Integrating water resource management planning at a local level

WAI-SDG consortium ilot on WUMP+3R in Banke and Surkhet district (Nepal)

Commissioned by Simavi

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Introduction

WAI-SDG Program Nepal
The WASH-SDG consortium with its program in Nepal aims to contribute to achieving access to and use of safe and affordable drinking water for 80,000 people, improvement of access to and use of adequate and equitable sanitation for 260,000 people, and improved hygiene for 560,000 people.

All three WASH-SDG consortium partners (SNV, PLAN and WASH Alliance International (WAI)) are involved in program activities in Nepal. Consortium partner WAI will focus on rural and peri-urban interventions specifically in the districts of Banke and Surkhet in the Mid-western Development Region.

Inception phase pilot WUMP+3R
Water Use Master Plan with Recharge, Retention and Reuse (WUMP+3R) is a process of 17 steps in 4 phases for inclusive and integrated water planning (such as WASH). That requires involvement of all partners, community and local levels (Municipalities and Rural Municipalities) during the inception phase, with a vision of the planned impact from the start.

In 2016 (in the framework of the WASH bridge funding), Nepal WASH Alliance (NWA) partners have been trained on environmental sustainability in the WUMP+3R approach by Helvetas and RAIN. Therefore, during the current inception phase, we can (and should) further build on this existing knowledge and use the WUMP+3R approach to include and safeguard 3R, environmental sustainability and climate change resilience (as mentioned in the WASH SDG proposal to DGIS) in the plans for the selected intervention area.

As an example: partner X submits a plan to drill / dig extra wells for drinking water supply, but does not take into account the possible groundwater depletion this source is causing, as defined in the CVA as an important risk.

Therefore RAIN and Helvetas started a pilot as part of the inception phase of the WAI program in Nepal. Purpose of the pilot was to start the WUMP+3R process in time and address the WUMP+3R tool as part of the joint program planning activities, together with the partners and municipalities of the intervention areas. This will avoid the need to adapt the country plan later on (with an inevitable time delay), in order to comply with the donor (DGIS) requirements.

Based on discussions during pilot startup the scope has been extended, including implications of the new institutional setup (former VDCs are merged into larger (rural) municipalities) on the WUMP as a tool, but also related to the changed scale of planning activities as well as their capacities to plan.

Another relevant question added to the scope is how WUMP+3R can be integrated with Sanitation (3R, re-duce, re-use, re-cycle) and Health as well as how WUMP+3R can be of value in a more urbanized context (such as Kohalpur municipality). Possible linkages to other available sanitation tools such as community led urban sanitation have been explored.
Pilot Activities
As part of the WUMP+3R pilot the following activities were completed and results are presented in the report:

- Visit to working Palika and Consultation meeting with Palika representatives
- Consultation with different agencies: DCC, RMSO-DWSS, DISCO, Forest office
- Analysis of secondary information of the region
- Preparation of 3R opportunity slope maps
- Analysis of findings of CVRA
- Analysis of potential 3R measures
- Assessment of original WUMP+3R process and changes needed
1. Regional 3R opportunity assessment

This chapter describes opportunities for 3R or water buffering interventions, which are mentioned in the overall SDG WASH proposal (1). A 3R opportunity assessment forms the bases for implementation of any 3R interventions within the program.

Water buffering interventions store water within the landscape, to use it the other day. This helps to prevent droughts, but is also benefits downstream users, because flood risks are reduced as well. The implementation of 3R interventions in the WAI program area can sustain the availability of water, that is necessary for the functionality of drinking water, sanitation and hygiene facilities. At the same time it can help to reduce damage to WASH infrastructure which is caused almost every year in the selected districts, because of floods and landslides. Moreover, water buffering interventions supports to enhance the water security in long run.

In the implementation phase of the program WAI organisations in Nepal should support local stakeholders (e.g. municipalities, water and sanitation user committees, entrepreneurs) to implement 3R water buffering interventions. This way different uses of water are balanced and the supply of water can be sustained, to strengthen the reliability of WASH services in the long-term. Implementing 3R interventions through the different stakeholders will prevent current water risks as well as future risks associated to climate change impact.

The Climate Vulnerability Risk Assessment (2) reflects on existing issues related to availability of fresh water in the program area. In the selected districts of Banke and Surkhet major problems already exist in the WASH sector, arising from population growth, urbanisation, related increase in water demand, unsustainable faecal sludge and waste management and degrading environment in general. These existing problems do have their impact on hydrological processes as well the quality of water in the environment.

