Prioritization of Water Use Rights in Ethiopia:
Exploring the Perspectives and Practices in the Governance of *Awash River Basin*

Zbelo Haileselassie Embaye[♣] & Achamyeleh Gashu Adam[♣♣]

Abstract

Water governance mainly strives to ensure equitable and efficient allocation and prioritization of use rights. The scarcity of water resources in any setting can be a cause for conflict, wastage, depletion, and/or pollution. Prioritization of water use rights is considered as important principle of water governance to protect the human right to water, accommodate interests, avoid conflict, wastage and allocate available volume of water to potential users. This article explores the perspectives and practices of prioritization approach of water governance in Awash River basin. Qualitative research approach was employed, and the findings indicate that there are multiple interpretations by the key actors of the priority ladder amidst general and insufficient policy and legal frameworks. The practice also indicates that water allocation plan for the medium and large-scale water users are stated on papers whereas actual allocations are made based on convenience. It is critical to devise water reform and set prioritizing principles and standards. Moreover there is the need to apply the most feasible and comprehensive approach in water governance and avail the essential resources and technologies.

Key terms:

Prioritization · Water use · Water rights · Bundle of rights approach · Categorization · Clustering · Integration

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♣ Zbelo Haileslassie Embaye (Assistant Professor, PhD Candidate in Land Policy and Governance, Bahir Dar University, Institute of Land Administration), (LL.B, BA in Sociology, LL.M in Taxation and Investment Laws)
Email: zbelo40@gmail.com
ORCID: https://orcid.org/0000-0002-2140-4421

♣♣ Achamyeleh Gashu Adam (PhD), Associate Professor of Land Policy & Governance/ Administration, Bahir Dar University, Institute of Land Administration
Email: agachamyeleh@gmail.com
ORCID: https://orcid.org/0000-0002-6128-2182

The co-author is the author of Section 2.2 of this article and the first author's PhD research co-supervisor (which is the foundation of most sections of this article).

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Contents

1. Introduction

Projections show that 40% of the current global population lives in water-stressed river basins. OECD has indicated that the demand will rise by 55% in 2050.[1] Over-abstraction and contamination of aquifers worldwide will pose significant challenges to food security, the health of ecosystems and safe drinking water supply, and can increase the risk of subsidence, among other consequences.[2] In 2050, it is projected that 240 million people will remain without access to clean water, and 1.4 billion without access to basic sanitation.[3] The current situation of water scarcity and competition for water, therefore, necessitates equitable and reasonable utilization of water resource which can be implemented through properly instituted water governance system.[4]

Water governance relates to the rules, structures and powers of management and regulation of water. It is the system that regulates the determination of "who gets what water, when and how, and who has the right to water and its related services and their benefits"[5], based on the core principles of equitable and reasonable utilization in the distribution of water resources.[6] Governance implies management and regulation of the public good that goes beyond the centralized nation-state. Both the development and governance oriented definitions show us similarities in the contents of the elements. The governance dynamics can be affected by plurality of interests, power and politics.[7] In a water governance system, prioritization of water use rights is considered as one of the key principles.[8]

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[1] OECD. (2015). OECD Principles on Water Governance. *Directorate for Public Governance and Territorial Development, OECD Ministerial Council Meeting on 4 June 2015.* OECD.

[2] Peter P. Mollinga (2008), 'Water, politics and development: Framing a political sociology of water resources management', Water Alternatives 1(1) pp, 7-23.

[3] OECD(2015), *supra* note 1.

[4] Article 5 of the 1997 United Nations Water Course Convention (UNWC).

[5] Tony Allan (2001), The Middle East Water Question: Hydro Politics and the Global Economy.

[6] **A**bby Muricho Onencan & Bartel Van de Walle (2018), Equitable and Reasonable Utilization: Reconstructing the Nile Basin Water Allocation Dialogue. *Water Resources Research,* Vol.10, 707; doi:10.3390/w10060707.

[7] Eiman Karar (2017), *Freshwater Governance for the 21st Century*, Water Resources Commission, Springer, South Africa.

[8] Nowlan, L and K. Bakker. (2007), Delegating Water Governance: Issues and Challenges in the BC Context, *Program on Water Governance*, University of British Columbia.

The prioritization of water use rights must promote the goals of sustainable development.[9] There is a new development on which actors examine and approach any issue of water through multiple perspectives mostly attached with the efforts to promote sustainable development.[10] The specific prioritization of water use rights manifests the prioritization of the core elements of sustainable development. Sustainable development gives due attention to the protection of the environment (as one of its pillars) and environmental sustainability, *inter alia*, envisages the assurance of priority to environmental flow and the ecosystem.

Prioritization of water use rights may be introduced and installed to promote multiple purposes. Curbing water grabbing (direct or indirect, lawful or unlawful capturing or appropriation of water) may be considered as one of the multiple purposes. 'Water grabbing' manifests resource grabbing including land and water at the same time. 'Resource grabbing' refers to the "appropriation of natural resources, including land and water, and the control of their associated uses and benefits, with or without the transfer of ownership, usually from poor and marginalized to powerful actors".[11]

The absence of prioritization system can be a cause to frequent conflicts and discomforts in inter-basin water utilizations and issues of water governance.[12] The power division on *shared-rule* and *self-rule* aggravates the problem unless it is handled wisely. The setting of the prioritization system can be a cause to dispute in the vertical and horizontal division of power. Beyond, the questions such as 'why, what and how' federalism can be applied in relation to water resource management in general, and prioritization of water in particular.[13] They are subject to arguments and they may cause a complexity.

Awash River Basin is among the twelve legally recognized river basins stated under Article 2(1) of the FDRE River Basin Councils and Authorities

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[9] Andrea Ross (2009), 'Modern Interpretations of Sustainable Development, Economic Globalization and Ecological Localization: Socio-legal Perspectives', *Journal of Law and Society*, Wiley on behalf of Cardiff University, Vol. 36, No. 1, pp. 32-54.

[10] UNESCO Education Sector. (2012). *Learning about Water- Multiple- Perspective Approaches.* UNESCO- Education for Sustainable Development in Action Learning and Training Tools No. 5.

[11] James Fairhead *et al*, (2012), 'Green Grabbing: a new appropriation of nature?' Journal of Peasant Studies, 39:2, pp. 237-261.

[12] Zbelo Haileslassie Embaye (2016), The Quest for Standard Tests in Prioritizing Water Use Rights in Ethiopia, *Mizan Law Review*, Vol. 10, No.1, pp. 177-216.

[13] Nowlan & Bakker, *supra* note 8.

Proclamation No. 534/2007. At the central level, there was a Basin Development Authority (BDA) which is a legally authorized organ on the development, management and utilization of water resources in all the twelve recognized river basins. However, the organ is currently changed, merged and integrated with the new Ministry of Water and Energy.[14] Under the BDA, there is Awash Basin Development Office which is engaged in the actual governance, administration, development and management of the basin.

The basin holds different water use categories and it currently provides annual water needs of 4.114 billion cubic meters for 18.6 million human population, 34.4 million livestock, and 199,234 hectares of irrigated land (which accounts 83% of the total water use) and different commercial and industrial activities in the basin.[15] It has different types of tributaries flowing from different administrative jurisdictions and sources of water. The hydrological and administrative boundaries may not be demarcated at the same point. There are varying and inconsistent mandates, interventions, and practices in relation to the management, administration and governance of the Awash River basin.

In general, there are global, regional and country reports indicating the necessity of conducting research on the prioritization of water use rights under the general umbrella of water governance.[16] However, researches on exploring the practice of water governance in Ethiopia in general and in the Awash River basin in particular are limited. This obviously necessitates conducting research on the prioritization of water use rights under the general umbrella of water governance. This article explores and analyzes the practices and perspectives of prioritization principles in water use right governance in Ethiopia by taking cases from Awash Basin.

[14] FDRE A Proclamation to Provide for the Definition of the Powers and Duties of the Executive Organs of the Federal Democratic Republic of Ethiopia, Proclamation no. 1263/2021, Art 16(13).

[15] AWBA (2017) Awash Basin Water Allocation Strategic Plan

[16] Water Governance Center. (2013). *Water Governance Capacity: Awash Basin, Central Ethiopia, Review on Content* . Hague: Water Governance Center, Netherlands.

