Harmonious Application of 'Equitable and Reasonable Utilisation' and 'No-Harm' Principles in Sustainable Water Management

Nusrat Jahan Urmi*

Abstract: Water sharing of transboundary rivers in an equitable and reasonable manner is always challenging. In certain regions, water management is completely frustrating because of non-cooperation, weak institutional arrangement, hydro-hegemony of big riparians, and so on. The situation is going to deteriorate even more over the coming decades. In search of sustainable water management, this paper argues that 'equitable and reasonable utilisation' and 'no-harm' principles are well-established rules of international watercourses law. Both principles have been hailed as successful tools for sustainable water sharing in many parts of the world. So far, the harmonious application of both cardinal principles requires observance of other fundamental procedural obligations. Finally, it concludes with the findings that the harmonious application of both principles is the best possible option for ensuring sustainable water management in various regions.

Keywords: Equitable and reasonable utilisation, no-harm, shared watercourses, ZAMCOM, and sustainable water management**.**

1. Introduction

Water is a finite resource and an integral part of the ecosystem. Over population and rapid industrialisation put tremendous pressure on freshwater resources. So, there is a visible incongruity between the ratio of water demand and available resources.[1] Though there has never been a war over water, acute scarcity of freshwater in certain regions of the world can lead to violent conflict in the long run. The absence of optimal utilisation of this resource may accelerate that conflict.[2] The bone of contention among riparian States regarding water uses of the international watercourses is multi-faceted. For example, water diversion done by the upper riparian is a prime concern between the US and Mexico.[3] In West Asia, the dispute is centered on the ever-growing gap between demand and supply of

* Research Officer (Senior Assistant Judge) at Judicial Administration Training Institute, Dhaka. The author is available at: nusrat.du.llb@gmail.com

1 Narottam Gaan, 'Environment, Scarcity of Water and Violent Conflict: A Study in Their Linkages' (2001) 22 BISS Journal 245, 245.

2 Laurence Boisson de Chazournes and Salman MA Salman (eds), *Water resources and international law* (Martinus Nijhoff Publishers 2005) 88.

3 Ibrahim Kaya, *Equitable Utilization: The Law of Non-Navigational Uses of International Watercourses* (Ashgate 2003) 34–35.

freshwater.[4] On the other hand, equitable water sharing of common rivers has always been crucial in South Asia since the colonial period.[5] In most cases, hydro-dam construction and upstream water diversion for national projects contribute to disputes over international watercourses. So, it can be said that there are conflicts relating to shared rivers in many parts of the world. This research explores the correlation between 'Equitable and Reasonable Utilisation' and 'No- Harm' principles for ensuring sustainable water management. Geo-physical position of riparian plays a vital role in shaping the development of both principles. Some argue that the principle of equitable and reasonable utilisation favours sovereign rights of the upper riparian States. In contrast, the no-harm principle obliges States to take preventive measures in exercising their sovereign rights. Achieving sustainable water management demands joint efforts of co-riparians irrespective of their geographical location. In this context, the balanced existence or combination of both the principles in any river basin management has been termed as harmonious application. It keeps room for both upper and lower riparian States. This paper claims that harmonious application of both the principles is best possible option for achieving sustainable water management.

To understand the nexus, it is notable to chronicle a brief discussion regarding development of the both principles in the realm of international watercourses law. On the other hand, the next part examines the justifications behind the harmonious application of the 'equitable and reasonable utilisation' and 'no harm' principles as the best possible option for achieving sustainable water management. In doing so, this paper critically analyses the Zambezi River management as a case study. Finally, it concludes with the findings that harmonious application is the best possible option for ensuring sustainable water management.

2. Development of 'Equitable and Reasonable Utilisation' and 'No-Harm' Principles in the Realm of International Watercourses Law

Article 2(a) of the 1997 UN Convention on the Non- navigational Uses of the International Watercourses (hereafter mentioned as the 1997 UN Convention) defines watercourse as a system of surface waters and groundwater consisting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus.[6] A watercourse system becomes international when parts of it are situated in different States.[7]

[4] Muhammad Azhar, 'Water in West Asian Conflict' (2009) 30 BISS Journal 100, 100.

[5] Abul Kalam, 'Environmentalism in South Asia: Building a Shared Water Community in the Eastern Himalayan Region' (1996) 17 BIISS Journal 477, 490–492.

