Water, Territory and the Role of History: Thoughts from an International Perspective

The Hon Justice Melissa Perry

Introduction

Water is the first principle or element of all things – so said the Greek philosopher, Thales of Miletus. He conceived of water as “a revolutionary leveller and the elemental factor determining the subsistence and business of the world.” Thales’ words resonate with our appreciation of the centrality of water to life, in all its aspects. Not only is the right to safe and clean drinking water and sanitation recognised today as a fundamental human right, but water security is essential to food production, health, energy security, and social and economic development.

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1 Justice of the Federal Court of Australia. LL.B (Hons)(Adel), LL.M, PhD (Cantab), FAAL.
5 Tarlock defines water security as traditionally “a firm water right which can be judicially or diplomatically enforced against those who interfere with it” or alternatively as “a physically dependable supply... [which] can be tied to a legal allocation or it can be simply based on capture and a low risk that any other party can interfere with the capture.”: Tarlock A. D., “Water Security, Fear Mitigation and International Water Law”, (2008) 31 *Hamline Law Review* 703 at 715. He also explains that the concept “is being expanded beyond these traditional definitions to include the guarantee of sufficient water for a nation’s sustainable food production...” (at 716).
7 See further e.g. World Bank, “High and Dry: Climate Change, Water, and the Economy.” (2016) World Bank, Washington, DC. License: Creative Commons Attribution CCBY 3.0 IGO
About 1.6 billion people—almost a quarter of humanity—live in countries with physical water scarcity. In 2015, 844 million people lacked even a basic drinking-water service. It is estimated that by 2025, half of the world’s population will be living in water-stressed areas and that in less than 20 years, water demand in India and China will exceed supplies. Cities identified as most at risk include Cape Town (potentially running out of water in 2019), Melbourne (within 10 years), Beijing, Jakarta, London, and Tokyo. Population growth, climate change, increasing water scarcity, industrial and agricultural consumption and pollution of water, demographic changes, and urbanisation have all been identified as contributing to a global freshwater threat. These stressors in turn pose a real and increasing risk of conflict not simply over control of water sources but also, for example, for equitable access to water and through vulnerability to attacks on water systems by state and non-state actors or as a weapon of war.

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8 ibid at 1.
10 ibid. Water Stress is defined by the European Environment Agency as occurring “… when the demand for water exceeds the available amount during a certain period or when poor quality restricts its use. Water stress causes deterioration of freshwater resources in terms of quantity (aquifer over-exploitation, dry rivers, etc.) and quality (eutrophication, organic matter pollution, saline intrusion, etc.)” (https://www.eea.europa.eu/themes/water/wise-help-centre/glossary-definitions/water-stress) (viewed 24 June 2018). It is generally accepted that water stress/scarcity is reached when a country’s or region’s annual water supply is less than 1,700 cubic meters per person per year (for reference, US per capita total water used is 2,500 cubic meters per year): the so called Falkenmark indicator.
As such, it has been said that “[w]ater is now playing a determining role in international, national and trans-boundary conflicts.”

Greece is no stranger to water scarcity. Yet the most important of the city-states of Classical Greece thrived, despite being located in places where water was scarce and its availability affected by drought.

Worthwhile lessons relevant to the global water crisis can, in my view, be drawn from a consideration of the means by which ancient Athenian laws provided for the equitable and sustainable use of freshwater, and from the manner in which rights of access to water were arbitrated in Classical Greece between the city-states. This paper considers each of these themes in turn.

Athenian regulation of the equitable and sustainable use of water resources

Some renditions of the myth concerning the naming of Athens suggest, as has elsewhere been observed, that Athens was situated in a location characterised by a dry climate as a deliberate choice. Both Athena, the goddess of wisdom, and Poseidon, god of the sea and other waters, wished to name this area of Attica, so Zeus decided to hold a contest between them to decide who would bring the greater benefit to the new city. Athena and Poseidon ascended the Acropolis. Poseidon struck the rock with his trident and to the citizens’ amazement, a spring of water appeared. Athena then raised her lightning spear and struck a spot beside Poseidon’s spring, from which an olive tree grew. She explained that her gift was the wiser as it would profit cooking, industry, craftsmanship, and trade. The citizens chose Athena, preferring on one view, wisdom over water, and on another view, peace as symbolised by the olive branch.


