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Water Use Master Plan: a participatory tool for water resources management

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HELVETAS Swiss Intercooperation

25.10.2018

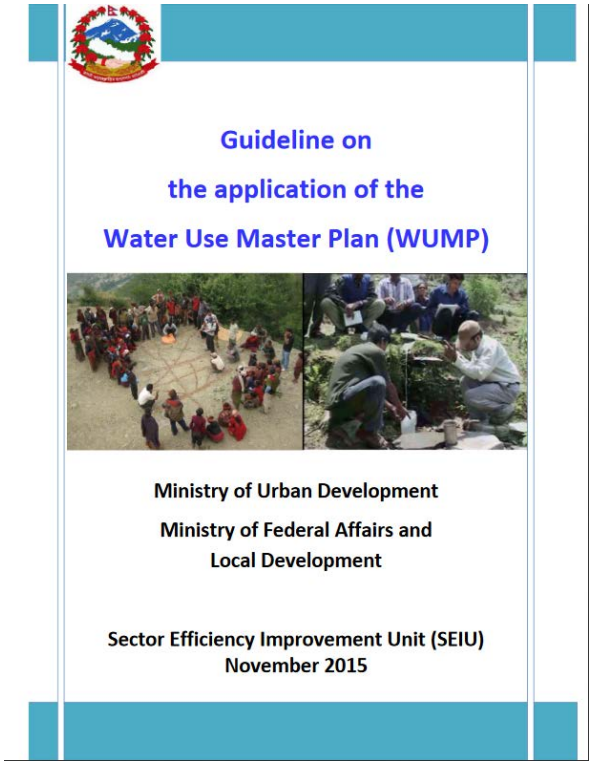
What is WUMP?

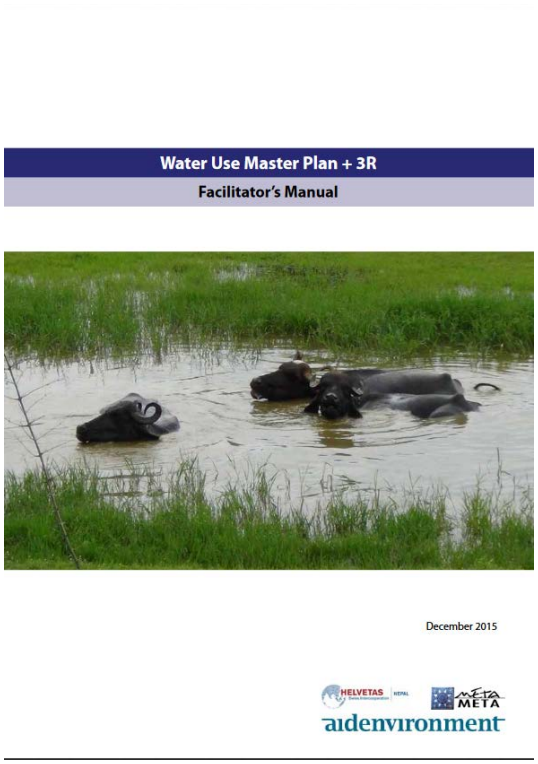
WUMP is an approach to operationalize Integrated Water Resources Management (IWRM) principles at local level

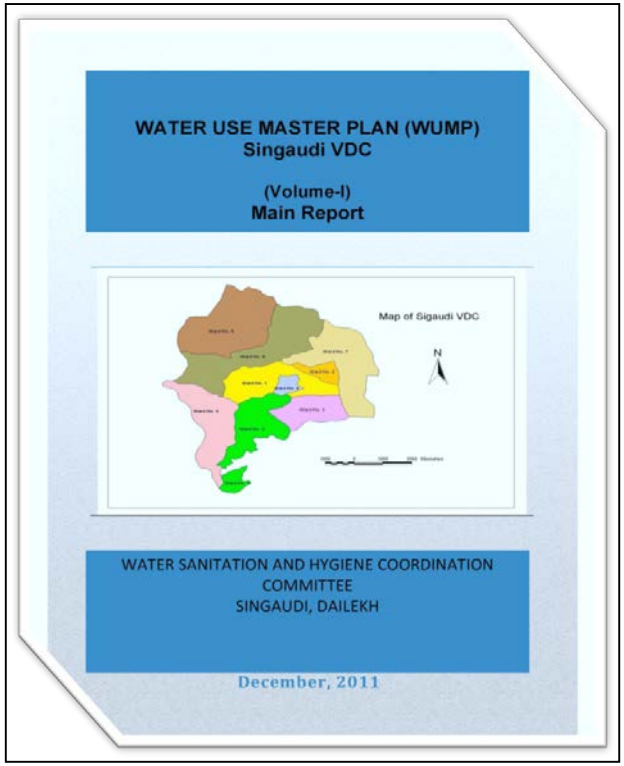
What is WUMP?

