



DICASTERY FOR PROMOTING
INTEGRAL HUMAN DEVELOPMENT

Aqua fons vitae

Orientations on water:

symbol of the cry of the poor and the cry of the Earth

Vatican City, March 2020

Summary

INITIAL MEDITATION	2
PRESENTATION AND PURPOSE OF THE DOCUMENT	4
INTRODUCTION	8
Background	8
Methodological clarifications.....	10
RECOGNIZING THE VALUE OF WATER	13
A religious value	13
A socio-cultural and aesthetic value.....	14
An institutional value and a value for peace	14
An economic value.....	16
Clarifications about the so-called privatization of water.....	16
FIRST DIMENSION: WATER FOR HUMAN USE	20
Challenges	20
Operational proposals: awareness and advocacy	24
Operational proposals: commitment at local level	28
SECOND DIMENSION: WATER AND HUMAN ACTIVITIES	31
Challenges	31
Operational proposals: awareness and advocacy	33
Operational proposals: commitment at local level	35
THIRD DIMENSION: WATER AS SPACE	36
Challenges	36
Operational proposals: awareness and advocacy	38
Operational proposals: commitment at local level	40
EDUCATION AND INTEGRITY	41
Education for a new humanism and for a culture of encounter and collaboration about water	41
Fighting against corruption and violence about water	43
REFERENCES FROM THE SOCIAL TEACHING OF THE CHURCH	45

I. INITIAL MEDITATION

The Dicastery for Promoting Integral Human Development proposes the following meditation¹ as the starting point of these orientations.

1. O God, who by invisible power accomplish a wondrous effect through sacramental signs and who in many ways have prepared water, your creation, to show forth the grace of baptism and to be a source of life, when you pronounced your words at the creation “Let the water teem with living creatures” (*Gn.* 1:20), may you help us, human beings, to reject indifference and to recover an awareness of our common origin, of our mutual belonging.

Laudato si' (Praise be to you) our Creator God!

2. At the very dawn of creation your Spirit hovered over the waters, so that the very substance of water would take to itself the power to sanctify. Even by the flood you foreshadowed regeneration and the baptism so that, today as then, water marks the end of sin, and the beginning of new life. Of this gift of creation you made a sign of your goodness: through the waters of the Red Sea you freed your people from slavery; the flood was an invitation to repentance and to conversion; in the desert you brought forth a spring to quench the thirst of your people; with the image of living water the prophets foreshadowed the new covenant that you wanted to give humanity. In the fullness of time, your Son, baptized by John in the water of the River Jordan, was consecrated by the Holy Spirit. Even today, for us Christians, water represents an essential element of purification and of life, and we think immediately of Baptism, the sacrament of our rebirth in Christ. By means of the water made holy by the Spirit you give us life and renew us; it is the blessed source of undying life. Jesus, in the course of his mission, promised a water capable of quenching human thirst for ever (cf. *Jn.* 4:14) and prophesied “Let anyone who is thirsty come to me and drink” (*Jn.* 7:37). To drink from Jesus means to encounter him personally in prayer and contemplation as the Lord, drawing from his words the meaning of life. Therefore, from an eschatological point of view, contemplation also leads us to the “river of the water of life, clear as crystal, coming from the throne of God and of the Lamb” (*Ap.* 22:1). May the words he spoke from the cross – “I thirst” (*Jn.* 19:28) – echo constantly in our hearts. O God, may you bring forth in all hearts the water of eternal life.

3. Through water (let us think of rivers, groundwater, rain and seas) you invite us to reflect on our origins. In considering the fundamental role of water in creation and in human development, we feel the need to thank You with Francis of Assisi for “sister water”, simple and useful for life like nothing else on our planet. The great waters and all that they contain (cf. *Jn.* 1:20-21; *Sal.* 146:6; *Sal.* 104:6) speak the language of boundlessness, of your infinite power (cf. *Sir.* 39: 17) and wisdom, of the expanse that unites

¹ Meditation inspired by the blessing of the baptismal water and the liturgy of Holy Saturday, from the *Message* of Pope Francis for the Day of prayer for the care of Creation on 1 September 2018, from the *Catechesis on Divine Providence* of 7 May 1986 and from the *Homily* of Saint John Paul II given during the celebration of the Word with the people of the sea in Gdynia on 11 June 1987.

the destinies of all the continents. May we ponder the immense open seas and their incessant movement, since it also represents an opportunity to turn our thoughts to you, who constantly accompany your creation, guiding its course and sustaining its existence and calling us to responsible solidarity with the whole creation and with each other, through the generations. When “nature-based solutions” are envisaged, may we be reminded that you are the Creator of nature and understand the wisdom of the biblical accounts².

4. The Lord continues to ask that his thirst be quenched; he thirsts for love. He asks us to give him to drink in all those who thirst in our own day, and to say through them, “I was thirsty and you gave me to drink” (*Mt.* 25: 35). May we understand that the way we respect and share water is an indicator of how we are carrying out the mission you have entrusted us with, in *Genesis*, of taking care of the earthly garden.

Laudato si' our Creator God!

² Cf. Francis, Encyclical Letter *Laudato si'*, § 62-69.

II. PRESENTATION AND PURPOSE OF THE DOCUMENT

5. The document *Aqua fons vitae* is rooted in the teaching of the Popes and inspired by the reflections and experiences of members of national and local Churches, over centuries. Many dioceses, congregations, Caritas organizations, Justice and Peace Commissions, associations of lay people, catholic schools and universities are very actively committed to the promotion of human dignity and the realization of an authentic integral development, particularly in poor and deprived areas, even where Catholics are a minority. In view of the challenges raised by the crisis of the COVID-19, and in the light of the magisterial teaching about the interconnectedness of everything³, be it ecological, economic, political and social, we are called to consider all the elements which contribute to elaborating a new paradigm for a *new development* model. The consideration of water, in this sense, clearly appears to be one of the elements that heavily impacts ‘integral’ and ‘human’ development.

6. The common good promoted and pursued by the Church is not some particular national agenda, but “the sum total of the social conditions which allow people, either groups or individuals, to reach their fulfilment more fully and more easily”⁴. These conditions undoubtedly include “a safe environment”⁵, access to healthcare, sanitation as well as access to potable water. Therefore, these conditions also imply a management of water so as to ensure universal and sustainable access to it, for the future of life, the planet and the human community.

7. To ensure the availability of water to all, as a primary good, demands personal and common gestures of respect and charity, concrete choices and policies which contribute to promoting and to realizing the right to life. Taking care of springs, water basins and seas is an urgent imperative. However, it is not enough to take care of these, simply to avoid fines or to appear eco-friendly. It is of ultimate importance to respect the intrinsic value of water, in every context. The wells, according to the Bible, have been created so that the deep and invisible groundwater can be shared among all, men and women, inhabitants and foreigners (Cf. *Gn.* 24: 10-22; *Gn.* 29: 1-10; *Jn.* 4: 7; *Ex.* 2: 15-17). Thus, water appears as an effective way of uniting the human family; and wells contribute to the realization of the principle of *the universal destination of the created goods*, water being such a created and common good.

8. Today, more than ever, we need to look beyond immediate concerns and beyond purely utilitarian views of reality. According to this utilitarian approach, efficiency and productivity are geared to the self-serving profit of small interest groups. The human dignity of so many people is disregarded, since they do not seem to be a primary concern for policies, infrastructures and investments. We urgently need long-term shared projects, supported by valid ethical references, a healthy anthropology, and genuine motivations. Water management can find a strong inspiration in the Catholic Social Teaching, especially,

³ Cf. *Laudato si'*, § 70, 138 and 240.

⁴ Pontifical Council for Justice and Peace, *Compendium of the Social Doctrine of the Church*, 2004, §164.

⁵ Saint John Paul II, *Message for the World Day of Peace 1990*, § 9.

in papal contributions about human dignity, solidarity, justice, universal destination of goods, subsidiarity, common good, integral ecology and integral human development, and the priority of option for the poor.

9. The Dicastery for Promoting Integral Human Development thus prepared this reflection to offer local Churches operational suggestions on the issue of water, development and the future of human life on Earth. The encounter with Jesus Christ and his teaching have social implications: “Be doers of the Word, and not hearers only (...) What good is it, my brothers, if someone claims to have faith, but has no deeds?”⁶. Each Eucharistic Mystery compels us towards this same social responsibility⁷. Christians cannot think of “the intellect as separate from the flesh, and thus become incapable of touching Christ’s suffering flesh in others”⁸. The acceptance of the Gospel is an incentive and a motivation to anticipate, during our life on Earth, the Kingdom of God. The Kingdom of God is a gift and, precisely because of this, it is great and beautiful, and constitutes the response to our hope. We cannot – to use the classical expression – ‘merit’ Heaven through our works: Heaven is always more than we could merit, just as being loved is never something ‘merited’, but always a gift. However, even when we are fully aware that Heaven far exceeds what we can merit, it will always be true that our behaviour is not indifferent before God, and therefore is not indifferent for the unfolding of history. It is not the proper and primary task of the Church to take upon herself the political battle to build justice and just social order. As some suggest or joke about, the Church does not have the task of replacing governments or the United Nations. Yet, she cannot and must not remain on the side lines, in the fight for justice. Evangelical principles cannot and must not remain abstract, but need to be oriented towards concrete action and call upon each person⁹. The Church is singularly able to enhance the fight for justice because it can marshal the forces of good. Church members and organizations can reach, inform and promote the wellbeing of those who are considered ‘unreachable’ by public authorities or are ‘discarded’ by “an economy which excludes and kills”¹⁰. Thus, in the *Bull of Indiction of the Extraordinary Year of Mercy* (2015), Pope Francis described this social mission for the faithful: “This Holy Year will bring to the fore the richness of Jesus’ mission echoed in the words of the prophet: to bring a word and gesture of consolation to the poor, to proclaim liberty to those bound by new forms of slavery in modern society, to restore sight to those who can see no more because they are caught up in themselves, to restore dignity to all those from whom it has been robbed. The preaching of Jesus is made visible once more in the response of faith which Christians are called to offer by their witness”¹¹.

10. Saint Pope John Paul II saw the mission of the Church, rich and complex as it is, as intimately connected with that of Christ, and summed it up as her “central task of reconciling people with God; with

⁶ *Letter of James*, 1: 22; 2: 14.

⁷ Cf. Benedict XVI, Exhortation *Sacramentum Caritatis*, § 89-92.

⁸ Francis, Exhortation *Gaudete et exsultate*, § 37; *Message of Lent 2020*, § 4.

⁹ Cf. Benedict XVI, Encyclical Letter *Deus caritas est*, § 20, 26-31; Id., Encyclical Letter *Spe salvi*, § 35; Francis, Exhortation *Evangelii gaudium*, § 177-184 ; Id., *Laudato si*, § 64, 200; *Compendium of the Social Doctrine of the Church*, 2004, § 62-84.

¹⁰ Cf. *Evangelii gaudium*, § 53.

¹¹ Francis, *Misericordiae vultus*, Bull of Indiction of the Extraordinary Jubilee of Mercy, § 16.

themselves, with neighbour and with the whole creation; and this in a permanent manner ...”¹². Pope Francis has relaunched these four levels of reconciliation or just relations and proposed as a model the figure of Saint Francis of Assisi “who lived with simplicity and in a wonderful harmony with God, with others, with nature and with himself”¹³. The actions provided in this document are aimed at promoting *just relations* with our brothers and sisters and with nature, especially through and with water. We therefore offer this work to accompany reflection, dialogue and action on water and its management.

11. At the same time, we would like to reaffirm that the Dicastery for Promoting Integral Human Development, in accordance with its “Statutes”¹⁴ and in the light of the principle of subsidiarity, is at the disposal of all members of the Church who want to work on these issues and contribute to addressing the challenges of a subject matter which Pope Francis refers to as the “dream made of water”¹⁵. When Pope Francis treated this subject matter in his post-synodal Exhortation, *Querida Amazonia*, he knew that his observations applied to other areas of the world with similar challenges¹⁶.

12. This Dicastery also dialogues and collaborates with organizations outside the Church. Thus, although *Aqua fons vitae* was written with local and national Churches in mind, we hope that some of the ideas contained in this document can be considered at some of the upcoming international events, such as the United Nations Ocean Conference, initially scheduled to take place in Portugal (June 2020), the next World Water Forum, scheduled to take place in Senegal (March 2021), the World Water Weeks, organized annually in Sweden, as well as on the occasion of water-related work of the United Nations and Governmental Agencies, such as human rights and sustainable development, peace-building, climate change, biodiversity, desertification, migrations, labour, health and nutrition, the law of the sea and other maritime issues.

13. Our last remark is a message of hope and responsibility, inspired by what some may call the regenerative virtue of water. Water is a symbol of regeneration because it is the drink we constantly need; it cleanses and constantly restores life. It may be abused, rendered unusable and unsafe, polluted and dissipated, but the sheer necessity of it for life, human, animal and plant, requires us, in our different capacities as religious leaders, policy-makers and legislators, economic actors and businessmen, rural subsistent farmers and industrial farmers etc., to jointly show responsibility and exercise *care for our common home*. So, trusting in our capacity to dialogue, ever newly, not discounting any talent, role and involvement, we respond to the urgent appeal of Pope Francis “for a new dialogue about how we are shaping the future of our planet. We need a conversation which includes everyone, since the

¹² St. John Paul II, post-synodal Exhortation *Reconciliatio et paenitentia*, § 8.

