Value for Money Assessment of Water Use Master Plan

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This paper discusses the findings of a value for money assessment of Water Use Master Plan jointly conducted by HELVETAS Swiss Intercooperation and Rural Village Water Resources Management Project in 2014-2015. Water use master plan approach was piloted in Nepal in 1998 by HELVETAS Swiss Intercooperation and Rural Village Water Resources Management Project joined hand in 2006. We wanted to reflect on how efficient and effective the approach is; hence the study was carried out.

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Bharat Kumar Pokharel, PhD
Country Director
HELVETAS Swiss Intercooperation Nepal

Juerg Merz, PhD
International Programme Advisor
HELVETAS Swiss Intercooperation Nepal

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HELVETAS Swiss Intercooperation Nepal
Dhobighat-3, P.O. Box 688 Lalitpur, Nepal
Phone: +977 1 5524926
E-mail: co.np@helvetas.org
Fax: +977 1 5531109
Web-site: https://nepal.helvetas.org

Cover photo: A community meeting discussing the situation of water and climate change in Chalsa VDC, Achham

ACRONYM

3R	Retention, Recharge and Reuse
DDC	District Development Committee
HELVETAS Nepal	HELVETAS Swiss Intercooperation Nepal
NGO	Non Governmental Organisations
RVWRMP	Rural Village Water Resources Management Project
VDC	Village Development Committee
VWASHCC	Village Water, Sanitation and Hygiene Coordination Committee
WARMP	Water Resources Management Programme
WASH	Water, Sanitation and Hygiene
WUMP	Water Use Master Plan

CONTENT

EXECUTIVE SUMMARY

Water Use Master Plan (WUMP) is a participatory and inclusive water management plan at local level. It is based on the integrated water resources management approach. The plan is developed by village development committees (VDCs) with the support of HELVETAS Swiss Intercooperation Nepal (hereafter HELVETAS Nepal) and Rural Village Water Resources Management Project (hereafter RVWRMP). Various agencies support village development committees (VDCs) in developing different plans; WUMP is one of such plans. Since various plans are developed at local level, their implementation is a concern among development actors. In that light, 'Value for Money' assessment of the plan was jointly conducted by HELVETAS Nepal and RVWRMP.

Objective

- The objective was to assess the 'economy, efficiency and effectiveness' of the WUMP. Hence, the study was based on the 'value for money' framework of Department for International Development.

Methodology

- The study was carried out in eleven working districts of HELVETAS Nepal and RVWRMP. The study covered seventy VDCs for which WUMPs were developed between 2007 and 2012. Of them, sixteen WUMP VDCs were considered sample; selected by stratified random sampling, and studied in depth. For the remaining VDCs, aspects such as implementation of schemes prioritized in WUMP and their financing were studied. Besides, ten VDCs where WUMP was being developed during the time of this study were used for comparing some of the aspects.
- Direct interviews and focus group discussions were carried out with VDC representatives and VWASHCC members. Focus group discussions in randomly selected water supply and sanitation schemes, in each of the sample VDCs, were also carried out for insight from right holders' perspective. District level consultation with representatives from district development committees (DDCs), line agencies, non governmental organisations (NGOs), development projects and community based organisations were also carried out in four districts. Altogether, 63 VDC secretaries and 15 other VDC representatives, 79 VWASHCC members and 357 community members took part in the study and contributed.

Results

- The average cost of WUMP has almost been halved from the third generation to the localized WUMP. Moreover, VDCs share close to half of the cost of localized WUMP.
- The WUMP process is participatory and democratic. Communities are aware of the priority lists in the WUMP and most of them are satisfied with such lists as they are the ones who are responsible for the prioritization. For them, WUMP is useful in ensuring their voice, especially of women, dalits and janajatis for equal access to water. Communities are able to raise whatever concerns they have and all such concerns were addressed by the WUMP committees through dialogue and consensus building. The WUMP development committees are grossly inclusive in terms of gender and social inclusion. Though not proportionate to the demographic landscape of the VDCs, woman participation in the committees are more than policy requirements and that of dalits and janajatis are close to the proportionate level.
- The WUMP process is transparent; almost all beneficiaries are knowledgeable about WUMP and the associated processes. All of them have participated in at least two steps. WUMP process has been instrumental in resolving source conflicts during WUMP development. It has also enhanced the awareness of the communities and the

capacity of VDC and VWASHCC to resolve any conflict arising after WUMP development.

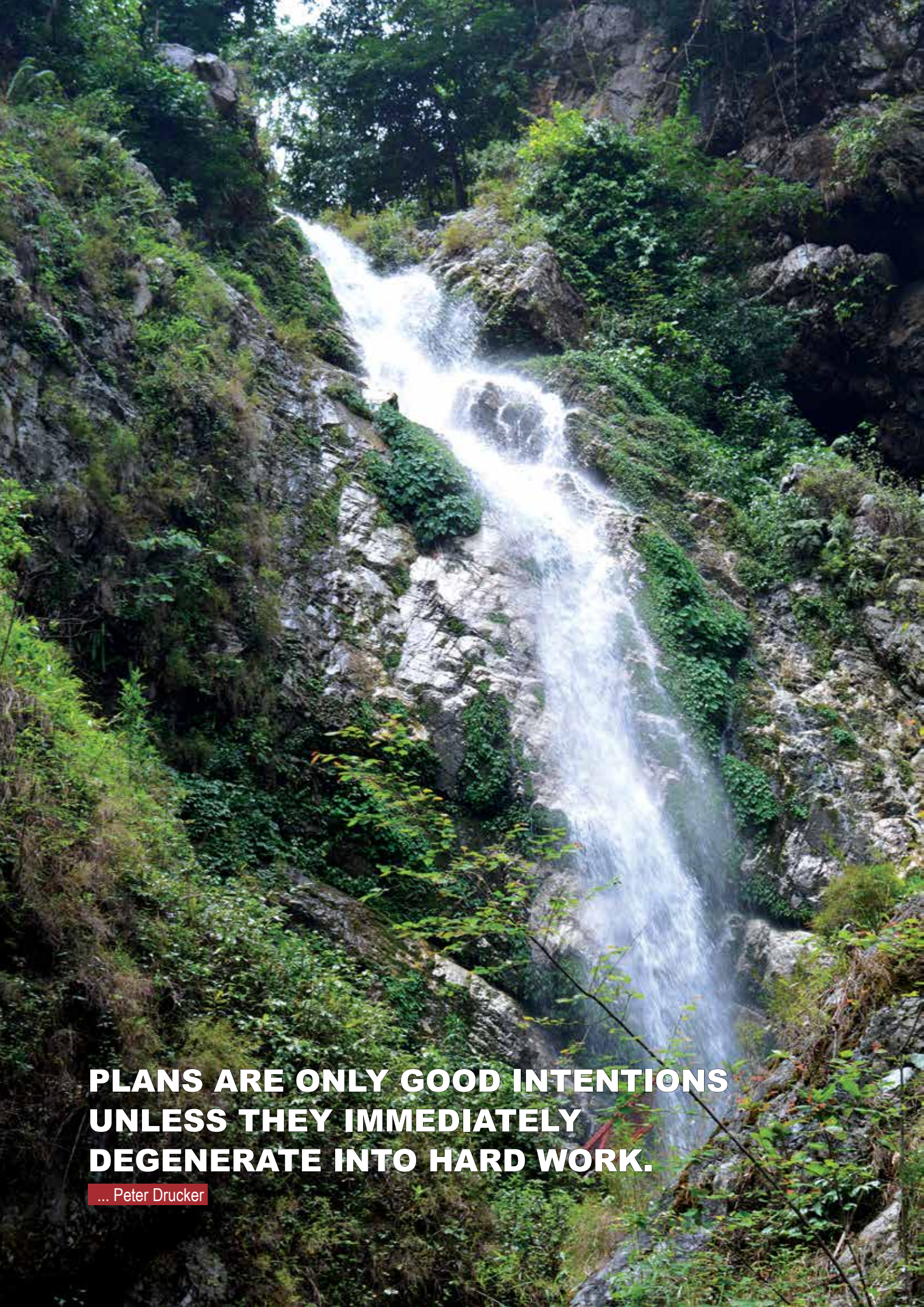
- Average numbers of schemes, served population and investment in water sector have increased following WUMP. The most benefitted sector is water supply, sanitation and hygiene. WUMP has also enhanced awareness on environmental and ecological issues which is reflected through the implementation of multiple use systems and the schemes related to environment and ecology.
- The irrational use of the water sources is not an issue as the primary purpose of the sources, as identified in the WUMP, is respected. However; it was observed that the priorities are grossly ignored during implementation.
- VDCs and VWASHCCs are marketing the WUMP to potential resource organizations, mostly development projects. Due to such efforts, they have been successful in securing better support from development projects than from DDCs, line agencies and political parties. However, there is still a mind-set among VDCs and VWASHCCs that WUMP supporting organizations are overall responsible for its implementation as well.
- On the water sector front WUMP has a strong influence on VDC's annual planning process. The challenges faced by VDCs without WUMP are addressed by WUMP in VDCs implementing WUMP.
- Communities have become aware of their rights; especially equal rights to water and are empowered to claim their rights. They have become aware of issues such as hygiene and sanitation, safe storage of water and efficient use of water and are also translating them into action. All VDCs are declared open defecation free. WUMP has provided opportunities for some community members to develop their occupational as well as managerial skills. VDCs and VWASHCCs have developed their capacities in some crucial aspects including promotion of hygiene and sanitation, local coordination and resolution of water source related conflict.
- Therefore, the WUMP is an efficient and effective approach in meeting its intended outputs and outcomes i.e. efficient and effective management of water at local level. The current generation of WUMP (i.e. localized) has become economical due to its localization. Localization of WUMP has a great potential in scaling up the WUMP approach sustainably. This is particularly crucial when the government ministries are developing a national WUMP guideline. Hence, the value for money of the WUMP is high and it is worth investing in the WUMP.

Recommendations

- Localized WUMP has been appreciated by local stakeholders, who have also emphasized the need for its continuity. Therefore, more efforts must be made by the support agencies in order to develop capacities needed for all components of the WUMP including analysis and report writing.
- WUMP committees should be made more inclusive regarding women, dalit and janajati. WUMP supporting agencies, together with the VDCs must look into this issue further and find a way to enhance their participation.
- Commitments from all stakeholders should be sought already at the initial stage of the WUMP. VDCs must organize stakeholders' consultation meeting or interaction at district level during the planning phase of the WUMP process.
- Coordination among local stakeholders is still weak. VDC must be proactive and take lead in bringing all stakeholders (as decided during district consultation meeting/interaction) to discuss and decide on the implementation of the WUMP and its priorities, and DDC must support VDCs for this process.
- VDC must organize an annual public

hearing event to disseminate the information on WUMP implementation and address any complaints that may come from the local people in regards to their prioritized implementation.

- VDCs should be encouraged to update WUMPs periodically. They must be supported with the capacity needed for the monitoring and revision of the WUMP. Such capacity should be mobilized locally.
- VDC and VWASHCCs should intensify the marketing of WUMP to potential resource organizations. Support agencies must build capacities of the VDCs and VWASHCCs in marketing, monitoring, and implementing WUMP.
- In the wake of formulation of national guidelines, support agencies must support the Government to develop local capacities beyond the existing WUMP VDCs and districts.
- With increased awareness, people are more informed about the negative effects of climate change on water sources. The upcoming WUMPs must be more accommodative to climate change and disaster risk perspective in relation to water and plan schemes that combat their negative effects on the lives of people.



PLANS ARE ONLY GOOD INTENTIONS UNLESS THEY IMMEDIATELY DEGENERATE INTO HARD WORK.

... Peter Drucker

1. INTRODUCTION

HELVETAS Nepal conducted an integrated water resources management study in 1998 in Bajung Village Development Committee (VDC), Parbat District, aiming to test a dynamic and an interactive multi-sectoral approach for the management of water resources within the VDC. The study took into consideration the following aspects in managing water resources at local level;

- participatory community planning and management of water resources based on the needs and priorities of the community.
- delegating the responsibility of management to Water Users' Committee
- developing and strengthening the cooperation capacity of VDC with water related organizations
- source (quality, quantity and location) optimization for the cost reduction of drinking water schemes

This study was successful in establishing the Water Resources Management (WARM)-Chair model and to set a strong ground for HELVETAS Nepal, enabling it to move into the integrated water resources management approach for its engagement in water, sanitation and hygiene (WASH) at local level. HELVETAS Nepal started supporting VDCs in water, sanitation and hygiene activities only after developing a WUMP. This facilitated the evolution of different generations of WUMP over the years and created a credible ground for other WASH agencies to replicate it.

As shown in Figure 1, RVWRMP, a project supported by the Embassy of Finland, replicated the WUMP approach since 2007. In the first phase of RVWRMP, HELVETAS Nepal provided technical support for the preparation of 45 WUMPs. After taking WUMP as one of the key components of the project, RVWRMP, has continually been developing WUMPs in the subsequent years. In 2008, European Union (EU)-supported Livelihood Improvement for Vulnerable and Excluded (LIVE) Project of HELVETAS Nepal, replicated the WUMP with the technical assistance of Water Resources Management Programme (WARMP). Similarly in 2012, International Development Research Center supported Building Effective Water Governance in Asian Highlands Project replicated WUMP. International Center for Integrated Mountain Development has also replicated WUMP in Koshi Basin Project and Water Land and Ecosystem Project in collaboration with HELVETAS Nepal. In 2013, HELVETAS Nepal and Rain Foundation, Netherlands, jointly adopted WUMP plus Retention, Recharge and Reuse (3R) approach to enhance the adaptation to climate change[1].

[1]This is an integration on retention, reuse and recharge (3R) perspective at catchment level over basic WUMP i.e. fourth generation WUMP.

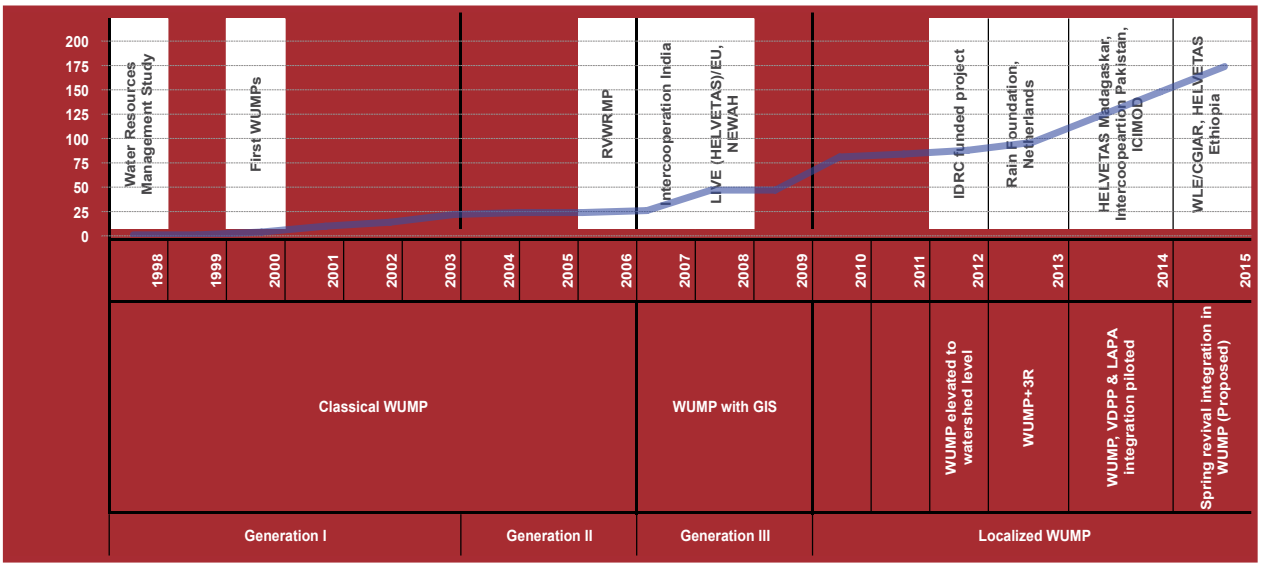


Figure 1: Evolution of WUMP

Research Associate taking an interview of a VWASHCC member in Achham

Sector Efficiency Improvement Unit, under the Ministry of Water Supply and Sanitation (MoWSS) together with the Department of Local Infrastructure Development and Agricultural Roads (DoLIDAR), is preparing a national WUMP guideline supported by WARMP and RVWRMP. This is a milestone towards institutionalizing the WUMP as a local water governance tool and nationwide upscaling.