- is a process through which the local government and communities **interact, exchange knowledge, acquire and develop ownership** over the water management plan
- planning and management of water resources based on the **analysis of availability of water and needs** for different uses within a municipality
- a process that emphasizes the **inclusion and responsibility of all stakeholders** in planning, negotiation and decision making
- helps evaluating competitive demands and **manage potential conflicts**

What is WUMP?


Guideline on
the application of the
Water Use Master Plan (WUMP)
Ministry of Urban Development
Ministry of Federal Affairs and
Local Development
Sector Efficiency Improvement Unit (SEIU)
November 2015

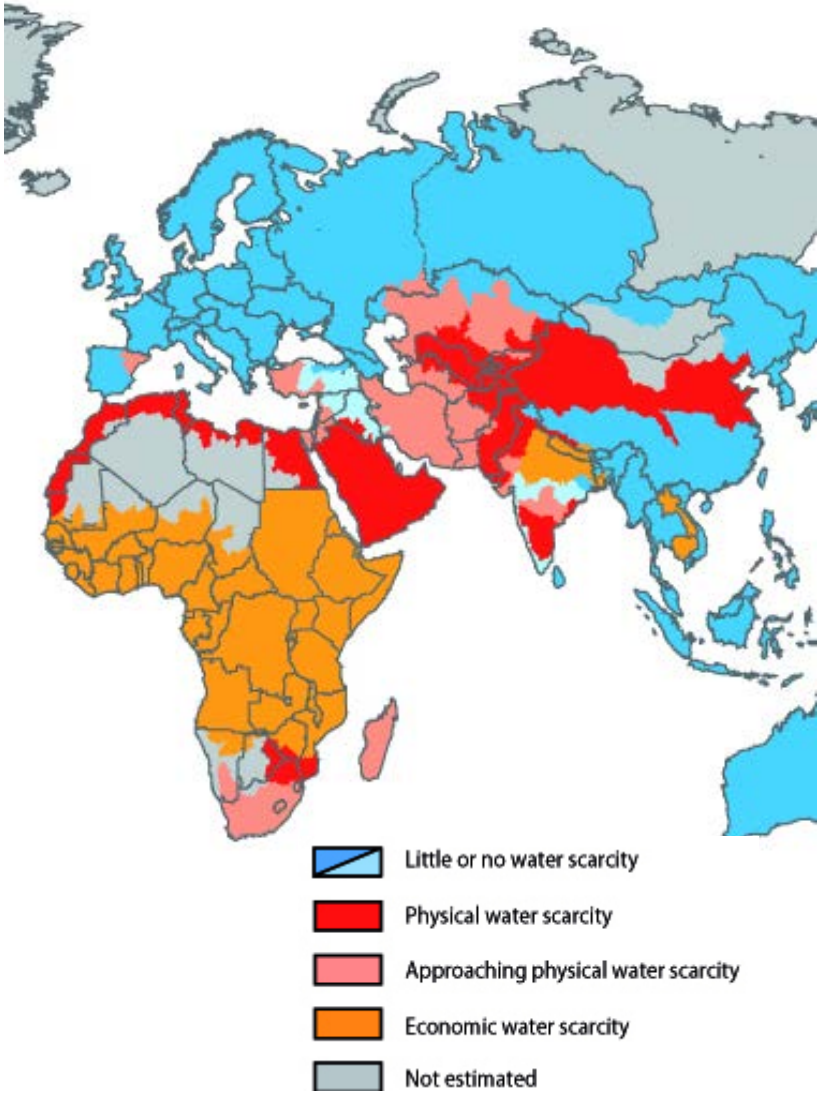

Water Use Master Plan + 3R
Facilitator's Manual
December 2015
aidenvironment


WATER USE MASTER PLAN (WUMP)
Singaudi VDC
(Volume-I)
Main Report
Map of Sigaudi VDC
WATER SANITATION AND HYGIENE COORDINATION
COMMITTEE
SINGAUDI, DAILEKH
December, 2011

Why is it relevant in the context of Nepal?

