

Perspectives on Water and the Bible

Y. Moses

Introduction

The world is faced with the hard reality of water crisis. There is, on the one hand, a fast depletion of water resources with major rivers drying up and, on the other, an increasing demand for scarce sources of water, leading to potential global water wars. There is an added burden on governments the world over to supply clean drinking water to their populations at affordable costs. In such a context, water conservation through a proper water management assumes greater significance and urgency. In terms of concerted efforts by individuals, communities, governments and global bodies. It involves willingness to identify root causes and a greater determination to rectify mistakes. Furthermore, it involves not only the adoption of appropriate techniques and technologies, but also the promotion of suitable values and attitudes. Fortunately, humanity has the advantage, especially in a globalized world, to learn from one another's experiences as also from one another's civilizational practices (Fig. 1).

The depletion and contamination of water resources and by extension the environmental and ecological imbalances caused by anthropogenic activity is a reflection of human deficiency either in the form of ignorance about nature's limitations or a sheer arrogant intention to dominate and exploit the natural world. If this situation were to be reversed, that is, if a further depletion has to be stalled and nature restored and preserved for generations to come, a review of social values vis-a-vis nature is absolutely essential. In this connection, looking into religions and looking back at pre-modern civilizations undergirded by multi-religious outlooks can help serve the purpose of drawing valuable insights for guidance in the present context.

Y. Moses (✉)

National Law School of India University, Bengaluru, India

Diocesan Training Centre, Anglican Church, Mauritius

e-mail: mosesy@hotmail.com

Fig. 1 The bleak future for water. <http://im.rediff.com/money/2009/dec/11water1.jpg>



Religions retain a much needed sense of mystery about life and nature as also the capacity to animate people's minds and hearts towards acting with a great sense of responsibility. Christianity is one such religion.

Purpose

The purpose of this chapter is to draw from Christianity, one of the world's major religions, insights that can help promote conservation and proper water management. Here the focus is limited to identifying key Christian perspectives on water and their underlying values, starting from the Christian scriptures: the Bible. Identifying such values and principles can be critical to an evaluation of our own water-related practices and policies. The methodology involves extracting passages and verses from the Bible that refer to water, interpreting them in terms of their social and historical contexts besides relating their wisdom to the present water crisis. It describes water associated religious and social practices, while presenting some details about water supply and water management systems of civilizations during the biblical times. The information regarding the techniques and technologies employed in such distant pasts may not be of great use to our present complex contexts, but may serve an indicative purpose. While the focus is on biblical times, the chapter also highlights and reviews Christian doctrines and theological frameworks that could impact societal attitudes towards nature and its resources.

Bible and the Biblical Times

What the Christians regard as their Bible is a book of many books in two parts, the Old Testament and the New Testament. The New Testament, consisting of 27 books, reflects upon the life and teachings of Jesus Christ,¹ besides presenting an account

¹ Jesus Christ, upon whom Christianity is founded, was himself a Jew and his first followers were Jews.

of the early spread of Christianity. The 39 books of the Old Testament—ordered differently into 24 books—constitute the Holy Scripture to the Jews.

The books of the Bible contain different literary forms. They include poetry, wisdom, literature, oratory, letters and narrative history; figurative speech such as parables, similes, myths, metaphors, analogies and allegories. Throughout history, the Bible has been interpreted in a variety of ways—literally, morally and spiritually. What is significant for our purpose is the possibility of reinterpreting its message to address our own contexts and issues. This was indeed what had happened in the case of biblical writers themselves. For instance, the New Testament writers had reinterpreted the books and message of the Old Testament in the light of the person and work of Jesus Christ. In contrast to the assumption that the intention of the Bible is to give us accurate information, the biblical writers and readers both Jews and Christians up until the modern times did not think that the Bible had given a single, orthodox message and, therefore, were engaged in a constant reinterpretation. The principle applied through the ages is one of moving forward. The Jewish Rabbis and Christian Church Fathers used the old scriptures not for retreating into the past, but for propelling them into the uncertainties of the future. According to them, because the word of God contained in the Bible was infinite, a text proved its divine origin by being productive of fresh meaning.²

The period of biblical writings ranges from the eighth century BCE to the second century CE. Although the setting of the narratives in the Old Testament starts with the period beyond 1200 BCE, these narratives reflect the condition of eighth, seventh and sixth centuries BCE.³ At these times, 'Israel'⁴ was passing through a turbulent period with dramatic social, economic and political changes as they struggled for a settled national identity often in conflict with neighbouring imperial powers and civilizations in the Ancient Near East. The Old Testament writers were focused on human history, and this is important to note in understanding the Bible. They paid little attention to the cosmological myths that fascinated their neighbours—the Syrians and Mesopotamians in the Middle East. Apart from this distinction, Hebrew religion is comparable with the religion of their neighbours. The Israelites worshipped many gods even as others did. However, it was only since the sixth century BCE that monotheism came to be the main characteristic feature of their religion.⁵

² Karen Armstrong, *The Case for God*, p. 84.

³ *Ibid* p. 38.

⁴ A confederation of tribes collectively known as 'Israel' or the 'Hebrews' were bound together through a covenantal treaty. Their covenantal relationship was based on the principles of equality, freedom and social justice. All their laws and regulations reflected these values.

⁵ *Ibid*, p. 40.

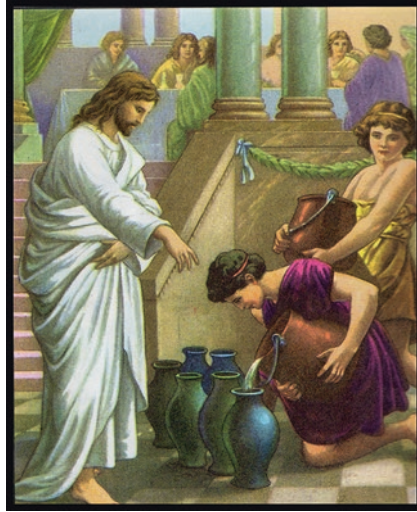


Fig. 2 Jesus turns water into wine. http://1.bp.blogspot.com/-x-u3mTKAIY0/VppFEB42AsI/AAAAAAAAAByc/xrxRNu3hJfg/s320/alotin.vn_1404274370_huonqtp2012122485938835_7.jpg

Biblical Perspectives on Water

The Bible has over 700 references to water.⁶ Water in the Bible is used literally and figuratively sometimes as the setting and at other times as the element used by God to bless his people. The first miracle Jesus performed is with water, turning it into wine to cover insufficiency at a wedding. In so doing, he blesses the couple, saves the hosts from embarrassment and satisfies the guests (Fig. 2).

Significance of Water According to the Bible

Water in the Bible is regarded a blessing. In Isaiah 44, Israel is promised blessing that will come to them from God.