WUMP has crossed the boundaries of Nepal. Intercooperation Pakistan has implemented WUMP with technical support from HELVETAS Nepal. Similarly, HELVETAS Swiss Intercooperation Madagascar, Mali and Ethiopia have shown interest in replication of WUMP in their contexts.

Despite the build up of such good reputation and replications, WUMP sometimes is faced with questions regarding implementation and ability to meet the intended long term objectives. While HELVETAS Nepal and RVWRMP had been following up the newly developed WUMP and some independent studies had been conducted on the WUMP as one of the components, no external study had been carried out specifically on effectiveness of the WUMP itself. In this context, this study fills this gap by assessing the economy, efficiency and effectiveness of WUMP exclusively.

2. WATER USE MASTER PLAN

WUMP, a participatory and inclusive water resources management plan at local level, is based on integrated water resources management approach and the principle of human rights to water and sanitation. The national guideline on WUMP describes it as;

"The WUMP is a participatory and inclusive approach for integrated planning and management of water resources. It assesses the total water budget and its potential uses. As a participatory and transparent process it improves the water governance, empowers everyone including women, disadvantaged and vulnerable people, to participate and claim their right for equitable sharing of water within and between communities. A water use master plan is not developed around a particular project or for a specific water sector (e.g. drinking water or irrigation), but looks at overall water resources, hygiene and sanitation, water demands and potential uses in a holistic and integrating way, hence the term ***Master Plan.****"*

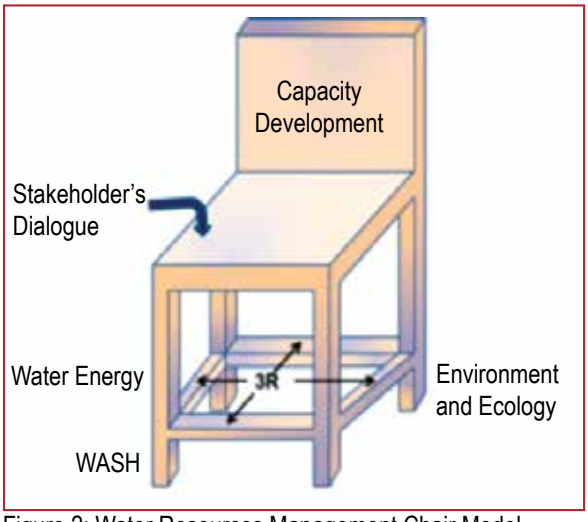


Figure 2: Water Resources Management Chair Model

WUMP has its conceptual footing on Water Resources Management chair model as shown in Figure 2. WUMP maps all the available water resources in a VDC and allocates them for four different uses – water, sanitation and hygiene (WASH), Irrigation, water energy, and environment and ecology based on negotiations and dialogues among communities and local bodies. WUMP builds the capacities of local communities and local bodies for the facilitation of the entire process. Apart from that, if water resources need to be shared among VDCs, WUMP facilitates the inter-VDC dialogues.

As per the draft national guideline, the overall goal of the WUMP is to facilitate equitable, efficient and sustainable use of water for wellbeing and improved livelihoods. The specific objectives include:

- assessment of availability and requirements of water resources
- participatory prioritization and planning
- coordinated water resources development by different stakeholders - communities, government, non-government organizations
- promotion of conservation of water resources and environmental sanitation
- strengthening local institutional capacity

WUMP has evolved through four different generations since its pilot in 1998 (refer to Annex I for detailed features). However, at the core of each generation is the improvement of governance of water and the provision of a local platform for the planning of water which ensures equal access to water resources. Over the years WUMP process has not only been simplified but new elements of innovations have also been introduced. WUMP is localized to match the local capacity for its development. Climate change adaptation and risk reduction through retention recharge and reuse (3R) approach has been added on the basic WUMP, whereas VDC level WUMP has been elevated to watershed. WUMP is well acclaimed by the stakeholders, both local and national, as an effective approach to improve the issues of water management at local level. Hence, in order to upscale it countrywide, Ministry of Federal Affairs and Local Development and Ministry of Water Supply and Sanitation are jointly developing a national WUMP guideline with the support of HELVETAS Nepal and RVWRMP.

3. FRAMEWORK OF THE STUDY

3.1 Objectives

The overall objective of the study is to assess the value for money of Water Use Master Plan (WUMP) approach. The specific objectives are:

a. To assess economy and efficiency of WUMP process

b. To assess effectiveness of the WUMP vis a vis:
   - change in access to different uses of water as per WUMP
   - change in investment scenario in water sector after WUMP
   - promotion of and delivering rational and equitable use of water
   - effect of WUMP in Village Development Committee/ District Development Committee (VDC/DDC) planning process
   - capacity of local level stakeholders in terms of water resources planning and management,

c. To identify the issues and challenges faced in the WUMP preparation and implementation process and way forward to address them

3.2 Framework

To achieve these objectives, this study takes the Department of Foreign Developments' value for money framework (refer to Figure 3) as a basis. In order to set the input-process-output-outcome parameters, this study takes references to the then available guidelines i.e. HELVETAS Nepal WUMP Guideline (2012) and RVWRMP WUMP Guideline (2013), since this study was initiated before the national guideline was drafted. RVWRMP and HELVETAS Nepal have been developing WUMPs through separate guidelines. In essence, these guidelines are similar but with some differences in their articulations. For example, the best use of the available sources among various possible uses is mentioned as 'rational' use by RVWRMP but defined as 'effective' use by HELVETAS Nepal. Similarly, the 'sustainable' use of water by RVWRMP is termed as 'efficient' use by HELVETAS Nepal. As participatory and inclusive planning processes, both the guidelines aim to improve water governance and provide a local platform for water planning to ensure equal access to water resources. For the purpose of this study following input-process-output-outcome are derived from the WUMP guidelines of HELVETAS Nepal and RVWRMP.

Refer to Annex II for summary of WUMP guidelines of HELVETAS Nepal (2012) and RVWRMP (2013).The value for money assessment framework for the study is as follows.

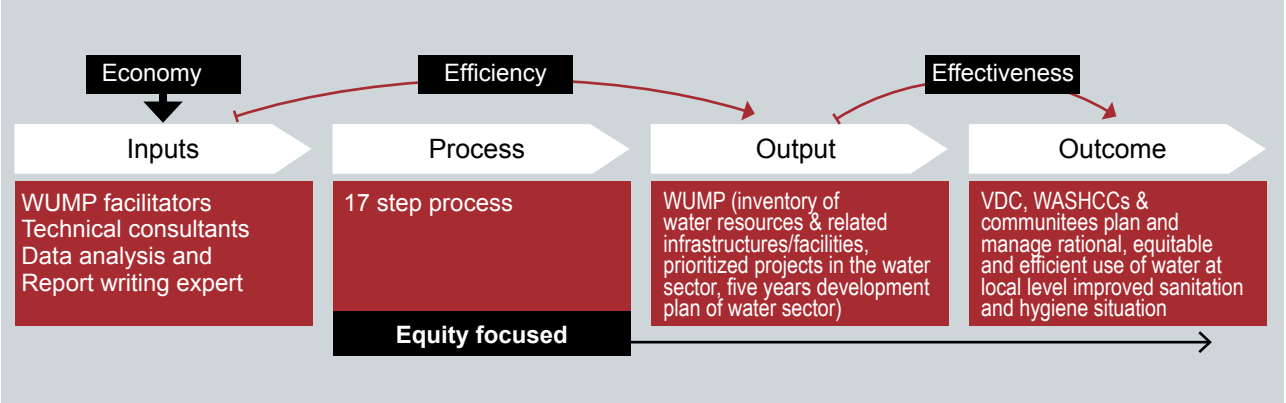


Figure 3: Value for Money Assessment Framework for the Study

3.3 Scope and Limitations of the Study

Until 2012, a total of 96 WUMPs have been developed. Of these, seventy WUMPs are third and fourth generations. This study was conducted in eleven districts[2] where WUMPs were developed as shown in Figer 4. The scope of the study includes all the seventy WUMP VDCs corresponding to third and fourth generations along with the eleven comparison VDCs (refer to section 4.2.1 for details). Comparison VDCs are those preparing WUMP during the time of the study.

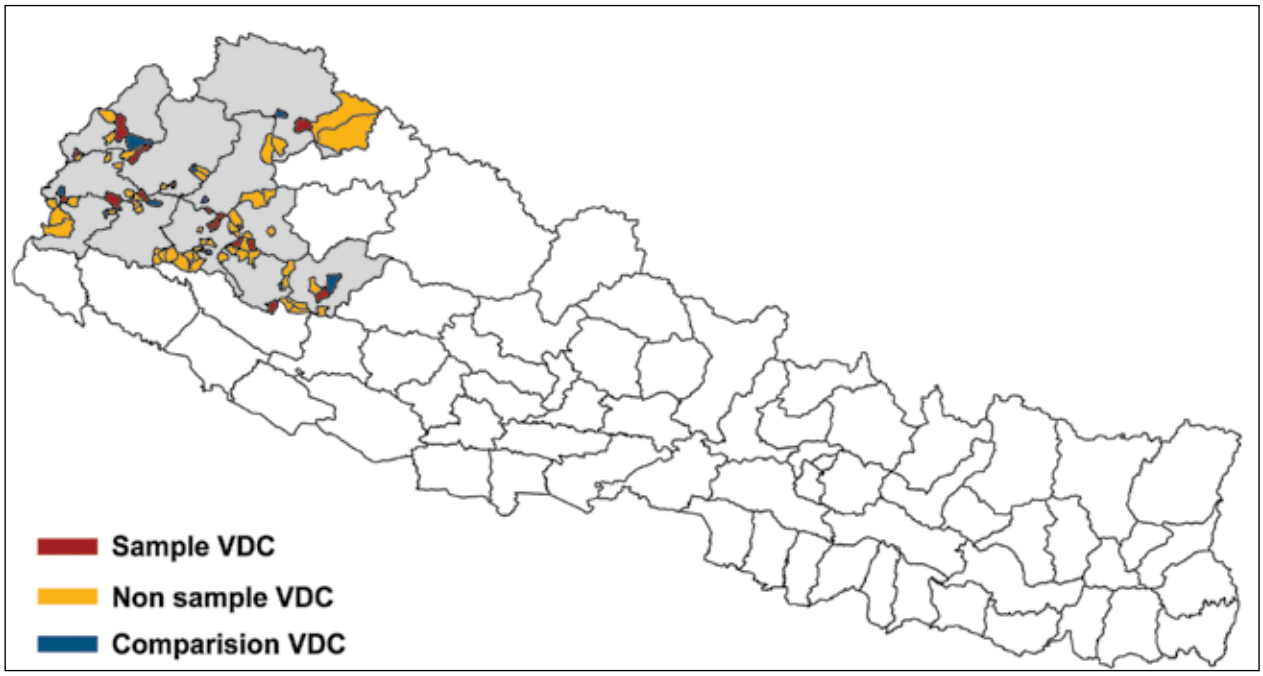


Figure 4: Study Area and Distribution of VDCs

The study is solely based on the data and information made available by the VDCs, especially regarding the number of implemented schemes, beneficiaries and financial details. Therefore, analysis and interpretation of results are based on the available data and its quality.

[2]Jajarkot, Dailekh, Kalikot, Achham, Bajura, Bajhang, Humla, Doti, Dadeldhura, Baitadi and Darchula

A beneficiary of WUMP in Pipalkot VDC, Dailekh

4. METHODOLOGY

The study consists of following phases:

- Planning
- Preparation
- Data collection
- Analysis of data and report preparation

4.1 Planning Phase

The study was initiated with a realisation for the assessment of effectiveness of WUMPs in 21 VDCs supported by WARMP. Later, having discussed with RVWRMP, the scope of the study was expanded to **'value for money assessment'** of all third and fourth generation WUMPs supported by both WARMP and RVWRMP. A terms of reference was prepared and discussed by a team composed of WARMP and RVWRMP experts and finalized thereafter.

During the discussion, WARMP and RVWRMP decided to deploy their own facilitators as enumerators and planned for their training prior to deployment in the field for data collection. In order to backstop the enumerators during data collection and later to compile the collected data, it was agreed to procure service of two research associates.

4.2 Preparation Phase

4.2.1 Sample and Sampling Method

Of the total seventy WUMP VDCs, stratified random sampling method was applied to select **sixteen sample VDCs**. All the remaining VDCs were considered as **non-sample VDCs.** As shown in Table 1, stratification was aimed to balance the due representation of two generations of WUMP (third and fourth), two support agencies (RVWRMP and WARMP), and eleven WUMP districts. Besides, **eleven comparison VDCs**[3] were selected in eleven study districts.

Table 1: Population and Sample for the Study

	Population VDCs					Sample VDCs				Comparison VDCs		Tot
Support Agency	R	H	R	H	Tot	R	H	R	H	R	H	
Year	2007 - 2010		2011-2012			2007 - 2010		2011-2012		2014	2014	
Achham	5		1	4	10	1		1	1		1	4
Baitadi	6				6	1				1		2
Bajhang	5				5	1				1		2
Bajura	5				5	1				1		2
Dadeldhura	5				5	1				1		2
Dailekh	6			4	10	1			1		1	3
Darchula	5		1		6	1		1		1		3
Doti	5				5	1				1		2
Humla	5				5	1				1		2
Jajarkot		6			6		1				1	2
Kalikot		5		2	7		1		1		1	3
Total	**47**	**11**	**2**	**10**	**70**	**9**	**2**	**2**	**3**	**7**	**4**	**27**

Based on this, these VDCs were selected for the collection of data (refer to Annex III for selected VDCs). RVWRMP and WARMP identified the enumerators from their existing group of facilitators for each of the identified districts.

[3]Comparison VDCs are those which were developing WUMP during the time of this study.

Sampling Methods Used for Identifying Key Respondents Selected VDCs

Respondents	Sampling method
Sample VDC	• VDC Secretary. In the case that the VDC Secretary is new and does not know about WUMP, either VDC assistant or technician with knowledge about the WUMP and present during WUMP preparation • 20% randomly selected VWASHCC or Water Resource Management Committee members • Convenient sampling among the users in randomly selected scheme
Non-sample VDC	• VDC Secretary. In the case that the VDC Secretary is new and does not know about WUMP, either VDC assistant or technician with knowledge about the WUMP and present during WUMP preparation
Comparison VDC	• VDC Secretary
Stakeholders' meeting at district	• VDC secretaries, DDCs, district technical offices, district water supply and sanitation division offices, district irrigation office, district environment and energy sections, water, sanitation and hygiene agencies working in the districts, RVWRMP and WARMP
Support organization	• Person responsible for WUMP from RVWRMP and WARMP/HELVETAS Nepal

VWASHCC is provisioned by the National Sanitation and Hygiene Master Plan, 2011. The VWASHCC is responsible for the overall planning, implementation, monitoring and supervision of the water, sanitation and hygiene related activities in the VDC. Prior to this provision, Water Resources Management Committees and Sub Committees were formed to lead the WUMP process. After 2011, VWASHCC and ward level WASH-CCs assumed this role. In this document the term VWASHCC is used to represent both VWASHCC and Water Resources Management Committee in terms of leading the WUMP process.