2. Conceptual and Theoretical Framework

2.1. Understanding prioritization principle in the context of water governance

As Singh notes, the principles of water distribution have evolved from and contextually applied to inter-state water conflicts.[17] The principles in distributing water are related with the principles of distributive justice. As distributive justice is against compartmentalization among individuals, state and corporate bodies, the effort to find some set of standards or measures of equity among individuals can be difficult. There is also an argument that there are no basic principles of justice in the doctrines or theories of water distribution.[18] The traditional experiences have proven that the facts, values, reasons, etc. that are applied to justify the principles were based on political, geographical or sociological dimensions. The traditional views include the riparian rights or the natural flow theory, 'first come first served' or the so called prior-appropriation theory, the servitude or "whatever is mine I can treat it in any way" theory, or what has been technically called: the territorial-sovereignty theory.[19] This shows that basic principles of justice are missing in such justifications. However, there is historical evidence that shows the move from non-legal to legal principles.

In general, there are two arguments with regard to the controversies in applying the system of prioritization. Globally, the application of the system of prioritization can be taken as the most dominant paradigm across the globe which emerged from the 1827 US case law: Tyler v. Wilkinson.[20] *First*, there is an agreement that prioritization or ranking of some use rights helps to promote and fulfill the use rights for specific purposes and policies.[21] Under normal circumstances, the issue of prioritization materializes where there is an imbalance in the supply and demand side in

[17] Chhatrapati Singh (1991), *Water rights and principles of water resources management*, New Delhi: Indian Law Institute. *See* also Salman M. A. Salman, (2007). 'The Helsinki Rules, the UN Watercourses Convention and the Berlin Rules: Perspectives on International Water Law', *Water Resources Development*, Vol. 23, No. 4, pp. 625–640.

[18] Ibid.

[19] Ibid.

[20] Anthony Scott and Georgina Coustalin, (1995), 'The Evolution of Water Rights', Natural Resources Journal, Vol 36, pp. 821-979.

[21] Gregory J. Hobbs, Jr., (2002), Priority: The Most Misunderstood Stick in the Bundle, 32 ENVTL. L. 37, 42-44. Also *see* A. Dan Tarlock, (2000) Prior Appropriation: Rule, Principle, or Rhetoric? 76 N.D. L. REV. 861.

the quantity and quality of water. The availability of scarce water resources necessitates the system of prioritization as a strategy.

Second, there is a dominant argument that the application of the prioritization system is not feasible to all contexts. This is connoted as the *'out-of-priority'* of water allocation.[22] It considers the dynamism of water allocation and water demands and it envisages the variability of contexts. The proponents of the *'out-of-priority'* emerged naturally as an antithesis to the system of prioritization.[23] The critique against the prioritization system is aligned with its rigidity to apply it in all contexts. It fails to accommodate the dynamism and variability of natural resources and potential demands.[24] This problem may emanate from the drawbacks of the bundle picture.[25] However, the challenges in the technical application of the principle should not be the sole reason to avoid its merit in water allocation systems. In general, understanding water prioritization principles demands explaining the driving forces and drawback of the priority argument with the intention to promote substantially principles of equity and efficiency in water resources usage (see figure 1 below):

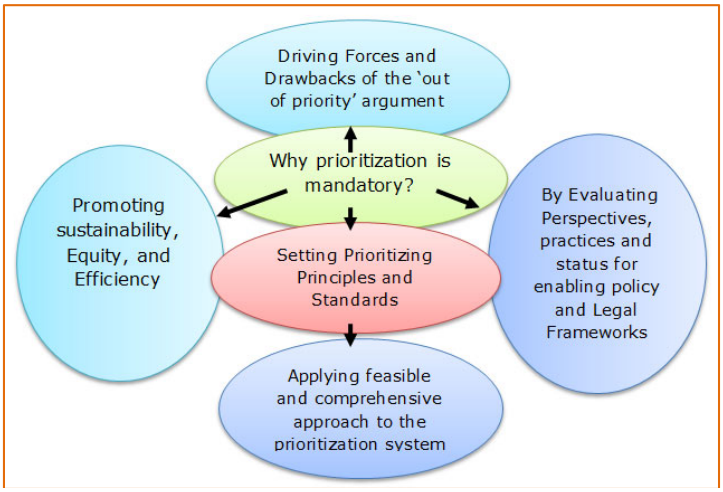

Figure 1: A conceptual framework developed based on literature review

[22] Lawrence J. MacDonnell (2004), Out-of-Priority Water Use: Adding Flexibility to the Water Appropriation System, *Nebraska Law Review*, Vol. 83:485.

[23] Ibid.

[24] Ralph A Wurbs (2001), 'Assessing Water Availability under A Water Rights Priority System', *Journal of Water Resources Management and Planning*, pp. 235 -243.

[25] Eric R. Claeys (2008), Property 101: Is Property A Thing Or A Bundle? A Book Review Essay on Thomas W, Merrill & Henry E. Smith. (2007), Property: Principles and Policies, New York: Foundation Press, 2007, pp. xiii, 1396.

The focus of the figure (above) is to explain and conceptualize prioritization principle in the context of water governance. Above all, it attempts to justify why the prioritization rule is mandatory in a given legal system. The driving forces that rationalize the importance of the prioritization cover physical, social, economic, environmental and political contexts.[26] The existence of a Federal state structure in Ethiopia has also complicated the allocation and acquisition modalities of water rights among different levels of administrative units.[27] There are questions of power allocation, trust and priorities caused by different contexts. There is an argument that prioritization is not necessary and adherence to such priority rule may cause rigidity.[28] However, there are drawbacks of the theory and there is the need for addressing the drawbacks of the out-of-priority rule is also mandatory.[29]

The reasons, justifications and factors indicating on why the prioritization of water use rights is mandatory may be multiple. *First,* the existence of scarce water resources which is negatively correlated with the existence of huge demand of water may be the cause to set prioritizations and allocate water accordingly. This is attached with physical factors and the existing inventories that show the water balance between demanded volumes of water against the supply side. The *second* reason may be to enable water allocation among users and sub-basins. The Awash strategic plan redefines water allocation as "…the mechanism for determining who, how much, from which locations, when, and for what purpose".[30] Water allocation is the process of sharing a limited water resource among different regions and competing users.[31] The operational definition of water allocation is applied among users and sub-basins. The water allocation principles with all plans and agreements have a pivotal role in resolving the intensifying conflicts at different scales.[32] Although there are several global paths and developments,

[26] Jana Klacková and Marian Sling (1978), 'The Principle of Rational Use of Natural Resources in the Theory of Optimal Planning', Eastern European Economics (Taylor & Francis, Ltd.) Vol. 16, No. 4, pp. 3-23

[27] Dudley Warren Woodbridge (1953), 'Rights of The States in Their Natural Resources Particularly As Applied To Water,' *South Carolina Law Quarterly*, 5 S. C. L. Q. 130 1952-1953.

[28] Lawrence J. MacDonnell, *supra* note 22

[29] Gregory J. Hobbs, *supra* note 21

[30] AWBA, *supra* note 15

[31] Ibid.

[32] Tom Le Quesne & Constantin Von Der Heyden, (2007), 'Allocating scarce water, A primer on water allocation, water rights and water markets', WWF water security series 1

water allocation has remained to be a contentious process of deciding who is entitled to the available water with respect to the demanded interest.

The *third* factor may be attached with economic or development priorities because an essential development objective may require huge volume of water. The economic efficiency objective in water utilization may be used as a single factor to give priorities for beneficial uses.[33] This may happen even under contexts where there is not severe scarcity of water resources.

The *fourth* driving force may be attached with the existence of environmental factors. Giving priority to preserve environmental sustainability may require water allocations[34] because the remaining volume of water in a basin may necessary for the prospective utilizations.

Fifth, the driving force may be attached with the need to maintain social objectives or the consideration of equitable allocation and utilization of water resources. In general, prioritization is an inevitable task when there is not sufficient volume of water since it can be a cause for grabbing and disputes. The overall objective of introducing prioritizations may be maintaining an equitable distribution of water resources by balancing dimensional interests.[35] This is also expected to be enforced by installing an enabling institution for participatory and inclusive water allocations.

