2,450	
13	Institutional development (orientation, exposure visits):					1,400
I	Capacity building of VWASH-CC	Person	250	5.00	1,250	
Ii	Capacity building of DWASH-CC	Person	10	15.00	150	
14	Advocacy, monitoring and updating of District Strategic WASH Plan:					3,050
I	Coordination meeting with WASH stakeholders for monitoring of implemented activities of the plan (four	Events	60	30.00	1,800	

	monthly)					
Ii	Workshop for coordinated action and financing of the planned activities for implementing the strategic WASH plan (six monthly)	Events	10	100.00	1,000	
Iii	Review and update the action plan (annual)	Year	5	50.00	250	
15	Other (honour/reward to person/institution, etc)					5,000
I	Honor and Reward (person/institution working in WASH)	VDC/person	100	50.00	5,000.00	
	Total district budget for five years				1,505,976	1,505,976

It is analyzed that average NRS 301,195,200 per year is projected for investing in WASH sector of district in the next five year.

The total estimated cost is NRS 1,505,976,000 for five years. The budget available for the next five years is NRS 71,202,228 . Hence, deficit budget for the next five years is 1,434,773,772 .

Table No 8.3: Investment Gap (Amount in NRS)

Planned budget by district WASH sector for the next five year	1,505,976,000
Total projected Allocated budget by the district in WASH sector for next five year	71,202,228
Budget deficit for district WASH sector for the next five year	1,434,773,772
Budget deficit per year	286,954,754

The budget of the stakeholders will be invested in a coordinated framework to implement the action plans of district strategic WASH plan. D-WASH-CC will coordinate with sector agencies working in the district to plan their activities mandatorily complying with the target, approach, priority and frame of action of the district strategic WASH plan. 1,434,773,772

9 Financing Plan

9.1 Water Supply

Table No 9.1: Investment Mapping

S. No.	Scheme types	No of schemes	Total beneficiaries
1	Gravity	248	11055
2	Lifting	18	572
3	Rainwater harvesting	18	644
4	Maintenance	145	7372
	Total	429	19643

Note: 4.77 persons per family, per capita cost is calculated on the basis of average cost of scheme with 2 million for gravity, 3 million for pumping system and 4 million for rain water harvesting system for scheme of average 44 household. Regarding inflation, price is increased by annually 10% and population is increased by 1.91%.

9.2 Sanitation and Hygiene

Table No 9.2: Investment Plan of Sanitation

S. No.	Activities	Total beneficiaries/Participants	No of activities
1	NGO/CBO supports for facilitation of the implementation of WASH programme	Total sanitation activities for all VDC	49
2	Upgrading toilets	2636 household	2636
3	CGD friendly school toilets including hand washing and menstrual hygiene facilities	69 CGD friendly school toilets	59
4	CGD friendly institutional toilets including hand washing and menstrual hygiene facilities	37 CGD friendly institutional toilets	34
5	Drinking water facilities to schools (including water safety)	86 new schemes in 86 schools and 102 improvement/maintenance in 102 schools	188
	Total		

9.3 Solid and Liquid Waste Management

Table No 9.3: Investment Plan of Solid and liquid waste management

S. No	Activities	Total beneficiaries/Participants	No of schemed/activities
1	Drainage construction	44 X 89=3916	89
2	Dust bin at public place	44 X 89=3916	89
3	Compost making orientation	44 X 89=3916	89
	Total		

9.4 Climate change adaptation

Table No 9.4: Investment Plan of Climate Change

S. No.	Activities	Total beneficiaries/Participants	No of activities
1	Water Conservation in basin	13112	298
2	Bio engineering	5412	123
	Total	18524	

Note: Per activity cost is assumed and taked from existing market price of service in the present time.

9.5 Institutional Development and Capacity Building

Table No 9.5: Investment Plan of Institutional development

S. No.	Activities	Total beneficiaries/Participants	No of activities
1	District sensitization and orientation	50 participants	5
2	District-VDC combined TBC campaign plan development	50 participants	5
3	VDC orientation	50 participants	49

4	Updating of district WASH plan development		2
5	Training and mobilization of child clubs	500 participants	49
6	M&E by D-WASH-CC and V-WASH-CC		98
7	Capacity building Training(Capacity Building, Leadership Development, Sanitation, Latrine Use, ODF	820 participants	1820
	Total		

Note: Per activity cost is assumed and taken from existing market price of service in the present time.