¹³ *Laudato si'*, § 10.

¹⁴ Francis, *Statutes of the Dicastery for Promoting Integral Human Development*, 2016.

¹⁵ Post-synodal Exhortation *Querida Amazonia*, § 43.

¹⁶ Cf. *Idem*, § 5 and 11.

environmental challenge we are undergoing, and its human roots, concern and affect us all”¹⁷. In this, the *regenerative virtue of water* can inspire and motivate everybody and all of us.

From the Vatican, Ash Wednesday 2020, and in view of the next World Water Day, Sunday 22 March.

Cardinal Peter K.A. Turkson

Prefect

Mons. Bruno-Marie Duffé

Secretary

¹⁷ *Laudato si'*, § 14.

III. INTRODUCTION

Background

14. *Aqua fons vitae*, “Water is a source of life”, and is vital for all forms of life. This statement which rightly recognizes the essential role of water in the origin and conservation of life on Earth inspired the title of the contributions prepared by the Pontifical Council for Justice and Peace as the representative of the Holy See in the World Water Forums held in 2003 (Kyoto), 2006 (Mexico City), 2009 (Istanbul) and 2012 (Marseille). Subsequently, the Encyclical Letter *Laudato si’* has again highlighted the issue of water¹⁸; and, since its publication, the Holy Father has not missed an occasion to draw attention to the great significance of water for human civilization¹⁹.

15. Such insistence on water from the Holy Father and the Holy See:

- reflects the attention and multifaceted commitment of the Holy See and of the Catholic Church to this issue;
- demonstrates that water is a largely cross-cutting element, and affects the achievement of the common good of the entire human family and of the Sustainable Development Goals (SDGs) adopted by the United Nations in 2015;
- supports non-State organisations, public administrations and individuals that already act responsibly, at a local, national and international level, towards the management of water as a common good, and at the same time pushes those who can and should do more;
- arises from the awareness that there are still distressing situations regarding access to drinkable water, access to sanitation, water-borne diseases, water pollution, wastewater treatment, water as a means of exercising pressure in situations of political or economic tension and conflict; this appears to be particularly serious since:
 - for some time, we have advanced in the technical, logistical, legal and organisational requirements to provide drinking water and guarantee sanitation to all;
 - for some time now, access to drinking water and sanitation has been, at least in words, a priority of international and many countries’ agenda;
- reaffirms that water-related problems, which are complex and often interconnected, are due to the absence of just and adequate relationships with God, with others, with nature and with one’s self²⁰ and not to accidental economic or environmental factors. These problems will not be

¹⁸ Cf. *Laudato si’*, § 27-31.

¹⁹ Cf. *Message on the occasion of the Conference “The Management of a common asset: access to drinkable water for all”* held at the Pontifical Urban University on 8 November 2018; *Address during the Workshop “The human right to water”* held at the Vatican on 24 February 2017; *Message for the World Day of Prayer for the care of Creation*, 1 September 2018; *Message on the occasion of World Water Day*, 22 March 2019; *Message signed by Cardinal Pietro Parolin, on behalf of the Holy Father to the Budapest Water Summit* held in Hungary, October 2019.

²⁰ Cf. *Laudato si’*, § 10.

solved by themselves, nor can they be overlooked: they must be addressed deeply, with justice, determination, solidarity and subsidiarity;

- expresses concern about the slow progress with respect to the realisation of the universal human right to safe drinking water and sanitation which, almost 10 years after the well-known Resolution 64/292 of the United Nations General Assembly, remains merely declaratory, and not even so in certain States;
- also joins the concern expressed by the United Nations about the fact that the world is not heading towards the achievement of SDG 6 (Ensure the availability and sustainable management of water and sanitation for all) by 2030²¹.

16. There is plenty of water on planet Earth. Just think of the huge and deep oceans. Saltwater is usually estimated to represent about 97.5% of total water resources, and fresh water only 2.5%. Out of this body of fresh water, about 98,8% is found in glaciers and in the subsoil, and the remaining 1,2% represents the water in the atmosphere and in living beings, as well as fresh water easily accessible to humans in lakes, swamps and rivers. This small percent of easily accessible fresh water sufficed to respond to the world population's total requirement at the beginning of the 21st century. That said:

- both fresh water and the human population are not distributed evenly on the planet;
- the development of irrigated industrial agriculture, the production of energy, economic development as well as demographic growth and improvement of standards of living in recent decades have significantly increased the demand for fresh water in many countries;
- easily accessible fresh water must not be mistaken for drinkable water, since most fresh water is not suitable for human consumption and this is partly due to pollution by human activities which are increasingly deteriorating the quality of numerous water resources;
- particularly problematic situations have arisen or become accentuated as regards the ratio of population and fresh water available in a given place, and various countries consume a high percentage of fresh water renewable in nature every year (thus reaching high thresholds of so-called "water stress"²² and being potentially threatened by water shortage), often with limited or no wastewater treatment;
- the World Water Development Report 2020 focuses on "Water and Climate Change". Indeed, there is a close relationship between climate and water resources because the changes in temperature, precipitation and snowmelt can cause changes in seasonal and spatial distribution of water, causing floods and droughts. Climate changes and new patterns of vulnerability exhibits their impact also through water: too little, too much, too erratic. All three heavily affect the

²¹ United Nations, *Sustainable Development Goal 6, Synthesis Report on Water and Sanitation 2018*, New York 2018, pp. 21 and 84.

²² United Nations, *The Sustainable Development Goals Report 2019*, New York 2019, p. 35.

poorest populations having limited possibilities for adaptation²³, limited possibilities to manage the variability of water.

Methodological clarifications

17. 'Water' is a subject that calls attention to several challenges for the human family. It should be noted that, although everything is related, this document – after a chapter dedicated to the value of water – distinguishes three dimensions of water:

- water for human use;
- water as a resource used in many human activities, especially farming, crafts and industry, the use of which must, however, not be made to the detriment of human use;
- water as a space: rivers, underground aquifers, lakes and above all seas and oceans. This third dimension leads us to consider the fascinating role of the natural cycle of water in the protection of life in general and in the functioning of biomes²⁴, at the service of biodiversity, in climate, in transport and in fishing.

These dimensions are examined in the following chapters, each divided into a first part consisting of a brief analysis of the challenges (the challenges that are listed do not exist everywhere all the time), and a second part dedicated to operational proposals. This second part is in turn divided into: 1- proposals that mainly concern the area of political consciousness or advocacy and dialogue with institutions; 2- proposals that mainly concern pastoral care and concrete action, possibly also within the buildings and initiatives of the Church herself, because it is important to be coherent and set an example, since the Church must also assert her responsibility in the public sphere²⁵.

18. Certainly, the commitment of the Church can vary depending on:

- whether or not in the country there are at least some of the many Church organisations with consolidated experience in working for social justice and/or the care of creation, which usually act in collaboration with other actors as well (civil society in the broad sense, administrations, entities of other Churches or other religions, actors in the sector of education, economy, culture,...);
- whether or not Bishops can easily dialogue with public administrations;
- whether people's contact with water is more distant and mediated (e.g. highly urbanized and industrial areas) or more direct (e.g. small islands, agricultural and coastal areas);

²³ Cf. UN Water, *Climate Change Adaptation: the Pivotal Role of Water*, Policy Brief, 2010.

²⁴ "Biome" indicates a vast region of the world characterized by certain climate, certain flora and fauna (for example the steppe, the tropical rainforest).

²⁵ Cf. *Caritas in veritate*, § 51.

- whether or not it is possible for the Church to cooperate (at local, national as well as transboundary levels) with other people and partners, both for the implementation of concrete projects and for monitoring or advocacy initiatives, such as:
 - youth associations and groups, other civil society associations, strategies for sustainable development adopted by governments, cities, trade unions, universities or companies committed to sustainable development;
 - other Christian denominations or even other religions, since:
 - dialogue is necessary and the concrete problems concerning coexistence and shared responsibility for justice and peace should be addressed jointly²⁶, and “we believers need to find occasions to speak to one another and to act together for the common good and the promotion of the poor. This has nothing to do with watering down or concealing our deepest convictions when we encounter others who think differently than ourselves. If we believe that the Holy Spirit can work amid differences, then we will try to let ourselves be enriched by that insight, while embracing it from the core of our own convictions and our own identity. For the deeper, stronger and richer that identity is, the more we will be capable of enriching others with our own proper contribution”²⁷;
 - it is therefore particularly meaningful, for believers, to cooperate in the case of transboundary shared waters: for example the inhabitants of the Amazon basin, the riparian communities dwelling along the banks of many long rivers, the shoreline communities surrounding the Mediterranean Sea, the African Great Lakes, the Baltic Sea, the Black Sea among others, since by “its very configuration, [a] sea forces surrounding peoples and cultures to constant interact, to recall what they have in common, and to realize that only by living in concord can they enjoy the opportunities this region offers”²⁸;
- whether or not water occupies a special place in customs, legends, social life and more generally in the culture of the place, as well as in religious practices. These are elements that the Church needs to consider in her process of inculturation: “she constantly reshapes her identity through listening and dialogue with the people, the realities and the history of the lands in which she finds herself. In this way, she is able to engage increasingly in a necessary process of inculturation”²⁹, understanding the history, the situation and the hope of each region, country and

²⁶ Cf. Benedict XVI, *Address on the occasion of Christmas greetings to the Roman Curia*, 21 December 2012.

²⁷ *Querida Amazonia*, § 106.

²⁸ Francis, *Address during the meeting with Bishops of the Mediterranean*, Bari, 23 February 2020.

²⁹ *Querida Amazonia*, § 66; cf. *Evangelii gaudium*, § 115-118.

community, avoiding oversimplification and refraining from resolving all problems through uniform recipes³⁰.

19. It will always be appropriate to accompany and prepare any commitment with adequate and continuous education. This topic is deeply related to integrity, and is addressed in the last chapter. Finally, this document refers deliberately to a limited number of documents (footnotes), many of which are available online, and is accompanied by a selection of relevant links available on the website of the Dicastery.

³⁰ Cf. *Caritas in veritate*, § 22; *Laudato si'*, § 144 and 180.

IV. RECOGNIZING THE VALUE OF WATER

20. According to the teaching of the Catholic Church, water is a common good, the adequate management of which contributes to the realisation of the common good of the entire human family. It is true that *aqua fons vitae*, “water is a source of life”. The survival and health of human beings depend directly on water, and so does the production of food, energy and many consumer goods. The Earth’s biodiversity, the functioning of the various biomes and of the atmosphere, the cycles of water and climate remind us of how versatile and fundamental this precious creature of God is. When astronomers observe space to identify and study other planets, they often note that there is no apparent trace of water, an indispensable element for life as we know it on Earth: not all the planets have this precious gift that was the cradle of life. *A fortiori*, we should thus be more aware of its multifaceted value.

A religious value

21. This Dicastery, repeating the words of Pope Francis, invites “to reflect on the symbolism of water in the main religious traditions”, and likewise urges “to contemplate this resource that, as Saint Francis of Assisi wrote, is *multo utile et humile et preziosa et casta* (very useful and humble and precious and chaste)”³¹. It is fascinating to trace the value of water in the Old Testament – the act of creation at the beginning of *Genesis*, the water that purifies or that is a sign of blessing and fertile land, or even the punishment caused by drought or deluge – and in the New Testament. There are many connections between water and healing (cf. *2 Kings* 5:8-14; *Jn.* 5:2-4; *Jn.* 9:6-11). Although precious, water does not completely quench thirst, and serves Jesus to teach that man cannot be limited to his material needs (cf. *Jn.* 4:13-14; *Jn.* 7:37-38).

22. It is equally fascinating to study and understand the role of water in the life and tradition of the Church. Think for example of the sacrament of baptism first of all – it cleanses from sins and gives a new birth of innocence by water and the Holy Spirit – and then of liturgical and devotional gestures such as the sprinkling with holy water, the liturgy of the night of Holy Saturday, the lasting connections between water and healing (for example in Lourdes), the presence of the source of water at the entrance of many churches to make the sign of the cross, and finally the pilgrimages to Lourdes or to the banks of the Jordan. Water is “a symbol that touches the deepest experience of humanity, which indicates a transcendent value. Consider that, for example, the fundamental text of Hebrew-Christian faith, the Bible, has 1500 verses bathed by water, in which water is spoken about. (...) There is a striking element in the heart of the Old Testament’s language, Hebrew: a single word in Hebrew, *nefesh*, indicates at the same time the throat and the soul, the living being”³². There is a deep connection between the thirsty throat and the soul that needs the infinite, the eternal.

³¹ Cf. *Message on the occasion of the Conference “The Management of a common asset: access to drinkable water for all”* held at the Pontifical Urban University on 8 November 2018.

³² Cardinal Gianfranco Ravasi, *Address at the Augustinianum during the Watershed Conference*, 22 March 2017.

23. This is not the right place to analyse more deeply these elements of the Biblical and Christian tradition. It will suffice to recall that water has a ‘religious value’, which can be a motivation³³ for its respectful and sober use. This is not limited to Hebrew and Christian traditions. In many religions, water has been and is still perceived as holy and connected to divinities and their benevolence. The Nile, the Ganges, and the well of Zamzam are eloquent examples, among many others. And there is very often a fountain at the entrance of a religious building for ritual purification.

