



Integrated Water Resource Management at local level

Source: WARMP, Helvetas Nepal.

WATER USE MASTER PLANS: WHAT THEY ENTAIL

The Water Use Master Plan (WUMP) is a participatory and inclusive tool developed by Helvetas Nepal for planning the management of water resources in rural areas where water has multiple uses. It aims to fully involve the water users - building on local knowledge backed by technical assessment and ensuring institutional ownership by the local government. Over the course of nearly 20 years, the WUMP process has been extensively tested and updated as necessary. Originally, WUMPs were conducted at the level of Village Development Committees (VDCs); in this way, over 200 were completed – mainly within the Karnali watershed. Since the establishment of Nepal's federal system, it is municipalities, made up of a cluster of former VDCs (wards), that are responsible for planning local water supplies. Helvetas is therefore supporting the development of municipal WUMPs. Four have been completed, in Kamalbazar municipality and Naraharinath, Shivalaya and Shuvakalika rural municipalities; a further two are nearing completion in Dullu and Chhedaghat municipalities. WUMPs are recognized by the government of Nepal as good practice and have been replicated within and outside the country

Prior to commencing a WUMP, the concerned municipality must take the decision to conduct it, recognizing that the process takes some time. Usually data collection takes around four months, with documentation taking a further minimum two months; thus at least six months should be allowed. It is important that the WUMP is fully integrated into municipal planning processes as it covers many different aspects involving different entities and may also be impacted by other development activities. The diagram on the next page shows the steps in the process, which are then further outlined.



Preparatory phase

Once a municipality has decided to conduct a WUMP, it signs an agreement to this effect with Helvetas (or another facilitating technical organization). The concerned municipality then selects a local NGO service provider through a transparent procurement procedure, in coordination with Helvetas. The NGO is responsible for social mobilization (facilitating group formation, capacity building) and assessment in the field with support and guidance from Helvetas.

Capacity Building phase

This entails awareness-raising about the importance of the effective planning and judicious use of water resources and the formation of appropriate committees at municipal and ward level. The WUMP adopts a multi-stakeholder approach (government, resource organizations – development partners, INGOs and local level communities). These stakeholders are then briefed about the WUMP process, whilst ensuring that other relevant community level groups are kept informed. Capacity building is largely conducted by the NGO partner, guided by Helvetas. At local level the relevant entities – which must be registered with the municipality – include amongst others: Water User Groups and Committees for drinking water schemes; Water Association Groups and Committees for small irrigation schemes; Mothers Groups and Female Community Health Volunteers (FCHV) for awareness-raising on hygiene and drinking water treatment; Community Forestry User Groups (CFUGs), where government forest land has been handed over to such groups; Farmer Groups; and private suppliers.

Assessment phase

This is based on a participatory mapping exercise, in which users identify all water sources in the area and assess potential use. Any existing water supply schemes, small scale irrigation schemes, recharge ponds, micro-hydro plants, water mills and other relevant water uses are included on the map. At the same time, socio-economic data is noted – identifying the water hardships faced by different communities, the number of people affected, their socio-economic status, and the disaster risk potential of the area. Land tenure is also clarified where any new potential interventions are identified.

A technical assessment is then conducted, which entails the ground truthing of the map using GPS, measuring the discharge of each source, and calculating the annual flow. Any existing schemes are assessed and rated as functioning, partially functioning, or in need of renovation and prefeasibility of potential schemes conducted. With the establishment of the national government database <http://nwash.mowss.gov.np/> [WASH related information is now being uploaded into this database.](#)

Planning phase

Once mapping and reporting is complete, the future schemes are prioritized by community members at ward and then municipal level. Since the whole WUMP process is conducted in an open, participatory manner, it allows for all water users to express an opinion, and for the decisions on prioritization to be negotiated and accepted through consensus. The final WUMP document is then ratified by the municipality.

Implementation Phase

Following a WUMP, Helvetas seeks to implement the top prioritized water supply schemes with co-funding from the municipality (according to its means). This entails detailed survey and design, followed by the formation of inclusive Water Use and Sanitation Committees (WUSCs), which are trained on construction management. The WUSCs establish their own rules and regulations and open a bank account; they then manage construction, with technical support from NGO and Helvetas staff as needed. Public reviews and public audits are conducted before, during and after completion of the construction, and the scheme is registered with the municipality.

