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# Multiple Water Use System integration in local water use master plan at different scales— ICIMOD and HELVETAS collaboration

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# Background



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- MuS practice exists in communities
- Room for improvement to incorporate upstream/downstream concerns (Conflict, Social issues, conservation ...)

# Research Question

- How MuS can be integrated in local water planning with equity and sustainability concerns ?

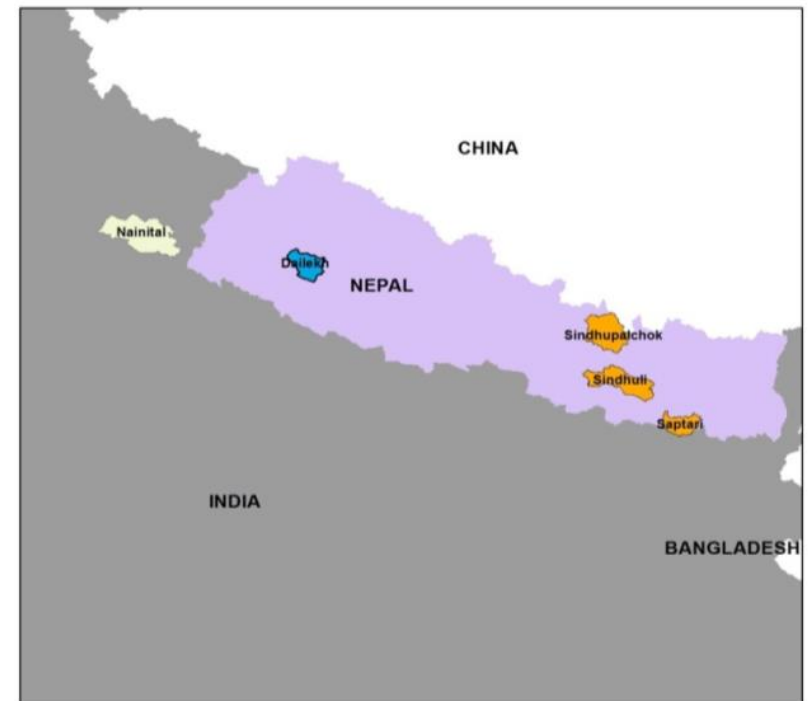