16 It has also been observed that “City siting in dry places, must have been primarily driven by the laws of the natural selection with the populations established in dry climates having larger probability to survive, as they were protected from waterborne diseases.”: Angelakis, A. N. et al, Evolution of Water Supply Through the Millennia (IWA Publishing, 2012) at [10.3.2]. Angelakis et al also note the dependency on trade by the city-states, rather than agricultural production: at [10.6].


The Athenian General and historian, Thucydides, also points to the wisdom from a security perspective of locating a city-state in a dry region:

The richest soils were always most subject to this change of masters; such as the district now called Thessaly. … The goodness of the land favoured the aggrandizement of particular individuals, and thus created faction which proved a fertile source of ruin. It also invited invasion. Accordingly Attica, from the poverty of its soil enjoying from a very remote period freedom from faction, never changed its inhabitants. 19

The “poverty of its soil” (as described by Thucydides) and growing demand for water in Athens led Solon, the statesman, poet and lawmaker of the late seventh and early sixth centuries BC, to craft laws addressing equitable water distribution between citizens. As explained by Plutarch (47-127AD):

With regard to water, as the country is not supplied with either rivers or lakes, but the people depend chiefly upon artificial wells, [Solon] made a law, that wherever there was a public well within 4 furlongs [740m], people should use it, but if it were further off, then they must dig a private well for themselves; but if a man dug a depth of 60 feet on his own estate without finding water, then he was to have the right of filling a 5 gallon pitcher twice a day as his neighbour’s well; for Solon thought it right to help the distressed, and yet not to encourage laziness. 20

Solon’s laws sought to achieve a balance between public and private interests in water, despite accepting that the owner of land also owned the water on or under it, 21 and provided a model for regulating water which was applied throughout the history of the Athenian city-state. 22 A similar balance can be seen in private dealings in the land. An example is an inscription from the middle of the 4th century BC recording a lease of land belonging to the god Apollo Lykeios which obliged the lessee not to hinder the use of water by anyone else to irrigate their land. 23

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20 Plutarch, Plutarch’s Lives Solon (as translated by Perrin, B, Loeb Classical Library) 23.


23 Koerner, R., “Zu Recht und Verwaltung der griechischen Wasserversorgung nach den Inschriften” (“On the legislation and management of the Greek water supply according to inscriptions”), (1974) 22-23 Archiv für Papyrologie und verwandte Gebiete, Fournet, J & Ors (eds)155 at [2.2.2.2]. Koerner also gives the example of a lease granted by Thesstia in Atolia in the 2nd century BC which limited the tenant’s ownership of water so as to provide that farmers who are water-poor should if necessary draw water from their neighbour’s property, illustrating the city’s assumption of a responsibility for ensuring access to water (ibid).
With the creation of the democratic system of government for Athenian society, the Athenian population grew and, correspondingly, so did its need for water. But this did not initially result in the development of large-scale water infrastructure in Athens. This may have been deliberate because small-scale constructions such as cisterns were more resilient in times of war.24 As Aristotle explained, the city “must possess if possible a plentiful natural supply of pools and springs, but failing this, a mode has been invented of supplying water by means of constructing an abundance of large reservoirs for rain-water, so that a supply may never fail the citizens when they are debarred from their territory by war.”25 Thucydides also advocated for the wisdom of this approach, referring to speculation that the Great Plague of Athens during the Peloponnesian War was due to the poisoning of the reservoirs at Piraeus, “there being as yet no wells there.”26

By the 5th century BC, the system of water supply serving the population of Athens (which at its height exceeded 200,000)27 had evolved to “an advanced … technological system of water supply consisting of an interconnected network of public and private wells, fountains and springs, aqueducts that carried water from long distances from the mountains around Athens and rainwater collection systems.”28 Even, however, with the advent of aqueducts to transfer water to public and individual fountains, laws continued to require citizens to maintain private wells and cisterns in good condition, thereby better securing reliable sources of water in the event of war.29 Laws also existed prohibiting water pollution upstream. An example is a law in about 420 BC that no one was to soak skins in the River Ilissos above the precinct of Herakles, nor to dress hides or (it is speculated) throw rubbish into the river.30 It has also been postulated

