**Input Water and food nexus:   
A human rights approach to water management in food systems**

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# Putting people first, not sectors

The Special Rapporteur’s focus on the water and food nexus opens up a truly people-centred approach, with significant implications for policy, law and action. This focus expands on the Special Rapporteurs’ success of the UN General Assembly’s adoption of a universal human right to water for domestic uses, as a right to affordable infrastructure. For most, if not all marginal smallholders and pastoralists in low-and middle-income rural areas, access to water for the range of productive uses is indispensable to ensure accessibility, availability, affordability, and adequacy of food. This need is also virtually universal, but realized through various pathways, including fisheries, livestock, cropping, tree growing, small-scale enterprise, and – most commonly - combinations. Water for livestock may well have a higher priority than ‘luxury’ domestic uses. Crop yields and trees critically depend on precipitation, soil moisture retention or just-in-time irrigation during dry spells in the rainy season or for continued crop irrigation in the dry season. Access to water for these multiple basic uses adapts to the losses and damages of climate change, which hit agrarian livelihoods hardest (Urban agriculture and urban small-scale enterprise also require water by many people, often informally, but this is not further discussed here).

For marginalized women (and men) in low- and middle-income rural areas it is obvious that water is needed for both domestic and productive water uses. The people-centred water and food nexus opens up this – hitherto largely ignored - recognition that various dimensions of wellbeing are interconnected and mutually reinforce each other positively or negatively. Positively, less time to fetch water for daily domestic chores means more time for adults’ production or other activities, or children’s schooling for intergenerational wellbeing. Health and good nutrition from milk, meat, eggs, vegetables and energy sources enable higher productivity and income, which, at its turn, enables purchasing basic food and other needs. More produce in local markets lowers the prices for net food consumers. Thus, multiple mutually reinforcing dimensions of water-related wellbeing trigger virtuous circles out of poverty.

Moreover, the Special Rapporteur’s intersecting rights enable a common vision towards gender equality starting with the need of both women and men for water to meet both domestic and productive uses (Hellum et al 2015). Putting people first overcomes rigid sectoral divides, even within the water sector, and recognizes intra-sectoral differences. Rural people stop being reduced to ‘passively paying single-use customers’ or ‘beneficiaries’ needing water for one particular use only, but, instead, entitled to water that meets all their intertwined basic needs. This reflects their age-old agency, as follows.

# Putting rural communities’ collective water tenure first

External support to realize human rights to water for domestic and productive uses does not happen in a vacuum. Since time immemorial marginalized communities already sought to realize their rights to water and food for mere survival, coping with seasonal and perennial weather and climate variability (Ramazzotti 1996). Communities’ relations among people with regard to water is defined as community-based (or customary) water tenure (FAO 2020). Without romanticizing the continuing marginalization of communities in low- and middle-income countries, they rightfully claim to protect, respect and support these assets: ‘nothing about us without us’.

Three components of community-based water tenure are directly linked to intersecting human rights to water and food: infrastructure; water resources allocation; and pollution prevention. Infrastructure enables water storage and conveyance to bring water in the right quantity and quality at the right moment to the right place. Infrastructure can be self-financed or externally supported. Both the Water, Sanitation and Hygiene (WASH) sector (Sutton 2021) and the irrigation sector (Izzi et al 2021) have recognized expanding self supply and started to support this, by promoting affordable technologies and solar power and other energy sources.

Not surprisingly, communities use any infrastructure to meet all their water needs at that site, especially at or near homesteads. A single use of water infrastructure is the exception. Further, households have typically access to various sources, depending on the functionality of infrastructure and the ever-changing availability of surface or groundwater resources from which the infrastructure taps. Multiple uses of multiple (self-supply or supported) infrastructures from multiple, shared, and variable surface or groundwater resources may sound complex. Communities can draw this resource map in a few hours (Van Koppen et al 2021).

When these surface or groundwater resources flowing over or under the community’s territories or pastoral routes become scarce, especially in dry seasons or droughts, customary normative frameworks evolved for sharing. Water resources are fundamentally seen as a commons, given by nature for free. Or, as the pastoralist Boran say: “Water is either a source that you ‘share in’ as a member of a descent-based collectivity, or one that you ‘share out’ to signify respect” (Dahl and Megerssa 1990).Without ignoring internal gender, class and other power relations, basic domestic or productive water needs of everyone tend to be respected, reflecting similar human rights to water and food (Derman and Hellum 2002; Derman et al 2007). Communities may even allow some ‘stealing’ of water, because this avoids the community’s bigger problem that some members remain poor (Komakech 2013).

Norms of showing respect hold for the ‘sharing out’ of surface and groundwater resources with neighbouring customary communities. However, communities remain very vulnerable when water resources are ‘shared out’ with powerful external parties upstream or downstream of the community’s territories or pastoral routes (Van Koppen 2023).

Regarding water quality, the third component of community-based water tenure, local rules for pollution prevention are based on (spiritual) respect for nature’s water resources. Enforcement may be difficult, though. Poverty limits pollution by requiring careful re-use of assets, e.g., applying manure on crops or recovering ‘waste’ otherwise. Fertilizers are expensive and risky and hardly used. For the one or few litres per capita per day for safe, tasty drinking, communities may reserve specific water sources, or applying traditional point-of-use treatment.