A socio-cultural and aesthetic value

24. Water also has a ‘socio-cultural value’. Let us not forget the fundamental role of water in driving the development of numerous civilisations: just think of people’s relationship with rivers, lakes and seas, human settlements, toponymy, and how they can inspire literature, music and more generally artistic expression. Water is a carrier of the collective memory of humanity. “The various arts, and poetry in particular, have found inspiration in (...) water (...). Those poets, contemplatives and prophets, help free us from the technocratic and consumerist paradigm that destroys nature and robs us of a truly dignified existence”³⁴. Pope St. John Paul II noticed that “the aesthetic value of creation cannot be overlooked. Our very contact with nature has a deep restorative power; contemplation of its magnificence imparts peace and serenity. (...) The relationship between a good aesthetic education and the maintenance of a healthy environment cannot be overlooked”³⁵. This applies particularly well to water, a source of beauty and wonder.

25. This cultural dimension also involves daily life with its customs, as well as the navigation and cultural exchanges between civilizations. Farming activities and fishing are a primary source of sustenance for many populations, and these activities shape local social and cultural cohesion. Hospitality gestures (cf. *Gn.* 24:32), moments of public life and propitiatory rites make use of water sprinkling, and again water (fresh or saltwater) is at the centre of commemorations (such as the celebration of the season of rains or monsoon festivals in some countries) and many recreational and sports activities.

An institutional value and a value for peace

26. Water is a connector³⁶ and we can therefore speak of an ‘institutional value’ of water, as well as of a ‘value of water for peace’, since water is an element that drives the creation of bridges, collaborations and dialogue. Also, think of the role of the well in the social life of Moses (cf. *Exodus* 2:15) and of Jesus (cf. *Jn.* 4:5-15). With Abraham, wells, which were a point of contention, could become the object that triggers negotiation, agreement, development and sharing (cf. *Gn.* 21:19-30), as it was also for Isaac (cf. *Gn.* 26:12-22). Therefore, addressing water scarcity and improving water management, especially by

³³ “Motivation” is a cross-cutting concern of the Encyclical Letter *Laudato si’*, cf. § 15, 17, 64 and 200.

³⁴ *Querida Amazonia*, § 35 and 46.

³⁵ *Message for the World Day of Peace 1990*, § 14.

³⁶ Cf. *Final document of the Special Assembly of the Synod of Bishops on the theme “The Amazon: New Paths for the Church and for Integral Ecology”*, 26 October 2019, § 7 and 20.

communities, can help create greater social cohesion and solidarity. The ways in which water is managed in many rural areas implies a high involvement for local communities; for example, when it comes to the decision to dig a well or the choice about how to use or share a source of water, the possibility to access a specific fishing area, to tap a given quantity of water from a river (generally, establishing a certain water tenure regime). Community management and the frequent presence of various committees in charge of settling disputes (if not a real court³⁷) is an important part of social life and contributes to empowering the population, probably more than it occurs in cases where the management necessarily takes place at a higher level (e.g. basin level management, private or public companies managing water in large cities) thus bringing up the challenging reality of how multiple communities interact with ‘the whole’.

27. Moreover, fresh waters, both surface and groundwater, are largely transboundary³⁸. Just think of how much peace would be gained if countries could collaborate for water in various areas of the world more than is currently the case. In critical situations, tension among competing parties over access to water, its uses, and allocation can lead “to outright conflict that can become violent if not adequately addressed. While water is very rarely the single – and seldom the major – cause of conflict between or within nations, it does have the potential to exacerbate existing tensions as well as to impede progress toward resolving already existing broader conflicts”³⁹. Consequently, well-proven transboundary water cooperation mechanisms are an important feature of peace and of the prevention of armed conflicts. Joint river mechanisms and commissions established by water agreements may foster communication and dialogue, thus improving relationships among groups beyond their usual role of facilitating a joint management of the water resources. A body of norms enshrined in treaties and customs applies to internationally shared rivers, lakes, seas, basins, and groundwater resources⁴⁰. These approaches – oriented towards mutual understanding, sharing information, searching and implementing solutions together – constitute the so-called ‘water diplomacy’⁴¹.

³⁷ It is worth noting that in 2009 two Spanish tribunals in charge of settling conflicts between irrigators were entered by UNESCO in the List of the Intangible Cultural Heritage of Humanity.

³⁸ “Across the world, 153 countries share rivers, lakes and aquifers. Transboundary basins cover more than half of the Earth’s land surface, account for an estimated 60 per cent of global freshwater flow and are home to more than 40 per cent of the world’s population”, United Nations and UNESCO, *Progress on Transboundary Water Cooperation. Global baseline for SDG indicator 6.5.2*, 2018, p. 9. “Only 84 of these basins have joint water management bodies, and many of these are not considered effective. The number of shared aquifers without joint management bodies – more than 400 – is significantly higher”, Global High-Level Panel of Water and Peace, Report *A matter of Survival*, Geneva 2017, p. 14.

³⁹ Catholic Relief Services, *Water and Conflict. Incorporating peacebuilding into water development*, Baltimore 2009, p. viii.

⁴⁰ Cf. Report *A matter of Survival*, pp. 33 and 77; The Parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, *Decision VI/3 “Accession by non-United Nations Economic Commission for Europe countries”*, 2003.

⁴¹ Cf. Stockholm International Water Institute (SIWI), Policy Brief *Water diplomacy: facilitating dialogues*, July 2019.

An economic value

28. In many cases access to water suitable for drinking (as well as for other uses including agriculture, building and industry), its supply and transport, processing and purification operations have a cost. It is therefore right to acknowledge “its role in production and thus in economy”⁴², and to acknowledge that water has an ‘economic value’. Such acknowledgements can be used to:

- encourage all users to constantly seek the smallest negative impact on the environment, underscoring how much humanity loses by not respecting nature, and how much it would gain by protecting it, starting from the assumption that frequently, as long as something is not measured and quantified, nobody takes it into account, and nobody cares about it;
- provide economic criteria, useful in calculating and planning investments and incentives⁴³; much can be achieved by applying benefit cost analysis of water management, identifying trade-offs, and being transparent with them along with subsidies;
- understand that there often is a connection between filtering and purification: enhancing the wastewater treatment reduces pollution and consequently the need for filtering in future withdrawals;
- stimulate water saving if the principle of total costs coverage (including environmental costs) is applied, especially for intensive and polluting uses;
- illustrate how much humanity loses by not respecting nature (costs generated by massive water pollution, from improved filtering and treatment to medical expenditures), and how much it would gain by protecting it, starting from the assumption that, as long as something is not measured and quantified, nobody cares about it. However, this assumption can be misleading and while considering what is quantifiable, we should not neglect key elements that are more difficult to measure, such as the happy and meaningful life a community can achieve also thanks to adequate access to water.

Clarifications about the so-called privatization of water

29. “An overly commercial concept of water sometimes persists with the risk of mistakenly considering it like any other commodity and planning investments according to the criteria of profit for profit’s sake”⁴⁴. Pope Francis wrote: “even as the quality of available water is constantly diminishing, in some places there is a growing tendency (...) to privatize this resource, turning it into a commodity subject to the laws of the market”⁴⁵. This should not be interpreted as referring only to drinkable water. It is a

⁴² Pontifical Council for Justice and Peace, *Water, an essential element for life*, Contribution of the Holy See to the 3rd World Water Forum held in Kyoto in March 2003.

⁴³ Cf. Pontifical Council for Justice and Peace, *Land and Food*, LEV, Vatican City 2015, p. 94.

⁴⁴ Pontifical Council for Justice and Peace, *Water, an essential element for life. Designing sustainable solutions. An update*, A contribution of the Holy See to the 6th World Water Forum held in Marseille in March 2012.

⁴⁵ *Laudato si'*, § 30.

more general comment. *Laudato si'* is warning against some economic theories and against the attitude of some actors (companies, investors, politicians) that may consider or manage water as a mere commodity that can be owned, grabbed and controlled, consumed and traded *de facto*, denying that water is an essential element for life, meant for the entire humanity. “Water is being treated as though it were merchandise that could be traded by companies, and has been transformed into a good for which powerful nations compete”⁴⁶. This ‘tendency to privatize’ water is manifest if and when:

- human rights, human dignity and the integral development of societies are disregarded;
- the profit of a small group is prioritized with detrimental effects for the common good of society and for the public interest;
- environmental sustainability is disregarded;
- public control is absent or inadequate;
- there is a lack of transparency, of accountability, and access to justice is not granted;
- the poorest and most disadvantaged groups are excluded from the access to water (even at the level of a vital minimum linked to human dignity and survival) because they are unable to pay a tariff or because they are being discriminated and threatened by those controlling water;
- water-related investments are not made in the areas (e.g. remote rural areas) and for the operations (e.g. maintenance) that are perceived as being not profitable.

30. It must be recognized that any attempt to reflect the economic value of water through a market system or a tariff is not by itself enough to universally achieve the right to safe drinking water, to encourage water savings, and does not prevent negligent users from polluting water if those who consume and pollute much water are still able to get a significant financial benefit and are not held accountable for the consequences of these actions. Moreover, the cost or tariff that any market or supplier (be it public or private) may adopt for water (including trading water rights for irrigation, and the market of bottled water) will never measure up to the worthy usefulness and essentiality of water (it is invaluable), nor can it be an obstacle to universal access to water as a right, especially for poor populations for drinking and for personal hygiene⁴⁷, cooking, and, where necessary, also for small subsistence irrigation (domestic uses).

31. Saint John Paul II had already affirmed that all people shall have access to the water indispensable for their needs, in adequate levels⁴⁸, and “Catholic social thought has always stressed that the defence and preservation of certain common goods, such as the natural and human environments, cannot be

⁴⁶ Fifth General Conference of the Latin American and Caribbean Bishops’ Conferences, *Final Document*, Aparecida 29 June 2007, § 84.

⁴⁷ Many diseases can be prevented or controlled through appropriate personal hygiene and by frequently washing parts of the body with soap and clean water, but “in 2017, some 60 per cent of people worldwide and only 38 per cent in least developed countries had a basic handwashing facility with soap and water at home, leaving an estimated 3 billion people without basic handwashing facilities at home”, United Nations, <https://sustainabledevelopment.un.org/sdg6>

⁴⁸ Cf. *Message on the occasion of the World Food Day*, 13 October 2002.

safeguarded simply by market forces, since they touch on fundamental human needs which escape market logic (...). Being at the service of its citizens, the State is the steward of the people's resources which it must administer with a view to the common good"⁴⁹. This is why we should not mentally or politically prepare a massive and lasting 'tendency to privatize' (as previously described) of the water resources⁵⁰ in favour of the investors capable and tempted of doing it.

32. Certainly, water operations involving a variety of actors and processes have a cost, and water has an economic value – as stated above. The Holy See has not asserted that private companies (whether big or small businesses) should not play any role in the water sector⁵¹. A variety of private-public partnerships exist, but "private sector participation does not relieve governments of their responsibility"⁵² in this domain, including preventing abuses caused by monopoly position. On the contrary, public authorities must always guarantee through adequate legislation and monitoring that private companies follow virtuous and transparent practices, and that water maintains its universal destination in conformity with the demands of the common good and in pursuit of the 'public interest' as recommended by the Organisation for Economic Co-operation and Development (OECD) and by the group of Judges gathered during the 8th World Water Forum in Brasilia⁵³. It should be noted as a sign of hope that the 2030 Agenda reaffirms "the human right to safe drinkable water and sanitation"⁵⁴. This said, SDG 6.1 does not speak of legal 'right' but of "universal and equitable access to safe and affordable drinking water", while the terminology of 'right' is used elsewhere in the SDGs⁵⁵. Nonetheless, "the Holy See reads (...) Goal 6 as including the right to water"⁵⁶.

33. Another concern can be expressed about the fate of some marine areas that have been traditionally used by local fishers, without exhausting fish stocks and without dealing major damage to the environment. "Customary practices for the allocation and sharing of resource benefits in small-scale fisheries, which may have been in place for generations, have been changed as a result of non-participatory and often centralized fisheries management systems, rapid technology developments (...). Small-scale fishing communities also commonly suffer from unequal power relations"⁵⁷. Powerful

⁴⁹ *Water, an essential element for life*, Contribution of the Holy See to the 3rd World Water Forum held in Kyoto in March 2003; cf. Saint John Paul II, Encyclical Letter *Centesimus annus*, § 40.

⁵⁰ Cf. *Land and Food*, p. 94; *Final document of the Special Assembly of the Synod of Bishops on the theme "The Amazon: New Paths for the Church and for Integral Ecology"*, 26 October 2019, § 10.

⁵¹ Cf. *Water, an essential element for life*, Contribution of the Holy See of the Holy See to the 3rd World Water Forum held in Kyoto in March 2003; *Water, an essential element for life. Designing sustainable solutions. An update*, A contribution of the Holy See to the 6th World Water Forum held in Marseille in March 2012.

⁵² Cf. OECD, *Meeting the Challenge of Financing Water and Sanitation. Tools and approaches*, Paris 2011, p. 131.

⁵³ OECD, *OECD Principles on Water Governance*, 2015, Principle 7; *Brasilia Declaration of Judges on Water Justice*, 21 March 2018, principle 1.

⁵⁴ Cf. Resolution A/RES/70/1 of the United Nations General Assembly of 25 September 2015, § 7.

⁵⁵ Cf. SDG 5.6.

⁵⁶ *Note of the Holy See regarding the Agenda 2030 for Sustainable Development*, 25 September 2016, § 21.