# ICIMOD and HELVETAS Collaboration



**WUMP in Koshi Basin**



**WUMP in Nainital, India**

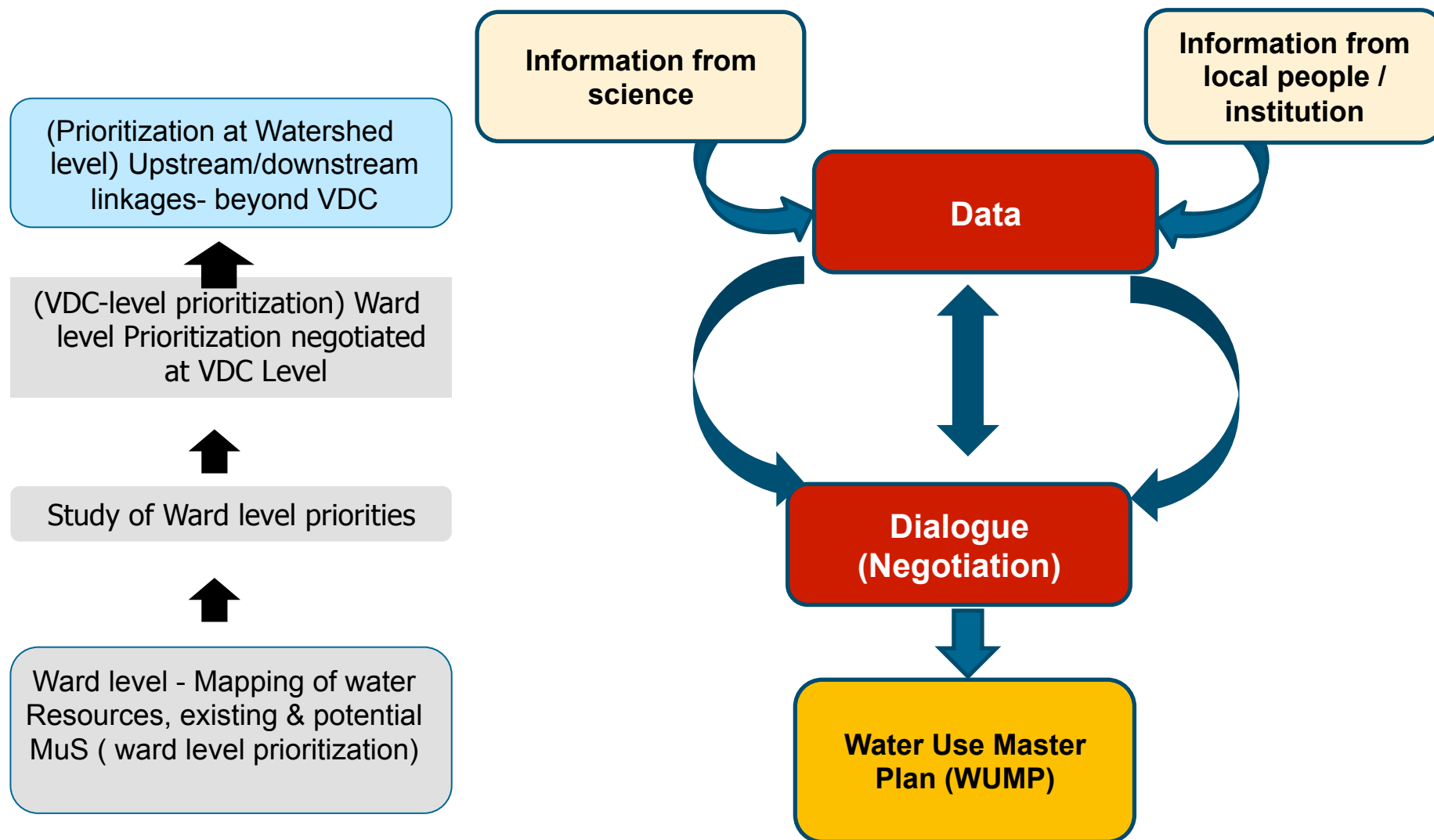
# Approach



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# Existing drinking + household irrigation



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Changing role of Women  
Increased Livelihood Opportunity



# Irrigation & trout farm MuS case



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conflict in competing use- Irrigation downstream of Fish farm demanded zero loss in discharge  
Solution: Fish farmers increased canal structure for surplus supply to irrigation