'But now hear, O Jacob my servant, Israel whom I have chosen! Thus says the Lord who made you, who formed you from the womb and will help you: Fear not, O Jacob my servant, Jesh'urun whom I have chosen. For I will pour water on the thirsty land, and streams on the dry ground: I will pour my Spirit upon your descendants, and my blessing on your offspring'.
Isaiah 44:1-3

⁶ www.quality-drinking-water.com/bible_and_water.html



Fig. 3 Parting of the Red Sea. https://www.google.co.in/imgres?imgurl=https://i.ytimg.com/vi/YnQxDjAVtJ8/hqdefault.jpg%3Fcustom%3Dtrue%26w%3D120%26h%3D90%26jpg444%3Dtrue%26jpgq%3D90%26sp%3D68%26sigh%3DG9nIAKH0A2a4KIUZegmrq8iMfAk&imgrefurl=https://www.youtube.com/watch?v=mMOHfUo3JVY&h=90&w=120&tbnid=6h903mp6Dx76pM&tbnh=72&tbnw=96&usg=__bo3iAXcWvOv1bMIgKzScEn1qP-g=&hl=en-IN&docid=ISbFOuw-GJ-lvM

God is attributed with goodness because he gives rain and water. Eliphaz a friend of Job⁷ declares God must be good and just because (Fig. 3):

He gives rain upon the earth and sends waters upon the fields Job 5:10

The Bible recognizes the importance of water for thirsty people and faith in God’s providence in spite of all odds. In the desert, the Israelites were thirsty and needed water. They needed enough for about one million people as well as all the livestock.

‘And the LORD said to Moses,⁸ “Pass on before the people, taking with you some of the elders of Israel and take in your hand the rod with which you struck the Nile, and go. Behold, I will stand before you there on the rock at Horeb; and you shall strike the rock, and

⁷The book of Job probes the depths of faith in the midst of suffering. It contains the folktale of a saintly man, Job who endures suffering even while being righteous. In the poetic language of the book, God is at work in the universe, even to bring rain on a land where no one lives. God reveals himself personally to Job and shares with him the vision of cosmic responsibilities.—Bruce M. Metzger & Roland E Murphy, ed. *The New Annotated Bible*, p. 625.

⁸Moses is regarded as the founder of Hebrew religion. The one who liberated the people of Israel from bondage in Egypt and led them in the desert for 40 years when he was instrumental in establishing a covenant (mutual agreement) between the Hebrews and their God, Yahweh based on the Ten Commandments. This incident of striking the rock for water happened at Mount Horeb, and it was believed that the supernatural rock followed the people of Israel through the rest of the pilgrimage to provide them water.

water will come out of it, that the people may drink". So Moses did so, in the sight of the elders of Israel'. Exodus 17:5-6

In the same book of *Exodus*, water is pictured as a rescuing force. The infant, who would have otherwise been killed by Pharaoh's men, was rescued from the river Nile by Pharaoh's daughter. She named him Moses, '*because I drew him out of the water*'. *Exodus 2:10*

Similarly, God parted the Red Sea to rescue the Israelites from the army of Pharaoh. With this act, God delivered and judged at the same time. The people of Israel were saved from being pushed back into slavery and the Egyptian army that chased them was drowned.

Even Noah⁹ and his family were kept safe and carried by water until the great floods sent to destroy the wicked and the corrupt receded (Fig. 4).

'And all flesh died that moved upon the earth, birds, cattle, beasts, all swarming creatures that swarm upon the earth, and every man; everything on the dry land in whose nostrils was the breath of life died. He blotted out every living thing that was upon the face of the ground, man and animals and the creeping things and birds of the air; they were blotted out from the earth. Only Noah was left, and those that were with him in the ark'. Genesis 7:21-23

Biblical writers see water as the source of life. That is why in the creation stories found in Genesis 1 & 2,¹⁰ water pre-existed all other forms of nature and was from water that swarms of living creatures had emerged. According to the Bible, God created the world in 6 days. And on the 7th day, he rested. On day five of creation, God said, '*Let the waters bring forth swarms of living creatures...*' *Genesis 1:20*

Water Covenants¹¹

Because water was so precious in the Near-East, often covenants were made over wells or other sources of water. Also, wives for Isaac, Jacob and Moses were found at wells.

⁹The story of Noah and his Ark is the Great deluge or the flood myth found in the book of Genesis Chapters 6–9. The narrative indicates that the God of Israel intended to return the earth to its pre-creation state of watery chaos by flooding the earth for 370 days because of the world's evil doings.

¹⁰There are two creation stories in the book of Genesis, Genesis 1:1-2:3 and Genesis 2:4-24. The first was written in the sixth century BCE and the second in the eighth century BCE.

Almost every culture has developed myths of a lost paradise, from which men and women were ejected at the beginning of time. This was the case in the Ancient Near East, in Mesopotamia as well.

In the ancient Middle East, creation was regularly associated with temple building, and this Genesis myth was closely related to the temple built by King Solomon (c.970–30 BCE) in Jerusalem. Solomon's temple was apparently designed as a replica of Eden, once in Eden, Yahweh dwelt in the temple among his people. The temple was therefore a haven of *shalom*.

¹¹Covenant is an agreement between two or more persons. The Bible mentions covenants made between and among people and covenants made between God and people. In the case of the latter

Fig. 4 Angel makes covenant with Hagar at a spring of water. <https://tracygrierministries.files.wordpress.com/2011/04/hagar-and-ishmael1.jpg>



The Lord makes a covenant with Hagar.¹² The Angel of the LORD found her by a spring of water in the wilderness, the spring on the way to Shur... The angel of the LORD also said to her, ‘I will surely multiply your offspring so that they cannot be numbered for multitude... Behold, you are pregnant and shall bear a son. You shall call his name Ishmael, because the LORD has listened to your affliction. He shall be a wild donkey of a man, his hand against everyone and everyone’s hand against him, and he shall dwell over against all his kinsmen’. *Genesis 16:7*

Abraham and Abimelech make a covenant at Beersheba.¹³ So they made a covenant at Beersheba. Then Abimelech and Phicol, the commander of his army, rose up and returned to the land of the Philistines. *Genesis 21:32*

God makes a covenant with the Israelites at the spring He makes sweet. And he (Moses) cried to the LORD, and the LORD showed him a log, and he threw it into the water, and the water became sweet. There the LORD made for them a statute and a rule, and there He tested them, saying,

‘If you will diligently hearken to the voice of the LORD your God, and do that which is right in his eyes, and give heed to the commandments and keep all his statutes, I will put none of

type, God always remained on a higher level and he makes the covenant as an act of grace. It involves promise by God and obedience on the part of the humans. In the former case, the contracting parties are on the same level.

¹²Hagar appears in the patriarchal tradition of the Jews. According to this tradition, the Israelites were Abraham’s descendants, and he was considered as the Father of the Jewish nation. Sarah, Abraham’s wife gave her maidservant to Abraham, as she herself was beyond the age of bearing children. Hagar bore Ishmael, after which quarrels ensued between the mistress and the maid leading to the latter being thrown out of the household. According to both Jewish and Muslim traditions, Ishmael was the ancestor of Arabs.

¹³There was a dispute between Abraham’s servants and the servants of Abimelech, king of Gerar over certain wells which the former had dug. Abraham and Abimelech succeeded in reaching an agreement and swore to abide by it.