[6] Stephen C McCaffrey, *The Law of International Watercourses* (Oxford University Press 2007) 35.

[7] ibid 41.

The right of each riparian to utilise international watercourses is an established norm. The concern is centred on the extent of that right in a given case.[8] The theory of absolute territorial sovereignty, popularly known as 'the Harmon Doctrine', gives unfettered jurisdiction to the riparian within its territory. That means each riparian is free to use international rivers irrespective of co-riparians interest.[9] Whereas absolute territorial integrity prohibits upstream diversion of natural flows of shared rivers. It requires the informed consent of the co-riparians, especially downstream countries.[10] Against this backdrop, limited territorial sovereignty comes up with the notion that each watercourse state has equal rights to use it. Simultaneously, States should be respectful to the mutual interest of others. The underlying philosophy is that sovereign interest never justifies the arbitrary use of shared rivers.[11] Common management is the last one in this series. It requires integrated management of watercourses beyond the equitable water sharing issue and establishment of inter-governmental institutions having jurisdiction to deal with it.[12]

There is a paradigm shift in the content of water treaties or basin management mechanisms since 1820s. Nowadays, treaties are multi-dimensional and inclusive of environmental and socio-economic aspects. The 1966 Helsinki Rules, the 2004 Berlin Rules, and the 1997 UN Convention are leading instruments of such a trend.[13] The 1997 UN Convention has been hailed as the flagship of multi-lateral agreements related to non-navigational uses of transboundary watersheds.[14] Equitable and reasonable utilisation, no-harm, cooperation, exchange of information, prior notification about planned measures and third party dispute resolution are important features of this Convention.

The principle of equitable and reasonable utilisation sets forth the rights and duties of co-riparian States regarding non-navigational uses of shared rivers. According to this principle, a watercourse State has the sovereign right to use a portion of international watersheds in an equitable and reasonable manner. But such a right is conditional to the obligation of not causing harm to riparian States.[15] The 1997 UN Convention incorporates the philosophy of this age-old principle in articles 5,

---

8 Kaya (n 3) 33.

9 Patricia W Birnie, Alan E Boyle and Catherine Redgwell, *International Law and the Environment* (3rd ed, Oxford University Press 2009) 540.

10 ibid, 541.

11 Kaya (n 3) 73.

12 Birnie, Boyle, and Redgwell (n 9) 544.

13 Shawkat Alam and others (eds), *Routledge Handbook of International Environmental Law* (2nd edn, Routledge 2015) 246: See also Martinus Nijhof, *The River Basin in History and Law*, ch V.

14 Md Nazrul Islam, 'The 1997 Watercourse Convention and Its Relevance to Bangladesh-India Water Sharing Issues' (2001) 5 Bangladesh Journal of Law 3.

15 ILC, *Draft Articles on the Non-Navigational Uses of International Watercourses and Commentaries Thereto and Resolution on Transboundary Confined Groundwater* (ILC 46th Session, 1994) para 2, 97.

6, and 10.[16] Article 5 of the Convention requires every State to pursue development works and use of shared rivers in such a manner so that optimal utilization, as well as adequate protection of the watercourse, are being ensured.[17] The notion of 'optimal utilisation' neither guarantees technologically sound use of the watercourse nor does it intends to justify undue privilege to the basin States.[18] Moreover, the clause 'equality of right' does not assure an identical share of benefits among co-riparian States. Rather equitable utilisation is relative in terms of its application in the river basin.[19] A list of considering factors including natural and socio-economic features are being developed over the years by State practices and have been reaffirmed in the 1997 UN Convention.[20]

Equitable use of shared rivers may result in harm to others. No harm principle is intended to put limitation on those equitable uses of watercourses that causes inequitable consequences.[21] Prior to 1994, the principle of no harm was in a dominant position in international watercourses law. But the prominence of this age-old rule has been shifted in the 1994 final draft of the International Law Commission (ILC).[22] So, the current standard of the obligation is related to performance, not a result of that conduct.[23]

Due diligence can be explained as care and caution to be exercised by the host government against the gravity of the proposed use. So, States can be responsible under that obligation if significant harm is caused because of intentional and negligent behavior. This principle never demands the prohibition of all significantly harmful activities in utilising watercourses.[24] The 1997 UN Convention talks about further consequences and suggests consultation with the victim State with a view to mitigating harmful effects and justifying the concerned use as per equitable and reasonable utilisation principle.[25] So, harmonious application/ combination of both principles carries great value in ensuring sustainable water management.