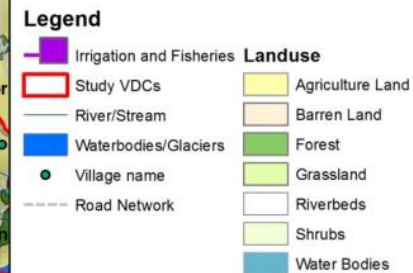
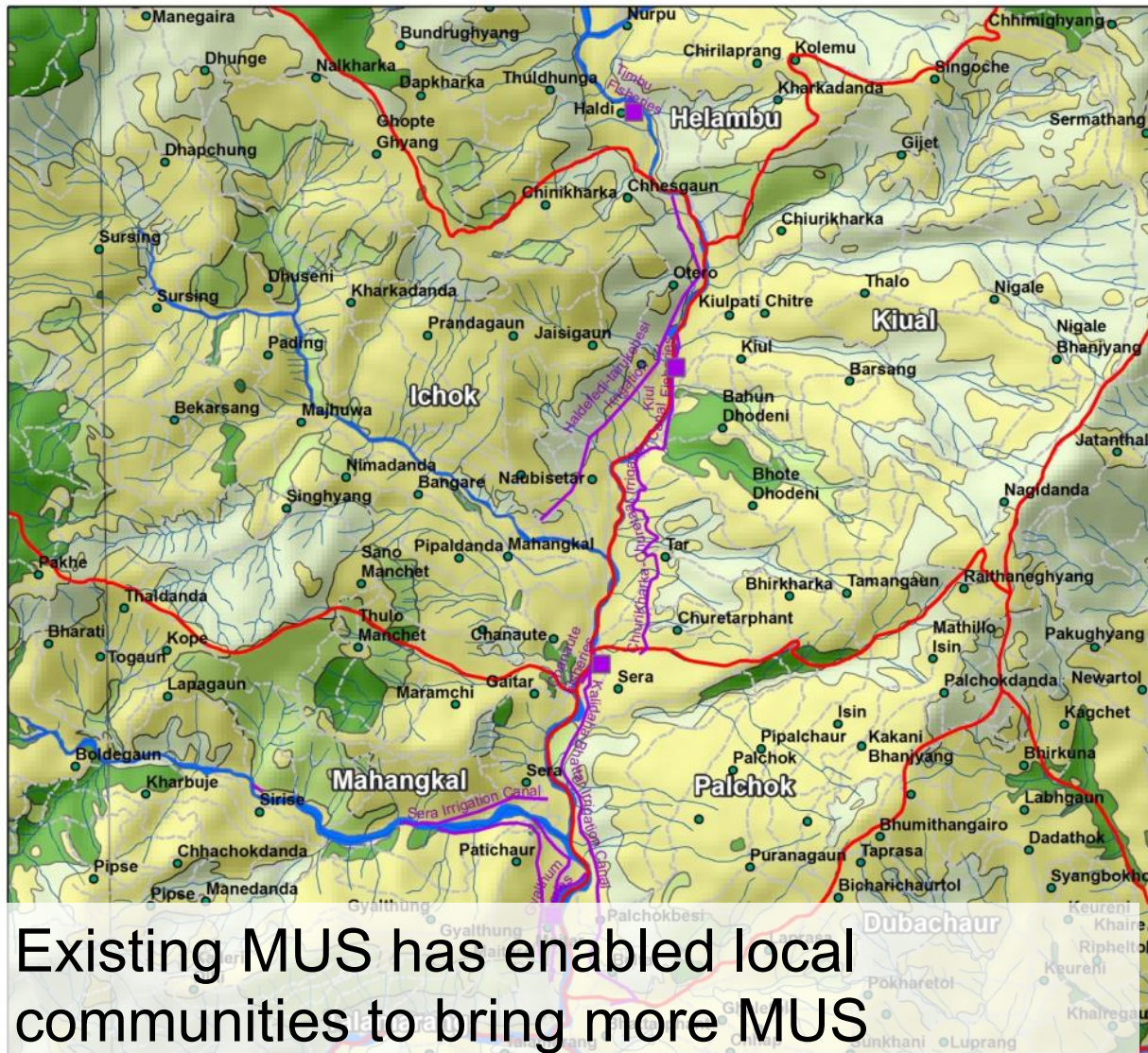
# Amel gram panchayat MuS case – Social and Conservation issues



Two separate drinking outlets for dalit and other caste serves the multiuse system  
Conservation at the source is required combinedly



# MUS in Melamchi Watershed



Existing MUS has enabled local communities to bring more MUS schemes in planning



# Possibility of Barsha Pump in MuS



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Technology for Multi Use System (Possibility in Sindhuli and Sindhupalchok)