Fig. 5 God keeps mighty waters under control.

<https://sameapk.com/ocean-wave-wallpaper/>



the diseases upon you which I put upon the Egyptians, for I am the LORD, your healer’.
Exodus 15:26

While the Bible appreciates the importance of water, it also sees the mighty waters, the seas and the oceans as dangerous and destructive, often symbolizing power that overwhelms humanity. However, God is more powerful and keeps these mighty waters under control (Fig. 5).

Deliverance from enemies is like being delivered from the deep ocean waters.

‘For the waves of death encompassed me, the torrents of perdition assailed me, the snares of death confronted me. In my distress I called upon the Lord; to my God I called. From his temple he heard my voice, and my cry came to his ears’. **2 Samuel 22:5-7**

In the New Testament, Jesus calms the storm. **Mathew 8.25-27**. Jesus and Peter also walk on water.

The monstrous seas or rivers, in contrast to the waters of Shiloh¹⁴ that flow gently, symbolize the imperial powers and oppressive rulers who overtake Judah, allowed by God because of people’s iniquities and corruption.

‘Therefore, behold, the Lord is bringing up against them the waters of the River; mighty and many, the king of Assyria and all his glory; and it will rise over all its channels and go over all its banks; and it will sweep on into Judah, it will overflow and pass on, reaching even to the neck; and its outspread wings will fill the breadth of your land, O Imman’u-el’. **Isaiah 8.7-8**

Spiritual Symbol and Metaphor

In the Bible, the word of God and water are considered important for life. The Bible compares the word of God with ‘rain’. The believer is called to accept the word and water, cherish, respect and honour them both as the gifts of God upon freely

¹⁴The ‘waters of Shiloh’ refers to the canal which conducted the water from the spring of Gihon to the pool of Siloam in Jerusalem. The figure of speech is an effective one in contrasting Jerusalem’s tiny stream with the mighty Euphrates, and at the same, suggesting the quietness and confidence which Ahaz, the king of Judah had rejected in favour of material power.—*The Interpreter’s Bible*, Vol. 5, p. 224.

Fig. 6 River signifies living water. <https://www.pexels.com/photo/nature-brook-creek-stream-4793/>



bestowed. Like water is drawn from wells, so also the believers are advised to draw from the well of salvation which is God's word. The word of God and water sustain both physical and spiritual lives. A lack of water is often equated with spiritual dryness. Water becomes a symbol for the outpouring of God's spirit and blessing. God 'will pour water on the thirsty land and streams on the dry ground', *Isaiah 44, 3* (Fig. 6).

Living water is often spoken of in Judaic law.¹⁵ Living water means river or spring water, as opposed to stagnant lake water. Purification rituals generally require living water. In the New Testament, the Spirit of God is also spoken of as living water, both quenching the thirst of and flowing from the believer. In the New Testament, Jesus is considered the source of living water. He says,

'But whoever drinks of the water that I shall give him shall never thirst; the water that I shall give him will become in him a spring of water welling up to eternal life'. John 4.14

Jesus made this offer in the context of the festival of booths,¹⁶ which was observed as a reminder of water that flowed from the rock in the desert *Num 20.2-13*. It was observed annually for 7 days, during which time water was carried in a golden pitcher from the Pool of Siloam to the temple in Jerusalem.

The Bible uses water as one of the symbols for God's generosity. God is praised as the good shepherd who leads one to quiet waters *Ps. 23, 2*. When Hagar and her son Ishmael ran out of water in the desert, God opened her eyes to see the saving

¹⁵Judaic Law refers to a set of Jewish rules and regulations that affect every aspect of life. They include those derived from the first five books of the Bible, known as Torah, those instituted by the Jewish Rabbis and those drawn from Jewish customs. It was believed that observance of such laws would turn the most trivial mundane acts, such as eating and getting dressed into acts of religious significance.

¹⁶Festival of booths also known as the festival of Tabernacles was an annual harvest festival of the Jews. The Israelites were required to form booths of branches of trees, palm leaves, etc. and dwell in them for 7 days during the festival. It brought back memories of their deliverance from Egypt, when they sojourned in the wilderness without a permanent habitat.

well **Gen. 21, 15ff.** God sends rain on the righteous and on the unrighteous, just as God makes the sun rise on the evil and the good ones **Matth. 5, 45.**

Furthermore, the Bible calls on people to emulate such generosity. God's generosity is to be reflected in the relationships between various human communities.

Water as a Healing Element

The importance of water is further heightened with its qualities of healing and cleansing. The Bible narrates several incidents where water was used to heal the sick and diseased. To give just two examples, a commander of the Army of Aram, Naaman, was healed of leprosy when he followed the instruction of Elisha, the prophet in Israel by way of dipping himself seven times in the River Jordan. **2Kings 5.1-13.** The book of Leviticus in the Bible which contains various laws has the following instruction for being healed of leprosy (Fig. 7).

'And he who is to be cleansed shall wash his clothes, and shave off all his hair, and bathe himself in water, and he shall be clean. After that he shall come into the camp, but shall dwell outside his tent seven days. And on the seventh day he shall shave all his hair off his head; he shall shave off his beard and his eyebrows, all his hair. Then he shall wash his clothes, and bathe his body in water, and he shall be clean'. Leviticus 14:8-9

In the New Testament, Jesus sends a man born blind to the pool of Siloam to wash himself to be healed of his blindness. The blind man returns healed. **John 9.1-7.** The pool of Bethesda in Jerusalem was considered to acquire healing powers whenever an angel entered it and stirred up the waters. A multitude of sick people, blind, lame and paralyzed would wait for their turn to enter the waters first to be healed at such times. **John 5.1-4** (Fig. 8).

Fig. 7 Naaman healed of leprosy. <http://pearlsofpromiseministries.com/wp-content/uploads/2015/01/naaman-the-leper-washing-himself-in-the-jordan-x7-times.jpg>





Fig. 8 The pool of Siloam. <http://1.bp.blogspot.com/-AfjZKMZoONY/UmKSL7ZbL9I/AAAAAAAAA BIQ/6N8IvZzHkQ/s1600/pool+of+siloam.JPG>

Origin of Water

The Bible contains mythological anecdotes which use water to depict the conflict between good and evil, between God and Satan, the Leviathan.

A primordial battle took place between two gods in pre-creation. The victorious God tore the body of the dragon of chaos (associated with water) into two and separated the two halves with a firmament.¹⁷ *Genesis 1:6-7; Psalm 104:7-9*. Our world sits between the waters above: the heavenly ocean, *Psalm 104:3; 148:4* and the waters below: the Deep *Exodus 20:4; Psalm 136:6*. God will punish the Leviathan that dwells in the sea. *Isaiah 27:1*. The Leviathan or serpent is identified with Satan *Revelation 12:9; Job 3:8; 9:13; 26:12; 41:1; Psalm 74:14; 89:10; 104:26; Isaiah 27:1*. God conquers the Ocean and the monster in it. *Job 26.5-14*.