4.2.2 Data Collection Tools

The following data collection questionnaires and proforma were prepared:

- A set of questionnaires for opinion survey of VDC representatives of the sample VDCs
- A proforma set for the collection of factual information from the sample VDCs
- A proforma cum questionnaire for representatives from the comparison VDCs
- A questionnaire for opinion survey of VDC representatives from the non-sample VDCs
- A set of questionnaires for opinion survey of VWASHCC members from the sample VDCs
- A proforma cum questionnaire for WARMP and RVWRMP
- A set of questionnaires for focus group discussions at community level in the sample VDCs
- A guideline for district stakeholders' consultation meetings
- A proforma for recording critical information/reflection

These data collection tools were discussed in detail with WARMP and RVWRMP teams for their applicability and were modified accordingly. Then the tools were translated into Nepali language for better understanding of the enumerators.

4.2.3 Training of Enumerators

Two slots of training were organized, one in Surkhet and the other in Dadeldhura. The enumerators were oriented with the study, its objectives and the data collection tools in detail. Guided sessions with groups of enumerators were organized to facilitate their understanding. Pertinent feedback from enumerators on the data collection tools were incorporated in the final version. The research associates were also present during the trainings. They facilitated the guided group sessions.

A training of enumerators in Dadeldhura

4.3 Data Collection Phase

Data and information were collected by enumerators on site. Total number of districts was divided into two clusters as follows:

- Cluster I: Jajarkot, Dailekh, Kalikot, Humla and Achham
- Cluster II: Doti, Bajura, Bajhang, Dadeldhura, Baitadi and Darchula

A focus group discussion in Dailekh

Each cluster was led by a research associate. They accompanied the enumerators in two districts each. In each district, the teams visited at least one VDC, interacted with the VDC and the VWASHCC members, conducted randomly selected focus group discussions and facilitated district stakeholders' consultation meetings. For the remaining seven districts, enumerators took the lead responsibility with distant support from the research associates. Distant support was provided through telephone.

Data were collected from 79 VDCs: 16 sample VDCs, 52 non sample VDCs and 10 comparison VDCs. One comparison VDC could not be covered because the WUMP process had not started as expected. Similarly, two non-sample VDCs could not be covered as planned. 63 VDC secretaries and 15 others (VDC assistants and technicians) were interviewed. Similarly, from 16 sample VDCs, 79 VWASHCC members were interviewed and 357 community members participated in focus group discussions. District consultation meeting participants included: respective local development officers, planning officer of DDC, line agencies (e.g. district forest office, drinking water and sanitation division office, and district technical office), donor funded projects (e.g Nepal Climate Change Support Programme and RVWRMP), VDC secretaries, district water sanitation and hygiene coordination committee, and VWASHCC members, local non government organisation, and community based organisations (e.g. Federation of Drinking Water and Sanitation Users Nepal). Information from RVWRMP and WARMP were received through e-mail.

4.4 Analysis of Data and Report Preparation

Collected data were compiled in a especially developed excel format (refer to Figure 5). Analysis are mostly descriptive i.e. frequency count, mean value or description of the observations. Analysis was done using excel tools.

For the assessment of economy, data from third generation WUMP are compared with localized WUMP. For the assessment of efficiency, data are analysed for the post WUMP situation irrespective of the WUMP generation. For the assessment of effectiveness, data from the pre

WUMP situation are compared with the post WUMP situation. Analysed data are presented either in the form of tables or charts in order to obtain quantitative data. Qualitative data are presented in descriptive form. Critical opinions of some of the beneficiaries or officials recorded during data collections are also presented in relevant sections in order to provide better insight of the issue.

Synthesis and interpretation of the analysed information are made to draw the conclusion of the study. Findings from other studies are also presented in relevant sections in order to reinforce the results of this study. Recommendations are made based on the results of the study and observations made by the research associated during field visits.

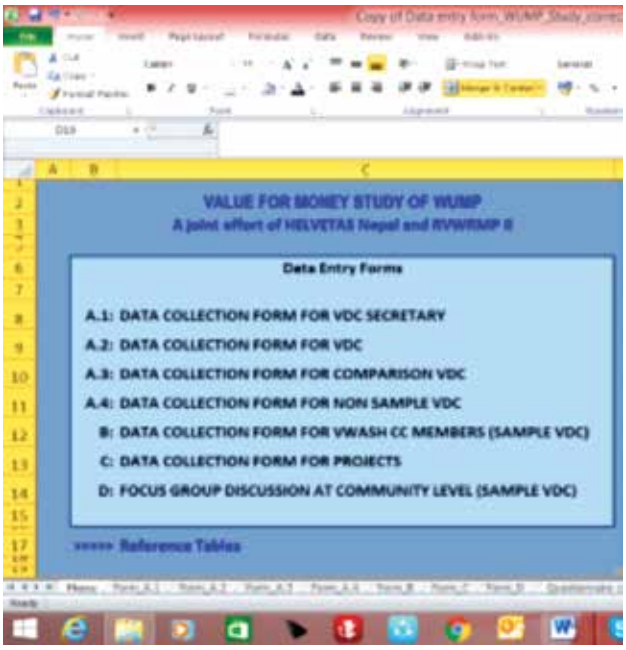


Figure 5: An Excel Format for Data Compilation

5. RESULTS

The results of the study are discussed under four major sub-sections:

- Economy
- Efficiency
- Effectiveness
- Issues and Challenges

This section also presents pertinent voices of varied stakeholders including beneficiary women and men, Village Development Committee (VDC) secretaries and District Development Committee (DDC) representatives. These inputs were collected during this study and also from secondary sources.

5.1 Economy

Economy of the WUMP is discussed around the optimization of inputs for intended outputs. For WUMP, major inputs include technical consultants, WUMP facilitators and the cost incurred in different cost items. The study compared the performance of the consultants and facilitators of localized WUMP with that of the preceding generation. It also looked into various itemized cost inputs between localized WUMP and the generation before.

5.1.1 Itemized Cost and Type of Procurement

The average cost for a localized WUMP is NRs. 376'000.00 whereas for a third generation WUMP it is NRs. 715,000. The cost sharing between the VDC and the supporting organization is almost 50%-50% in a localized WUMP, whereas this was not in practice in the third generation WUMP. All inputs for WUMP process were locally procured for a localized WUMP, whereas in a third generation WUMP, most of the technical inputs were procured at national level. Refer to Table 2 for itemized cost and type of procurements for a localized WUMP and the preceding generation.

Table 2: Itemized Cost Inputs for WUMPs

	Cost Items	Capacity Building	Assessment	Planning	Data Analysis & Report Preparation	Total
Generation III	Type of procurement	Local NGO	Mostly national consultants & local NGO	Mostly national consultants & local NGO	National consultants	
	Cost from VDC	-	-	-	-	-
	Cost from support organization	35,000	2,95,000	35,000	3,50,000	7,15,000
	Total	**35,000**	**2,95,000**	**35,000**	**3,50,000**	**7,15,000**
Localized	Type of procurement	Local NGO	Local NGO	Local NGO	Local (regional) consultant, project team	-
	VDC	-	1,37,500	37,500	-	1,75,000
	Support organization	32,500	37,500	-	1,22,500	1,92,500
	Total	**32'500**	**1,75,000**	**37,500**	**1,22,500**	**3,67,500**

5.1.2 Language of WUMP Report

Irrespective of the generation, language of the WUMP is Nepali. All VDC representatives and Village Water, Sanitation and Hygiene Coordination Committee (VWASHCC) members are satisfied with the language. Majority (98%) feel that it is easier communicating in Nepali as it is more commonly used and is the only official language at the local level. 2% still feel that if WUMPs could be prepared in local language e.g. Achhami, it would be better for the people who understand local language better than Nepali. Similarly, 81% think that WUMP report in Nepali language will suffice even for dissemination to potential donors and resource organizations. Despite this preference 28% opined that language does not make any difference; be it English or Nepali.

5.1.3 Performance of WUMP Facilitators and Consultants

The opinions of the VDC representatives and the VWASHCC members were collected to assess the performance of technical consultants and WUMP facilitators for both localized and third generation WUMPs. It was found that 98% of the respondents were satisfied with the performance of technical consultants procured locally whereas 91% were satisfied with the nationally procured ones. As shown in Table 3, the respondents rated locally procured consultants' performance as more satisfactory in capability and deliverance of the assignments. However, in terms of ability to secure the expected level of community participation and to assess all available sources, the national consultants' performance were rated better.

Table 3: Performance of Technical Consultants

Type of Procurement	Local	National
Ability to secure expected level of community participation	90%	100%
Assessment of all available sources	94%	96%
Capability for the assignment	84%	76%
Delivered as expected	66%	49%

Similarly, in case of the WUMP facilitators, it was found that 97% of the respondents were satisfied with the performance of the WUMP facilitators procured locally whereas 91% were satisfied with the nationally procured WUMP facilitators. As shown below in Table 4, according to the expectation of the respondents locally procured facilitators' performance were rated better for their capability and deliverance of the assignments.

Table 4: Performance of WUMP Facilitators

Type of Procurement	Local	National
Able to secure participation of all especially dalit, women, janjati	89%	96%
Good inventory due to good social mobilization	82%	82%
Having good capability for the work	78%	73%
Facilitators delivered as expected	82%	52%

The local facilitators were considered equally good in effective social mobilization as national facilitators. However, in terms of ability to secure expected level of community participation, nationally procured facilitators were better than the locally procured ones.

This is an interesting phenomena and somehow contradictory to what is generally expected. This finding calls for further assessment of the issue in order to understand the reasons behind.

Result for Economy: The average cost has almost been halved from the third generation to the localized WUMP. Moreover, VDCs share close to half of the cost of localized WUMP. The key stakeholders are, in general, more satisfied with the performance of the locally procured human resources (consultants and facilitators) than the nationally procured ones, although performance wise, both of them have comparative stronger and weaker sides. Moreover, the approach of local procurement contributes in the development of the local capacity to scale up the WUMP sustainably. This is particularly important when a national WUMP guideline is being prepared by the Government of Nepal with the support of HELVETAS Nepal and RVWRMP. Similar level of performance, if not better, with less cost inputs, leads to the conclusion that the localized WUMP is more economic than the third generation WUMP.

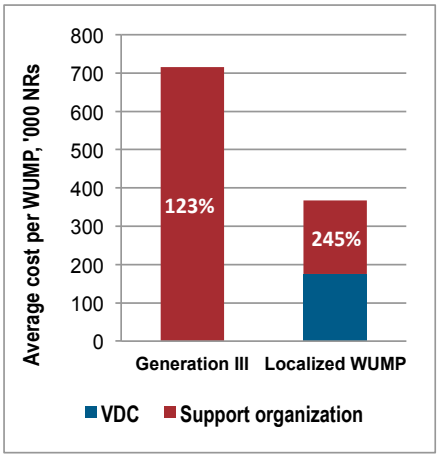


Figure 6: Average Cost of WUMP

5.2 Efficiency

Efficiency of the WUMP is discussed around how inclusive and participatory the WUMP process is in order to translate inputs into outputs. Irrespective of the generation, the study looked into above mentioned process dimensions at various stages.

5.2.1 Inclusion and Participation

Participation in WUMP Committees

The WASH-coordination committees at VDC or ward levels are the leading committees for WUMP development. Composition of such committees from sixteen sample VDCs and ten comparison VDCs were analysed and compared with the population composition of the VDCs. For the population profile of a VDC, Census 2011 has been referred to.

Table 5: Demographic Composition of WUMP Committees

	Composition in Committees			Participation in the Key Position of the Committees			Composition of the VDC		
	Women	Dalit	Janajati	Women	Dalit	Janajati	Women	Dalit	Janajati
Average %	37.9	18.3	4.3	39.8	23.5	10.3	52.6	21.9	4.4
Max, %	62.9	42.9	32.7	100.0	70.0	70.0	58.7	43.7	31.2
Min, %	0.0	0.0	0.0	0.0	0.0	0.0	48.1	6.4	0.0

It has been observed that the participation of women in the WUMP committees is higher than the policy[4] provision (33%) of the Government. On the other hand, it is lower than (less by 14.7%) the percentage of women population in the VDCs. Similarly, the participation of dalit is slightly less than their proportion in the VDCs (less by 3.6%) whereas that of janajati is almost the same. However, the ranges suggest that there are also committees in which participation of women, dalit and janajati are completely absent.

Of the total 25 VDC level and 211 ward level committees, women, dalit or janajati hold at least one key position in 57.4% of the committees The participation of these groups in the key decision making positions (chairperson, secretary, and treasurer of the committees) is more or less a mirror image of their overall participation in the committees, as shown in the Figure 7.

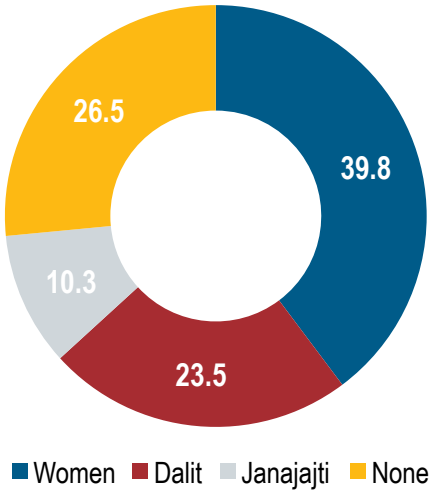


Figure 7: Participation in Key Positions

Concern on Planning

The communities surveyed (sixteen focus groups) were asked about their responses in regards to whether they had any concerns during the planning process, whether they raised them and whether these were addressed or not. All the communities responded that they had some concerns at the ward level planning, whilst only 14 of the groups had concerns during the VDC level planning. All the relevant concerns they raised were addressed by the planning committees. The major concerns are shown in Figure 8 along with the percentage of the communities raising them.

[4]Sanitation and Hygiene Master Plan, 2011

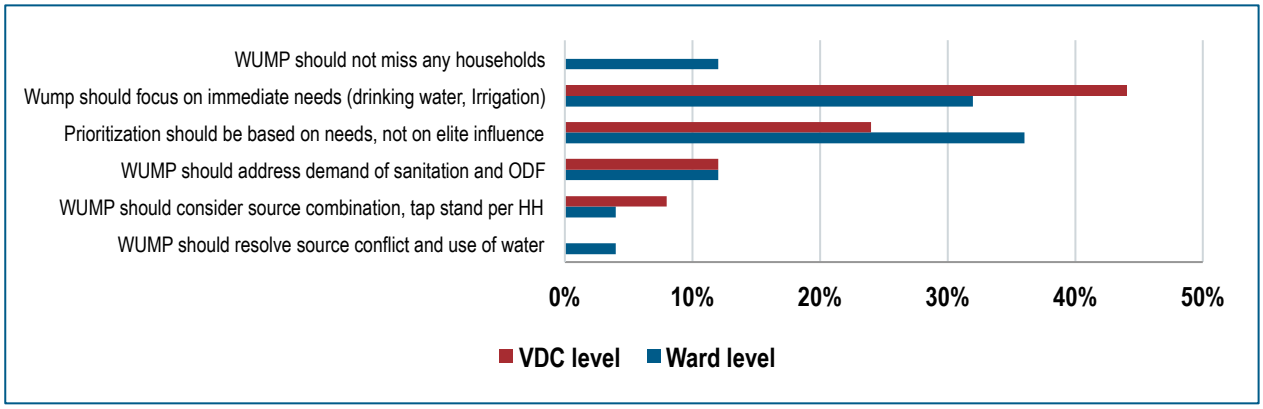


Figure 8: Concerns Raised by Communities During WUMP Planning

The communities were highly concerned about the priority setting and often wanted the scheme benefiting their particular community to get high priority. This tendency proved helpful for participatory negotiation among the communities and finalising the priority list.