24 Angelakis, A. N. et al., Evolution of Water Supply Through the Millennia (IWA Publishing, 2012) at [10.3.3] and [10.4.1]. Note also the suggestion that democracy made it more difficult to allocate public funds for major infrastructure: ibid at [10.4.1].
25 Aristotle, Politics, Book 7, 1330b (translation by Rackham, H).
27 Bederman, D., International Law in Antiquity (Cambridge University Press, 2001) at 33 explains that “Perhaps only a dozen Greek city-states had over 10,000 citizens or in excess of 50,000 residents all told. Only Athens and Sparta reached populations of more than a quarter of a million souls in the fifth century.”
29 ibid.
that laws were in place penalising those responsible for obstructing the flow of water so as to cause damage to another’s property.\textsuperscript{31}

Responsibility for maintaining the city’s water system, monitoring enforcement of these laws, and ensuring a fair distribution of water was vested in the superintendent of fountains or springs.\textsuperscript{32} The importance of the role is apparent from Aristotle’s description of the superintendent of fountains being elected by vote, while officeholders concerned with the ordinary routine of administration were selected by lot.\textsuperscript{33} Thucydides is known to have been among those who held the office and under his watch, fines imposed on those who took water illegally were applied to the making of a female bronze, called the water carrier, in the temple of the mother of the gods.\textsuperscript{34}

While regulated, in general the use of water was free in ancient Athens. An exception is found in the sacred law of the Nymph’s sanctuary. This law was engraved on a marble stone slab or “stela” on the coastal route from Athens to Sounion at the southern-most tip of Attica. The stela was inscribed in about 400 BC,\textsuperscript{35} not long after Pericles rebuilt the temple of Poseidon which dominates Sounion even today.\textsuperscript{36} The inscription begins with a Delphic oracle specifying aspects of a sacrifice to the Nymphs. To finance the sacrifice, the guardians of the sanctuary required thirsty passers-by to purchase water belonging to the Nymphs. The inscription proclaims that for one obel a year, he who wishes can drink as much as he needs at the sanctuary. However, those who attempted to take water away from the sanctuary, even if they had paid the annual fee, were fined 50 drachmen for each amphora. As the commentator, Meyer, has explained, under the sacred law, one obel allowed a person to take water only to satisfy their immediate personal needs and, as such, the sanctuary guardians sought to preserve the source as well

\textsuperscript{31} ibid at 136-137.


\textsuperscript{34} Plutarch, \textit{Plutarch’s Lives, Themistocles}, 31.


\textsuperscript{36} The original temple had been built during the Archaic period and was probably destroyed in 480 BC by Persian troops during the invasion of Greece by Xerxes I.
as to raise money for the required sacrifice.37 Such a penalty could only have been executed by an official institution or with the agreement of the state.38

It can therefore be seen that, from the time of Solon and throughout the 4th century BC, Athenian water laws were underpinned by a general acceptance that access to water to sustain life, and for economic and agricultural activity, was a right for all members of the population, as is reflected in limitations imposed even upon private ownership of land.39 Added to this, obligations were imposed by law to ensure sustainable management of water and for water security in the event of war. It follows that, just as modern engineers consider that Athens “is a lesson of sustainable management, and marks the importance of the institutional progress in water management.”,40 so too can we as lawyers and law-makers draw lessons from the ancient Athenian system.

Arbitration among the Greek city-states for the pacific settlement of disputes

This brings me to the second theme of relevance to the current global freshwater threat.

While not without controversy, there is a strong body of opinion that the city-states or poleis of classical Greece which emerged in the late 7th or early 6th century BC were sovereign nations, whose interactions


38 Koerner, R., “Zu Recht und Verwaltung der griechischen Wasserversorgung nach den Inschriften” (“On the legislation and management of the Greek water supply according to inscriptions”), (1974) 22-23 Archiv fur Papyrusforschung und verwandte Gebiete, Fournet, J & Ors (eds) 155 at [2.2.2.4]. Similarly, it has been recognised today that placing a value upon water such as by means of compensating one State for the use of water by another, can be a means of promoting sustainable management of water resources and negotiated agreements about water use by riparian States: Tarlock A. D., ‘Water Security, Fear Mitigation and International Water Law’ (2008) 31 Hamline Law Review 703 at 713-715.