Ritual Cleansing and Purification

In the ceremonial system, washing was a permanent feature. Priests were washed at their consecration *Exodus 29.4*. Levites¹⁸ were sprinkled with water *Numbers 8.7*. Special ablutions were demanded of the Chief Priest on the Day of

¹⁷ It is difficult to understand the creation story in Genesis without a reference to the Mesopotamian creation hymn known from its opening words as the *Enuma Elish*. This poem begins by describing the evolution of gods from primordial sacred matter and their subsequent creation of heaven and earth, but it is also a meditation on Mesopotamia.

¹⁸ Levites, the descendants of Levi Tribe of Israel, worked as assistants to the priests in the Jewish Temple.

Atonement¹⁹ *Leviticus 16.4, 24, 26*, of the Priest in the ‘water of separation’ ritual²⁰ *Numbers 29.1-10*, and of all men for the removal of ceremonial defilement *Leviticus 11.40; 15.5; 17.15; 22.6; Deuteronomy 23.11*. The laver before the tabernacle was a constant reminder of the need for cleansing in the approach to God *Exodus 30.18-21*. A developed form of this ritual ablution was practised by the Qumran sect²¹ as also by a variety of Jewish Baptist sects which flourished before and after the turn of the Christian era. These provide a background to John’s baptism of repentance and to the Christian baptism of cleansing, initiation and incorporation into Christ.

Use of Water in Baptism

Christian baptism symbolizes the conversion of the baptized person as a new person, having decided to bury his sinful past and lead a new life under the guidance of God’s Holy Spirit. The act involves either immersion in deep water or sprinkling of water. The immersion additionally indicates sharing in the death and resurrection of Jesus Christ. Urban churches and others that have access to water, and those who still wish to maintain the Jordan River baptism motif, have their churches designed in such a way that there is a pool at the altar that can be opened and filled with water during baptism services. Others carry out their baptisms in swimming pools, while a majority of mainstream churches are content to carry out baptism by effusion (sprinkling) (Fig. 9).

Because of its importance in biblical times, water came to be used in Christian religious ceremonies as a sign of cleansing. Healing, baptism, and foot-washing²² symbolize religious uses of water. Water, through God’s Spirit, transforms or changes the lives of those who receive it. Increasingly, water or oil is specially anointed and used to heal the sick. People who go on pilgrimages to the Holy land and special Shrines bring with them the anointed water. Thus, from the beginning to

¹⁹It is the Jewish annual day for atoning for the sins of the whole nation including that of the Chief Priest and the priests of the Holy Sanctuary. It is observed on the 10th day of the 7th month by abstinence from daily labour, by holy convocation and by fasting.—*The New Westminster Dictionary of the Bible*, p. 78.

²⁰Water of separation means water for the removal of impurity. This special water (ashes of a heifer mingled with living water) is sprinkled on the 3rd and 7th day on all those defiled through contact with a corpse.

²¹A separatist Jewish community that held esoteric doctrines and practices concerning maintenance of strict holiness and communion with Angels.

²²The root of this practice appears to be found in the hospitality customs of ancient civilizations. The host would provide water for guests to wash their feet, provide a servant to wash the feet of the guests or even serve the guests by washing their feet. This is mentioned in several places in the Old Testament of the Bible as well as other religious and historical documents. Foot washing was a sign of humility. Following the example of Jesus, several denominations observe foot washing in the churches on Thursday before Good Friday.



Fig. 9 Immersion Baptism. <http://a339062bb12acaf0447f-fe54b552272646221985f1a127513c68.r76.cf2.rackcdn.com/B0F58A23-9523-47E6-85EB-88A1624224D5.jpg>

the end, water flows through the pages of Bible. From the rivers that flow from Eden to Ezekiel’s²³ river of living water and to the river flowing from the throne of God in John’s Revelation²⁴; rivers are signs of God’s provision, blessing, healing and overall life-giving.

Water Festival

The Jewish water festival called the *sukkot* festival was celebrated annually during the festival of Tabernacles (Fig. 10).

In the mornings, on each of the 7 days of the feast of tabernacles, the priest would go to the pool of Siloah and fill a gold flask with water. They would go back into the city and pour the water simultaneously with wine from another bowl. This procession was accompanied and followed by music, dance and general celebrations. This festival was perhaps based on of a biblical verse found in *Isiah 12:3*, ‘*With joy you will draw water from the wells of salvation*’. It also might be related to folk traditions of offering water at the beginning of the rainy season, hoping for abundant rains.²⁵

²³ Ezekiel was a priest and prophet to the people of Israel while they were in exile in Babylon in the sixth century BCE. His work marks the transition from pre-exilic Israelite religion to post-exilic Judaism. Judaism enabled the people to believe that their God resides amidst his people wherever they are, even in exile and not confined to his Temple in Jerusalem. Ezekiel’s innovative use of vision laid the foundation for symbolic universe of apocalypticism.

²⁴ The book of revelation found as the last book in the New Testament, supposedly written by John, a disciple of Jesus Christ, belongs to the apocalyptic literature that envisions the end times.

²⁵ <http://www.jewishencyclopedia.com/articles/14,794-water-drawing-feast-of>

Fig. 10 Jewish water festival. <https://kumi07.files.wordpress.com/2010/09/priest-of-tabernacles.jpg?w=1272>



Fig. 11 Water Cistern. http://www.hydraproject.net/images/cases/cyprus_Larnaka/T3_01_round_wells.jpg



Technologies in Water Management

Awareness Regarding Water Cycle and Hydrology in the Bible

Coming to science and technology related to water during the biblical times, it could be said that there was, in ancient times among the people of the Bible, some basic knowledge about water cycle and hydrology (Fig. 11).

'For as the rain and the snow come down from heaven, and return not thither but water the earth, making it bring forth and sprout giving seed to the sower and bread to the eater, so shall my word be...' **Isaiah 55:10-11a**

'All streams run to the sea, but the sea is not full; to the place where the streams flow, there they flow again.' **Ecclesiastes 1:7**

'Who calls for the waters of the sea, and pours them out upon the surface of the earth-the Lord is his name'. Amos 9:6b

'For he draws up the drops of water; he distils his mist in rain which the skies pour down, and drop upon man abundantly'. Job 36:27-28

Traditional Sustainable Practices and Water Storage, Conservation and Supply Systems in the Biblical Times

In the terrain where they lived, the people in Palestine during the biblical times, depended on discovering, digging, fighting for, and maintaining wells and springs rather than rivers. Natural springs determined the location of settlements.

Water storage made all the difference to survival during the dry season. They stored water in cisterns, public pools and aqueducts, which were sometimes very extensive, bringing water to cities or between pools.