There were some concerns such as demand for a scheme for an individual household or implementation of landslide protection works and checking of dam and embankment which were reported as unaddressed. The reasons as reported are mainly lack of budget and interest of the support agencies for such activities. It appears that communities raised issues related to WUMP implementation phase, which was not the scope of this particular research question.

Completeness of Inventories

The study also investigated whether the developed inventories of water sources and existing water infrastructures were complete or if any were missed while inventorying. This is considered as a proxy indicator for community participation during the assessment phase. About 93% of the respondents opined that both; the inventory of water sources and the inventory of existing water infrastructures were complete. In sixteen WUMPs, 22 schemes were not inventorized for the following reasons:

- Lack of information as a result of infrequent interaction between the community and the survey team
- Negligence of the survey team

Similarly, in sixteen WUMPs, respondents mentioned that around ten sources had not been inventorized due to:

- Source conflict and people hiding information on some sources
- Negligence of the survey team

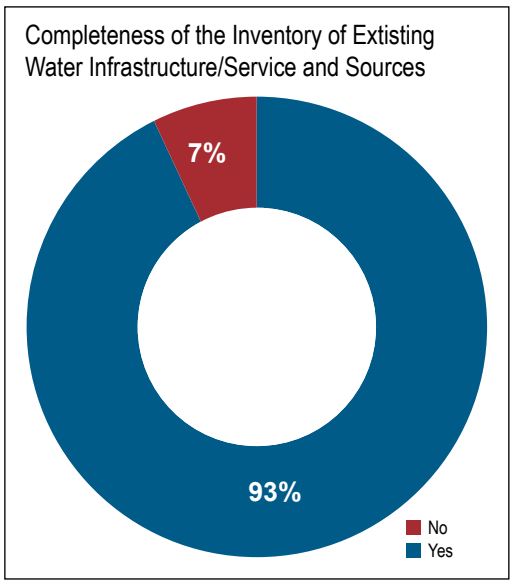


Figure 9: Completeness of Inventories in WUMPs

The proportion of the missed sources and infrastructures is less than 2% compared to the average number of sources or infrastructures in respective inventories. Therefore, some respondents were of the opinion that when making a comprehensive inventory such as WUMP, missing a small percentage is to be expected.

Genuineness of Prioritization

The 90% respondents of the focus groups mentioned that they are knowledgeable about the priority list in the WUMP. All communities representing the focus group discussions have included water schemes in the priority lists. 87.5% of these communities have already implemented their schemes. According to the respondents, the remaining communities are waiting their turn for the implementation according to the priority set out in the WUMP. It is observed that at least 88% of the beneficiaries are satisfied with the priority list of the WUMP. The major reasons for satisfaction include:

- Users prioritized their own schemes based on their actual needs and not under the influence of elites.
- Prioritization was scientific, based on water hardship criteria.
- Poor and marginalized communities were given high priority.
- It is helpful in the formulation of a VDC annual plan

Reasons for dissatisfaction, as mentioned by the respondents are:

- The ward level discussions were not rigorous enough
- Limited number of people could participate in the VDC level training.

"If there was no WUMP, we would not know where our priority would stand. **Due to WUMP, our marginalized communities were able to receive services with top priority.** We are very happy with WUMP and its prioritization approach".
Rajendra Biswokarma, VWASHCC member, Pauwagadi VDC, Bajhang

Despite some dissatisfaction expressed by some of the respondents, majority felt that the priority list of water schemes in the WUMP is useful in ensuring their voice, especially of women, dalit and janajati for equal access to water. They also had the following common viewpoints:

- Once WUMP is prepared with wider participation, VDC is bound to implement schemes according to the priority list as the people now know about their priorities.
- WUMP provides space for communities to raise their voice if WUMP priorities are not respected during implementation.
- The priority list serves as a useful instrument for VDCs in diffusing the political and elite influences while implementing the schemes.

Inclusion and Participation Results: WUMP process includes women, dalit and janajati in the decision making process through their participation in WUMP committees. The participation of women, both as general members and key position holders, is better than the legal requirements. However, there is still scope for improvement when taking demographic ratio into consideration. The participation of dalit and janajati is closer to the proportionate demographic landscape even though slightly lower. The inventories of existing infrastructures and water sources are grossly complete. Only a negligible number of such infrastructures and sources have been missed in the WUMP. Efficient inventorisation depends largely upon how rigorously communities take part in the process. Communities are knowledgeable about the priority lists in the WUMP and most of them are satisfied with such lists as they are the ones who are liable for the prioritization. For them, WUMP is a useful tool for ensuring their voice, especially of women, dalit and janajati for equal access to water even though there is ample scope for improving their meaningful participation in the WUMP process. Communities were able to raise whatever concerns they had. All relevant concerns were addressed by the WUMP committees through dialogue and consensus building. A democratic process was followed. Hence, it can be concluded that the community has been actively engaged through the entire WUMP process.

5.2.2 Transparency of the Process

Participation in Various WUMP Processes

Focus groups discussions were held in sixteen WUMP VDCs to assess people's knowledge about the WUMP process, .For third generation WUMPs, 94.8% of the respondents are aware of one or more steps of the WUMP process, whereas for localized WUMP it was 100% respondents. In terms of actual participation, 90% of the beneficiaries actively participated in some of the WUMP processes of the third generation WUMP whereas 100% participated in the localized WUMP. Figure 10 shows the percentage of the respondents who are knowledgeable about the process and involved in various steps of the WUMP process.

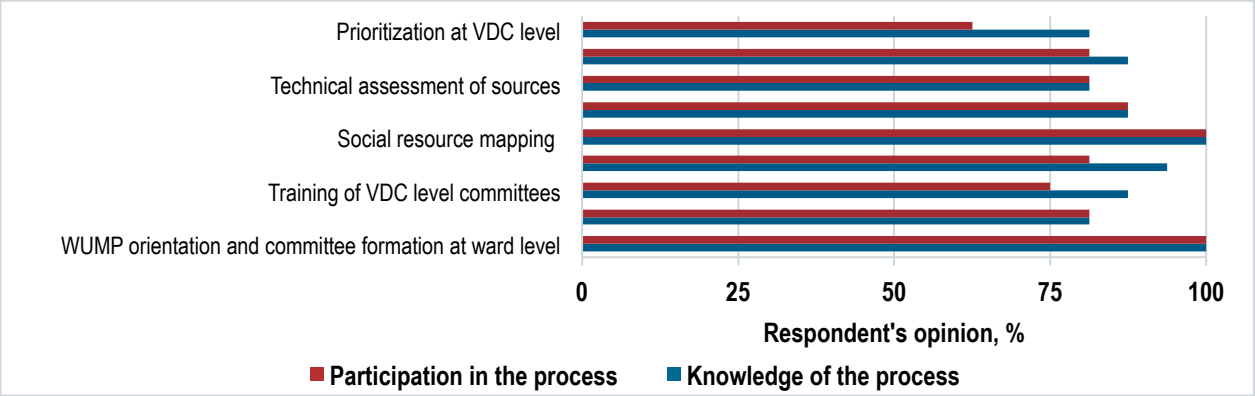


Figure 10: Knowledge of the WUMP Process Among Beneficiaries and Their Participation in the Process

WUMP process has two kinds of activities in terms of beneficiary participation. All beneficiaries can participate in activities such as WUMP orientation, social mapping, identification of needs, and assessment of source. However, activities such as training and prioritization mostly involve the participation of ward and VDC level committee members. It is observed that, at least, 80% of the beneficiaries are aware of all the steps of WUMP process whereas at least 63% participated in all steps. Moreover, all beneficiaries are aware of and have participated in the WUMP orientation at ward level and in the social resources mapping steps.

Contribution of WUMP in Resolution of Conflicts

Of the total respondents (VDC representatives and VWASHCC members), 54% opined that, during the WUMP process, there were some conflicts among different communities over the ownership of the water sources. 99% of the respondents believed that due to one or more dimensions of WUMP process, such conflicts were resolved. Following are some of the reasons given:

- 69% agreed that the WUMP process created a positive environment for negotiation among different communities which contributed towards conflicts being resolved amicably,

WUMP is like a constitution and law for water resources in the VDC. It builds enabling environment through resolving conflicts among different communities. It helps optimum utilization of water sources available in the VDC.
Parmanand Bhatta, VWASHCC member, Bishalpur VDC, Baitadi

- 57% agreed that people whose opinions were not represented previously, were sufficiently empowered to raise their voice during such negotiations,
- 66% mentioned that it was WUMP's promotion of community awareness on 'equal rights on water'.
- 78% said that the VWASHCC was capacitated enough to deal with such conflicts whereas 10% believed that it was due to self-developed capacity of VWASHCC members rather than WUMP process induced capacity building.

Respondents mentioned that the composition of VWASHCC is also a crucial aspect in conflict resolution. Members of VWASHCC were intentionally selected from the citizen forum as they have experience in dealing with similar local development issues; this helped them in resolving source conflicts. The contribution of WUMP in resolving water related disputes has been also mentioned in the Water and Infrastructure Series 2013/1 of HELVETAS Nepal, which says," Inclusive participatory practices and the preparation of Water Use Master Plan substantially contribute to resolving disputes related to using water sources which are common in rural areas".

Almost all conflicts arising during WUMP process were reported as resolved; 26% of the respondents mentioned that some conflicts emerged after WUMP. 87% agreed that conflicts arising after WUMP have been resolved and reasons given included:

- Community people's sense of ownership of WUMP and their accountability towards this binding document.
- Increased capacity of VWASHCC during WUMP process in resolving such conflicts.
- 13% are of opinion that it was due to VWASHCC members' self-acquired capacities as opposed to WUMP's contribution.

Results on Transparency: The WUMP process is transparent and almost all beneficiaries are knowledgeable about WUMP and the associated processes. All of them have participated in at least two steps. This suggests that the WUMP process was disseminated to all beneficiaries in order to secure their participation. WUMP process has been instrumental in resolving source conflicts during WUMP development. It has also enhanced the awareness of the communities and the capacity of VDC/VWASHCC to resolve any conflict arising after WUMP development.

Results on Efficiency: Participation, inclusiveness and transparency are the essence of the WUMP approach which creates conducive environment for efficient translation of inputs into outputs. The WUMP documents such as inventories of sources/infrastructures and lists of prioritized schemes (the output of the process) have been followed closely ensuring 'beneficiary satisfaction'. Though the WUMP process still needs to improve on forming inclusive committees, on the front of participation and transparency, WUMP approach has been strong. Hence, the localized WUMP that is being practiced is an efficient approach.

5.3 Effectiveness

Effectiveness of the WUMP is discussed around how well the coverage of water sector has increased in terms of attracting funds for implementation of prioritized schemes and reaching out to the beneficiaries. The data analysis covers two aspects:

- Average number of schemes per VDC per year before WUMP (for 3 years) and after WUMP (for 5 years), irrespective of which calendar year WUMP is prepared
- Average number of schemes per VDC per year before and after WUMP according to calendar years

5.3.1 Water Sector Coverage

Implementation of Schemes After WUMP

An analysis of 496 drinking water schemes, 128 Irrigation schemes, 22 water energy schemes, and 17 ecology and environment related schemes reveals that WUMP has accelerated their implementation. Figure 11 shows the average number of schemes per VDC per year after WUMP compared to 'before WUMP' condition.

Drinking water/WASH sector has benefitted the most as it has grown three times after WUMP was prepared, followed by irrigation sector with 1.75 fold growth and water energy sector by 1.5 folds. Prior to WUMP no schemes related to environment and ecology and Multiuse System (MUS) were implemented. Now, with WUMP having highlighted these issues, some of these schemes have been implemented (refer to Figure 11).

Figures 12 present the average number of schemes per VDC per year before and after WUMP. The figures on the left are based on the WUMP year

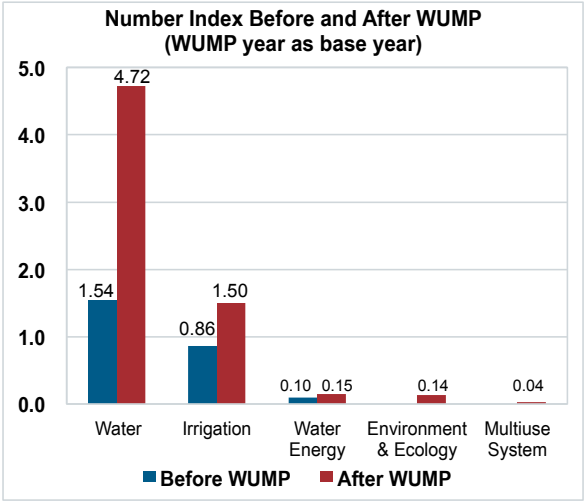
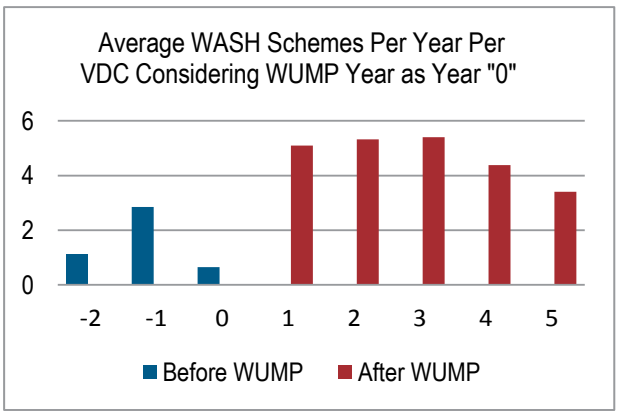
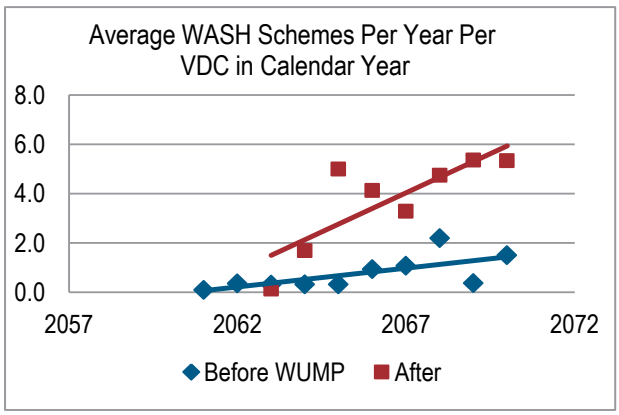
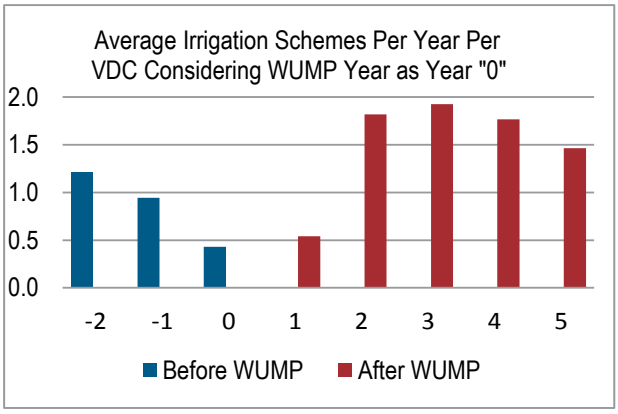


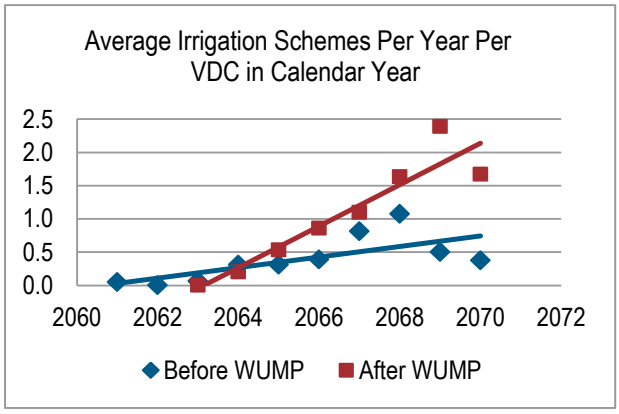
Figure 11: Average Schemes Per Year Per VDC

as Year Zero irrespective of the calendar year WUMP was developed (e.g. it could be 2005 or 2010). From these figures, it is clear that the average number of schemes increased immediately for three to four years after which they show a decline. The figures on the right are based on the calendar year. The trend of implementation of schemes for 'after WUMP' condition is steeper than for 'before WUMP' condition.