Projected Budget for Five Years:

Table No 9.6: Investment Allocation for Five year

SN	WASH Activities	Grand total ('000NRs)	Budget Projected				
			(Year 2013)	(Year 2014)	(year 2015)	(Year 2016)	(Year 2017)
1	Water supply, sanitation and hygiene plan - VWASH Plan preparation and update:	27,030	2,703	8,109	8,109	8,109	
2	Water supply facility improvement in household- New scheme to unserved and rehabilitation:	1,087,786	87,023	250,191	250,191	250,191	250,191
3	Water supply facility improvement in school and institution- New scheme:	26,400	2,112	6,072	6,072	6,072	6,072
4	Water supply facility improvement in school and institution- Major rehabilitation of scheme:	5,410	433	1,244	1,244	1,244	1,244
5	Water supply facility improvement in school and institution- Minor Repairs of scheme:	4,390	351	1,010	1,010	1,010	1,010
6	Latrine construction (Post ODF activities):	125,140	10,011	28,782	28,782	28,782	28,782
7	Human resources development (for CC, DWS and post ODF)	1,625	163	488	488	488	
8	Sustainability of Hygiene & Sanitation (for post ODF)	14,700	1,470	4,410	4,410	4,410	
9	Sustaining water supply systems/schemes and implementation of community-wide water safety plan (WSP):	22,295	1,784	5,128	5,128	5,128	5,128
10	Solid and liquid waste management:	151,500	12,120	34,845	34,845	34,845	34,845

11	Climate change adaptation implementation activities:	27,300	2,184	6,279	6,279	6,279	6,279
12	Income generation	2,950	236	679	679	679	679
13	Institutional development (orientation, exposure visits):	1,400	112	322	322	322	322
14	Advocacy, monitoring and updating of District Strategic WASH Plan:	3,050	244	702	702	702	702
15	Other (honour/reward to person/institution, etc)	5,000	400	1,150	1,150	1,150	1,150
	Total district budget for five years	1,505,976	121,345	349,409	349,409	349,409	336,403

9.6 Financing Strategies

VDCs are the actor and benefactor of DWASHS Action Plan. VDC should allocate % of the total budget for WASH programme. DDC should allocate% of total budget of the district budget on priority basis (priority and remoteness is given in annex...) for WASH programme. The sector stakeholders should increase their budget and programme to be implemented on the priority basis in the areas. The D-WASH-CC will explore the resource gap to meet the set target.

10 Roles and Responsibilities of Sector Stakeholders

The sector stakeholders name and their role and responsibilities are given below.

Table 10.1: Roles and responsibilities of stakeholders

S N	Name of Organization	Role and Responsibility
1	District Development Committee	Lead the sanitation programme, formulate sanitation policy and monitoring for effective implementation of programme Allocate budget in the district and Municipality/VDCs and lead to manage fund for ODF programme Construct public toilet Mobilize fund for sanitation programme Reward ODF declared VDCs
2	Water Supply and Sanitation Division Office	Coordinate sector stakeholders Provide technical support to promote toilet construction Prepare Master Trainer Coordinate between DDC and M-WASH-CC for ODF programme
3	District Education Office	Based on Education for All, construct child-gender-friendly toilet in schools Participate schools for NSAW scheduled on June each year Establish Sanitation Resource Center in Resource Center
4	District Public Health Office	Establish Sanitation Desk in Sub-health Post, Health Post, Health Center and Hospital for awareness campaign Mobilize FCHV and CM network door to door campaign for sanitation awareness campaign
5	District Technical Office	Provide technical support for toilet construction Provide support for ODF
6	Child and Women Development Office	Incorporate sanitation and hygiene programme in income generation programme of women and group mobilization
7	District Governmental Agencies	Support for the construction of toilets, use, maintain and ODF declaration Incorporate Cross Cutting Issues in their training programme
8	District Red Cross Society	Mobilize existing ----- of Junior Youth Circle Networks for toilet construction in their homes Mobilize Junior Youth Circle Networks for Hand Washing Campaign
9	District Non-governmental Organization Committee	Coordinate NGOs, mobilize NGOs to raise awareness on sanitation and hygiene programme Lobbying for political commitment for sanitation programme
11	Village Development Committee	Formation of V-WASH-CC Allocate 20 % capital budget for water supply and sanitation programme Establish basket fund for sanitation programme Monitor
12	Non-governmental Organization	Organize advocacy, lobbying and campaigns for water and sanitation service as a human rights Facilitate and implement WASH service