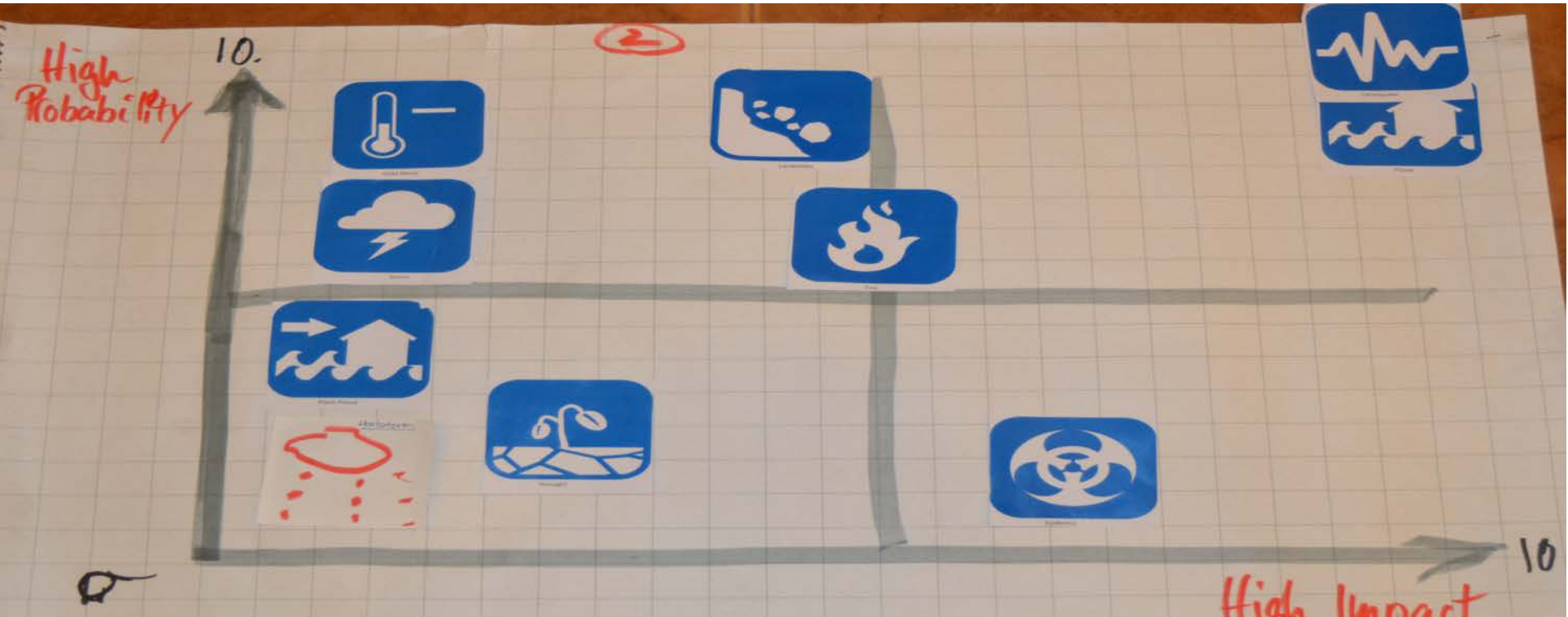
Country context: Water

- Abundance and scarcity
- 2nd richest in water resources
- Country with **economic water scarcity** (IWMI)
- National water supply coverage 83.5% and sanitation coverage 70.2%, respectively. However, fully function schemes are only 25% (DWSS)
- Only about 32% of irrigable land has round the year irrigation facility (DoI)
- Daily average power cut in dry season is about 11 hrs (NEA)



Country context: Disasters

- Floods and Landslides – 31st
- Earthquake – 11th (Kathmandu No. 1)
- Climate Change – 4th