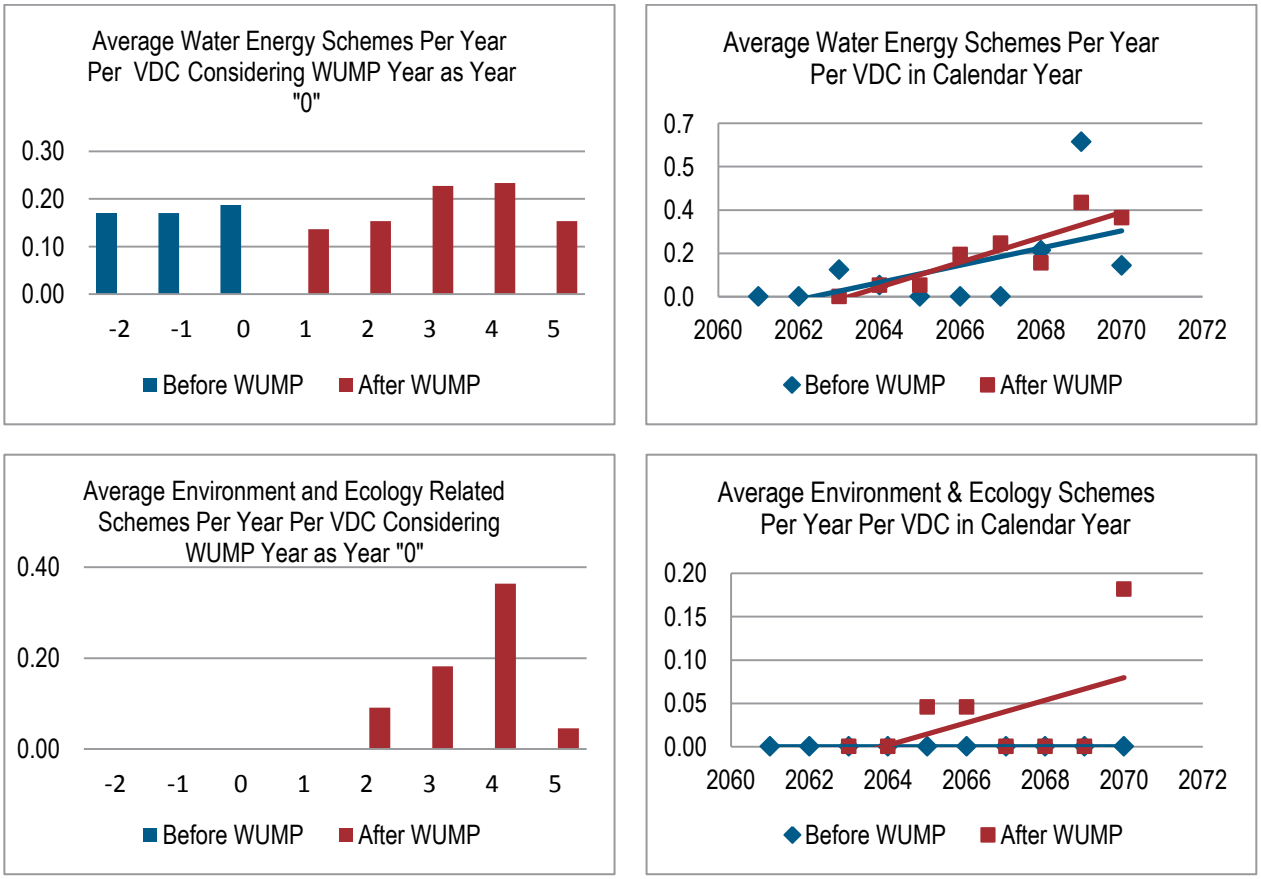


Figure 12: Drinking Water, Irrigation, Water Energy and Environment/ Ecology Related Schemes Per Year Before and After WUMP

Average Beneficiary

Analysis of the same schemes as mentioned in section 5.3.1 revealed that average number of population per scheme had gone up after WUMP for drinking water, water energy and irrigation sectors (refer to Figure 13). As no schemes related to environment and ecology and MUS was implemented before WUMP, the beneficiaries for these sectors were newly added after WUMP was introduced.

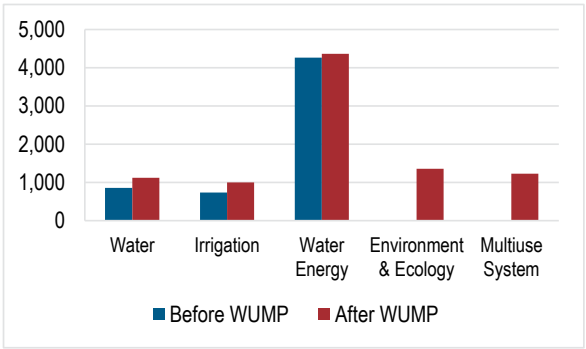


Figure 13: Average Population Per Scheme Before and After WUMP

Following figures show average beneficiaries per VDC for various uses of water as represented in the WARM chair. The figures on the left are based on the WUMP year and Year Zero irrespective of which calendar year it has been prepared. The figures on the right are based on the calendar year. It is apparent from the figures that the gap between the trend lines is the contribution of WUMP.

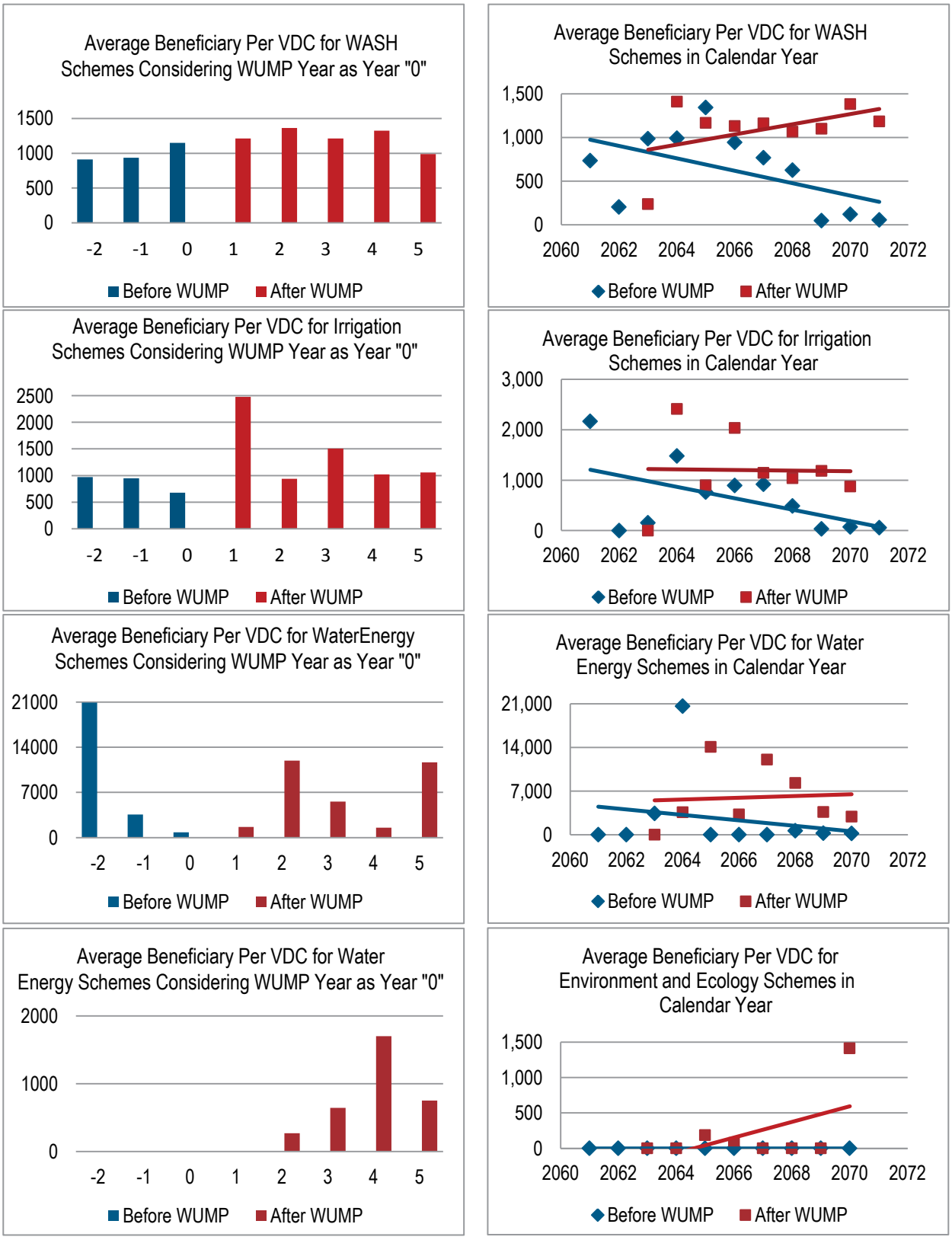


Figure 14: Average Beneficiary Per VDC for Drinking Water Irrigation, Water Energy and Environment and Ecology Related Schemes Before and After WUMP

Order of Implementation of Priority List

An analysis of 527 drinking water schemes in terms of their implementation order against their priorities as set in WUMP are presented in Table 6. The red-yellow-green colour gradient is used to represent the 0%–50%-100% values of implementation. The table reveals that prioritisation is not adhered to. Only two third of the first prioritized schemes were implemented in Year 1. In fact there are cases of first priority scheme being implemented in Year 5 or even later. Similarly, schemes prioritized as priority 6 or above are also found implemented in Year 1.

The zone shown by the arrow is the zone which should be green considering the average WASH scheme per year (4.7) as shown in Figure 11. From Table 6, it is however visible that this zone comprises yellow and red cells as well. On the contrary there are few green cells outside of this zone suggesting the majority of the schemes were implemented in the later years.

Table 6: Priority Versus Implementation Order of Drinking Water Schemes

Implementation⇒ / Priority⇓	Order I	Order II	Order III	Order IV	Order V	Order VI	Order VII
1	66%	5%	12%	7%	7%	3%	-
2	51%	21%	15%	10%	1%	-	1%
3	42%	21%	5%	6%	11%	3%	12%
4	43%	14%	19%	10%	7%	5%	2%
5	33%	26%	13%	10%	15%	-	3%
6	13%	23%	13%	20%	20%	3%	7%
7	14%	11%	19%	14%	11%	11%	19%
8	20%	15%	15%	25%	5%	10%	10%
9	15%	5%	10%	10%	15%	35%	10%
10	17%	6%	6%	6%	33%	22%	11%
11	-	-	11%	11%	44%	22%	11%
12	20%	13%	20%	7%	13%	20%	7%

One of the bottlenecks identified for not following the prioritisation is inadequate resources (fund) with the implementing agency. Few schemes with top priority were not implemented because the cost implications were beyond the capacity of the implementing agency at the given time and Bichhya VDC in Bajura is an example in case. Various other limitations have been cited by respective agencies that prevented the implementation of the schemes according to the priority list. These include: per capita cost threshold, mandatory requirements of 'presence of community organizations and minimum threshold of disadvantaged beneficiary. Further investigation is needed to see whether other factors might have influenced the implementation of priorities.

Similar results have been observed for irrigation (107 schemes). As seen in Table 7, less than half of the first prioritized schemes were implemented in Year One. On the contrary, schemes prioritized at eight, nine, or eleven were implemented in Year One. As in the WASH schemes, the zone shown by arrow comprises more red and yellow cells as opposed to the expected green zone.

Table 7: Priority Versus Implementation Order of Irrigation Schemes

Implementation⇒ / Priority⇓	Order I	Order II	OrderIII	Order IV	Order V	Order VI	Order VII
1	43%	29%		7%		14%	7%
2	19%	27%	27%	27%			
3	36%	21%	7%	36%			
4	45%	22%	22%	11%			
5	29%	14%	14%		29%	14%	
6	29%	29%		28%	14%		
7		40%		20%	40%		
8	33%		67%				
9	10%			90%			
10			50%			50%	
11	25%	50%					25%

The result is poor for water energy schemes (19). The implementation is erratic and does not follow the priority list. (Since the number of schemes is too small for this category, it may not be representative enough for a conclusion-refer to Table 8)

Table 8: Priority Versus Implementation Order of Water Energy Schemes

Implementation⇒ / Priority⇓	Order I	Order II	Order III	Order IV	Order V	Order VI	Order VII
1	50%	25%				25%	
2	33%	17%	17%	17%			
6		50%		50%			
7					100%		
8			100%				

The issue of use of water sources for purposes other than as identified in WUMP was discussed with the VDC representatives and the VWASHCC members. Few such cases were reported in four out of sixteen VDCs.

Table 9: Alternative Use of Identified Sources

Reported Case	Reason for Deviation
One source identified for micro hydro was developed into Improved Water Mill	Lack of budget
Two sources identified for drinking water schemes and two sources identified for irrigation schemes were developed as MUS	Potentiality of the source discharge to be developed as MUS
Two sources identified for drinking water scheme was developed into irrigation scheme	Sufficient alternative source for drinking water available
One source identified for Irrigation scheme was developed into micro hydro	At a later stage the people's perception changed and electricity was prioritised on an equal basis with Irrigation

The development of MUS from the sources identified for drinking water or irrigation is in principle, not deviation from the originally identified uses, in fact, it is an addition to other uses due to available higher discharge. However, use of sources as identified for drinking water and irrigation into irrigation and micro hydro respectively indicate that either uses were not well identified or all sources were not mapped properly during assessment stage.

Results: Average number of schemes and served population have increased after WUMP. However, there is a general tendency of decreasing implementation after few years of development of WUMP. The most benefitted sector is WASH. This seems obvious as WUMP is promoted by WASH projects. WUMP has also enhanced awareness on environmental and ecological issues which is reflected through the implementation of MUS and the schemes related to environment and ecology only after WUMP was prepared. The irrational use of the water sources is not an issue as the primary purpose of the sources as identified in the WUMP is respected. As the prioritisation has been grossly disregarded further investigation is required for better understanding of the underlying causes and potential remedies.

5.3.2 Investment in the Water Sector

Investment in water sector increased after the introduction of WUMP. As shown in Figure 15. average investment per scheme increased by 1.3 fold for drinking water, by 1.5 fold for irrigation and doubled for water energy sector. Ecology and environment, and MUS were perceived as new arena of investments only after WUMP was implemented. Figure 16 shows the average investment per schemes for four various uses of water as represented in WARM chair. The figure on the left is based on the WUMP year as Year Zero irrespective of the calendar year the WUMP was prepared. The figure on the right is based on the calendar year. It is apparent from the figures that the gap between the trend lines is the contribution of WUMP.