Climate Change Impact will enhance current problems. In both Banke and Surkhet climate change projection of extreme precipitation events shows that chance of extreme rainfall will increase. Recent flood events (2014 and 2017) also indicate the current vulnerability of both districts to floodings, which will likely be enhanced in the nearby future. Also, in both districts current trends show that the area receives less rain and higher temperatures. This leads to more droughts being observed by local people, especially in the dry winter season. Projections of drought events are indicated by the projected Change in Annual Severe Drought Likelihood, which increases with 20% for both districts.

1.1 Surkhet District

Surkhet district is the capital of Karnali Province (Province no 6). Birendranagar, has been nominated for capital of the recently formed new Province number 6. Surkhet is a hill district. The altitude ranges from 198 meter to 2347 meter above sea level.

The Barahtaal rural municipality (34.931 population) and Bheriganga Municipality (47.572 population) (2) are located in Surkhet district and have been selected as intervention areas of the WAI (Figure 1). In the rural areas 30% of the population have no access to basic water provision, compared to 31% in the urban areas. 13% of the population in the rural areas rely on surface water (3). In both municipalities Bheri River and its tributaries are an important source of water. The Bheri River flows from East to West through the district. Karnali River flows from North to South and joins Bheri River in Surkhet District. In the hilly areas provision of water is served mostly by springs, which see limited protection yet.
Selection of 3R technology relevant for this area

A slope map can be used as a starting point for recognition of water buffering (3R) interventions in the area. The slope map of the selected municipalities of Surkhet is presented in the two maps below. Most of the areas have slope between 0-15% with especially steeper portions in the hills (20-30%). Protection of existing springs in combination with re-charge zones or ponds above those springs is a feasible technology to sustain the water supply of these sources, especially in the steeper parts of both municipalities. For isolated household rainwater harvesting tanks are a solution. In the lower less steeper portions access to water in the lower streams is possible by pumping water from the lower valley, with help of solar pumps, this is an existing practise.

Based on the topography of the 2 municipalities the three most promising water buffering technologies for Surkhet district are:

- Rooftop Rainwater Harvesting System with Ferro-cement Jars
- Water Source Conservation and Protection (see right figure below)
- Community Recharge Ponds (see left figure below)
The complete selection of 3R technologies is presented in Appendix I. Appendix I describes the result of a quick scan of available 3R technologies for the two selected districts.

As part of the WUMP+3R approach a detailed technical and socio-economic assessment will be performed (step 8 and 9), in which feasibility of 3R interventions are further assessed. For more details about the selected technologies, refer to Appendix II. This appendix includes the selected opportunities per district, with details on objectives of the technology, costs, entrepreneurs technical skills needed, strengths and weaknesses of the 3R technology.

**Figure 3. Slope Map of Barahatal Rural Municipality**
1.2 Banke District

Banke district is a typical Terai District and lies in Province Number 5. It is one of the key centres of industry and market out of 20 Terai Districts and 77 districts of Nepal. The total area of Banke district is 2,337 km². Nepalgunj is the district headquarter of the district. Baijanath and Kohalpur Municipalities are the two municipalities in Banke District that have been selected by WAI as sub-program area (Figure 5). The population of both municipalities involve 70,647 people in Kohalpur and 54,418 people in Baijanath. In the rural areas of these municipalities 51% of the people do not have access yet to basic or safely managed water services. In the urban areas this percentage is 34%.
There is a clear distinction between hilly area of Surkhet District and the flat Terai environment of Banke District. Therefore in Banke District other technologies are promising, compared to Surkhet district. The slope map shows different patterns, as most of the land is quite flat in the range of 0-5% slope. Hilly area (15-20% slope) is found only in the Northern parts of the municipalities. These forested hilly areas provide opportunities for water buffering (soil and water conservation) as communities are all living downstream of these hills. Gravity systems from spring sources originate in those hills and are used by few communities. Most people rely on shallow ground water wells. There is an ongoing transition to use of deep groundwater wells, which is stored in overhead tanks and distributed to household with piped systems. The sustainable abstraction of deep groundwater is a question to be addressed.