---

[16] Tadesse Kassa Woldetsadik, *International Watercourses Law in the Nile River Basin: Three States at a Crossroads* (Routledge 2013) 171.

[17] Islam, 'The 1997 Watercourse Convention and Its Relevance to Bangladesh-India Water Sharing Issues' (n 14) 7.

[18] ILC, 'Draft Articles on the Non-Navigational Uses of International Watercourses and Commentaries Thereto and Resolution on Transboundary Confined Groundwater' (n 22) 97.ibid.

[19] AH Garretson, RD Hayton and CJ Olmsted, *The Law of International Drainage Basins* (Oceana Publications, Inc 1967) 44.

[20] Ellen Hey, *Advanced Introduction to International Environmental Law* (Edward Elgar Pub. 2016) 60.

[21] Kaya (n 3) 151.

[22] Islam, (n 14) 9.

[23] Owen McIntyre, 'The Role of Customary Rules and Principles of International Environmental Law in the Protection of Shared International Freshwater Resources' (2006) 46 Natural Resources Journal 157, 170.

[24] Birnie, Boyle and Redgwell (n 9) 555–556.

[25] Islam, (n 14) 10.

3. Justifications Behind Harmonious Application of Both Principles

Over the years, harmonious application of both the principles has been emerged as a catalyst in ensuring equitable utilisation and sustainable management of international shared rivers. The reasons behind this proposition are following:

3.1. Limited Acceptance of Other Theories

From the judgement of the Diversion of Water from the Meuse to the Gabcikovo-Nagymaros case, it is settled that States have right to utilise shared rivers situated within their territory. The controversy is about the manner of utilisation.[26] As mentioned in the previous part, four theories are in operation in this regime. But none of them are well-accepted to the States except limited territorial sovereignty which is the foundation of the principle of equitable and reasonable utilisation.

Absolute territorial sovereignty theory originated in 1895 on the eve of a conflict over the Rio Grande. The then US Attorney-General Harmon proclaimed this doctrine. By virtue of this doctrine, riparian State is fully entitled to use, divert and dispose of water of international rivers.[27] In 20th Century, the US changed its view and moved to more flexible standpoint. Being a downstream country of the Colombia River, US denied the legality of the Harmon Doctrine as international law in 1950s.[28] Moreover, the principle, being incompatible with the philosophy of State responsibility and no- harm principles, lost its acceptance long ago.[29] In this regard, the Lake Lanoux Arbitration played a pivotal role. In this case, protection of riparian's interest was declared as international practice.[30] Even decision of national tribunals in the Donauversinkung is relevant where sovereign rights of States with regard to international watersheds are being considered as limited and subjected to the reciprocal duty of causing no injury towards others.[31] The 1966 Helsinki Rules adopted by the International Law Association (ILA) also declined the prominence of absolute territorial sovereignty principle.[32] So, there is a paradigm shift from the absolute territorial sovereignty theory over the years.

In contrast, the absolute territorial integrity theory puts limitation on the detrimental uses of international watersheds.[33] It gives downstream countries a veto power against upstream water diversion of those.[34] Though the 1992 ECE Convention obliges States to enter into agreements before any alteration of natural

---

[26] Kaya (n 3) 31.
[27] Garretson, Hayton and Olmsted (n 19) 20.
[28] Kaya, (n 3) 42.
[29] Boisson and Salman, (n 2) 81.
[30] Garretson, Hayton and Olmsted (n 19) 29.
[31] McCaffrey (n 6) 220.
[32] Philippe Sands and others, *Principles of International Environmental Law* (3rd ed, Cambridge University Press 2012) 308.
[33] FJ Berber, *Rivers in International Law* (The London Institute of World Affairs 1959) 20.
[34] Kaya (n 3) 60.

flows, it is applicable to the members of the UNECE where water-resources have been developed long ago.[35] The 1997 UN Convention also contains provisions regarding duty to cooperate, prior notification etc.[36] In the Lac Lanoux Arbitration, the Tribunal clearly upheld that prior consent of other riparian States has never been a customary international law with regard to utilisation of international watercourses.[37] Most of the judgements of International Court of Justice (ICJ), Arbitration Tribunal and even the municipal courts confirmed that having prior consent of the co-riparian regarding development projects undertaken over shared rivers has not been settled as law. Finally, the authoritative organisations of international law, specially, ILA and ILC repudiated the application of this theory with regard to utilisation of international watercourses.[38]