Sixth, the existence of partial application of the prioritization rule may be a driving force to introduce comprehensive and feasible rules and their enforcements on all types of water resources. As the existing 'prioritization' rule is only enforced with regard to the surface water or the volume of water flowing from the river basin, its application does not include ground water resources. This implies that the allocation of water is only enforced to surface water resources. Thus, there is a practical paradox where ground water is excluded from the enforcement of the prioritization system.[36]

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[33] Samuel C. Wiel (1915), 'What Is Beneficial Use of Water?' *California Law Review*, Vol. 3, No. 6, pp. 460-475.

[34] Ross, *supra* note 9.

[35] Tropp, H. (2006), 'Water Governance Challenges', in World Water Assessment Programme, 2006, *The United Nations World Water Development Report 2: Water, a shared responsibility,* United Nations Educational, Scientific and Cultural Organization (UNESCO), Paris

[36] Donna M. Cosgrove, (2008), The Role of Uncertainty in the Use of Ground Water Models for Administration of Water Rights, Journal of Contemporary Water Research & Education (Universities Council on Water Resources) Moscow, Issue 140, pp. 30-36.

2.2. Upstream-downstream linkages in the water use right context

In a river basin context, understanding the upstream-downstream linkages and hydrological processes is essential for water resources planning and management. Upstream of the river basin refers to the position or the direction opposite to the flow of a stream and it usually corresponds with the upper part of the river, while downstream river basin mainly refers to the direction that the water in a river flows. The flow may be towards the sea, or nearer to the mouth of the stream where the river ends. Empirical evidence clearly shows that water use and management practices that occur in the upper part may have a direct influence on downstream from a few to many hundreds of kilometers away.[37] This again clearly implies that the scarcity or abundance water share in the downstream of a river often depends upon water use and management in the upstream part of the river.[38]

The level and trend of upstream inflows and withdrawals determines water availability or scarcity in the downstream part of the river.[39] It has already been recognized by some national and international studies that upstream water use has influence on downstream water resource. This should not, however, serve as a pretext for downstream water use monopoly because of the existing narrative that downstream part of the river is more reliant on the availability and flow of water in the upstream parts of a basin or water course.

This perception allows water users in the downstream part of the river to exploit water resources for irrigation, urban development and trade. In many cases this downstream exploitation has been and continues to be undertaken without notification of and consultation with upstream users of water resources. Downstream users might then emphasize their accomplished benefits as acquired rights and require upstream users to inform and consult them for future development that might impact on their existing and planned uses. This might then be opposed by upstream users as unreasonable, thus impeding cooperation and damaging relationships.

There is a widespread misperception that 'harm' and 'adverse effect' in the watercourse is unidirectional following the water course from upstream to downstream part of the river. However, current empirical evidence shows

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[37] S. Nepal *et al* (2014), Upstream-downstream linkages of hydrological processes in the Himalayan region. *Ecological Processes* Vol. 3:19.

[38] H. A. Munia *et al* (2017), How downstream sub-basins depend on upstream inflows to avoid scarcity: typology and global analysis of transboundary rivers *Hydrology & Earth System Sciences.*

[39] Ibid.

that harm in the water resources may not always be caused by upstream users as it can also be caused by downstream users of water.[40] For instance, construction of a dam in the downstream part of the river may lead to upstream inundation and may also lead to migration of fish resources to the downstream part of the river. But, because of the existing wrong assumption, the requirement to consult riparian States regarding planned developments on their stretch of the watercourse is one sided. However, rights and obligations of water users in upstream and downstream parts of the river should be equally treated in the watercourses of rivers and this holds true in basin level utilizations within the same state.

In reality, unilateral development of infrastructure in the downstream part of the river locks in water use and can result in water being unavailable for subsequent upstream development, foreclosing equitable and reasonable utilization. In general, upstream to downstream impacts are predominantly physical, such as altered flow volumes and patterns, sediment loads and water quality. In contrast, downstream to upstream foreclosure of future use which can have geopolitical impacts and tensions.

Though equitable and reasonable utilization is a core principle in the distribution of water resources, especially for trans-boundary rivers,[41] there seems a general misunderstanding in the interpretation of water use rights in the international water law. The practice and the laws largely favor downstream States. More importantly, the so-called "no-harm" rule is generally understood as operating to protect the interests of downstream States, while upstream States in turn tend to invoke the sovereignty principle. It is thus to be noted that there is a relatively better balance in the principle of equitable and reasonable utilization of water.[42] Thus, it is timely to consider the recent outpouring of gloomy perspectives on water use management and scarcity[43] and it is also an urgent task to develop management models that help to reconcile upstream with downstream interests and the vice versa. This is equally relevant in water basins within

[40] Owen McIntyre (2014), Reconciling the Interests of Upstream and Downstream Riparian States in Cooperation for Ecological Protection of Transboundary Basins: The Potential Role of "Benefit Sharing" in the Ecological Protection of Shared Water Resources. *School of Law, University College Cork, National University of Ireland*.

[41] The 1997 United Nations Water Course Convention (UNWC)

[42] Ibid.

[43] Yoon Taeyeon, Charles Rhodes and Farhed A. Shah (2013), Upstream water resource management to address downstream pollution concerns: A policy framework with application to the Nakdong River basin in South Korea. *Water Resources Research*.

any country's upper and lower riparian users in economic activities such as large farmlands that use the same watercourse for irrigation.

Benefit sharing arrangement between upper stream and downstream users play a significant role in reconciling the competing interests in a given river basin.[44] Benefit sharing approach is widely proposed as a key mechanism to bypass the contentious issue of property rights related to water use and access.[45] The idea is that if the focus is switched from physical volumes of water to the various values derived from water use in multiple spheres, including economic, social, political, and environmental – riparians will correctly view the problem as one of positive-sum outcomes associated with optimizing benefits rather than the zero-sum outcomes associated with dividing water.

As an obvious fact, a river basin is a common pool resource in a way that the use of it by one riparian (or indeed individual) will necessarily diminish the benefits available to others. In other words, water use in one part of the basin creates external effects in other parts. If these externalities are not 'internalized', the overall benefits will be reduced and the outcome is suboptimal. Thus, both hydrology and economics concur that a river basin should be treated as a single unit to maintain the physical integrity of the system and to internalize externalities. Moreover, applying an optimal and equitable allocation of benefits between downstream and upstream users of water necessitates proper assessment and calculation of benefits and cost. In the process of examining benefits of a river basin, emphasis should be given to calculate both benefits to the river and benefits to the society from the river.[46]

It is also important to institute an integrated land and water resources management and planning in a river basin. Integrated Water Resource Management (IWRM) is a mechanism that enables the coordinated management of water, land and related resources within the limits of a basin so as to optimize an equitable share of the water resources and promoting socioeconomic well-being of the society without compromising the long-term health of vital ecosystems.[47] It is also guided by the principle of

[44] McIntyre, *supra* note 40

[45] Halla Qaddumi (2008), Practical approaches to transboundary water benefit sharing. *World Bank Working Paper* 292.

[46] Ibid.

[47] Reta Hailu *et al* (2018), Integrated Water Resources Management as a System Approach for Water Security: Evidence from the Awash River Basin of Ethiopia. *Ethiopian Journal of the Social Sciences and Humanities (EJOSSAH),* Vol. 14, No. 1

equitable and reasonable utilization of water which is inherently flexible and quite capable of taking account of a very wide range of needs and interests of users in the river basin, including potential and future uses and the need to protect the entire watercourse ecosystem. The process of IWRM further provides an avenue for water sectors and stakeholders to interact and to create dialogues for joint action and collaboration.

3. Legal and Policy Frameworks: International and National Contexts

3.1. International context

International human rights conventions redefine the right to water substantiating the core elements as standards to test the normative compliance measures of ratifying state members. Under Article 11, paragraph 1 of the International Covenant on Economic, Social and Cultural Rights (ICESCR), some of the rights that are indispensable for the realization of the right to an adequate standard of living "including" the right to adequate food, clothing and housing are specifically provided. It can be contentious whether the listing is exhaustive or illustrative one. The use of the word 'including' may be standing to be indicative to some other similar rights. The list does not seem exhaustive. In spite of such arguments, the right to food is apparently inseparable from the right to water, and it is plausible to argue that the right to water is a necessity and a guarantee to secure adequate standard of living.