⁵⁷ Food and Agriculture Organisation of the United Nations (FAO), Preface of the *Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication*, Rome 2015, p. x.

economic actors may look for and obtain maritime concessions for new activities, related for example to tourism, aquaculture, energy production, extraction of sand and of valuable resources from the seabed. Thus, small-scale traditional fishers from local communities may lose their customary access rights, and this may adversely affect their livelihoods⁵⁸. This kind of privatization of maritime areas at the benefice of major economic actors supported by states (a seizure which takes place without the free, prior and informed consent of local communities and without any intention of involving them, and which is not necessarily healthy for the environment and for local employment) can be called ‘ocean-grabbing’.

⁵⁸ Cf. Report A/67/268 by Olivier De Schutter, United Nations Special Rapporteur on the right to food, 2012, § 40 and 61.

V. FIRST DIMENSION: WATER FOR HUMAN USE

Challenges

34. Access to drinking water can make the difference between survival and death or between survival and various levels of wellbeing. Some societies, given the fact that they belong to areas where access to and supply of water is considered obvious and taken for granted, demonstrate insufficient awareness and compassion about the lack of water in other areas of the planet. The lack of adequate access to drinkable water is, unfortunately, a daily and terrible reality for billions of people.

35. The human being needs very few litres of water per day in order not to die of thirst. Here, however, reference is made more generally to water we use for drinking, cooking, washing clothes and ourselves, and living a healthy life. The World Health Organisation (WHO) estimates that with at least 50 litres of water per day per capita, available within no more than 100 metres from the users' dwelling, there are low risks to human health. These requirements could be optimally satisfied by being able to access 100 litres per day per capita, available locally⁵⁹. Of course, 'being able to access' does not necessarily mean that those 100 litres must be consumed daily by a single person; it is an indicative, broad measure intended to guide government action.

36. While significant progress has been made in the last decade, approximately two billion people still have inadequate access to drinking water⁶⁰, which means irregular access, or access that is too far away from their home, or access to polluted water, which is therefore not suitable for human consumption. Their health is directly threatened. The situation is also dramatic in many migration transit areas and in many refugee camps, where there are not adequate infrastructures and where the needs of the populations are estimated in a particularly rough way.

37. In some cases, the wells from which water was traditionally drawn, often in rural areas, present the following limitations:

- they dry up⁶¹ because of the rate of withdrawal which does not correspond to the regeneration capacity of the resource (sometimes due to the increase in local population, with new inhabitants and the demographic increase or with the sudden arrival of refugees⁶²), or because of climate or geological changes;
- they are abandoned when underground water becomes salty or manifestly polluted;

⁵⁹ Cf. WHO, *Domestic Water Quantity, Service, Level and Health*, WHO/SDE/WSH/03.02, Geneva 2003.

⁶⁰ Cf. UN Water, *Sustainable Development Goal 6. Synthesis Report 2018 on Water and Sanitation*, May 2018.

⁶¹ Note that the risk of drying up also extends to lakes.

⁶² Cf. United Nations High Commissioner for Refugees (UNHCR), *UNHCR, the environment and climate change*, Updated version, Geneva October 2015, pp. 4-13.

- they are destroyed or in any case subject to violent contention in periods of drought, large-scale migration and conflicts⁶³, for “even local or regional wars, however limited, not only destroy human life and social structures, but also damage the land, ruining crops and vegetation as well as poisoning the soil and water”⁶⁴;
- they are not always subject to regular water quality inspections.

38. Water infrastructures, due to inadequate maintenance and/or inadequate economic sustainability, are abandoned, or access is not extended to all those who need it.

39. Many families are forced to buy water from informal vendors, which is often very expensive (in relation to their modest income and compared to how much water supplied through a public distribution network would cost) and subjected to price gouging. Moreover, they have no way of checking the quality of the water they usually purchase from informal tank trucks.

40. Water policy at the national and international level often seems to be fragmented, and in some cases access to drinking water and adequate sanitation for all, in a sustainable way and without discriminations, are clearly not considered a priority by governments. Although access to safe drinking water and sanitation was recognized as a human right by the United Nations General Assembly about ten years ago⁶⁵ – as already noted in § 15 – such recognition is often not materialised. Some countries that have introduced this right in their constitutions or have adopted framework laws thereon have not necessarily defined ways of guaranteeing human rights, have not implemented these ways, or have not assessed the effectiveness of this implementation. Particularly poor populations risk not being able to pay water bills or buy water. The removal of public fountains or their closure (for example in periods of drought) may endanger the water supply of some poor groups. Another dramatic problem is represented by cases of sexual exploitation for access to water: if authorities do not adequately protect citizens, it happens that officials or technicians in charge of supplying water or reading the meters take advantage of their position to blackmail people unable to pay for water (typically women), demanding sexual intercourse in

⁶³ “In recent armed conflicts, states and non-state armed groups have destroyed and captured water installations. Water supply systems fail: supply lines are deliberately sabotaged or water resources are poisoned to intimidate civilians. Non-state armed groups capture dams and barrages, and use them to flood or starve downstream populations to defeat them”, Global High-Level Panel of Water and Peace, Report *A matter of Survival*, Geneva 2017, p. 21.

⁶⁴ *Message for the World Day of Peace 1990*, § 12.

⁶⁵ Cf. Resolution A/RES/70/1 on the 2030 Agenda adopted on 25 September 2015, § 7; General Assembly Resolution A/RES/64/292 on the human right to water and to sanitation adopted on 28 July 2010. The work of the Committee on Economic, Social and Cultural Rights (CESCR) is also very important. The CESCR published the General Comment no. 15 on the Right to Water (E/C.12/2002/11) in 2003 and a Statement on the Right to Sanitation (E/C.12/2010/1) was adopted in 2010. The United Nations Convention on the Rights of the Child entered into force in 1990, according to which “States Parties recognize the right of the child to the enjoyment of the highest attainable standard of health” and shall take appropriate measures to provide “nutritious foods and clean drinking-water, taking into consideration the dangers and risks of environmental pollution”. These three documents complement the aforementioned Resolution 64/292.

order not to interrupt the supply. This type of abuse and corruption is called *sextorsion* in the water sector⁶⁶.

41. Furthermore, it should be noted that “waterborne diseases are linked to significant disease burden worldwide. Waterborne diarrhoeal diseases, for example, are responsible for 2 million deaths each year, with the majority occurring in children under 5”⁶⁷. In some contexts, the issue of sanitation and defecation is not given due attention, also because it is considered taboo. Still, this issue is closely related to water pollution and human health. Statistics became more accurate in recent years, and it is estimated that around two billion people have inadequate access to sanitation and hundreds of millions regularly practice outdoor defecation⁶⁸. Lack of sanitation facilities expose women to sexual abuse and rape when they have to look for a place to defecate. Lack of adequate toilets for girls at schools keep many girls away from school⁶⁹. Both represent major gender bias against women and girls, ranging from lack of fairness to harassment and crime.

42. Also, access to water for health centres and schools should not be taken for granted: numerous voices from civil society and the United Nations have contributed to giving visibility to this aspect. In what the United Nations considers low or middle income countries, only about 55% of health centres are estimated to have access to water of adequate, constant quality, thanks to a distribution network or a source of water located on the territory of the health centre; 19% do not have adequate sanitation; 35% experience lack of basic hygienic procedures such as hand washing⁷⁰. These are serious shortcomings, which can have various causes (inadequate procedures and training, lack of economic resources, logistical problems). They occur precisely in health centres, which are places where an acceptable level of hygiene and facilities is expected, and very often they affect particularly vulnerable and disadvantaged people, namely poor and sick populations in disadvantaged areas, or in-labour women, with obvious and serious threats to their health.

43. Unfortunately, water is sometimes used as a means of pressure and blackmail as well, and even as a weapon. Then, the hoarding of water resources (or the destruction of water towers) can become a tool to remove specific communities from their territories.

⁶⁶ SIWI, Women and corruption in the water sector. Theories and experiences from Johannesburg and Bogotá, Water Governance Facility Report No 8, 2017.

⁶⁷ WHO, <https://www.who.int/sustainable-development/housing/health-risks/waterborne-disease/en/>

⁶⁸ Cf. United Nations Children’s Fund (UNICEF) and WHO, *Progress on household drinking water, sanitation and hygiene 2000-2017, Special Focus on Inequalities*, New York 2019, p. 8.

⁶⁹ “In 2016, one third of all primary schools lacked basic drinking water, sanitation and hygiene services, affecting the education of millions of schoolchildren, but particularly girls managing menstruation”, United Nations, <https://sustainabledevelopment.un.org/sdg6>

⁷⁰ Cf. WHO and UNICEF, *Water, sanitation and hygiene in health care facilities Status in low- and middle-income countries and way forward*, Geneva 2015; *WASH in health care facilities: Global Baseline Report 2019*, Geneva 2019; United Nations Secretary-General’s Advisory Board on Water and Sanitation, *The UNSGAB Journey*, New York 2015, p. 8.

44. We should also note the production, advertising and indiscriminate use of disposable plastic bottles for drinking (water or other drinks). Surely, any pre-critical attack on plastic bottles is wrong, especially in relation to contexts where drinking water is not readily available. However, we should question the use of these bottles in countries that use them on a consolidated basis, despite being equipped with a good water supply network and public fountains. The consumption of drinks from plastic bottles is promoted by means of advertising messages, and advertising is often “a tool of the phenomenon of consumerism”⁷¹. Such use of plastic bottles occurs to the detriment of the environment, the economy, and human health, since the production and indiscriminate use of disposable plastic bottles contributes to making our common home begin “to look more and more like an immense pile of filth”⁷². Furthermore, some components in the structure of certain plastic bottles can have a pathological effect on human health, in particular for the child in the mother’s womb and children⁷³.

45. This leads us to finally reiterate a concern raised by numerous international organizations and echoed by the Pontifical Council for Justice and Peace⁷⁴ about some chemical substances, which have negative side effects on the endocrine or hormonal system of the person. This system plays a crucial role in maintaining the physiological equilibrium of the human body as well as in regulating body growth, metabolism and sexual development and function. Endocrine active substances can be man-made, including hormone substitutes; but they also occur in nature, for example as phytoestrogens which are present in plants such as soya and nuts. They may behave similarly to human hormones or influence the hormone levels in the body and thereby have effects on human health and organisms in the environment, particularly at critical stages of their development⁷⁵. The United Nations Environment Programme (UNEP), the WHO, the European Parliament and the European Food Safety Authority (EFSA) among others, have been concerned about the question of the so-called “endocrine disruptors” or “endocrine disrupting chemicals” (EDCs). These are chemical substances that adversely alter the functionality of the hormonal system. They come from various contexts, such as pesticides, cosmetics, combustion or industrial process derivatives; but they can also be the effect of certain hormonal therapies and drugs, such as the contraceptive pill. Their acting mechanism is still being examined, but the fact that they can seriously threaten human health and reproduction through food is a source of concern for international organizations⁷⁶ and for some of the major environmental associations⁷⁷.

⁷¹ Pontifical Council for Social Communications, *Ethics in advertising*, 1997, § 10.

⁷² *Laudato si'*, § 21; cf. WHO, *Microplastics in drinking-water*, Geneva 2019.

⁷³ Cf. European Chemical Agency, *Hot Topics on Bisphenol A*, <https://echa.europa.eu/hot-topics/bisphenol-a>

⁷⁴ *Land and Food*, p. 49.

⁷⁵ Cf. EFSA, <http://www.efsa.europa.eu/en/press/news/121001a.htm>.

⁷⁶ Cf. WHO and UNEP, *State of the Science of Endocrine Disrupting Chemicals – 2012*, 2013; EFSA Scientific Committee, *Scientific Opinion on the Hazard Assessment of Endocrine Disruptors: Scientific Criteria for Identification of Endocrine Disruptors and Appropriateness of Existing Test Methods for Assessing Effects Mediated by These Substances on Human Health and the Environment*, 2013; European Union, *Endocrine Disruptors: from Scientific Evidence to Human Health Protection*, Study commissioned by the PETI Committee of the European Parliament, Updated version, May 2019.

46. This is a serious issue since human and wildlife health depends on the ability to reproduce and develop normally. This is not possible without a healthy endocrine system. Alarming, many endocrine-related diseases and disorders are on the rise, and numerous laboratory studies support the idea that chemical exposures contribute to endocrine disorders in humans and in wildlife. Some EDCs-containing sewage effluents (e.g. industrial waste, or substances washed down the drain or flushed down the toilet into the sewage system) enter the environment untreated, while others receive some form of treatment before reaching the aquatic systems. Once in the aquatic system, they can potentially affect both human and wildlife. The most sensitive window of exposure to EDCs is during critical periods of development, such as pregnancy, child growth and puberty. Wildlife populations have already been affected by endocrine disruption, with negative impacts on growth and reproduction⁷⁸, and a study commissioned by the European Parliament stated that EDCs are present even in “drinking water. (...) This fact is confirmed by biomonitoring studies (...) on susceptible subgroups such as pregnant women and children”⁷⁹. Indeed, the use of chemical products “can lead to bioaccumulation in the organisms of the local population (...). Frequently no measures are taken until after people’s health has been irreversibly affected”⁸⁰. Pope Francis stated: “speaking of these damages that stem from environmental degradation, it is a surprise for me to find – when I go to the Wednesday Audience or to parishes – so many sick people, especially children... The parents say to me: ‘He has a rare illness!’ (...) These rare illnesses are the consequence of the sickness that we inflict on the environment”⁸¹.