On the other hand, the common management approach originated from the notion of a common legal entity. This is a holistic approach to accommodate socio-economic aspects along with ecosystem protection. It requires international watercourses to be considered as a common resource for all riparians.[39] But there is a lack of sufficient authority in international law to uphold this theory.[40] Even the supporters have not yet reached any consensus about its common feature. Some consider it a mere reproduction of the limited territorial sovereignty principle.[41] So, it can be concluded that the foregoing theories of international watercourses law fall short of enough authority to be termed as guiding principles in the given context.

3.2. Customary Status of the 'Equitable Utilisation' and 'No-harm' Principles

Over the years, the principles of 'equitable and reasonable utilisation' and 'no-harm' have been established as customary rules of international watercourses law. Various judicial decisions and legal instruments put great emphasis on these principles regarding sustainable basin management.

3.2.1. Judicial Decisions

Judicial decisions have reaffirmed the importance of reciprocal rights of co-riparian in utilising shared watercourses. Remarkably, several judgements of ICJ or national tribunals put a limitation on the unfettered rights of co-riparian which might be harmful to others.[42] In the River Oder case, the Permanent Court of

[35] ibid, 64–65.
[36] Art. 8, 9 &12 of the 1997 UN Convention
[37] Sands and others (n 32) 307.
[38] Kaya, *Equitable Utilization: The Law of Non-Navigational Uses of International Watercourses* (n34).72.
[39] Birnie, Boyle and Redgwell,.*International Law and the Environment* (n12) 544.
[40] ibid 546.
[41] Kaya (n 38) 87.
[42] ILC, *Draft articles on the law of the non-navigational uses of international watercourses and commentaries thereto and resolution on trans-boundary confined groundwater* (n15)100

International Justice (PCIJ) observed that when a watershed traverses the boundary of more than one State, there arises difficulty in ensuring justice for all the riparian.[43] The solution lies in ensuring equal rights to all of them and excluding preferential rights of either State.[44] A similar observation regarding equitable utilisation of international watercourses has been made in the Gabcikovo-Nagymaros case.[45] In the Diversion of Water from the Meuse case, PCIJ applied principles of equity. Judge Hudson remarkably concurred as follows:

> What are widely known as principles of equity have long been considered a part of international law …. Article 38 of the Statute expressly directs the application of "general principles of law recognized by civilized nations", in more than one nation principles of equity have an established place in the legal system ….[46]

Although the Corfu Channel case is not directly related to shared watercourses, the observation regarding State responsibility made thereby is quite relevant here. The Court held that States shall not allow their territory for activities that are harmful to other States' rights.[47] Similarly, the Trail Smelter Arbitration contributed to the formulation of the 'no-harm' principle. The essence of this judgement is that States cannot do anything within their jurisdiction which is injurious to others.[48]

Hence, it is a predominant rule that the upstream State is obliged not to run projects associated with the waterways or divert natural flows of the same which is significantly harmful to others. The practice is that the host government will take into consideration the diverse interests involved therein of other riparians and make those compatible with its own.[49]

Though international practice does not require prior agreement or consensus to run development activities with regard to shared watercourses, it is still necessary to avoid conflicts regarding competing interests and uses of co- riparian States.[50] The ICJ in the Fisheries Jurisdiction case has conferred the same view in realising the equitable and beneficial interests of the UK and Iceland. Amongst the decisions of national Courts, the observation made in the Donauversinkung case is also

---

[43] Tim Stephens, *International Courts and Environmental Protection* (Cambridge University Press 2009) 173.

[44] ibid.

[45] Kaya (n 38) 79.

[46] McCaffrey, (n 31) 208.

[47] Daniel Bodansky, Jutta Brunnée and Ellen Hey (eds), *The Oxford Handbook of International Environmental Law* (Reprint, Oxford University Press 2010) 112.

[48] Benjamin J Richardson and Stepan Wood (eds), *Environmental Law for Sustainability: A Reader* (Hart Pub 2006) 350.

[49] *Lac Lanoux Arbitration* (1957) 24 ILR 101. See also Tuomas Kuokkanen and others (eds), *International Environmental Law-Making and Diplomacy* (Routledge 2016) 33.

