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Working Group on Integrated Water Resources Management

Sixteenth meeting*

Working Group on Monitoring and Assessment

Sixteenth meeting*

Geneva, 26–28 April 2021
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Promoting an integrated and intersectoral approach to water management at all levels: supporting equitable and sustainable water allocation in a transboundary context

Main messages of the draft handbook on water allocation in a transboundary context

Submitted by the secretariat

Summary

The present document contains the main messages of the informal document entitled "Draft handbook on water allocation in a transboundary context" (see ECE/MP.WAT/WG.1/2021/INF.5-ECE/MP.WAT/WG.2/2021/INF.5, forthcoming). The eighth session of the Meeting of the Parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) (Nur-Sultan, 10–12 October 2018) requested the development of a handbook based on existing practices covering the key aspects of equitable and sustainable allocation of water in the transboundary context, addressing both surface waters and groundwaters, and also environmental flows (see ECE/MP.WAT/54.Add.1) programme area 3, activity 3.3).

Work began in 2019 on developing the handbook, which provides a global review of water allocation arrangements in transboundary basins. Selected illustrative case studies from around the world will highlight various transboundary allocation practices, challenges and lessons learned. The development of the handbook and its main messages has been supported by the Expert Group on the Transboundary Water Allocation Handbook, composed of experts from all continents from Governments, academia, civil society and international organizations, which was formed to provide guidance and oversight on the

* Third joint meeting of the two working groups.

structure, substantive content and illustrative case studies. The Expert Group met three times (Geneva, 21 October 2019, and Geneva (online) 30 and 31 March and 20 and 21 October 2020) and was consulted throughout the development process in order to suggest structural and substantive elements, review drafted content and provide feedback. An annotated outline of the handbook on water allocation in a transboundary context (ECE/MP.WAT/WG.1/2020/INF.5)[a] was presented at the fifteenth meeting of the Working Group on Integrated Water Resources Management (Geneva, 30 September–2 October 2020). The present document distils the main messages of the full draft handbook, which has since been elaborated.

The Working Group on Integrated Water Resources Management and the Working Group on Monitoring and Assessment are invited at their third joint meeting to review and comment on the draft main messages contained in the present document, as well as the informal document entitled "Draft handbook on water allocation in a transboundary context". The Working Groups are also invited to entrust the secretariat, in consultation, where appropriate, with the lead country Hungary and the Expert Group, with the task of integrating comments, editing and finalizing the main messages and the full draft of the handbook on water allocation in a transboundary context, and preparing the final version for adoption at the ninth session of the Meeting of the Parties to the Water Convention (Tallinn, 29 September–1 October 2021).

[a] Available at https://unece.org/fileadmin/DAM/env/documents/2020/WATER/09Sep30-2Oct_15th_IWRM/INF5_ENG_Draft_annotated_ouline_Water_allocation_handbook.pdf.

Main messages

Summary

The main messages have been distilled from the content of the chapters of the draft handbook on water allocation in a transboundary context, including case studies. The present document is structured in a similar order to the handbook, starting with definitions and cross-cutting issues before moving onto the core elements of transboundary water allocation. The limitations to, and complementary approaches regarding, transboundary water allocation are also addressed. These main messages are intended to provide an over-arching summary of the handbook contents. For specific details and illustrative examples, the relevant chapter(s) can be consulted (see ECE/MP.WAT/WG.1/2021/INF.5-ECE/MP.WAT/WG.2/2021/INF.5).

1. Transboundary water allocation is a joint iterative planning, decision-making and implementation process and an agreed outcome between two or more water-sharing States. It can determine one or more of the following: the quantity; quality; and/or timing of water at the border between these States. It also grants associated entitlements. Simply put, water allocation determines who can use shared water resources, in what quantity and quality, where, for which purposes and at what point in time.