- Irrigation
- Fisheries
- Drinking Water

Proposed site - Khurkot, Sindhuli





# MUS in Terai – Ground water (Saptari)



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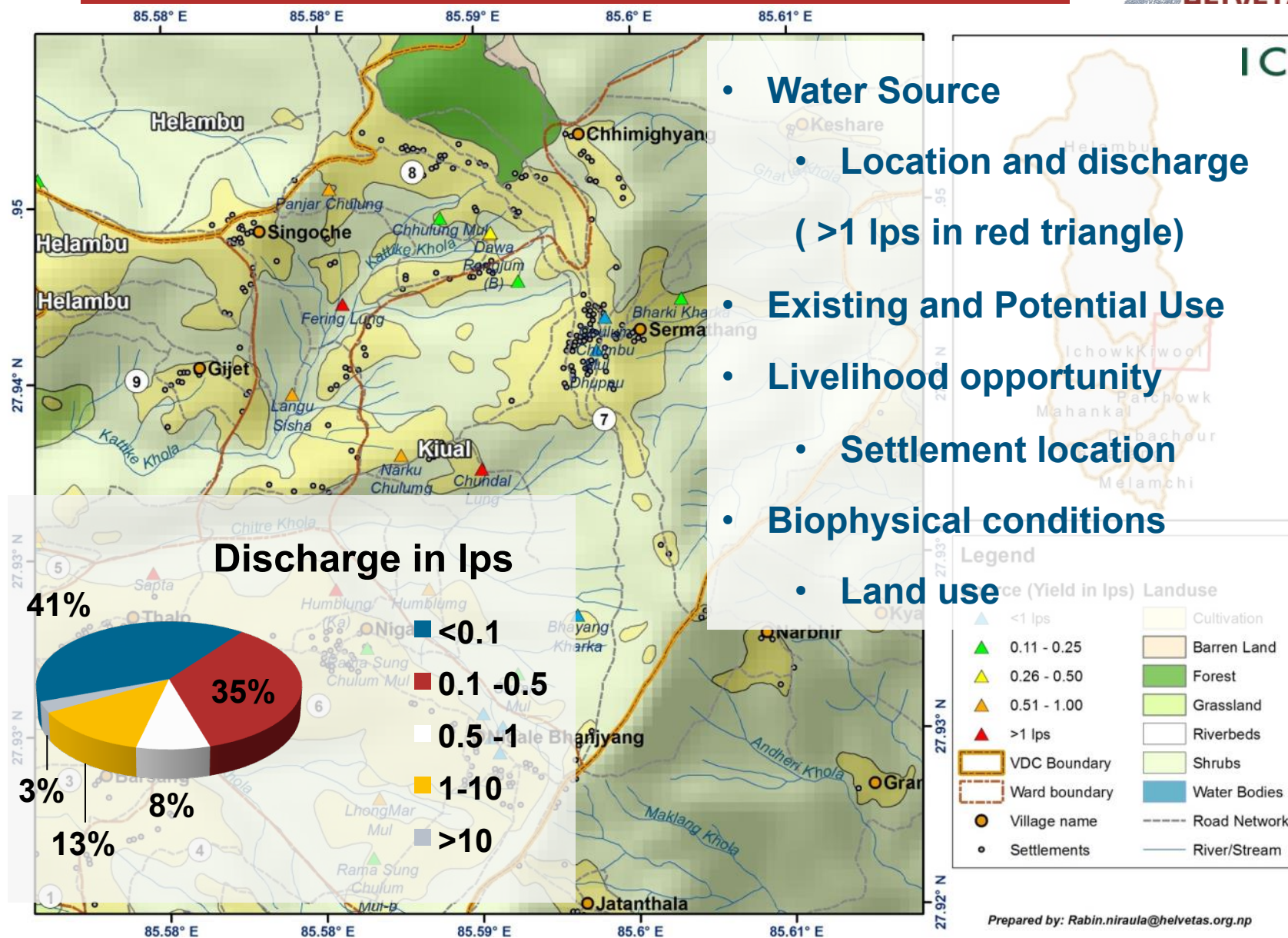
Irrigation  
Fisheries





# Information – Science and local

- Water Source
  - Location and discharge  
( >1 Ips in red triangle)
- Existing and Potential Use
- Livelihood opportunity
  - Settlement location
- Biophysical conditions
  - Land use