[50] McCaffrey (n 45) 227.

worth mentioning.[51] Judicial decisions oblige States to use shared rivers in an equitable manner as well as take preventive measures.

3.2.2. Legal Instruments

Various declarations, statements of principles, and recommendations concerning the non-navigational uses of international watercourses provide a firm standing for both principles. Article 194 (1) of the 1982 United Nations Convention on the Law of the Sea (UNCLOS) obliges States to take preventive measures for the protection of the marine environment. Similar provisions are available in various environmental instruments like the Stockholm and Rio Declarations, Vienna Convention for the Protection of the Ozone Layer, Convention on the Regulation of Antarctic Mineral Resource Activities, the Act of Asuncion on the use of international rivers, the United Nations Conference on the Human Environment, the Mar del Plata Action Plan, the Salzburg Resolution and the Helsinki Rules on the uses of the Waters of International Rivers, Convention on the Protection and Use of Trans-boundary Watercourses and International Lakes and so on.[52]

The question as to what is an equitable use shall be decided by the concerned States. Though the right of equitable utilisation is not absolute even then it is connected with certain duties. Specially, due regard shall be given to the reciprocal interest of other riparian states.[53] Existence of 'due diligence' or 'taking all appropriate measures' as an observing obligation can be found in multi-lateral/bilateral treaties governing the utilisation of international watercourses. The 1960 Indus Water Treaty between India and Pakistan is worth mentioning here. Article IV, paragraph (10) of the Treaty obliges States to take all reasonable measures for ensuring adequate protection before any industrial or harmful substances flow into it. The underlying philosophy is to be respectful towards the similar interest of others.[54]

The treaties concerning international water use make it clear that equitable and reasonable utilisation of international waters as well as environmental protection needs to be established in ensuring equitable water sharing. There might be conflict regarding the recognition of the primacy of both principles. But, it never supersedes the principle of equitable utilisation on the eve of conflict. Rather, no-harm has been developed as a complementary rule for the equitable and reasonable utilisation principle. The wording of Articles 5-7 of the 1997 UN

---

[51] ILC, *Draft Articles on the Non-Navigational Uses of International Watercourses and Commentaries Thereto and Resolution on Transboundary Confined Groundwater* (n 15) 104.

[52] Martha M Roggenkamp and others (eds), *Energy Law in Europe: National, EU, and International Regulation* (3rd edition, Oxford University Press 2016) 37.

[53] Slavko Bogdanović, *International Law of Water Resources: Contribution of the International Law Association (1954-2000)* (Kluwer Law International 07).113–115.

[54] ILC, *Draft Articles on the Non-Navigational Uses of International Watercourses and Commentaries Thereto and Resolution on Transboundary Confined Groundwater* (n 15) 103.

Convention and the judgement of the Gabcikovo-Nagymaros case reinforce that no-harm complements the equitable utilisation principle. Municipal courts have also affirmed that the no-harm principle never overrides rather supports the equitable utilisation principle.[55] Even then principles of equitable utilisation and no-harm are established principles of international watercourses law.[56]

3.3. The Non-exhaustive List of Considering Factors

The confusion and difficulty regarding the application of the equitable utilisation principle are yet to be resolved. The reason behind this is the changing and diverse nature of the watercourses all around the world as well as the inherent resilience of the above mentioned principle.[57] As observed in the Lake Lanoux Arbitral Award, all possible interests of the riparian must be taken into consideration. Several attempts have been made over the years to enlist all possible factors required in ensuring the equitable application of this cardinal principle.[58] Amongst the ILA and ILC instruments, the 1966 Helsinki Rules and the 1994 Draft articles and commentaries provide a list of the most useful factors associated with equitable utilisation.

Moreover, the wording of these provisions e.g. 'including' or 'not limited to' in the list of relevant factors is indicative of its non-exhaustive nature. So, other uses or factors can be considered in the list keeping in mind the aspect of vital human needs. Simultaneously, there is no prioritisation among the enlisted factors as some of them may be vital for one region while others may protect the best interest in another case.[59] Various judgements and scholarly opinions regarding potential features can be used as examples of different uses thereby. Professor Chauhan divided such features into two categories. For example, the catchment area of the concerned river, the population of that area, the length of the watercourse lying within the territorial jurisdiction of each state, and contribution to the augmentation of water-flows are listed as potential factors creating legal rights. On the other hand, the socio-economic conditions of the State, the number of dependent population of the riparian States, geophysical conditions, etc., are being considered important equitable factors.[60] In other region, Fuentes prefers the economic and social needs of the Basin State, existing uses, customs and the availability of the different uses as essential factors.[61] It seems that most of the factors are ever-changing with the course of time and are relative. The non-

[55] McCaffrey (n 45) 408.