2. Transboundary water allocation is increasingly important in the current rapidly changing water security contexts. This is especially due to the growing demand for water resources, as well as the increasing impacts of physical water scarcity, droughts and flooding, which are aggravated by climate change. Current and future water developments (for example, irrigation, abstraction, flood management, navigation, hydropower, drinking water supplies, etc.) add to the need for coordination and arrangements for ensuring sustainable water availability for different demands, including for the environment, across borders. The following subparagraphs elaborate on this main message:

(a) Globally, more than 60 per cent of freshwater resources flow across national boundaries, including 310 transboundary river basins and over 500 transboundary aquifers. Most transboundary basins are vulnerable to rising impacts of climate change and other growing pressures on increasingly scarce and degraded freshwater resources;

(b) An increasing number of transboundary surface water and groundwater basins around the world are classified as fully or over-utilized with respect to the available water resources, particularly in water-scarce and drought-prone regions. Additionally, many countries are increasingly reliant on diminishing transboundary water resources;

(c) Total water use has seen a strong upward trend globally and regions are experiencing their own diverse pressures in water usage and resource demands. On a global scale, water use in all key water-using sectors has increased dramatically in recent years. Water withdrawals have been projected to further increase in the short, medium and long term, although with significantly different rates and spatial distributions between regions, basins and States.

3. Transboundary water allocation agreements and other arrangements should be adaptable. New transboundary water allocation agreements and other arrangements need to be designed to be adaptable in the medium and long term to changing hydrological, climatic and other related factors (socioeconomic, geographical, cultural, etc.). States may consider revising existing water allocation agreements and other arrangements, or adopting subsidiary instruments, to make them more adaptable, in accordance with the general principles of treaty law. Adaptive capacity can be integrated into transboundary allocation systems and institutions to respond to changing conditions, greater climate variability, impacts and opportunities. Examples in this regard include applying allocations in percentages instead of absolute amounts, periodic reviews and using objective thresholds (for example, persistent low precipitation) as a baseline in cases where there may be exceptional deviations from agreed allocations. The following subparagraphs elaborate on this main message:

(a) Climate change must be approached as a cross-cutting challenge to effective allocation. This is a potential risk multiplier that may necessitate adjustment of existing – and a careful drafting of any new – transboundary water allocation agreements and arrangements. Transboundary allocation arrangements need to factor in the increased uncertainty and inter- and intra-annual variability of precipitation and run-off to cope with increasing frequency and extremity of drought and flood events. Making transboundary allocation arrangements climate-resilient requires strong coordination mechanisms between different levels of governance, sector policies and stakeholder groups;

(b) Where appropriate, and in accordance with the general principles of treaty law, it may be useful to jointly review pre-existing usage patterns and any transboundary allocation arrangements on which they are based in order to adapt to evolving conditions and demands. Such review should be based on equity and sustainability, especially as regards upstream and downstream water use allocations, including for the environment;

(c) It can also be useful to share and jointly develop or review plans for any future water uses based on predicted foreseeable needs at the transboundary and State levels. Future plans with potential transboundary impacts should be shared as soon as reasonably possible, in accordance with the principles of prior notification and consultation. Water demands and flows evolve over time due to many factors, including, but not limited to, changes in demography and land uses. Impacts of climate change on future demands and flows should also be anticipated and used to inform the negotiation of acceptable allocation arrangements;

(d) Economic considerations (including impacts of, and on, pricing, consumer and produce surplus in the sectors concerned, fiscal impact and affordability constraints) are important in managing demand and water infrastructure needs over time, as well as in negotiating and implementing water allocation (rules and mechanisms, externalities, etc.). Cost-benefit analyses can help to structure the options in water allocation and to assess the impact of those options. However, it must be acknowledged that not all costs and benefits can be quantified and monetized usefully, and therefore, those aspects should be included in other terms in the analysis. Coordinating infrastructure and incentivizing efficiency and cost-effectiveness can help to avoid oversized water infrastructure and reduce demands for water.

4. Transboundary allocation should always be considered in conjunction with its limitations and possible complementary broader approaches. A main limitation of allocation can be its narrow focus on water quantity, quality and timing within a bounded spatial area. Sustainable and equitable transboundary water allocation should be seen as a potentially

beneficial element of transboundary water resources management depending on the basin situation. The following subparagraphs elaborate on this main message:

(a) Intersectoral approaches, such as the water-food-energy-ecosystems nexus approach, depending on the issues at stake and the context, may inform the choice of sectoral and integrated policies and decisions that increase efficiency, reduce trade-offs and build synergies. Nexus solutions may allow for sectoral policies and development strategies to be informed, or provide for alternative solutions in economic sectors which may result in lower water demands;

(b) Long-term basin planning incorporating integrated water resources management can, first, reduce the need to resort to specific water allocation arrangements, and second, provide a foundation for transboundary water allocation (ideally accounting for the future outlook). This potential of integrated water resources management comes from a holistic consideration of different water sources and uses, but also from applying both supply and demand management. Reinforcing cooperation on basin management contributes to, for example, sustaining the allocable water resource, and ensuring the long-term functioning of the necessary built infrastructure and sustainable ecosystem health and integrity;

(c) Sharing of net benefits from water resources provides a broader range of benefits for negotiating transboundary allocations. This can inform the development of a more complete and sophisticated allocation arrangement.