Capacity building of the WUSC members on sanitation, hygiene and maintenance is an integral

part of scheme development. All the water users pay a small fee for a water connection; these days private rather than community taps are the norm, in accordance with government directives. This is both because private taps are generally better maintained, and because their convenience means that household members can more readily follow hygiene measures. The user fees form an Operations and Maintenance (O&M) fund, which is expected to cover regular maintenance costs, including the wages of a village maintenance worker, who is trained accordingly. Responsibility for substantive repairs lies with the municipality. The WUMP process also prioritizes certain disadvantaged households for specific interventions such as rainwater harvesting or upgraded toilets.

WASH plan or WUMP?

Many municipalities are establishing a WASH plan rather than a full WUMP, as WASH planning is a priority of the Ministry of Water Supply. The key differences are as follows.

WUMP	WASH Plan
Integrated plan of WASH, small irrigation, micro water energy, water-related environment and ecology	WASH sectoral plan; other water uses are not included
Simple excel database – however, WASH data can also be uploaded on the national database	National database, output table accessible on the public website http://nwash.mowss.gov.np/
Use of hard copy for data collection and GPS data for water sources; mapping can be done later	Use of mobile apps for data collection, GPS data for water sources, details of existing water supply scheme, automatic mapping through GPS data
Inventory of all water sources and pre-feasibility of potential water schemes for planning purposes	Inventory of water sources that are used for existing water supply schemes
Step wise process and use of PRA tools to enhance participation and inclusion	Use of smart technology which is quicker and more efficient in data collection

Watershed management

WUMPs include provision for 3R – the retention, recharge, and reuse of water. Activities in this category include earthworks such as “eyebrows” and small reservoirs to promote water retention and percolation; recharge pits and ponds; and gully protection. These are combined with bioengineering for erosion control and slope protection, including wattle netting and vegetative cover (planting of trees and shrubs).

Drinking water schemes

In most cases, the most convenient form of drinking water supply is through piped gravity flow schemes. However, in water hardship areas where this is not feasible, Helvetas implements other solutions, such as solar lift pumps and rainwater harvesting (the

collection of rainwater from rooftops into storage cisterns for household consumption). Helvetas has already constructed over 1,000 rainwater harvesting cisterns in the Karnali River Basin (Achham and Dailekh). We have constructed four schemes using solar pumps.

Sanitation and Hygiene: the importance of behavior change

The Government of Nepal declared the country Open Defecation Free, ODF, in 2019. Nevertheless, work remains on improving latrines and ensuring their regular use by the entire community. Furthermore, the availability of safe drinking water at the tap is not equivalent to safe water at the point of consumption. Helvetas therefore works with communities and eventually whole municipalities to adopt the five indicators of total sanitation. These

comprise a toilet; a tap for regular hand washing with soap; clean drinking water (usually using a water filter); a rack for drying washed cooking utensils; and a pit for responsible waste disposal, separating compost and material to be burned. We engage with Female Community Health Volunteers and other influential individuals at community level to disseminate hygiene messages and promote total sanitation as a matter of pride and prestige. We also support women to become WASH entrepreneurs, marketing soap, buckets, and water treatment options such as water filters or chlorination. We combine hygiene messages with awareness-raising on the harm caused by *chhaupadi* (social exclusion during menstruation) including the importance of being able to wash and use toilets during menstruation. In combatting *chhaupadi* we work with both women and men – especially with male change agents such as shamans, priests, schoolteachers and elected representatives.

Water for agriculture

The WUMP identifies opportunities for small irrigation schemes – both new ones, and ones in need of rehabilitation. Here we seek to use risk-resilient technologies that we perfected following the 2015 earthquake (reinforced concrete cisterns, covered channels in landslide risk areas, etc). In Karnali, Helvetas has already implemented small irrigation schemes that have reached in total over 33,385 households, irrigating some 5,358 hectares. We also support the construction of small farm ponds to supply water for agriculture during the dry

season. We encourage Multiple Use Systems (MUS), so that, for example, water run-off from a domestic tap stand is channeled to irrigate a home garden. We also promote water-conserving farming technologies such as poly-tunnels, mulching, and drip irrigation.

Key features of the WUMP

- **Governance:** A transparent, participatory and inclusive decision-making for the holistic management and good governance of water resources within a municipality
- **Institutional anchoring** within the local government system, including budgetary allocations; recognized in national, Government of Nepal guidelines
- **Socially inclusive:** Supporting the empowerment of women and poor and socially disadvantaged households (especially Dalits) through participation in decision-making, subsidies where necessary, and WASH-related economic opportunities
- **Behavioral change:** Challenging detrimental cultural practices by promoting total sanitation as an aspirational behavioral norm.

Water for energy

Watermills for grinding grain and oilseed are a well-established traditional technology in Nepal. Following the 2015 earthquake, Helvetas worked on the restoration and technological improvement of such watermills, as documented in a separate Briefing Note.



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