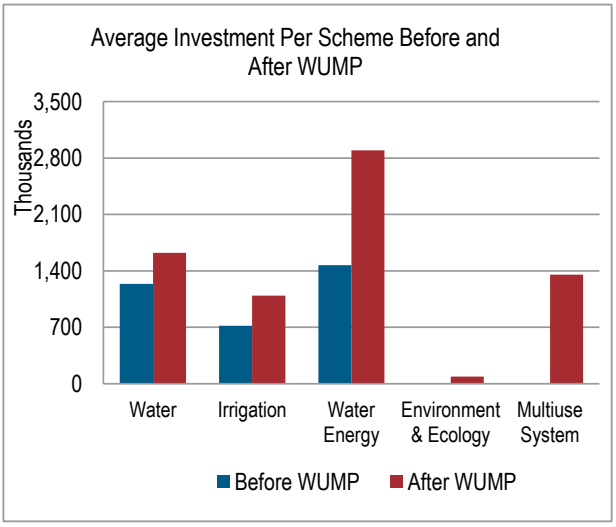
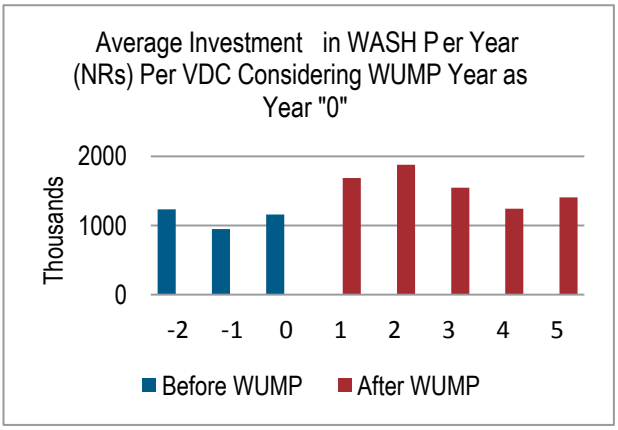
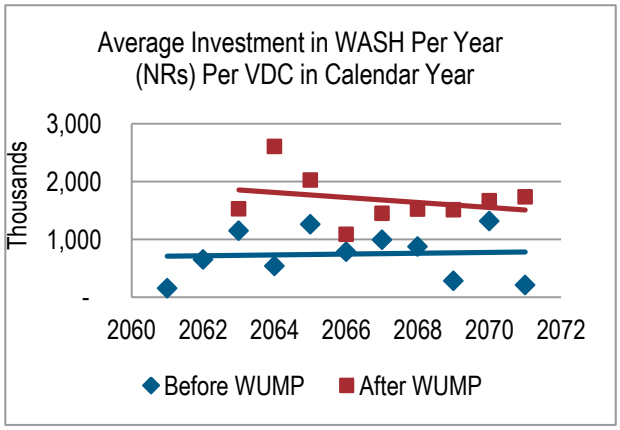


Figure 15: Average Investment Per Scheme Before and After WUMP





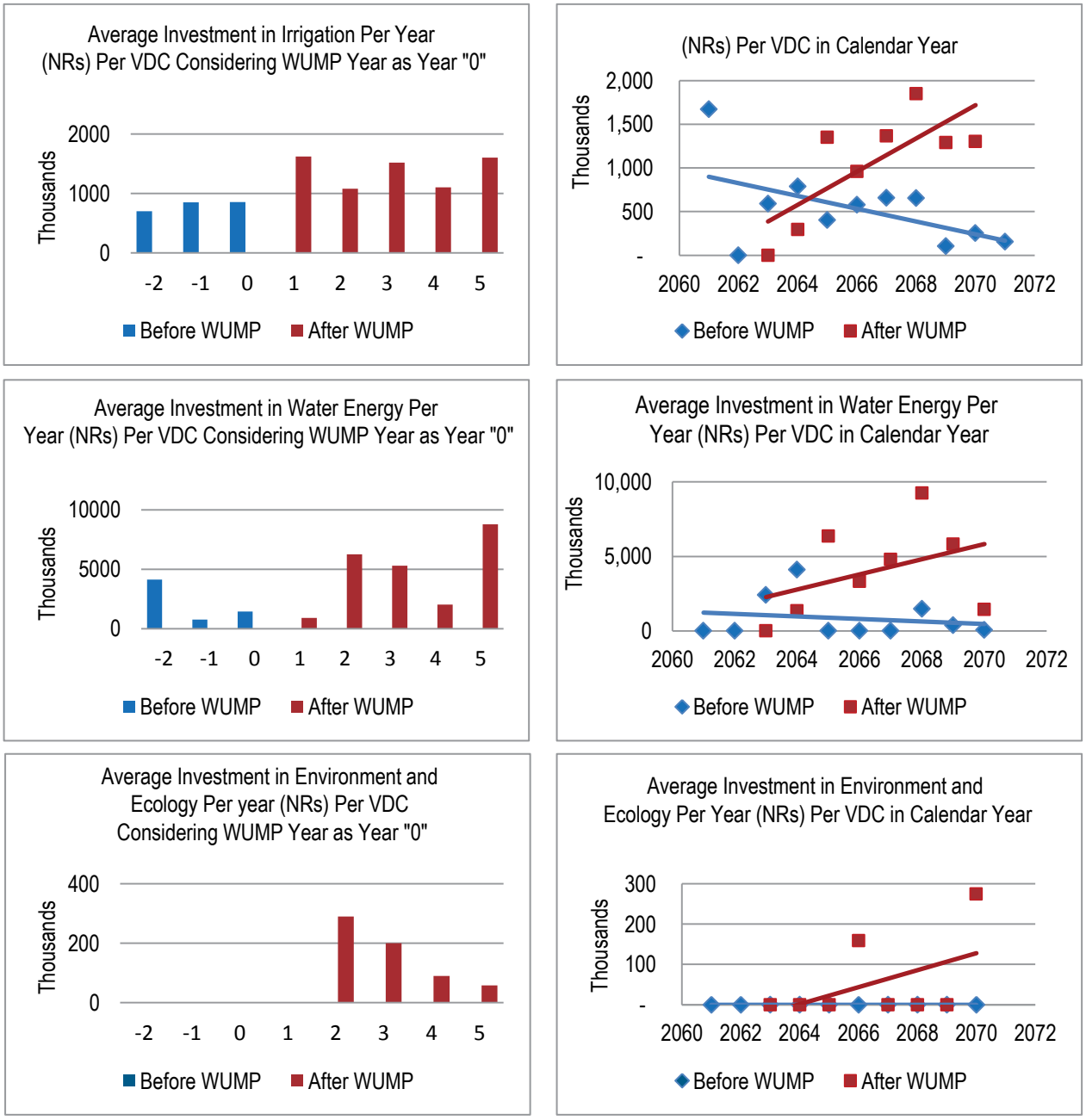


Figure 16: Average Investment Per Year in, WASH, Irrigation, Water Energy, Environment and Ecology Sector

In summary, the investment in the water sector increased after the preparation of WUMP. Investment in WASH sector has increased by almost four fold whereas in irrigation and water energy it has increased by 2.6 and 3 fold respectively (refer to Figure 17).

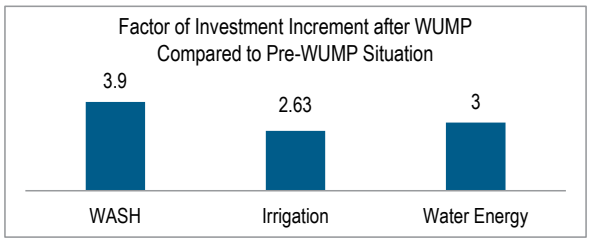


Figure 17: Increment of Investment After WUMP

Investment environment was also analysed through the perception of the VDC representatives and VWASHCC members. The findings grossly cross match the results as discussed above. Table 10 shows that WASH is the most benefitted sector, followed by irrigation, ecology and environment and water energy respectively. WASH and irrigation sectors are perceived as 'satisfactory increment' whilst environment and ecology and water energy sectors are perceived as 'bad increment 'in terms of increased investments for implementation.

Table 10: Increase in Water Sector Investment as Perceived by VDC Representatives and VWASHCC Members

Sector	Factor of Increase of Investment	Weighted Score	Source of Funding
Drinking Water	Satisfactory	0.95	Agencies supporting WUMP (RVWRMP & WARMP), VDC, DDC, Poverty Alleviation Fund, Uplands Poverty Alleviation Project, Rural Access Programme, District Water Supply and Sanitation Office , CARE
Sanitation and Hygiene	Satisfactory	0.91	Agencies supporting WUMP (RVWRMP & WARMP), VDC, DDC, District Water Supply and Sanitation Office, Poverty Alleviation Fund, District Education Office, GIZ, Uplands Poverty Alleviation Project, CARE
Irrigation	Satisfactory	0.83	Agency supporting WUMP (RVWRMP, HELVETAS Nepal), DDC, District Agriculture Development Office, VDC, Poverty Alleviation Fund, GIZ, Uplands Poverty Alleviation Project, CARE
Ecology and Environment	Badly	0.56	VDC, agency supporting WUMP (RVWRMP), Federation of Community Forest Users Nepal, District Soil Conservation Office, DDC , VDC, community forest user groups, District Forest Office, LAPA, Multi Stakeholder Forestry Project,
Water Energy	Badly	0.52	Agency supporting WUMP(RVWRMP), VDC, Alternative Energy Promotion Center, DDC, Rural Access Programme, GIZ

The major agencies involved in the implementation include: VDCs, DDCs, government agencies (central and district chapters), government implemented national programmes such as Poverty Alleviation Fund and Alternative Energy Promotion Center, agencies supporting WUMP i.e. RVWRMP and WARMP and other development projects. Table 11 shows the lead finance agencies for implementation of various schemes after preparation of WUMP.

Table 11: Lead Finance Agencies in Implementing WUMP

Lead Agency %	Water	Irrigation	EE	Energy	MUS
DDC	1%	2%	0%	0%	0%
VDC	2%	5%	0%	5%	0%
Central Agencies/line agencies	3%	4%	0%	6%	0%
Central Government programmes	3%	5%	52%	0%	0%
Development projects	91%	85%	48%	88%	10%

As in the case of coverage, investment in water sector has also increased significantly after preparation of WUMP. Various agencies have supported implementation of WUMP; however, investment mainly comes from development projects. It was also observed that the major assistance is from WUMP supporting agencies i.e. RVWRMP and WARMP

5.3.3 Agencies Supporting WUMP

An opinion survey of the VDC representatives and the VWASHCC members was made on how the WUMPs have been recognized and supported by various agencies for its implementation. Table 12 presents the summary of their views.

Table 12: Agencies Supporting WUMP

	WASH	Irrigation	Environment	Water Energy
DDC	Well	Satisfactory	Satisfactory	Satisfactory
VDC	Well	Well	Satisfactory	Satisfactory
Line agencies	Satisfactory	Satisfactory	Bad	Bad
Political parties	Well	Satisfactory	Satisfactory	Satisfactory
Development projects VWASHCC	Well	Well	Satisfactory	Satisfactory

It has been observed that the WASH is the sector that receives the contributions the most from all agencies. The recent nationwide sanitation (Open Defecation Free) movement is a contributing factor. With the exception of the line agencies all other are supportive of the WASH sector. For the overall water sector, VDCs and development projects are contributing the most whereas DDCs and political parties stand second. Line agencies come last. Following are observed drivers and barriers for securing support of potential resource organizations (refer to Table 13).

Table 13: Drivers and Barriers for Securing Support for WUMP Implementation

Drivers	• VWASHCC made responsible for WUMP dissemination • Marketing of WUMP to potential resource organizations • Searching new resource organizations
Barriers	• The mind set of VDC and VWASHCC that supporting agencies (RVWRMP and WARMP) alone would implement all activities of the WUMP • VDC Secretary either new or often absent in the VDC thus not proactive in marketing WUMP • Other potential resource organizations have their own rules thus donor give importance to WUMP • Low or no coordination efforts with other agencies, • VWASHCC not paying enough attention once WUMP is prepared • Significance of WUMP not understood by agencies

Marketing of WUMP

Table 14: Means and Barriers to Marketing of WUMP

Marketing means	Approaching potential resource organizations by sending a copy of WUMP	68%
	Visiting potential resource organizations and discussing face to face	62%
	Organizing workshops with potential resource organizations	59%
Barriers to marketing	No capacity with VDC or VWASHCC to market the WUMP	8%
	Potential resource organizations do not value WUMP thus no use of marketing	12%
	No need for external resources due to enough resources in VDCs	5%
	No time with VDCs and VWASHCCs to carry this task through	18%

The extent to which WUMP receives support from different agencies for its implementation also depends upon how effectively the WUMP has been marketed.79% of VDC representatives and VWASHCC members opined that they have been marketing it well enough whilst 21% believe that they are not able to do what is required.. Major means for marketing are: approaching potential resource organizations by sending copies of WUMP, visiting them directly, and organizing WUMP dissemination workshops. The major barriers identified include: the VDC/ VWASHCC lacking capacity to market WUMP, potential resource organization not recognizing the value of WUMP and time constraints on the part of VDC/VWASHCC. Table 14 lists these observations with respective frequencies of the responses.

Results: VDCs and VWASHCCs are marketing the WUMP to potential resource organizations, mostly development projects. As a result of these efforts, they have been successful in securing better support from development projects than from DDC, line agencies and political parties. WASH sector is the most supported sector. This could be credited to the recent open defecation free movements as well as the support organizations (RVWRMP & WARMP) being WASH actors. However, there is still a mindset among VDCs and VWASHCCs that WUMP supporting organizations are overall responsible for its implementation. This should be broken and VDCs should be made more proactive towards marketing WUMP and securing support from relevant agencies; especially the local political actors who are the key stakeholders for all development activities.

5.3.4 WUMP in VDC Annual Planning

WUMP is a planning document with lists of prioritized water related infrastructures for implementation. The purpose of the prioritisation exercise in WUMP is to ensure a fair (an equitable) VDC annual plan for water related interventions. 94% of the respondents (VDC representatives and V-WASH members) responded that the lists of prioritized infrastructures/schemes and inventory of existing water infrastructures/services were useful in formulating VDC annual plan. Table 15 and 16 present the reasons for positive and negative response in regards to inventory of infrastructures and priority list respectively.

Table 15: Effect of Inventory of Existing Water Infrastructures on VDC Annual Planning Process

	Reasons	Frequency
Helped	It helped in keeping track of reached and unreached areas/population	91%
	It helped in avoiding multiple investments in the sector in same area/locations	79%
Did not help	Inventories in the WUMP were incomplete thus not agreed by all as a consensus list	2%

Table 16: Effect of Priority List in VDC Annual Planning Process

	Reasons	Frequency
Helped	It provided indicative budget which helped in avoiding budget deficit planning possibilities	89%
	It saved time for demand collection, verification and shortlisting	86%
	It prevented elite or political influence on selection of schemes	81%
	It helped avoid duplication of efforts among water sector actors	76%
	As a consensus document, it has the acceptance of all (people in the VDC)	75%
	It helped in convincing people, DDCs, line agencies and donor funded projects for securing their investments	58%
Did not help	Elite or political pressure remained despite prioritized lists	6%
	Once the WUMP process was over, the people did not treat it as a consensus document	3%
	WUMP was not marketed effectively to resource organizations	3%

Respondents mentioned that the composition of VWASHCC is crucial in the promotion of WUMP and making VDC accountable towards implementation. According to them representation of political parties in VWASHCC was the reason that persuaded Poverty Alleviation Fund and other agencies to follow the WUMP priority list.