Climate Change Vulnerabilities

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GLOF VULNERABILITY MAP OF NEPAL

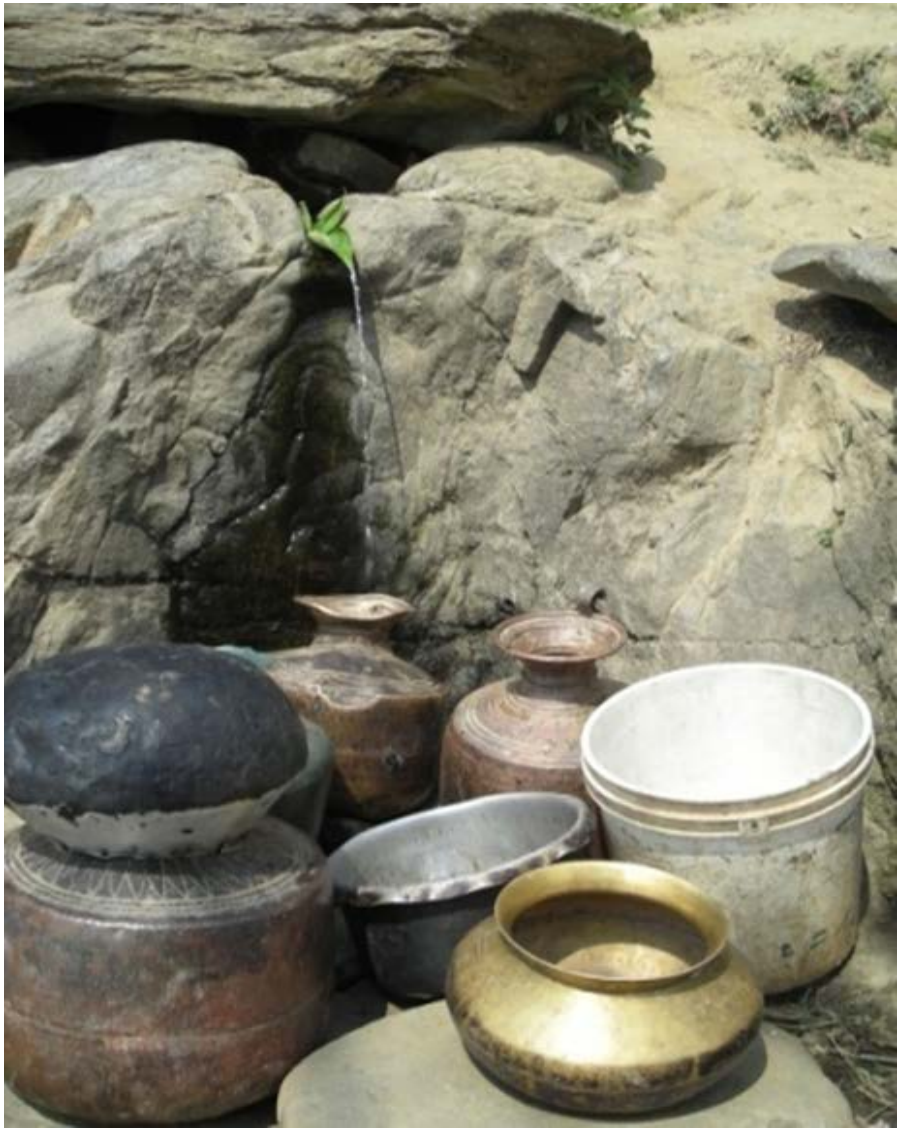
LANDSLIDE VULNERABILITY MAP OF NEPAL - Hill and Mountain Ecological Zone

DROUGHT VULNERABILITY MAP OF NEPAL

FLOOD VULNERABILITY MAP OF NEPAL - Terai Ecological Zone

The local context

- Depleting water sources
- Source disputes due to competition for the uses of water source
- Lack of coordinated and proper planning,
- Lack of participation of disadvantaged people in planning and management,
- Very poor functionality and sustainability of the water schemes.
- Lack of awareness on hygiene, sanitation, CCA, DRR and ecological conservation



What are the main steps of the WUMP approach?