Cisterns are usually pear shaped with a small opening at the top which can be sealed to prevent accidents and unauthorized use *Exodus 21.33, 34*. Most homes in Jerusalem had private cisterns, *2 Kings 18.31, Proverbs 5.15* but there were also huge public cisterns: one in the temple area having a capacity for over two million gallons. By 1200 BC, cisterns were cemented, thus permitting large settlements in the barren Negeb region *2 Chronicles 26.10*.²⁶

Artificial pools were dug inside walled cities and often fed through a tunnel leading from a spring outside, ensuring supplies in times of siege. Examples have been found at Gezer, Megiddo, Gibeon *2 Sam 2.13* and elsewhere. 'Hezekiah's tunnel' and the pool of Siloam lie at the southern end of Ophel at Jerusalem *John. 9.7, 11; Nehemiah 3.15*. The pool of Bethesda was usually located in the north-eastern corner of the city, near the sheep Gate. During the summer, water collected in pools during the winter and spring, formed an important source of supply.

Water Supply and Water Management Systems in Civilizations of Biblical Times

In Mesopotamia²⁷

Two sources of drinking water in Mesopotamia were the Twin Rivers and their canals. For many cities, these remained the main sources of water down through the first millennium BCE. But some palaces, especially in Assyria, got their water supply from deep wells, free of pollution. For the most part, large cities were built near

²⁶J.D. Douglas, *The New Bible Dictionary ed. The New Bible Dictionary*, p. 234.

²⁷Taken from Karen Rhea Nemet-Nejat, *Daily Life in Ancient Mesopotami*, p. 110-11, 253-55.



Fig. 12 Sennacherib's Aqueduct in Jerwan. <https://www.amazon.co.uk/Sennacherib-Aqueduct-Nineveh-Assyrian-Mountain/dp/B0087V0478>

water sources. Smaller cities survived if they had many springs, wells, aqueducts or cisterns (Fig. 12).

In Nimrud, many wells were dug to a depth of 90 ft to protect the city's water supply in times of siege. In 1952, excavators while clearing one well, found it still able to provide 5000 gal/day. In that well, archaeologists found a wooden pulley wheel bearing the wear of rope marks, and many pots, some with ropes still around their necks forming a chain of vessels operated by a windlass to draw water from the well.

King Sennacherib had an aqueduct constructed in Jerwan, a village 9.6 km away, to supply Nineveh, his capital, with water for drinking and irrigation. This aqueduct, over 270 m long, anticipated later architectural plans in every detail. The entire structure used about two million stones, each weighing a quarter of a ton. The water flowed over the aqueduct floor which was hardened earth waterproofed with bitumen and lined with stone. The aqueduct extended over the valleys to arches and was fed by many small streams thereby guaranteeing an adequate supply of water to the city.

Agricultural land was best classified by its water supply, which regulated farming, the types of crops, the amount and dependability of yields, and the total area of land cultivated. Mesopotamia had two kinds of agriculture, dry farming in the north (Assyria) and irrigation farming in the south (Babylonia and Sumer) (Fig. 13).

Dry farming relied only on natural rainfall and was practised in northern Mesopotamia. Large-scale irrigation with complex canal systems supplemented by natural rainfall was used in southern Mesopotamia.

Irrigation was necessary for crops because the salinity of the soil was a problem early on. Water was channelled to fields from major water courses through branch canals and feeders, which often ran along the tops of artificial dikes. The width of the primary water courses could be 120 m or more; the branch canals were as narrow as 1–1.5 m in width and 0.5–2.25 m in depth, with a length just under 2 km. Weirs were built to raise the water level in the main streams, whereas Bunds were to protect against floods. Breaches were repaired with earth and bundles of reeds. Productive quay walls of baked bricks set in bitumen were built to guard against



Fig. 13 Irrigation farming in Babylonia. https://sites.google.com/a/student.sthenaunified.org/rls-ancient-civilizations/_/rsrc/1403210451345/units-of-study/ancient-mesopotamia/mesopotamia/event-c-building-and-maintaining-a-complex-irrigation-system/Event%20C%20Euphrates%20River%20Canal.jpg?height=254&width=400

erosion across the canal banks at critical points. To prevent scour, pebbles or stones were used to cover canal beds (a practice recorded as early as 2400 BCE). The construction and maintenance of canal systems were considered an important duty (as well as an act of piety) to be executed by Mesopotamian kings, but cleaning and dredging accumulated silt in other canals was under the jurisdiction of the local authorities. The rivers and canals provided drinking water for people and animals, irrigated vegetation and created a cool, green world along their banks.

The waters of the Tigris and Euphrates came in spring when the fields were full of standing crops. A flood would have proved disastrous at this time, so a complicated irrigation system was set up. Strongly reinforced levees were built to keep the water in rivers. To obtain an efficient gravitational flow, the canal systems were long and well maintained.

Water was always in short supply in the growing season, as a great deal of water was lost through evaporation and seepage. The timing of watering was critical. The Mesopotamian farmer had to deal with the problem of salinity as irrigation water evaporated, slowly deteriorating the soil structure. A great deal of labour was necessary to restore fertility.

Irrigation required solving four problems: (1) supply (getting water to land that could be cultivated); (2) storage (keeping water where needed); (3) drainage (disposal of water when no longer needed) and (4) protection (keeping away unwanted water).

As far back as the third millennium BCE, gardens or small areas were watered by hand from wells or streams, but for cereal crops, the most practical system was gravity-flow irrigation. Water was brought to fields by successively smaller branching canals or by aligning major water channels parallel to the main rivers. Two controls were essential, outlets and regulators. Outlets or sluices could be as small as a hole opened in the side of a canal bank to divert water into a distributary channel.

Regulators were used for catching the entire main stream in order to raise water to the appropriate level. Temporary regulators were constructed from reeds, while the permanent installations were made of baked bricks and bitumen.

*Water Supply in the Roman Empire*²⁸

Water was brought to houses by channels through walled conduits, lead pipes or earthenware pipes (Fig. 14).

Specifications for conduits: at least 6" drop for every 100 ft to be covered by arches to avoid sun. A reservoir was made where the channel met the city walls. The reservoir was divided into three water holding tanks. One led to all city basins and fountains, one to the baths and one to private houses. Channels were made and covered above ground, or if they were to be tunnelled through hills, they were either cut through stone or constructed with soil or sand.

Lead pipes started with a reservoir at the source. Pipes ran from this reservoir to a reservoir inside the city. Pipes took advantage of the water pressure at their source to push water over low hills. Earthenware pipe systems were similar to lead pipes, fitted together and joined with quicklime and oil. They were easier to repair and gave healthier water. Romans were aware that lead had some negative effects, but still used lead for much of their water transport.

Both wells and cisterns were used as sources of water. Cisterns were made double or triple to allow sediment to settle down keeping water pure. The distribution

Fig. 14 Roman water pipes. http://affordablehousinginstitute.org/blogs/us/wp-content/uploads/roman_water_pipes.jpg



²⁸Taken from Naphtali Lewis & Meyer Reinhold, ed. *Roman Civilization: Source Book II: The Empire*, p. 304–306.

and financing of the aqueducts and the other pieces of Rome's water system were described within Rome's legal system. Mostly they were handled locally, with power delegated by Rome to communities.