Selected 3R water buffering technologies relevant for this area, with details presented Appendix I, are:
- Roof top rain water harvesting
- Sub-surface dams and sand dams for abstraction of river water (for multiple use)
- Gully plugging using check dams (see figure below)
Figure 7 Slope map of Kohalpur Municipality.
Figure 8: Slope map of Bajianath Municipality.
2. Embedding WUMP+3R approach in selected districts

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 (former) VDCs with the support of HELVETAS Nepal and Rural Village Water Resources Management Project (RVWRMP). Since its pilot in 1998, WUMP, and later including the add on with water buffer planning (3R), has gone through different generations. The WUMP+3R process contains 17 steps in 4 phases (see Figure 3) to prepare for implementation of inclusive and integrated water planning (such as WASH). The approach is also adapted by governmental agencies such as Department of Local Infrastructure Development and Agricultural Roads (Dolidar) under RVWRMP Project.

![Figure 9: WUMP+3R Phases](image)

2.1 New institutional setup

As enshrined in the 2015 Constitution, Nepal is progressing into a Federal system of government from unitary system. The new Federal Constitution envisages three tiers of governments at federal, provincial and local levels. After successful election held in 2017, the elected representatives are in place in all 761 government units: one federal, seven states and 753 urban and rural municipal governments.

Although restructuring of the government institution at federal and provincial has been on going, the Local Government Operations Act 2017 clearly delineates the responsibilities of municipalities. The municipalities have considerable executive, legislative, and judicial responsibilities. Whilst the district based government offices - that previously played important administrative tasks and service delivery functions - ceased in April 2018.

As per provision in the constitution, the power of the different governments since the reform is as follows:

**Federal:** Central level large electricity, irrigation and other projects  
**State:** State level electricity, irrigation and water supply services, navigation  
**Local:** Basic health and sanitation, irrigation, water supply, small hydropower projects, protection of watersheds

Moreover, the Local Government Operations Act 2017 defines also the role of the municipalities related to water and sanitation. As per this act the municipalities are responsible for formulation of policy, rule, standards and planning, implementation, monitoring and regulation related to the broader water
sector. Newly formed municipalities with decentralized authority; requires formulation of local policy, strategy and plan. Central Government planned for formulation of WASH plan for all 753 municipalities

Formulation of the various new policies at different levels: Federal, Provincial and Local is an ongoing process in the country. These policies will further provide the landscape of the institutional set up and elaborate the detailed role and responsibilities.

2.2 Implications for existing WUMP+3R approach

The new institutional setup has implications on the former small scale VDC planning process. As they VDSs no longer exists in the new structure, adaptation have to be made.

The Government of Nepal is strongly committed to gradually improve access to water, sanitation, and hygiene services for its citizens. It has prepared a WASH Sector Development Plan 2016-2030 (draft, yet to be endorsed), aligned with the Sustainable Development Goals. The Plan promotes a phased approach starting with universal access to basic WASH services (2016-2020), improved service levels, functionality and sustainability improvement (2021-2025) and improved service levels and impact assessment (2026-2030).

In the context of federalization, both competence and budget for WASH services, irrigation, agricultural sector development etc. have already been transferred to the new municipalities. The newly formed municipalities see the need of long term plan like WUMP+3R (WASH plan) for the sustainable investment in water sector. This not only relates to WASH planning, but also to other topics which are addressed by the WUIMP+3R process (Figure 10).

![Figure 10 Multiple Elements being addressed by WUMP+3R process (WASH, integrated water resource management, climate change and disaster risk reduction).](image)

The five phases of WUMP+3R with minor modification in its 17 steps are still relevant in the new governmental structure. The proposed revised steps have been described in the Figure 11 below. As compared to the VDCs, the WUMP+3R at municipality has more significance in terms of consideration of larger sub-watersheds. Covering a larger territory the integration and coordination of planning activities in different wards, will become more important. This is important to take into account when preparing WUMP+3R planning process as part of WAI program.
Although municipalities have more capacities as compared to the VDCs, they lack the human resources and competencies for preparation of the plan. Most of the municipalities have not sufficient staff and planning capacities. The existing government staff who worked at the district based and other offices are reluctant to go to the municipalities in rural areas. The municipalities in general need technical assistance from other governmental agencies (or organisations) for the formulation of their plans.
3. Recommendations

The Climate Vulnerability Assessment (CVRA) has recommended to implement 3R measures to adapt to the climate change in the area. In both districts feasible 3R technologies are found and can be planned in more detail through WUMP+3R process. Because Palikas addressed high water hardship and depletion of water sources the need of 3R technologies, such as source conservation and protection, rain water harvesting, plantation, gully plugging etc. to improve water security becomes clear. Attention for 3R technologies in the program at the same time advocates/capacitates Palikas in implementation of water buffering options and integrated water management activities in their respective territories.