[56] Md Nazrul Islam, 'Dams and Other Planned Measures the International Legal Aspects' (2002) XIII (I) The Dhaka University Studies 129.

[57] Kaya (n 38) 91.

[58] ibid.

[59] ILC, *Draft Articles on the Non-Navigational Uses of International Watercourses and Commentaries Thereto and Resolution on Transboundary Confined Groundwater* (n 15) 101.

[60] Kaya (n 38) 93.

[61] ibid 94.

exhaustive list of considering factors is effective in meeting up the diverse needs of basin States and in realising equitable water sharing, in the long run.

3.4. Protection of the Riparian's Best Interest

According to the ILC Draft commentaries and various authoritative instruments, customary and agreed uses of any shared watercourse need to be protected in determining equitable utilisation of that watercourse. It does not require formal agreement/ enactment between the States regarding water uses. It may be in the form of *modus vivendi* concluded between the States. If there is no agreement, traditional practices may come into help.[62] In the absence of any such arrangements, no use or factors would enjoy inherent privilege in this regard. All factors need to be taken into consideration, as a whole. In case of conflict between non-prioritised factors or uses, consultation should be held between States. Special regard must be given to vital human needs when determining whether a particular use is equitable and reasonable. That means special care should be taken to assess the availability of sufficient drinking and other useable water required for human survival.[63] So, the accumulative effects of both the principles protect the best interest of the watercourse States.

3.5. Comprehensive Mechanism

Procedural obligations e.g. consultation, negotiation, exchange of information, and cooperation are good enough in preserving the interest of co-riparian States. Those are key to the effective implementation of principles regarding equitable and reasonable utilisation of shared rivers as well as prevention of significant harm.[64] Even, some scholars believe that notification and consultation got the status of customary law over the years.[65] The objective of cooperation between co-riparian is to ensure equitable and reasonable utilisation of the watercourse in question and not causing significant harm to others.[66] Most of the international instruments talk about the importance of cooperation. For example, article 4 of the 1982 Montreal Rules of ILA rightly pointed out that the effectiveness of other provisions regarding international watercourses depends on the active cooperation of the concerned States.[67] Other procedural obligations regarding cooperation are not less important in ensuring successful water sharing. Consequently, the substantive obligations of causing no significant harm and equitable utilisation closely require

---

62 ILC, *Draft Articles on the Non-Navigational Uses of International Watercourses and Commentaries Thereto and Resolution on Transboundary Confined Groundwater* (n 15) 110.

63 ibid.

64 Boisson de Chazournes and Salman (n 29) 64. See also McIntyre (n 23) 177–188.

65 Roggenkamp and others (n 51) 37. For details about customary law see also Elizabeth Fisher, Bettina Lange and Eloise Scotford, *Environmental Law TCM* (Oxford University Press 2013) 191–192.

66 Kaya (n 38) 123.

67 ibid 124.

observance of those procedural obligations to be successful.[68] Derogation of these obligations will frustrate the application of both cardinal principles. The 1997 UN Convention has also adopted key substantive and procedural principles to address contesting claims and the protection of rivers and the environment. So, both principles can be termed as a comprehensive mechanism. In conclusion, it can be said that utilisation of international rivers is vital as well as controversial. Hence, harmonious application of both principles is the best possible option and facilitates the sustainable management of shared waters.

4. Case Study: The Zambezi River Management

In this part, the Zambezi River arrangement is being analysed for examining the efficacy of the harmonious application of both principles as a sustainable tool. Prior to it, the Zambezi Watercourse Commission (hereafter mentioned as ZAMCOM Agreement) and the Revised Southern African Development Community (hereafter mentioned as SADC) Protocol need to be discussed. So, the first part introduces briefly the Zambezi basin and legal arrangement developed therein. In furtherance of the research questions, the critical analysis of the subsequent section tries to find out the effectiveness of both the principles of international watercourses law in ensuring equitable share and resolving disputes arose thereby.