Summary of Biblical Perspectives

We have thus far seen, on the basis of biblical passages and verses, how biblical people had perceived the benefits and qualities of water, their understanding of water cycle and hydrology, their use of water in purification rituals and initiation practices such as baptism. We also have noted their celebration of water through festivals and water sustainable practices and management technologies. It is true that, in the Bible, water was for the most part used as a metaphor and symbol to convey insights about spirituality, morality and social ethics. They neither had the occasion nor the need to write a treatise about water and yet we could discern from their usage, the significance they had attached to it as a life-giving and life-sustaining natural resource. So much so, that they considered water as a gift and linked it to God's creating, blessing and saving work. While their science about the water cycle was basic, they clearly differentiated the value of running water from the potential dangers of stagnant lake water. For them, river water or spring water was the living water, which they generally required for their purification rituals. The importance of living water to them was furthermore heightened with its qualities of healing and cleansing.

Rulers' Far-Sighted Responses

As for sustainable practices, they adopted conservation methods best known to them and best suited for their geographical conditions. They did what was the only option available, which was to secure their water through collecting rainwater or digging wells and storing it in cisterns to overcome shortage in needy times. The Bible narrates stories of the biblical people ranging from their time as pastoral people to agriculturists and to city dwellers. To meet the water needs of their citizens, rulers of biblical times, like Hezekiah, the King of Judah, or Sennacherib, the King of Nineveh and others constructed and maintained canal systems, aqueducts and pools. They shouldered the responsibility of ensuring an adequate water supply to their subjects even during times of siege.

Going beyond a homiletic usage, the Bible also narrates incidents of controversies and conflicts over sharing of water resources. It would be helpful to take a closer look at the manner in which such conflicts were managed.



Fig. 15 Semi-nomadic people and their flocks fought over water. <http://blog.joins.com/usr/a/la/alam/1210/508a212e6eb0a.jpg>

Philosophical Approaches to Conflict Resolution

Understandably, water in the biblical times, was a source of conflict, considering its scarcity. It is possible that some of the battles fought between neighbouring nations and empires were mainly for gaining access to and controlling the few rivers that existed, such as the Euphrates, Jordan and Nile. Early in history, people in Palestine fought over wells that they had dug. The availability of a well or cistern was of particular importance for semi-nomadic people and their flocks. As the conflict between Abraham and Abimelech shows, the ownership of a well could easily become the subject of quarrels between those with large flocks **Gen. 21, 22ff; 26, 15ff**. Yet conflicts were resolved amicably with a philosophical approach (Fig. 15).

While Genesis tells of the struggles between ancient peoples over water, it also reflects God's will that water is for all, not for one particular people over others. Isaac moved from *Ezek* and *Sitnah*, the wells of dispute, to another place where he dug one more well which he called *Rehoboth* ('broad space'), a name that does not reflect his skills in finding water, nor his diplomatic or military abilities, but his recognition that land and water are the natural gifts of God: 'Now the Lord has made room for us, and we shall be fruitful in the land'. There was room for both Philistines and Israelites to flourish in the land; God provided water for both. Wherever and whenever there is conflict over water today, the biblical narrative reminds us all that water is God's gift, and that it is never anyone's property.

Recognition of the Rights of the Poor

When it comes to water rights, the Bible clearly comes heavily on those who deny the poor the right to water. To offer water to one, who is thirsty, even to the enemy, is a basic criterion for right relationships **Gen. 24, 15ff; Prov. 25, 21; Matth. 25, 42;**



Fig. 16 Meeting the needs of the poor a priority. <http://image.slidesharecdn.com/presentacinaguafinal-131203123706-phpapp01/95/concientizacion-del-agua-4-638.jpg?cb=1386074338>

Rom 12, 20. Only a villain or a fool will deprive the thirsty of a drink. **Isaiah 32, 6;** **Job 22, 7.**

Having to pay for water is considered a mark of oppression and unjust treatment. **Num. 20, 19;** **Lam. 5, 4.** The writer of Matthew's gospel declares that the one who withholds water from 'one of these little ones' **Matt 5:42** is not righteous and will not experience God's blessing (Fig. 16).

The prophets in the Bible call for the practice of justice using water as a metaphor. Says Amos, 'Let justice roll down like waters, and righteousness like ever flowing stream'. **Amos 5:24.** Justice to the poor was called for in the life of the people of Israel as part of their covenant (constitutional) obligation made at Mount Sinai after their liberation from bondage in Egypt. We must remember that the Old Testament, besides containing words of wisdom, is deeply rooted and reflects upon socio-political and historical situations of the people of Israel. It considers the people of Israel as a chosen nation, not because of any merit intrinsic to them, but because they were in need. They were poor and oppressed when God, through his righteousness, delivered them from bondage in Egypt and chose them as a witness to His care and concern for all the oppressed people of the world.

The Old Testament contains religious, moral and civil laws to guide Israel to build and sustain a just community. For the faithful Jew, these laws reflect the mind of God. The distinguishing feature of Israel's laws when compared with the laws of its neighbours is that, they were clearly more humanitarian. While the laws of the neighbouring communities put their emphasis on property and profits, Israel's law protected the poor. **Deuteronomy 15.7-11** demanded that the rich be generous to the poor. **Leviticus 19.9-10** gave the poor special gleaning rights. Even more interesting and important was the institution of a periodic reordering of economic life.

The prophetic tradition in the Old Testament started with the institution of monarchy in Israel. The prophets served as constructive critics of socio-economic and political trends, often under a great risk to their own lives. They repeatedly reminded the people of Israel about their covenant obligations to do the will of God, which, among other things, were to do justice to the poor. They condemned worship bereft of works of justice. And they associated injustice with sin. The prophet Daniel said, ‘Stop sinning, do what is right and be merciful to the poor’. **Dan 4.24-28**. Jeremiah regarded a fair trial to the poor as equivalent to loving God **Jeremiah 22.12-19**. Isaiah was even more forthright. He says that when the rich and the poor stand opposed to each other, God is on the side of the poor **Isaiah 1.17**.

‘Justice to the poor’ was also practised by Jesus Christ as an essential aspect of his mission in the world. And all his disciples then and now are called to analyse, assess and transform societies in the light of the cry of the poor for justice. Jesus based his teaching and patterned his ministry along the prophetic lines. Declaring his manifesto at the beginning of his ministry, he said:

The Spirit of the Lord is upon me, because he has anointed me to preach good news to the poor. He has sent me to proclaim release to the captives and recovering of sight to the blind, to set at liberty those who are oppressed, to proclaim the acceptable year of the Lord. Luke 4:18-19

Sure enough, Jesus offers liberation to the rich as well. He reminds the rich of the fact that true security lies not in their possessions, but in God, the Father who provides. Rather than seeking more wealth, Jesus calls on the rich to seek first the kingdom of God and its values. An important kingdom, value is justice—justice to the poor. According to Jesus, all those who do not respond to the basic needs of the poor have no place in the kingdom. The parable of the last judgement illustrates this point. It is an indictment against individuals and societies that do not respond to the cry of the poor for food, water and clothing (Fig. 17).