It’s advised to integrate 3R measures in the implementation of WASH activities. For example: source conservation and spring revival can be integrated with implementation of new or maintenance of existing water supply schemes. The implementation of 3R technologies has to be planned by Palikas or/and by Water and Sanitation User Committees, with help of local entrepreneurs. Other 3R technologies can be implemented by consumers, businesses or farmers, depending on the type of technology. WAI program should especially guide those implementations.

WUMP+3R is a tool for improved WASH governance, especially transparency, accountability, participation and equity. By applying the tool different important WAI-SDG program elements such as environmental sustainability, climate change adaptation and linkages of WASH with integrated water resource management can be addressed. Its recommended to include formulation of holistic WUMP+3R planning in Palikas annual action plan and to support Palikas to formulate these plans. During discussions with Palikas their representatives expressed high interest to prepare holistic plan for water and sanitation sector, e.g. the need for holistic planning (and support) was addressed.

The past experiences and learning reveals that WUMP+3R approach is more promising for rural and hill areas for water resource planning, where surface water is used as a main source of drinking water. However, the urban and plain area in Banke district has different context for water. The region is more developed, so communities are in need of large scale water supply. At the same time mostly ground water is used and sanitation management becomes more important compared to Surkhet District (problem of save faecal sludge management and save waste management). In this scenario, WUMP +3R approach needs to adapted to consider these aspects in the municipalities in the plain Terai areas. In general steps included in WUMP+3R process are still valid, though it’s important that for example technical assessment should include the in-depth assessment of different aspects of urban sanitation.

Nepalese Community Led Urban Environmental Sanitation (CLUES) approach could be combined with WUMP+3R to integrate water, sanitation and hygiene. It should than also consider 3R in waste management approach (meaning reduce, reuse and recycle) next to 3R water approach.
Figure 12 Diamond model with relevant key stakeholders

3.1 Program phase support

Actions to be built into the program plan:
- Setup WUMP+3R planning process according the modified steps presented in this report
- Seek linkages of WUMP+3R with CLUES approach in WAI program in Banke District
- The Diamond Approach (Figure 12) is used as a model to scale up WASH coverage with help of local businesses. WUMP+3R a process can guide the planning process of local authorities. WUMP+3R approach especially supports the diamond approach activity involving governments and businesses to plan and start implementing new water infrastructure.

Necessary programme phase support with respect to WUMP+3R:
1) Training and support to WAI partners and diamond model stakeholders on WUMP+3R process as well 3R technologies, including the possible combination with more urban focused WASH planning approaches
2) Technical backstopping support to WAI partners to apply in their program activities (advice, quality control etc.)
3) Facilitation and capacity building of the 4 municipalities of their WASH planning process as part of the WUMP+3R approach.
4) Program level advocating of all partners (including municipalities, private sector and consumers) in building climate change adaptation actions, or environmental sustainability of water resources as well as impact on sanitation on these water sources (e.g. source protection, securing environmental flow conditions, ground water observation and water resource registrations/monitoring, link with forestry/national park authority, WASH disaster vulnerability)
Literature