Whereas WUMP is perceived as an aide for VDC's annual planning, representatives of comparison VDCs (without WUMP) mentioned the following challenges faced during planning process (refer to Table 17).

Table 17: Challenges During Annual Planning in VDCs Without WUMP

Challenges	Frequency
Political and elite influence	100%
Conflict among communities over ownership of water sources (source conflict)	90%
Budget deficit planning possibilities due to non-scientific scheme selection	90%
Demand collection, verification and shortlisting is time consuming	70%
Possibilities of duplication of efforts among water sector actors	60%
Selected schemes not accepted by all	50%
None or low investments from DDC, line agencies and donor funded projects	20%

From Tables 16 and 17, it is clear that in the WUMP VDCs, WUMP has been instrumental in addressing the same challenges faced by VDCs where WUMP has not been implemented. The rank order correlation between these two variables is very strong (**correlation coefficient 0.85**) suggesting that WUMP has a clear contribution in VDC annual planning in relation to water sector,

The study also looked into the reasons behind the motivation of VDC secretaries in the development of WUMP. The representatives of comparison VDCs mentioned that their major motivation is the positive results they witnessed in the neighboring VDCs implementing WUMP. This motivation was further strengthened with the initiatives taken by support agencies for the development of WUMP. (Refer to Table 18 for all motivation variables and their weightage)

Table 18: Motivation of VDC Secretaries for Development of WUMP

Motivational Factor	Frequency
Realization of positive results of WUMP in and around neighbouring VDCs	**100%**
Initiated by support agencies (RVWRMP and WARMP)	**90%**
Prior knowledge of WUMP through previous work experience in WUMP VDCs	**27%**
Initiated WUMP in the VDCs where they worked previously	**18%**
To facilitate government's policy of universal coverage of water and sanitation by 2017	**9%**

WUMP has a very strong influence on annual planning process of VDC for water sector. In the WUMP VDCs, WUMP has been instrumental in addressing the same challenges faced by VDCs where WUMP has not been implemented. The role of local political leaders has been crucial in institutionalizing WUMP in the annual planning of VDCs.

5.3.5 WUMP and Capacity Building

The study looked into some of the behavioural practices of community members vis a vis contribution of WUMP in promoting those practices. It is observed that all the respondents are using toilets, washing hands with soap or ash, and contributing to operation and maintenance fund of drinking water schemes as shown in Figure 18. Most of them are also practicing safe storage and efficient use of water, source conservation and treatment of household water. Training and awareness raising during WUMP process for WASH project staff and facilitators are considered instrumental in promoting these practices among community people. Besides, it was also mentioned that some learned these behavioural practices from school children and the society. It is a matter of concern that these practices are still not taken up as a regular part of life. Even people who know the importance only resort to these practices when there is a dire need such as boiling water only when someone in the family is sick.(refer to Table 19 for details)

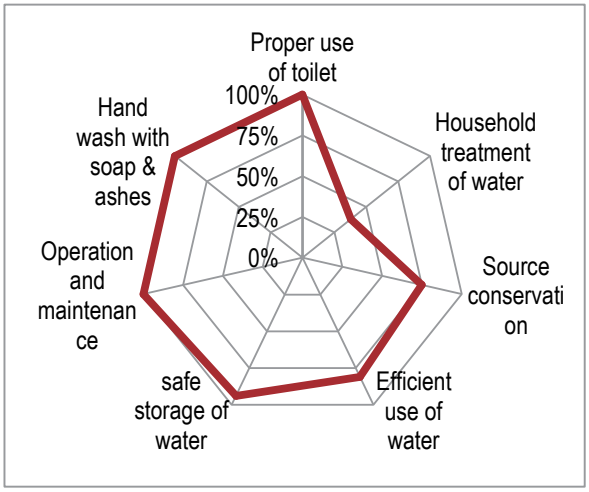


Figure 18: Status of Behavioural Aspect of Communities

Table 19: Behavioural Practices of Community

Practices	Examples of Practices	Promoting Factors/Agents	Reasons for Not Practicing
Proper use of toilet	• Increased awareness among villagers to construct and use toilets, • VDCs are declared open defecation free	• Training and awareness raising during WUMP process • Open defecation free campaign • WASH facilitators from projects	
Washing hands with soap	• People wash hands after defecation and touching contaminated things • Most people use soap but some also use ashes to wash their hands • Good realization among people that washing hands protect them from diseases	• Training and awareness raising during WUMP process • School going children • WASH facilitator of project • Also learnt from society	
Operation and maintenance	• Collection of maintenance fund and provision of Village Maintenance Worker • Every user is contributing to operation and maintenance fund	• WASH facilitator and staff from project during scheme construction • Training and awareness raising during WUMP process • Self-awareness of the issue	• Effective maintenance is still a concern

Safe storage of water	• Keeping drinking water vessels covered • Filtering water with cloth while collecting from tap stand	• Following implementation of water safety plan • Health promotion worker • Awareness raising during WUMP process • WASH facilitator of project	• Some people dependent on rainwater think that the storage in rainwater harvesting jars are safe as they are covered • Some people think that water is safe at source and tap stand so they are not concerned,
Efficient use of water	• Waste water is collected in vessels and reused for kitchen or vegetable gardening	• Awareness raising during WUMP process • Kitchen/home garden management training • Project staff	• Some respondents do not now what efficient use is.
Source conservation	• Trees plantation around spring source for protection • Fencing wire around the water source area	• Training and awareness raising during WUMP process • Project staff and WASH facilitator	• Some people do not know the significance • Despite knowing its importance, others are not practicing
Household treatment of water	• Water surveillance is done from spring to tap stand • Sodis method is used or boiling water • Using boiled water during illness • Filtering with clean cloth	• Following implementation of water safety plan • WASH facilitator from project • Awareness raising during WUMP	• Most people think that sources are clean and safe thus not needed • People know its importance but only practice in dire situations such as when people are sick

Various trainings were provided to the community during WUMP development and during the implementation of schemes as prioritized in the WUMP. These trainings were helpful in: a) empowering people, enhancing equity and human rights to water, b) improving hygiene and sanitation situation at individual household and community levels, c) improving livelihood, d) improving sustainability of the scheme, and e) improving leadership and management skills of the people.

As a result of orientation and awareness raising during WUMP process, people realized that everybody has equal rights to water and sanitation which has contributed to prioritization of schemes based on water hardships. People have voiced that due to the increased awareness among them, source conflicts among the users have been reduced and there has been no political influence on the selection of schemes, thus leading to improved transparency.

The WUMP process was also instrumental in reducing various discriminations among people of different castes, genders and classes. No cases of discrimination among the community, based on disability, poverty, and caste/ethnicity were reported. In particular, women became aware that they had equal rights and responsibilities as men in regards to water and sanitation. They came to know that they should be in key positions in the users' committees to ensure that their voices are heard at each level. Consequently, gender relation and roles (e.g. women are assuming role of tap stand care takers) have been changed

to some extent. WUMP has been reported as an effective process in reducing Chhaupadi (practice of untouchability of women during menstruation period) in some of the VDCs e.g Rodikot. However, 9% of the respondents reported that women are not allowed to use public taps during menstruation. They also added that it is an age old tradition which they do not want to continue.

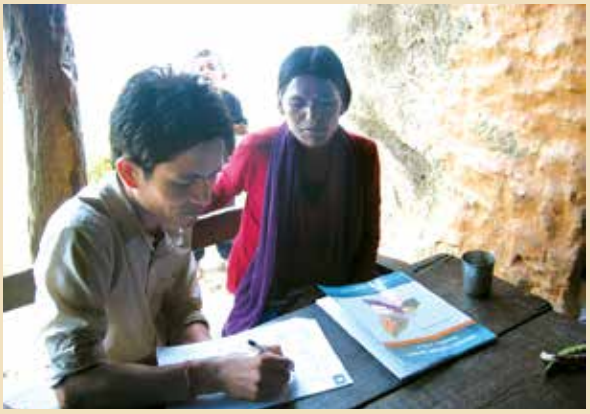
Due to various levels of awareness raising and orientation events, an overall positive impact has been felt by the people. People are aware of the negative effects of open defecation and thus have constructed improved toilets, garbage pits and drying racks leading to open defecation free VDCs. The habit of washing hands has been reported as improving significantly and so is personal hygiene. People also observed that environmental sanitation has improved which were verified by various focus group discussions. For instance, focus group from Bishalpur mentioned that occurrences of water-borne diseases are comparatively fewer and there are less houseflies. Similarly, focus group from Sukatiya mentioned that mortality rate of under 5 children has reduced. They were also knowledgeable about the water quality and need for water purification.

Following livelihood training and orientations, people have started kitchen gardens in their houses. They have learnt to use excess and waste water for irrigating these gardens and producing vegetables. This has improved their nutrition and some of them also make money by selling them. For example, focus group from Pipalkot VDC mentioned that they sell their vegetables in the market.

Participating in various activities of WUMP such as technical and social assessments have capacitated the community in general. For example, some people voiced that this has enhanced their skill to measure water sources. It has been reported that the training on construction management and active involvement

During the preparation of WUMP, having participated in various level committees we knew about women rights. Due to WUMP, our village has been declared open defecation free. Now, we are preparing to have **total sanitation** in our Ward. No; 7

Namsara Nepali, Pipalkot Ward. No. 7, Dailekh



Before making Water Use Master Plan we used to live in cow shed during menstruation period, after the preparation of WUMP we are living in nearby house. We learned to participate in various training, workshop and planning process. Now, we are able to put our demand in VDC Council and other supporting organizations. WUMP has contributed considerably for empowerment of dalit women like me

Gaura Nepali, VWASHCC member, Pipalkot, Dailekh

in various training and implementation of activities has resulted in overall increase in leadership and management capacity. People have understood the importance of operation and maintenance for the sustainability of the schemes. Hence they have started collecting the maintenance fund regularly and mobilizing the village maintenance workers, leading to well operated schemes in the communities. Chatara VDC focus group noted a significant impact of WUMP activities as the reduction in number of villagers leaving as migrant labourers.

Additionally, VDC representatives and VWASHCC members mentioned that WUMP has enhanced their capacity in various aspects such as: open defecation free promotion, coordination among stakeholders; source conflict resolution; marketing WUMP and promoting environment and climate change adaptation issues (refer to Table 20).

WUMP has helped in declaration of open defecation free VDC. After introducing WUMP in the VDC none of the communities complained that their plan had been left out. WUMP has been appreciated by all stakeholders in district WASH seminar. Because of wide participation of users during WUMP preparation, there is no problem in organizing people's participation for the construction of priority scheme.

Netra Prashad Adhikari, VDC Secretary, Mastabandali, Achham

Table 20: WUMP's Contribution in Capacity Building of VDC Representatives and VWASHCC Members

Activities	WUMP's Contribution in Percentage
Hygiene and sanitation promotion leading to open defecation free VDC	97%
Coordination among water sector actors active in the VDC	95%
Resolving source conflicts	88%
Marketing WUMP to DDC, line agencies, development projects and others	84%
Planning, budgeting and implementing schemes	79%
Promoting awareness on environment conservation and climate change adaptation	72%

However, only 30% VDCs mentioned that WUMP can be developed without external financial support.

WUMP is not just a planning tool but also an approach that aims to empower community and to build the capacity of local bodies. WUMP has been successful in meeting these expectations. Communities have become aware of their rights, especially equal rights to water and are empowered to claim their rights. They are also aware of issues such as hygiene and sanitation, safe storage of water and efficient use of water which are also being put into practice. All VDCs are declared open defecation free. WUMP has provided opportunities for some community members to develop their occupational as well as managerial skills. VDC and VWASHCCs have developed their capacities in some crucial aspects including promotion of hygiene and sanitation, local coordination and resolution of water source related conflict.

Results: The effectiveness of WUMP approach depends on how well the outputs i.e the inventories of water related infrastructures/services, prioritized schemes and the five year master plan contribute to outcomes. VDCs/VWASHCCs are capable of implementing the prioritized projects, reaching out to more beneficiaries by attracting funds from other agencies. The investment in the implementation of WUMP has increased significantly. These are major outcome achievements despite the fact that the priorities in the WUMP were not strictly followed.

The inventories of the existing infrastructures were instrumental in allocating resources avoiding duplication. Water governance of the VDCs has improved and has been made accountable to the people. WUMP has provided significant support to the annual planning process of VDCs by facilitating equitable distribution of resources. The annual planning process has become more efficient due to availability of already prioritized and accepted list of projects. People are engaged in the management of water resources. They are empowered and they raise their voices in regards to their rights in general and rights to water in particular. VDCs and VWASHCCs have been able to declare their VDCs open defecation free zones. They are able to deal with water related disputes and coordinate with local stakeholders thereby leading to the implementation of the WUMP. **Therefore it can be concluded that WUMP approach is effective in planning and management of water in effective, efficient and equitable manner and also in improving hygiene and sanitation situation at local level.**

5.4 Issues and Challenges

5.4.1 Issues

The issues and challenges in development and implementation of WUMPs were discussed with VDC representatives, VWASHCC members and representatives of support agencies (WARMP and RVWRMP). Implementation of WUMP on limited VDC resources emerged as the most challenging issue. This is compounded by the fact that VDCs lack technical expertise and expect technical assistance from support organizations. However, with the exception of technical expertise support again, it appears that revision of WUMP is not as challenging and following WUMP priority makes annual planning simpler (refer to Table 21). Accessing funds from DDC and line agencies seems possible whereas attracting funds from donor or development projects is considered relatively easy.

Table 21: Issues in WUMP Implementation

Challenges	Frequency	Remarks
Investment by VDC resources to meet WUMP target	Very challenging	Due to limited resources and multiple priorities of VDC
Attracting funds from DDC	Fine	DDCs recognize the value of WUMP.
Attracting funds from donors or donor funded projects	Easy	Donor funded projects coordinate with VDC for implementation. However, project specific criteria may pose some limitations
Attracting funds from line agencies	Fine	
Annual planning as per WUMP priority	Easy	As it is a part of VDCs' five year plan, it is easy to follow
Revision of WUMP	Easy	Needs technical support from support organization

5.4.2 Aspects that Need Changes in WUMP Process

Of the total respondents (VDC representatives, VWASHCC members and representative of support organisations), about one third (34%) feel that some of the aspects of WUMP process need improvements.The identified aspects and their improvement measures are as follows:

Seeking commitments of local bodies and resource organizations for implementation of WUMP: Respondents strongly feel that this has to be promoted right at the beginning of WUMP process. The suggested mechanisms include – a) district level WUMP planning workshop including all relevant stakeholders at initial phase, b) informing relevant stakeholders about the WUMP initiatives before WUMP development, and c) at district level, one to one meeting with relevant stakeholders before WUMP development.

Localization of WUMP process: Use of local human resources to facilitate WUMP process must be further strengthened. Nepali language must be made mandatory for WUMP report.

Data collection for WUMP: The data collection format must be concise and consistent. The person who collects the data must compile them to facilitate better understanding of the collected information. However, the collection of data and its analysis must be limited to what is necessary so as to reduce the time and energy associated with them.

Elements in WUMP: WUMP should be more 'Multiuse System' oriented and should include measures such as source conservation in order to combat the effects of climate change. WUMP must also duly record the past projects with their budget and supporting agencies.

5.4.3 Constraints in Implementation

When interviewed, the VDC authorities and Committee members identified the following as major constraints in the implementation of WUMP, as shown in Figure 19, and have suggested measures for combating them.

Lack of fund at VDC level: Respondents said that the VDC budget is too low and therefore the biggest constraint in implementation of schemes planned in the WUMP and for updating/revising the WUMP.