With such a value laden teaching and attitudes towards water as elicited thus far, it would be hard to believe that biblical teaching could have played a major role in



Fig. 17 Jesus calls the rich to respond to the basic needs of the poor. <https://i.guim.co.uk/img/static/sys-images/Business/Pix/cartoon/2010/3/9/1268167648497/A-girl-carrying-water-in--001.jpg?w=470&q=55&auto=format&usm=12&fit=max&s=c23507580718bae41288a6ead739b597>

contributing to the crisis of depletion and unfair distribution of earth's resources including water resources. The ecological and environmental crisis has been squarely placed at the door step of western civilization that pioneered and propagated an unlimited exploitation of earth's resources in the name of development. Part of the blame is put on some Christian doctrines which allegedly have reinforced an unrestrained pursuit of economic development goals. It has been assumed by some scholars that a secular scientific exploitation of natural resources, which began with the onset of modernity in the seventeenth century, was allegedly reinforced by the concept of dominion, associated with the creation story in the Bible.

Search for an Appropriate Theology and Ideology

The charge against Christianity's role in the ecological crisis was led by Lynn White Jr., who in his famous article, 'The Historical Roots of our Ecological Crisis', written in 1967, maintains that in destroying native religions, and their belief in God or gods dwelling in the world, Christianity had desacralized the natural world, thus laying it open to exploitation. He observes that the historical nature of Judeo-Christian revelation, with its linear view of time, was an important factor in the emergence of the doctrines of human progress in western society.

While referring to the creation story, which contains the command to humans to be fruitful, multiply and subdue the earth (*Genesis 2:15*), and the verses after the flood 'Every moving thing that lives shall be food for you; and as I gave you the green plants, I give you everything' (*Genesis 9:3*), White maintains that Judeo-Christianity preaches humans are separate from and superior to the rest of nature, which is there to be used and dominated by humankind. White observes that when such Christian attitudes were combined with the explosion of technological power, as applied science in the nineteenth century, the way was open for an apocalyptic ecological despoliation.

However, White's thesis has been countered by other scholars. Many of the repudiations focus on the possibility of interpreting the Judeo-Christian message in exactly the reverse of White. The Book of Job and Paul's Epistles to the Romans set humans apart from all other forms of life and matter because he says God has willed this role for them. Human beings are set here as stewards, responsible to their Creator for all they do with the world over which they are given dominion. Dominion, according to White's critics, could simply mean 'ruling' or 'governing' the world, not exploiting nature, come what may.

They argue that White's argument is 'partisan and overgeneralized' and that Genesis characterizes humans as life tenants of nature, not freeholders. There is much more evidence than is usually acknowledged for other 'more beneficent Christian attitudes to the environment and to non-human nature'. Christian teachings about nature have been diverse and contradictory, but they have not typically been exploitative.²⁹

²⁹R.L. Sarkar, *The Bible, Ecology and Environment*, p. 150.

Emergence of Theologies of Nature

Christianity is blamed partly because of the modern existential theologies that over-emphasize interpersonal relationships to the neglect of communal relationships and man's relationship with nature. The lop-sidedness of such theologies stands corrected by new theologies of liberation and theologies of nature. The main contribution of liberation theologies lies in their methodology. They analyse all social crises from the perspective of the victims in modern societies and give a priority to poor peoples' demands and vision of alternative societies. This is a good reminder, while dealing with water-related problems since there is a tendency in a technocratic civilization to find technocratic solutions only.

In the recent decades, and with the realization of an ecological crisis, the Christian Church has begun to show interest in developing theologies of nature. These theologies caution us that in our attempts to produce more material goods to meet the increasing demands, we should not and cannot sacrifice nature. As responsible stewards, we are held accountable to God for what we do to nature. Therefore, they call for a balance between the instrumental value and the intrinsic value of nature.

Emergence of Social Ecology

There is no doubt that the economic growth model of development with its assumption that there are no limits to natural resources is the root cause underlying the ecological crisis we face today. This model and its free-market ideology should be critically reviewed in order to ensure eco-justice and justice to the poor. The alternative model to economic growth model is social ecology (Fig. 18).

Social ecology is distinguished from shallow environmentalism that blames the ecological crisis on inappropriate technology, overpopulation or industrial growth,

Fig. 18 Humans should live in harmony with nature. http://kam-kankouken.jp/tourism/common/img/activity_list/masyu_wk.jpg



and ignores the fundamental cause deeply rooted in the institutionalization of domination and hierarchy and the authoritarian mentality sustaining it. Social ecology considers stewardship and justice as important principles. It recognizes the reality of social and political institutions of domination and hierarchy that block the liberation of nature and humanity and promotes a dynamic social movement to transform the way we find our place within nature and to change our relationships with each other and non-human world. The main concern of the social ecologists is to change society in order to change our relationship with nature. The social ecologists tend to be more humanist, believe in participatory democracy, and exhibit a greater sympathy for the poor and the oppressed. The recent Christian theologies of nature are patterned after the ideology of social ecology.

Lessons for the Future

As already stated in the introduction, the purpose of this study is to draw insights or lessons from the Bible and from water-related practices of people and civilizations influenced by biblical teachings. The idea is to use the derived lessons as parameters for addressing our own water-related problems and also for promoting policies that can sustain the availability of water resources for future generations. With that purpose in view, we had set out to find some guidance for water conservation and proper water management. We had also noted the scope and limitations of this study. As far as limitations are concerned, it has become clear that the technologies of the ancient civilizations were far less advanced than we have at present. However, the philosophical, social and ethical values and principles advocated and promoted in the past by the biblical patriarchs, prophets, priests and teachers still hold good in our individual and social life, particularly in relation to how we ought to treat nature. If we treat our natural resources as God given common goods, we would desist from an over exploitation of the same simply because it is profitable to do so. Also our mechanisms with respect to the distribution of the common resources will apply the principles of social justice and need-based priority. It is true that the biblical stories and narrative histories are anthropocentric, but with a gradual realization of the limitations of nature, biblical interpretations (theologies) should necessarily change in accordance with changing realities. Fortunately, this is happening in the Christian Church leading to changed perspectives, attitudes and approaches to water resources and their limitations. A significant contribution is being made by the churches the world over towards water conservation and water management, primarily through their educational programmes and processes. Here are three examples of initiatives taken by the Christian churches.

The changing Christian theological teaching about nature is taking a concrete shape in the Churches' responses to the crisis of water. The attempts made are primarily related to building awareness regarding the water crisis, and encouraging people, especially children and youth, to develop proper perspectives. Three good examples of such initiatives are: the global Ecumenical Water Net Work, the United Church of Canada and India Peace Centre of the National Council of Churches in India.

The Initiatives of Ecumenical Water Network

The Ecumenical Water Network is a global platform of churches and Christian organizations for promoting people's access to water around the world since its inception in 2006.

Based on the understanding that water is a gift of God for all creation and a fundamental human right, the Ecumenical Water Network (EWN) brings together churches, Christian organizations and individuals to promote universal access to water and sanitation, and the sustainable use and responsible management of water, so that all may live their lives with dignity and with respect for the integrity of creation.