		Actively participate Sector Stakeholders Group (SSG) and D-WASH-CC
13	Political Parties	Political commitment for budget allocation on sanitation programme Mobilize party cadres for sanitation campaign in M/VDCs Monitor sanitation programme in Municipality/VDCs
14	Civil Society	Advocate basic water supply and sanitation service as people's fundamental rights Lobby for users' rights and monitor the policy implementation Participate SSG, D-WASH-CC and VDC level Planning, monitoring etc.
15	Donors/INGOs	Follow the District Strategic WASH Action Plan Provide Information, Communication and Education (IEC) materials

10.1 Stakeholders Mapping

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 No 10.2: Investment Mapping

Government Agencies	Non-governmental Organization	International Non-governmental Organization
<ul style="list-style-type: none"> • District Administration Office • District Development Office • District Technical Office • Water Supply and Sanitation Division Office • District Education Office • District Public Health Office • District Women and Children Development Office • Municipality • Village Development Committee • Health Centers and Sub-health Posts 	<ul style="list-style-type: none"> • District Non-governmental Organization • Nepal Red Cross Society • Environment Public Health Organization, Nepal • Water Supply and Sanitation User Committees (Fed. WatSan) • Forest User Groups (FeCoFUN) • Mother Groups • Youth Clubs • Civil Society • Political Parties 	<ul style="list-style-type: none"> • UNICEF • UNDP ? • RWSSP/WN • USAid/Suaahara • Gorkha Welfare Scheme

11 Advocacy and Endorsements

After the finalization of DWASHS Action Plan, a post co-ordination meeting will be arranged involving all sector stakeholders. The information in the WASH Plan should be adequately shared with all potential partners and be used for the development of the water resources and sanitation in the district. The preparation of the DWASHS Action Plan will be viewed as a planning tool for the local government, NGOs, INGOs and the concerned sectoral agencies. The DWASHCC Action Plan will be ratified by the DDC Council.

12 Monitoring and Updating of the Plan

District level

For the monitoring purpose D-WASH-CC will form a five members monitoring committee including media. The monitoring team will monitor each VDC at least once a year.

VDC level

At the level of VWASH-CC will be responsible to monitor the WASH situation and analyse the progress toward TBC. The VWASH-CC will monitor all the wards of the VDC at least in every two months.

Monitoring indicators

While monitoring the WASH activities, both the district and VDC level team will follow the following indicators:

Water supply

- Availability of water safety plan and its implementation by the users
- Regular repair and maintenance by MW/care takers
- All structures functioning(intake, RVT, BPT/CC, etc)
- Water supply hours – 7 to 24 hrs a day
- Water flowing status in the taps/tube wells

Sanitation and Hygiene

- ODF status (communities and schools)
- Toilets upgraded and regularly used and cleaned
- Practice of hand washing with soap at critical times
- HH and environmental sanitation status
- Prevalence of diarrheal and other water borne diseases
- Status of institutional WASH facilities
- POU practices

Environmental/climate change

- Water source depletion
- Source protection
- Environmental problems and mitigation status
- Drainage systems status

Organisational development

- Formation, reformation, registration, and renewal of users committee
- Formation and reformation of child clubs
- Regular meeting and its minutes
- Office set up, record and filing systems,
- Clear division of roles and responsibilities of members,

- Coordination mechanism and linkage with local bodies, FEDWASUN, schools, health facilities
- Mobilization of MW, care takers, and other trained students and people
- Membership of V-WASH-CC

Financial

- O&M fund status –trend
- Regular water tariff collection and payment to the VMW/care takers
- Mobilization of the fund

Social

- Water source dispute issues if any
- Participation of women, DAG and poor in the users committees and project activities
- Benefits to women, DAG and poor

Updating of the Plan

The immediate concern in this planning exercise is updating and reviewing the achieved progress by the members of the D-WASH-CC each year. However, a longer vision will be adopted based on these information and continue process of resource identification, planning and implementation of the schemes on the priority basis and updating of WASH plan database by the district. Therefore, to maintain the dynamism of the whole exercise, the D-WASH-CC will carry this exercise and develop a sound platform to improve the quality of life of the local people, environmental conditions, and increased opportunities to improve rural livelihoods through rational, equitable and sustainable use of water at the village level.

13 Institutional Set up for Resource Management

VDCs are the WASH programme implementers. Master Plan, 2011 has provisioned a Sanitation Unit in DDC for sector stakeholders' coordination and sanitation programme implementation in VDCs. This unit will be equipped with Sanitation Experts (SE) and Social Development Expert (SDE) in this regard. With the support of D-WASH-CC the sanitation unit will explore and manage the resources need for WASH programme in the district.