4.1. The River Basin

The Zambezi River along with its tributaries constitutes the fourth-longest river basin in Africa and is shared by eight riparian countries. The Zambezi is also considered the principal water resource for most of its basin States. The basin area covers a significant portion of Malawi, Zambia, and Zimbabwe among co-riparian States.[69] It is home to 30 million inhabitants.[70]

The basin has diverse social, cultural, economic, and hydrological potential.[71] Specially, along with four major dams it is potential for hydro-power production.[72]

---

[68] ILC, *Draft Articles on the Non-Navigational Uses of International Watercourses and Commentaries Thereto and Resolution on Transboundary Confined Groundwater* (n 15) '5ff'.

[69] Laszlo J David, 'Environmentally Sound Management of the Zambezi River Basin' (1988) 4 International Journal of Water Resources Development 80, 81.

[70] Lucas Beck and Thomas Bernauer, 'How Will Combined Changes in Water Demand and Climate Affect Water Availability in the Zambezi River Basin?' (2011) 21 Global Environmental Change 1061, 1062.

[71] G Lamoree and A Nilsson, 'A Process Approach to the Establishment of International River Basin Management in Southern Africa' (2000) 25 315, 319.

[72] A Tilmant, L Beevers and B Muyunda, 'Restoring a Flow Regime through the Coordinated Operation of a Multireservoir System: The Case of the Zambezi River Basin' (2010) 46 Water Resources Research W07533 <http://doi.wiley.com/10.1029/2009WR008897> accessed 6 August 2017. See also, Paolo Ronco and others, 'Morphological Effects of Damming on Lower Zambezi River' (2010) 115 Geomorphology 43.

There is a presumption that the ratio of water consumption might increase up to 40% of the present drainage capacity in the near future.[73]

4.2. Legal and Institutional Mechanism

Negotiation for setting up efficient basin management in the Southern Africa region was initiated in the late 1980s.[74] The ZAMCOM Agreement took more than two decades to be concluded. Prior to it, the Zambezi Action Plan (ZACPLAN), the 1995 SADC Protocol on Shared Watercourses, and the 2000 Revised Protocol came into force.[75] The Regional Strategic Action Plan (RSAP) for Integrated Water Resources Development and Management (IWRDM) was also influential in this regard.

Being a regional institutional framework, the SADC Protocol served as the modus operandi for the management of shared rivers in Southern Africa and establishment of several basin institutions.[76] The Zambezi Watercourse Commission (ZAMCOM) is also the outcome of the Revised SADC Protocol's influence. It is a river basin organization established with a view to promoting equitable and reasonable utilisation of the Zambezi River and ensuring sustainable development thereof.[77] In furtherance of its objectives, the Agreement is based on certain principles. Specially, 'equitable and reasonable utilisation', 'prevention of harm', 'inter-generational equity', and 'cooperation' are considered fundamental guiding principles.[78] In short, this is the existing legal set-up of the basin.

4.3. Critical Assessment of the Basin Management in Searching for the Harmonious Application of Both Principles

Article 12(2) of the ZAMCOM Agreement says that principles enshrined therein shall be interpreted in accordance with article 3 of the SADC Protocol. Moreover, these shall be developed in light of the prevalent trends of international watercourses law.[79] The Agreement generally obliges each member State to utilise the Zambezi River in an equitable and reasonable manner with a view to attaining sustainable water management thereof. Parties shall take all precautionary and preventive measures in order to prevent significant harm to human health, safety, and the watercourse itself.[80] If any significant harm is caused to other States, the

[73] Lucas Beck and Thomas Bernauer, (n 70) 1062.
[74] Mikiyasu Nakayama, 'Politics behind Zambezi Action Plan' (1998) 1 Water Policy 397, 398.
[75] Sands and others, (n 32) 335.
[76] ZAMCOM, 'ZAMCOM Background' <http://zambezicommission.org/newsite/index.php/about-us/> accessed on 29 April 2022.
[77] Art. 3 and 4 of the ZAMCOM Agreement, 2004.
[78] Art. 12 of the ZAMCOM Agreement, 2004.
[79] Sands and others (n 32) 335.
[80] Art. 14 (1) and (2) of the 2004 Agreement and art. 7 (a) & (b) of the Revised SADC Protocol, 2000.

host Government shall take all appropriate measures to mitigate the consequences of such harm and determine the question of compensation.[81]