## Appendix I: 3R opportunities for Surkhet & Banke district

<table>
<thead>
<tr>
<th>Technology</th>
<th>Benefits</th>
<th>Purpose</th>
<th>Location</th>
<th>Slope</th>
<th>Opportunity selection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Source conservation and spring revival in new or existing water scheme</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Multiple</td>
<td>To ensure availability of water for schemes developed</td>
<td>Above (upper part of) water sources</td>
<td>All</td>
<td>Surkhet: Relevant for existing as well as new schemes, using springs source; Banke: Only relevant for springs used in upper/hilly part of the catchments.</td>
</tr>
<tr>
<td><strong>Percolation ponds and tube recharge</strong></td>
<td>Multiple</td>
<td>To recharge the groundwater table</td>
<td>All parts of catchment, preferably in natural depressions</td>
<td>All, tube recharge preferably gentle slope</td>
<td></td>
</tr>
<tr>
<td><strong>Roof Water Harvesting</strong></td>
<td>WASH</td>
<td>To provide drinking water</td>
<td>On roofs of households, schools, and health clinics all around the watershed</td>
<td>All</td>
<td>Surkhet: Hill tops and water scarce areas; Banke: Water scarce areas, ground water arsenic contamination areas</td>
</tr>
<tr>
<td><strong>Surface water harvesting ponds for improved recharge and multiple uses</strong></td>
<td>Multiple use</td>
<td>Surface water harvesting ponds for improved recharge and multiple uses</td>
<td>Gentle slope or in available depressions</td>
<td>All, preferably gentle slope</td>
<td>Surkhet: In available depressions; Banke: In available depressions in hill areas</td>
</tr>
<tr>
<td><strong>Sub-surface dams and sand dams,</strong></td>
<td>Multiple use</td>
<td>To improve water storage in dry riverbed</td>
<td>Dry river beds with less than 30m width and coarse sediments on top of impermeable riverbed</td>
<td>5%</td>
<td>Surkhet: Opportunities limited; Banke: In flat water scarce areas</td>
</tr>
<tr>
<td><strong>Grass strips along the contour</strong></td>
<td>Multiple</td>
<td>To increase soil moisture and level the land for improved crop production</td>
<td>Mostly on farmland</td>
<td>&lt; 20%</td>
<td>Surkhet: Areas as per slope criteria; Banke: Area as per slope criteria</td>
</tr>
</tbody>
</table>

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<sup>1</sup> Source conservation and spring revival includes package of small scale intervention such as fencing around source, protection chamber, plantation, recharge trenches and pond, drainage ditch, gully plugging.
<table>
<thead>
<tr>
<th><strong>Terracing</strong></th>
<th>Multiple use</th>
<th>To increase soil moisture and level the land for improved crop production</th>
<th>On farmland</th>
<th>&lt; 55 %</th>
<th>Farming possibility land</th>
<th>Farming possibility land in hill areas, but limited possibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Terrace improvement</strong></td>
<td>Multiple use</td>
<td>To control runoff, soil erosion, and available land for farming</td>
<td>According to use, on farmland</td>
<td>15 - 55 %</td>
<td>On farm land</td>
<td>On farm land in hill area, but limited possibilities</td>
</tr>
<tr>
<td><strong>Composting and improved farmyard</strong></td>
<td>Multiple Use (incl. waste management and agricultural production)</td>
<td>Waste management for better sanitation, increase fertility,</td>
<td>At household level</td>
<td>All</td>
<td>All areas</td>
<td>All areas</td>
</tr>
<tr>
<td><strong>Gully treatment with plugs and vegetation</strong></td>
<td>Multiple use</td>
<td>To avoid excessive runoff and increase recharge</td>
<td>All soils. In rills and gullies.</td>
<td>&lt; 10 %</td>
<td>Gully areas</td>
<td>Apply in hills in Banke District, which are prone to erosion due to rock characteristics.</td>
</tr>
<tr>
<td><strong>Slope treatment to limit soil erosion and improve recharge of soil moisture and groundwater</strong></td>
<td>Multiple use</td>
<td>To decrease Runoff, increase recharge and favour reforestation</td>
<td>Viable in area closures and source protection</td>
<td>All area</td>
<td>All area</td>
<td></td>
</tr>
<tr>
<td>• Contour trenches</td>
<td></td>
<td></td>
<td>All slopes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Eyebrow Basins</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td><strong>Agroforestry</strong></td>
<td>Multiple use</td>
<td>To reduce ET and increase wood, food, and fodder production. To increase soil fertility and soil moisture storage capacity</td>
<td>All parts of catchment, for WASH especially upstream of springs</td>
<td>All slopes</td>
<td>All</td>
<td>All</td>
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<tr>
<td><strong>Wetland protection</strong></td>
<td>Multiple use</td>
<td>To retain water and protect flora and fauna.</td>
<td>To protect the natural water buffering characteristics of wetlands</td>
<td>Flat areas, depressions</td>
<td>Flat area, depression</td>
<td>Flat area, depression</td>
</tr>
<tr>
<td><strong>Improving or restoration of conventional rural/recreational ponds</strong></td>
<td>Multiple use</td>
<td>To retain water and augment infiltration of water to groundwater table</td>
<td>Previously existing areas where enough runoff can be collected using local slopes and depressions</td>
<td>All</td>
<td>All areas</td>
<td>All areas</td>
</tr>
<tr>
<td><strong>Road water harvesting</strong></td>
<td>Multiple use</td>
<td>To avoid excessive runoff and increase recharge</td>
<td>Culverts and side drains of road can provide water for recharge ponds and retention ponds.</td>
<td>All</td>
<td>Nearby road alignment</td>
<td>Nearby road alignment</td>
</tr>
</tbody>
</table>
Appendix II: Detailed information of feasible options
Appendix II: Workshop documentation