# Findings: Information brings MuS schemes in planning



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| क्रम सं. | योजनाको नाम                                     | वर्ड | स्रोत          | टोल   | दूर | लागत      | कैफियत               |
|----------|---|------|----------------|---|-----|-----------|----------------------|
| १.       | सिम्हारी खाणा                                   | ८    | सिम्हारी       | होला गोल, सिम्हारी                            | १६  |           |                      |
| २.       | कोपे मुनि लाभागाउँ वहुउपयोग                     | ८    | कोपे छल        | प्राथमिकता लाभागाउँ तल्लो लाभा गाउँ, विद्यालय | ४२  | १,००६६४३  | मर्मत                |
| २.       | वाघ पाडले डाँडा सिरान वहुउपयोग                  | २३   | वाघपाडले छल    | डाँडा टोल, सफाई घर, विद्यालय                  | ६०  | ८,११,५८३  | मर्मत ५km Pipe मर्मत |
| ३.       | लिडे खोला लम्काल पारवे खाणा                     | २६   | लिडे खोला      | लम्काल टोल, चौधपुरे, कोले टोल                 | २१  | ४,९९,४२८  | मर्मत                |
| ४.       | जहते पारवे खाणा                                 | २८   | जहते छल        | तल्लो सेरा, सेरा मोड                          | २१  | ९८२११९    | नयाँ                 |
| ५.       | पारवा गाउँ भराती वहुउपयोग योजना                 | २९   | पारवे छल       | भराती, विद्यालय प्राथमिकता, चाल्ता            | २३  | ८,३९,१११  | मर्मत                |
| ६.       | डुलो सिम गैरी टोल वहुउपयोग                      | ३०   | सिम डाँडा खोला | गैरी टोल, बाजकुमार टोल, भाकु टोल, चौतारी टोल  | २८  | ८,६०,६३३  | मर्मत                |
| ८.       | क्यासिन्चे टोल वहुउपयोग योजना                   | ३१   | मान्छे खोला    | क्यासिन्चे १, २, ३                            | १२  | १,०९३,४४१ | मर्मत ३km Pipe मर्मत |
| क्रम सं. | योजनाको नाम                                     | वर्ड | स्रोत          | टोल   | दूर | लागत      | कैफियत               |
| ८        | विभिरे कुशा भाषा गाउँ, वि.स. मेक वहुउपयोग योजना | ३३   | विभिरे कुशा छल | वि.स. टोल, भाषा टोल                           | १९  | ५,८४,८९८  | मर्मत                |
| ९        | पेन्-सेरेड तनम्हा कोगाउँ वहुउपयोग योजना         | १२   | पेन्-सेरेड छल  | तनम्हा, कोगाउँ                                | ३०  | ८,६६,०५८  | नयाँ                 |
| १०       | देउराकी खोला पलडाँडा खाणा                       | १४   | देउराकी खोला   | पलडाँडा                                       | ६   | ३९१२०३    | नयाँ                 |

Multi Use systems priorities in Mahankal VDC, Sindhupalchok



## Conclusions from findings



- MuS Resolves Conflicting interests on water source
- Augments cross sector water planning
- Brings in Upstream/downstream relations
- Positive Impact on Women (MuS increases access to water increases livelihood option)
- Resilience to climate
- MuS is possible in all ecological zones

# Contribution to country goals



## Combined Profile (CP) 1 (NAPA)

- Community adaptation to climate change through IWRM & Promoting water management
- Promoting and upscaling Multiuse System (MUS)

## CP3

- Developing water retaining structures as sustainable adaptation measures
- Establishing, rehabilitating and conserving small scale drinking water supply system

## CP8

- Conserving water supply sources

# Recommendation



Consider Upstream/downstream for

- Sustainability of the community managed MuS (livelihoods)
- Conservation- Resilience to climate change
- Address conflicting interest in competing uses of water
- Water use master plan in administrative boundary (VDC) elevated to watershed can bring upstream/downstream relations including MuS
- Take GESE issues into account





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THANK YOU !