The following ongoing initiatives accelerate the realization of human rights to water and food through all three components.

# Leaving no one behind in infrastructure development for multiple uses

Focusing on those still left behind in the realization of the UN human right to water infrastructure for domestic uses, the following cost-effective, gender-equitable and sustainable opportunities are being implemented to realize rights to both water and food.

* Cross-sectoral collaboration between the WASH and irrigation sectors, by jointly promoting a priority for domestic uses and point-of-use treatment of 3 litres per capita per day for drinking, and simultaneously ensuring sufficient water for productive uses in a Multiple water Use Services (MUS) approach ([www.musgroup.net](http://www.musgroup.net); <https://www.rural-water-supply.net/en/mus>; Renwick et al 2007; Van Koppen et al 2021; Jepson et al 2023).
* Respecting people’s water and food nexus by participatory planning of water services, which prioritize water for livestock or other productive uses besides basic domestic uses.
* Support to self supply by promoting affordable technologies and energy sources (technical design, capacity development, supply and repair chains, financing facilities for purchase) (<https://smartcentregroup.com/>)
* Empowering marginalized women in accessing water and energy technologies.

# Rights-based water resources allocation

A human rights-based water resources allocation would prioritize all water resources that contribute to the realization of the human rights to water and food, whether realized with or without external support. The distribution of water resources tends to be highly unequal: relatively very few high-impact users take up the bulk of water resources. For example, South Africa has a Gini coefficient 0.96 (Cullis and Van Koppen 2007). Equitable distribution is governed by states as public trustees of the nation’s water resources. This counts most when parties compete in a zero-sum situation, typically during dry seasons, spells or droughts. The colonial legacy of water law continues to render communities in many low- and middle-income rural areas in the South very vulnerable (see box).

Box: administrative discrimination as colonial legacy of water law

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| Most Latin American and African countries have permit systems inherited from the colonial era, which were designed to overrule customary water tenure. At independence, or when permit systems were adopted later, also in Asian countries, states became the public trustee of the nation’s water resources. Permits became the legal tool to register existing uses and set conditions, including quantitative and qualitative limits, dam safety rules, payment of water resource management charges, etceteras. Newly planned water uptake is preceded by public ex-ante impact assessments that enable those affected to redesign or reject the plan. The relatively small number of formal high-impact users can be effectively regulated in this way.  However, permitting and exemptions discriminate the large majorities of small users obliged to register and *de minimis* micro-scale users exempted from that obligation.   * Individual registration of permits by some erodes the collective character of community-based water tenure. Even customary land registration is already highly complex. * States lack the logistic capacity to formalize the many small-scale existing users, let alone the intensive due diligence process to approve plans for new small-scale water uptake. * The exempted micro-scale *de minimis* uses remain invisible, enabling powerful third parties to override such uses.   Schreiner and Van Koppen (2018) propose equitable hybrid water rights regimes to implement the strengths of permitting the few high-impact users to protect marginalized users. |

Water resource allocation in a zero-sum situation is, inevitably, a matter of prioritization. Most current water law simply ranks monolithic silos that ignore intra-sectoral differences and ignore the water and food nexus. The following best practice examples overcome that.

* The National Water Resources Strategy (2023) of South Africa stipulates a legally binding prioritization, ranking from highest (winners) to lowest priorities (inevitably losers): 1. the Reserve, consisting of an Ecological and a Basic Human Needs Reserve (currently operationalized as basic domestic uses only); 2. International obligations; 3. *Water uses that contribute to poverty eradication, livelihoods and racial and gender equity;* 4. Strategic uses (mainly the cooling of power plants), and 5. Large-scale commercial farming, mining and industries (DWS 2023).
* The South African government contests bilateral water entitlement transfers (for money, so trade) by the relatively few ‘haves’ among one another. Instead, the use-it-or-lose-it principle holds: trading means you don’t need water, so water reverts to the public trust for reallocation to the ‘have-nots’.
* RRI and ELI (2020) examine the recognition of customary water tenure in legal frameworks of 15 African, Asian and Latin American countries. Troell and Keene (2023) elaborate this focus for Africa, where 60 percent of the land is customarily governed. A formal recognition of customary land can include the resources appurtenant to the land, also water flowing or under the territories. Recognition of this land-water nexus protects communities in the ‘sharing out’ of water resources with powerful, formalized users. Pastoralists can also have a priority, as in Mali. National constitutions, national legislation governing water, land, forests, environmental protection and other related matters, international and national case law, and international and regional human rights laws can also be translated into prioritization of water resource allocation. (Troell and Keene 2023).

# Pollution prevention

Customary notions to maintain water quality can be invoked. However, pollution prevention is most effective by targeting the much bigger polluters, also recognizing intra-sectoral differences: large-scale, highly mechanized livestock breeding and (export) crop cultivation with abundant, costly fertilizers and pesticides; or mines and industries.

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