Operational proposals: awareness and advocacy

47. The Church, through her pastors, her episcopal commissions and other organisations, congregations and lay associations, affiliated groups of experts and media at the local and national level, can usefully build awareness and solicit an effective response from legal, economic, political leaders, as well as individual citizens, about the following.

48. “Courageous policies should be promoted that are conceived with farsightedness and not influenced by particular interests or enacted in an opportunistic way to obtain electoral success. Regarding water, the world of politics should act in a responsible way and renounce immediate economic interests or ideologies that end up degrading human dignity. Positive law must be founded on the principles of natural moral law in order to guarantee respect for the dignity and value of the human person which can be undermined if the right to water is not guaranteed and promoted. Therefore, laws and structures are needed

⁷⁷ WWF, http://wwf.panda.org/about_our_earth/teacher_resources/webfieldtrips/toxics/.

⁷⁸ Cf. *State of the Science of Endocrine Disrupting Chemicals – 2012*, pp. vii-ix, 191-237.

⁷⁹ Cf. *Endocrine Disruptors: from Scientific Evidence to Human Health Protection*, p. 11.

⁸⁰ *Laudato si'*, § 21.

⁸¹ *Address to the Participants in the international Conference “The culture of Salus and Hospitality at the Service of Man and of the Planet”*, 19 November 2015.

at the service of the right to water”⁸² and of the right to life. Pope Benedict XVI called “upon the Church in Africa to encourage political leaders to protect such fundamental goods as land and water for the human life of present and future generations”⁸³, and his call can be applied also to other continents. The slogan chosen by the United Nations for the World Water Day of 22 March 2019, “Leaving no one behind”, still calls on each nation to guarantee everyone the water necessary for their healthy life and harmonious integral human development.

49. “The Holy See and the Church are committed to promoting access to drinkable water for all”⁸⁴ and ready to cooperate with entities that sincerely share this commitment. The Dicastery asks that access to drinking water for everyone without discriminations remain a top priority, taking as a reference a wide and ambitious definition of its access: regular and constant access, in sufficient quantity to allow people at least to live in dignity, and that it be accessible from the economic, legislative and physical standpoints. Moreover, it should have all the characteristics of good water: colourless, odourless, and with a good taste. Everything must be done in the most sustainable and equitable way for society, the environment and the economy, while allowing citizens to seek, receive and share information about water.

50. The Magisterium of the Church acknowledges that “access to safe drinkable water is a basic and universal human right, since it is essential to human survival and, as such, is a condition for the exercise of other human rights”⁸⁵. Thus, if there is a “right” not to be left behind on the road to development, then access to water and sanitation must be a right that entails a “duty” not to leave anyone behind. This must guide the actions of all including public and private decision-makers and consumers, lawyers, families and the scientific community.

51. A primary and indispensable duty above all for the states (acting on their territories giving due attention to regional collaboration and through the bodies of the international community, and controlling and regulating the activities of the entire economic sector) must guarantee the right to safe drinking water and sanitation, water for domestic uses, while caring for the environmental sustainability. The accountability of states and all public administrations is fundamental, especially:

- in cases of large and rapidly expanding urbanizations or massive arrival of refugees (the situation of migrants and refugees can be particularly difficult to monitor, and their needs are therefore more difficult to estimate and satisfy; they deserve special care and concern);
- where they delegate the management of water service or the use of water to various players including private ones;

⁸² Pontifical Council for Justice and Peace, *Water, an essential element for life. Designing sustainable solutions. An update*, A contribution of the Holy See to the 6th World Water Forum held in Marseille in March 2012.

⁸³ Post-synodal Exhortation *Africae munus*, § 80.

⁸⁴ *Message on the occasion of the Conference “The Management of a common asset: access to drinkable water for all”* held at the Pontifical Urban University on 8 November 2018.

⁸⁵ *Laudato si’*, § 30.

- in arid areas where a special resiliency of water supply systems and of water storage is deemed necessary;
- in establishing rules and indicators to guarantee access to drinking water and sanitation for the poorest sections of society, and guarantee access to justice for people if their right is trampled⁸⁶;
- in considering as a priority “a just and fair distribution of health care facilities”⁸⁷ and the long-term financial sustainability of their water infrastructure for drinking and sanitation. “Prevention is better than training, both because it spares the person the discomfort of suffering of illness, and also because it spares society the costs of treatment, which are not just economic”⁸⁸. Note that the Secretary General of the OECD eloquently wrote: “The benefits of improved water and sanitation are massive. One dollar of investment in water and sanitation saves 4 to 12 dollars in avoided health care costs alone”⁸⁹;
- in considering a priority the purification of water before supplying it to the population; it must be done with rigor wherever necessary, and represents a crucial area for research and innovation;
- in working in a spirit of prevention to drastically reduce the quantity and danger of the polluting elements in water resources, thus helping the ecosystems to carry out their natural filtering functions (an example of the so-called “nature-based solutions”⁹⁰);
- in investing in the design and spread of adequate sanitation facilities that require little water for use, where a shortage of water is detected or feared.

52. A duty of scientists, leaders in the field of technology and innovation, analysts and other researchers⁹¹, who must honestly notify society and political leaders of the information and data they acquire, for example, on water quality, water shortages, on health and on climate. Historical exploration of climate variability shows how closely linked the professional water community needs to be to the climate

⁸⁶ Cf. Report A/70/203 by Léo Heller, United Nations Special Rapporteur on the human right to drinking water and sanitation, 2015, § 35.

⁸⁷ Pontifical Council for Pastoral Assistance to Health Care Workers, *New Charter for Health Care Workers*, translated and edited by the National Catholic Bioethics Center, United States of America 2017, § 142.

⁸⁸ *New Charter for Health Care Workers*, § 67.

⁸⁹ OECD, *Meeting the Challenge of Financing Water and Sanitation. Tools and approaches*, Foreword by Angel Gurría, Paris 2011, p. 3.

⁹⁰ Cf. United Nations World Water Assessment Programme, *The United Nations World Water Development Report 2018. Nature-based solutions for water*, Paris 2018.

⁹¹ “Let us just emphasize, in the more general field of scientific research, two attitudes which, it seems to us, should characterize the scientist, and especially the scientist who is a Christian. On the one hand, he must honestly consider the question of the earthly future of mankind and, as a responsible person, help to prepare it, preserve it, and eliminate risks; we think that this solidarity with future generations is a form of charity to which a great many men are sensitive today, in the framework of ecology. But at the same time, the scientist must be animated by the confidence that nature has in store secret possibilities which it is up to intelligence to discover and make use of, in order to reach the development which is in the Creator’s plan. This hope in the Author of nature and of the human spirit, rightly understood, is capable of giving new and serene energy to the researcher who is a believer”, Saint Paul VI, *Address to the Participants of the Study week on “Biological and Artificial Membranes and Desalination of Water”*, 19 April 1975.

change community. Improving the collaboration between technical expertise, political decision-making and social sciences is also a priority.

53. A duty of everyone to not waste water and moderate consumption. To transport, purify and consume water costs and requires energy and it can be said that, at least in some cases, the amounts required could be spent in a more useful way by helping the very poor in their integral development. Also, it should not be forgotten that this energy is sometimes taken from regions that need it more⁹². The Holy See, therefore, has reaffirmed the importance of moderation in consumption of water and invoked the responsibility of administrations, businesses and individual citizens for sobriety⁹³.

54. It is possible “to go beyond mere pollution abatement and to seek to gain value from wastewater, if for no other reason, as an additional means of paying for wastewater management and for enhancing the economic sustainability of the system. However, wastewater management is already an important part of several different resource cycles and is well-positioned to play a central role in the circular economy. Using appropriately treated wastewater for agriculture and power generation enhances opportunities for food and energy security, and can help alleviate the stresses brought about by increasing demand for water. This will have positive repercussions on freshwater supplies, human and environmental health, income generation (livelihoods) and poverty alleviation”⁹⁴, while contributing to SDG 12. “Reusing something instead of immediately discarding it, when done for the right reasons, can be an act of love which expresses our own dignity”⁹⁵.

55. Christian tradition has never recognized the right to private property as absolute and untouchable. On the contrary, it has always understood this right within the broader context of the right common to all to use the goods of the whole of creation. The right to private property is subordinated to the right to common use, to the fact that goods are meant for everyone. Moreover, the Social Teaching of the Church calls for recognition of the social function of any form of private ownership⁹⁶. Nobody can sensibly claim any ‘merit’ or ‘untouchable and absolute right over water’, since it was not created by us. It is a gift from God the creator, a shared heritage of humanity, generation after generation, and a common good. Others have also promoted the recognition of the ecological function of property, that is: any person with a right to use water resources or land “has a duty to maintain the ecological functions and integrity of water resources and related ecosystems”⁹⁷. Consequently, any political and economic decision, as well as any title of ownership, concession, contract, supply or even trading systems of water allocations must therefore strive:

⁹² Cf. *Laudato si'*, § 51, 52.

⁹³ Cf. *Water, an essential element for life. Designing sustainable solutions. An update*, A contribution of the Holy See to the 6th World Water Forum held in Marseille in March 2012.

⁹⁴ United Nations World Water Assessment Programme, *The United Nations World Water Development Report 2017. Wastewater: The Untapped Resource*, Paris 2017, p. 21.

⁹⁵ *Laudato si'*, § 211.

⁹⁶ Cf. *Catechism of the Catholic Church*, § 2404; *Compendium of the Social Teaching of the Church*, § 177 and 187.

⁹⁷ *Brasilia Declaration of Judges on Water Justice*, 21 March 2018, principle 2.

- to ensure the universal destination of water, keeping in mind intergenerational solidarity;
- to maintain a primary and constant attention for the poorest and the marginalised, as well as for the health and safety of women and girls;
- to respect human dignity by fulfilling the rights that stem from it, and to arbitrate between conflicting uses for the same quantity or source of water according to a hierarchy of priorities based on human dignity, taking due account of environmental ecology⁹⁸ and the integrity of the ecosystems which are essential for life on earth⁹⁹;
- to respect the principle of subsidiarity, which implies for example, that as far as possible:
 - local communities and indigenous peoples in remote areas must be able to manage these infrastructures, to assess their own needs and availability of water, as well as to control its quality, while also caring for the environment and for other neighbouring communities, especially downstream ones;
 - big and useful infrastructures that serve urban centres (supply, distribution, processing, etc.) must be flanked and supported, wherever necessary, by smaller infrastructures, proportional to the capacities and needs of local communities;
- to avoid elevating “limited interests of business”¹⁰⁰ above the greater good (e.g.: the production of sugary or carbonated beverages or any recreational use of water must not jeopardize the available amount of water which is needed at the local level to the supply of drinking water for human use);
- to adopt the interconnected approach proposed by the Encyclical *Laudato si'*, that is “integral ecology”.

This can effectively contribute to human integral development and to the common good of the entire human family, while facilitating the pursuit of numerous SDGs, *inter alia* 2, 6, 9, 11-16.

Operational proposals: commitment at local level

56. Furthermore, the Church should continue to give particular emphasis, at the local level and in light of the principle of subsidiarity, to the following.

57. In all parishes, monasteries, schools, canteens, oratories and health centres, she should:

- guarantee access to drinking water and sanitation with systems that are as environmentally friendly, efficient and compatible with the specific needs of users – men and women – as possible;

⁹⁸ Cf. *Laudato si'*, § 138-140.

⁹⁹ Cf. SIWI, *Water, forests, people – building resilient landscapes*, Report no. 36, Stockholm 2015.

¹⁰⁰ *Laudato si'*, § 127.

- verify hygienic procedures and offer advice on water savings and healthy and responsible nutrition;
- abandon the use of disposable plastic bottles as far as possible and contribute to separate waste collection;
- create public water access points where possible and in particularly needy areas;
- avoid food waste, especially recognizing that wasted food has been produced using water, energy and work, and wastefulness “is the crudest form of discarding (...) To throw food away means to throw people away. It is scandalous today not to notice how precious food is as a good, and how so much good ends up so badly”¹⁰¹.

58. Inform citizens about the rights they enjoy in a particular country, especially the human right to safe drinking water, helping them, if possible, to find justice in case access to drinking water for human use is violated.

59. Involve more and more military chaplains in the struggle for human dignity. Saint John Paul II wrote the following: “Military chaplains, inspired by Christ’s love, are called by their special vocation to witness that even in the midst of the harshest combats, it is always possible, and only right, to respect the dignity of the military adversary, the dignity of civilian victims (...). As Catholic military chaplains, in addition to carrying out your specific religious ministry, you must not fail to make your contribution to giving military staff an appropriate education in the values that motivate humanitarian law and make it not merely a juridical code, but first and foremost an ethical code”¹⁰². The international humanitarian law (especially the famous Geneva Conventions and the 1977 Protocols) encompasses several prohibitions relating to the conduct of hostilities, which protect drinking water infrastructures and the access to drinking water.

60. In the event of projects designed to ensure access to drinking water and/or sanitation in other communities, whether urban, rural or peri-urban, combine efficiency, simplicity and the possibility of on-site maintenance, and economic sustainability, urging the adoption of solidarity tools to guarantee coverage of the costs of access to water for the poorest families.

61. Pay attention to the ‘human and relational dimension’ that surrounds the various projects relating to access to drinking water and/or sanitation, with communities actively involved in the design, management and maintenance of the systems, promoting, if relevant, the enhancement of ancestral knowledge, the recourse to local culture, adequate consultations and training.