EWN builds on the experiences of churches and ecumenical partners worldwide. During its annual Lent campaign, called **The Seven Weeks for Water**, it publishes biblical reflections, liturgical materials, background resources—and also ideas for what churches, congregations and individuals can do in their respective contexts.

EWN has also placed a special emphasis on involving and encouraging **young people**, for example, by organizing trainings like the 'Summer School on Water' and 'Youth for Eco-Justice' in cooperation with other departments of the World Council of Churches and the Lutheran World Federation. These youth initiatives have a ripple effect with many local initiatives emerging out of these interventions.

EWN has also highlighted water at key international church events, such as the general assemblies of the regional council of churches and they, in turn, have responded positively, by affirming key statements and declarations of the EWN on human rights to water and sanitation on many occasions.

The Initiatives of the United Church of Canada

The Justice, Global and Ecumenical Relations Unit of the United Church of Canada has developed a five-session congregational study entitled *Waters of Life*. The study kit contains two other resources—a daily devotional booklet and a lectionary-based resource for worshipping leaders—both of which use water as a predominating biblical touchstone and metaphor. It is used with children during Sunday school, as a special weeknight activity for the 6 weeks of Lent, or as a daylong Saturday or March break activity. It is designed especially for use in a Workshop Rotation Model, but could be adapted to graded classes or a multi-age one-room school model (Fig. 19).

The following principles form the ethical and theological grounding for the United Church of Canada's justice work on water issues:

- Water is a sacred gift that connects all life.
- Access to clean water is a basic human right.
- The value of the earth's freshwater to the common good takes priority over any possible commercial value.
- Freshwater is a shared legacy, a public trust, and a collective responsibility.



Fig. 19 Water need. <http://www.usnews.com/dims4/USNEWS/34075f2/2147483647/resize/1200x%3E/quality/85/?url=%2Fcmsmedia%2F22%2Fe94078947a2c3a2f92e1485a9169bd%2F2020-4>

The areas of focus for study of water with children are

- importance to the world
- human responsibility in terms of caring for creation (water)
- of biblical images of water
- water as a gift

India Peace Centre

A similar promotional work on water-related issues is done by the India Peace Centre situated in Nagpur, Maharashtra. Started in 1990 by the National Council of Churches in India, this centre has published the Children’s Study Series on clusters of issues covering Ecology Environment, militarization-disarmament, human rights and justice-peace.

In addition to building awareness through educational programmes, Churches and related partners are involved in undertaking water projects. Church-sponsored projects cover a broad range of activities, like constructing and managing water systems, building hygienic toilets, or helping small-scale farmers make a more efficient and sustainable use of water for agriculture. Agencies like Norwegian Church Aid and Church World Service are implementing water and sanitation projects that aim at improving and protecting the health and livelihoods of communities in poor countries.

Conclusion: Contemporary Issues and the Way Forward

The introduction defined in a perfunctory manner our contemporary water crisis as an all-around depletion and degradation of water resources in the world besides indicating that there were dilemmas associated with these shortages. After having

presented a fair account of the biblical perspectives on water and identifying their underlying values, as stewardship or responsibility, equality and social justice, I now wish to conclude the study, by identifying at least three different aspects of the water crisis and making a few suggestions by way of indicating a few areas for further action by individual citizens, neighbourhood communities, local governing bodies, state and national governments.

Three Aspects of Water Crisis

The water crisis in the world today involves three related problems of scarcity, pollution and water disasters

a. *The problem of water scarcity*

The problem of water scarcity is borne by the fact that though the planet Earth is a living body with water constantly flowing through it, there is an increasing shortage of water being experienced with many rivers becoming dry.³⁰ In the recent decades, shallow groundwater has become an important source of water for irrigation, but has also led in most places to over-pumping of aquifers. Even drinking water is becoming scarce. Millions of people around the world struggle to secure safe water to meet their basic needs. In India, it is estimated that the national cost of women fetching water is 150 million women working days per year, equivalent to a national loss of income of ten billion rupees.³¹

b. *The problem of water pollution*

Water pollution is visible everywhere. Our rivers are being polluted by the manufacturing and agricultural industries with municipalities adding to the problem through dumping of the sewage. An inappropriate use of fertilizers and pesticides is polluting drinking water, rivers and lakes. And water scarcity forces people into consuming contaminated water, leading to water-borne diseases, in the process. According to the United Nations Water Report, more than two million people in the developing countries, most of them children, die each year of diseases associated with unsafe drinking water, inadequate sanitation and poor hygiene (Fig. 20).³²

c. *The problem of water-related disasters*

Water-related natural disasters such as floods, tropical storms and tsunamis are affecting millions of people. Between 1991 and 2000, over 665,000 people died in 2557 natural disasters, of which 90% were water-related events such as floods, typhoons and hurricanes.³³ Such disasters are a direct effect of climatic

³⁰The Nile River doesn't reach its end, the Colorado River, the Yellow River in China for the most part don't flow any more to the sea.

³¹www.un.org/waterforlifedecade

³²Ibid.

³³Ibid.

Fig. 20 A polluted water way in Ipswich. http://media.mnn.com/assets/images/2009/06/pollutedwater.jpg.653x0_q80_crop-smart.jpg



changes that humans have caused through an excessive deforestation. In addition, human activity is affecting water ecosystems. For instance, water used as a coolant in generating stations is poured back into the rivers, which raises the temperature and speeds up certain biological processes, imposing sharp changes on aquatic life.

The world community is indeed concerned with the water crisis and all its related problems. Hence, both individual governments and the United Nations have stepped in to address the problems. Two important World Conferences, The Millennium Summit in 2000 and the Johannesburg Summit in 2002 are significant in this regard. The Millennium Summit issued a millennium declaration emphasizing the need for all countries to stop the unsustainable exploitation of water resources. Governments addressed this issue at the Johannesburg Summit, also called the World Summit, on Sustainable Development. They agreed to develop integrated water resource management and water efficiency plans and committed themselves to reducing by half the proportion of people without access to safe drinking water by 2015, the year to mark the end of *International Decade for Action: 'Water for Life'*. While the concern and efforts of the UN and the governments have been appreciated though belatedly, the promotion of privatization of water by the World Bank and the International Monetary Fund through Multi-National Corporations has come under a severe criticism and resistance in several countries. There is this dilemma of having to provide for safe drinking water on the one hand and, on the other, making it available for all at affordable costs (Fig. 21).

Considering the finite nature of freshwater resources on the one hand, and increasing demand, on the other, the need to protect and manage water resources properly is crucial. This objective of conserving and managing water properly can be accomplished only if all people of the world hold congenial perspectives and attitudes towards water resources and the governments adopt and implement appropriate policies.



Fig. 21 The great demand for water. http://1.bp.blogspot.com/-wnnmebPB5zQ/VEkxupJE5JI/AAAAAAAAAEsM/ECGp38xDZQI/s1600/10629628_1488518104749018_2412422837339993091_n.jpg

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