Moreover, the right to water is also inextricably related to the right to the highest attainable standard of health (Art. 12, paragraph 1) of General comment No. 14 (2000) and the rights to adequate housing and adequate food (Art. 11, paragraph 1 and paragraph 8 (b) of general comment No. 4 (1991). In considering the adequacy of the right to water, the General Comment No. 15 describes the right to Water (Arts. 11 and 12 of the Covenant) and it stipulates the defining elements and the indicators used to test the promotion of the human right to water.[48] *First,* the right to water can be interpreted in relation to the *availability* of water resources. The ordinary uses include using water for drinking, personal sanitation, washing of clothes, food preparation, and household hygiene. The volume of water which is a determinant quantity shall correspond to the World Health

[48] General Comment No. 15: *The Right to Water* (Arts. 11 and 12 of the Covenant) Adopted at the Twenty-ninth Session of the Committee on Economic, Social and Cultural Rights, on 20 January 2003 (Contained in Document E/C.12/2002/11).

Organization's guidelines. The extent of the availability may further include the required additional water to health, climate, and work conditions.

Second, the right to water relates to the *quality* of the water resources.[49] The comment underlines that water required for any personal or domestic use is expected to be safe and free from any hazards. It shall not cause any harm from micro-organisms, chemical substances and radiological substances as a threat to personal health. It is thus a requirement to secure the acceptability of any water resource in colour, odour, and taste for personal or domestic uses. *Third*, the comment requires the *accessibility* of water resources. Water including of water facilities and services are expected to be accessible to everyone without discrimination within the jurisdiction of the state reinforcing the right to food.[50]

Accessibility refers to four overlapping dimensions.[51]*Primarily,* it refers to the physical accessibility of the water resources. This also refers to adequate water facilities and services which need to be within safe physical reach for all sections of the population. The facilities and services must be of sufficient quality, culturally appropriate and sensitive to gender, lifecycle and privacy requirements. *Secondly,* it refers also to the economic accessibility in which all facilities and services are expected to be affordable for everyone. The direct and indirect costs and charges (or the expense) to secure water must be affordable.[52] *Thirdly,* the facilities and services must be accessible without *discrimination*. The most vulnerable and marginalized groups of the population, in law and in fact, should thus access water without discrimination. *Fourth*, it also connotes the dimension of *information accessibility*. This includes the right to seek, receive and impart any information with regard to issues of water.[53]

The covenants have emphasized on the right to water as a basic human right, with clear and implementable guidelines that are helpful to sustain the minimum core obligations.[54] However, the covenants do not directly address the issue of prioritization of water use rights in an explicit manner. There is

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[49] Ibid.

[50] Elisa Morgera et al. (2020), *The right to water for food and agriculture*, Food and Agriculture Organization of the United Nations (FAO), Legislative Study 113.

[51] Stephen C. McKaffey (1992), 'A Human Right to Water: Domestic and International Implication', 5 *Geo. Int'l Envt'l. L. Rev.*

[52] Karar, *supra* note 7.

[53] McKaffey *supra* note 51

[54] Vanessa Riegger (2014), 'Water Distribution in the Public Interest and the Human Right to Water: Swiss, South African and International Law Compared', 10/*1Law, Environment and Development Journal.*

no express statement whether personal and domestic use as a right is given a priority compared to other forms of water uses.

3.2. Policy framework in the national context

Ethiopia's Water Management Policy (2001) states that "[t]he overall goal of Water Resources Policy is to enhance and promote all national efforts towards the efficient, equitable and optimum utilization of the available Water Resources of Ethiopia for significant socioeconomic development on sustainable basis."[55] This is the main goal of the policy. The balance of promoting and mainstreaming efficiency, equity, and optimum utilization is also sought to be reflected in all the laws and standards[56] that will be implemented in line with the above main goal of the policy. Although the 1995 FDRE Constitution gives a space to regional states to issue their own social, economic and environmental objectives, most of the regional states do not have a water resources policy.

The policy explicitly addresses the prioritization principles while stating the status of the "[p]olicy on crosscutting issues". The issue of water allocation and apportionment is stated as a crosscutting issue. The first three statements indicate the prioritization principles. *First,* the basic human and livestock needs and environment reserves have the highest priority in any water allocation plan as a 'basic minimum' requirement. *Second,* it is indicated that any water allocation shall ensure and give 'highest priority' to water supply and sanitation. The policy directs that the remaining volume of water from such types of water allocation is directed to be apportioned for uses and users promoting the highest socio-economic benefits.

Third, the water allocation process is directed to promote an efficient use of water resources with the purpose of harmonizing the greater economic and social benefits. The policy does not state an explicit priority ladder. The policy states priority to basic human, livestock needs and to environment reserves. The priority among these three uses or water reserves is not explicitly and clearly stated. The third requirement –to allocate water for an efficient use enabling to promote the 'greater' and/or 'highest' social and economic benefits or economic and social benefits– narrows the space and gives an emphasis and prioritization to the most efficient use of water. In general, clear and concrete standards and priority ladders within the prioritization of water use rights are not expressly indicated.

[55] Ethiopian Water Management Policy (2001), p. 5.
[56] Ibid.

3.3 Legal framework in the national context

The 1995 FDRE Constitution is the supreme law of the land,[57] and it embodies core values aiming to promote the democratic and human rights of individuals. According to Article 9(4) of the Constitution, all international instruments adopted and ratified by the House of Peoples' Representatives are an integral part of Ethiopian law. In relation to land, the FDRE 1995 Constitution provides state and public ownership of land and other natural resources.[58] It also empowers the federal government with a mandate to administer transboundary rivers and lakes and also the rivers which link different states.[59] Moreover, it has the power to enact laws on the utilization of natural resources including water resources.[60]

The mandate of regional states is to administer natural resources in accordance with the federal utilization frameworks.[61] This is the constitutionally guaranteed right of states to administer their natural resource.[62] The Federal government or the 'supervising body' may stipulate additional power to each respective state on the power of management and administration of water resources.[63] This is in the form of delegation.[64] Therefore, the setting of prioritization of water use rights is primarily the power of the Federal government. However, the respective regional states may stipulate subsidiary rules of prioritization without deviating from the general utilization frameworks.

The FDRE Water Resources Management Proclamation 197/2000 has provided some fundamental principles on how water resources may be managed.[65] The Proclamation puts three sources of utilization frameworks and these are the policy, master plan studies and the water laws of the country.[66] These frameworks aim at ensuring that any water resource is put to the highest social and economic benefit or the people. The Supervising

[57] The 1995 FDRE Constitution Proclamation No.1/1995, *Negarit Gazetta*. Art 9 .
[58] The 1995 FDRE Constitution Proclamation No.1/1995, *NegaritGazetta*. Art 40 (2 and 3).
[59] Id., Art 51(11) and Art 55 (2)(a); and Art 52(2)(d) respectively.
[60] Id., Art 51(11).
[61] Id., Art 52(2)(d).
[62] See for example, Dudley Warren Woodbridge, *supra* note 27.
[63] FDRE, Ethiopian Water Resources' Management Proclamation, Proclamation No: 119/2000, Art 8(3).
[64] Anne M. Larson and Fernanda Soto (2008) 'Decentralization of Natural Resource Governance Regimes', *Annu. Rev. Environ. Resource*. 2008.33:213–239
[65] FDRE Water Resources Management Proclamation No. 197/2000'
[66] Id., Art. 6(1-4)'

body is required to ensure and administer the management of any water resource in a way it promotes the highest social and economic benefits of the Ethiopian people in accordance with the provisions of the three utilization frameworks. The 'management' of the water resources of the country is destined to be in accordance with the permit system.[67] The Proclamation starts with prioritizing one specific use but remains silent with regard to ranking of the orders. This Proclamation enshrines the 'preference' to domestic use.[68] The Proclamation reads "[d]omestic use shall have a priority over and above any other water uses."[69]

In principle, the law requires a permit before the acquisition and use of water resources. As exception, there are some listed 'purposes' under the law that are exempted from the requirement of a permit. The list includes use of water from hand dug water wells or digging of water wells, use of water for traditional irrigation, artisanal mining and for traditional animal rearing, as well as use of water for water mills. The list may be reduced or broadened through the issuance of a directive by the supervising body when there is "…inappropriate use or wastage of water."[70] These all manifest the priority for domestic use. However, the hierarchy of preference among the remaining types of uses other than domestic use is left unaddressed.