In ensuring equitable and reasonable utilisation of the Zambezi River, the Technical Committee shall take into consideration some determining factors. Such as geographical, hydrographic, and natural factors; the socio-economic and environmental needs of the local population; the number of dependent population of each riparian country; the effects of planned measures on co-riparian; existing and potential uses of the river and the availability of alternatives to planned measures, etc.[82] All factors shall be considered as a whole in determining what is an equitable and reasonable utilisation in the context of this basin area.[83]

Likewise, the best practices of international watercourses law, the ZAMCOM Agreement has provisions regarding the exchange of information, prior notification, consultation, dispute settlement, etc. In a nutshell, the Agreement along with the Revised SADC Protocol is intended to promote sustainable and optimal utilisation of shared watercourses in one of the most densely populated regions. In case of any disputes arising out of management and application of the Agreement, the parties will try to resolve them through consultation and negotiation. The Council established therein can cooperate with parties in finding an amicable settlement.[84] If the dispute still continues, the contesting parties may refer it to a Tribunal established in this regard, on the basis of their mutual consensus.[85] Commenting on this situation, it can be said that application of equity, fair use, and no-harm rule is impossible without having other procedural and monitoring mechanisms.

There is a nexus between water and food, health, environment, and socio-economic development.[86] Similarly, the 2000 SADC Protocol recognizes the socio-economic importance of shared watercourses and ensures equitable utilisation of those for the riparian States. The objectives of SADC regarding poverty alleviation and regional integration are consistent with the special needs of the basin.[87] It is evident that the Zambezi basin is committed to ensure better water management in the Southern Africa region. Harmonious application i.e. the existence of both the cardinal principles along with other procedural obligations make the Zambezi basin management a promising one.

---

[81] Art. 14 (5) of the 2004 Agreement.

[82] Art. 13(3) of the 2004 Agreement and art. 8 (a) of the 2000 Protocol.

[83] Art. 13(4) of the 2004 Agreement and art. 8(b) of the 2000 Protocol.

[84] Art. 21 (1) and (2) of the 2004 Agreement.

[85] Sands and others (n 32) 336.

[86] Ainun Nishat, 'Issues and concerns in Water Resources Management in Bangladesh: National Perspective' (BIISS Panel Discussion on Management of Water Resources and Water Security: The Case of the GBM River Basins, 15th June 2010).

[87] Sands and others (n 32) 335.

5. Conclusion

There are around 200-400 major international river basins.[88] Amongst them, the densely populous regions e.g., Africa and South Asia are going to experience extreme water scarcity in the near future.[89] As ICJ has used the principle of equity as a governing rule to apportion shared natural resources in several occasions, the principles of 'equitable and reasonable utilisation' and 'no harm' have achieved the status of customary law. It puts forward state responsibility of not causing harm in utilising shared natural resources. States are accountable for a breach of that responsibility. State responsibility of not causing significant harm is applicable to all States without any binding legal instrument consented thereby.[90] More particularly, the 1997 UN Convention has proclaimed the emphasis of both the cardinal principles in achieving equitable water utilisation of shared rivers.[91] Procedural obligations like a duty to notify, consult, and exchange data regarding planned measures do reflect customary law. So, equitable utilisation and no-harm principles along with the procedural obligations got the status of both customary and treaty law. Out of the discussion, it became obvious that 'equitable and reasonable utilisation' and 'no-harm' principles being customary rules of the international watercourses law, have been reflected in various basin management mechanisms. Other theories and principles regarding watercourses law lag behind due to their limited acceptance and application over the years. Even in the 1997 UN Convention, these principles are being hailed as fundamental to the sustainable management of watersheds. Harmonious application of both principles in any basin would guarantee the best interest of the both upper and lower riparian. Upon considering the foregoing discussion, this paper concludes with the statement that the harmonious application of both principles is a reality and has been successfully implemented in the Zambezi River basin management.

[88] Beck and Bernauer (n 70) 1061.

[89] Nigel W Arnell, 'Climate Change and Global Water Resources' [1999] Global Environmental Change S31, S47.

[90] Roggenkamp and others (n 64) 26. For details on State Responsibility see also Rosemary Gail Rayfuse and Shirley V Scott (eds), *International Law In The Era Of Climate Change* (Edward Elgar 2012) ch 13.

[91] Islam (n 14) 2.