WUMP process: phases and steps

Implementation Phase

17 WUMP update

16 Marketing and implementation

Planning Phase

15 Dissemination at district level and endorsement by DDC

14 Approval of WUMP by VDC council

13 Final WUMP report preparation

12 VDC level planning workshop

11 Preparation of preliminary WUMP report

10 Ward level planning workshop

Assessment Phase

9 Technical assessment

8 Socio-economic assessment and needs identification

Capacity Building Phase

7 Capacity building for VDC and V-WASH-CC members

6 Activation of V-WASH-CC

5 Ward level orientation and activation of ward citizen forum

4 Preliminary WUMP orientation at VDC level

Preparatory Phase

3 Selection and training of service providers

2 Establishment of memorandum of understanding

1 VDC Decision to prepare WUMP

1. Preparatory Phase

नेपाल सरकार
स्थानीय विकास मन्त्रालय
नेपा गाउँ विकास समितिको कार्यालय

दैलेख

नेपा गा.वि.स, दैलेख
जलश्रोत व्यवस्थापन कार्यक्रम हेल्भेटास,नेपाल
तथा
समाज जागरण (स्याक) नेपाल

बीच

जलउपयोग गुरुयोजना (Water Use Master Plan)
तयारीका लागि

सम्झौता- पत्र

हस्ताक्षर :

गा. वि.स.को तर्फबाट	ज.व्य.का. हेल्भेटास तर्फबाट	सेवाप्रदायक संस्था को
तर्फबाट	तर्फबाट	तर्फबाट
दस्तखत :		
नाम : तुल्सी प्रसाद उपाध्याय	मदन राज भट्ट	टिकाराम आचार्य
पद : गा.वि.स. सचिव गा.वि.स. सचिव	टीम लिडर	कार्यकारी निर्देशक
मिति : ०६७/१२/२४	०६७/१२/२४	०६७/१२/२४

कार्यालयको छाप

2. Capacity Building Phase

- Training main committees
- Training WUMP facilitators
- Community awareness
- Major focus on IWRM, WUMP, PRA, gender and inclusion, water rights, legal issues, CCA, DRR, adaptation measures such as 3R, etc..

3. Assessment Phase

- Social / water resource mapping
- Socio economic data collection
- Need identification
- Participatory 3R potential mapping incl. assessment of water related disaster risks

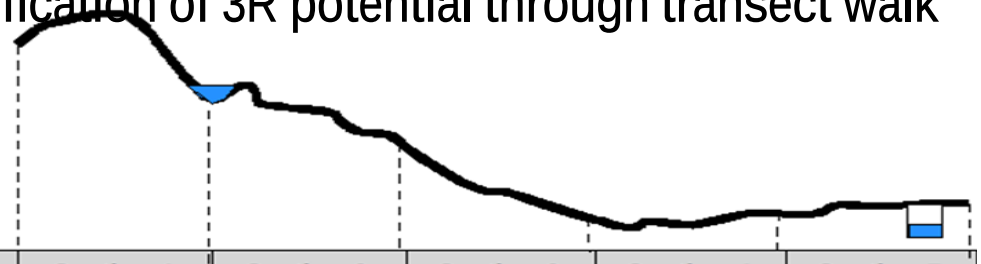
SC / Ward No.	Clusters	Households	Population		
			Female	Male	Total
1	4	84	217	210	427
2	5	52	172	164	336
3	4	62	189	200	389
4	5	51	141	174	315
5	5	53	165	172	337
6	5	70	201	183	384
7	4	70	191	189	380
8	10	90	262	255	517
9	6	79	215	228	443
Total	48	611	1753	1775	3528
%			49.7	50.3	

Ethnic Composition

SC / Ward No.	Clusters	Households			
		Dalit	Janajati	Others	Total
9	48	184	172	255	611

3. Assessment Phase

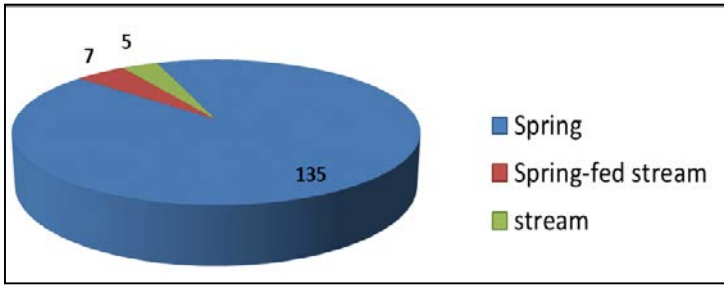
- Technical assessment of existing water facilities and water sources (mapping) also integrating climate change effects
- Verification of 3R potential through transect walk