The previous regulation establishing the Basin Development Authority had indicated that the power and duty of the Authority was expected to act as a development and regulatory organ.[71] Based on the new structure, the BDA is changed in to Basin Management and Administration Co-ordination Office. The previous structure had incorporated different river basin authorities for each river basin. There was a separate Awash River Basin Authority. However, a central Basin Development Authority was established in 2018 in accordance with the regulations issued by the Council of Ministers based on its power to issue regulations.[72] The regulation defines basin as "…. a geographical area described by the watershed limits of water system including surface water and ground water flowing into a common

[67] Id., Art 11-12.
[68] Id., Art 7.
[69] Id., Art 7 (2).
[70] Id., Art 12(2).
[71] FDRE Basin Development Authority establishing Regulation No. 441/2018, Art 2(3) However, this regulation is repealed.
[72] FDRE Definition and Power, Duty, and of the Executive Organs of the Federal Democratic Republic of Ethiopia Proclamation 1097/2018, Articles 5 and 34.

terminus."[73] The water system includes surface water and ground water types.

With regard to the prioritization of water resources, the former BDA was established to implement sustainable, integrated development, administration, and utilization of the water resources at a basin level in equitable and participatory manner.[74] In line with this objective, the Authority's mandate includes the preparation of preparing and submitting the means of 'optimal and equitable allocation and utilization" of water bodies that are lying or crossing to two or more regional states.[75]

4. The Need to Explore Actors' Perspectives and Practices of Prioritizing Water Use Rights in Awash River Basin

There are driving forces to explore the prioritization of water use rights. One of the driving forces is the existence of water crisis in the basin.[76] Awash entertains two extreme disasters. There is drought and flooding. The basin entertains water stress season starting from January to June. The water stress lasts for six to eight months. Beyond, the water stress season, there are questions of availability and accessibility even within the remaining four months[77] due to extreme flooding within the four months duration.

The *second* driving force is the existence of water grabbing among water users within the basin.[78] There are formal-informal, lawful-unlawful, rotating, location based, and other forms of grabbing problems.[79] The grabbing indicators may be measured in line with the indicators. The basic indicators are size, labor/uses, actors, purpose, and market.[80] In general, they are potential and actual risks of grabbing.

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[73] FDRE Basin Development Authority establishing Regulation No. 441/2018, Art 2(3).
[74] Id., Art 4.
[75] Id., paragraphs of the preamble.
[76] Sharad K. Jain & Vijay P. Singh, (2010) 'Water crisis', Journal of Comparative Social Welfare, 26:2-3, pp. 215-237.
[77] Committee on Economic, Social and Cultural Rights (General comment No. 15), *supra* note 48
[78] Mehta, L et al (2012), 'Introduction to the Special Issue: Water grabbing? Focus on the (re)appropriation of finite water resources', Water Alternatives 5(2): Volume 5, Issue- 2, pp. 193-207.
[79] Ibid.
[80] Jennifer Franco *et al* (2013), *The global land grab: A Primer*, Revised edition, Amsterdam: TNI Agrarian Justice, Transnational Institute, available from http://www.tni.org/primer/global-land-grab.

Third, there are factors relating to the concurring of risks of water insecurities. The academic discourse on the foundations to measure the risks of water insecurities deals with five forms of water insecurities.[81] They include the household, urban, economic and environmental forms of water insecurities. *Fourth,* there are water disputes. The disputes are water related disputes and they include disputes between water users themselves, between water institutions, and between users and institutions.

Fifth, the existence of a Federal and state structure has impact on the water governance system and prioritization of water use rights. There are clear disputes on constitutional interpretation, mandates, questions of development priorities, jurisdictional questions on the nature of water resources, planning, setting utilization frameworks and standards, issuing permits, undertaking allocations, setting water tariff regulations and collecting respective tariffs, and taking enforcement and compliance measures.

The *sixth* driving force is related with *the human right to water* as one of the critical obligations of state parties to the conventions. The human right standards to promote the availability, accessibility, and affordability of quality water are among the normative testing indicators for the promotion, fulfillment and protection of the human right to water.[82] This is clearly related with the positive obligation of states to provide water which is indispensable for the livelihood of every citizen.

5. Prioritization Standards and Principles: Interpreting and Implementing the Policy and Legal Frameworks

In the Awash River Basin, the previous practice indicates that prioritization was made in a group of water users holding homogeneity in the type of water use. However, the recent intervention on the rules of allocation and prioritization is reformed and it is believed by the actors that prioritizations are made at individual level. This is done by carrying out an 'integrated water allocation system' covering a wider scale.[83] The decision for any allocation is supported by undertaking a study on the three interfaces of simulation, operation and monitoring. In 2016, according to AWBA, the water demand of the basin was estimated at 6.56 billion cubic meters with a

[81] Global Water Partnership. (2014), *Coordinating Land and Water Governance: An Essential Part of Achieving Food Security,* Stockholm, Global Water Partnership.

[82] Committee on Economic, Social and Cultural Rights (General comment No. 15), *supra* note 48

[83] Quesne & Heyden, *supra* note 32, p. 4

potential increase in the past five years.[84] The water allocation principles and the prioritization of water use rights need to accommodate the practical contexts.

As a broad and preliminary document, the strategic plan mentions and lists the categories of water uses.[85] In the basin, there are major types of water uses, according to the strategic plan. They include irrigation, agriculture, domestic use, livestock and industrial uses of water.[86] Amidst such uses of water, there is a growing demand for water and this necessitates due consideration of the future human and livestock population growth, future irrigation needs and industrial expansion.

An aggregate allocation plan is prepared annually between in November or December that stays in force for a duration of eight months. Participants and beneficiaries of the water allocation in the Awash River basin express different interpretations of the prioritizations (among uses) in the policy. One of the top officials of the former BDA states his perception on the policy's status in accommodating the priority ladder and the interaction of the bundled rights.[87] He recognizes the incorporation of the priority rule under the water management policy and the water resource management proclamations.

The first priority is given 'over and above other uses' (*ke minim belay*) to domestic (human) and animal use of water manifesting the 'reasonable use' standard. Second, water is allocated for environmental flow. This requires preserving water in the basin and it should not be totally abstracted and the ecosystem has to be safe.[88] The minimum volume of water shall be left into the natural flow to keep the water flowing. Third, the economic feasibility of the water use is the requirement for allocation where there are competing uses of water. If it is economically feasible, priority is given to hydro-power generation. If water use for irrigation is found to be economically feasible, the priority among other uses is given to irrigation.[89] In practical terms, water use for hydropower does not consume water rather it is discharged into the natural flow. This is problematic to practice in large hectares of land

[84] AWBA, *supra* note 15.
[85] Ibid.
[86] AWBA, *supra* note15.
[87] A narrative taken from an interview held with a top management of the former Ethiopian Basin Development Authority on Nov, 15/2019, Addis Ababa.
[88] Ralph W. Johnson, (1989), Water Pollution and the Public Trust Doctrine . *Environmental Law, Vol.19,* , pp,485-491.
[89] Samuel C. Wiel *supra* note 33.

which is being used to develop irrigation. However, water allocation in most dams of the country, water use for hydro-power generation takes the priority. According to the respondent indicated in the preceding paragraph, the human right to water, environmental sustainability and economic feasibility are taken as prioritization standards.

One of the respondents from the top management of the Environment, Forest and Climate Change Commission perceives and responds to the contrary. Ethiopia does not have a comprehensive and special water law and it is considered as part of the existing environmental laws. This may be attributed to the doctrinal foundation. Even the environmental organs are not actively involved in determining allocations and in regulating such interventions, and this manifests fragmented governance.[90] There is a similar challenge among upstream and downstream water users and there is lack of clear framework to regulate allocations even if some of the foundational principles such as fairness and equitability are stated under the Policy. Even if these principles could have been put into effect along with due attention to the sustainability of the environment, there is no regulation on the permit and the utilization of such water resources. The existing Proclamation is not also comprehensive and detailed thereby causing failure to manage the resource.