39 Koerner, R., “Zu Recht und Verwaltung der griechischen Wasserversorgung nach den Inschriften” (“On the legislation and management of the Greek water supply according to inscriptions”), (1974) 22-23 Archiv fur Papyrusforschung und verwandte Gebiete, Fournet, J & Ors (eds) 155 at [2.2.2.2]. See also ibid at [2.3.1] stating that the basic principle of Greek water law appears to be that no-one can be prevented from the use of water, being a principle that applied not only to public water but also to private water ownership.

were regulated by a system of international legal relations. Among the international law institutions which developed as a consequence of the “lively contacts” between the Greek city-states (and Greek and non-Greek states), it has been said that “[f]irst and foremost, by reason both of the frequency of its occurrence and its importance for the settlement of differences between States, is arbitration.” Arbitration, in turn, was generally employed in an endeavour to settle disputes without military conflict or to end such conflict. This mechanism was favoured in particular by the smaller city-states who may have been incapable of pursuing their interests through military action or economic pressures, and therefore had everything to gain by such means. As Ager explains, “[t]he institution of arbitration might be the only protection smaller states could have in their dealings with greater powers.”

Initially, the Oracle of Delphi undertook the role of arbitrator. However, the Oracle’s awards were vague and imprecise, rarely, as one would expect, providing an intellectually satisfactory means of resolving disputes in an enduring manner. As such, while ceremony was never abandoned, David Bederman explains in *International Law in Antiquity* that “arbitrations became a largely secular, and reasoned, process” based upon submissions, evidence and precedent, and upon an oath of impartiality sworn upon

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41 See e.g. Bederman, D., *International Law in Antiquity* (Cambridge University Press, 2001) at 32-35 and 38-40, who discusses the differing views but concludes that the Greek city-States of the 5th and 4th centuries BC overall satisfy the criterion for an authentic State system namely, living in a community which provides a law of international relations to the member states. See also “Oxford Public International Law, History of International Law, Ancient Times to 1648”, Max Planck Encyclopedia of Public International Law (MPEPL) (August 2008) (viewed 10 June 2018) at [8]-[9]. Doxiadis gives the following explanation of the city-state model: “Greece is divided by mountains into small plains. It is in these plains that the major part of land cultivation takes place and we can roughly say that these do not exceed 20% of the ancient Greek Peninsula. The physical boundaries of the small plains form the boundaries of the city-state. These areas range from fairly small states with an area of 100 sq. kms. such as the state of Aegina, to fairly large states, such as the states of Arcadia and Laconia which spread over an area of about 5,000 sq. kms.. Diagrammatically, [sic] We can thus visualise the ancient Greek states as squares of 10 by 10 kms, which could be crossed from end to end in two hours or so, two squares of 70 by 70 kms, which one needed 14 hours to cross on foot.”: Doxiadis, C, “The ancient Greek City and the City of the Present” (1964) 18(108) Ekistics 346 at 347.


45 ibid.

46 Bederman, D., *International Law in Antiquity* (Cambridge University Press, 2001) at 82-83. By way of example, Bederman referred to the example of a dispute between Clazomenae and Cyme over ownership of a temple located in a territory nearly equidistant between the two cities: “The Pythia gave possession to that city which should be first to sacrifice at [the temple]: but each must start from their own territory at sunrise on the same day, which should be fixed by common agreement.” The Oracle’s solution was to invite the disputants to make a mad dash to the temple steps.” (ibid at 83).
the gods by the arbitrator.\textsuperscript{47} Further the choice of a prestigious state or individual as arbitrator was important in affording greater authority to the arbitrator’s judgement.\textsuperscript{48} In this regard, one commentator has observed that:

Of the independent Greek republics, Rhodes was the favoured choice and built an impressive reputation for itself in the field of mediation and arbitration through the late third and early second centuries. Rhodes in this period was one of the more powerful independent Greek states and would of course have increased its prestige all the more through its successful diplomatic record.\textsuperscript{49}

In short, it can be seen that respect for the awards was thus based upon the integrity of the process by which they were reached and the prestige and independence of the arbitrator.\textsuperscript{50}

As to the broader significance of this method for the pacific settlement of disputes, the Hon Justice Nettle writing extrajudicially has said:

… it is the ingeniousness of the ancient Greeks in the development of international arbitration and international treaty making which is important: for from the procedure sprang the possibility, and sometimes, then as now, the reality, of peaceful coexistence and international commerce regulated according to the rule of law.\textsuperscript{51}