5. Developing transboundary water allocation arrangements is an iterative and cooperative process: start by setting out the States' terms of reference, identify a simple shared objective(s), develop trust and then expand. Arrangements should adapt those elements that are relevant for the specific purposes and issues to be addressed and ensure the existence of adequate institutional capacity for implementation at the transboundary and national levels. It is recommended to incorporate feedback loops in order for States to jointly revisit and reassess important elements and steps in the process as and when required. The following subparagraphs elaborate on this main message:

(a) Identification of the net benefits of cooperation regarding transboundary waters can help with creating enabling conditions, including political willingness, for strengthening cooperation on water allocation in a transboundary context. Tools are available to assist with this process. Allocation arrangements can then contribute to broader peace-building and regional conflict prevention, mitigation or resolution;

(b) Historical records of negotiations over transboundary water allocation agreements or other arrangements indicate that they have tended to follow a needs-based approach rather than approaches focused solely on legal rights (whether absolute rights or other principles and entitlements). Needs-based approaches based on basin characteristics, or on the tangible benefits that water brings, are more easily quantifiable. Such approaches have often provided a common starting point for negotiations by offering more practical methods for determining water sharing baselines in a transboundary context. Notwithstanding, legal rights are a crucial component of any negotiations regarding transboundary water allocation;

(c) Negotiations can benefit from an assessment of present and future water needs in the riparian States, including a detailed diagnosis of potential water resource scenarios. Any future water needs assessment should consider feasible options for managing water demands, prioritizing vital human needs and improving water use efficiency and saving measures in riparian countries and their main water users;

(d) Inclusive participation in decision-making should be integrated into both the process and outcome of water allocation in a transboundary context. Involvement of traditionally marginalized and/or under-represented sections of society that rely on transboundary water resources should be particularly taken into consideration, bearing in mind gender equity;

(e) Implementation of transboundary water allocation arrangements relies on having effective national legislation and policies in place (and may require their revision). Seeking alignment and coordination between transboundary allocation arrangements and relevant State legislation is beneficial and should be taken into consideration as early as possible in the planning process. Depending on the national legal framework, subnational

entities may have been delegated authority and hence play a particular role in negotiating, establishing and implementing allocation agreements and arrangements. The institutional and technical capacity of all States' competent/mandated institutions should also be taken into consideration in transboundary water allocation implementation plans;

(f) Integrating clearly defined dispute settlement mechanisms (both diplomatic and adjudicatory mechanisms) can help to support transboundary allocation arrangements. Given the often-contested nature of transboundary water use and allocation, binding dispute settlement mechanisms agreed on by the riparian States can be a beneficial element when incorporated into any allocation agreement.

6. Existing and new water allocation mechanisms can generally be divided into direct mechanisms, indirect mechanisms or mechanisms based on principles. These mechanisms are not mutually exclusive and can be used in combination and change over time. For example, groundwater is a distinct type of resource compared to surface water; consequently, specific mechanisms refer to pumping rates, water table impact, spring outflow or storage capacity of the aquifer. It is up to the States involved in allocation arrangements to determine the mechanisms that are most relevant and suitable to use in their context and any associated benefits they wish to prioritize. The various mechanisms are described in more depth below:

(a) Direct mechanisms typically specify: fixed quantities (for all or some States), percentage of flow, equal division, variable by water availability; a variable according to time of the year, water loans, allocation of entire/partial aquifer/river (based on sole use), allocating time; a cap, limit or no allocation allowed;

(b) Indirect mechanisms include dividing allocation based on the priority of use, consultation and/or prior approval; allocation mechanism is to be determined by a river basin organization, commission and/or committee;

(c) Mechanisms based on principles refer to one of the following: benefits sharing, historical or existing uses, equitable use, sustainable use or an allocation mechanism that uses a market instrument.