Unlike the above statements, one of the key informants from the previous Water Development Commission believes that the policy is clear with regard to allocation of water. First, the priority is given to domestic water use. Then, it is given for irrigation, fishery, recreation, environment etc. respectively.

According to the director of the water administration department, the policy is not clear with regard to the issue of prioritization. The first priorities are clear and it gives priority to domestic, livestock and environmental use of water. According to his experience, 10 to 20% of the volume of water from the available volume is given to the environmental use of water as a priority. However, it is unclear among the remaining ones. The policy and the laws have indicated that priority may be given to the specific use which has highest social and economic values that keeps the balance of both.[91] But, the interpretation of this standard is problematic to prioritize

[90] Jae Hong Kim *et al.* (2015), Fragmented Local Governance and water resource management Outcomes, Journal of Environmental Management 150 pp., 378-380.

[91] Douglas W. MacDougal (1996) Private Hopes and Public Values in the "Reasonable Beneficial Use" of Hawai'i's Water: Is Balance Possible? University of Hawai'i Law Review / Vol. 18:1.

among the uses for irrigation, industry and hydro-power generation. The priority is given to the more efficient and that is for irrigation. However, this aspect of water use can change over time, and the application of the policy in the context of the dynamism is unregulated.[92]

In addition to the above statements of the respondents, a senior water administration expert from the BDA has described the status and specificity of the policy.[93] He stated that the priority ladder is not clear especially in the latter ranks. The first two priorities are clear ones but the third one is full of ambiguity. Domestic purpose is clear and it is specified and quantified for both urban and rural contexts. The environmental use or flow is also operationalized. It includes the natural flow of the basin, keeping the safety and life of the aquatic animals, and the conservation of the natural ecosystem and watershed of the river basin are some of the indicators used to preserve the environmental flow. The minimum flow of the river basin is also expected to be kept flowing with the purpose to preserve the natural ecosystem.

According to the expert, unlike the first two priorities, the third priority is stated in a broader fashion because it states that a 'use that gives highest socio-economic value' has a priority thereby creating ambiguity in the interpretation of 'highest socio-economic value'. The respondent believes that exemption from a water use permit implies prioritization. The FDRE water laws have already exempted for some types of water uses. These include traditional forms of use that are developed for a size of land which is less than 0.25 hectare, traditionally drilled water wells, livestock and domestic water uses.[94]

6. Practical Experience in Prioritization Standards and Principles

There have been three water allocation practices in the Awash Basin since 2015. The water allocation applies in a dry season and it is based on the available volume of water in each of the three dams in the basin. Even if there are domestic, livestock, environmental and industrial water users, more

[92] Jeremy Bird et al. (2009), Water Rights and Water Allocation Issues and Challenges for Asia, Asian Development Bank.

[93] A narrative taken from an interview held with an expert on Water Administration, Use permit and Allocation under the Water Resource Administration Directorate of the formerAwash Basin Authority Upper Branch Office, on Nov, 13/2019, Adama.

[94] FDRE Water Resources Management Proclamation Number 197/2000, Art 12(2), see also Oromia Land Use Regulation No. 151/2005.

than 86% of the users are irrigation water users. The Water Administration, Use Permit, and Allocation Directorate also focuses on the allocation of water for irrigation without the specific application of prioritizing rules for the different types of irrigation water uses.

As stated by a senior hydrologist, the water allocation process is carried out by the use of water measurement tools even if there are challenges in quantifying the available volume of water and allocated volume of water.[95] Water allocation for domestic use has the first priority. For instance, *Adama* city's domestic water supply is allocated from *Awash* Basin. After allocating the required volume of water for domestic water supply for *Adama* city, the remaining volume of water is allocated to the other types of uses. The diversion point is installed three kilometers away from *Koka* dam. There are some other cities like *Metahara* and *Awash Sebat Kilo* and they get a supply of water for domestic use from the main course of the basin. However, *Metehara* and *Awash Sebat Kilo* are located downstream to the irrigation and other uses that are undertaken upstream.

The most important issue to be considered during allocation is the dynamics in demand and supply.[96] As stated by the senior hydrologist cited above, depending upon the supply in the dams of the basin, the demanded water may be minimized especially for the third and the latter ranked types of uses. If for example, there is demand for water resource that can irrigate 50 hectares, the supply of water is minimized to 30-hectare size of land. This means water use rights or the volume of water may decrease depending upon decline in the volume of water from time to time.[97] If there is sufficient volume of water, the allocation is applied to all ranked categories of uses in the ladder of priority. Accordingly, each user acquires water subject to priority in favour of the preceding prioritized user.

While the prioritization in the allocation plan is prepared for surface water in the basin, significant volume of water is also allocated from ground water resources. In relation to the practice in *Oromia* National Regional State, the top management noted that it is working to provide sufficient water to domestic use. Domestic use is defined and understood to include human and livestock needs. Then, the water resource is also allocated to the

[95] Interview held with the senior hydrologist in the former Awash Basin Authority Upper Branch Office, Nov, 10/2019, Adama.

[96] Wurbs, *supra* note 24.

[97] Singh, (ed.) (1992), *Water Rights in India, A book chapter of Water Law in India, Chhatrapati, Singh (ed.) New Delhi, Indian Law Institute (ILI) Publications.* Citing Schlager and Ostrom (1992).

categories of uses including irrigation and hydro-electric power generation respectively. But, there are challenges in allocating ground water and, in most cases; the applicants acquire the volume of water they demand from ground water resources.[98] This creates a challenge or a conflict of interest among users including the local domestic users.

Water is allocated based on the demanded volume of water. There is no volume quantification since the Bureau does not have instruments to measure the volume of water. Thus, there can be a possibility of variation between the figures that the registered and the actual volume of water that is extracted. This can also be variation in opportunity to the investors by taking a permit from central of local levels[99] and depending upon the level of efforts that are conducted by regulatory offices to properly implement allocations.

According to an interview held with the top management of the former Water Development Commission, Ethiopia's ground water resource covers 90% of the water supply and utilizations across the nation.[100] However, there can be challenges due to the increase in demand commensurate with rapid urbanization. The need for enforcing environmentally resilient water allocation system is mandatory. The available ground water resource is not identified and it is not exactly quantified in the course of undertaking prioritization on the allocation of water for each water use. The available volume of water from both ground and surface water resources has to be quantified and allocated to each water use.

It is to be noted that the implementation of the policy in relation to domestic water supply is full of constraints. According to the respondent in an interview, the demand and tension on water from the basin is continuing.[101] In the future, it will continue as a source of tension among regions, *Weredas*, and *Kebelles*. There is thus the need for enhanced awareness and a clear guideline to quantify the volume of water and undertake allocations accordingly.

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[98] Wurbs*, supra* note 24.

[99] See for example, Sane Pashane Zuka (2016), Contesting Institutional Engineering for Decentralized Natural Resource Governance in Malawi, SAGE Open, DOI: 10.1177/2158244016659527

[100] Interview held with the top management of the former Water Development Commission on Oct 30/2019, Addis Ababa.

[101] Interview held with the top management of theformer Water Development Commission on Oct 30/2019, Addis Ababa.

With regard to small and medium scale water users, water is allocated based on *location***.** A respondent among water users states the practice in the prioritization of water use rights.[102] According to the respondent, some downstream users (farmers and investors) in *Merti* Wereda around *Wesrodino* utilize the water flow starting from 4:00 PM (late in the afternoon) till the night time; and it stays flowing until the morning. The Authority has discussed and communicated with the upper stream users and the restriction on access within that time and the duty to keep the river basin flowing is justified.

There is no ranking in the order of water use rights. Nor is there specific allocation of water based on each type of water use and water users do not acquire water based on this type of allocation. Moreover, a specific water charge is not applied based on such type of allocation.[103] Most of the water users in the upper part of the basin are irrigation water users.

7. Challenges and Standards

7.1 Challenges in the prioritization of water use rights

The main challenge in the effective prioritization of water use rights is lack of clarity in the laws and policies. *Second,* the basin development offices are working to promote an integrated water management without putting in place effective instruments. For instance, there are 17 diversion points but each diversion point needs water volume measuring instruments that monitor the water allocation process. However, there is no water measuring technology at every diversion point.