Given their number (approximately 1,500\textsuperscript{52}) and the relative lack of fertile land, it is not surprising that the Greek city-states were fiercely independent and had a strong attachment to territory.\textsuperscript{53} Jurisdiction over religious sanctuaries was also often a source of rivalry between city-states.\textsuperscript{54} These factors among others led to what has been described as “\textit{intense concern for the demarcation of boundaries}”, and territorial ownership and rights of access were often a cause of bitterness in relations between neighbouring city-states.\textsuperscript{55} Such disputes were frequently referred to third parties to arbitrate a resolution.\textsuperscript{56} An example

\begin{itemize}
\item \textsuperscript{47} ibid at 83-84.
\item \textsuperscript{48} Ager, S. L., \textit{Interstate Arbitrations in the Greek World} (University of California Press, 1996) at 11.
\item \textsuperscript{49} ibid.
\item \textsuperscript{50} Bederman, D., \textit{International Law in Antiquity} (Cambridge University Press, 2001) at 84.
\item \textsuperscript{52} Hansen, M. H. and Nielsen, T. H., \textit{An Inventory of Archaic and Classical Poleis: An Investigation Conducted by The Copenhagen Polis Centre for the Danish National Research Foundation} (Oxford University Press, 2004), 3.
\item \textsuperscript{53} Ager, S. L., \textit{Interstate Arbitrations in the Greek World} (University of California Press, 1996) at 6.
\item \textsuperscript{54} ibid at 4.
\item \textsuperscript{55} Bederman, D., \textit{International Law in Antiquity} (Cambridge University Press, 2001) at 34. See also Ager, S. L., \textit{Interstate Arbitrations in the Greek World} (University of California Press, 1996) at 4.
\item \textsuperscript{56} Ager, S. L., \textit{Interstate Arbitrations in the Greek World} (University of California Press, 1996) at 3-6.
\end{itemize}
is the settlement likely arbitrated by the Athenians\textsuperscript{57} between Delphi and two of its eastern neighbours (Ambryssos and Phlygonion) in around 167 to 140 BC. The settlement provided that the small river forming part of the border was to be the common property of all parties.\textsuperscript{58} Settlements providing for joint custody and the sharing of resources such as this were not rare. As one commentator has observed, “[a] solution such as this relieved the arbitrator of the necessity of making an unpopular judgement; but it was probably also a realistic reflection both of the limited quantity of decent land with sufficient irrigation and of the frequently doubtful or unprovable nature of the contestants’ claims.”\textsuperscript{59}

Water also played a symbolic role in the conclusion of treaties. Such agreements were binding only where the parties had sworn to the deities to abide by them, with the sacred rite “to pour the libation” meaning to conclude the treaty.\textsuperscript{60} More specifically, the spondai, where honey, oil or water was poured from a jug or bowl in a controlled way, concluded a pact. As one commentator has explained:

… the spondai end hostilities. Normally there is no other word for armistice or peace treaty than simply the spondai. ‘We, the polis, have made libation’ means: we have resolved and committed ourselves. … ‘Sponde bearers’ make their way through the lands to proclaim and bring about the truce; such libation is bloodless, gentle, irrevocable, and final.\textsuperscript{61}

Concluding thoughts

What lessons then may be drawn from the ancient Greek experience for the global freshwater threat? First, the experience of ancient Athens is an example of how innovation in the development of water systems may be borne out of water scarcity. The Athenian approach also demonstrated the effectiveness of a “marriage” between engineering and law to achieve survival in a difficult environment, highlighting the need for interdisciplinary and multifaceted responses to water scarcity.

\textsuperscript{57} ibid at 350.

\textsuperscript{58} ibid. Ager expresses the view that the fact that the document was inscribed on the Treasury of the Athenians at Delphi suggests that the Athenians acted as arbitrators. See also Koerner, R., ‘Zu Recht und Verwaltung der griechischen Wasserversorgung nach den Inschriften’ (“On the legislation and management of the Greek water supply according to inscriptions”), (1974) 22-23 Archiv fur Papyrusforschung und verwandte Gebiete, Fournet, J & Ors (eds) 155 at [2.3.6].

\textsuperscript{59} Ager, S. L., Interstate Arbitrations in the Greek World (University of California Press, 1996) at 6.