	Section 1	Section 2	Section 3	Section 4	Section 5
LAND-USE	Grazing, few trees	Grazing-shrubs	Agriculture	Agriculture	Agriculture
CROPS	-	-	Khat-Maize	Sorghum-	Sorghum
SLOPE	> 50%	>20%	>20%	<10%	<10%
Concentrated runoff	Gullies, road	Gullies, road	Seasonal stream	Seasonal stream, road	Seasonal stream
Soil moisture	Green for few months	Green for few months	Green for 4 months	Green for 6 months	Green for 6 months
Already existing 3R measures	Stone faced soil bunds	WH pond	none	none	soil bunds
Existing water sources	None	one pond	none	water from dry riverbed	hand dug well
Challenges	Bush encroaching	low grass production, erosion	no water	Crop failure	drying up well
OTHERS	Big herd of cows	Abandoned quarry	Many tukuls	waterlogged after rain	most productive

Since 2003, drought in winter is the major hazard.

(Source : CRiSTAL exercise- Module-2)



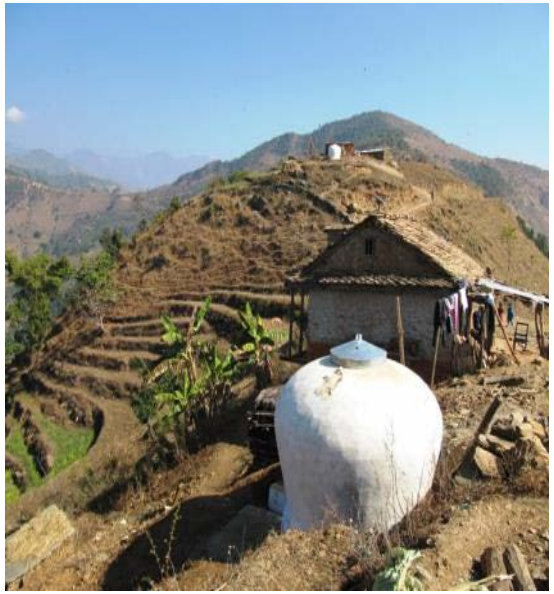
Melamchi Water shed	Mean Annual temperature (° C)	Mean Annual Precipitation (MM)
1960-2000 base line	10.8	1503
2050 projection range	+1.8 to 2.6	+58 to 122

4. Planning Phase

- Disseminate social and technical assessment findings and verify with local people
- Setting the yard stick for prioritization
- Prioritize water uses / infrastructure for different sectors (negotiation, discussion)

5. Implementation

5. Implementation



5. Implementation

Disaster resilience and climate proofing in design and implementation

- Selection of stable sites
- Use of reliable sources
- Use of suitable technologies
- Water source restoration
- Combining bio and structural measures
- Retention, Recharge and Reuse (3R) measures
- Water Safety Plan
- Blue schools