7. Growing practice in some transboundary basins reflects the prioritizing of specific human and ecological needs before allocating available water resources to other needs. Water quality for human consumption is becoming an increasingly important aspect of transboundary allocation and the prevention and mitigation of pollution loads a high priority. Preventing ecosystem degradation has been a main driver for recent water allocation reforms. The following subparagraphs elaborate on this main message:

(a) Vital human needs for drinking water, sanitation and hygiene are increasingly prioritized, especially in regions facing frequent drought events or chronic water scarcity. Water scarcity may compromise water supply and sanitation services and have negative impacts on human health. Deteriorating water quality diminishes available potable resources, while the need for treatment increases costs for water use;

(b) The state of freshwater ecosystems affects the quantity, quality and variability of allocable water. Safeguarding or restoring key aspects of ecosystem functioning, such as downstream water supply, wetlands, freshwater fisheries or sediment transport to low-lying delta regions, can thus be strategically important to transboundary allocation arrangements;

(c) Increasing use of environmental/ecological flow assessment tools and approaches that ensure that the environment is designated as a water user reflects an understanding that maintaining healthy freshwater ecosystems has broader strategic social, cultural and economic benefits, both direct and indirect. This trend recognizes the intrinsic value of the integrity of ecosystems whereby numerous methods for defining e-flows have been developed;

(d) Ensuring obligations related to return flows and discharges are properly specified and enforced can further support prioritizing human and ecological allocation needs.

8. The United Nations global water conventions, the draft articles on the law of transboundary aquifers and regional agreements provide guiding legal frameworks relevant for allocating water in transboundary basins and aquifers. These contain general principles

(for example, equitable and reasonable utilization, no significant harm, good neighbourliness and cooperation, protection of ecosystems, "polluter pays", peaceful settlement of disputes) and governance tools (agreements, joint bodies) to assist States in developing or revising (if appropriate) contextualized transboundary allocation agreements or other arrangements. Applicable international laws and riparian State treaty obligations should also be taken into account. The following subparagraphs elaborate on this main message:

(a) Multilateral environmental agreements can be worth taking into consideration in developing transboundary water allocation arrangements. These include, but are not limited to: the Convention on Access to Information, Public Participation and Access to Justice in Environmental Matters; the Convention on Environmental Impact Assessment; the Convention on Wetlands of International Importance especially as Waterfowl Habitat; the Convention on Biological Diversity; and the United Nations Framework Convention on Climate Change;

(b) Several emerging principles and norms can be considered for inclusion in the development of allocation arrangements depending on the context. These include, but are not limited to: indigenous water allocation in conjunction with the United Nations Declaration on the Rights of Indigenous Peoples and cultural flows; the human right to water and other rights; the "community of interest" approach; water stewardship; and rights of rivers and ecosystems. Approaches to valuing water and supporting ecosystem services, for example, water pricing and payment for ecosystem services, have also gained increasing attention globally.

9. Joint arrangements, agreements and joint bodies established by riparian countries are key elements of well-functioning transboundary allocation systems, granting certainty and legal weight in the long term. In some cases, technical solutions and informal or temporary arrangements may be instrumental in reaching a negotiated and acceptable short-term solution for allocation in a transboundary context. The following subparagraphs elaborate on this main message:

(a) Many joint bodies have water quantity among the issue-areas on which they are mandated to work. How such a mandate on water quantity is translated into specific cooperative action varies widely across basins and their respective joint bodies. However, very few joint bodies have an explicit water allocation mandate;

(b) Concerning transboundary water allocation, where joint bodies are operational, they can sometimes be mandated to advise/be the technical advisor/provide guidance to member States with regard to water allocation. Implementation of agreed measures rests with riparian States. Empirical evidence demonstrates that those basins that have joint bodies in place do better in addressing contested issues around water quantity because they have a platform for regular exchange;

(c) The success with which the above-mentioned joint bodies fulfil their mandates with respect to water allocation varies considerably. Many joint bodies that have been tasked with water allocation have found it challenging to deal with that issue over time.