\textsuperscript{60} “Oxford Public International Law, History of International Law, Ancient Times to 1648”, Max Planck Encyclopedia of Public International Law (MPEPIL) (August 2008) (viewed 10 June 2018) at [14]. See also Bederman, D., International Law in Antiquity (Cambridge University Press, 2001) at 81-84 who argues that the actual practice of the Greeks belied the view that the ancient law of nations observed by them had no sanctions, when not enforced by religious beliefs, and that it did not therefore embody a concept of the rule of law.

\textsuperscript{61} Burkert, W., Greek Religion (Harvard University Press, 1985, originally published 1977 in German) at 71.
Secondly, the Athenian experience demonstrates how water security may be better achieved through large-scale public infrastructure coupled with public and private obligations upon landowners and operators to maintain the quality and condition of water systems and sources on private land. This lesson is of particular significance in a world where not only are there recent examples of alleged crimes against humanity by the diversion of rivers and contamination of water sources, but cyber-attacks on public infrastructure are matters of increasing concern.

Thirdly, the Athenian system of laws sought to ensure an equitable distribution of water as a finite and scarce resource, as opposed to affording absolute priority to the rights of the land owner. By analogy, while recognising that States are sovereign within their own territory, one State’s utilisation of freshwater from a trans-boundary river can have significant economic, social, and environmental impacts on other riparian States and upon basic human rights. A current example is the ongoing dispute between Egypt and Ethiopia regarding the construction of the Grand Ethiopian Renaissance Dam on the Blue Nile for hydroelectricity generation. The potential for such impacts and their capacity to lead to conflict and civil unrest highlights the need for States to seek resolutions based upon equitable, reasonable and sustainable uses of shared waters having regard to the community of interests. So much is required by established principles of international law.

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62 See Smith, T., ‘Why the International Criminal Court is right to focus on the environment’ The Conversation (September 24 2016) (http://theconversation.com/why-the-international-criminal-court-is-right-to-focus-on-the-environment-65920) (viewed on 24 June 2018). The author refers by way of example to the arrest warrants issued by the International Criminal Court between 2009-2010 against the president of Sudan, Omar Al-Bashir, for acts of genocide, war crimes and crimes against humanity. Among other acts, these alleged crimes involved the contamination of wells and water pumps in Darfur to target and destroy certain groups of people. As a further example, the author refers to the diversion of the Tigris and Euphrates rivers by Saddam Hussein in order to drain the Mesopotamian Marshes in southern Iraq to destroy the community of Marsh Arabs living there in reprisal for attempting an uprising against him.


64 Gabčíkovo-Nagymaros Project (Hungary v Slovakia) ICJ Reports 1997, 7 at paragraph 85 (explaining that a riparian State cannot deprive another riparian State of its right to an equitable share of an international watercourse); Lake Lanoux Arbitration (English translation) (1957) 24 ILR 101 (rejecting arguments as to the absolute sovereignty of upstream State (the so-called “Harmon doctrine”)); Convention of Non-navigational Uses of International Watercourses, adopted on 21 May 1997 GA Res 51/229 (entered into force 17 August 2014) which requires States to use watercourse in “an equitable and reasonable manner” (art 5), listing seven non-weighted factors relevant to such a determination (art 6), and not to cause significant harm to other
Equally crucial is the creation and maintenance of effective regimes and institutions capable of adapting as circumstances and needs change so as to facilitate ongoing cooperation between States.\footnote{65} This includes making provision for the sharing of new technologies directed towards water conservation, efficiency and quality control among States, as well as for the timely sharing of data on such matters as water flows and extraction.\footnote{66} Broader questions also remain as to the principles which might apply with respect to access to freshwater for non-riparian States in circumstances of severe water stress and long-term geographical and climate disadvantage. In the context of an impending global freshwater crisis, it may no longer be sufficient to approach questions of equitable distribution and reasonable utilisation of freshwater resources simply within the paradigm of riparian States.

Finally, international disputes today, as in antiquity, are frequently concerned with title to territory and access to resources. Equally, the essential principles of arbitration and treaty making which developed in classical Greece continue to provide foundations for the peaceful resolution of such disputes. In this regard, the United Nations Secretary General, Antonio Guterres, recently said that “water is and should remain a reason for cooperation not conflict”.\footnote{67} However, absent co-operation in the equitable sharing and sustainable use of this “elemental factor” as Thales described it, “the subsistence and business of the world” is put at risk to the detriment of humankind.

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\footnote{66} Ibid at 712.