62. Pay attention to situations of particular need of girls and women, children, sick people, homeless people, indigenous communities and ethnic minorities, migrants, refugees and itinerants, threatened

¹⁰¹ Francis, *Address to members of the European Food Banks Federation*, 18 May 2019; cf. *General audience*, 5 June 2013.

¹⁰² *Message to the Military Chaplains* on the occasion of an International Course for the Formation of Catholic Military Chaplains to humanitarian law which took place in Rome, 24 March 2003, § 3.

minorities and victims of racism, prisoners, people with disabilities, and more generally to situations of people likely to have some vulnerability or fragility. No Church organization should forget that, as Pope Francis wrote, “an authentic option for the poor and the abandoned, while motivating us to liberate them from material poverty and to defend their rights, also involves inviting them to a friendship with the Lord that can elevate and dignify them. How sad it would be if they were to receive (...) a body of teachings or a moral code, but not the great message of salvation, the missionary appeal that speaks to the heart and gives meaning to everything else in life. Nor can we be content with a social message. If we devote our lives to their service, to working for the justice and dignity that they deserve, we cannot conceal the fact that we do so because we see Christ in them and because we acknowledge the immense dignity that they have received from God, the Father who loves them with boundless love”¹⁰³.

63. Maintain a symbolic vision of water, teaching others not to see water as pure matter or resource to be exploited, but as the source of life of every living being. This is a constant value-related, spiritual, cultural, educational and behavioural challenge, which must be pursued by insisting on solidarity and responsibility for sharing a common good, on sobriety and on respect for water, avoiding negligence, and this should also apply to cases where constant access to water for drinking or irrigation is cheap. “From its symbolic value springs an invitation to be fully aware of the importance of [water], and consequently to revise present patterns of behaviour”¹⁰⁴.

64. Urge citizens and associations to participate, as far as possible, in water management policies, for example through municipal or neighbourhood councils, and to monitor the quality and regularity of the service provided.

¹⁰³ *Querida Amazonia*, § 63.

¹⁰⁴ Saint John Paul II, *Message on the occasion of the World Food Day*, 13 October 2002.

VI. SECOND DIMENSION: WATER AND HUMAN ACTIVITIES

Challenges

65. Water is used for numerous human activities such as irrigation for food and non-food purposes, caring for animals, construction, crafts or industrial production of numerous goods in sectors including, for example, metallurgy, textiles, electronics, generation of electricity, extraction of raw materials from the subsoil, and also leisure. Below is a list of the main concerns of which the Church should become aware at the local and national level. Note that all of them (alone or in a cumulative situation) seriously challenge the resilience and the possibilities of adaptation to climate changes by families and communities whose livelihoods are threatened and thus suffer the risk of poverty, instability and unwilling migrations.

66. The risk of unsustainability from an environmental point of view of the exploitation of water resources is a challenge, such as:

- excessive collection or diversion of a part of the flow of a river that can contribute to the drying up of an area, sometimes threatening its biodiversity and aquifers and its capacity of pollution removal and also endangering the human activities that take place downstream and the same possibility of collecting water for direct human use;
- salinization of some groundwater;
- deforestation and disappearance of wetlands that affect the water cycle and the ability of ecosystems to purify water;
- particularly harmful pollutions that can affect plants and also animal and human health, such as those caused by the chemical and pharmaceutical industry, by some sectors of food production, by the fossil fuel (including offshore and fracking) and mining industry, both during the usual operation of industries (especially if used water is not adequately treated) and on the occasion of extraordinary incidents; note that pollution can be transferred from a country upstream to a country downstream;
- unexpected and difficult to mitigate negative impacts on the course of rivers due to the construction of dams;
- amount of water needed to produce what we eat, clothing, as well as the energy¹⁰⁵ and various objects we consume, in the sense that some lifestyles can prove to be particularly demanding¹⁰⁶.

67. Competition and rivalry between various uses of the same water are also a challenge. Reference is made here to:

¹⁰⁵ Cf. Pontifical Council for Justice and Peace, *Energy, Justice and Peace*, LEV, Vatican City 2014, pp. 72, 73.

¹⁰⁶ Cf. Congregation for the Doctrine of the Faith and Dicastery for Promoting Integral Human Development, *Oeconomicae et pecuniariae quaestiones. Considerations for an ethical discernment regarding some aspects of the present economic-financial system*, 2018, § 33.

- the ratio of requirements (which may increase with demographic and urban growths, higher standards of living, development of irrigation, the establishment of industries or the start of new extractive resource projects, or which may decrease in the event of heavy emigration) and available quantity (the latter may vary based on climate change or geological movements). This is an important ratio since the advent and the prevalence of some uses of water (industrial production, extraction of resources from the subsoil, hydroelectricity, agriculture, leisure) can jeopardize the availability of water for drinking, local food security and the protection of ecosystems;
- the ratio of the required quality (for specific irrigation or industrial purposes) and the locally available filtering possibilities (some economic activities may not be able to cope with increasing level of pollution affecting their water supplies);
- the cases in which no legislative framework establishes:
 - the priority of human use over productive uses (agriculture, manufacturing, energy) and recreational uses of water resources;
 - as a priority the sustainable use of natural resources to ensure a healthy and abundant supply;
- the frequent weakness and sometimes absence of mechanisms of dialogue and consultation (institutions, mediation tables, river contracts, agreements) about the same river or lake, when states or communities refuse to cooperate;
- the ability or willingness of stakeholders to realistically quantify their needs and of authorities to arbitrate equitably between the various uses and the various users of water;
- the awareness that, if competition escalates, the situation can become desperate and violent.

68. Inequality in the means of accessing water also represents a challenge.

- Firstly, we should consider the economic and technological means or possibilities. The global agricultural sector, especially intensive crops that make use of numerous chemicals, is responsible for various types of pollution that also contaminate water. Many small food producers or fishermen, with very limited economic and technological resources and who are not responsible for significant pollution, can see their activity devastated if other actors potentially capable of causing serious pollution (including urban developments and factories) do not respect the environment. The simple and cheap “filtration systems”¹⁰⁷ they can use may become insufficient if the quality of water they rely on for irrigation worsens. Prolonged droughts¹⁰⁸ and

¹⁰⁷ Cf. FAO, *On-farm practices for the safe use of wastewater in urban and peri-urban horticulture. A training handbook for farmer field schools*, Rome 2012, p. 23.

¹⁰⁸ Droughts are a major threat since only about 20% of the world’s cultivated fields are irrigated, while the remaining ones make do with rain.

floods put crops, livestock, income, and finally the peace and life of many people at risk. The poorest often have no insurance to protect themselves in case of droughts or floods.

- Secondly, the ability (or inability) to obtain institutional support can also be a source of inequality. One issue is that of asymmetry (in the ability to obtain and analyse information and data, to mobilise jurists or other experts) occurring in many negotiations between actors interested in the same source of water: typically, small rural or nomadic communities are less influential and have less institutional support than the promoters of large economic projects. A different issue is that of corruption, also mentioned later in this document (§ 107).

69. Further challenges are presented by the economic criticalities for development. Shortages of water, old and inadequate water supply networks, damage and losses resulting from floods and droughts as well as the damage caused by water pollution are serious obstacles to economic development. The following criticalities should be considered.

- The inadequate flood planning and management practices. Floods are usually associated with storms that release large volumes of rainwater in a relatively short period of time, carrying rocks, trees, mud and other debris. They are caused and shaped by a combination of natural (e.g. geology, tsunamis) and anthropogenic (e.g. deforestation, dam break) factors. The degradation of ecosystem and, of course, climate variability contribute to a further increase in flood risks, a concern which in many parts of the world is further exacerbated by inadequate flood planning and management practices. “Each year, there are 50-300 inland floods worldwide, impacting an estimated 520 million people and causing as many as 25.000 deaths”¹⁰⁹. “The degree of vulnerability to such natural hazards is high in developing countries where necessity tends to force the poor to occupy the most vulnerable areas. The vulnerability of developed countries increases with economic growth and the accumulation of property in flood-prone areas and in highly urbanized settings”¹¹⁰.
- The inadequate management and control of pollution discharged in water bodies by human activities.
- The inadequate anticipation of changes of water resources and needs in a context of climate changes and urban growth, considering also the potential changes in availability of water resources in downstream countries due to evolving withdrawals rhythms in upstream ones.

Operational proposals: awareness and advocacy

70. The Church, through her pastors, her episcopal commissions and other organisations, congregations and lay associations, affiliated groups of experts and media at the local and national level,

¹⁰⁹ Associated Programme on Flood Management (APMF), a joint initiative of the World Meteorological Organization (WMO) and the Global Water Partnership (GWP), *Community-based flood management*, Integrated flood management tool series issue 4, Switzerland 2017, p. 1.

¹¹⁰ APMF, *Integrated flood management. Concept paper*, Switzerland 2009, p. 6.

can usefully build awareness and solicit an effective response from legal, economic, political leaders, as well as individual citizens, about the following.

71. There is a strong link between social, human, economic, cultural and environmental ecologies¹¹¹. In particular, issues such as water, land, poverty alleviation, family life, nutrition and social development are closely connected¹¹². It is therefore appropriate that adequate attention is paid by the competent authorities for: behavioural change and lifestyles; resilience of societies and economies; control and prevention of pollution¹¹³; construction of dams; flood and drought prevention; the fight against desertification¹¹⁴; storage and agricultural practices that retain and maintain adequate water in agricultural land¹¹⁵; establishment of new industries (or in any case new production methods and new needs) and consequent impact on the availability and wholesomeness of local water.

72. Farmers, artisans, breeders and fishermen who work trying to respect nature as much as possible should be encouraged and supported – especially in low and middle income countries – by maintaining an “integral vision” of workers, their family and the help they need, and ensuring policy incentives that support these groups. This also includes the relation with water, that is: the ability to monitor collection and the quality of the water used, the ability to use it soberly and effectively, the ability to prevent and reduce pollution.

73. It is desirable and possible to coordinate the various riparian or coastal actors (from source to sea) so as to drastically reduce the pollution of a river or a lake with a joint effort, thus allowing part of biodiversity to be restored if it has been previously destroyed. This signals the importance of inclusivity and solidarity to achieve sustainability.

74. Environmental impact studies – especially in the case of the most polluting industries – must be developed responsibly and in consultation with the various stakeholders, and in the same way decisions concerning possible risks for the quantity and quality of water must be based on sound, inclusive and farsighted discernment. When promoting sobriety and responsible environmental impact studies, the Dicastery is certainly not advocating for some kind of “sustainable and permanent minimal subsistence”; this said, both integral human development and integral ecology require economic and environmental aspects to be considered jointly.

75. State administrations must protect water resources and ensure their sustainable use, in solidarity, reflecting the aforementioned ‘institutional value of water’ and the ‘value of water for peace’. The world of judges and police officers, mayors and city administrators in particular must be adequately trained to

¹¹¹ Cf. *Laudato si'*, chapter 4.

¹¹² Cf. FAO, *The state of the World's land and water resources for food and agriculture*, Rome 2011, p. 65.

¹¹³ Cf. United Nations Economic Commission for Europe, *The Economic Commission for Europe Water Convention and the United Nations Watercourses Convention. An analysis of their harmonized contribution to international water law*, Water Series no. 6, Switzerland 2015, § 4.1-4.4.

¹¹⁴ Cf. Saint John Paul II, *Homily* in Ouagadougou, 10 May 1980; *Appeal to humanity* at the Palace of the Economic Community of Western African States in Ouagadougou, 29 January 1990.

¹¹⁵ The aim of retaining, storing and reusing water is to make it available where and when there is water shortage.

deal with water disputes or threats and to identify and punish those responsible for serious pollution and for corruption, for using water resources as a weapon of war or target of war. Moreover:

- “Respectable customs”¹¹⁶, ancestral, community and customary rights to access water must be recognized and protected by national legal systems¹¹⁷. By ‘respectable’, it is here meant that these old water rights should not infringe upon solidarity, human dignity, the universal destination of water, and the human right to drinking water and sanitation.
- Any competitive uses for the same quantity or volume of water both inter and intra basin – as already specified – must be arbitrated according to a hierarchy of priorities based on human dignity and which considers the pursuit of the common good of the entire society, taking due account of environmental ecology.

76. It is necessary to investigate how the concepts of ‘restorative justice’, ‘dialogue’, ‘prior, free and duly informed consent’ and ‘precautionary principle’ relating to the issue of water can be applied in the various countries and regions, and successively apply them.

Operational proposals: commitment at local level

77. Furthermore, the Church should continue to give particular emphasis, at the local level and in light of the principle of subsidiarity, to the following.

78. Reduce the pollution generated in her properties and in the projects she manages. Adopt effective and environmentally friendly water systems in her food-related projects, aiming to promote agricultural production that matches the peculiarities and needs of the local context, and, as much as possible, without polluting aquifers with fertilizers or pesticides.

79. Pastorally and spiritually accompany water-operators, fishermen and the people of the rural-agricultural world, as well as slum-dwellers who can develop economic activities when their access to water becomes sufficient.

80. Support the work of those teams – often of religious or ‘Justice and Peace’ promoters – who strive to collect water samples and have them analysed in order to demonstrate that dangerous pollution is taking place. This is sometimes risky work, which is however particularly necessary in areas where there are few reliable public institutions.

81. Always live according to the preferential option for the poor, that is, when pertinent, not to limit herself to being a neutral mediator, but take sides with those who suffer most, with those who are most in difficulty, with those who have no voice and see their rights trampled or their efforts frustrated.