10. The collection and sharing of relevant and reliable data and information is a vital foundation for the planning and implementation of water allocation in a transboundary context. Data and information may include both biophysical and socioeconomic dimensions. Such measures can help to reconcile different understandings of the shared water resources between sectors and/or riparian States regarding water availability, status and significance for sustainable development. The elements listed below can strengthen the knowledge base for transboundary water allocation:

(a) Joint and/or coordinated monitoring and assessment systems that utilize sound and financially sustainable technology are of benefit to water allocation arrangements. Harmonized methodologies and parameters, ideally inspired by best practices, can further support consistency of cross-border comparisons and interoperability of data. Such systems can be useful in verifying allocation implementation and effectiveness and facilitating the transparency necessary for compliance and enforcement;

(b) A joint or coordinated assessment of vulnerability of water resources to climate change, and projection of impacts on future demands can be useful exercises for

transboundary allocation. They foster a shared understanding of the future water outlook and the development of related monitoring and assessment systems. This can also provide scope for periodic review of the terms of allocation and their modalities for implementation;

(c) Open, transparent and regular sharing of up-to-date information is important for allocation, but many States find this element challenging. This should include the exchange between States of, and/or access to, any relevant data (including metadata) on the current status and variability of transboundary water resources within each State, including various stakeholders. It should also include any plans for future water uses and related developments, including infrastructure projects, as soon as reasonably known, as well as forecasts/outlooks on the availability of waters. Nevertheless, not all data is always required or available and this should not prevent decision-makers from taking decisions if necessary.

11. The operationalization of water allocation in each transboundary context is the product of a unique pathway. Nevertheless, an adaptable and applicable set of technical, legal and institutional water allocation approaches, mechanisms and arrangements can be outlined as generally falling into three groups of steps: (a) incentives, reasons/motivations and the knowledge base; (b) negotiations for arrangements or agreements including development of allocation mechanisms and plans, monitoring and ensuring compliance, and dispute prevention and resolution mechanisms; and (c) implementation, including national implementation. The following subparagraphs elaborate on this main message:

(a) An adequate shared knowledge base and understanding of the issues at stake is a starting point for evaluating whether water allocations agreements and other arrangements provide the most appropriate means to address issues. If appropriate, this information can further assist in defining agreed allocations and system design, including related mechanisms and plans. Important elements of the knowledge base include water resource and availability assessments, analyses of environmental requirements, as well as use and impact assessments, preferably in different scenarios;

(b) Beyond Government entities concerned with water allocation, it is advisable to identify and engage other key stakeholders in the process of transboundary water allocation. These may include international financial institutions, infrastructure operators, sectoral organizations, main water users or associations thereof, civil society and citizens' organizations, local communities and indigenous groups. Engaging with the public concerned has benefits, potentially contributing to an improved knowledge base, as well as enhanced equity and sustainability. A stakeholder analysis can inform who should be involved, and an institutional analysis can inform the determining foundations for any arrangement;

(c) Identification of different allocation options and alternatives and their careful consideration before taking decisions is very beneficial and diverse valuation tools and needs-based evaluations can be of assistance, taking into account the fact that not all benefits or factors can be quantified. One example in this regard, multi-criteria decision analysis, is a means for providing a transparent and systematic comparison. Various software tools and decision support systems have been developed to support the application of multi-criteria decision analysis and other methods in practice. Joint bodies are best positioned to apply these methods in practice given their mandate, and as platforms for exchange, at the transboundary level;

(d) Uncertainty related to water availability, variability and events is inevitable, making it essential to integrate flexibility mechanisms and adaptive capacity into allocation arrangements. Better availability of data reduces uncertainty, but even a lack of data can be turned into an opportunity by sharing information and co-producing knowledge;

(e) The negotiation of water allocation arrangements and agreements should not be seen as a one-off exercise; rather, it is part of a transboundary water cooperation process that advances step-by-step and may eventually need to be revised;

(f) Transboundary water allocation arrangements and agreements often need to be further specified to ensure effective implementation. This can be supported by developing allocation mechanisms, coordination and monitoring plans – considering different scales – which may also provide flexibility for allocation;

(g) Implementation of transboundary water allocation arrangements and agreements at the national and subnational levels is critical. This can be supported by various elements, such as: water allocation planning; harmonizing relevant water resources legislation; basin-scale analysis and regional limits on water abstraction; water entitlement or licensing systems; and annual water allocation process and monitoring systems for compliance and enforcement.