- Workshop program and results

WASH Alliance International, Nepal
Sharing and way forward workshop on CVRA & WUMP-3R

Date: May 18th, 2018
Venue: Hotel Greenwich
<table>
<thead>
<tr>
<th>Time</th>
<th>Program activities</th>
<th>Facilitator</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-9 a.m</td>
<td>Registration &amp; Breakfast</td>
<td>Self</td>
</tr>
<tr>
<td>9:00-9:15</td>
<td>Objectives &amp; Introduction</td>
<td>Kala</td>
</tr>
<tr>
<td>1.5h</td>
<td>Discussion on program development</td>
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</tr>
<tr>
<td>9:15-10:00</td>
<td>Sharing results of CVRA study &amp; way forward</td>
<td>Ramesh Bohara &amp; Arnoud</td>
</tr>
<tr>
<td>10:00-10:15</td>
<td>Question &amp; Answer</td>
<td>Participants</td>
</tr>
<tr>
<td>10:15-10:30</td>
<td>Explanation of Group Work</td>
<td>Ramesh Bohara &amp; Arnoud</td>
</tr>
<tr>
<td>10:30-10:45</td>
<td>Tea Break</td>
<td></td>
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<tr>
<td>10:45-11:40</td>
<td>Group Work</td>
<td>All: in 2 groups</td>
</tr>
<tr>
<td>11:40-11:55</td>
<td>Presentation &amp; questions</td>
<td>Each group</td>
</tr>
<tr>
<td>11:55-12:00</td>
<td>Wrap up morning session</td>
<td>Arnoud</td>
</tr>
<tr>
<td>12:00-1:00</td>
<td>LUNCH</td>
<td></td>
</tr>
<tr>
<td>1:00-1:30</td>
<td>Sharing results of the study &amp; way forward</td>
<td>Madan Bhatta &amp; Arnoud</td>
</tr>
<tr>
<td>1:30-1:45</td>
<td>Questions &amp; Answers</td>
<td>Madan Bhatta &amp; Arnoud</td>
</tr>
<tr>
<td>1:45-2:15</td>
<td>Group assignment</td>
<td>Participants</td>
</tr>
<tr>
<td>2:15-2:45</td>
<td>Group presentation</td>
<td>Participants</td>
</tr>
<tr>
<td>2:45-3:00</td>
<td>Tea break</td>
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<tr>
<td>3:00-3:30</td>
<td>Presentations ENPHO+Lumanti</td>
<td>Uddhav, Bipin</td>
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<td>3:30-4:00</td>
<td>Discussion</td>
<td>Participants</td>
</tr>
<tr>
<td>4:00</td>
<td>Closure</td>
<td>Arnoud</td>
</tr>
</tbody>
</table>
Questions and discussions after presenting findings of the study:

1. WASH-SDG program works on WASH, does the program aim to cover other actors of IWRM?
   a. Yes, in the SDG proposal IWRM is mentioned as an important element to be addressed. The strength of WUMP+3R is that it integrates development of water resources through the various sectors involved (WASH, agriculture, renewable energy, nature). Water use of the one sector influences the availability of water for the other sector, meaning coordination is needed. WUMP+3R facilitates this process on the municipality level.

2. Does WUMP+3R include WASH planning?
   a. Yes, this is one of the key sectors included in WUMP+3R. Its advised to integrate WUMP+3R planning and Environmental Sanitation Plan process.

3. Is WUMP+3R an approach on IWRM? Isn’t IWRM on national level?
   a. WUMP+3R facilitates local level IWRM. On other levels (District, National) likewise IWRM practices have to receive follow up.

4. How long does the WUMP+3R planning process takes?
   a. Normally 6 months, but due to the different scale now 6-9 months is estimated.
### CVRA & WUMP-3R Workshop
18 May 2018, Kathmandu

#### List of attendees of workshop

<table>
<thead>
<tr>
<th>S.No</th>
<th>Name</th>
<th>Organization</th>
<th>Designation</th>
<th>Email</th>
<th>Phone No.</th>
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### CVRA & WUMP-3R Workshop
18 May 2018, Kathmandu

#### Attendance Sheet:

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