82. Commit herself to peace, dialogue and mediation, human rights in situations where conflicts are expected or experienced.

¹¹⁶ Pastoral Constitution on the Church in the modern world *Gaudium et spes*, § 69.

¹¹⁷ Cf. *Brasilia Declaration of Judges on Water Justice*, principle 3.

VII. THIRD DIMENSION: WATER AS SPACE

Challenges

83. Water can be considered here ‘as space’. About 70% of planet Earth is covered with water. The surface water and underground aquifers exist in their own natural states, crossing sometimes the political frontiers, thus limiting the effectiveness and applicability of policies and protective actions of a single country that acts without consulting or not in accordance with others. Oceans in particular present a complex situation in this regard: just think of the intense transnational commercial interactions and port activities, fishing, tourist, and commercial routes, which are dedicated to the carrying of food, consumer goods, and raw materials. Think of the deployment of cables in the oceans for data transfers and communications. Moreover, the responsibilities of water management, discussed in the previous chapters, also apply to the health of oceans¹¹⁸.

84. Below is a list of the many challenges that apply to water ‘as space’, which does not only separate land masses but also connect them.

- The lack of assessment – from the point of view of integral ecology – of the following: seawater desalination, the production of energy from currents, the utilization of fish resources¹¹⁹ (fishing or aquaculture), of seabed resources (including minerals and hydrocarbons, potentially extractable even where the ice is melting in the Arctic area), and of other resources, such as salt and algae.
- The increasing pollution and degrading conditions of oceans, in particular as regards the presence of plastics and microplastics in marine flows and animal organisms (thus in seafood), the multiple pollutions (caused by ships, offshore, undersea and land activities, including mining, drilling, and exploratory actions of the extractive industries), discharge of industrial and sewage pollutants and agricultural chemicals through rivers, the acidification of oceans and warming factors¹²⁰.

¹¹⁸ “An out-of-sight out-of-mind mentality allows us to flush toxic waste and mine tailings into our rivers and seas in the mistaken belief that they can no longer harm us. Because the living world is interconnected, the poison is absorbed by marine organisms. We in turn are gradually being poisoned when we eat seafood”, Catholic Bishops’ Conference of the Philippines, Pastoral Letter *What is Happening to Our Beautiful Land?*, 29 January 1988.

¹¹⁹ “Based on FAO’s monitoring of assessed stocks, the fraction of fish stocks that are within biologically sustainable levels has exhibited a decreasing trend from 90.0 percent in 1974 to 66.9 percent in 2015. In contrast, the percentage of stocks fished at biologically unsustainable levels increased from 10 percent in 1974 to 33.1 percent in 2015, with the largest increases in the late 1970s and 1980s. (...) Linking the catch pattern with stock status is not straightforward. In general, an increasing trend in catch usually suggests an improving stock status or an expansion in fishing intensity, whereas a decreasing trend is more likely to be associated with declines in abundance or with management measures that are either precautionary or aimed at rebuilding stocks. However, many other factors may also contribute to a decreasing catch, such as environmental changes and market conditions. Productivity and stock status also vary greatly among species”, FAO, *The State of World Fisheries and Aquaculture 2018*, Rome, pp. 39-41.

¹²⁰ “Carbon emissions from human activities are causing ocean warming, acidification and oxygen loss with some evidence of changes in nutrient cycling and primary production. The warming ocean is affecting marine organisms at multiple trophic levels, impacting fisheries with implications for food production and human communities. (...) The ocean has warmed unabated since 2005, continuing the clear multi-decadal ocean warming trends documented in the

- The intensifying endangerment and extinction of marine species (due to pollution or destructive fishing practices and overharvesting that do not allow the regeneration of some species) and the depletion of corals, sea kelp, mangroves and other habitats. Many concerns have also been raised about noise pollution harming marine wildlife. Besides the damage to ecosystems and loss of a common heritage to current and future generations, the loss of marine biodiversity leads to losses to the coastal economies, fisheries, and jobs.
- The fact that countries with poor economic and logistical capacities are unable to adequately manage and patrol their territorial waters, while fishing fleets from other nations scour away their fisheries.
- The sea level rise resulting from global warming¹²¹ with threats on coastal habitats and aquifers. The encroachment of seas on coasts can jeopardize homes and other buildings, freshwater resources, fishing habitats and agriculture.
- The need to properly demarcate and guard the maritime areas that enjoy various types of protection.
- The situation of migrants, whose journeys on the seas also take place in violent and desperate conditions.
- The incessant maritime crime, which threatens the security of peoples. We should keep in mind that piracy and human trafficking, which Pope Francis calls an atrocious scourge, an abhorrent plague and an open wound on the body of contemporary society¹²², are continuing, as well as migrant smuggling, illegal fishing, illegal trafficking of drugs, protected animals, weapons and counterfeit goods. Moreover, cyberattacks on shipping can also be expected since “the maritime traffic becomes increasingly reliant on automated technology and interconnectivity”¹²³.
- The tensions between states disagreeing on their respective naval borders (several maritime boundaries are disputed, this may apply also to some major transboundary lakes), and geopolitical tensions occurring in numerous coastal and maritime areas, in which the countries concerned feel the need to show their strength and their determination through the deployment of new military bases, warships, missile demonstrations.

IPCC Fifth Assessment Report. The warming trend is further confirmed by the improved ocean temperature measurements over the last decade”, Intergovernmental Panel on Climate Change (IPCC), Special Report *The Ocean and Cryosphere in a Changing Climate*, 2019, p. 450.

¹²¹ “Sea level rise is caused primarily by two factors related to global warming: the added water from melting ice sheets and glaciers and the expansion of seawater as it warms”, NASA, <https://climate.nasa.gov/vital-signs/sea-level/>

¹²² Cf. *Message to the participants in the OSCE human trafficking Conference held in Vienna*, 3 April 2017; *Angelus*, 30 July 2017; *Address to the participants in the International Conference on Combating Human Trafficking*, 10 April 2014.

¹²³ United Kingdom’s Ministry of Defence, *Global Strategic Trends. The Future Starts Today*, 6th edition, 2018, p. 52.

- The working and living conditions of port workers, fishermen¹²⁴ and seafarers (who in many cases remain confined, for many consecutive months, on ships away from their family and communities of origin), construction or demolition ship workers (for reasons of economy, the demolition of ships often takes place in areas where human rights, worker safety and the environment are less protected), and poor coastal communities.
- The ethical, economic and ecologic implications of the extension of some seaside cities over the waves. This represents an expensive and delicate engineering challenge, which, at least in certain cases, seems to be the result of a risky and luxurious project, since at the same time there is no will to face the poverty of millions of people who live in that same area.
- The coexistence of or competition between different fishing methods: on the one hand, some fishing methods are practiced intensively, using particularly destructive devices for biodiversity; on the other hand, other methods involve small scale traditional fishing by local communities.

Many therefore are the factors that make Pope Francis fear “the threats caused by unjust management of our seas and criminal manipulation of maritime industries”¹²⁵.

Operational proposals: awareness and advocacy

85. The Church, through her pastors, her episcopal commissions and other organisations, congregations and lay associations, affiliated groups of experts and media at the local and national level, can usefully build awareness and solicit an effective response from legal, economic, political leaders, as well as individual citizens, about the following.

86. What we need is “an increasingly interdisciplinary and dialogical approach”¹²⁶ in subsidiarity and justice. Given the challenges analysed above, the management of water ‘as space’ is not possible with compartmentalised approaches. Collaboration between ministries and countries as well as elements of civil society – including that of religious groups, businesses and corporations, and scientific, environmental, and human rights organizations – is more relevant and necessary than ever, bilaterally or multilaterally and in particular, through international law and agreements and specialised organisations at work with the entire community of nations when it comes to the deep seas, high seas, and polar regions of the ocean.

87. These common international regions and resources of the ocean are an inheritance that must be protected and passed on to future generations. “The area of the seabed and ocean floor and the subsoil thereof, beyond the limits of national jurisdiction, as well as its resources, are the common heritage of mankind”¹²⁷. Such an inheritance must be protected and passed on to future generations. The ‘area’ in

¹²⁴ “Large industrial fishing companies run the risk of losing contact with the fishermen and their personal and family needs”; Saint John Paul II, *Address to the Fishing community*, Newfoundland, 12 September 1984.

¹²⁵ *Message sent to the Conference “The common good on our common seas” held on 3 to 5 May in Copenhagen*, 16 April 2019.

¹²⁶ Francis, *Message sent to the Conference “The common good on our common seas” held on 3 to 5 May in Copenhagen*, 16 April 2019.

¹²⁷ United Nations, *Convention on the Law of the Sea*, Preamble. Cf. also articles 136-138 of the *Convention*.

question cannot become a source of income only for those who have the technology to exploit it, however easily they may escape the necessary controls because of the areas being extraterritorial. No nation or corporation can appropriate or manage this common inheritance in a specific, individual or sovereign capacity, hoarding its resources, trampling under foot international law, avoiding the obligation to safeguard it in sustainable ways and to make it accessible to future generations and ensure the survival of life on Earth, our common home.

88. This concern for the common heritage of mankind should inspire the contributions that states offer internationally:

- in the case of seabed, as the International Seabed Authority,
- in the case of navigation, as the International Maritime Organisation, and
- in the case of trade and fishing, as the FAO, the World Trade Organisation, the United Nations Conference on Trade and Development, and the SDG 14.

89. The protection of the seas and the people who work there or who transit on them require an articulated governance proportional to the complexity and the vastness of the challenges, with the contribution of all governments, especially as regards management of pollution, the fight against crime, illegal and unsustainable fishing, slavery at sea, human trafficking and migrant smuggling.

90. Fishermen who carry out their work avoiding pollution, respecting the regulations in force, and limiting the waste of fish must be protected. This requires, on the one hand, an adequate and integral support for the entire supply chain (fishing, cleaning, conservation, etc.), taking care also of men and women who work on the ground. On the other hand, a constant effort to combat harmful fishing methods, unsustainable catch limits, illegal fishing, the invasion of the waters of countries with poor patrolling capabilities by fleets from other countries.

91. Fishermen must be encouraged and allowed to bring the garbage collected from the sea to the ports and a special collection service must be organised, thus expanding their traditional vocation (fishing) to embrace the stewardship of the sea (contributing to its cleaning).

92. The human rights of all workers at sea, as well as those in the entire naval sector, including the people who deal with the disposal of ships, must be protected. A greater recognition and formalisation of the rights of these workers now seems inevitable and should not be delayed. Seafarers must be granted long enough periods on land to be with their family without losing their jobs, and they must be allowed to have access to medical treatment or religious assistance.

93. Ocean industries, related businesses and consumers must do their part, namely:

- the entire shipbuilding industry needs to mobilize to help reduce pollution of oceans;
- transparency and traceability in the seafood sources and in the movement of fishing fleets need improvement, for this can contribute to the stewardship of maritime areas, to the fight against

slavery in fisheries, and gives to the consumers additional choices to use their pocketbook for ethics.

94. The situation of people in need at sea, especially if astray or victims of crime, must be diligently addressed, with responsibility and solidarity. Support must be offered, and where necessary and possible, reintegration into society must be facilitated.

Operational proposals: commitment at local level

95. Furthermore, the Church can continue to give particular emphasis, at the local level and in the light of the principle of subsidiarity, to the following.

96. Strengthen the Apostleship of the Sea / *Stella Maris*¹²⁸, as a pastoral service offered to fishermen, seafarers, maritime personnel, and port workers.

97. Disseminate the *Pastoral orientations on human trafficking* published by the Migrants and Refugees Section of the Dicastery in 2019.

98. Celebrate and give greater visibility to anniversaries (Sea Sunday, World Fishing Day, local celebrations) or to sanctuaries (Notre Dame de Rocamadour) connected to seas and oceans.

99. Avoid the use of disposable plastic objects, wherever possible, in her facilities and activities.

100. Contribute, as much as possible, to the cleaning of beaches or river banks, organising these activities or associating with those who organise them (taking advantage of the works and skills available locally such as groups of conservationists who work on the seaside, aquariums, fishing communities, etc.), involving for example groups of young people, families, religious people and scouts.

101. Facilitate the outdoors, hands-on studying of ocean issues and participation in coastal restoration projects in Catholic schools at all levels.

102. Contribute as much as possible to avoiding and reducing pollution from riparian and coastal parishes, schools, canteens, and health centres.

¹²⁸ Cf. Saint John Paul II, Apostolic Letter *Stella Maris* on the maritime apostolate.

VIII. EDUCATION AND INTEGRITY

103. By a way of concluding *Aqua fons vitae*, the Dicastery reaffirms that we need “a more open and inclusive education, including patient listening, constructive dialogue and better mutual understanding”¹²⁹.

Education for a new humanism and for a culture of encounter and collaboration about water

104. Education must be at the service of a “full-bodied humanism”¹³⁰, in which the person is willing to talk and work for the realization of the common good. “A humanized education, therefore, does not just provide an educational service, but deals with its results in the overall context of the personal, moral and social abilities of those who participate in the educational process. It does not simply ask the teacher to teach and students to learn, but urges everyone to live, study and act in accordance with the reasons of fraternal humanism. It does not aim to create division and divergence, but rather offers places for meeting and discussion to create valid educational projects. It is an education – at the same time – that is sound and open”¹³¹, that pulls down the walls of exclusion, promoting the richness and diversity of individual talents and extending the classroom to embrace every corner of social experience in which education can generate solidarity, sharing and communion.