Third, the available volume of water in each dam or reservoir is not exactly known due to sedimentation problems. For instance, Koka dam was constructed 50 years ago, and the problem of sedimentation is apparent. Moreover, as the allocation process is done for eight months, the estimated volume of water which is used for the allocation decision during the first month of the dry season may not be accurate. It is to be noted that the allocation process is made based on the old design of the dam. After some months of utilization, there are water scarcity related impediments since the

[102] An interview held with the Chairman of one *Water Users Association*, on Dec 20/2019, *Wenji.*

[103] FDRE Water Resources Management Proclamation 197/2000, Art 20-22 and FDRE Water Resources Management Regulation 115/2005, Art 30-34 The charges covering the water tariff system include: charges for use of water, charges for the discharge of treated wastes into water resources, charges for the use of water from government projects,

allocations are made without accurate data on the volume of available water. The allocation process may face impediments and it may stop at some point. This also violates the water rights of the users and causes risks and damages.[104]

Fourth, there is a difference in the degree of enforcement of the prioritization of water use rights as a system among the Federal, regional and city administrations. With regard to the prioritization of water use rights, the BDA and its branch offices are in a better position to apply some of the general rules for prioritizing water use rights and undertaking allocation of water (specifically surface water) accordingly. However, the regional administrations encounter difficulties in promoting the prioritization of water use rights while undertaking water allocation and their decisions relate to undemarcated and contested water resources. The difficulty of making prioritization among uses also becomes difficult with regard to ground water resources. Due to the lack of capacity and water technologies, ground water allocations are made without any restriction based on the requested volume. The enforcement of the policy's prioritization objective (particularly with regard to irrigation) is clearly difficult.

Fifth, there was a question of impartiality on the mandate of the previous Ministry of Irrigation and Electricity. The respondent among the top management of the former Environment, Forest and Climate Change Commission (which is currently changed into Environmental Protection Authority) also questions on "who manages the priority stated under the policy?[105] The policy gives priority to domestic water use, and other social and economic vitality are also considered. However, according to the respondent, there is a practical challenge of impartiality within the Ministry.

7.2 Perceived and recommended standards

There are different views on the necessity of raking the priority ladder. Some of the respondents give their immediate views on the order while others suggest applying the policy on a case by case basis or through the consideration of contexts, especially in relation to the third or fourth priorities, by deconstructing the standard of 'socio-economic value' into its contexts. Others also suggest the need for conducting further research to add specificity in the priority ladder.

[104] Quesne & Heyden, *supra* note 32.

[105] Taken from an interview held with a member of the top management of the former Environment, Forest Climate Change Commission, on Nov 05/2019, Addis Ababa.

Senior experts from the water administration department state their recommended order of the priority ladder.[106] The policy is not clear as to what is 'socio-economic value' and it has to be specific. The socio-economic standard is put as hybrid phrase and the analyst or decision maker need to consider the balance of both values. Having this as a general standard, it is better to implement it on a case by case basis or based on contexts of the water basin under consideration. This has to be determined in a temporal and spatial basis on the types of uses that are competitive. The value of the irrigated crop or fruit has to be compared with corresponding demanded water.

According to a respondent from the former Environment, Forest and Climate Change Commission, an exceptional priority should be given to environmental flow which deserves the first rank. Unless the environmental flow is maintained, the other prioritization will not be feasible. The prioritization can then be made on the water resources in a manner that does not affect the environmental flow. Any allocation that affects the environmental flow will result in some other crises, and prioritization can work only by securing environmental flow. Then, first, domestic water (drinking, cooking, and bathing) are the basic water uses and these shall get the first priority. This is also rightly stated in the policy. Then, irrigation can be excluded from the priority ladder since it can be supplied from some other sources. However, irrigation may be aligned with food security.

Industrial needs can follow in the prioritization list. Meanwhile, the industries may be classified as basic and non-basic. Even within domestic use, important public and non-public services, such as hospitals, may be categorized within the category of domestic use. In some other legal systems (UK, for example) some types of water uses (e.g., washing vehicles) are not classified within the category of domestic use.

There are differing opinions and suggestions on the ranking of the priorities. The water users suggest prioritization based on *efficiency* and minimal wastage of water. A key informant from the water users' side underlines the existence of wastage of water which violates efficient utilization of water.[107] For example, water is wasted by some negligent irrigation water users while downstream domestic water users, domestic and wild animals do not get the required volume of water for drinking.

[106] Taken from an interview held with an expert on Water Administration, Use permit and Allocation under the Water Resource Administration Directorate of the former Awash Basin Authority Upper Branch Office, on Nov, 13/2019, Adama.

[107] Samuel C. Wiel, *supra* note 33.

One of the water users also recommends prioritizing for users on the manner of utilization or users who make withdrawal of water by using diesel and/or water pumping technology.[108] Some respondent users who use water by diesel or electrical pump shall also be treated separately. It has to be considered that such type of users will make use of the water resource efficiently since there are costs or economic burdens in the course of water extraction. Moreover, they also think that the other types of users or who use water through furrow (ቦይ) usually waste water since they do not incur costs in the course of utilization.

The other recommended criterion is to prioritize water users based on *proximity* or *convenience* of water users to the water course of the river basin.[109] The prioritization based on this criterion may be easily enforced. The *schedule* (confused with prioritization) is very important since there is a difference in water requirement level of each plant cultivated by each user. The schedule is designed in a manner that can assure the water requirement for each plant.[110] In the upper Awash, some crops or plants may be watered within 15 (e.g., perennial crops), 10, 7, 4, or 2 days. The schedule which is confused with the prioritization system is designed in a way it reinforces these periods.[111]

8. Approaches of Prioritization Maintaining Multiple Interests within the Same River Basin

8.1 Ordinary ranking of categorized uses as priorities:

The allocation and prioritization of water may be on the basis of categorical classification of water use type. This form of prioritization adds specificity in addition to the general adhered principles or standards. The prioritization is made by defining, listing and putting specific ranks or categories of water use types. In this form of prioritization, the prioritization is made by ordering the ranking of water use types in the form of priority ladder. The listing based on types of water use may be stated as environmental, domestic, irrigation, industrial, commercial, municipal, hydro-electric power, construction, etc.

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[108] Taken from an interview held with the member of one *Water Users Association*, on Dec 20/2019, Wenji.

[109] Frank E. Marony (1953), The Balance of Convenience Doctrine in the Southeastern States, Particularly as Applied to Water, South Carolina Law Quarterly, 5 S. C. L. Q. 159.

[110] Awash River Basin, Dry Season Water Allocation Plan for 2017/18.

[111] Ibid.

However, the specific ranking of the water use rights may be difficult since there can be specific types of water use that require equal or equivalent weight thereby seeking 'relational management strategies' among users.[112] It can also be difficult to give first priority by singling out one of the water use types among those that hold equivalent significance. The other challenge may also relate to the hairsplitting attempt to define and differentiate specific forms of water uses within the same category or use of water, such as industrial uses of water. One of the reasons for undertaking situation analysis is to change the priority from agricultural use to industrial use[113] (as quoted below) where it becomes more efficient and economical to give preference to industrial use thereby reviewing the prioritization between the two types of water uses:

> This situation analysis identifies three major things as emerging issues that may have influences on the implementation of this strategic plan. The first one is the change of the priority from agricultural uses to other uses particularly industrial uses. This strategy assumes irrigation water use as a priority for economical use. But if this priority is changed to industrial system, the allocation system will alter and need reviewing.

The quoted text shows the rationale or driving force for reviewing the strategic plan on issues of allocation. *First,* there should be a clear question and scrutiny between the policy document and the document that embodies the water allocation strategy.[114] *Second,* the policy indicates when and why review may be required, and this needs to be seen with due attention to the broader economic, agricultural, and industrial policies of the country.[115]

The prioritization of water use rights within the same category of use is left unaddressed. According to empirical evidence, prioritization of water use rights is implemented based on the categories of water uses. However, the prioritization of water use rights among individual users within similar category of use is left unaddressed.

8.2 Prioritization by clustering the categorized water use types

Clustering of water use types can avail an equivalent significance or weight within the same category of water use types. This can be the best option to

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[112] StijnBrouwer (2015), *Policy Entrepreneurs in Water Governance: Strategies for Change*, Springer, Switzerland.