Lack of coordinated planning: According to the respondents there is a lack of coordination among VDCs, DDCs, other district level line agencies and political parties when formulating the annual plan, identifying schemes for the implementation of WUMP and actual implementation of WUMP. This has largely affected the pooling of resources for the implementation of WUMP. Respondents also feel that new agencies implement programmes without consultation with VDCs, thus limiting the scope of WUMP implementation. In order to rectify the situation, WUMP must be marketed widely. WUMP

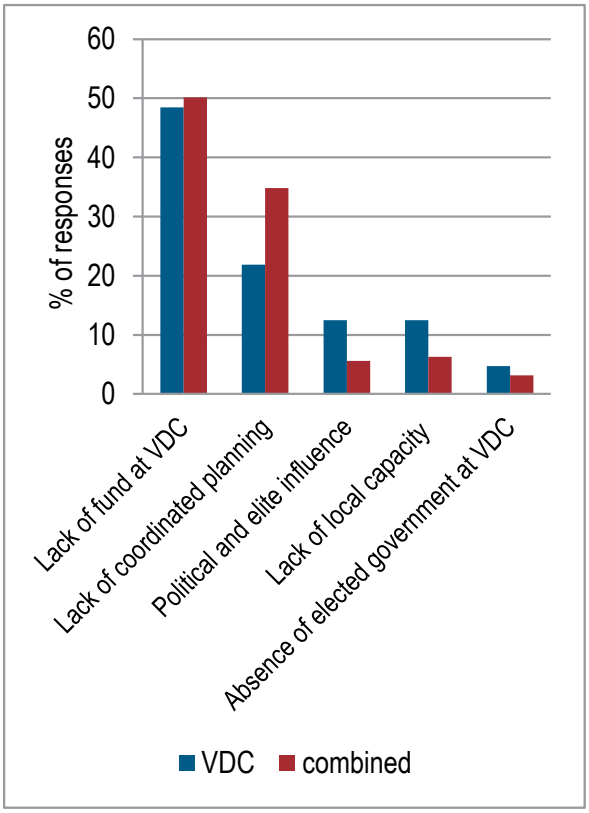


Figure 19: Constraints for WUMP Implementation

should be reviewed for its progress and priorities before the annual VDC planning process by organizing stakeholders' meetings. DDC should enforce or instruct all active organizations in the district to follow the WUMP priority. VDCs and VWASHCCs must persistently follow this up with the DDCs. The case below presents an example of how DDCs can support VDCs to prepare and implement WUMP.

> Local Development Officer, Mr. Shatrughan Pudashaini, mentioned that DDC is ready to support VDC in implementation of priorities and plans of the WUMP. He reiterated that any plan outside of WUMP will not be considered by the DDC. He further added that DDC will facilitate and assist in seeking fund to introduce WUMP in VDCs where it is not being implemented. DDC is committed to establishing a link between VDC Five Year Plan and WUMP.
>
> **(Mr. Shatrughan Pudashaini, Local Development Officer, DDC, during district stakeholders' meeting for WUMP study, 17 September 2014, Achham)**

Political and elite influence: Although stakeholders have claimed that WUMP has been an effective tool for diffusing political and elite influence, such pressure persists. VDC representatives are more concerned about this issue because they are the ones to face such pressure directly. Strictly following WUMP priorities appears to be the most effective way to deal with this issue. VDC needs to make a decision to implement only WUMP priorities. A WUMP 'progress and priorities' review meeting including all concerned stakeholders may prove helpful.

Lack of local capacity: Although WUMP process has been localized, the capacity, especially of VDC and VWASHCC, is still a constraint for WUMP marketing, implementation, monitoring and revision. A refresher orientation programme for VDC secretaries and VWASHCC members will be organized to keep their capacity and motivation intact.

Absence of elected government at VDC: This is a major setback for local development activities in general, not only for WUMP as such. Frequent interactions between VDC/VWASHCC and support organizations might help to create an enabling environment for WUMP implementation.

An enumerator taking an interview of a woman beneficiary

6. CONCLUSION

The results of the study suggest overall positive impacts of the Water Users Management Plan (WUMP) in the management of water resources at village development committee (VDC) level. The WUMP approach is efficient in (i.e. localized WUMP) bringing communities together to assess available water resources, negotiate for rational distribution of the resources and plan for their implementation. Under the leadership of local body, the WUMP process is led by the local people for the local people and thus involves a democratic planning approach. Due to this approach, the local people are aware of various water related issues and are empowered regarding their rights to water. The WUMP has provided a basis for local people to claim their rights to water during the preparation of WUMP and VDCs' annual planning process. It is a unique advantage for people in VDCs with WUMP. Refer to the box on the right for the finding of a baseline study in Kailali and Dailekh districts regarding the participation of people in the planning process. As a result, more actors are involved in the implementation of WUMP and a greater number of people have benefited from different uses of water in accordance with WARM Chair. Sanitation and hygiene situation have improved significantly. Though VDCs are declared open defecation free, the WUMP alone cannot be credited for this achievement. Local capacity has been developed in terms of WUMP facilitators, consultants and most significantly VDCs and VWASHCCs. The VDCs and VWASHCCs are now confident in dealing with water related disputes and coordinating with local stakeholders. Essentially people are happy with WUMP and acknowledge it as a means of bringing a positive impact in the development of water sector at local level.

Therefore, the WUMP is an efficient and effective approach in meeting its intended outputs and outcomes i.e. efficient and effective management of water at local level. The current localized generation of WUMP has become economical due to its localization. Localization of WUMP has a great potential in scaling up the WUMP approach sustainably. This is particularly crucial when the government ministries are developing a national WUMP guideline. Hence, the value for money of the WUMP is high and it is worth investing in the WUMP.

» The local bodies have a well-defined participatory project planning, implementation and monitoring process. This process is largely followed in the districts. Nevertheless, the participation of the common people is not quite meaningful. They participate just as meeting up requirement of the rules and have little chance of intervening in and influencing the decisions. In most of the cases, mainly the local elites and political party workers have major say in the process.

A Report on Baseline Survey on Water Integrity in Kailali, Achham and Dailekh Districts, WARMP/HELVETAS Nepal, 2014 «

However, WUMP approach is not entirely free from weaknesses and limitations. Bringing women, dalit and janajati in decision making position during WUMP development process is still an issue. Similarly, coordinating with all actors in the water sector and making them follow WUMP priorities is a challenge for VDCs and VWASHCCs. Budgetary constraints faced by VDCs to invest in development and revision of WUMP needs to be addressed. Therefore, the study makes the following recommendations to capitalize on WUMP's strengths and improve on its limitations

a. Localized WUMP has been appreciated by local stakeholders who also advocate its continuity. Therefore, more efforts must be made by support agencies in order to develop local capacities in required WUMP components, including analysis and report writing.

b. WUMP committees must be made more inclusive of women, dalit and janajati, not only in numbers but also quality of participation. WUMP supporting agencies, together with the VDCs must investigate ways to enhance their participation.

c. Commitments from all stakeholders must be sought already at the initial stage of the WUMP. VDCs must organize a stakeholders' consultation meeting or an interaction at district level at the planning phase of the WUMP process.

d. Coordination among the local stakeholders is still weak. VDCs must be proactive and take lead in bringing all stakeholders (as recommended during district consultation meeting/interaction) to discuss and decide on the implementation of the WUMP and its priorities. DDC must support VDCs by instructing the line agencies and other actors to follow the WUMP and its priorities strictly. An annual review and planning meeting before annual planning period of VDCs must be organized with the participation of all concerned stakeholders including local political leaders and parties. WUMP should be reviewed for its progress and priorities in the meeting.

e. VDC must organize an annual public hearing event to disseminate the information on WUMP implementation and to address any complaints that may come from the local people in regards to their prioritized implementation.

f. VDCs must be encouraged to update WUMPs periodically. They must be supported with the capacity needed for the monitoring and revision of the WUMP. Such capacity must be mobilized locally.

g. VDCs and VWASHCCs must intensify the marketing of WUMP, targeting potential resource organizations. Support agencies must build capacities of the VDCs and VWASHCCs in marketing, monitoring, and implementing WUMP. This is particularly important because VDC secretaries are transferred frequently and institutional memory is lost. Focus must be on building coordination and communication skills of VDC and VWASHCC members.

h. In the wake of formulation of national guidelines, support agencies must assist the Government in developing local capacities beyond the existing WUMP VDCs and districts. Support agencies must focus on creating a pool of master trainers in collaboration with Ministry of Water Supply and Sanitation and Ministry of Federal Affairs and Local Development. The local bodies can procure their services to develop local WUMP facilitators at various places.

i. With increased awareness, people are more informed about the negative effects of climate change in water sources. The upcoming WUMPs must be more accommodative to climate change and disaster risk perspective in relation to water and plan schemes that counter their negative effects in the lives of people.

Following lessons are learnt in regards to the methodology of the study. These are solely based on the reflection of the principal researcher.

a. The questionnaires were designed so that frequency could be easily counted for most of the opinion survey. This proved useful.

b. The half a day training provided to the enumerators seems insufficient especially to probe the interviewee and get more insights apart from what has been mentioned in the questionnaires as options. The differing level of understanding of enumerators had implications on the data quality.

c. The magnitude of this study is vast due to the size of sample (all WUMP VDCs) and the number of variables studied. A representative sampled survey would have been enough. However, in such case the principal researcher should carry data collection from the entire sample VDCs which would allow an opportunity to delve into various dimensions resulting in more insights from the community.

d. Analysis of such a huge volume of data and their interpretation must be done in a single go. Interruptions in between leading to multiple slots of analysis reduce efficiency due to loss of momentum.

7. REFERENCES

Bohara. R (2013), Beneficiary Assessment of Water Resources Management Programme (WARM-P), Nepal

Ministry of Urban Development & Ministry of Federal Affairs and Local Development (2015), A Draft Guideline on the Application of the Water Use Master Plan (WUMP), Kathmandu

Pant. Y (2013), The Effectiveness and Outcomes of Approaches to Functionality of Drinking Water and Sanitation Schemes, HELVETAS Swiss Intercooperation Nepal, Dhobighat, Lalitpur

Rural Village Water Resources Management Project (2013), Water Use Master Plan Guidelines,

Water Resources Management Programme (2014), A Report on Baseline Survey on Water Integrity in Kailali, Achham and Dailekh Districts, HELVETAS Swiss Intercooperation Nepal, Dhobighat, Lalitpur

Water Resources Management Programme (2012), Guidelines for Water Use Master Plan Preparation, HELVETAS Swiss Intercooperation Nepal, Dhobighat, Lalitpur

An Irrigation Pond in Jajakot

Annex I: Features of different generation of WUMPS

Generation I (1998-2003)	Generation II (2004-2006)	Generation III (2007-2010)	Generation IV (2010 onwards)
Though WUMP was rather a new concept to local stakeholders. As there was elected local body, the willingness & commitments of the local bodies were good. However, heightened conflict in the country affected the ownership in the later stage.			Lead role taken by VDC. VDC contribute the cost of WUMP partially or fully; better ownership of the VDC
The process was led by Water Resources Management Committee[5] - chaired by VDC chairperson and majority of the members from VDC elected body[6].	The process was led by Water Resources Management Committee & Sub Committees. Support was provided by VDC level advisory committee[7] with representation from various political parties.	The process was led by Water Resources Management Committee & Sub Committees. Support was provided by VDC level advisory committee with representation from various political parties.	The process was led by VWASHCC/Water Resources Management Committees (chaired by VDC –Chairperson)/Sub committees
Development of WUMP was through hiring national level consultants for technical assessments and local NGO for social mobilization.	Development of WUMP was continued through hiring national level consultants for technical assessments and local NGO for social mobilization.	National consultant (high level engineers, GIS expert and sociologist) and local NGO's involvement High-tech generation with GIS maps	Focus on development of local WUMP facilitators than national consultant. VDC involves to hire Local Service Providers / WUMP facilitators
Language of the WUMP was English	Language of the WUMP was English	Language of the WUMP was English and Nepali both	Language - Nepali
These WUMPs were not endorsed by VDC and DDC.	These WUMPs were not endorsed by VDC and DDC.	These WUMPs were endorsed by VDC	VDC approves the WUMP

[5] A committee formed for WUMP development and is responsible for coordination and decision making related to WUMP

[6] The local bodies had elected representatives until mid-2002.

[7] in absence of elected bodies, the arrangement of advisory committee was made.

Annex II: Summary of WUMP guidelines of WARMP (2012) and RVWRMP (2013)

	HELVETAS Nepal	RVWRMP
Purpose	• achieve an effective, equitable and efficient use of water on a local level	• identifies the existing use of water resources and makes an integrated plan for use of water in a rational, equitable and sustainable way
Goal	• to delegate water planning and management to the community level, and by doing so to ensure that water resources are used rationally and shared equitably and fairly among and within communities in a sustainable way considering all different needs	• a commonly accepted plan of utilization and conservation of water resources in a VDC, prepared by the communities under guidance of the VDC, and thus reflecting local demand and responsibilities
Objective	• to identify water resources and related infrastructures /facilities, • establish priorities of potential activities in the water sector, • achieve sound and long-term investment in the water sector, and • promote conservation of water resources and environmental sanitation	• Inventory of water resources and other relevant local resources and the existing water related infrastructure/ facilities • Identification and prioritization of potential activities in water sector • Promoting sustainable investment in water sectors • Promoting conservation of water resources and environmental sanitation
Principles	• IWRM approach • Participatory, inclusive and bottom up approach • Capacity building approach • Awareness on key issues such as hygiene and sanitation, efficient use of water, source conservation • Adaptation to climate change agenda • Multiple and productive use of water • Alignment with GoN policies	• Promote bottom up approach of planning • Fully participatory and inclusive process • Schemes prioritization on the basis of felt need • Capacity enhancement at local level • Awareness of community in key aspects • Water resources inventory and analysis • Leadership of local government and management of community • Identification and planning for watershed and water resources conservation

Annex III: List of Selected VDCs

District	Sample VDC	Comparison VDC	Non-sample VDC
Achham	• Mastawandali • Sutaar • BhataKatiya	• Muli	• Birpath • Kueika • Sheera • Balaata • Hichma • Dhakari • Dhungachalna
Baitadi	• Bishalpur	• Shivnath	• Mahadevsthan • Sharmali • Thalakanda • Mahakali • Kuwakot
Bajhang	• Pauwagadi	• Bhatekhola	• Koiralakot • Kafalseri • Rilu • Masta
Bajura	• Chhatara	• Kuldevmandu	• Sappata • Gotri
Dadeldhura	• Belapur	• Ganeshpur	• Shirsha • Rupal • Deval Dibyapur • Mastamandu
Dailekh	• Lalikanda • Pipalkot	• Rum	• Bishala • Maheltoli • Kushapani • Singasain • Kalika • sigaudi • Badalamgi • Nepa
Darchula	• Rithachaupata • Sitaula	• Guljar	• Sharmoli • Chapari • Sunsera • Shipti
Doti	• Chhapali	• Daud	• KedarAkhada • Simchaur • Girichauka • Kanachaur
Humla	• Rodikot	• Cheepra	• Srimasta • Mailaa • Kalika • Mimi
Jajarkot	• Jhapra	• Dhime	• Bhur • Sima • Thalaraikar • Padaru • JugathapaChaur
kalikot	• Sukatiya • KumalGauon		• Manma • Rupsaa • Malkot • Bharta • Laaloo

HELVETAS Swiss Intercooperation

NEPAL

HELVETAS Swiss Intercooperation Nepal
Dhobighat-3, P.O. Box 688 Lalitpur, Nepal
Phone: +977 1 5524926
Fax: +977 1 5531109
E-mail: co.np@helvetas.org
Web-site: https://nepal.helvetas.org