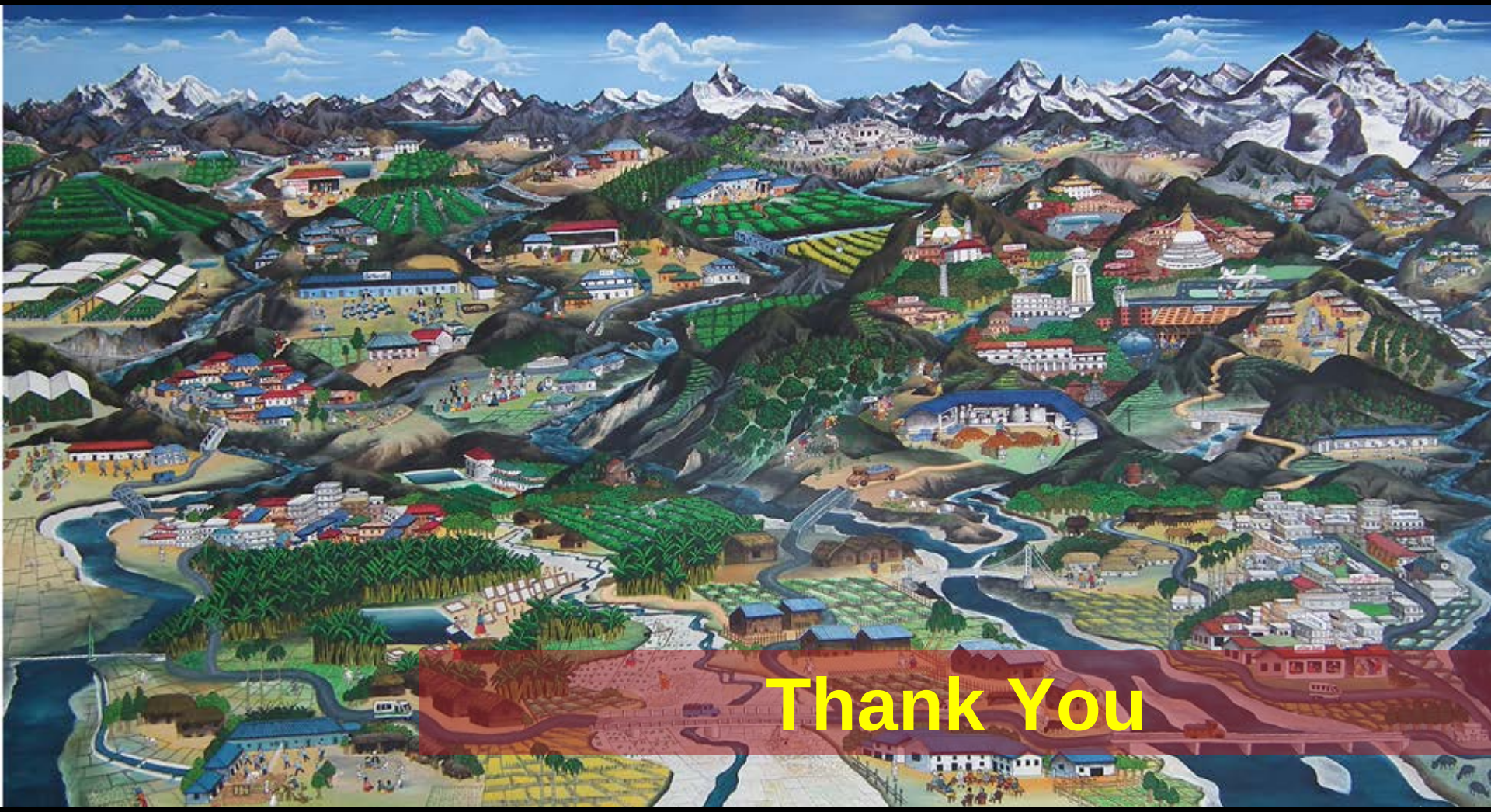
Integration of risk consideration in the WUMP

Summary risk consideration

WUMP phase	Integration risk consideration
2. Capacity building	▪ Raising awareness on DRR, adaptation measures ▪ Build capacity of local agencies in DRR, CCA (committee, local government) ▪ Support communities in identifying and planning community-based DRR and CCA measures
3. Assessment	▪ Water-related risks ▪ Effects of climate change on water resources availability ▪ Vulnerability of sites (e.g. flooding, landslides) ▪ Retention, Recharge and Reuse (3R) potential through transect walk
4. Planning	▪ Negotiation on water uses (preventing risk of conflicts)
5. Implementation	▪ Use of suitable technologies (e.g. pond irrigation, MuS, rainwater harvesting) ▪ Water source restoration ▪ Combining bio and structural measures ▪ 3R measures such as plantation, infiltration trench ▪ Water Safety Plan

Learnings…

- Water can be a good entry point for integrating CCA, DRR, and conservation interventions
- Local knowledge is extremely important in participatory and effective planning
- Localization of WUMP to match local capacity is a good approach for scaling up
- A flexible approach that can be adapted to different contexts
- A WUMP can be a good source of information during huge disasters e.g. April 2015 earthquake


Thank You