105. We must educate others and educate ourselves:

- in “gratitude and gratuitousness, a recognition that the world is God’s loving gift, and that we are called quietly to imitate his generosity in self-sacrifice and good works”¹³²;
- in ecological education and habits, undertaking the path of an ecological conversion¹³³ aiming at restoring harmony with God, with the others, with nature and within ourselves;
- in the contemplation of all forms of water, avoiding a merely utilitarian mindset, since the contemplation of creation – whose individual creatures reflect a ray of the infinite wisdom and goodness of God – can teach us valuable lessons and be an unending source of inspiration¹³⁴ and of humility. We have limits¹³⁵ since “we are not God. The earth was here before us and it has been given to us. (...) By virtue of our unique dignity and our gift of intelligence, we are called to respect creation and its inherent laws”¹³⁶.

¹²⁹ Francis, *Message for the launch of the Global Compact on Education*, 12 September 2019.

¹³⁰ Saint Paul VI, Encyclical Letter *Populorum progressio*, § 42.

¹³¹ Cf. Congregation for Catholic Education, *Guidelines Educating to fraternal humanism*, 2017, § 7 and 10.

¹³² *Laudato si'*, § 220.

¹³³ Cf. *Laudato si'*, chapters 4 and 6; *Querida Amazonia*, § 58-60; *Message for the World Day of Peace 1990*, § 13; *Message for the World Day of Peace 2020*, § 4; Saint John Paul II, *General Audience*, 17 January 2001.

¹³⁴ Cf. Cardinal Pietro Parolin, *Letter on behalf of the Holy Father to the “Our Ocean” Conference held in October 2017 in Malta*, 27 September 2017.

¹³⁵ Cf. *Caritas in veritate*, § 68; *Spe salvi*, § 25.

¹³⁶ *Laudato si'*, § 67-69.

- in living in sobriety¹³⁷, for sobriety, when lived freely and consciously, is liberating, and pertains to the meaningful small gestures of mutual care in our daily life, spreading a ‘culture of care’ which permeates all of society¹³⁸. Pope Benedict XVI, commenting on the personality and mission of Saint John the Baptist according to Mark’s Gospel, observed the following: “Starting with his external appearance, John is presented as a very ascetic figure: he was clothed in camel-skin and his food was locusts and wild honey that he found in the Judean desert (cf. *Mk.* 1:6). (...) John the Baptist’s style must remind all Christians to opt for a lifestyle of moderation (...). With regard to John’s mission, it was an extraordinary appeal to conversion: his baptism ‘is connected with an ardent call to a new way of thinking and acting, but above all with the proclamation of God’s judgment’¹³⁹ (...). John’s appeal therefore goes further and deeper than a lifestyle of moderation: it calls for inner conversion, based on the individual’s recognition and confession of his or her sin. (...) it is important that we re-enter into ourselves and make a sincere examination of our life. Let us permit ourselves to be illuminated by a ray of light that shines from Bethlehem, the light of the One who is ‘the Mightiest’ who made himself lowly, ‘the Strongest’ who made himself weak”¹⁴⁰. Let us remind that Pope Francis, quoting Patriarch Bartholomew, wrote: “to commit a crime against the natural world is a sin against ourselves and a sin against God”¹⁴¹.
- in “education to social life”¹⁴² and in a culture of encounter and relationship¹⁴³, that is not just hearing but listening, not just passing people by but stopping with them, not just connecting but sharing our hope, our dreams and sufferings, our vision, our culture and our memory while explaining our roots and origins¹⁴⁴, and especially sharing our time. Time is greater than space, and “giving priority to time means being concerned about initiating processes”¹⁴⁵, about consolidating truth, and accepting the fact that a real encounter is not mere tourism, it implies a real presence and takes time: time to know each other, time to share a journey, “to weave bonds of belonging and togetherness”¹⁴⁶. It is not easy. It implies deconstructing our own fears, accepting our limits, and even gaining a better knowledge of ourselves, “but if we do it for the sake of helping others, we can have the magnificent experience of setting our differences aside and working together for something greater. If, as a result of our own simple and at times costly

¹³⁷ Cf. *Titus* 2: 12.

¹³⁸ Cf. *Laudato si'*, § 22, 223 and 231.

¹³⁹ *Jesus of Nazareth*, I; English translation, Doubleday, New York 2007, p. 14.

¹⁴⁰ *Angelus*, 4 December 2011.

¹⁴¹ *Laudato si'*, § 8.

¹⁴² Francis, *Message for the World Day of Peace 2020*, § 2.

¹⁴³ *Evangelii gaudium*, § 220; Francis, *Address during the meeting with the Brazil’s leaders of society in Rio de Janeiro*, 27 July 2013, § 1.

¹⁴⁴ Cf. Francis, post-synodal Exhortation *Christus vivit*, § 179-181, 184, 186 and 191.

¹⁴⁵ *Evangelii gaudium*, § 223.

¹⁴⁶ *Laudato si'*, § 149.

efforts, we can find points of agreement amid conflict, build bridges and make peace for the benefit of all, then we will experience the miracle of the culture of encounter”¹⁴⁷. “The world does not need empty words but convinced witnesses, peacemakers who are open to a dialogue”¹⁴⁸: starting a dialogue, in continuity, for healthy national and local policies and forging a stronger sense of community will benefit the whole society¹⁴⁹. Water is a fabulous element with which to build such relational bridges among people, communities, and countries. It can and should be a learning ground for solidarity and collaboration rather than a trigger of conflict.

- “in compassion, solidarity, working together, fraternity, in being active within the community and concerned to raise awareness about national and international issues and the importance of seeking adequate mechanisms for the redistribution of wealth, the promotion of growth, cooperation for development and conflict resolution. ‘Blessed are the peacemakers, for they shall be called sons of God’, as Jesus says in the Sermon on the Mount (*Mt. 5: 9*)”¹⁵⁰.

106. Catholic Universities can play a fundamental role (teaching, training, researching) with regard to water-related challenges. They should engage in this fight with their faculties and departments, including theology, philosophy and the Social Teaching of the Church; social sciences and humanities; business; architecture; communications; management; agriculture and environmental studies; sustainable and equitable development; natural sciences; medicine; law; and the teaching of interdisciplinary problem analysis as well as the development of solutions to safeguard human dignity and to care for our common home. Master and special programs in these fields can be created or strengthened; startups of students and associations of students can also be involved in this fight. The continuous education and the pastoral care of political leaders, diplomats, functionaries, business leaders and investors – in particular in the fields of microcredit and of faith-consistent investments – represent a priority area.

Fighting against corruption and violence about water

107. An education rooted in values is also a strong prophylaxis and remedy against water-related corruption: “one of the most lacerating wounds of the social fabric, as it gravely harms both from an ethical and an economic point of view (...) impoverishes everyone, removing trust, transparency and reliability from the whole system”¹⁵¹. Mafia collusions and bribery occur everywhere, even in the most industrialised countries where public officials should have access to excellent training. “Corruption is not a vice limited to political life. There is corruption in politics, there is corruption in the business world, there is corruption in the communications media, there is corruption in the churches, but also there is

¹⁴⁷ Francis, post-synodal Exhortation *Christus vivit*, § 169.

¹⁴⁸ Francis, *Message for the World Day of Peace 2020*, § 2.

¹⁴⁹ Cf. *Laudato si'*, § 35.

¹⁵⁰ Benedict XVI, *Message for the World Day of Peace 2012*, § 5.

¹⁵¹ Francis, *Address to officials of the Italian Court of Auditors*, 18 March 2019.

corruption in the social organizations and popular movements”¹⁵² stated Pope Francis. Cases of corruption also occur within the authorities in charge of monitoring compliance with the law, organizing bids for contracts, assessing the seriousness of the impact studies of the various initiatives¹⁵³, assessing the quality of infrastructure and managing the money devoted to its maintenance, approving concessions or receiving complaints from the population. Individuals, sometimes under some kind of pressure from their peers or their hierarchy, give in to the temptation to make easy money, renouncing integrity and service of the common good. In situations of corruption, the voice of the poorest, the marginalised, the abused is dispersed without being heard or it is violently cut off, while wealthy and domineering businessmen and entrepreneurs get institutional support and a semblance of legality even when hoarding water resources or when polluting seriously. In some extreme circumstances, individuals and communities defending their environmental and land rights are threatened. Human rights defenders and conservationists with their families frequently face violence – “including killings and sexual violence, smear campaigns, and other forms of intimidation”¹⁵⁴.

108. The United Nations Development Programme (UNDP) and Transparency International have studied examples of corruption in the water sector in many areas: the water supply (both among public and private operators) and sanitation sector, the irrigation sector, water resources management and the hydropower sector¹⁵⁵. “Funds for construction of water projects are diverted. Lax compliance with and enforcement of water quality regulations can also be related to corruption. (...) Curbing corruption is difficult because it is not manifested solely in the illegal or unethical behaviour of some criminal officials. Instead, corruption is often systematic and institutionalized”¹⁵⁶. This only makes the role of education more important, and the testimony about exemplarity and integrity more needed. The Holy Father wrote: “Be holy by labouring with integrity and skill in the service of your brothers and sisters. (...) When God speaks to Abraham, he tells him: ‘I am God Almighty, walk before me, and be blameless’ (*Gn. 17:1*)”¹⁵⁷. This call should also enlighten the vocation, the work and the training of all those who, at any level, are involved in water governance.

¹⁵² Francis, *Address to the participants in the 3rd world meeting of popular movements*, 5 November 2016.

¹⁵³ Cf. *Laudato si'*, § 14, 177-181.

¹⁵⁴ UNEP, Press release, 16 August 2019, <https://www.unenvironment.org/news-and-stories/press-release/unep-unhuman-rights-office-sign-new-agreement-stepping-commitment>

¹⁵⁵ Cf. UNDP, *Fighting corruption in the water sector. Methods, tools and good practices*, New York, October 2011, pp. 19-24; Transparency International, *Corruption in the Water Sector. Report 2018*, Cambridge University Press, June 2008.

¹⁵⁶ *Fighting corruption in the water sector. Methods, tools and good practices*, p. 9.

¹⁵⁷ *Gaudete et exultate*, § 14 and 51.

IX. REFERENCES FROM THE SOCIAL TEACHING OF THE CHURCH

109. The following selection includes only a limited number of documents published before 2004, since these documents are well referenced in the *Compendium of the Social Doctrine of the Church*, a tool whose use and study has been heartily recommended by Pope Francis in 2013. The recurrent Pontifical Messages (for Lent, for the World Day of Peace, the World Day of Migrants and Refugees, the World Day of Prayer for the Care of Creation, the World Day of the Sick, the World Day of the Poor, the World Food Day) have not been included.

Human dignity, freedom, human rights and duties: Saint John Paul II, *Redemptor hominis* § 17; Pontifical Council for Justice and Peace, *Compendium of the Social Doctrine of the Church* § 132-148, 152-159, 199, 200, 301-303 (from now on, *Compendium*).

Authentic development, integral human development: Saint Paul VI, *Populorum progressio* § 14-20; Benedict XVI, *Caritas in veritate* § 17-19, 29.

Common good: *Compendium of the Social Doctrine of the Church* § 164-167, 170; *Caritas in veritate* § 7.

Solidarity: Saint John Paul II, *Sollicitudo rei socialis* § 38-45; *Compendium* § 192-196, 309; *Caritas in veritate* § 58; Francis, *Misericordiae vultus* § 15.

Subsidiarity, participation and democracy: *Compendium* § 149, 185-191, 419; *Caritas in veritate* § 47, 57; Francis, *Evangelii gaudium* § 61, 222-237; Id., *Laudato si'* § 228-232; Id., *Querida Amazonia* § 27.

Universal destination of goods and the social function of property: *Catechism of the Catholic Church*, § 2402-2406; *Compendium* § 171-181; *Evangelii gaudium* § 189; *Laudato si'* § 93-95.

Preferential option for the poor: *Sollicitudo rei socialis* § 47; *Compendium* § 182-184; *Evangelii gaudium* § 198-200.

Justice: *Catechism of the Catholic Church*, § 1807; *Compendium* § 201-203.

Responsibility of states and of political leaders: Saint Paul VI, *Octogesima adveniens*, § 46; *Compendium* § 168, 169, 384-389, 393-395, 407-409, 417, 418.

Connections between Faith and social commitment: Pastoral Constitution on the Church in the modern world *Gaudium et spes* § 1-4; *Redemptor hominis* § 14; *Compendium* chap. 2; Benedict XVI, *Deus Caritas est* § 12-39; Id., *Sacramentum caritatis* § 89-92; Francis, *Lumen Fidei* § 51; *Evangelii gaudium* § 177-196, 267; *Misericordiae Vultus* § 8, 15; Francis, *Gaudete et exsultate* § 101.

Coherent interconnectedness, integral ecology: *Caritas in veritate* § 30, 51; *Laudato si'* chap. 4.

Moderation, sobriety and temperance: *Catechism of the Catholic Church* § 1809; *Compendium* § 486; Benedict XVI, *Angelus*, 4 December 2011; *Laudato si'* § 222-225.

Conversion, inner transformation of the human person: *Compendium* § 42; *Laudato si'* § 216-221.

© 2020 Dicastery for Promoting Integral Human Development

00120 Vatican City

www.humandevlopment.va

info@humandevlopment.va