[113] AWBA (2017), Executive Summary of the Strategic Awash River Basin Plan, unpublished.

[114] Ibid.

[115] AWBA, *supra* note 15.

prioritize clusters instead of specific and water use types. The priority ladder may also be labeled as cluster one, two, three etc. This may have its own advantages. *First,* this approach is the most manageable and feasible option. It avoids the difficulties in defining and characterizing water use types. *Second,* it may also be the most effective approach since it accommodates the differences of contexts but governed with similar rules in legal frameworks. *Third,* it can accommodate dynamism of water use types that may fall within the same cluster.[116] The commercialization and water tariffs including water pricing systems may be designed with a view to promoting these interests.[117]

8.3 Prioritization by clustering the bundle of rights

Prioritization of water use rights may be accompanied by clustering the bundle of rights. The bundle of rights can be classified into two or three clusters. The first cluster may hold the right to access and withdrawal of water resources. The second cluster may include the right to management and exclusion. The third cluster may be the right to alienation as a standalone right since it can cause a significant legal impact or effect on the remaining bundles of water use rights.

8.4 Prioritization by integrating the clustering of the bundle of rights into the clustered categories of water use types

This form of prioritization gives the opportunity to integrate the prioritization of the bundle of rights into the clustered water use types.[118] For instance, the three clusters of the bundled rights may be enjoyed through the first cluster while the rights may be reduced and transferred to the latter forms of clusters. The integration of the clustered bundle into the clustered types of water use types may help to introduce a separate treatment on the nature of water resources.

It is highly recommended to incorporate exhaustive ranking of water uses.[119] The allocation system must pass three or more steps. *First,* there can be a clear direction in the upcoming policy by clustering the water use rights into three clusters. *Second,* the first basic cluster shall hold the basic water uses such as domestic use, livestock use, environmental or the

[116] Lawrence J. MacDonnell, *supra* note 22.

[117] *See* for example, Ezekiel Nyangeri Nyanchaga (2016), *History of Water Supply and Governance In Kenya (1895–2005): Lessons and Futures*, Tampere University Press

[118] Singh *C, supra* note 97, citing Schlager and Ostrom (1992).

[119] Global Water Partnership. (2014). *Coordinating Land and Water Governance: An Essential Part of Achieving Food Security,* Stockholm, Global Water Partnership.

environmental flow requirement and rural and city water supply use as basic water uses. All the bundle of rights shall be enjoyed by the respective water users. The first three bundled rights (access, withdrawal, and management) shall be given a first priority and the right to exclusion and alienation shall be an equivalent second priority. Each respective city administration shall segregate the types of water users. The use of water for industrial use and purpose shall be excluded from this arrangement. The cross subsidizing system can be installed even for industries that are using water for industrial services under urban settings.[120] These types of uses shall be considered as minimum requirements and non-derogable types of water use during the allocation and apportionment process thereby manifesting the reasonable use of water as minimum standard test.[121] The government organs shall fulfill, protect and promote the human right to water.

Third, the second cluster shall include the use of water for irrigation (traditional, outgrowing/contract farming, small, medium and large scale irrigations), hydroelectric power generation, tourism and resorts. The right to access and withdrawal shall get an equivalent first priority but the right to management shall get a second priority. The right to exclusion and alienation shall be enjoyed and exercised equivalently in an exceptional ground if there is not a negative impact in balancing the dimensional interests.[122]

Fourth, the use of water for 'water based industries' and 'non-water based industries', construction works and commercial use of water shall be under the fourth cluster. If there is a remaining volume of water after an apportionment is made for the above priorities, all the bundled rights shall be exercised. *Fifth,* each lower administration shall ensure that any new coming demand of water is accommodated but it does not affect the attributes of each bundled right under each cluster.

Certain measures have to be taken to improve the water governance.[123] The existing standard of the 'highest social and economic benefits' may be used as a comprehensive standard but its implementation needs to be in

[120] *See* for example, Laura Echternacht (2014), Pricing Urban Water: Evaluation of Economics in the Water Sector of Hyderabad and Varanasi (India), Springer, Germany.

[121] Anthony Scott and Georgina Coustalin, *supra* note 20, p, 871.

[122] UNESCO Education Sector. (2012). *Learning about Water- Multiple- Perspective Approaches.* UNESCO- Education for Sustainable Development in Action Learning and Training Tools No. 5.

[123] Viktor A. Dukhovny and Dinara Ziganshina (2011), *Ways to Improve Water Governance*, Irrig. and Drain. 60: 569–578.

tandem with specific contexts. There is the need for a joint river basin organization as an actor in the governance of Awash River Basin and the concerned regional and city administrations should have the duty to cooperate and enforce the duty of protecting the natural flow of the river basin with the required volume of water.[124] They have to avoid the problems of grabbing because of location and by taking undue advantage of other facilitating factors.

5. Concluding Remarks and the Way Forward

The prioritization of water use rights is interpreted in different ways. The most general interpretations include the prioritization of domestic water use as a basic human right to water. The conservation of an environmental flow with the purpose to sustain environmental sustainability is also applied as a factor to interpret the policy and legal frameworks. Moreover, there is a key consideration to economic feasibility or value as a prioritizing standard. Some approaches in interpretation also consider exemption (by the law) from the requirement of permit as a form of prioritization

The data from practice indicate that efficiency or economic feasibility is applied as the most important criteria to prioritize water use rights. The lion's share in the water of the Awash River Basin is utilized for irrigation and the actual water allocation is also carried out based on the size of land. There is an effort to prioritize domestic use but it is disputed with other types of users. The actual and immediate allocation from ground water to industrial water users is given without the application of the prioritization rule.

The key informant water users also believe that they do not have awareness on the prioritization of water uses. There is no water charge based on such type of prioritization and allocation although the water pricing system may deviate from concerns on sustainability[125] unless they are accompanied by caution, equity and good governance. Allocation to small and medium scale water users is made based on location at the river basin. The convenience to utilize water from the basin especially by the upper water users also gives them an opportunity to get first priority to it. There is

[124] *See* for example, Nowlan, L and K. Bakker. (2007), Delegating Water Governance: Issues and Challenges in the BC Context, *Program on Water Governance*, University of British Columbia.

[125] Worldwatch Institute (2013), *State of the World 2013: Is Sustainability Still Possible?* Island Press, Washington.

also a practice of water allocation by rotation by classifying those who can utilize water at night and day time.

The key informants and respondents have expressed their suggestions on standards of prioritization. Most of them support the ranking of the orders without any pre-condition. Some of them suggested that prioritization should be enforced on a case by case basis with regard to irrigation and industrial uses of water by assessing in the context of socio-economic value. The remaining respondents stated the need for enriching the existing general statements through research thereby enhancing specificity of the ranking by meanwhile ensuring that there shall be workable, manageable, and feasible ranking or ordering of the priorities.

Prioritization to domestic, irrigation and industrial water uses is supported by most respondents, while some respondents believe that environmental flow should get the first priority, other respondents also rank it either in the middle or at a lower tier. However, it is to be noted that environmental flow is a *sine qua non* condition for the very existence and sustainability of the river basin. Equally important is domestic water which requires clarity in its definition including the classification of basic and non-basic, and public and non-public services.

Water use for irrigation and industrial purpose have also been discussed. The latter needs distinction between basic vs. non-basic types of industries as criteria in the process of prioritization. The requirement and regulation on efficiency, manner of utilization, proximity or convenience, rotating schedules have to be used as additional criteria among the types of water uses in the Awash River Basin.

The discussion and analysis in the preceding sections suggest *four* approaches of prioritization that address multiple interests within the same river basin. *First,* the categorization of water uses or the categorical classification of water use types can be considered as a preliminary design. *Second,* the categorization may be supported by clustering the categorized water use types, and prioritization is expected to be made among clusters. *Third,* the clustering of bundle of rights must be designed depending upon the categorization or the clusters. *Fourth,* it shall be mandatory to undertake prioritization by integrating the clustering of the bundle of rights into the clustered categories of water use types.

Finally, clarity, specificity and comprehensiveness are mandatory. There is thus the need for policy, legal and organizational reforms to address and implement the prioritization of water use rights. ■

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